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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

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BATTLE EXPERIENCES

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**
No. 100

5 MAY 1945

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By command of General EISENHOWER:

UNCLASSIFIED

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I VALUE OF KEEPING ARMORED INFANTRY MOUNTED ON HALF-TRACKS.

"We feel that having the infantry ride their half-tracks as far forward as possible rather than having them ride on the tanks has several advantages:

- a. "Every infantryman has some armor protection against enemy fire.
- b. "The ammunition reserve for infantry weapons is handy in the event of a long fire fight.
- c. "The half-track .50 caliber machine gun--one of the most effective weapons we have--is up where it can be used.
- d. "The artillery can render closer support because of the armor protection afforded the infantry by the half-tracks.
- e. "Men can be reassembled more quickly after a skirmish as they are more familiar with their own regularly assigned half-track than with the tank to which they are temporarily assigned.
- f. "The half-track radio can be used for communication purposes. When armored infantry units are separated from their vehicles they have virtually no communications."
--CO, 35th Tk Bn.

II EMPLOYMENT OF ARMORED INFANTRY.

1. Tank--infantry teams. "We have organized our tanks and infantry into regular teams. Team A includes A Company of the infantry and A Company of the tanks and is called the A Force. The other lettered companies are organized similarly into B Force, C Force, etc. The command of each force, to avoid confusion, is given to a staff officer, either of infantry or tanks.

2. Riding on tanks. "The infantry ride on the tanks right up to the objective when possible. Normally we put eight to ten men on one tank but do not place them on the two leading tanks where they are likely to suffer losses from mines, artillery and snipers.

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3. Rules for movement. "We follow three general rules in our infantry--tank operations.
- a. "Infantry ride on the tanks when the action is fast, or the movement is through cities against very light or spotty opposition.
 - b. "Infantry ride half-tracks when on a road march and when no opposition is expected.
 - c. "Infantry walk beside the tanks when in cities, villages or woods in which opposition has been encountered or is definitely expected."--GO, 51st Armd Inf Bn.

III GERMAN TELEPHONES.

1. Can use BA-30 batteries. "German telephones can be operated on BA-30 batteries by the following simple steps: At the bottom of the battery recess place a square tin plate made by bending in the edges of the lid of a C ration can. Under one of the bent edges place the bared end of an eight-inch length of insulated wire. Fasten the other end of the wire to one post of the telephone. Insert two BA-30s, side by side, with the terminal ends down. On top of these place two more batteries with the terminal ends down. With a length of stiff wire connect the other post and the exposed ends of the top batteries. Use cardboard to wedge the batteries in place. A slight adjustment of the lid will permit closing the compartment.

2. Testing for "shorts". "The white button on the German telephone is used for testing for shorts. When the button is pressed a shorted line causes the telephone to ring."--Ex O and Communication O, 1st Bn, 409th Inf Regt.

IV BRIDGING OPERATIONS BY AMMUNITION AND PIONEER PLATOON.

"The battalion ammunition and pioneer platoon has bridged streams up to 40 feet in width on several occasions by placing narrow gauge railroad rails over the stream and covering them with planks. Rapid action by the platoon sometimes has saved the battalion as much as six hours by enabling it to cross its vehicles without waiting for engineer assistance."--Ex O, 1st Bn, 409th Inf Regt.

V REDUCING BOAT MOTOR FAILURES.

"We had only three reported motor failures among 350 outboard motors used in the assault crossing of the Rhine. Measures which contributed to this success were:

- a. "Each motorboat operator was assigned a boat (inboard) or a motor (outboard) and held responsible for its operation throughout the training period and the actual crossing.
- b. "Five mechanics from a maintenance company were assigned to each engineer group for the entire period to repair the outboard motors.
- c. "Just prior to H-hour each motor was heated by means of two chemical heat pads."--XVI Corps, Engr.

VI TAKE NO CHANCES IN ENEMY COUNTRY.

"Don't move around alone at night in Germany. Don't loiter in unguarded, unlighted areas, and don't be beguiled off your path by the enemy. Smiling frauleins not only spell punishment for fraternization--they are also likely to be trap bait. Already the bodies of American soldiers who had been jumped from behind and choked to death have been found in rear areas."--Security Comdr, III Corps.

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- 2 -

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HEADQUARTERS
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UNITED STATES ARMY

DECLASSIFIED
BATTLE EXPERIENCES
No. 99

5 MAY 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I. CONFLICTING VIEWS ON GASOLINE FILTERS.

1. It works. "We filter red gasoline for use in ranges and lanterns through an improvised filter which contains, from top to bottom, a perforated breaker plate, a one-inch layer of absorbent cotton, a layer of coarse wood charcoal, a layer of activated charcoal (from the engineer water supply unit) another one-inch layer of cotton and a one-quarter inch mesh screen. The resulting fuel burns much hotter and with less residue than untreated red gasoline."--Chemical Warfare 0, 69d Inf Div.

Note: An experience similar to the one above was published in "Battle Experiences", No. 66, 22 February 1945. However, the February 1945 Infantry Journal carried the following information:

2. It doesn't work. a. "The experts have turned thumbs down on the gasoline filter. They agree that it won't take the lead out of leaded gasoline, as advertised. Lieutenant Norman Kaplan, Chemical Warfare Service, in France with a chemical laboratory outfit writes that: 'Our investigations have proved that no appreciable amount of lead is removed by filtration through activated charcoal or carbon. Although the dye in the leaded gas which differentiates it from the non-leaded kind is removed during the process, the lead content is relatively unaltered. The decolorization is probably what leads to the belief that the lead is gone. There is just no quick, efficient method for the removal of lead from gasoline by an absorption process.'"

b. "Another agency, the Signal Corps Fuel and Lubricants Laboratory at Fort Monmouth, N. J. has been experimenting for a number of years in an effort to find a simple method of deleading leaded gasoline and when their attention was called to reports similar to that in paragraph 1 above they put the method described through five different tests. The results of each were described as 'unsatisfactory' insofar as the removal of lead was concerned. However, the process did remove the dye that gives leaded gasoline its color. They also pointed out that the method actually increases to a considerable degree the acceleration of gum formation in the gasoline."

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II WHITE PHOSPHORUS AGAINST TANKS.

"A captured German noncommissioned officer stated that white phosphorus shells set his tanks on fire and were dreaded more than high explosive shells. He was taken at his word and a concentration of white phosphorus was fired on a group of five enemy tanks that had been holding up an infantry unit for almost a day. High explosive shells had had no effect on this group. After the white phosphorus concentration, one tank was seen burning and the other four withdrew."--9th Inf Div.

III POINTERS FOR MOTOR MARCHES.

"Enforcing the following rules on motor movements will save time, fuel, and trouble:

a. "When a column is held up other than for a scheduled halt, an officer should get out and determine the cause. Often it is because a driver has fallen asleep or is derelict in some other way.

b. "When halted, turn off the engines to save gas and oil.

c. "Require the drivers to observe the 60-yard distance between vehicles. We have not had a single wreck on the highway chiefly because we follow this rule.

d. "Brief the drivers thoroughly before a convoy moves out. Give them a map, if possible, or at least a road sketch and be sure they know how to read it."--Hq Comdt, 4th Armd Div.

IV AID TO FIGHTER-BOMBERS.

"We have increased the effectiveness of our close air support by having only one plane attack the target while a ground observer spots the location of the bomb strike in relation to the target. He telephones this information to the air liaison officer who relays the information to the other planes in the flight."--CG, 103d Inf Div.

V. NAZI TRICK BELT BUCKLE

"A small, double barreled .32 caliber pistol resembling a belt buckle is another trick gadget found on some Nazis. This 'buckle' is black, about one inch by two and one-half inches in size, with a silver-colored swastika and eagle emblem on the front. By causing the buckle cover to drop down and pushing a button the wearer can make the pistol flip out pointing to the front. By pressing two more buttons he can fire it. When talking to a German wearing a belt buckle of such appearance, it is advisable to stand slightly to one side and be certain that he holds his hands above his head."--VI Corps.

VI NIGHT ATTACKS.

"We put an artillery time-on-target shoot on the objective two or three hours before launching a night attack. Then we move in rapidly at H-hour without artillery or tank support, by-pass the enemy outposts, and usually catch the enemy asleep as he is recovering from the strain of the time-on-target shoot."--9th Inf Div.

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BATTLE EXPERIENCES

4 MAY 1945

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I ORDNANCE EXPEDIENTS.

1. Tow-bar saves men. "We save manpower and expedite company movements by using an improvised tow-bar which permits one driver to transport two $\frac{3}{4}$ -ton trucks."--455th Ord Hv Auto Main Co.
2. Headlight repair. "Discarded sealed beam headlights may be repaired by removing the old bulb from the rear and soldering a new double contact, double element bulb in place."--446th Ord Hv Auto Maint Co.
3. Handling materials. a. "An 'A-frame' mounted on the bumper of a $\frac{3}{4}$ -ton weapons carrier with winch, expedites handling of materials. The winch cable is operated over the frame and the truck body is weighted to permit handling loads up to 1,000 pounds.
b. "A Clark forklift truck is used with forks removed and box hooks attached for handling major unit assemblies."--343d Ord Depot Co.

II EXPEDIENT FOR TIGHTENING TRACKS ON M-4 TANKS.

"Master Sergeant J. R. Swartz has improvised a tool which can be operated by one man and which permits tightening a track on an M-4 series tank or M-10 tank destroyer in 15 minutes. A steel 'I-beam', an eight-ton jack, and a track wrench are required. A section of beam 6" x 3" x .30" is welded to the jack. A guide to aid in placing the tool is welded on the other end of the beam. The wrench is modified so that it has 12 sides instead of the usual six, and is mounted between two arms about 21 inches above the 'I-beam'. The two arms are about one-third of the distance from the jack to the other end. A pivoted cup is welded to the end of the shortened track wrench so that it fits over the head of the jack. Raising the jack rotates the wrench with enough power to tighten the track easily."--CO, 530th Ord Hv Auto Maint Co, Tk.

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DECLASSIFIED**III IMPROVISED MEDICAL EQUIPMENT.**

"Otosopes and slit lamps for eye work often were needed at sick call for diagnostic purposes. As these items could not be obtained for our battalion aid station, we devised substitutes as follows:

a. Otoscope. (1) "An issue flashlight is used. In the back of the head, above and to one side of the center, a hole 1/2 to 3/4 inches in diameter is bored. This hole is continued through the reflector. The hole in no way interferes with the mechanism of the flashlight, and the light beam is affected very little.

(2) "An ear speculum, nesting type, size immaterial, is next fastened to a metal disc. The disc must be the exact size of the glass lens of the flashlight so that it can be inserted in place of the lens. The speculum is secured by welding to the disc, and that portion of the disc beneath the speculum is removed so that light can pass through the speculum. The speculum must be fastened to the disc in an off-center position to correspond with the line of sight from the rear of the flashlight.

(3) "Black paint, carbon, or some other dull finish is added to the globe, inside speculum, and at any other spots necessary to improve the light effect and prevent glare. A very satisfactory and inexpensive otoscope is then available.

b. Slit lamp. (1) "The slit lamp is made by flattening the tip of another ear speculum, nesting type, which has been centered on a disc similar to that described above. Care must be taken in flattening this tip, so that a regular beam is obtained. This is useful in locating foreign bodies on the eye.

(2) "The expedient can be modified so that several sizes of ear specula can be used by building a slide mechanism on the head of the light, so that discs can be changed readily."--Surgeon, 31st Engr Combat Bn.

IV MOTOR MAINTENANCE.

1. Rotation. "Proper maintenance of vehicles is insured by pooling and rotating them to eliminate continuous running without servicing. Replacement of tires and some parts has been accomplished by making use of those found on wrecked German and American vehicles. Tire patches--both hot and cold--of German, Italian and English make have been used satisfactorily.

2. Cleaning. "We clean even the most heavily crusted mud from our vehicles by using captured German high-pressure pumps which we found in a wrecked fire station."--CO and Motor Sgt, 1st Bn, 309th Inf Regt.

V SPIRAL-FOUR CABLE TEST BLOCK.

"We test our spiral-four cable by means of a test block arranged so one circuit can be kept unbroken while the other is being checked. The setup consists of two double blade switches mounted on a wood base and connected on either end of the block to spiral-four junction plugs. An EE-8 telephone with test clips completes the equipment. To make a test, the cable is parted at a junction point and the ends are inserted into the plugs--with both switches closed. One switch is then opened and the open circuit tested with the telephone. The other circuit is checked in a similar manner."--Sig O, XVIII Corps (Abn).

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

3 MAY 1945

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No. 97

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Brigadier General, USA
Adjutant General

I RAPID EVACUATION AND MEDICAL TREATMENT.

1. Ambulances well forward. "As we have no attached litter bearers we use our ambulances ahead of the aid station. It has proved worth the risk involved in exposing the ambulances to fire. The ambulances can go the same places as litter jeeps and the patients are much better cared for than if they were in the jeeps.
2. Location of aid station. "We have reduced the death rate and boosted the men's morale by keeping our aid station as close as possible to the foxholes. The men know that the wounded will be given proper treatment very quickly and that the prompt use of blood plasma has decreased the loss of lives."--Surgeon, 5th Ranger Bn.

II MEDICAL AND DENTAL SERVICE.

"Providing adequate medical and dental aid for units of our ordnance battalion was difficult because all companies were operating from two to twelve sections at widely separated points. Emergency attention sometimes could be obtained at nearby medical installations of other organizations but routine physical examinations, inoculations, and dental work were lagging. A captured bus-trailer was equipped with medical cabinets, inspection table, sink, dental chair and sufficient supplies to replenish stocks of companies and stations. The bus-trailer is light enough to be towed easily by the 1½-ton truck of the medical detachment. Trips are now made to all installations of the battalion and all routine medical and dental work is being successfully performed. This mobile setup has saved many man-hours which would otherwise be spent in travel to and from permanent aid stations, and has enabled all units to bring their medical records up-to-date."--CO, 81st Ord Bn.

III AIRCRAFT MACHINE GUNS ON TANKS.

"We salvaged some airplane .50 caliber machine guns and mounted them coaxially in place of the .30 caliber gun on some of our medium tanks. We like them because they fire faster, have more punch, and the Germans fear them."--1st Sgt, 35th Tk Bn.

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IV ORDNANCE SUPPLY NOTES.

1. Reducing deadlined items. "Battalion headquarters required a daily Deadline Report listing the nomenclature and quantity of the major items deadlined, and the part number, quantity and nomenclature of the parts required. It was found that about 75% of the major items were deadlined for lack of the same parts, day after day. Battalion then asked for another report giving the status of these items (about 30) in each company. By comparison of the Deadline Report and the Status of Major Assemblies Report, parts could be located to eliminate about 50% of the deadlined items each day. Further reduction was accomplished by daily dispatch of a man and a 3/4-ton truck to contact all ordnance companies within reach in an effort to procure the parts.
2. Pool of steel stock. "One ordnance battalion found that the daily requests for steel stock from its companies were for the same types day after day. To reduce loss of time by hand-to-mouth purchases, the supply officer established a pool of various types of stock and kept it on two 4-ton trucks under the supervision of a company supply section. Steel could be drawn by merely presenting a requisition to the company holding the stock. Stock levels of each type were maintained by periodic purchases."--CO, 44th Ord Bn.
3. Substituting generator belts. "When generator driving belts #GV-2160 for M-5 generators cannot be obtained, the problem can be solved by using three brackets to raise the generator on a 45-degree angle to allow proper fitting of a 1-ton truck belt GPW-8620.
4. Rapid repair of small arms. "We set up a small arms repair shop by pooling personnel from small arms sections of several companies, and employing 50 to 60 civilians. One soldier can supervise the work of two civilians and do the key work. Assembly lines are set up and the civilians taught to perform one operation. This procedure enabled our shop to turn out a total of 800 rifles, carbines, machine guns and bazookas daily."--CO, 19th Ord Bn.
5. Mobile brake repair units. "We set up two mobile brake drum lathe and relining shops and sent them out to service units in the forward areas. This helps encourage brake preventive maintenance as well as speeding-repair. Spare drums and shoes are obtained from collecting points and made available to units for direct exchange."--CO, 907th Ord Hv Auto Maint Co.
6. Tank transporters. "Fuel supply for tank transporters was simplified by placing four 55-gallon drums as a permanent installation in the box of the prime mover. This increased the operating range of the vehicles to approximately 600 miles."--CO, 229th Ord Evacuation Co.
7. Parts storage. "Easily transported supply bins were constructed of such size that nine would fit on a standard 2 1/2-ton long wheelbase truck. Bins were made with sliding front doors and special hooks to facilitate rapid closing and loading. Interior arrangements of the bins were according to the material to be stored."--CO, 905th Ord Hv Auto Maint Co.

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- 2 -

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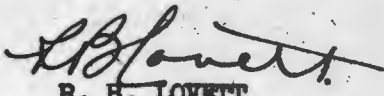
BATTLE EXPERIENCES

28 APR 1945

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By command of General EISENHOWER:


R. B. LOVETT
Brigadier General, USA
Adjutant General

I HANDLING ENGINEER RIVER CROSSING EQUIPMENT.

1. Dumps. "An engineer dump stocked primarily with bridging equipment is maintained as far forward as possible. When on one occasion there was a shortage of depot companies, one Corps successfully set up such a dump by using two squads from an engineer combat battalion placed in charge of a noncommissioned officer from a light ponton bridge company.

2. Salvage of river crossing equipment. "We have made it standing operating procedure for the light ponton company commanders to begin collecting all salvageable river crossing material as soon as the river line is free from fire. This saves a lot of material essential for future bridging operations. The materials are collected, inspected, and where possible, repaired by the unit. What the unit cannot repair is turned over to the depot."--Engineer, VIII Corps.

II USE OF GERMAN POLE LINES.

"German open wire and ground cable lines have been used to advantage in fast-moving operations for communication between the corps and the divisions. The Luftwaffe lines and circuits running generally along railroads have proved best. The use of .109 galvanized iron or .080 copper wire is not advisable because the circuits usually are used for short local lines only. It is usually preferable to rehabilitate small cables rather than the large underground cables which often have been subjected to systematic destruction by the Germans."--Signal O, VIII Corps.

III USE OF GERMAN EQUIPMENT.

1. Rubber rafts. "Captured Luftwaffe rubber rafts did not prove suitable as assault boats. These boats are not compartmented and are quickly sunk by machine gun fire."--CO, 1103d Engr Combat Gp.

2. Trip flare devices. "The German trip flare device known as the 'silent soldier' has proved valuable for guarding our front lines against enemy patrols."--CO, 139th Airborne Engr Bn.

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DECLASSIFIED**IV DO NOT USE OXYGEN WITH FLAMETHROWERS.**

"Two men were killed recently in an explosion and fire caused by the use of compressed oxygen for pressuring fuel units of the flamethrower. The attention of all personnel is directed to the fact that only compressed nitrogen, compressed inert gas, and compressed air can be used in the pressure cylinders of flamethrowers--hydrogen and oxygen must NOT be used. To ensure that only proper cylinders are used, these cylinders should be requisitioned only from Chemical Warfare Service sources."--Deputy Chief Chemical Warfare Officer, European Theater of Operations, USA.

V WIRE EXPEDIENT.

"Telephone lines which are shorted or which have only one strand broken can be used while the line is being repaired by having the parties at both ends ground the circuit and use ground return methods. The procedure must be prearranged."--CO, 107th FA Bn.

VI USE OF MORPHINE

"Do not give too many shots of morphine and be sure to record those given on a slip accompanying the patient. In cold weather morphine does not readily work through the system, but seems to stay put, and the patient does not show immediate effects. When a patient who has been given three or even more shots gets into the warm air of the hospital, however, an immediate reaction occurs."--65th Field Hospital.

VII TRANSPORTING GAS MASKS.

"We eliminated gas masks from the burden of the individual soldier but at the same time kept them readily available by carrying them in a low box built on the top of the kitchen truck cabs. One such box, no higher than the bows of the truck, will carry the gas masks of a company."--G-4, 75th Inf Div.

VIII GERMAN GENERATORS.

"Captured German 220-volt generators have proved a valuable means of supplementing issue Homelite sets."--Ord O, 75th Inf Div.

IX VEHICLE INSPECTION TEAMS.

"We use a motor inspection team consisting of the regimental motor officer and three mechanics. The mechanics are specialists and check the same items on the vehicles of each organization. We require battalion motor officers and motor sergeants, and frequently the battalion executives, to attend these spot-checks. They note the deficiencies discovered and the team learns from them the status of supply of parts in the organizations."--CO, 114th Inf Regt.

X BAZOOKAS DESTROY SNIPER HIDE-OUTS.

"When stopped by snipers holed-up in brick buildings we bring up several bazooka teams and blast the snipers into the open where riflemen can take care of them."--393d Inf Regt.

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No. 95

BATTLE EXPERIENCES

27 APR 1945

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I EMPLOYMENT OF CANNON COMPANY.

1. Close support. "We employ our cannon company in close support under regimental control. We have direct contact with our guns and can control their fire more quickly than if we functioned as an additional field artillery battery.

2. Supporting an attack. "Each platoon leader selects his initial gun positions, gives the platoon sergeant the azimuth on which to lay the guns, then, if time permits, registers the cannon before the attack jumps off. Otherwise, registration is accomplished as he moves forward with the front line companies. The platoon leader, with an SCR-300, functions as a regular forward observer, moving with the battalion he is supporting. The platoon sergeant serves as the fire direction center, converting the platoon leader's sensings to fire orders for the howitzers. For initial laying we use our aiming circles with the necessary declinations and find map data quite accurate.

3. Displacing. "The reconnaissance officer and reconnaissance sergeant select the new gun positions and supervise all displacements. This is advantageous because the platoon leaders do not have to leave the front line companies and the reconnaissance officer who is well informed on the situation can better locate the guns to support the entire regiment. Changes in position of the guns are given to the platoon leaders by code."--Lt, Cannon Co, 405th Inf Regt.

II RAIN COVER FOR ANTENNA BASE.

"We make rain covers for the antenna base on our SCR-284 and SCR-300 radios by punching a hole in the bottom of an empty fiber shell case, then shoving the antenna through the hole and sliding the case down to cover the base."--S-4, 298th Engr Combat Bn.

- 1 -

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DECLASSIFIED**III EVACUATION OF WOUNDED BY TANK DESTROYER.**

"Wounded personnel lying in areas still under fire were evacuated by straddling the wounded man with a tank destroyer, then pulling him up through the escape hatch."--CO, 2d TD Group.

IV SEARCH ENEMY VEHICLES.

"Prisoners expressed surprise that our troops made no attempt to search their signal cars which usually contain secret codes and ciphers and the code names and locations of practically all German units in the area. The prisoners stated that civilians and foreign laborers were allowed to destroy this valuable material."--Report of First Army.

V WHITE PHOSPHORUS GRENADES IN TANKS.

"We formerly carried white phosphorus grenades in a box behind the turret. Recently a mortar shell exploded one of the white phosphorus grenades and we were unable to extinguish the resulting fire in the engine compartment. We now carry white phosphorus grenades inside the turret where they are protected but are still accessible to the tank commander."--Report of 13th Tk Bn (Italy).

VI GROUND PHOTOGRAPHS.

1. Increase effectiveness of supporting tank fire. "Ground photographs, taken 1500 yards from an enemy strong point, helped us provide effective tank fire to support an infantry attack. Pictures were 8½" x 11" and were distributed to each tank commander. All tank commanders reconnoitered the positions their tanks were to be in and determined fire data to each of the enemy points of resistance. All targets, and the range to each, were marked on each photograph. Calls for fire came from the infantry and were relayed to the tank already laid in on the desired target. If additional fire was necessary all tank fire could be converged on the target in a very short time.

2. Also used by infantry and artillery. "The ground photographs were also used by the infantry as supplements to aerial photographs and maps in the selection of the routes of approach and for orienting personnel before the attack. Field artillery officers also found them helpful in planning for concentrations on given points."--4th Tk Bn (Italy).

VII KEEPING MEN IN GOOD PHYSICAL CONDITION.

"We believe the good physical condition of our men is due largely to our efforts to feed them only B rations--except in emergencies. The kitchens are always well up and the maximum use is made of marmite cans. Mess kits are cleaned and sterilized in the kitchen area."--Ex O, 114th Inf Regt.

VIII PAINTING MORTAR TUBES.

"Shiny mortar tubes may be temporarily covered by painting with heat-resistant engine paint, followed by a coat of O. D. enamel."--44th Ord Bn.

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UNITED STATES ARMY

BATTLE EXPERIENCES

26 APR 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I TANK BATTALION EXPEDIENTS.

1. Use towed 3" guns. "Two 3" guns are towed by the tank mortar platoon for use as antitank weapons.
2. Closing tank turrets. "Thin iron rods 3½ feet long enable tank personnel to close turrets without exposing themselves when under fire.
3. Communication with artillery planes. "The tank battalion provides an SCR-509 for the artillery fire direction center and an SCR-509 and an officer observer for the liaison plane. Messages from the plane to the tanks or the fire direction center are by SCR-509. Messages from the plane to the infantry are relayed through SCR-508 and SCR-300 sets in the tanks. Varied panel arrangements on the tanks help the plane to identify tank companies."--CO, 781st Tk Bn.

II MAP COVERAGE.

"For efficient operation we must have large scale town plans and local maps. During fast movement we partially remedy this situation by sending our military intelligence teams to schools, libraries and town halls to secure any maps that are available. Baedeker Guide books, railway time tables, and tourist publications which show local details such as elevations have proved very helpful."--G-2, XIX Corps.

III SERVICE COMPANY MAINTENANCE TIPS.

1. Brake fluid. "Do not use German brake fluid. It will rot the seals and cause leaks in the brake system of our vehicles.
2. Lubrication. "Oil and grease are cheaper and more readily obtained than spare parts. If you want good maintenance keep the whip flying. When I see an idle man I give him a grease gun and put him to work."--Sgt C. Wacker, Motor Sgt, 112th Inf Regt.

1
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IV TIPS FOR INFANTRYMEN.

1. Marching fire. "When using marching fire men should stop long enough to take aimed shots at prominent objects which may be occupied by enemy.
2. Stay in squad zones. "When attacking towns men should be careful not to get out of their assigned squad zones. If a man gets into a building in another zone he may be mistaken for an enemy.
3. Crossing low barbed wire. "When crossing low barbed wire step on the wire at the point where the two strands cross--don't try to step in the opening.
4. White phosphorus. "Bazooka white phosphorus shells are very effective against enemy machine gun nests."--CO, Co B, 407th Inf Regt.
5. Bazooka teams reconnoiter for antitank gun positions. "We attach an SCR-300 and three bazooka teams from the battalion antitank platoon to the reserve company in the attack. These teams reconnoiter for gun positions as they move forward and notify the antitank platoon by radio."--CO, AT Plat, 2d Bn, 407th Inf Regt.
6. Save your BAR. "When attacking a village with marching fire it is better to 'go easy' with the BAR until you reach the town. Otherwise, ammunition needed badly in the town may be gone when you want it most."--S/Sgt Curtis Garrett, Co G, 407th Inf Regt.
7. Laying sound-powered phone line. "Leaving the reel at the gun position and tying the wire to the man's belt simplifies the laying of sound-powered phone lines from the gun to the observation post. The wireman then can move freely and is able to use his weapon when necessary."--Sgt Jack Found, Co G, 407th Inf Regt.
8. Grenade carrier. "A meat can carrier fastened to the cartridge belt makes an excellent grenade carrier. It doesn't bounce around and bang against your body like an ammunition bag."--Pfc John J. Granata, Co E, 407th Inf Regt.

V TANK DOZERS.

"On long road marches the weight of the dozer blade on the forward bogie wheels causes many 'blown' bogies. On a recent 100-mile march we transported the blades separately and encountered no difficulties."--4th Tk Bn (Italy).

VI THESE TIPS ARE NOT NEW BUT THEY'RE STILL GOOD.

1. Digging in. "Always dig your hole big enough so you can move around in it, no matter how tired you are. If you are pinned down during a counterattack and can't move around to fire back, you're in a tough spot."--Pfc M. B. Rice, 5th Ranger Bn.
2. Keep that M1 clean. "Check your weapons closely and as often as possible. Pay particular attention to the trigger housing group on your M1 rifle. A few grains of sand between the hammer and housing will cause a misfire--and in a tight spot it's a bad feeling to squeeze the trigger and have nothing happen."--Pfc Bickford, Co F, 5th Ranger Bn.

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- 2 -

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UNITED STATES ARMY

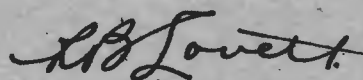
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No. 73

BATTLE EXPERIENCES

19 APR 1945

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By command of General EISENHOWER:



R. B. LOVETT
Brigadier General, USA
Adjutant General

I SEARCHLIGHTS PERMIT LATE USE OF AIR OBSERVATION POST.

"German artillery units always tried to register just before dark when our air observation posts were not likely to be up. By using searchlights at our landing strip we have been able to operate our planes late in the evening. On one occasion this permitted us to locate and fire on fifteen enemy batteries."--80th Inf Div Arty.

II KEEP ALERT IN ENEMY COUNTRY.

"Two men were injured when their vehicle struck a trip wire about 4½ feet above the road, thus detonating two mines in the road shoulder. The road had been traveled by other friendly vehicles a few hours before. Fifty yards ahead of the trip wire, eight to ten objects resembling potatoes were scattered on the road. These were found to be 'tire-busters' made by moulding plastic explosive around an 'ointment box' mine."--G-2 Report, Hq. XX Corps.

III COMMUNICATION TIPS.

1. Test stations. "Terminal strips (TM-84) cut into two or three units and installed at convenient intervals as test stations save considerable time in localizing troubles on long lines.

2. Repair of spiral-four cable. "The above terminal strip units also can be used to effect emergency repairs in spiral-four cable cut by shell-fire.

3. Mark cords on switchboards. "Marking the ring-off units on TC-4 and TC-12 switchboards with different colored paints assists the operator in identifying the proper cords when a party rings off."--S/Sgt Donovan, Wire Chief, 334th Inf Regt.

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DECLASSIFIEDIV GERMANS AMBUSH OUR TANKS.

"The Germans recently have been ambushing our tanks by luring them forward with machine gun fire against accompanying infantry and holding well-sited antitank guns silent until the armor reaches an area where deployment is difficult. Repeated experiences with these tactics emphasize the necessity for these precautions:

a. "When opposed by light resistance from one flank, or frontally, be prepared for heavier attack from another direction.

b. "When moving toward contact, the platoon leader must anticipate possible attack in seemingly unsound situations and should say to himself, 'What order will I give my second section if the enemy attacks from there - or there? What will I do if he opens fire from that hill?'

c. "Be wary of commanding ground on the flanks unless it is definitely in our hands. This is an old axiom but one frequently violated."--746th Tk Bn.

V HOT PATCH EXPEDIENT.

"When we could not obtain American hot patches we successfully used French 'Chemico Electric' hot patches. As the French patches will not fit the American hot patch plate we cut them in half and trimmed them until they were one-half inch smaller than the metal plate on the large round Shaler patch. The heating element can then be burned on the American hot patch machine. Care must be taken to remove the tissue from only the contact side of the French patches. More satisfactory results will be obtained if a small portion of rubber cement is placed around the aperture before applying the patch."--663d QM Trk Co.

VI PHYSICAL FITNESS AND DEVELOPMENT OF THE SQUAD.

1. Essentials. "It probably seems foolish to troops that rightly consider themselves veterans to come out of combat and take up training. It is necessary, however, to fit the reinforcement into the team, and to assure continued physical fitness and the development of the squad as a fighting unit.

2. Physical fitness. "Physical fitness, contrary to most opinion, is difficult to maintain except when on the offense. Men in any static situation quickly lose their physical edge. All training schedules for my regiment include periods of physical training similar to those of a football team. The emphasis on physical fitness is continued in combat, and even men in foxholes are required to perform certain exercises. One exercise which is effective, and is possible under most conditions, is rising and lowering slightly on the toes while in the final position of the full knee bend. It is an excellent conditioner and the exercise given the feet has some preventative effect against trench foot. Good physical condition materially reduces the number of combat exhaustion cases.

3. Development of the squad. "The squad is the basic unit of all our maneuvers, and squad problems have a high priority in our training programs. In forming assault teams and other special groups every effort is made to preserve the unity of the squad. It is in the squad that the reinforcement first feels himself part of the team. It is in the squad that he receives instruction in the 'tricks of battle' that make the success of the soldier; and here the practical application of team work is brought home to him."--CO, 9th Inf Regt.

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- 2 -

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

12 APR 1945

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I TIPS FROM MACHINE GUNNERS.

1. Load in daytime. "Machine guns should be loaded in the late afternoon rather than at night when the noise may give away the position."--Pfc R. S. Patrick, Co D, 101st Inf.

2. Submachine gun for squad leader. "The machine gun squad leader should carry a submachine gun rather than the M-1 rifle for he rarely has an opportunity to fire on a point target."--S/Sgt J. W. Logan, Co D, 101st Inf.

II COORDINATION OF ANTITANK UNITS.

"We coordinate the action of the battalion antitank platoon and a regimental anti-tank platoon to provide each battalion adequate protection in a fast-moving situation. One platoon leader stays with the guns while the other works between the forward and rear command posts and carries out all reconnaissance. The platoons leap-frog forward, one platoon following closely behind the rifle companies."--Chief Liaison O, 29th Inf Div.

III LOOK FOR CELLARS IN OUTBUILDINGS.

"When clearing houses a check should be made for cellars in barns and other out-buildings. Often cellars have been found in these buildings when none were in the houses themselves."--Chief Liaison O, 29th Inf Div.

IV MAINTAIN CONTACT.

"Failure to maintain contact between units in a night attack cost us two days and many casualties when attacking a town that should have been taken in a few hours. The two assault companies, except one platoon, were held up short of the town by tank and machine gun fire. The lone platoon, assuming all other units also were progressing, pushed on into the town. This platoon, with both flanks exposed, was soon broken up and all attempts by the other two platoons to go to its assistance only served to further disorganize the entire company."--S/Sgt A. D. Von Brock, Co G, 101st Inf Regt.

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DECLASSIFIED**V USE OF TRACERS IN MARCHING FIRE.**

"We find that two or three rounds of tracer ammunition per clip increases the effectiveness of marching fire--the men fire too low when using ball ammunition alone."
--plat Ldr, Co F, 40th Inf Regt.

VI CIVILIANS MAY PLACE BOOBY TRAPS.

"We sustained several casualties when members of a bomb disposal squad lifted a box of TNT from a pile of enemy explosives which had been inspected two days before and found free of booby traps. The box of TNT had apparently been booby-trapped since its last inspection. Such casualties will continue unless all troops realize that we are now in a hostile country."--G-2 Report, Third U. S. Army.

VII MINES IN ABATIS.

"We encountered a mined abatis in which the 'S' mines were placed on a bank beside the road so that the bouncing charge would have a larger effective radius. Lifting even the smallest sapling in the abatis would have detonated the mines. Whenever we find one 'S' mine there are at least two more. They are packed three in a box and generally all used in the same area."--S-2, 692d TD Bn.

VIII MINE REMOVAL BY ARTILLERY UNITS.

"We have organized a pioneer platoon consisting of ten men and two noncommissioned officers for mine clearance and pioneer work on roads and battery positions. They are equipped with five mine detectors, probes, and explosives."--CO, 355th FA Bn.

IX COMPANY AID MAN AT COMMAND POST.

"We keep one aid man at company headquarters so that he is always available to provide first aid at a known location. He also locates collecting points for the wounded, supervises the work of the other aid men, looks after medical supplies, and keeps a daily record of the wounded."--Sgt John L. Reynolds, Co L, 334th Inf Regt.

X SEARCH BOTH OUTSIDE AND INSIDE OF HOUSES.

"Shortly after 14 Germans had been removed from a captured house, a charge they had placed on the outside of the building demolished it. Our men had carefully searched the interior of the house but had failed to check the outside."--S/Sgt Claude Adams, Co L, 334th Inf Regt.

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- 2 -

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HEADQUARTERS
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UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 9

11 APR 1945

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Adjutant General

I RIVER CROSSINGS.

1. Moving heavy equipment up quietly. "When we moved heavy equipment up to a river crossing site we practically eliminated truck noise by placing blanket padding over the hoods and equipping each truck with an extra muffler and extra section of tail pipe.

2. Method of crossing. "Enough boats were lined up on the near bank to carry two battalions. On signal, the first wave (one battalion) picked up every other boat, moved quickly to the water and crossed. When the battalion landed, its boats were held against the far bank and a signal given for the second wave to cross. Thereafter boats recrossed individually and picked up infantry squads according to predesignated priorities."--After Action Report, 279th Engr Combat Bn.

II MARK HOUSES OCCUPIED BY FRIENDLY TROOPS.

"Houses occupied by our own troops during town and village fighting should be identified by some sort of marking. Casualties have resulted from grenades thrown into these buildings by friendly troops."--Pfc Donald Johnson, Co L, 334th Inf Regt.

III TRANSPORTING EXTRA MAPS AND OVERLAY PAPER.

"Maps that are not immediately needed, extra overlay paper, and acetate are carried for the company commanders in two metal cases on the fenders of the battalion S-2 jeep. The metal cases are 155mm powder-sack containers fastened to the fenders by fire extinguisher brackets."--S-2, 3d Bn, 334th Inf Regt.

IV STEEL TOP FOR TANK DESTROYERS.

"German artillery fire swept aside the sandbag and wood turret tops we had improvised for our tank destroyers and subsequent rounds inflicted casualties. We are now devising steel turret covers."--628th TD Bn.

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V CALIBER .50 MACHINE GUN ON MEDIUM TANK.

1. Six-man crew. "In our medium tanks with the 76mm gun, we use a sixth crew member to fire the .50 caliber machine gun. He rides standing on the loader's seat and assists the tank commander by watching for targets on the left flank. He interferes very little with the loader and may even help with the loading.

2. Uses and results. "The .50 caliber is used against enemy antitank guns and half-tracks as well as against personnel. In one case we knocked out a moving half-track at 1500 yards. The enemy fears this gun, particularly when incendiaries are used.

3. Ammunition rack. "A rack that holds 12 boxes of .50 caliber ammunition has been built on the rear of the turret where the gunner can reach the ammunition without help from other crew members."--CO, Co D, 67th Armd Regt.

VI LOG PROTECTION FOR MEDIUM TANKS.

"Mats made of four large logs the length of the tank afford bazooka protection when hung on the tank and can be used for road mats in muddy terrain and when crossing trenches."--CO, Co D, 67th Armd Regt.

VII RIFLE COMPANY COMMENTS.

1. Carrying antitank grenades. "Antitank grenades are carried conveniently in empty bandoleers by cutting holes in the bottom of the packets and pushing the heads of the grenades through them. The fins prevent the grenades from slipping through."--CO, Co K, 335th Inf Regt.

2. Use of morphine. "Company officers should be issued two morphine tartrate syrettes each and given the necessary instruction for using them in cases when aid men are not available."--CO, Co K, 335th Inf Regt.

3. Use of machine pistol pouches. "German 'burp gun' pouches are convenient for carrying ammunition for submachine guns."--CO, Co L, 335th Inf Regt.

VIII INTELLIGENCE AND RECONNAISSANCE PLATOON.

"When not needed for reconnaissance missions, personnel of the intelligence and reconnaissance platoon are divided into small groups and sent to each assault battalion. From there they report the locations of enemy installations as well as the progress of our units. Each group includes a noncommissioned officer, a radio operator with an SCR 300, and a $\frac{1}{2}$ -ton truck. In fast moving situations the platoon leader, with an SCR 284, accompanies the assault echelon. The system also is valuable for establishing and maintaining contact with adjacent units."--S-3, 335th Inf Regt.

IX PREFABRICATED WOODEN TREADWAY TO COVER CULVERTS.

"Prefabricated wooden treadways were used in the Roer River crossing to bridge blown culverts on the main road leading from the river. The treadways were crossed in 15 minutes plus 3 hours. They were 18 feet long--sufficient to cover the culverts known to have been blown--and were mounted on wheels so they could be manhandled. They were designed as Class 20 to carry the initial loads, and were later reinforced to Class 40."--S-3, 309th Engr Combat Bn.

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- 2 -

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED
BATTLE EXPERIENCES

5 APR 1945

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Adjutant General

I INFANTRY-TANK COOPERATION.

Note: An infantry battalieu commander lists the following conclusions as a result of successful infantry-tank operation following the crossing of the Rer River:

1. Employment. "Tanks should be employed in the ratio of a company to an infantry battalion and should not be used piecemeal. We found it more satisfactory to employ the tank company under command of its company commander.
2. Formation. "In the attack the tanks should lead and close in fast, firing as they go. The infantry should attack from one direction and the tanks from another. If this is not possible the infantry should follow at 150 to 200 yards. Attacking tanks deploy in depth and all tanks fire; this makes it dangerous for infantry to intermingle with them.
3. Buttoning-up. "In order to retain visibility as long as possible tanks should button up only when under small arms fire.
4. Final assault. "As the tanks close on the objective they should cease firing and let the infantry pass through to mop up. Marching fire by the infantry as they pass through is extremely effective. The tanks should not fire during this period except on call or on flank targets.
5. Smoke signals. "Tankers should be alert for smoke grenade signals for help from the infantry. When one is seen a tank should move rapidly to the point of difficulty and be met by an infantryman who can point out the target.
6. Cover the rear. "As the infantry enters a town part of the tanks should move to cover exits at the flanks and rear and destroy enemy forces flushed by the infantry.

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2. Operation. a. "Hold the lever of the bouchon fuse securely against container sleeve.
 b. "Remove safety pin.
 c. "Toss grenade into pillbox or bunker.

3. Functioning. a. "When lever is released, grenade is ignited and begins to burn vigorously forming pool of molten iron.
 b. "The molten iron ignites the time fuse.
 c. "Approximately 30 seconds after the lever is released, the fuse sets off the detonator, which in turn detonates the primacord. In the open the result is a burst which scatters particles of molten iron over an area about 30 yards in diameter.

4. Precautions. a. "Exercise due care in handling detonator, especially when detonator and primacord are together.
 b. "If fuse lever slips and becomes released, throw grenade in an unoccupied area and retire about 50 yards.
 c. "If grenade is used in open, the user should be at least 50 yards from the burning grenade at the time of burst."--Chief Chemical Warfare Officer, Headquarters European Theater of Operations, U. S. A.

II MARCHING FIRE.

"When attacking, we put all the rifle grenadiers in the leading wave to increase our marching fire. They fire one white phosphorus grenade to each five fragmentation grenades. Bazookas are used to lob rockets over the heads of the assault waves to create the impression that the artillery is still firing."--120th Inf Regt.

III USE OF SMOKE AGAINST TANKS.

"When we encounter an enemy tank or self-propelled gun, we cover it with smoke from hand or rifle grenades or bazooka shells. Almost invariably the tank or gun turns and runs or is abandoned by its crew. If it does neither, we close in under the smoke and destroy it."--CO, 120th Inf Regt.

IV LIAISON PLANES WORK WITH ADVANCE MESSAGE CENTER.

"Messenger traffic on roads and bridges was reduced during the Roer River crossings by using liaison planes to carry messages to our advance message center for delivery by motor messenger."--4th Signal Bn.

V TANKS IN NIGHT ATTACKS.

"In some night attacks we had the tanks follow the infantry so as to be available to meet the counterattacks that usually come just before or just after daylight. On one occasion a counterattack was broken up by sending tank-riding infantry out to meet it."--Former CO, 357th Inf Regt.

VI THE M-24 LIGHT TANK.

1. Handles on hatches. "Handles welded on hatches make them easier to open and overcome the tendency to use the periscopes for this purpose.

2. Right limit guide. "A rod welded on the right front fender aids the driver to determine the exact location of the outside edge of the tank.

3. Pusher device. "We weld flat triangular pusher devices on the front of the tanks for use in moving stalled vehicles. Stalled tanks then can be moved under fire without exposing any of the crew to attach tow chains."--CO, Co D, 736th Tank Bn.

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HEADQUARTERS
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BATTLE EXPERIENCES

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30 MAR 1945

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I NO PROVED USE OF ALLIED PLANES BY GERMANS.

Section V of "Battle Experiences", No. 75, dated 8 March 45, contained a statement from an antiaircraft automatic weapons battalion indicating that instances had occurred where American planes had been discovered to be flown by Germans. The A-3 office, Supreme Headquarters states that there has been no confirmation of a single case of combat use by the Germans of a captured Allied plane.

II VILLAGE FIGHTING BY TANKS.

"Each infantry platoon in village fighting should have two tanks in active support and two others in reserve. When the active tanks have expended half of their ammunition, they should be replaced by the reserves. The relieved tanks can then replenish their ammunition immediately or follow along until a lull occurs. This system gives added flexibility in case it becomes necessary to make a sudden push or to repel a counterattack."--Report of 736th Tank Bn.

III WIRE SHOULD AVOID CROSSING SITES.

"Our communication wires were repeatedly cut by enemy artillery during the river crossing operation until we moved them some distance from the crossing sites."--C of S, 84th Inf Div.

IV WHITE PHOSPHORUS.

"Firing phosphorus at an enemy tank often causes the crew to believe the tank is on fire and abandon it."--Ex O, 32d Armd Regt.

V FALLING FLAK.

"We have lost over 40 men in the regiment through failure to take cover from falling flak. Too many men follow the foolish practice of gaping at enemy planes overhead."--Ex O, 32d Armd Regt.

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DECLASSIFIED**VI FIELD GLASSES.**

"We wear field glasses, less the case, inside the shirt or jacket. This holds them steady and prevents identification of leaders by the enemy."--Ex O, 32d Armd Regt.

VII POINTS ON RIVER CROSSINGS.

1. Mine removal squads. "One mine removal squad with each rifle company would prevent many casualties and save valuable time."--Lt, Co A, 405th Inf Regt.
2. Wire cutters. "Men with wire cutters should be in the first wave as there are often obstacles under water as well as on the far bank."--Pfc Bruce H. Bailey, Co A, 405th Inf Regt.
3. Infantry boat crew. "Boat crews should be appointed in each rifle squad to take over in case of casualties among the engineer boat crew."--Co A, 405th Inf Regt.

VIII GERMAN METHOD OF RANGING ON TANKS.

"When tanks receive mortar or 88mm high explosive they should move immediately. The enemy lays mortar fire in a circle around the vehicle, then places a bracket with 88mm high explosive on the circumference of the circle, and follows with armor-piercing shell."--Report of 736th Tk Bn.

IX PLACING MORTAR AIMING STAKES.

"We have the mortar at maximum elevation when putting out the aiming stakes in order to reduce the error due to the lateral distance between the sight and base plate socket. Since this error is also affected by the distance from the mortar to the aiming stakes, they should be placed out at least 10 yards, and farther when feasible."--Co Cmdr, 116th Inf Regt.

X FERRYING MEDIUM TANKS.

"A ferry for a combat-loaded and sandbagged M-4 tank should include five M-2 tread-way floats instead of four as specified."--CO, 308th Engr Bn.

XI COMMUNICATION BETWEEN TANKS, TANK DESTROYERS, AND ARTILLERY.

"Communication between tanks, tank destroyers, and the artillery fire direction center is established by using a common frequency in the 10-channel overlap of the SCR-500 and SCR-600 series radios. The artillery forward observer with the leading infantry element also can use this channel in an emergency."--CO, 736th Tk Bn.

XII INSTALLATION OF AN/VRC-3 IN M-24 LIGHT TANK.

1. Location. "We have installed the AN/VRC-3 in our M-24 light tanks with the radio mounted in rear of the bow gunner's seat and the antenna on the right fender. The radio, which displaces the smoke mortar ammunition box normally carried behind the bow gunner's seat, is in a position where it can be operated by the bow gunner. The tank commander is able to receive with the radio in this position but relays his transmissions through the bow gunner.

2. Antenna problem. "Although we have found this mounting the most practical, it has the disadvantage that the antenna is grounded out when it comes in contact with the gun barrel. However, as located on our vehicles, the gun can turn 90 degrees to the right or 270 degrees to the left before hitting the antenna."--736th Tank Bn.

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BATTLE EXPERIENCES
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No. 86

29 MAR 1945

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I USE OF 60MM MORTAR SHELL AS RIFLE GRENADE.

1. General. "We fire the 60mm mortar shell, high explosive, from the M-1 rifle by means of the grenade launcher M-7 and an improvised adapter. We have found this device to be more accurate than wiring the mortar shell to a grenade adapter because of the increased steadiness of the shell.

2. Description. "The adapter consists of a metal cylinder about five inches long and open on one end so that it slips over the grenade launcher. On the closed end is a stud which fits snugly into the cartridge well of the 60mm mortar shell. Our ordnance personnel manufactured the adapters from light scrap metal.

3. Use. "Remove the increments and cartridge from the 60mm mortar shell and insert the stud securely into the cartridge well. Place the adapter on the grenade launcher, pull the safety pin and fire. Best results are obtained from the kneeling position with the rifle butt resting on the ground. An angle of 45 degrees will give a maximum range of 125-150 yards."--Cpl A. Mead, Co G, 271st Inf Regt. (Note: The Ordnance Section, European Theater of Operations, in general considers unorthodox employment of ammunition to be dangerous and recommends that this device be used only in an emergency.)

II IMPROVISED AMMUNITION CARRIERS.

"Ammunition carriers for bazooka rounds and rifle grenades were improvised by cutting empty bandoleers in the center of the strap and tying the ends around the shells. This permits carrying three rounds comfortably and with little likelihood of loss."--Platoon leader, Co G, 328th Inf Regt.

III OCCUPY BUILDINGS TO REPEL COUNTERATTACKS.

"We occupy every possible building in a captured town because it helps to repel counterattacks. When the counterattack comes, we can call for artillery fire and kill or capture the Germans as they run to the buildings for cover."--CO, 3rd Bn, 405th Inf Regt.

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IV INSTALLATION OF SCR-610 IN THE TRUCK.

1. Mounting on right side of vehicle. "We have gained much needed space in $\frac{1}{2}$ -tons equipped with SCR-610 radios by mounting the radios immediately behind the right front seat. The radio is placed flush with the side of the truck, with the loudspeaker and switch panel facing the front. This makes it easier for the vehicle commander--usually in the right front seat--to hear, and permits using the shortest and most direct route for the power cord from the power unit to the junction box or the storage battery. When the driver is also the radio operator, a clip for holding the microphone is bolted to the dashboard.

2. Protection for antenna. "To assure the proper length lead-in, the antenna also must be installed on the right, where it is more susceptible to road obstructions and branches. Some protection can be afforded it by mounting the spare tire on the right, and by bending the antenna forward toward the center of the radiator and tying it down."
--Hq, 180th FA Bn.

V CROSSING TREADWAY BRIDGES WITH HEAVY ARTILLERY.

"A battalion of 240mm howitzers was able to cross the Roer on a class 40 treadway bridge in 2 $\frac{1}{2}$ hours by crossing the prime mover separately and using an M-1, 10-ton wrecker to pull the towed load across."--S-3, XIII Corps Arty.

VI HOW TO PROLONG THE WAR.

"Details on the next German defensive position, the enemy route of withdrawal, and the location of a bridge all were lost when the troops who captured a German officer used his map to start a fire."--76th Inf Div, G-2 periodic report.

VII ANOTHER USE FOR THE BATTALION ANTI-TANK PLATOON.

"We are converting the battalion antitank platoon to a .50 caliber machine gun platoon for the attack. The 57mm guns are to be left with the service train and brought up only when we are defending."--Ex O, 1st Bn, 405th Inf Regt.

VIII TIPS FROM A MEDIUM ARTILLERY BATTALION.

1. Trail logs. "To keep the 155mm howitzer in position when firing charges six or seven extensively, we used a trail log about 12 inches in diameter and six feet long, placed in spade holes and staked in place with five-foot angle iron stakes.

2. Ammunition train. "We have divided the ammunition train in two parts. One operates under the train commander and the other under the ammunition staff sergeant. The two sections alternate between the ammunition supply point and the firing batteries."--Report of 28th Inf Div.

IX LOGICAL BRIDGE SITES

"Three of the five sites selected for crossing the Roer river were at 'logical' sites where bridges had been blown but good approaches existed; the other two were picked where approaches could be built without undue difficulty. All bridge sites were swept for mines, and many were removed from the existing sites; none was found at the other two sites. When the crossing started, several vehicles were knocked out by deeply buried mines at all of the existing sites, but again none was encountered at the other sites."--121st Engr Bn.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED

No. 85

24 MAR 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I USE OF 60MM FUZES ON 81MM SHELLS.

Paragraph VIII, "Battle Experiences", No. 61, 14 February 1945, stated in part: "We have found that the use of the 60mm quick fuze on the 81mm shell gives a much greater anti-personnel effect." The Ordnance Section, Headquarters, European Theater of Operations, U. S. A., has published the following information with a view to clarifying the above statement and reducing the quantity of ammunition modified: "The 81mm high explosive shell, M56, with M53 (short delay) fuze is apparently the round which is being modified. The M56 high explosive shell is also available, in limited quantities, with the M52 (super-quick) fuze. The practice of removing fuzes from 60mm shells results in the loss of a 60mm round. Considerable quantities of 60mm rounds without fuzes have already been discarded and due to the ammunition being left in the field without repacking, the propellant, ignition cartridge, and fins are no longer serviceable. In view of these conditions it is believed that the practice of changing 60mm fuzes to 81mm shells should be discouraged and held to the absolute minimum compatible with the tactical situation."

II MIXING UP SUPPORTING FIRES.

"We effectively mixed artillery, 81mm and 60mm mortar fires to force the Germans under cover and enable our unit to take a strong hill position with few casualties. Our first artillery concentration on the hill was followed by a considerable pause. When a second artillery concentration was placed on the same area followed in two minutes by the 81mm mortar fire. This caught a number of Germans coming out of their holes. The mixing continued, interspersed with 60mm mortar concentrations, until it was felt the Jerries would not put their heads up for five to ten minutes after the artillery lifted. When the attack was made the leading unit charged the enemy position immediately after the artillery lifted, and caught the Germans just coming out of their shelters. It required only about 30 seconds to take a number of prisoners."

--Co Comdr, France.

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DECLASSIFIEDIII USE OF MAP TEMPLATES FOR CALLING FOR MORTAR FIRES.

"We use small map templates, made by cutting the issue template into four equal parts, for designation of targets by mortar forward observers. The six squares in each small template are designated by the letters ABC on the top row and DEF on the bottom row. A base point is selected from which the template can cover the majority of targets on the battalion front. This base point is always a grid line junction. The template is placed with its lower left-hand corner on the base point, and the targets are designated by indicating template coordinates such as Dog 16 and Charlie 51. Should the situation change so a base point is no longer usable, the forward observer can himself change to another suitable point, giving it in the clear when calling in his new target. During all calls care is taken that the word template is not mentioned."--Lt, Co H, 117th Inf Regt.

IV EXTRA AMMUNITION IN A RIVER CROSSING.

"We got additional ammunition across the Roer River for use in the early fighting by having each man carry a small extra load. In one company every man carried a bazooka round; in another, a mine; in another, an 81mm shell; and in still another, a 60mm round."--CO, 1st Bn, 405th Inf Regt.

V RADIOS FOR BATTALION COMMAND USE.

"Two SCR-300's and one SCR-610 are carried in the battalion command group in fast-moving situations. The battalion commander, with his S-2 or S-3 and one SCR-300, moves close behind the assault companies. He contacts the remainder of the command group directly with the SCR-300 and the regiment by relay through the SCR-610. When the signal on the SCR-300 becomes faint, he directs the rest of the command group be moved forward."--CO, 1st Bn, 405th Inf Regt.

VI NIGHT ATTACK WITH TANKS.

"We employed a platoon of tanks with each of two infantry battalions in a successful night attack in a town. The infantry secured the houses in the edge of town before dark. After dark the tanks moved up and worked with the infantry as in a daylight attack. Generally, one street was worked at a time, the tanks moving in the center of the leading infantry wave and knocking out machine guns or other weapons holding up the advance. The muzzle flash made easy the location of hostile machine guns. Action was controlled by means of telephones on the tanks. The town was taken by 0300 hours with but 12 men wounded in the two battalions and no casualties to tanks or tankers."--CO, 137th Inf Regt.

VII GERMANS SURRENDER AT NIGHT.

"Many more Germans surrender at night than in daytime simply because the act then can be concealed from their fellow soldiers. We try to increase our pressure after dusk on this account."--CO, 276th Inf Regt.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

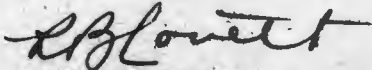
BATTLE EXPERIENCES

23 MAR 1945

DECLASSIFIED
No. 84

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By command of General EISENHOWER:


R. B. LOVETT
Brigadier General, USA
Adjutant General

I ATTACKS IN FORTIFIED TOWNS.

1. General. "Our attacks in fortified towns are carried out slowly and methodically and preceded by detailed foot reconnaissance. The fortifications often are located, tactically, in unexpected places with poor fields of fire, but are supported by other pillboxes or fortified houses.

2. Method of attack. "The supporting pillboxes or fortified houses often are more dangerous than the one being assaulted. Therefore, all nearby houses must be cleared and the supporting pillboxes buttoned up until the objective has been reduced. These attacks cannot be launched by assigning a line of departure, time of attack, etc. The foot reconnaissance is conducted to determine the locations of embrasures and doors and to select routes for assault teams and firing positions for heavy direct-fire weapons (155mm or 90mm self-propelled guns). These weapons are used against embrasures and doors when possible. When their use is not practicable charges must be placed against the doors. When the supporting pillboxes cannot be buttoned up, these charges are placed under cover of darkness.

3. Destruction of pillboxes. "Once a pillbox is taken, it must be demolished to assure that the enemy cannot re-occupy it. We used 1000 pounds of composition C on one pillbox and considered the expenditure worth while.

4. Use all fire power. "When attacking in these fortified areas, we fire with everything we have, even if we don't have good targets. The enemy takes to the cellars, and we have few casualties."--CO, 377th Inf Regt.

II GENERATORS FOR FIELD RANGE M-37

Paragraph II of Battle Experiences No. 81, 18 March 1945, covers a method of renewing the generators for the field range M-37, conversion set No. 2 (simplified). The Office of the Chief Quartermaster, Headquarters European Theater of Operations, United States Army, states that there is now an adequate supply of these generators available for issue, and recommends that the renewing procedure not be employed except in cases of emergency.

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III A BATTALION IN A

1. Crossing. "Prior to crossing we had all boats lined up and numbered from right to left. The entire battalion crossed in two waves, 10 minutes apart, on a two-company front.

2. Precautions against mines. a. "We had carefully studied the terrain on the far bank and had located some minefields. Each man cut a small willow switch which he pushed along in front of him to locate trip wires. As soon as prisoners were taken they were used as guides.

b. "We also used 48 primacord mats, made up by the engineers who had found them to be 100% effective in a Schu-minefield. The mats were 15 feet long and 4 feet wide with an 8" mesh, and weighed less than 8 pounds. Each mat had a 10 second fuze. The mats were carried rolled up like rugs. When a minefield was encountered the mat would be rolled out and detonated, clearing a path 4 by 15 feet.

3. Individual weapons. "Each man was required to load and lock his piece before crossing. Only designated men were to fire if we were attacked. Bayonets and grenades were to be used to overcome resistance.

4. Antitank protection. "We formed five three-man bazooka teams from our anti-tank platoon. We also had each rifle company and the ammunition and pioneer platoon carry 25 antitank mines.

5. Ammunition supply. "Ten men from each rifle company were attached to the ammunition and pioneer platoon to assist in getting ammunition across the river. The ammunition had been prepared in 50-pound packboard loads. It was carried from the battalion dump on the near side to boats which were pulled back and forth across the river by ropes. Two boats were assigned for this purpose.

6. Aid stations. "The regular aid station was established on the near side of the river, and an improvised traveling aid station was set up on the far side about 200 yards from the crossing site. A fourth litter squad was formed under direction of a medical technician, and two squads were sent with the station on the far side. Forward collecting points were set up in houses along the route of advance. Two boats were used to evacuate casualties across the river.

7. Rations. "Each man carried one K and one D ration. A hot meal was crossed by jeep on D-Day night."--CO, 1st Bn, 407th Inf Regt.

IV OFFICERS MUST BE ALERT AND KEEP TROOPS MOVING.

"Elements of an infantry battalion approaching the Remagen Bridge stopped and huddled against flimsy walls when they were observed firing artillery fire. The walls actually offered no protection whereas a continued advance soon would have taken them out of the fire. The halt caused a traffic jam for two or three miles until the unit was persuaded to move on. If the junior officers had been alert they would have seen that most of the bridge was in defilade from enemy fire and that rapid crossing of the bridge would have insured the safety of the men."--CO, CCR, 9th Armd Div.

V AMMUNITION BOXES FOR PARAPETS.

"Discarded ammunition boxes filled with sand are used for parapets for antitank gun positions when sandbags are not available."--393d Inf Regt.

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
NO. 86

22 MAR 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I DAILY NEWS REPORT BY TELEPHONE CONFERENCE CALL.

"Late news is broadcast each evening to units in the regiment over a telephone conference circuit. The broadcast is given by the intelligence and education section, and lasts 20 to 25 minutes. It is read so as to permit the taking of notes for further dissemination to individuals. The network is made up of 37 stations, including battalion headquarters, company headquarters, and sometimes platoon headquarters. An SCR-300 hand set and a 22½-volt battery are attached to a EE-8A telephone in place of the regular hand set to give increased volume."--Hq, 397th Inf Regt.

II ROAD SIGNS.

"To facilitate rapid route marking we use a special detail of one officer and nine enlisted men, organized into three parties, each equipped with a spray gun, stencil, and brushes, and a small supply of paint. To speed the work and avoid transporting special material, they use captured or abandoned paints and local material for signboards."--9th Armd Div.

III PREFABRICATED SHELTERS FOR FRONT LINE TROOPS.

"We have built prefabricated shelters which can be moved up quickly and used by the infantry for warming men in the line. They are made in sections from standard lumber and constructed with a slide fit so they can be put together without noise. The shelters are dug in about three feet and sandbagged, and when completed measure 6' x 8' x 5'. Straw or other available materials are used to cover the floor and small stoves provide warmth."--CO, 319th Engr Combat Bn.

IV. DANGER FROM GERMAN AMMUNITION.

"Recent explosions of captured Panzerfaust ammunition lead us to believe that German ammunition is being booby trapped by means of acid-type delay igniters. Extreme care or blowing in place is recommended."--Ord Sec, VI Corps.

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V TOWN FIGHTING BY PLATOON.

1. Organization and method of advance. "We organize our platoons into two seven man assault squads and a support squad for house-to-house fighting. The squads move alternately down opposite sides of the street, each clearing its assigned houses under covering fire from the support and the other squad.

2. Procedure and advantages. "Before the assault squads start forward the support squad places fire on the first house, covering all openings thoroughly. A few bazooka rounds are fired into the building. As the firing stops the assault squad rushes the house. The first two men clear the first floor, the second two clear the upper floors, and the third two the cellar. The other man guards the entrance. As soon as the house is cleared the men take up positions near doors and windows to cover the other squad as it clears the first house across the street. When the first two houses have been taken the support moves into them and takes up fire on the third one. This system provides ample fire support for the squad moving forward without exposing too many men at one time."--CO, Co A, 377th Inf Regt.

VI DON'T ANNOUNCE MORTAR RANGES.

"We avoid announcing mortar ranges over the SCR-536 radio by using names for the key ranges--for example, 'Roger' might mean 1000 yards. Code words are changed daily."--Sgts Plat Ldr, Co A, 377th Inf Regt.

VII M-1 FLASH HIDER.

"We have improvised an effective flash hider for the M-1 rifle by cutting off the primer end of a .50 caliber cartridge case and securing the case to the muzzle of the rifle. The flash can then be seen only from directly in front."--Lt, Co B, 62d Armd Inf Bn.

VIII CHECK FOR ENEMY ARTILLERY OBSERVERS.

"Though smaller enemy weapons had been cleared from the crossing site, accurate artillery fire continued falling on it for two days and nights until three Germans with a radio were flushed from a well concealed position over-looking the site."--CO, 319th Engr Combat Bn.

IX MACHINE GUN SUPPORT.

1. "Overhead" fire. "It is not always necessary to hit the Jerries to keep them pinned down. On one occasion the only overhead fire we could deliver also went over the heads of the enemy. This fire apparently helped demoralize the Germans because our riflemen, who were receiving heavy small arms fire, were able to take the objective with little opposition."--Sgt L. M. Taylor, Co M, 377th Inf Regt.

2. Care in selecting positions. "Our machine gun platoon was following a rifle company too closely and got pinned down for four hours by heavy enemy machine gun fire. If we had stayed behind the support platoon and delivered overhead fire we could have silenced the enemy guns and prevented casualties."--Sgt J. Checkley, Co M, 377th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No B2

21 MAR 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I SANITARY PRECAUTIONS.

The following comments were made by the XIX Corps medical inspector to Commanders of units already in Germany:

1. General. "The subject of 'sanitary inspections' does not at the moment seem as important as other more vital things, therefore, a few words of caution are necessary. This is the first war we ever fought in which more soldiers have been killed by bullets than by disease. In all others--including the world war with its flu aftermath--many more men died than were killed. We are now faced with prospects not unlike those which existed in 1918--a war-torn, bombed out Europe whose people are herded together, ill-housed, ill-fed, and without sufficient soap, heat or water. We are about to enter more deeply into one of the worst sections on the entire Western front. Contacts with civilians are inevitable, and we shall be fortunate if we do not fall heir to many of Europe's diseases.

2. "Following are a few of the things that can be done to keep opportunities for outbreaks of disease to a minimum:

a. "Leave bivouac sites clean. Insist on an inspection either by a medical officer or by a member of the medical detachment in company with a line officer. Kitchen sumps and latrines should be filled and marked. Quarters must be cleaned and the trash buried or burned.

b. "Clean up the new area when moving in. Trash, old clothing and dirt are wonderful breeding places, not only for bacteria but for rats capable of carrying disease considerable distances.

c. "Avoid the public water supply. The water in some regions is untreated. Because of the bomb damage much cross-contamination with sewage often exists. Both of the severe forms of bacillary dysentery are present, and have been reported. Be sure all water is posted off limits except that from water points.

d. "Don't allow over-crowding. With considerable bomb damage in an area this is very difficult to observe. This is probably most important because of the season. Late winter and early spring in Europe is the worst time for severe respiratory diseases

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such as pneumonia, influenza, diphtheria, and scarlet fever. There is also a form of jaundice now common which is probably transmitted by droplet infection.

e. "Check messes frequently. Here is one of the easiest places for infections to begin. All the men come through the mess and the food must be handled."

II DIVISION ARTILLERY COMMENTS.

1. Liaison communications. "We run two lines from the artillery battalion to the liaison officer and from the liaison officer to each of his forward observers to permit him to coordinate the firing by listening in.

2. Estimate of situation. "We require the artillery battalion commanders to give an estimate of the situation once or twice daily. This keeps the battalion commanders alert to the infantry situation and facilitates planning by the artillery commander.

3. Police of brass. "Approximately 450 tons of empty shell cases have been recovered in an area which had been occupied by other divisions. Police of the critical item of brass should be given a high priority."--44th Div Arty.

III CAVALRY TIPS.

1. Incendiaries. "The use of .50 caliber incendiaries has proved most effective against certain pockets of resistance. They make a sizable explosion against a hard surface and start small fires in grass and underbrush.

2. Additional machine gun for Armored Car M-8. "We mounted an extra light machine gun on each of our M-8 armored cars for use against targets of opportunity and for antiaircraft defense. The gun was placed on a yoke swivel mount on top of the turret to the right front.

3. Ammunition vehicles. "Now that we have M-24 tanks with the 75mm gun we have found it necessary to attach two M-10 armored trailers to each light tank company to carry additional ammunition. They are towed by the two tanks in troop headquarters."--CO, 117th Cav Recon Squadron.

IV RELIEF OF ENEMY UNITS.

"On two different occasions between 2200 and 2400 hours, our unit received heavy harassing artillery and mortar fires distributed throughout the area. In each case patrols sent out the following day captured prisoners from a new unit which had moved in during the night."--Report of 99th Inf Div.

V FOOT BRIDGE EXPERIMENT

"When the swift current turned the floats on end, making construction of a standard foot bridge impracticable, we built a foot bridge by using M-2 assault boats for supports and lashing the duckboards to the boats with rope. Each boat was lashed both to the float cable and the anchor cable."--CO, 319th Engr C Bn.

VI FLARES.

"Mortar and small arms fire should be previously sighted to cover the area to be illuminated by flares in order that the enemy may be taken under fire while still standing after the flare goes off."--CC, 62nd Armd Inf Bn, 14th Armd Div.

END

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

18 MAR 1945

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By command of General EISENHOWER:



R. B. LOVETT
Brigadier General, USA
Adjutant General

I WAR DEPARTMENT VIEW OF USE OF 75MM SHELL H. E. A. T. M-66.

Paragraph II of Battle Experiences, No. 61, 14 February 1945, reported an instance of the use of the H. E. A. T. projectile from the 75mm howitzer shell in the 75mm gun shell case. Ordnance Technical Bulletin No. 29, Headquarters, Communications Zone, 6 March 1945 says: "The War Department states that the 75mm shell H. E. A. T. M-66 will not give increased armor penetration when fired from the 75mm gun. Further, it is not possible to separate cartridge cases from these projectiles without distortion of the cartridge case, which requires resizing before rounds can be reassembled. Using units are not trained and equipped to accomplish this work. Modification of this ammunition by army troops is therefore not recommended."

II GENERATORS FOR FIELD RANGE M-37.

"We make our generators for the range M-37, conversion set No. 2 (simplified) last indefinitely instead of the normal 200 to 300 hours. The generator is cut in two, slightly off center, and the steel wool which acts as a filter is removed with long-nosed tongs. About three-fourths of a pound of new steel wool is inserted a little at a time and packed tightly with a broom handle--the more tightly it is packed the more efficient will be the operation of the unit. The generator is then welded back together and put into service."--Div Q1, 44th Inf Div.

III POST EXCHANGE SERVICE FOR FRONT LINE UNITS.

"We have successfully handled such post exchange 'for sale' items as cigars, lighters, and watches, for front line troops by distributing them each week through the battalion S-4s or the company supply sergeants. On several occasions candy bars were purchased from the regimental funds and distributed free to the men--once by airplanes to a battalion in a bridgehead and once to units heavily engaged in fighting in Metz. Through the cooperation of the Red Cross field director some souvenir items also have been obtained and distributed in the same manner. Hundreds of rolls of film have been developed and printed by the post exchange through similar channels."--Special Service Officer, 377th Inf Regt.

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IV USE OF TIME FIRE TO ASSIST IN BRIDGE CAPTURE.

"We captured intact two bridges the enemy had prepared for demolition by simply covering them with intermittent time fire for a considerable period until the infantry could move up to seize them."--Ex O, 80th Div Arty.

V TOWN FIGHTING.

1. Keeping the enemy from re-occupying buildings. "We prevent the enemy from re-occupying buildings abandoned at night for defensive reasons by placing in them charges hooked to electric detonators. These charges can be set off any time the enemy is found to be occupying the buildings. This eliminates the necessity for again fighting for these buildings when the attack is resumed."--1st Sgt B. R. Cotter, Co B, 377th Inf Regt.

2. Company communications. "We maintain wire communications between the platoon and the company command post in town fighting by having the rifle platoon runner, equipped with a sound-powered telephone and a reel of assault wire, follow along with the rear half of the platoon--usually one building behind the leading half. On one occasion when another platoon across the street had its wire blown out, the loose end was tied to a rock and thrown across to us. We simply tied it to our wire and communication was quickly re-established."--Platoon Leader, Co B, 377th Inf Regt.

VI PILLBOX GAS DANGEROUS.

"Caution should be exercised in allowing men to enter too soon pillboxes on which composition C and TNT have been used for gaining entrance. If the apertures were closed at the time of blowing, some time should be allowed for gases to escape before going inside. Five of our men who entered a pillbox too soon after blowing it were overcome by the gas and hospitalized."--Platoon Leader, Co B, 377th Inf Regt.

VII ANOTHER "TEAM".

"Special service and graves registration personnel can work together effectively. When evacuation needs are greatest the special service functions are the most limited and vice versa. We have one clerk take care of all paper work such as handling reports on graves registration, clearances on personal effects, distribution of Stars and Stripes, and post exchange reports. Another man serves as driver for the graves registration team and as general special service utility man."--Special Service Officer, 377th Inf Regt.

VIII CORN BEEF HASH.

"Men like the following recipe for corn beef hash. For 100 men, use five number 10 cans of hash, two number 56 dippers of fat, one number 56 dipper of dehydrated eggs, and four or five number 2½ cans of corn. Mix and make into patties."--Mess Sgt, Hq Btry, 14th Armd Div Arty.

IX FALSE BULKHEADS FOR HALF-BOATS.

"False bulkheads installed on the half-boats reduces the force of the current against the bridge. The bulkheads are put on with least difficulty when the bridge is in the water."--CO, 237th Engr Combat Bn.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

No. 86

17 MAR 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I REGIMENTAL RIVER CROSSING SUPPLY AND EVACUATION PLAN.

1. Individual loads. "Each man ate a K ration meal on the near bank and carried four additional meals--three of K rations and one of D ration. Each rifleman carried a belt of ammunition and two bandoleers. Automatic weapons teams carried all the ammunition they could.
2. Forward dumps and carrying parties. a. "Each assault battalion established a forward dump on the near shore several days before the crossing. Rations and water for one day and the following amounts of ammunition were placed in each of the dumps: Carbine--3,000; M-1 rifle--15,000; .30 caliber machine gun--15,000; 60mm high explosive--400; 60mm illuminating--50; 81mm heavy--50; 81mm smoke--50; bazooka--75; bazooka white phosphorus--25; antitank rifle grenade--100; white phosphorus rifle grenade--30; fragmentation hand grenade--300; smoke grenade--20.
b. "Carrying parties were organized from ammunition and pioneer platoons. Supplies were carried across by packboard on D-Day and D plus one. Each man made about 50 trips.
3. Vehicle loads. a. "One $\frac{1}{2}$ -ton truck and trailer for each company was loaded with five cans of water, five cases of K rations and the following amounts of ammunition: Carbine--250; M-1 rifle--1,000; .30 caliber machine gun--1,500; .45 caliber--600; 60mm high explosive--48; 81mm light--45; 81mm smoke--5; bazooka--10; antitank rifle grenades--12; fragmentation hand grenades--30. The ammunition weight totaled 1,112 pounds.
b. "Each of the antitank company $1\frac{1}{2}$ -ton trucks carried 10 cans of water and 25 cases of K ration in addition to its normal load.
c. "Four of the regimental $2\frac{1}{2}$ -ton trucks each carried 55 cans of water and 65 cases of C rations. The combined load of men and vehicles provided a four day supply of rations and a two day supply of water. All of the vehicles listed above were crossed by the evening of D plus one.
d. "Each tank which crossed on D-Day carried the following extra ammunition for the infantry: One box of .30 caliber M-1, one box of .30 caliber machine gun, one box of .45 caliber, one box of fragmentation grenades, and one box of antitank grenades.

-1-
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4. Evacuation. "The assault battalions and the regiment established aid stations on the near shore but moved across immediately after the battalions. Sufficient supplies were carried across to set up a modified collecting point until the collecting company could start operations. When the vehicular bridge was opened, jeeps and weasels were used to shuttle casualties to an ambulance point on the near shore.

5. Vehicle movement. a. "Each vehicle and each group of vehicles was given a number and a location on the vehicle priority schedule. All vehicles stayed in their areas until called for by number from the traffic control station.

b. "The vehicles were crossed in the following order:

(1) "D-Day and D-Day night; Tanks of the supporting tank battalions.

(2) "D plus 1; Flame throwing tanks; tank destroyers; specially loaded company $\frac{1}{2}$ -ton trucks and trailers and battalion wire $\frac{1}{2}$ -tons; medical $\frac{1}{2}$ -tons and ambulances; all battalion and regimental antitank guns; tank battalion gas and ammunition vehicles (2 $\frac{1}{2}$ -ton); tank destroyer battalion supply vehicles; flame throwing tank supply vehicles, the chemical mortar company (less supply, maintenance and kitchen vehicles); the infantry battalion radio and messenger $\frac{1}{2}$ -tons; the tank destroyer battalion maintenance and miscellaneous vehicles.

(3) "D plus 2; The regimental cannon company; the chemical company maintenance, supply and kitchen vehicles; regimental headquarters company communications, liaison and command vehicles; regimental service company ammunition trucks; other special ammunition vehicles (from division); the chaplains, service company wreckers.

(4) "D plus 3 and D plus 4; Other combat vehicles of the infantry battalions with normal loads."--S-4, 175th Inf Regt.

II ROAD REPAIR.

"A nearly impassable 200-yard stretch of two-way road was effectively repaired by using baled hay, building bricks and roofing tile. The road was a quagmire for a depth of three feet. To stabilize the mire 30 bales of hay were spread over the road, followed by a thick layer of building bricks mixed with more straw. This was topped by a three inch layer of roofing tile. Each layer in turn was packed by passing traffic. The resulting surface was excellent."--CO, Co A, 297th Engr Combat Bn.

III SIGNAL COMMUNICATIONS IN A RIVER CROSSING.

"We used both spiral-four cable and SCR 300 radio for communication during the recent Roer River crossing. The SCR 300 was the only means in continuous operation. The spiral-four, carried across by the first wave and later re-established by assault boat was laid under water in both cases and used in preference to field wire. An additional alternate spiral-four wire was laid along the footbridge as soon as it was completed."--Signal Co, 102d Inf Div.

IV TEAMWORK AGAINST PILLBOXES.

"We used small teams of tanks, tank destroyers and infantry to capture pillboxes. The infantry moved forward until held up by pillbox. The tanks would then come up and close the aperture with machine gun fire while the tank destroyers fired several rounds of 90mm into the fortification. When the infantry started for the pillbox again, the enemy usually surrendered. We had adopted this close formation because of limited routes of approach, poor visibility, and uncertainty as to pillbox locations, but it proved so effective we were able to clean out an entire fortified town in one day."--610th TD Bn.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

16 MAR 1945

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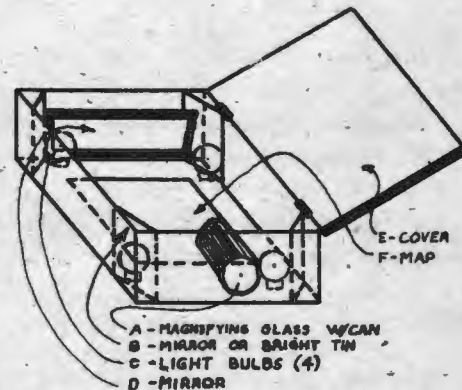
By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I MAP ENLARGEMENTS.

1. Construction. "We have constructed a simple projection machine for map enlarging. It consists of a closed wooden box, $1\frac{1}{2}'$ x $1\frac{1}{2}'$, with bright tin or mirrors placed across each corner facing the center of the box (see sketch). Light bulbs are placed in each corner in front of the mirrors. A number two can with a magnifying glass inserted in one end is mounted in a hole cut in the front of the box in such a way that the projection can be focused by sliding the can back and forth. A mirror is placed at the back of the box slanting about 30 degrees towards the front. Painting the interior of the box white increases reflection and clarifies the picture.

2. Operation. "The map is placed on the floor of the box and the projection focused by moving the can containing the magnifying glass. Grid lines should be drawn on the paper on which the projection is focused and the grid lines on the map brought into conjunction with these. The details of the map are then penciled."--Asst G-3, 398th Inf Regt.



II USE OF GERMAN SPEAKING MEN.

"Someone who can speak German should be with each leading infantry platoon. Recently one unit took a pillbox and found the communication system intact. A German speaking soldier used the telephone to persuade two other adjacent pillboxes to surrender."--E1, 309th Inf Regt.

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III SOUND-POWERED TELEPHONES.

"Much of the difficulty with sound-powered phones is caused by the two clips touching and causing a short circuit. We avoid this by separating the ends of the two lead-in wires by a cardboard spacer. The insulation is stripped from each wire and one is wrapped around each end of the cardboard. The clips are then snapped over the coiled wire."--CO, 1st Bn, 314th Inf Regt.

IV INCREASING RATE OF FIRE OF SUBMACHINE GUN M-3.

"We have increased the rate of fire of the M-3 submachine gun by cutting the driving spring from an M-1 rifle into four equal sections and installing one of these sections on each of the two driving rods of the M-3. This also makes the weapon steadier and improves its accuracy. It is still possible to fire single or double bursts."--Ord Officer, 14th Armd Div.

V ARTILLERY TRAIL SPADES.

"In frozen ground the trail spades of the 155mm gun and the 8" howitzer break easily if the piece has an excessive cant or if the spades are not against a vertical surface. If a battery occupies a position hurriedly and the guns are canted, one or two pieces at a time should be left out of action while they are leveled. If the guns cannot be leveled a new position must be occupied. The executive must see that the facing for the spades is vertical and properly prepared."--After Action Report, 194th FA Group.

VI ARTIFICIAL MOONLIGHT.

"Artificial moonlight proved a considerable aid in repulsing a recent German night counterattack on our position. Normal visibility at the time was such that enemy movement toward the position would have been nearly impossible to detect."--Ex O, 2d Bn, 324th Inf.

VII GERMAN MINE TRICKS.

"We found two rows of Tellermines across the road on top of the ground. About 10 yards down the road two more rows of buried mines were discovered. On another occasion we discovered a Tellermine concealed in a sack of coal in a road block."--CO, 125th Armd Engr Bn.

VIII ROUTING PHONE CALLS.

"Wire diagrams of the main telephone lines in the corps sector have been furnished to staff personnel. Staff officers are now required to route their own calls, thus relieving the switchboard operators of this task."--CO, Hq Btry, 14th Armd Div Arty.

IX HASTY MINEFIELDS.

"We have used artillery fire to pin down the enemy while laying hasty minefields. On one occasion we laid a field within small arms range of the enemy without casualties by this method."--CO, 125th Armd Engr Bn.

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-2-

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

No. 78

15 MAR 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I ENGINEER SUPPORT.

Note: The following views, at variance with those expressed in paragraph VIII, Battle Experiences No. 63, 17 February 1945, were received from officers who have been directing engineer units since the initial landings in Normandy.

1. Employment. "The most effective engineer support for an infantry division is obtained by attaching the minimum number of engineers to subordinate units of the division and employing the maximum number under control of the division engineer. When attachment is essential a good solution is to attach a platoon of engineers to a combat team and hold the balance of the company in support of the combat team, under control of the division engineer.

2. Advantage. "The advantage of this policy over a standard policy of attaching engineer companies to combat teams, engineer platoons to infantry battalions, etc. is that the bulk of the engineer troops remain under the man who is best qualified to employ them for these reasons:

- a. "He understands more fully their capabilities and limitations.
- b. "He has a better picture of the over-all engineer needs of the division.
- c. "He can center their efforts on the more important engineer tasks and avoid wasting their technical skill on inconsequential tasks and those for which the engineers are not specially qualified."--V Corps Engr and CO, 1171st Engr Combat Group.

II GERMAN RECOMMENDATION TO NIGHT PATROLS.

"A German prisoner reports the following to be a 'basic error' of American night patrolling tactics: 'Whenever an American night patrol is fired upon after it has penetrated German lines it changes its route and moves parallel to the main line of resistance instead of continuing with the original patrol route with a slight offset. In this way the patrol risks running the gauntlet of fire all along the main line of resistance.'"--Third Army Report.

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III CAMOUFLAGE VIOLATIONS.

1. "Lack of enemy air activity has resulted in many units becoming extremely careless in camouflage discipline even though the enemy sends over reconnaissance planes daily. Our carelessness allows these few planes to keep his G-2 well informed and provides a valuable check on the information he receives from prisoners and patrols. Common violations of basic rules include:
 - a. "White laundry hung in open areas.
 - b. "Pup tents not concealed.
 - c. "Spoil from digging not concealed.
 - d. "Camouflage nets not propped to change the outlines of the equipment under it.
 - e. "Mess kits reflecting light.
 - f. "Gun positions well camouflaged but nearby tents and vehicles not camouflaged.

2. Camouflage tips.
 - a. "Artillery units should use the net sets in open, bare fields. Drapes are best in heavy or broken terrain.
 - b. "Drapes should be fully garnished and held off tents and vehicles by props.
 - c. "Camouflage painting of combat and reconnaissance vehicles in black and green has proved of great value.
 - d. "Fatigues make good spring and summer camouflage suits when painted in patterns of black and green.
 - e. "An easy way for a driver to handle a camouflage net in a parking area is to put up a permanent drape, suspended from trees and propped so that the vehicle can move in and out without moving the net.
 - f. "Charcoal and shaving cream make a good face paint for patrols."--Lt, 602d Engr Camouflage Bn.

IV IMPROVISED FIRES.

1. Thermite grenades. "We used thermite grenades as a substitute for flares by attaching them to the rifle grenade adapter and firing them with the M-7 grenade auxiliary booster charge. They give good visibility for one minute and can be used at ranges up to 150 yards. The firer must be well concealed."--Ex O, 2d Bn, 406th Inf Regt.

2. Use on ground. "When we use an incendiary grenade to substitute for a mortar flare we place it eight inches above the ground and build a dirt shield around it to prevent illuminating friendly troops. The flares are placed in front or to the side of our positions so that any enemy fire they draw will not fall on our troops."--S-3, 143d Inf Regt.

V USE OF "WEASELS" TO CARRY BRIDGING.

"Foot bridging was transported to crossing sites by 'weasels' over rough, snow-covered terrain at a speed of five to 10 miles per hour. One 'weasel' carried a load of 36 feet of bridging weighing 800 pounds. Another carried 24 feet of bridging and towed a sled with 4 feet more."--C pt, 10th Engrs, 3d Inf Div.

VI COMBINED ARTILLERY-TANK DESTROYER FIRES.

"Combining artillery fire with that of towed tank destroyers to destroy enemy installations in buildings, makes it more difficult for the enemy to locate the tank destroyers."--CO, 290th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**

No. 77

14 MAR 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I TOWN FIGHTING.

1. Coordination with tanks. "Definitely assign one tank to fire on the lower floors and another to fire on the upper stories of enemy-held houses when a tank section is working with infantry in streets. Firing should be on prearranged signal. This coordination will avoid confusion and prevent casualties to our own troops.

2. Don't get trapped. "Never retreat to a cellar no matter how hot it gets--you may become trapped. When using cellars for shelter always leave men upstairs to observe and warn of approaching enemy."--Sgt J. C. McComb, Asst Squad Leader, Co E, 377th Inf Regt.

II OVERCOMING GERMAN ARTILLERY TRICK.

"We are not bothered by the German trick of timing his artillery and mortar fire so our infantry will think their own artillery is firing on them. Our infantry has full confidence in its supporting artillery and we use several methods of checking. When short rounds are suspected during daylight firing the forward observers quickly determine whether it is our fire or that of the enemy. At night the artillery liaison officer, when notified, calls the fire direction center requesting a check on the data on all guns. This check is quickly made while firing continues and the infantry is notified of the action. The confidence of the infantry in their teammates has made the German trick ineffective."--1st Bn, 134th Inf Regt.

III OVERHEAD COVER FOR FOXHOLES.

"When fighting for limited objectives in woods we cut and pile a stack of logs near the line of departure. These can be brought forward quickly to provide overhead cover for newly dug foxholes."--Report of 78th Inf Div.

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IV BAZOOKA TEAMS.

"We use a three-man bazooka team, consisting of a gunner and two assistants. The gunner carries the bazooka and a carbine, and the assistants carry three bazooka rounds each and their rifles. Bazooka ammunition often can be saved by using rifle grenades on close range targets. When we know we will need much bazooka ammunition, every man in the squad carries one round, and the load of the assistant gunners is increased to four by taking the shells out of the cardboard containers."--S/Sgt Donald Kimpach, Co E, 377th Inf Regt.

V SQUAD BRIEFING IS IMPORTANT.

1. Care decreases casualties. "When all available information is passed on properly to all men before an action it increases the efficiency of the unit and decreases casualties. Sketches and maps should be as detailed and accurate as possible. A careful check should be made to see that every man knows his own duty, his squad mission, and as much as possible about the objectives and movements of the other units."--Pfc R. S. Todes, Co E, 377th Inf Regt.

2. Every man is important. "Every man in the squad should listen to his squad leader's orders with the thought in mind that he may have to be the squad leader before the battle is over."--T/Sgt J. D. O'Dell, Plat Sgt, Co E, 377th Inf Regt.

VI FIRE DIRECTION CENTER.

1. Organization. "We improvised a 'fire direction center' to control the fire of regimental and attached supporting weapons during special operations. Liaison officers from the field artillery are at the fire direction center with their communications for the relay of artillery requests. The commanding officer of the heavy weapons company of the reserve battalion runs the fire direction center and has available all communication facilities of the reserve battalion.

2. Operations. "Fires are requested by platoon and company commanders from a waterproof overlay which shows all concentrations and their code numbers. Most requests for fire are transmitted to the fire direction center by SCR 300 radio. Radio and telephone communication are provided to the gun positions of each fire element in the set-up. Fire of all units could be stopped within three minutes of a 'cease fire' order."--S-3 and CO, Co M, 60th Inf Regt.

VII ALTERNATE ROUTES.

"We have found it worth while to cut and mark an alternate route from the battalion to the company command post when fighting in woods. Enemy shelling often obliterates the original path and funnel, and they may become lost. One of two paths will usually escape the enemy barrage."--Report of 78th Inf Div.

VIII ANTI-SNIPE INSURANCE.

"When attacking over a considerable distance we have one man per squad follow at 75 - 100 yards to protect against by-passed snipers."--CO, Co E, 377th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

No. 76

10 MAR 1945

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By command of General EISENHOWER:

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Brigadier General, USA
Adjutant General

I MARCHING FIRE GETS RESULTS.

1. "Most difficult objective". "One assault platoon failed in its mission and suffered the heaviest casualties in the operation when it allowed itself to be pinned down. Another platoon given the most difficult objective in the whole operation, figuratively and literally marched up to its objective and over it because they kept firing all their weapons, including light machine guns, from the hip. Enemy casualties were twice as heavy here as in any other sector. New men must be made to know that continuous fire on the enemy keeps him pinned down and makes the advance easier."
--CO, 309th Inf Regt.

2. Reconnaissance, rapid movement and fire. a. "When an attack is to be made, reconnoiter so that you know what you are up against. Having made your plan, make everybody open fire when the attack starts. Keep shooting as you move and move fast. This applies in wooded and open country equally. The Boche is afraid of our fire power, and we do not make sufficient use of it. When you close in rapidly it is difficult for him to adjust artillery and mortar fires on you, especially as you approach his infantry.

b. "Recently one of our companies neglected the reconnaissance phase and walked into an ambush. The company commander ordered and led a bayonet charge and the men moved forward rapidly with fixed bayonets, firing everything they had. The ambush resulted in casualties but they took the position and killed or captured more Boche than their own losses. Rapid movement and heavy fire saved them. Had the company hit the ground and stayed in its exposed position, it would have been annihilated."
--CO, 12th Inf Regt.

II TANKS IN VILLAGE FIGHTING.

"In villages we employ tanks abreast if the streets are wide enough. The right tank covers the buildings on the left and vice versa. The tanks then do not have a blind side as they do when they operate singly."--CO, 48th Tk Bn.

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III RECONNAISSANCE PAYS.

"When clearing wooded areas in hilly terrain, we would send patrols to high ground 300 to 600 yards ahead. The remainder of the company would wait until these patrols gave the 'all clear' signal, then move ahead and the patrols would again move forward. Once this prevented two companies from being ambushed."--Lt, Co L, 333d Inf Regt.

IV SCR 300 ANTENNAE.

1. Using wire. "We avoid breaking SCR 300 radio antennae when in heavy brush or woods by substituting a three or four foot piece of German wire from the antenna socket to the strap on the operator's steel helmet. This gives excellent reception and transmission."--CO, Co A, 333d Inf Regt.

2. Using lead-in. "When setting up in buildings we get better reception by putting the aerial of the SCR 300 out of a second-story window and running W-130 wire from the base of the aerial to the aerial socket in the radio. The radio can then be placed anywhere in the building."--Com Sgt, Co D, 333d Inf Regt.

(Note: Other similar reports have been received on improvised antennae for SCR 300 radios. The Signal Section, European Theater of Operations, United States Army, points out that the SCR 300 has a tuned antenna and any variation in length will not affect reception but may reduce the transmission range of the set.)

V GERMAN DRIFTING MINE.

"This floating mine is designed to damage pontoons, bridge piers and low level bridges. The mine body is a hollow steel ball 15" in diameter, containing 25.5 pounds of explosive. A brass rod about five feet long extends vertically from mine body. A wooden float is attached to the rod six inches from the mine body. When floating, only the wooden float and rod and fingers are visible. The mine explodes if the rod is tilted in any direction. The mine also contains a clockwork igniter which can be set for any time up to six days. The mine is armed whenever the brass rod is in place and should be destroyed without being moved."--G-2 Report, XII Corps,

VI HEATING WATER IN COLD WEATHER.

"Mess kit water can be boiled as quickly in cold weather as in warm weather by cutting the lids of the 24 gallon cans to fit closely around the pipes of the immersion heater."--CO, AT Co, 377th Inf Regt.

VII SEARCHLIGHTS AID ENGINEERS.

"We have found that artificial moonlight by searchlights definitely speeds the assembly of engineer materials, wire laying, wire obstacle installation, and bridge construction."--CO, 111th Engr Bn.

VIII TRIP FLARES IN NIGHT ATTACK.

"When planning a night attack which involves a passage of lines make certain that the route is checked for and cleared of trip flares. In a recent attack of this nature the advance units of the column tripped several flares set by the friendly unit."--Hq, 309th Inf Regt.

END

- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

No. 75

8 MAR 1945

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By command of General EISENHOWER:

R. B. Lovett
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Brigadier General, USA
Adjutant General

I PROJECTING CABLE BY MORTAR.

1. Description. "We have used the 81mm mortar successfully to project a cable across obstacles and rivers. We remove the charge from a high explosive or smoke shell and insert in the shell a one inch pipe long enough to project past the muzzle of the mortar when the shell is seated. Four fins or grapnels are welded to the upper end of the pipe and a 'U-bolt' screwed or welded to the same end. A $\frac{1}{2}$ -inch cable is bolted to this 'U-bolt' by means of a cleat or shackle welded to the cable.

2. Operation and precautions. "The cable must be at least 215 yards long as the harpoon will be propelled that far. Great care must be taken to insure that the cable pays out freely as failure to do so may cause injuries due to its whipping. We improvised a cable holding plate about 3 x 5 feet, to which we welded two winding posts sloping sharply to a point to minimize friction. The cable is figure-eighted onto the posts very carefully to insure against kinks and overlapping. Before firing, the plate must be tilted up at an angle of 45 degrees with the posts pointing in the direction of fire. About 30 feet of cable should be paid out and coiled in front of the mortar to allow for play and prevent a violent jerk. When the cable has been fired and the harpoon seated, the cable may be pulled taut by a vehicle winch."--Os, 39th Inf Regt.

II EFFECT OF THE GERMAN PANZERFAUST "60".

"In experiments, this antitank weapon proved effective against hasty field fortifications and houses, and probably would be effective against personnel because of its great concussion effect. It has a high degree of accuracy at its extreme range of about 80 meters. Over a distance of 40 meters, holes two feet in diameter were blown in a stone wall two feet thick. Two direct hits also proved sufficient to blow a gap in three-strand concertina wire. In the experiment, 33 rounds were fired and only three were duds. During the firing there was no recoil or flashback."--G-2 Report, XI Corps.

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III ARMORED TACTICS AND TECHNIQUE.

1. The gyrostabilizer. "We lay much stress upon the care, adjustment and proper use of the gyrostabilizer, which is not properly appreciated by the average tanker. They do not use it enough, overdo manual control when they do use it, and frequently fail to give it proper care. In one 1500-yard advance over plowed fields, our tanks through use of the stabilizer, maintained as effective fires as if they had been standing still, destroying several pillboxes."--CG, 12th Armd Div and Lt, 714th Tk Bn.

2. Attack of towns. "Attacking towns just before daylight permits use of daylight to regain control. If the area is strongly held, forces should be sent out to block counterattacks from nearby towns.

3. Fire against German armor. "When German armor attacks frontally we fire a round of high explosive and then change to armor-piercing. The high explosive usually forces the German tank to change its course and expose a more vulnerable part to our armor-piercing. In any case, it will disturb his laying or impair his sight."--C/S, 12th Armd Div.

IV ANTITANK PLATOON IN DEFENSE.

"A front line rifle company which had received no mortar or artillery fire was shelled constantly when the antitank guns took up positions within its area. When the guns were withdrawn the firing ceased. We now locate them outside the area but in supporting distance, and place bazooka teams and mine 'daisy chains' in the forward positions."--Lt, Hq Co, 333rd Inf Regt.

V TIPS FROM AN ANTIAIRCRAFT BATTALION.

1. Tracking of planes. "Requiring gun crews to track all planes provides tracking experience, insures more accurate initial leads, and gives us a decided edge when friendly planes are discovered to be flown by Germans.

2. Warning to cub planes. "We use one FM radio channel to warn artillery cub planes when German planes are spotted near by.

3. Mobile gas chamber. "Using a 2½-ton truck as a travelling gas chamber permits testing gas masks at each battery position."--CO, 443rd AAA AW Bn.

VI DAILY MAINTENANCE CHECK.

"A daily check of vehicles is facilitated by placing the maintenance truck between the battalion kitchen train and the front line of the main supply route."--Motor O, 2d Bn, 398th Inf Regt.

VI LAYING WIRE CIRCUITS.

"Laying a sound-powered line in a circle -- a complete circuit-- will prevent its going out in case of a break in the line."--CO, AT Co, 377th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 74

5 MAR 1945

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Adjutant General

I ARMORED DIVISION COMMUNICATIONS.

1. Half-track as wire vehicle. "Use of a half-track to lay wire in forward areas provides protection from small arms fire and has saved us casualties. The 2½-ton trucks are used in the rear areas.
2. Half-track for radio maintenance crews. "We have mounted two radio maintenance teams in half-tracks for use in the forward areas. Each carries normal maintenance equipment and one radio of each type to permit quick replacements. They wait for calls at the division forward echelon.
3. Radio half-track for landing strip. "We station a half-track equipped with an SCR 506 and 510 at our landing strip to speed transmission of information to and from division headquarters. The machine guns of the half-track also help protect the air strip.
4. Communication with attached tank destroyers. "By placing an SCR 508 with each tank destroyer company and an SCR 510 with each platoon we enable the tank destroyer units to contact on division headquarters channels the armored units to which they are attached."--Signal O, 5th Armd Div.

II USE FOR OLD BA-70 BATTERIES.

"Old BA-70 batteries which are too weak to operate the SCR 300 can be used to light command posts. One battery and a 40 watt bulb will provide good light for 24 hours."
--CO, Co G, 406th Inf Regt.

III TANK-INFANTRY COMMUNICATIONS.

"We attach a liaison officer and a half-track equipped with an SCR 508 radio to the headquarters of each infantry regiment with which we work. They provide communication between the regimental headquarters and the tank battalion and furnish a point through which supplies can be forwarded to front line tanks. Because of their power they sometimes are used for communication, through other tank sets, between the infantry regimental and battalion headquarters."--CO, 761st Tk Bn.

DECLASSIFIED

DECLASSIFIEDIV OPERATION OF A BATTALION

Note: A battalion medical section of the 116th Infantry Regiment is credited by the regimental commander with having achieved superior results during six months of combat in spite of "radical" methods. Some details of the section's standing operating procedure are given below.

1. Preparatory steps. a. "The battalion S-2 keeps us supplied with aerial photographs and tactical maps. As soon as a field order is received we study the maps, call a meeting of all medical personnel and give them complete information and announce a tentative evacuation plan. Reconnaissance is then made by litter squad leaders of evacuation routes.

b. "Communication by telephone and SCR 300 is established whenever possible. The radio operator is furnished with maps and photographs and is responsible for keeping abreast of the situation by monitoring. The aid station operates in the radio net as a regular station but is used only when wire lines are very crowded. The radio is operated by the clerk on duty, assisted by the section leader when necessary.

2. Organization for operation. "Aid station personnel are divided into two groups, each consisting of a surgical technician, a medical technician, a clerk-radio operator and a driver. Thus organized the teams can operate simultaneously when casualties are heavy, at two different locations when necessary, or alternately, permitting one team to rest in reserve when casualties are light.

3. Conduct during action. a. "The aid station is located as close as possible to the anticipated area of maximum casualty density. It is frequently ahead of the battalion command post. On one occasion its forward element was set up on the line of departure and a Red Cross prominently displayed. This permitted many of the advancing infantrymen to note its location with the result that many of the less seriously wounded reached it unaided, instead of waiting for litters. On another occasion half the aid station moved to the objective with the attacking companies carrying medical supplies by pack because of the threat of minefields.

b. "The radio and telephone operators direct litter bearers when necessary and call the ambulance forward from its protected location only when required.

c. "The noncommissioned officer in charge of each litter squad directs his squad, keeps informed of the situation and passes information to the aid station. Normally the litter squads are well forward, two working and one resting. When the aid station cannot get well forward, advanced litter stations are established, usually in protected areas near company command posts. At times litters are left near company command posts and the infantry aids in removing casualties. Each litter squad has a telephone and test clips, thus permitting them to tap battalion wire lines and keep in touch with forward units and with the aid station.

4. Reinforcements. "Reinforcements receive a period of training at the aid station and as members of litter squads before being placed in the line as company aid men. They are then assigned, if practicable during a rest period, to a unit with a 'battle-wise' aid man."--Sergeant and Asst Surgeon, 1st Bn 116th Inf Regt.

V DON'T PATROL WHEN RELIEFS ARE EFFECTED.

"Care should be used in sending out patrols when units are being relieved as they often draw enemy artillery and mortar fires on the area."--G-2, XIII Corps.

END

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

4 MAR 1945

DECLASSIFIED
No. 73

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I CHANGE IN BATTLE EXPERIENCE NO. 59.

1. Error as to unit. In paragraph 6b of "Battle Experiences" No. 59, dated 12 February 1945, the unit referred to was the 80th instead of the 90th Infantry Division.

2. Later information about DUKWs. In connection with paragraph 16d of the same publication, further information is that only two DUKWs were actually used in the operation. Because of the steepness of the river banks it was not possible for them to get in and out of the water each time and the loading and unloading on the far shore was effected with the DUKWs moored alongside the bank. It was necessary to steer them well upstream of the intended landing point.--Former G-3, 90th Inf Div.

II SPEEDING BRIDGING OPERATIONS.

"Bridging operations can be speeded up and lives frequently saved by these practices:

- a. "Attaching an artillery liaison officer to the engineer unit at the bridge site.
- b. "Delaying the start of work until all possible enemy observation points overlooking the site, are occupied by friendly troops. This can be done only if profiles of the area are prepared in advance.
- c. "Withholding until darkness all preparatory activities for a bridging operation which must be undertaken under enemy observation. This will lessen the probability of his registering on the site."--After Action Report, 60th Engr Combat Bn.

III WET WEATHER OPERATIONS.

1. Road repair. "We have found tile roofing better than brick rubble for quick repair of roads because it lasts longer and carries the traffic load better."--Div Engr, 35th Inf Div.

2. Log mats for tanks. "Log mats are effective in getting tanks over soft and boggy ground. Two mats are hung on each tank when the need is anticipated, and laid down as a corduroy road when required."--Cs, 761st Tk Bn.

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V AVOID CARELESS MOVEMENT ON OBSERVATION POSTS.

"Officers visiting front line units must be warned against actions that might reveal to the enemy the location of important installations such as observation posts. In one case an observation post was located in a wrecked building. The inside walls of rooms used for observing had been camouflaged to give a dark background, instruments had been set well back in the rooms, and the observers were careful to move about only in the shadows. Blackout was carefully observed. Visiting officers arrived one day and moved about freely, even leaning out of the windows with their field glasses. Within half an hour after they left, the building was completely destroyed by enemy action and one observer was killed."--CG and Asst Div Comdr, 1st Inf Div.

VI INFILTRATION.

"We require units to search their areas -- especially buildings -- every morning for enemy that may have infiltrated during the night. We almost always find some. Sometimes they do not know where they are. Once several Germans started digging a machine gun position 200 yards behind our front lines."--CO, 3d Bn, 414th Inf Regt.

VII WELDING TRAILER.

"We have improvised a low-silhouette, mobile welding trailer from a German ammunition trailer. Salvaged $\frac{1}{2}$ -ton truck wheels and tires were mounted on the trailer; lug bolts were obtained from telephone poles. The bed of the trailer was removed and a steel box mounted to provide space for hose, torch, tips, etc. Welding tanks were mounted horizontally on either side of the box and held in place by clamps. An anvil on the front, and a steel welding table and vise on the rear completed this compact unit."--T/4 Ronald Bowden and T/4 Anderson M. Nunnolley, Service Co., 71st Inf Regt.

VIII INTELLIGENCE TRAINING.

"To train our men in map reading, observation, and accurate reporting, we require every man -- including cooks and reinforcements -- to observe some military activity and write a message giving the location and describing what he saw. Improved G-2 information has resulted."--G-2, 5th Armd Div.

IX ENEMY SMALL ARMS FIRE IS INACCURATE.

"We find that many new men are unnecessarily afraid of enemy small arms fire. This fire is very inaccurate and we have had very few casualties from it in any of our operations. Most of those were from snipers using telescopic sights."--T/Sgt Collum, 3d Bn, 414th Inf Regt.

X DOUBLE-BANKING ON ROAD.

"Traffic tie-ups are made worse by officers who ride forward to ascertain cause. They could accomplish as much by going forward on foot -- and eliminate the double-banking."--Asst G-4, XXI Corps.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

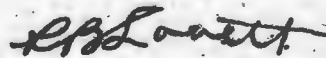
BATTLE EXPERIENCES

DECLASSIFIED
No. 71

28 FEB 1945

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By command of General EISENHOWER:



R. B. LOVETT
Brigadier General, USA
Adjutant General

I BOOBY TRAPS.

"The enemy has been booby-trapping dead bodies with egg and rifle grenades. The grenades are placed in the pockets with the pull string staked to the ground so that when the body is moved the string is pulled exploding the grenade. Check the pockets before moving bodies."--Engr Intelligence Summary, XI Corps.

II TIRE CHAINS.

"To eliminate the catching and tearing of the brake hose by the loose end of tire chains we have removed two links from the inside longitudinal chain. When being mounted the chain must be laid out to insure that the short chain is on the inside." --After Action Report, 634th Engr Light Equip Co.

III BATTALION INTELLIGENCE SECTION.

1. Training and selection. "Careful selection and thorough training of our battalion intelligence personnel has paid dividends. In addition to more normal intelligence subjects, they have become specialists in the detection and deactivation of mines and in the operation of enemy equipment.
2. Activities.
 - a. "In the reconnaissance phase of an operation an intelligence scout is attached to every patrol sent out by our battalion.
 - b. "When operation of an observation post covering the battalion front is not feasible, the section is split and attached to the companies in the attack or on the line to assist them in intelligence matters, scouting and patrolling, reporting of enemy information, and evacuation of prisoners. Company commanders find this system of great value.
 - c. "The section also is frequently used to help disseminate information of the enemy situation to all the troops in the battalion. This helps morale."--CO, 3d Bn, 379th Inf.

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~~RESTRICTED~~IV COUNTER-INTELLIGENCE TEST.

1. General. "To determine the amount of information that might be gathered by German agents in American uniforms a counter-intelligence test was conducted by a Corps G-2 Section. Agents without credentials, without the password, and who spoke with heavy German accents were sent to various units.

2. Information obtained. "A member of an artillery battalion disclosed his organization, the number and caliber of guns, and conducted the agent to the battery position where he explained the operation of the gun and ammunition. A soldier directed two agents to his command post where an officer gave them directions to reach another town. Two agents posing as correspondents photographed a battery and upon being challenged explained that they had no credentials; the officer then posed the battery for them. Upon photographing another battery the agents were challenged and being unable to show credentials were taken to the executive officer who gave them blanket permission to photograph the guns.

3. Correspondents' credentials. "War correspondents will present credentials upon demand. Public Relations Officers know many of the correspondents and can assist in identifying them."--G-2 Periodic Report, Hq. XIII Corps.

V COORDINATED OUTPOST ACTION.

"While in a defensive position we numbered our outposts and ran wire between them. One night an enemy patrol came towards post number one. This post, to avoid disclosing its position, called post number two and had it fire a flare. The flare disclosed the enemy patrol and it was destroyed."--Member 3d Plat, Co B, 116th Inf.

VI WITHDRAWAL FROM PATROLLING.

"Many patrols have successfully accomplished their mission only to lose personnel by a hasty, noisy withdrawal. Patrols go out at night stealthily, with all precautions but all of that is forgotten in getting back to safety. Remember it is as easy to get hit in the back as in the belly."--Plat Leader, Co B, 116th Inf.

VII PATROLLING.

"On a night patrol only one man carried the grenade signal for supporting fire--he was the one man that was lost. Such signals should be carried by two or three men in the patrol."--Lt, Co C, 116th Inf.

VIII EMPLOYMENT OF WHITE PHOSPHORUS SMOKE.

"Before deciding to use white phosphorus artillery observers should consider the following points:

- a. "Is it the most suitable shell to perform the mission?"
- b. "How much is available; if smoke is used will it mean a shortage of smoke for a more important mission later?"
- c. "What will be the effects other than the primary effect sought? In considering this question, the following points are important:
 - (1) "Will the screening effect interfere with important observation for subsequent fires?"
 - (2) "Will the smoke drift so as to hamper the operations of an adjacent unit?"
 - (3) "Will the screening effect assist the enemy by permitting movement under its cover?"--Bulletin, 95th Inf Div Arty.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 70

26 FEB 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I EMPLOYMENT OF TANK DESTROYERS.

1. Location and advantages. "We employ our tank destroyers well forward both in attack and defense, assigning them zones with the forward elements. Within these zones they move about to avoid hostile fire and to obtain better firing positions. They withdraw only upon agreement with the infantry commander. The forward employment permits immediate support to the infantry, insures infantry protection for the tank destroyers, facilitates reconnaissance, and usually makes unnecessary any hurried movement into position.

2. Reconnaissance. "We insist upon reconnaissance on foot and have trained the reconnaissance platoon especially for it. They have also been trained to fight as infantry when necessary.

3. Attack. "The destroyers accompany the infantry in the attack, a platoon with an infantry battalion. The platoon moves forward by bounds, generally with the reserve company. The platoon leader goes ahead on foot with the leading company commanders, reconnoitering routes and gun positions, keeping in touch with the front line infantry situation, and directing the forward movement. For communication SCR-536s have been acquired -- one for the platoon leader and one for each vehicle. Any force holding up the infantry is a suitable target. On targets other than tanks, usually only one gun is employed; the others lie concealed ready to engage enemy armor if it appears when the first gun opens up.

4. Defense. "In defense the guns are kept close to the front line positions, carefully camouflaged, and their action is closely coordinated with the infantry. In a recent engagement it was agreed that the infantry would take care of the enemy infantry and the destroyers would handle the tanks. Everyone understood and it worked well. The tank destroyer battalion knocked out 43 enemy tanks and lost only four guns.

- 1 -
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5. Illuminating shells. "Illuminating shells from 60mm mortars have proved very valuable for firing on tanks at night. The mortar is fired a little distance from the destroyer to avoid disclosing the position. The bipod and base plate are not used. Every tank destroyer section should have a mortar."--CO, 705th TD Bn.

II GERMAN PANZERFAUST.

1. Additional bazookas. "We have trained every man in the use of captured German Panzerfausts and employ them to supplement our bazookas.

2. Characteristics and precautions. "The Panzerfaust has a range of only about 40 yards but the projectile is more sensitive and carries a heavier bursting charge than our bazooka shell. The detonator is packed separately in the original container and is often placed, reversed, in the explosive head to make it safer to carry. Before using the Panzerfaust the head should be unscrewed and the position of the detonator checked. Luminous sights are provided for night firing. It is a one-shot weapon and is discarded after firing.

3. Effect. "We fired one against the frontal armor of a Mark V tank and it penetrated six inches of armor and smashed the transmission. It is similarly effective against steel doors or embrasures of pillboxes."--CO, 3d Bn, 22d Inf Regt.

III AIR ADJUSTMENT OF MORTAR FIRE.

"In a defensive situation we send an 81mm mortar observer up in an observation plane to register on targets defiladed from ground observation."--CO, Co M, 116th Inf Regt.

IV WIRE TO RIFLE COMPANIES.

"We have rifle company wire teams lay assault wire back to the battalion. This is simpler and quicker than having battalion lay it forward because the company wire teams know the exact location of the company command posts."--CO, 3d Bn, 22d Inf Regt.

V STERILIZATION OF MESS GEAR.

"Mess gear of front line troops is collected and taken to the kitchens where it is washed by mess personnel. When the next hot meal goes forward, mess gear is sent along in 32-gallon cans of boiling water, and arrives hot and sterilized."--Div Medical Inspector, 87th Inf Div.

VI ANTI-AIRCRAFT ARTILLERY NOTES.

1. Protection of power cables. "Power cables from the generators to the radar, guns, and control instruments should be covered with straw and sand bags before being placed underground in cold weather. Then, even if the ground freezes, they can be taken up without damage when movement is necessary."

2. Radio. "We get better reception with our SCR 543, SCR 177 and Motorola FM T50 BC radios by using a tall mast type antenna on a 45 to 50 foot pole rather than the regular flat top antenna."--Os, 217th AAA Bn.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 69

25 FEB 1945

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By command of General EISENHOWER:

R. B. Lovett
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Brigadier General, USA
Adjutant General

I MORE TRACTION FOR ARTILLERY TRUCKS IN MUD.

"Flotation and traction in mud can be greatly increased by adding the two spare wheels to the two front wheels of the trucks and adding a pair of dual chains. Our prime movers are usually driven only a few miles per day and we find that this system works very satisfactorily."--102d FA Bn, 26th Inf Div. (Note: The Ordnance Section, Headquarters, European Theater of Operations, United States Army, recommends that this modification be considered as proper only for use in mud and states that it should not be used on hard roads.)

II MEDIUM AND HEAVY ARTILLERY AGAINST TANKS.

"We broke up a 14-tank enemy counterattack with fire from medium and heavy artillery. Tank destroyers were not available and the light artillery proved inadequate so we used a battery of 8" howitzers and two battalions of 155mm howitzers. The fire destroyed some of the enemy tanks, drove the rest into the open where they were destroyed by our infantry, and stopped accompanying enemy infantry."--CG, Div Arty, 84th Inf Div.

III SOUND-POWERED SWITCHBOARD.

"We improvised a satisfactory sound-powered switchboard and eliminated the need for three or four handsets in the command post. The board is made from radio repair wire, stove bolts, test clips, diaphragms from sound-powered telephones, and a switchbox -- or improvised switches. Each incoming line is attached to the board by test clips and is connected on the board to a diaphragm for signalling and a switch to connect it to the handset at the board. To call from one of the platoons a man simply whistles into his phone and the operator at the board throws the switch corresponding to the diaphragm responding to the signal."--Lt, Co H, 407th Inf Regt.

- 1 -

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IV LESSONS LEARNED BY 9TH INFANTRY DIVISION.

1. Hectograph sketches. "We issued hectograph sketches of town and factory areas, made from aerial photographs, to squad leaders 24 hours before the attack. Using these, every man was briefed to know his exact job.
2. Lesson in patrolling. "We took our patrol leaders on a tour of inspection of a recently captured area in which we had held a static line and had patrolled nightly. A study of the terrain from the enemy's side showed us mistakes we had made in our patrolling.
3. Communication between observation posts. "On a static front we tied all observation posts in on one telephone line. Also on the line were the observers for the cannon company and the artillery, .50 caliber machine guns and 75mm assault guns. A report by any observer could be followed by any other observer and a mass of fire could be delivered in a few minutes.
4. Azimuths. "We have facilitated the recording of azimuths by our observers by furnishing each observation post with a large black metal disk on which the face of the compass is painted in white. A revolving metal arrow with a sighting device enables the observer to lay on objects quickly.
5. Ski patrols. "We formed a ski patrol of men without skiing experience, giving them 10 days training under an officer who was an experienced skier. The patrol was divided between the two assault battalions in an attack and used as special runners between the battalion command posts and the companies. Continuous control of the assaulting companies resulted.
6. Modification of M-67 fuze. "Long range marking for air bombardment and the blinding of distant observation posts has been simplified by using the modified M-67 mechanical time fuze to fit the M116BE smoke shell. This fuze which is now stocked by ammunition supply points, permits firing the 155mm howitzer BE M116 HC shell on all marking or screening missions up to the maximum range."--Report of 9th Inf Div.

V MORTAR RANGE DEFLECTION FAN.

1. Purpose. "A mortar range deflection fan improvised from celluloid material has facilitated both the obtaining of fire data from maps and aerial photos and the correction of these data. Its use permits putting effective 81mm mortar fire on new targets with maximum surprise and minimum adjustment rounds.
2. Description of fan. "The index point of the fan represents the mortar and base stake and the center line is the base line. Six lines spaced at 150 mil intervals radiate from the index point on each side of the base line on the azimuths of the six left and six right ~~left~~ stakes. Broken lines are placed between them at 50 mil intervals. Range scales are added.
3. Operation. "Fire is adjusted on the base point and two check points. The check points are selected prominent objects and should be about four or five stakes right and left of the base line. First the base point is fired, base deflection marked and stakes set out. Then, placing the deflection fan on the map, the right and left check points are selected and the data for each determined. Fire is then placed on each check point and recorded on a correction table. Data for the intermediate targets are based on corrections determined by firing on the check points."-- Lt. Co D, 302d Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED
BATTLE EXPERIENCES

No. 68

24 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I MACHINE GUN FIRE DIRECTION CENTER.

"One of our heavy weapons companies during recent defensive operations set up a small machine gun fire direction center. Each squad submitted range cards and concentrations were consolidated on an overlay which was issued to all units. Each gun had aiming stakes for all concentrations in its sector. Fires were requested by concentration number and a heavy concentration could be furnished within a few moments."
--29th Inf Div.

II TANK DESTROYER SIGHT.

"Glare can be greatly reduced by painting black outside the aperture of the direct fire sight on the outside of the turret of the M-10 tank destroyer."--CO, 823d TD Bn.

III CHECKING MASK CLEARANCE.

"When infantry is directly to the front in bushy or wooded terrain, we fire a round of AP(C) to check mask clearance as a precaution against bursts with subsequent HE fire."--CO, 823d TD Bn.

IV LUBRICATION OF M-10 TRAVERSING MECHANISM.

"During cold weather the traversing mechanism on the hand operated turrets of the M-10 will work more easily if the heavy grease is removed and the gears are lubricated with SAE 90 gear lubricant."--CO, 823d TD Bn.

V BAZOOKA POSITIONS.

"When placing bazooka teams along roads a dug in machine gun should be located nearby. Firing on enemy tanks with the machine gun will cause them to button up, inflict casualties on any personnel riding outside, and give the bazooka team time to get in effective shots."--CO, 35th Engr Bn.

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II HOW TO CHALLENGE.

"One unexpected shout is hard to locate; a second, expected, can usually be spotted. Sentries can protect themselves by letting a man they are about to challenge get fairly close - 25 yards or less - and then shouting 'Halt' just once."--Sgt Homer A. East, 2d Inf Regt.

III NIGHT FIRING SUGGESTION.

"Whenever possible at night we use hand grenades rather than small arms. Hand grenades don't give away the position."--Sgt Homer A. East, 2d Inf Regt.

IV ELIMINATING NOISE IN PATROL RIVER CROSSINGS.

"Here's how we help infantry raiding parties across a river without the noise of paddling: Send a party across by swimming, carrying one end of a half-inch rope. The far shore party then can pull across the boats carrying the infantry. This eliminates the noise of a motor or of rowing. For more than one trip, attach ropes at each end of the boat and let the far and near shore parties pull it across in turn. Don't forget an infantry security detail for the far shore party."--121st Engr Bn (C)

V DON'T THROW AWAY AMMUNITION.

"My company was crossing a river and they had really loaded us down with ammunition. They gave me a mortar round, a bazooka round, a rifle grenade, three hand grenades and two bandoliers of armor-piercing. And I already had my own belt full of ammunition. How I griped; 'Here I am 37 years old,' I said to myself, 'how can I carry a load these 21 year olds are staggering under!'

"But I did manage to carry it and thank God I did. We crossed the river and Jerry attacked. We finally repulsed him but, before we did, we had fired not only all our ammunition but all the Jerry ammunition we could lay our hands on. Like all infantrymen, I like to travel light, but I've learned the hard way that I must carry every round of ammunition issued to me."--Pvt H. Israel, Co. K, 357th Inf Regt.

VI NO TRACERS IN MIST.

"In daytime when mist limits visibility, tracers don't help the firer but they do disclose his position."--Sgt Herbert Wells, Co. I, 357th Inf Regt.

VII GERMAN BOOBY TRAP

"The Germans have booby trapped American dead by attaching hand grenades to the dog tag chains so a pull on the chain will fire the grenade. The grenade is concealed in the clothing and the chain partly exposed around the neck."--Graves Registration Service.

VIII SPEEDING UP THE FIRING BATTERY.

"We have found that it speeds up a firing battery to send gunners, section chiefs and other key enlisted personnel out with the forward observer occasionally. If time permits the fire direction center should describe the target and the results of the shoot to the battery. I have seen my men shaking hands after being told that they had destroyed ten enemy vehicles."--102d FA Bn, 26th Inf Div.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**

No. 66

22 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I. FILTERING GASOLINE FOR LANTERNS.

"Lanterns will burn longer without failure if leaded gasoline is first filtered through a discarded gas mask canister."--99th Inf Div.

II PROTECTION FOR 57-MM GUN BORES.

"A 'K' ration cellophane bag over the muzzle will keep the bore of a 57-mm gun clean and it does not have to be removed for firing."--99th Inf Div.

III POWDER BAGS PREVENT TRENCH FOOT.

"To keep feet warm and dry, put on thin socks then cellophane paper bags from 155-mm ammunition, then another pair of thin socks. Be sure shoes are large enough that the added thickness will not impair blood circulation."--99th Inf Div.

IV COMPASSES FOR VISUAL CONTACT AT NIGHT.

"Night wire crews and small patrols tied wrist compasses to the rear of their cartridge belts. The luminous dials served as guides and thus eliminated the need for noisy signals."--99th Inf Div.

V LAYING ANTITANK MINES IN SNOW.

"Because forks freeze and strings often break, mine laying teams have trouble pulling safety forks at night in cold weather. This can be overcome by pulling the forks in daylight and reinserting them carefully with the string outside the spider. We use W130 wire as a base line when laying mines in snow because it is more easily seen than white tracing tape."--99th Inf Div.

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VI HOT FOOD FOR FRONT LINE TROOPS.

"Put heating units in defiladed dugouts in rear of company positions. As meals are brought up, reheat them in these dugouts before sending them to front line platoons."--99th Inf Div.

VII KEEPING AXES AND PICKS.

"In woods fighting carry at least one extra axe per squad. Do not let axes or pick mattocks be evacuated with wounded or sick. They save lives when it is necessary to dig in and provide overhead cover rapidly."--99th Inf Div.

VIII SPENDING UP REQUISITIONS.

"Our ordnance light maintenance company gives each truck a voucher register rather than requiring that all papers be vouchered at a central office. This eliminates the bottleneck of several units appearing at the same time with requisitions to be validated. It also allows the issuing clerk, who is in daily contact with the using unit, to have at hand the status of dues-in, dues-out, the number of deadlines and critical items under his control."--802d Ord Light Maint Co.

IX INFORM LITTER BEARERS WHEN CASUALTIES ARE LEFT IN MINED AREAS.

"If a casualty occurs in a mined area, litter bearers who are sent up should be so informed. A man trained in mine removal can then accompany the litter team and prevent additional casualties."--Lt. 1st Bn, 933d Inf Regt.

X ENEMY RELIEF OF UNITS.

"The enemy places heavy artillery and mortar fire on us while relieving his front line units. After heavy shellings be alert for new enemy unit identifications."--99th Inf Div.

XI PROPHYLACTICS SAVE EQUIPMENT.

"Rubber prophylactics keep breath moisture from collecting on radio and telephone mouthpieces and freezing. They also make good covers for antitank gun sights."--99th Inf Div.

XII REPELLING TANK-INFANTRY ATTACKS.

"Machine gun fire on tanks will draw tank fire. Use rifle fire to button up tanks and concentrate machine guns on accompanying infantry. Meanwhile maneuver bazookas to get a shot at the tanks."--99th Inf Div.

XIII SIGNAL LIGHTS FOR SWITCHBOARDS.

"Cords on switchboards ED-91 and ED-96 obstruct operators' view of supervision and line signals during heavy traffic. With headset HS-30, audible signals are unsatisfactory. By modifying the night alarm circuit to include two lights, one connected to the supervisory signal, the other to the line signal, a visual signal is provided. Lights should be mounted on the front panel, one on each side of the dial. With the supervisory light red and the line signal the natural color, operators soon became efficient in operating by this code."--99th Inf Div.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**

No. 63

21 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I MAKING "SNOW CREAM".

"Our kitchens made ice cream by filling a marmite can insert with snow and adding two cans of evaporated milk, sugar and flavoring. Flavoring can be vanilla, cocoa, fruit juices, peaches, pineapple or fruit cocktail. Fresh eggs, if obtainable, help the mixture. Individuals can make similar ice cream by filling canteen cups with snow, adding lemon or orange powder or chocolate mix from the 'K' or 'C' ration, and stirring to a smooth paste. Milk improves the mixture but is not essential. Fresh-fallen snow is best."--398th Inf Regt.

II WRISTLETS FROM WOOLEN SOCKS.

"Improvised wristlets were helpful in cold weather training operations. Field Manual 31-15 describes them as follows: 'A convenient and comfortable wristlet can be improvised by cutting off the toe of a wool sock, pulling the leg of the sock up over the forearm, allowing the fingers to project through the toe of the sock, and making a hole in the side of the sock foot for the thumb.'"--H₁, Sixth Army Group.

III ENEMY TRICK.

"During relief of a front line unit in darkness and rain, five men were heard moving between the lines and the outpost. A man in an adjacent foxhole heard one of the five say: 'It's a hell of a night, isn't it?' Next morning occupants of the outpost were missing and there were footprints leading toward the enemy lines. The enemy had taken advantage of the limited visibility and bad weather for a successful 'sneak raid'."--G-2 Report, 100th Inf Div.

IV RELIEVING WEAPONS UNITS.

"We relieve units of weapons platoons and of the heavy weapons companies in daylight if possible. This gives relieving units a daytime check on range cards and firing data."--398th Inf Regt.

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V. UNEXPLODED MINES.

"A mine checking detail from our ammunition section goes ahead of the battery to check newly prepared positions for the presence of mines unexploded because of frozen ground. Many such mines have been discovered since the thaw began."--Pvt Tom Hazard, Btry C, 500th Armd FA Bn.

VI CHALLENGING.

"An effective check for a sentry in doubt is to ask the challenged person to give his serial number and his service command, then check whether or not the proper figures in his serial number correspond to the service command."--Pvt Tom Hazard, Btry C, 500th Armd FA Bn.

VII ARMORED BATTALION NOTES.

1. Smoke. "Our artillery and mortars use one round of white phosphorus to every five of high explosive to smoke the front and flanks of enemy positions and effectively screen our movements. On several occasions the white phosphorus has caused enemy tank crews to abandon their vehicles only to come under the high explosive bursts.

2. Protecting vehicles from shrapnel. "Drivers can reduce shrapnel damage to tires and radiators by taking care to park vehicles along the off sides of buildings or in defilade away from the direction of enemy artillery. Placing a ten-in-one ration box in front of the radiator also affords protection.

3. Light tank (M5A1) antenna. "Moving the antenna from its position behind the turret and mounting it in front eliminates the damage to the antenna caused by swinging against the turret door. This mounting also permits the tank commander to bend the antenna toward him when going under trees and other obstacles instead of tying it down as before and reducing its range."--Cts, 1st Bn, 33d Armd Regt.

VIII GRAVES REGISTRATION SQUAD.

"Our battalion organized a four-man graves registration squad to recover our own and enemy dead and turn them over to the regimental graves registration office. The squad is attached to the battalion aid station and uses a jeep and trailer from the heavy weapons company. The squad also has the secondary mission of battlefield salvage."--C, 398th Inf Regt.

IX USE OF BENZEDRINE.

"Members of a raiding party found that taking a benzedrine tablet before moving out increased alertness and helped sustain the mind and reflex action."--398th Inf Regt.

X SKIN PROTECTION.

"We have found that rubbing brushless shaving cream into the skin will prevent chapped hands and face."--After Action Report, 110th FA Bn.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

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20 FEB 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I EFFECT OF AMERICAN ARTILLERY FIRE.

"Two American soldiers hid for a considerable time in a German occupied town, which was under fire from American artillery. They made the following comments on the fire; 'Shells with instantaneous fuze would explode when they hit the roofs causing little damage to the lower floors. Shells with delay fuze were very effective in destroying buildings. The Germans suffered few casualties from the artillery -- they stayed in the basements at night and would go into them during the day when the fire began to fall.'--CO, 1st Bn, 143d Inf Regt.

II PATROLLING.

"When a patrol reaches its objective and finds no enemy it should radio the information back so that the position may be quickly occupied in strength. When we crossed the Moselle River, a patrol sent into Koenigsmacher found the town clear of enemy and a company was moved up immediately to occupy it."--S-2, 357th Inf Regt.

III MARCHING FIRE.

"When employing marching fire we provide a continuous and well distributed volume of fire by having the odd and even numbered men advance alternately. Each group moves forward four or five yards and the men stop, fire to the front, right, and left, then move forward again. The light machine guns are fired from the line on the march. The heavy machine guns deliver fire either overhead or through gaps in the line. We have found marching fire equally valuable in woods and villages and recently used it in capturing a town and over 400 prisoners."--CO, 329th Inf Regt.

IV IMPROVISED MAP PROTECTORS.

"To protect maps used by our forward observers, we have made coverings from the transparent powder sacks in 155-mm howitzer ammunition. These sacks may be used as they are or made into envelopes by cutting them and sealing the edges with adhesive tape. Infantry units can obtain these powder sacks from the artillery for every medium battalion receives more than they can use."--Ex O, 974th FA Bn.

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V GETTING CABLE ACROSS STREAMS.

1. By boat. "The first boat to cross a swift stream should be a light boat with a small outboard motor, carrying two or three men and a light line to be used in drawing over a cable. Large boats are harder to handle before the cable is in and the larger propellers are likely to strike obstacles and become disabled.

2. By grenade. "On one occasion when two boats had been lost while attempting to carry a cable over a swift stream, we used a rifle grenade to do the job. Engineer tape was tied to the grenade and fired across the river. Men on the far shore then pulled over a telephone wire and, finally, the cable."--CO, Reserve Combat Command, 6th Armored Div.

VI PACKBOARD WIRE CARRIER.

1. Description. "A packboard wire carrier from which wire unreels from a man's back was made from an RL-27-B axle, a DR-4 reel (made 10 pounds lighter by cutting the metal from between the spokes) and a pike pole. The axle is cut and fitted into a bearing housing, which is welded to strap iron braces bolted to a plywood packboard. A pike roller mounted on a pivot that swings through a 90 degree arc at the bottom of the packboard prevents the wire from kinking.

2. How used. "The first man of the regular two-man team carries this special reel. The second man uses a packboard to carry wire that has been removed from its reel and wound for the packboard reel. When the first wire pays out, this second load is merely slipped on to the wire carrier on the first packboard.

3. Advantages. "Elimination of the second reel lightens the load 22 pounds. An additional half mile of W-110 wire can be carried by the two man team. The two men also have their hands free for wire tying, climbing, and using their weapons."--37th Inf Div (Pacific theater).

VII STREET FIGHTING.

1. Organization. "We organize each rifle platoon into two sections for street fighting -- one to assault and the other to cover. Each section has two automatic rifle teams and a bazooka team. All men have several hand and white phosphorus grenades.

2. Procedure. "We attack rapidly and aggressively, clearing each building in the order of first floor, second floor and cellar. Each succeeding building is covered from the top floor of the building just cleared."--CO, 329th Inf Regt.

VIII REGIMENTAL COMMUNICATIONS.

"An SCR-284 radio for the battalion is connected with the regimental service train and regimental command post will expedite battalion supply activities. In one instance the use of the radio resulted in the movement of emergency ammunition from the dump twenty minutes before the foot messenger arrived with the request for it."--CO, 116th Inf Regt.

IX SUBSTITUTE ANTENNA FOR SCR-300 RADIO.

"The flexible steel antenna from the German pack set mounted on the antenna base for the SCR-300 radio has proved more efficient and durable than the AN-130. It is not affected by weather."--CO, 116th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**

17 FEB 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I BULLDOZER-DETECTOR TEAMS FOR CLEARING MINES.

"In Battle Experiences No. 41, 20 January 1945, a mine clearing team developed by British engineers was described. Further tests have established that back-blading by a bulldozer cannot be relied upon to detonate Schu mines, due to unevenness of the ground. Also the use of the EZ 44 anti-lifting device by the enemy would make removal of the mines impracticable."--Report from 21st Army Group.

II USE OF CAMOUFLAGE NETS AS ROAD MATS.

"Camouflage nets were used as road mats to move bogged down vehicles. A truck got stuck one night and two other vehicles mired trying to move it. Finally, using camouflage nets as mats, the vehicles moved out under their own power."--Co B, 279th Engr (C) Bn.

III CONTROL OF SMALL UNITS.

"We used the following standing operating procedure for small unit control at halts and in bivouac: When the platoons disperse, the platoon leader selects a spot easily identified even in the dark and designates it as the platoon assembly point. The section, if any, and squad leaders then take similar action. After each unit is dispersed a runner is sent to the next higher echelon. A leader allows no man to leave his squad area or even to move about indiscriminately within this area after dark. To assemble, the men move successively to their squad, section and platoon assembly points."--1st Inf Div.

IV TRICK TO CAPTURE PRISONERS.

"We use a simple trick to gain additional prisoners. We force those already captured to move along a trail with their hands down. Other Germans will join them -- and when they discover the trick it is too late to do anything about it. On one occasion a group of five was increased to 12 by using this method."--Company Commander, 329th Inf Regt.

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DECLASSIFIED**V REINFORCEMENTS.**

"We organized 35 reinforcements into a platoon led by a battle-tested sergeant. They were given a 48 hour training course followed by a battle mission on which they were thoroughly briefed. The balance of the company provided supporting fire while this platoon attacked. In 45 minutes the platoon took the objective killing eight and capturing 14 at a cost of three wounded. Units larger than a platoon should not be organized entirely of reinforcements and no company should have more than one such platoon. If only enough reinforcements are received to organize a squad, organize it rather than distribute the reinforcements."--G-1 Section, 45th Inf Div.

VI REDUCING ROAD MAINTENANCE.

"Freezing, thawing, and prolonged wet weather are accelerating the breakdown of roads in Belgium and Luxembourg. Breakdown usually starts at the shoulder and works toward the center. Maintenance requirements can be reduced by:--

- a. "Making traffic one-way where possible.
- b. "Requiring all vehicles to use the center of the road and prohibiting passing by vehicles over 1½ tons.
- c. "Enforcing speed limits."--Engr O, VIII Corps.

VII LIGHT TANKS USED WITH INFANTRY IN WOODS.

1. Employment. "We gained surprise in using our light tanks with infantry in woods by having them follow the infantry from phase line to phase line. When resistance was met they would go up quickly, with guides, and spray enemy positions with canister and .30 caliber machine gun fire. One section of tanks was assigned each assault rifle company. Mine removers moved just behind the infantry and cleared routes for the tanks. All clearings were checked by the infantry for antitank positions. When possible, the tanks moved off the trails and covered one another. On each tank the bow gunner covered the area to the left and the coaxial gunner the area to the right.

2. Infantry on the tanks. "We had two infantrymen ride each tank -- one was an automatic rifleman and the other manned the tank antiaircraft gun. Each carried grenades and used the turret for protection. It was found best to give them definite fields of fire.

3. Additional mines. "Four mines and fuzes were carried in each tank and used by the infantry for local protection."--774th Tk Bn.

VIII ENGINEER SUPPORT.

"We have a standing operating procedure which we believe improves the effectiveness of engineer support of the infantry. One of our companies is assigned to each regimental combat team and keeps a liaison officer at regimental headquarters. An engineer platoon leader with a squad equipped with shovels and mine detectors is assigned to each infantry battalion and is kept ready to move out -- usually on mine removal -- without delay. The remainder of the company is held in readiness to reinforce the squads or perform other tasks. A tank dozer is given to the engineer party with the leading battalion or other battalion moving down the main supply route."--CO, 111th Engr (C) Bn.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED
No. 62

BATTLE EXPERIENCES

15 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have ~~lasting~~ value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I. TANK ACTIVITIES.

1. Reports speed maintenance. "We facilitate tank repair by requiring a detailed damage report as soon as the tank is hit. This enables maintenance personnel to go to the scene with the proper material to do the job."
2. Tankers are too tank bound. "Many tankers are too tank bound. Tank platoon leaders and sergeants can give better advice to the infantry commander on tank employment if they reconnoiter on foot before an attack."--Co B, 774th Tk Bn.
3. Vehicle recovery tip. "When a tracked vehicle has knocked a track off its bogie wheels the track can be spun on with ease if a T-2 recovery vehicle is used to raise the trackless side."--Bn Maint Section, 774th Tk Bn.
4. Extra rifles on the outside of tanks for infantry. "We carry extra rifles on the outside of our tanks to replace those lost or damaged by the accompanying infantry in battle."--Co C, 774th Tk Bn.

II. CLOSE SUPPORT BY 4.2 MORTARS.

"We have found that the most effective close support from mortars is obtained by making the heavy weapons company commander responsible for all mortar support, both organic and attached. He coordinates the mortar fires with the artillery. Observer teams from the heavy weapons company are placed with each rifle company. They are composed of one noncommissioned officer, a telephone operator and a lineman and are equipped with an SCR 300 and a telephone. Fire control is through a fire control center but it only designates the section or platoon to fire. Fire adjustment is handled directly between the observer and the gun position."--CO, 3d Cml Bn.

III. WHITE PHOSPHORUS IN SNOW.

"White phosphorus loses much of its effectiveness in snow--the particles are buried and the amount of smoke given off is greatly reduced."--CO, 3d Cml Bn.

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IV COUNTERBATTERY FROM PROPAGANDA SHELLS.

"We have received counterbattery fire nearly every time we fired propaganda shells. These shells do not explode and the Germans locate our positions by the strike and angle of fall. To eliminate this we fire propaganda shells from a roving gun or just before we move to a new position."--14th AD, Div Arty Section.

V .50 CALIBER MACHINE GUN COMPANY.

"We organized a machine gun company of six platoons in order to fully employ our .50 caliber machine gun. One platoon was organized from each infantry battalion and one each from the antitank, service and cannon companies. No men were taken from rifle companies."--CO, 175th Inf Regt.

VI CANDLES IN FOXHOLES.

"Candles, especially of the German trench type, have proved valuable in foxholes for drying socks and for warming hands and feet. They can be used in covered foxholes without violating blackout discipline."--CO, 2d Bn, 275th Inf Regt.

VII ANTI-FREEZE METHODS FOR WATER PURIFICATION UNIT.

"We have kept our portable water purification unit from freezing by placing it in an enclosed one-ton trailer heated by a tent stove. The trailer bows are raised to a height of six feet and a sand filter and sterilizing unit is placed inside. A tent stove, M-1941, with oil burner, is used to maintain the desired temperature. Placing the tarpaulin over the improvised top gives added protection."--CO, 63d Engr (C) Bn.

VIII RECOMMENDATIONS FOR PATROLS.

1. Markings. "White cloth sewn on the back to provide identification was too conspicuous though the night was dark. A one-inch band of white material around the head covering is better.
2. Clothing. "Denims are better than wool as they dry more rapidly. Their use also permits having a dry woolen uniform to change into.
3. Buddy system. "The buddy system probably saved a life when a man was seized with cramps while swimming a stream."--Lt, 2d Bn, 115th Inf Regt.

IX REPORTING OF FRONT LINES BY LIAISON PLANES.

"The division artillery furnishes an SCR 610 to each regiment and the regiments, tank destroyer battalions, and all forward observers monitor the artillery observation plane channel. Consequently this has resulted in the location of our front lines as much as in four hours, a record that could have been obtained by ground means."--S-3, 83d Div Arty.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No 61

14 FEB 1945

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Adjutant General

I CUB MARKS TARGET FOR FIGHTER BOMBERS.

"Cub plane observers with the task of spotting for and orienting fighter-bombers sometimes have trouble getting the fighter-bomber pilots to see the targets on which the cub is briefing them. A successful solution has been to tape together three red smoke rifle grenades, pull all the pins, and drop them from the cub on a point near the target. The target location is then described with reference to the red smoke."
--Air OP Officer, VI Corps.

II IMPROVISED 75MM HEAT SHELL.

"High explosive antitank (HEAT) shells for our 75mm guns were improvised by placing the HEAT projectile from the 75mm howitzer shell in the 75mm gun shell case. We obtained excellent results."--Maj, 191st Tank Bn. (Note: The Ordnance Section, Headquarters European Theater of Operations states that there is no objection to this practice but that the substitution produces only a slight improvement in the effectiveness of the fire.)

III RECONNAISSANCE BY FIRE.

"Advancing tanks must employ reconnaissance by fire -- shoot at any object behind which an antitank gun might be concealed. Such fire should be used, where possible, at ranges greater than 2000 yards. Failure to shoot up haystacks on one occasion cost several tanks."--Training Directive, 7th Arm Div.

IV LOOK OUT FOR MINES IN A THAW.

"Many enemy mines have been temporarily neutralized by the collection of snow and ice in the detonating mechanism between the prong and the fuze or between the spider and the fuze. These again become a menace when the snow and ice melt."--
C/S, III Corps

- 1 -
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DECLASSIFIED**V FLARES.**

1. Many uses. "We have used flares effectively in the following ways:

- a. "To call for or stop prearranged fires.
- b. "To locate an enemy tank for our tank destroyers. If the tank destroyer does not find the target another flare is fired and tracers are used to point out the target.
- c. "As trip flares to prevent our outposts being surprised."--CO, 4th Bn, 143d Inf Regt.

2. Caution. "If tracers are being used do not fire red flares for signals -- they are too easily confused with each other. Changes in the sequence and color of flares must be made frequently to guard against German trickery."--Lt, Co K, 301st Inf Regt.

VI GUARDING MINEFIELDS.

"It is sometimes necessary during an attack to leave one man to guard a located minefield. In one case casualties resulted because a minefield was not marked or guarded after the leading elements passed safely."--Os of Co H, 376th Inf Regt.

VII TRACTION DEVICE FOR LIGHT TANKS.

"The most satisfactory means of providing increased traction for light tanks on snow and ice has been the substitution of a rubber block shoe for every sixth steel shoe, and attachment of six grousers per track, each one spaced about midway between the rubber block shoes."--Maj, S-3, 6th Cav Gp.

VIII 60MM FUZES ON 81MM SHELLS.

"We have found that the use of the 60mm quick fuze on the 81mm shell gives much greater antipersonnel effect. The 81mm fuze permits the shell to dig in too deeply for maximum effect. The 60mm fuzes that are made of plastic often crack when being removed -- the metal fuze can be removed without trouble. A tool made by the Kelly Tool and Die Company and which can be obtained through the quartermaster, facilitates removal of the 60mm fuzes."--CO, Co D, 399th Inf Regt.

IX WINTERIZED WATER TRUCK.

"We boarded in the sides and rear and put a zinc roof on our 6 x 6, 2 1/2-ton service company water truck to prevent our water cans splitting during freezing weather. The sides and rear door are of refrigerator-type construction. Provisions are made for heating, if necessary. The truck has saved many water cans and makes unnecessary the heating of each can before using."--S-3, 749th Tk Bn.

X SURPRISE ATTACKS.

"We have had excellent results by attacking at unexpected hours with little or no preparatory fires. On one occasion we attacked on the run following three volleys of assault gun fire and found the Jerries in foxholes with their heads down awaiting four or five minutes more of preparatory fire. The position was easily cleaned out with hand grenades."--CO, 4th Cav Gp.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED

13 FEB 1945

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Brigadier General, USA
Adjutant General

I ADVANTAGES OF SELF FIRST AID.

"We train our men to apply first aid to themselves. In giving the training some men in each company are declared wounded in a certain manner. They are then checked, timed and corrected on their application of first aid to themselves. This system accomplishes these good results: It decreases the loss of fire power and exposure of individuals trying to help another who is wounded, and increases the men's confidence in their own treatment, thereby decreasing their fear of wounds and their susceptibility to shock. We require each man to carry three first aid packets in battle -- one in his helmet, one on his suspenders and one on his belt."--Report of III Corps unit.

II EASING THE CENSOR'S JOB.

"An Australian unit has found it beneficial to post censored portions of letters on bulletin boards, with brief comments by the censor officer explaining why they were censored. Enlisted men have praised this as a big help and censors have found it lightened their load to a remarkable degree. The following rules are strictly observed:

- a. "No matters having even a remote connection with personal or family matters are posted.
- b. "Typed copies of the extracts are posted so there is no chance of the writer's identity being revealed by his handwriting.
- c. "Examples which benefit the greatest number are selected and comments are always brief and constructive rather than critical."--Intelligence Bulletin, MID, WD.

III 4.2 MORTARS.

1. Sub-base plate. "A wooden sub-base plate twice the size of the 4.2 mortar base plate served to keep the regular plate from sinking when firing in very wet ground. The wooden plate is made so the spades will fit into it and is always dug in.

2. Spare mortar on position. "One spare mortar is kept at each platoon position and used when substitute parts are needed immediately. Repair is made later.

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3. Test fuzes before firing. "All shell fuzes are tested both before firing and at the position during firing to insure against barrel bursts. Three faulty fuzes were discovered in one day when using this method."--Lt. Co C, 92d Cml Mortar Bn.

IV ENGINEERS AS INFANTRY.

An engineer combat battalion committed in a defensive role as infantry during the recent German counteroffensive believes that the following practices would help prepare other engineer units for similar emergencies:

- a. "Train as many men as possible with bazookas and machine guns and continue to give short refresher periods of instruction. All personnel should be familiar with these weapons.
- b. "Train a large number of men to lay and repair field wire. When woods made our radios ineffective we had to depend on wire for communication. Each company and platoon should carry at least one-half mile of combat wire and one field phone.
- c. "Mount litter racks on at least one $\frac{1}{2}$ -ton truck per company."--After Action Report of 168th Engr Combat Bn.

V TRACERS SCARE GERMANS.

"German prisoners attribute the failure of their attack on Bastogne on the morning of 30 December, in large part to the lavish expenditure of tracer bullets by the defenders. All prisoners questioned stated that the illumination by the tracers made every soldier feel that he could not go further without being spotted and that morale was lowered considerably because every tracer bullet 'looked as if it were coming right at you.' Even enemy personnel that already had seen five years of warfare, including the Stalingrad battle, commented that the display was more frightening than anything they had experienced previously."--G-2 Periodic Report, 3d Army.

VI REPAIR OF FIELD TELEPHONES.

1. Maximum use of batteries. "New but defective BA 70 and BA 80 radio batteries sometimes can be made to work by a simple expedient. Remove the battery from the radio, cut around the terminal base with a knife, lift up the base, and reconnect any of the wires found broken loose -- the usual cause of such trouble.

2. Don't throw a telephone away. "Certain damaged KE-8 telephones often can be made to work as follows: If the L-1 terminal only is damaged, one strand of the line wire can be changed to the 'battery minus' post and, with the other strand on the L-2 connection, the phone will work satisfactorily. If both the L-1 and L-2 terminals are damaged, fasten the black wire from the handset to the positive pole and the white wire to the negative pole of the BA-30 batteries; then connect the line wire strands on the 'battery plus' and 'battery minus' terminals. This has worked up to five miles." --After Action Report of 116th Inf Regt.

VII SEARCH PRISONERS.

"Prisoners must be searched immediately for weapons. Several hours after capture one wounded prisoner was found to have a long knife while another handed the medical officer a hand grenade."--Os of Co H, 376th Inf Regt.

VIII SENSING MORTAR BOUNDS.

"When visibility is poor or there is heavy artillery fire near the target, mortars can be registered by using smoke shell. The two or three rounds of smoke shell will not decrease visibility."--Os of Co H, 376th Inf Regt.

END
- 2 -

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

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BATTLE EXPERIENCES

12 FEB 1945

"Battle Experiences" published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

RIVER CROSSINGS

SECTION I
GENERAL

1. Purpose and scope. Presented herein are examples of and conclusions from river crossing operations conducted during the current campaign in western Europe. It is not intended to cover the subject of river crossings, but rather to show where variation from accepted procedure in recent operations has been successful and why; to emphasize the soundness of established principles by example; to present certain methods and expedients not heretofore prescribed but which may prove of value on occasion in future operations and to assemble this information, some of which has been published in previous issues of Battle Experiences for the greater convenience of those interested.

2. Types of action. Two distinct types of river crossings are considered. The first is a hasty and aggressive crossing characteristic of the pursuit phase of the campaign during which the Germans were off balance and the situation from the American point of view justified taking considerable risks. The second type is the carefully planned and prepared crossing, the success of which was almost invariably in direct proportion to the thoroughness and soundness of the preparation. The crossings were over streams ranging from minor obstacles to exceedingly difficult ones.

SECTION II
HASTY CROSSINGS

3. In western France. Shortly after the German line was broken, around August 1944, the 90th Division twice in five days successfully used aggressive tactics to cross rivers. These operations are described briefly below:

a. A task force moved on St. Hilaire du Harcouet by motor, preceded by an advance guard composed of the 90th Reconnaissance Troop and a light tank company. As it approached the town on 2 August hostile resistance was encountered. Two railroad bridges across the Selune River had been blown but the main highway bridge was intact. The

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highway leading to that bridge, however, was under heavy artillery fire. With no reconnaissance except from an observation post near the road, the decision was made to rush the bridge from the front and flank simultaneously, at the same time sending an enveloping force to high ground to the right front. A platoon of the advance party, dismounted, moved down the road at double time and crossed the bridge under cover of a hastily organized base of fire from the near bank. Light tanks followed this platoon immediately at high speed and though hostile antitank guns were firing, not a tank was hit.

b. On 5 August, the division was ordered to capture and secure the bridges at and near Mayenne. The main bridge across the Varenne River at Mayenne was found to be intact. A hasty plan was made to send a reinforced infantry regiment to cross the river to the south and attack the town from that direction. The remaining elements were to make a direct frontal attack across the bridge and into the town. The frontal attack moved so rapidly that the bridge was captured and the enemy pushed out of the town before the southern force could cross and organize for combat. The bridge had been prepared for demolition, but the speed of the attack gave the enemy no time to destroy it.

4. Crossing of Seine. As it approached the Seine River at Fontainebleau, a battalion of the 11th Infantry Regiment was given the mission of clearing the city and the forest to the west and seizing any bridges over the Seine which remained intact. The battalion commander found all of the bridges blown but decided to cross and seize a bridgehead. He personally led a party which swam the river under fire and brought back a number of civilian boats. Using these he moved one rifle company across the river supported by the fire of some of the regimental cannon, attached tanks and tank destroyers and artillery. This force secured a small bridgehead which was extended by reinforcements until it was about 500 yards deep. Despite hostile infantry and tank pressure the bridgehead was held for two days until the engineers could construct a bridge.

5. Factors of success. Frequently alertness and flexibility, permitting a rapid change of plan, were responsible for success. These are examples:

a. In its recent operations, elements of the 79th Division approached a river, knowing that it was defended but not knowing the hostile strength or dispositions. A battalion was given the mission of capturing a town on the near bank and, in accomplishing this, gained considerable information of the enemy. Rapid reconnaissance showed that the defense of the far bank was not organized and that a number of civilian boats in good condition were available for an immediate crossing. While this information was being gained, commanders of supporting units had reconnoitered for positions to support the crossing and the decision was made to attempt it at once. The crossing was successful and the bridgehead was established with only minor losses.

b. While Company B of the 415th Infantry Regiment was crossing the Mark River in northern Holland by assault boats, an officer of Company A, which was scheduled to follow Company B, discovered a footbridge not far below the crossing point and disconnected the mines which had been placed on it, before they could be exploded. The Company A commander immediately started his company across on the footbridge. As he did so, heavy artillery and mortar fire forced Company B to stop its crossing operations. Company A completed its crossing, drove off the hostile force and established a bridgehead which was held until further crossings could be effected.

6. Defects and failures. On occasion, crossings were made with such haste that inadequate provision for the security of engineers during bridge construction resulted in delays and even in failure to cross. These are examples:

(1) On 10 August 1944, engineers started to bridge the Maine River with only three riflemen securing the bridgehead in front of them. After 100 feet of the bridge had been constructed, hostile fire damaged it to such an extent that the site eventually had to be abandoned.

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(2) On 21 August 1944 engineers attempting to construct two bridges across the Seine near Fontainebleau were forced to use one of their companies as security to the front. To maintain this bridgehead required most of the personnel of the battalion and the construction work was considerably delayed.

(3) Infantry crossed the Seine at Montreau about six hours before the engineers started work, but failed to mop-up as they advanced. The engineers suffered so many casualties from small arms and mortar fire that the infantry had to return and clear the bridgehead.

b. The decision to risk bold action sometimes resulted in failure. Elements of the 90th Division on 5 September 1944, emboldened as a result of a number of successful rush crossings, attempted to cross the Moselle near Pont-a-Mousson with little prior reconnaissance and less information of hostile defenses. They were thrown back with heavy losses. It is significant, however, that five days later the same unit successfully crossed with light losses by means of a carefully planned and skillfully executed operation.

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SECTION III
PLANNED CROSSINGS

7. General. The effects of adherence to and variance from accepted principles are discussed in succeeding paragraphs of this section and a number of examples presented.

8. Issuance of orders. Lack of time between receipt of orders and H hour jeopardized success and on occasion resulted in failure. One instance of failure contributed to by lack of time for preparation was that referred to in 6 b above.

9. Reconnaissance. Adequate reconnaissance was frequently dependent upon the timing of the orders referred to in 8 above. All of the successful planned crossings reported upon were preceded by reconnaissance of both banks in addition to engineer reconnaissance. Prior to its crossing of the Seille River, near Clemery, on 8 November 1944, the 317th Infantry Regiment sent patrols across the river nightly after 15 October. These patrols obtained considerable data about the river and definitely located the hostile defense line and a number of minefields. To promote secrecy and preserve surprise, reconnaissance parties were usually held to a minimum and conducted their activities with great care in areas under possible enemy observation. On occasions attempts were made to promote surprise by purposely permitting reconnaissance parties to be seen in areas where decisive action was not contemplated.

10. Secrecy and surprise. The two inter-related elements of secrecy and surprise continued to show their great importance even in the bold and hasty crossings. In a number of the instances of such crossings, referred to in 3 above, the speed of the attack was a principal factor in obtaining decisive surprise. Other methods used to contribute to secrecy and surprise are exemplified below:

a. In the Moselle crossing by the 80th Division:

(1) Minimum reconnaissance parties, carefully concealed.

(2) All preparatory movements made under cover of darkness.

(3) Artillery fires for several nights prior to the attack generally similar in nature to those planned for the attack proper.

b. In the crossing of the Seille by the 317th Infantry Regiment:

(1) Executing the crossing at a time when conditions were extremely unfavorable due to excessive rains and flood.

c. In a river crossing in Holland by the 104th Infantry Division:

(1) By the selection of crossing sites as follows:

(a) One opposite a small town which it was thought the enemy would regard as an unlikely selection.

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- (b) One where an earlier small bridgehead had been driven back across the river and at which it was felt a second crossing would not be expected.
- (c) A third unlikely site commanded by a row of houses on the far shore.
- (2) Making a feint in another area, at what appeared to be a favorable crossing site.

11. Supporting fires. a. Air. The use of air support was contemplated in a few of the hasty crossings reported upon but none of the reports received tell of its successful use.

b. Artillery. The use of an artillery preparation in planned operations militated against surprise, though instances of such use were found such as the one referred to in 10 a(3) above. Artillery fires, however, were carefully planned in advance for use when surprise was lost and for support after the assault troops reached the far bank. Forward observers usually accompanied the assault companies.

c. Direct fire weapons. Tank and tank destroyer units were frequently used to furnish direct supporting fires on targets of opportunity from positions on the near bank with both their primary weapons and their assault guns. Infantry cannon and anti-tank guns and heavy weapons were similarly used. On occasion the massing of .50 caliber machine guns for this type of mission was particularly effective.

d. Smoke. Smoke was used on a number of occasions to blind hostile observation, particularly of engineer bridging activities. Two sections of the 81st Smoke Generator company supported the bridging of the Saar River, near Remelfing, by the 60th Engineer Battalion. Five generators were used and a continuous smoke screen maintained for four hours. Hostile fires knocked out a total of six generators but these were replaced by spares. The opinion was expressed that extending the smoke 300 to 500 yards to either flank by the use of smoke pots would have helped protect the generators by making it more difficult for the enemy to determine their exact location.

12. Engineer operations. a. Assault boats. (1) Recent British experiences with assault boats reemphasized the soundness of the following basic rules:

- (a) Reducing hand carry of the boats to a minimum.
- (b) Prior training with them of the personnel designated to carry and launch them.
- (c) Careful organization and drill in loading and shoving off.
- (d) Briefing of boat personnel, based upon stream reconnaissance, to insure against losses as a result of hitting shoals or landing on an island.

(2) The U.S. 9th Infantry Division warns from its experience that suitable allowance must be made for loss of assault boats during the initial crossing. If this is not done, raft construction and other planned uses of them may be curtailed or made impossible.

b. Bridges and rafts. (1) Due to the technical nature of these operations, discussion of construction of standard types is omitted here. However, see paragraphs 6 a, 11 d and 12 a(2) above.

(2) An unusual expedient was adopted to facilitate crossing of the Wurm River by foot troops of the 30th Infantry Division. This stream is only 10 to 15 feet wide. Three-section footbridges, 12 feet long by 2 feet wide, were constructed in advance. Two sections were placed sloping down from the banks to the center of the stream below and the third section was placed as a bridge above the two.

c. Preventive flooding. While the 11th U.S. Corps was crossing the Seille River a large dam was in enemy hands upstream from the crossing point resulting in a continual threat of artificial flooding by the enemy. After certain precautionary construction, this dam was breached by bombardment, removing the threat.

13. Maintenance of direction. Engineer guides normally were employed to lead infantry units from assembly areas to the assault boats. Routes through woods or other difficult terrain were marked by engineer tape. Luminous disks also were used as route

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markers. Red signal lamps were used to guide troops to loading points and also from the far shore to assist in maintaining direction in the crossings. A regiment of the 36th Division required one boat in the leading wave of each company to carry across a rope to which were attached several colored buoys. This served as a guide and also was a potential life-saving aid in case a boat was sunk or capsized.

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14. Early antitank measures. Almost without exception, antitank weapons were in early demand by forces reaching the far shore. As a temporary antitank defense, some units had the assault infantry carry a certain number of antitank mines plus extra bazookas with ammunition, taken from units scheduled for later crossing.

15. Priorities for crossing vehicles. The priority prescribed by a unit of the 80th Division for crossing its vehicles over the Seille is believed to be fairly typical. It was as follows:

(1) Reconnaissance; (2) Antitank platoons of assault battalions; (3) Regimental antitank company; (4) Attached tank destroyer battalion; (5) Organic transportation of assault battalions; (6) Antitank platoon of reserve battalion; (7) Cannon company; (8) Organic transportation of reserve battalion; (9) Attached medical company; (10) Field artillery battalion.

16. Supply. a. Divisions with considerable experience in river crossing operations adopted a policy of building up reserves of supplies on the near shore for immediate use after the crossing. In the crossing of the Saar by the 90th Division, these dumps were located 6 to 8 miles from the river the day before the crossing. The Division G-4 stated that the dumps should have been located two days ahead of the crossing instead of one, to permit proper sorting of the items and organization of priorities. One of the regimental S-4s thought the dumps were located too far to the rear. In his opinion, all supplies except ammunition should be not more than two to three miles from the crossing site.

b. Items most frequently reported in short supply after the crossing were explosives and signal equipment. The usual cause of the shortage of explosives was failure to include enough in the near-shore buildup. The losses of signal equipment were caused by capsizing of assault boats transporting it and the destruction of wire by armored vehicles after crossing. Bazooka ammunition and grenades were other items which supply officers thought should have a high priority for crossing. The 90th Division also found that they used more small-arms ammunition during the first day of the Saar crossing than they had used on any other one day in France.

c. After the crossing of the Saar by the 90th Division the construction of bridges was considerably delayed. Various expedients were adopted and the hand carry of supplies became a major problem. At one time one combat team was using for this purpose about 1000 men, drawn from administrative personnel and personnel of the cannon and antitank companies whose weapons had not yet been crossed. Hand carrying was facilitated by requisitioning various types of vehicles, including even baby carriages.

d. One of the steps taken to reduce the difficulties caused by delayed construction of the bridges was the use of DUKWs. A platoon of 15 of these vehicles was received and used for two days with considerable success, despite a current of 8 to 10 miles per hour. Supplies carried across by them included light vehicles such as jeeps and trailers. The Division G-4 listed these points as important in connection with the use of DUKWs.

(1) Crossing sites should be well away from the intended bridge crossing site and near where roads lead to the stream.

(2) A turn-around should be provided on the near bank for loading, and on the far bank for unloading.

(3) Ramps should be provided on both banks. (Note: An interesting point connected with the recommendations quoted above is that, despite the swiftness of the current, he fails to indicate the necessity for selecting both a launching point and a downstream landing point on each bank to allow for the DUKWs being carried down stream by

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the current. A sketch submitted with his remarks indicated the DUKWs were able to make a practically straight crossing.)

e. In the crossing of the Saar referred to above, and in a number of other operations aircraft were used for the delivery of light supplies including medical supplies. In some cases fighter-bombers were used and in others liaison planes. In every case reported, delivery was successful.

17. Evacuation. a. The evacuation problem in a river crossing is always great where initial losses are heavy and where the crossings of medical transportation is unduly delayed. Plans should be made for emergency treatment of wounded on the far shore in the event it becomes necessary to establish priorities for crossing them to the near bank for further treatment. Surgeons, surgical dressings and medical supplies must be available for this purpose. Delay in evacuating casualties across the river can be alleviated somewhat by encouraging the walking wounded to use footbridges.

b. The additional burden on litter bearers caused by the initial lack of transportation for the wounded necessitates special provision to increase the number available. The 90th Division split its collecting companies into near and far shore groups. The near shore group operated ambulances while the far shore group assisted in the litter carry.

18. Communications. a. Communications immediately after crossing were entirely by radio, but radio silence ordinarily was observed until contact was made.

b. A number of units set up wire control stations on both banks and connected them as quickly as possible. In some battalions, each company was required to carry a wire line across with it in the hope that at least one of the four lines would work.

c. Several units reported success in shooting wire lines across the narrow streams by attaching light lines to grenades or bazooka shells.

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UNITED STATES ARMY

BATTLE EXPERIENCES

No. 58

11 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

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R. B. LOVETT
Brigadier General, USA
Adjutant General

I KNOCKING OUT ENEMY MACHINE GUNS AT NIGHT.

1. Organization. "We knock out enemy machine gun nests at night with a special group consisting of two automatic rifle teams, an assault team, and an M-8 self-propelled gun. The automatic rifle teams have plenty of tracer ammunition. The assault team consists of five men armed with tommy guns and grenades..

2. Methods. "The automatic rifle teams move to forward positions about 200 yards apart and on either side of the suspected machine gun location. The self-propelled gun takes position between and in rear of automatic rifle teams. The assault team is near one of the automatic rifle teams. When the enemy machine gun opens fire, the automatic rifles mark its location by firing tracers at it. The M-8 fires at the point of intersection of the tracer streams. The assault team maneuvers under cover of this fire to the flank of the machine gun and knocks it out with tommy guns and grenades."--S-3, 143d Inf Regt.

II ANTI-AIRCRAFT OBSERVATION POSTS HELP CLOSE SUPPORT AIRCRAFT.

"In this corps each antiaircraft artillery battalion attached to a division is required to set up an SCR-543 in or near the division air support party installation. This permits rapid interchange of information with the antiaircraft artillery information service (AAAIS) observation posts in the area and has these two advantages:

a. "If friendly planes commence circling over or beginning to attack our installations, a flash is sent over AAAIS channels by the observation post which first spots the planes. This information is immediately transmitted to the air support party officer who warns the planes they are over the wrong targets.

b. "If enemy planes approach the area during a close support mission, they are reported over the AAAIS net and the air support party officer notifies the friendly planes."--CO, 23d AAA Group.

III FLOOR COVERS FOR JEEPS.

"A piece of carpet from a demolished house placed on the floor of a jeep is an excellent foot warmer."--CO, 4th AAA Group.

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IV MINES.

1. New type mine. "The German Universalmine 44 resembles the Schu mine but is a little larger -- $9\frac{1}{2}$ " x $4\frac{1}{2}$ " x 5". The box contains a 14 ounce explosive charge and can be detonated in four different ways -- by pressure on the lid, by raising the lid, by lifting the mine, or by trip wires. Neutralizing is dangerous and the mine should be blown in place.

2. Watch your step. "When moving in a minefield do not step in holes from which mines have been removed. The Germans have been laying Schu mines beneath other mines." --Engr Technical Intelligence Summary, XI Corps.

V LOOKING FOR SOUVENIRS.

1. Two injured. "An engineer unit was blowing up an old bridge in a town in Germany. The streets were cleared, guards posted, and warnings shouted, but two soldiers looking for souvenirs in a nearby building did not hear the warning. They stepped out of the building as the charge exploded and both were seriously injured.

2. Three killed. "In a captured German city a soldier entered a booby trapped building which was well marked with white tape and signs. He was killed by a booby trap. Aid men asked engineers to get him out and in the attempt an engineer officer was killed and two men injured by another booby trap. A civilian mine expert came to help and also was killed."--S-3, 234th Engr Bn.

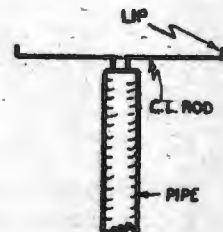
VI MINE CLEARING FOR TANK DESTROYER UNITS.

1. Mine sweeping teams. "We attach mine clearing teams from the pioneer platoon to the firing companies whenever they are needed. Each team consists of one mine-sweeper and two mine removers. Transportation is provided by the company to which they are attached.

2. Flail does not clear all mines. "The passage of a flail over an area does not guarantee that all mines have been exploded. In several instance 1/4-ton trucks were destroyed by Tellermines just after the flail had passed. It is best to have mine sweepers follow the flail."--Ex O, Ron Co, 771st TD Bn.

VII CAMOUFLAGE NET SUPPORTS.

"Rods from cloverleaf ammunition containers have been bent into an 'L' shape with a two-inch lip, and inserted into pipes used to support our camouflage nets. The use of this support minimizes ripping or tearing of nets as the weight of the net is borne by several strands instead of one."--Ex O, Btry C, 557th FA Bn.

VIII USE OF CHAINS.

"Chains are being employed unnecessarily and we have had to restrict their use. They should not be used for more than three or four hours without inspection. Chains from captured vehicles should be used in making repairs."--CO, 4th Cav Group.

IX COLEMAN INDIVIDUAL STOVES.

"Individual stoves should be kept covered to protect the burner against freezing and breakage. Number ten cans make excellent substitutes for lost covers."--CO, 4th Cav Group.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY


BATTLE EXPERIENCES

10 FEB 1945

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No 57

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By command of General EISENHOWER:


R. B. LOVETT
Brigadier General, USA
Adjutant General

I PATROL TIPS.

Note: Outstanding patrol leaders of the 99th Infantry Division made the following comments at a conference shortly after a period of operations in wooded and snow covered country.

1. Briefing. "I like to have the assistant patrol leader briefed at the same time I am. Two heads are better than one and the assistant assumes more responsibility when he is briefed with me."
2. "Patrol" dugout. "Efficiency of patrols is greatly increased by having a warm, lighted dugout in each battalion area reserved exclusively for patrols. At least an hour and a half before the start of the mission the patrol leader can assemble all members there and accomplish the following: Warm the men, thoroughly instruct each man, field strip, clean and dry each weapon, and review each man's duties. Giving the men a chance to drink some hot coffee, study aerial photographs and talk over the mission helps them to become a team and makes a lot of difference in their performance."
3. One mission. "Only one mission should be given to a patrol and it should be definitely and clearly stated. If you are given two or more missions such as 'penetrate as deeply as you can and bring back a prisoner', one of the two missions is bound to suffer. The result is that you are not successful in either."
4. Ammunition. "I have my patrols carry only armor piercing ammunition as it will go through trees if Jerry tries to use them as cover. It is a good idea to have two or three thermite grenades along to destroy gun barrels and start fires."
5. Medical aids. a. "Make sure that each man has his first aid kit. Also have some men carry morphine syrettes in a designated pocket so that everyone knows where to find them. All men should be given special instruction in the use of the syrette. Another wise precaution is to have every man carry some of the excellent cough tablets which our medics sometimes can get for us."

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6. Size of patrols. "Reconnaissance patrols should consist of three or four men. Occasionally, a fifth man can be used to carry an SCR-300 for contact with supporting artillery."

7. Study the book. "All patrol members should study the field manuals on scouting, patrolling, use of weapons and small unit tactics. A guy from another unit once told me that over here you throw the manuals away. I never heard a statement more completely wrong. It was some time before I realized that if I wanted to get the job done and stay alive it was up to me to take what the field manuals say as my own rules."

8. Enemy fire. "When you run into automatic fire don't hit the ground and be an ostrich. Keep your head against the ground but look about you. You often can see where the bullets are flicking the trees and the snow and you can generally get a fair idea of where the gun is. The Krauts still work the old trick of one machine gun firing tracers high, and another one, without tracers, firing low."

9. Enemy positions. "Jerry has a lot more holes than he has men and changes position often. Just because you find a group of foxholes empty one day, don't assume they will be empty the following day. Don't be tempted to leave an ambush patrol in empty Jerry foxholes. If he catches on, he has plenty of time to move in and he is on terrain he is familiar with."

10. Booby traps. "Before the snow we had some success detecting booby traps by having one man precede us through a known minefield holding a small stick lightly between his fingers at an angle of 45 degrees, with the end about two inches off the ground. He detected eight booby traps in one day by feeling the pressure of the trip wires on the stick. Some trip wires are neck high, others only six inches or less off the ground. If you find one booby trap there are generally more."

11. Radio. "We found the SCR-300 very satisfactory. The operator should carry the hand set inside his shirt to prevent its freezing."

12. Supporting artillery. "Prior to departure, reconnaissance patrols should coordinate with the artillery in the selection of three or four easily recognizable base points. The patrol should communicate directly with the artillery by means of the SCR-300, so they can get rapid action on requests for supporting fire or smoke rounds for orientation."

II PROTECTIVE PADS FOR PATROL MEMBERS.

"Our men have found knee and elbow pads helpful when patrolling on frozen ground."
--CO, 2d Bn, 405th Inf Regt.

III FLAMETHROWER AND WHITE PHOSPHORUS GRENADE.

"We give our flamethrower teams white phosphorus grenades to be used to light the flamethrower fuel if it fails to ignite when ejected. We have also carried the flamethrower fuel in bottles which could be thrown against the target, followed by a white phosphorus grenade."--CO, 2d Bn, 405th Inf Regt.

IV NOT COFFEE FOR THE FRONT LINES.

"Five gallon water cans can be used to take hot coffee to men in the front lines. if they are first heated with hot water and then wrapped in blankets the coffee will stay hot for two hours."--CO, 2d Bn, 405th Inf Regt.

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED **BATTLE EXPERIENCES**

9 FEB 1945

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By command of General EISENHOWER:



R. B. LOVETT
Brigadier General, USA
Adjutant General

I PASTRIES FOR COMBAT UNITS.

"We have provided pastries for our units by placing three cooks on special duty with the service company and using bakeries in nearby towns. Ingredients from the ration are used and in one day we baked 17,000 cookies and 900 apple turnovers. The benefit to morale is inestimable."--CO, Service Co, 399th Inf Regt.

II REMOVAL OF BULLDOZER CAB.

"We have found that the cab in no way adds to the danger when a mine explodes under the dozer. On at least two occasions when clearing rubble around buildings, debris falling on the cab would have crushed the operator if the cab had been removed."--CO, 1104th Engr Group. (Note: An experience to the contrary was reported by another unit and printed in Section XII of Battle Experiences No. 54, 7 February 1945. The Office of the Chief Engineer, Headquarters, European Theater of Operations, feels that it is a matter for the decision of the local commander.)

III TANK DESTROYERS.

1. Don't reply to German small arms at night. "Tank destroyer crews should not reply to enemy small arms fire at night. One night a tank destroyer platoon ignored considerable enemy machine pistol fire. At dawn seven enemy tanks were discovered in the area from which the fire had come -- only 200 yards away -- ready to engage any answering weapons. All of the tanks were destroyed.

2. Briefing. "When preparing for an operation we try to give our company and platoon commanders and platoon sergeants a short flight in a cub plane over the area in which they are to operate. This follows the ground, map and sand table reconnaissance."--CO, 771st TD Bn.

IV IT MIGHT WORK THE OTHER WAY.

"On a very dark night one of our patrols was able to detect an enemy emplacement by the smell of burning tobacco."--CO, 208th Inf Regt.

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DECLASSIFIED**V COMMUNICATION TIPS.**

1. Protecting wire lines. "In some cases we have protected our wire lines by laying them below the surface of the ground in a furrow made by our improvised wire plow. The plow is pulled by a jeep and makes a furrow two inches wide and six inches deep.

2. Protection for wire teams. "Our wire teams use a diamond formation for protection. The corporal stays out in front, reconnoitering and making frequent halts to observe for signs of the enemy. The wire laying group consists of a jeep with a driver and one man to lay the wire or two men with an RL-27 reel. It follows the corporal. The fourth man, following at about 100 yards, polices, ties, tags and tests the wire and acts as get away man. If available, two additional men are used for flank protection."--Hq, 116th Inf Regt.

VI FIRST AID TRAINING.

"Whenever the situation permits, we rotate two men from each company to the battalion aid station for special training in first aid. Men with this training can take better care of themselves and are always available to replace company aid men who become casualties."--CO, 2d Bn, 405th Inf Regt.

VII AMMUNITION AND PIONEER PLATOON MEN ON PATROLS.

"We send a man from the ammunition and pioneer platoon with our patrols whenever possible. It raises the morale of the patrol to have someone along who is experienced in handling mines, booby traps and explosives."--CO, 2d Bn, 405th Inf Regt.

VIII REGIMENTAL ORDNANCE SHOP.

"We attach the armorer artificers from all rifle companies to the service company, and give them a suitable place to work. The plan accomplishes these things:

- a. "Spare parts and accessories are pooled, giving better inventory and requisition control.
- b. "Supervision by the munitions officer increases the men's efficiency. The necessity of evacuating arms for repair has been reduced.
- c. "Salvage squads may be sent out from this group to clear areas which the battalions have been unable to search."--Munitions O, 397th Inf Regt.

IX REGIMENTAL WATCH REPAIR.

"Have the personnel officer see if you have an ex-watchmaker in the regiment. A good cleaning makes many watches as good as new. Tools are easily improvised, or may be purchased from any village jeweler."--Munitions O, 397th Inf Regt.

X CHECKING ON NIGHT PATROL LOCATIONS.

"Night patrols often are unable to report exactly where they have been. A solution is to have the patrol leader drop a colored smoke grenade, with a delay fuze, just before returning, and have observers take azimuth readings on the smoke. A 45-minute delay fuze is used to permit patrols to get safely out of the area. Yellow smoke has worked well against a snow background."--S-3, 4th Bn, 143d Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED

No. 55

8 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I TIPS FOR COMBAT INFANTRYMEN.

1. Care of rifle ammunition. "When crawling in the mud and snow or jumping in and out of foxholes the ammunition in your cartridge belt gets caked with snow and mud which will cause stoppages. Be sure to clean all cartridges and clips before jumping off on a mission."--Pvt J. S. Anderson, Co B, 376th Inf Regt.
2. Grenade pouch. "A Browning automatic rifle magazine pouch hooked to the cartridge belt provides a convenient place to carry three grenades."--Pfc B. Matchetti, Co B, 376th Inf Regt.
3. TNT for mouseholing. "When we attacked Tettengen each man had been issued a half pound of TNT. This was used to blow holes through walls of buildings so we could advance without going into the streets which were swept by enemy fire."--Pfc D. E. Brown, Co A, 376th Inf Regt.
4. Bazooka fire from indoors. "The belief that it is dangerous to fire a bazooka from a room is incorrect. I fired at least ten rounds from a room about 8' x 12' which was filled with straw and there was no fire."--Pfc J. Zebin, Co A, 376th Inf Regt.
5. Phosphorus bazooka shell. "The white phosphorus bazooka rocket is a honey for clearing haystacks. The Germans hide everything from riflemen and machine gun crews to tanks in haystacks. One white phosphorus bazooka round fires the stack and brings them out."--CO, 194th Inf Regt.

II BLASTING EMPLACEMENTS.

"The M-2 (10-pound) shaped charge or the M1A1 antitank mine will blast a hole in frozen ground large enough for a 60mm mortar position or for a two-man machine gun emplacement. The explosion produces a 4½' x 3½' crater which can be turned into an excellent emplacement with a few minutes work."--Report of 303d Engr Bn, 78th Inf Div.

DECLASSIFIED

DECLASSIFIED**III RETRIEVING VEHICLES.**

"A half-track equipped with chains on wheels and tracks has proved excellent for retrieving vehicles. It has better traction than the T-2 retriever or wrecker and draws less fire. A light tank with a boom mounted on the chassis also makes a good wrecker as it has a low silhouette and is maneuverable."--Maint O, 82d Rcn Bn.

IV AGGRESSIVE ACTION.

"Aggressiveness paid big dividends during a recent attack. We took one position and noticed a telephone line leading to the rear. We decided the position taken was only a strong outpost. Without waiting to reorganize, we mounted the infantry on the tanks and attacked the next enemy position which was a chateau and its surrounding wooded area. The rapid attack was successful. In the two positions we knocked out two enemy antitank guns, killed 35 Germans and captured 118."--CO, Rcn Co, 66th Armd Regt.

V USE OF LIGHT TANKS.

"We attach one light tank to each medium tank company to serve as a reconnaissance vehicle for the company commander, a supply vehicle when fire is heavy and terrain difficult, and an evacuation vehicle for the wounded. For evacuation purposes racks are constructed on the back of the tank which permit carrying three casualties in a prone position. Straps are used to secure the wounded men. One member of the tank crew is trained as an aid man because of the lack of room for an additional man on the tank."--CO, 3d Bn, 66th Armd Regt.

VI PRISONER OF WAR RAID.

"Thorough planning, coordinated supporting fires, and rapid execution contributed to the success of a prisoner of war raid by a reconnaissance troop platoon. The objective, an enemy outpost across a river, was observed to be occupied each night. The plan for the raid was simple and the action was rehearsed. Before H-hour six men took positions on the near bank to cover the crossing. At H - 3 a light artillery battalion fired on the outpost and a medium battalion, together with 81mm and 60mm mortars, boxed in the objective. At H-hour the light battalion fire lifted 200 yards to the rear of the objective, the boxing fire continued, and two groups of six men each crossed the river at points 40 yards apart. On the far bank they formed quickly into a 50 yard skirmish line and moved to the objective. Three Germans were captured easily. A fourth, who reached for a machine gun, was killed. The raiders withdrew with the prisoners before enemy mortar and artillery fire came down on the area."--G-2 Periodic Reports, XIX Corps.

VII TREE BURSTS BY ARTILLERY SHEALS.

"Tree bursts in dense woods are often ineffective because the bursts are too high. Effectiveness may be increased by using equal proportions of instantaneous and delay fuze."--CO, 78th Armd FA Bn, 2d Armd Div.

END

- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

DECLASSIFIED BATTLE EXPERIENCES

7 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I SEARCHLIGHT ILLUMINATION.

"Searchlights employed so that the beams shine just above the height of a man will cause individuals and vehicles to cast shadows which are easily seen. This reduces the probability of surprise by the enemy in snow covered terrain."--CG, 35th AAA Brigade.

II GERMAN NIGHT PATROLS.

"The enemy often splits his night patrols into two groups, one to harass our front lines with machine gun fire, while the other penetrates into our position. The infiltrating group tries to determine our exact positions from our fire against the first group."--Report of AGF Board from Italy.

III ENEMY MINES.

"When road junctions were mined, possible by-passes often were mined also. It was usually faster to clear the road than to prepare a by-pass."--Report of AGF Board from Italy.

IV INFANTRY BATTALION DEFENSE.

*

"A three-day defense of a main line of resistance against heavy attack, taught our battalion these rules:

- a. "Keep at least one day's emergency food and water at all defensive positions.
- b. "Locate battalion aid stations away from command posts. Jerry knows our habit of aid stations close to command posts.
- c. "Clear all civilians out of small towns near the lines. They give information to the enemy. Some act as snipers.
- d. "Don't fail to have a battalion command post guard. We used a 13-man squad attached to headquarters company and commanded by S-1. They were armed with light machine guns, submachine guns, M-1s, carbines, grenades and bazookas. Without this security our command post would have been wiped out.
- e. "Keep extra SCR-300 and SCR-536 batteries on the position.
- f. "Stress security on wire and communications."--Report of AGF Board from Italy.

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V PROTECTION OF TANKS FROM ARTILLERY FIRE.

"When artillery fire was likely to fall, we moved our light and medium tanks into a woods where they would get only tree bursts to which they are not vulnerable." --Col Yale and staff, 11th Armd Div.

VI CLOTHING REPAIR.

"By using a former tailor and a foot-operated sewing machine we have greatly simplified our clothing problem. Within three weeks the tailor has repaired 175 trousers, 50 shirts, 40 field jackets, 3 overcoats and many fatigue uniforms -- all of which would otherwise have gone to salvage." --CO, 246th Engr Bn.

VII SLID TRANSPORTATION.

"One man, using a sled, can transport the SCR-510 radio from its carrying vehicle to our dismounted elements." --Ex O, 28th Rcn Sq.

VIII INFANTRY-TANK ATTACK AT DUSK.

"We attacked at dusk with infantry following the tanks. It was light enough for our men to see but not for the entrenched enemy to see what was following the tanks. We took the town without difficulty. Reaching the objective just at darkness gave us time to prepare for Jerry's counterattack at daylight." --CO, 1st Bn, 399th Inf Regt.

IX M-16 HALFTRACKS IN SUPPORT OF GROUND UNITS.

"M-16 antiaircraft halftracks have been used effectively in support of infantry, tanks, and tank destroyer units. When so employed they should always be committed in pairs for mutual protection against such enemy groups as bazooka patrols. With infantry, it is advisable to use them on missions directly from the battalion command post rather than limit them to a position in the line. They can move quickly and employ their fire power either to stop enemy thrusts or to reduce troublesome enemy strong points in an attack. When used with tanks or tank destroyers the halftracks can keep enemy tanks buttoned up while the tanks or tank destroyers engage them. The weapon, however, must not be used against armored vehicles except in conjunction with tank destroyers or tanks. It should be remembered that the M-51 trailer mount, though armed like the M-16, is not always suited for the same type of missions due to its limited mobility." --CO, Battery B, 635th AAA (AW) Bn.

X PLOTTING FRONT LINE LOCATIONS.

"We were able to plot our positions in thick woods by having liaison planes observe and report the location of rockets fired by front line troops. When the observer was ready he would send a code message by radio, and the front line companies would fire their signals. The observer would then give exact locations by coordinates. This helped the companies orient themselves and furnished the basis for accurate overlays for higher headquarters." --S-1, 3d Bn, 124th Inf Regt.

XI ATTACK BY LIGHT TANKS

"On one occasion we deployed our light tanks behind a hill where they fired canister into the enemy positions. Upon a signal all tanks, followed by the reconnaissance platoon on foot, drove over the hill at high speed and overran the enemy position without loss." --CO, 82d Rcn Bn, 2d Armd Div.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 52

4 FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I STOPPING ENEMY ARMOR.

"Close teamwork among infantry, artillery, tank and tank destroyer units accounted for 69 enemy tanks and several other armored vehicles during attacks on Rockerath and Krinkelt. The antitank defense was coordinated as follows: Medium artillery took the enemy armor under fire before it reached our lines, to break up the tank formations. Our tanks, tank destroyers, and 57mm antitank guns then fired on the enemy tanks from the flank. Bazookas and other tank destroyers mopped up those that succeeded in infiltrating. Knocked out enemy tanks were destroyed later by setting them afire with a gasoline-oil mix and placing thermite grenades in the gun barrels."--After Action Report of 38th Infantry Regt.

II A "LOST" LIEUTENANT WITH A TELEPHONE.

"Recently an American wire sergeant and his crew of five were checking a wire line when they came upon an American lieutenant with a telephone tapped into one of the battalion wire lines. When questioned, the lieutenant said he was from a unit on the right -- which he named -- and was trying to find his position. The explanation was accepted and the crew then left with the lieutenant still listening on the wire. A short time later a cut in the wire was found at that same location. Further check revealed that no officers of the unit on the right had been in that vicinity."--G-2 Periodic Report, 103d Inf Div.

III CANNON COMPANY POSITIONS.

"We have two men from the mine platoon attached to the company and use them to clear the position area of mines and blow holes for gun emplacements. Two pounds of TNT, or a mine, placed three feet from each corner on the inside of a ten foot square, and four pounds of TNT placed in the center, will break up frozen ground so that the gun can be readily dug in."--Os and NCOs Cannon Co, 330th Inf Regt.

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IV OBSERVATION POST PARTY.

"All members of an observation post party must be able to read maps and adjust fire. They frequently have opportunities to locate targets and bring fire on them when no officer is present."--Ex O, 32d FA Bn.

V MARCHING FIRE.

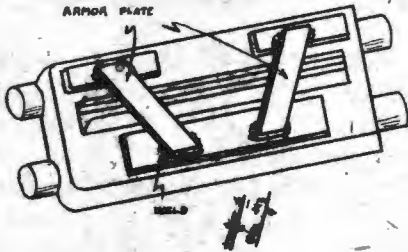
"One effect of marching fire in attacking pillboxes and houses is to prevent the enemy from firing from the prepared entrenchments outside."--CO, 330th Inf Regt.

VI VEHICLE MAINTENANCE INSPECTION.

"Tire and vehicle maintenance have been improved by having every officer in this group inspect one vehicle per day. This results in every vehicle being inspected every three or four days."--CO, 115th AAA Group.

VII TRACTION DEVICE FOR M-10 AND M-31 TANK DESTROYERS.

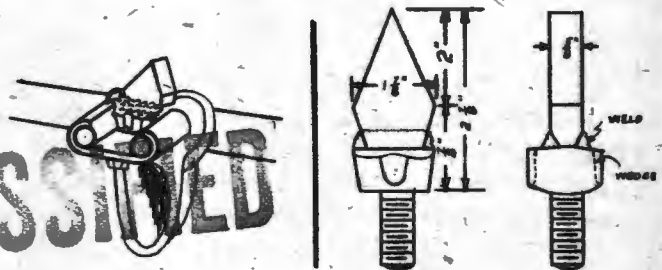
"Our battalion maintenance personnel have welded two bars of armor plate, in a 'V' shape, on every other steel block of the tracks. The 'V' points to the front of the vehicle when viewed from the top of the track. This device provides maximum traction and prevents sideslipping on icy or frozen ground."--S-2, 773d TD Bn.



VIII TRACTION DEVICE FOR M-4 TANKS.

1. General. "A traction device for the M-4 tank was improvised by the 784th Tank Battalion which greatly improved maneuverability on icy roads and frozen ground. The device can be used on any track-laying vehicle on which end connectors and wedges join the track blocks.

2. Installation. "Best results were obtained on steel tracks by replacing every eighth end connector wedge on each side of the track with a traction wedge as shown in the sketch. These devices should be substituted on the inside and outside of each track so that one is attached to every fourth connector. One such device should be placed on every other end connector on rubber block track. It is believed that homogeneous forging would be better but as a field expedient these calks were welded on the wedges. Stainless steel or armor plate welding rods gave the best results. Calks extending more than 3/4" above the track did not improve traction but broke off more frequently. The devices can be either removed or installed by a tank crew in about one hour."--CO, 7th Armored Group.



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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 51

3 FEB 1945

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By command of general EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I INCENDIARY SHELL FOR 105MM M-3.

"We have obtained excellent results against buildings and personnel by removing the smoke compound from the HC shell and refilling it with flame thrower fuel. The fuze fires the fuel and the explosion throws the flame to the rear."--S-3, 315th Inf Regt.

II LINERS FOR SHOEPACS.

"Liners cut out of 10-in-1 ration boxes increase the warmth of shoepacs. We send the liners up with the chow so that men can replace those which have become wet."--E-0, 399th Inf Regt.

III REDUCING WASTAGE OF PHOTOS AND MAPS.

1. Problem. "Maps, aerial photos, photo mosaics and town plans are often wasted because distribution is made too soon and the unit is required to attack in another sector. Even if plans are not changed, an unrestricted early issue results in many lost or discarded maps and photos because small units have no means of properly transporting and caring for them.

2. Solution. "One solution is to issue photos and maps in two lots. The first issue should be a minimum number for planning purposes. The second issue should include all maps and photos to be carried in combat and should be made shortly before the action when it becomes clear what units will be operating in a particular area. Each echelon should hold out a small reserve of photos and maps to allow for substitutions of units and changes in plans."--E-1 and Regt 1 S-2s, XIX Corps.

IV TIME FIRE WITH GRENADES.

"We follow our artillery closely and when it lifts we fire grenades from the hip and try to get air bursts ten or twelve feet above the ground. Browning automatic rifles spray the area at the same time and we find that this combination of fires is effective in making Jerry keep his head down."--CO, 3d Bn, 405th Inf Regt.

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V NIGHT OPERATIONS.

Note: Paragraph 1 contains comments of German prisoners on the lack of American night operations. Paragraph 2 summarizes some night successes of the 104th Infantry Division which carried on 25% of its training at night. Paragraph 3 lists those steps which this division has found to be vital to the success of night operations.

1. Jerry on night operations. a. He says he is vulnerable at night. "The greatest fault of American soldiers is that they don't attack at night. Night attacks, especially now, would gain any number of small positions, because the Germans are lulled into a feeling of absolute security at night. They say "Bei nacht will der Tommy schlafen." -- "At night Tommy likes to sleep".

b. He says we are, too. "There is not enough security at night. German patrols can go right up to the American lines undetected. On one mission a group, including the prisoner, got to within 15 yards of the lines and heard one sentry shout to another, "Jack, do you have cold feet, too?" A German machine gun was set up close enough to cover the area fully and could have knocked out everyone occupying it.

c. Value of other night activities. "The morale effect even of using unaimed small arms fire at night is good. Night operations of small, specially trained commando-type units are also effective".

2. This division agrees Jerry's vulnerable. a. Night attack over open terrain.

(1) "A strongly held town of over 100 houses was our objective. The enemy held 3200 yards of open terrain over which our troops had to advance.

(2) "Key personnel made a careful terrain study. Each house was numbered and assigned to a specific unit. Maps containing latest information from interpreted aerial photos were used in planning.

(3) "At 0400 hours the battalion approached the objective in a column of companies. Direction was maintained by compass bearings supplemented by flanking artillery fire and rounds of white phosphorus. The advance through the town was made with two companies abreast. Our casualties in capturing the town were three while the enemy lost 100 killed or wounded and 160 captured.

b. Night river crossing. (1) "Two infantry regiments were to attack supported by the fire of another regiment. Three days and two nights were spent in preparation of detailed plans and orders.

(2) "The attack at 2100 hours was preceded by a one-hour preparation fired by artillery and infantry supporting weapons. Initial crossings were completed by 2235 hours. We suffered 23 casualties, against the enemy's 113.

c. Night capture of a strongpoint. (1) "The objective, 200 yards away, was a slag pile 80 feet high and 1000 yards on a side, with wooded edges. The exact location of enemy weapons was determined by reconnaissance the day before the attack.

(2) "A half-hour fire preparation preceded the attack of two companies at dusk. The infantry followed supporting fires at 50 yards and seized the objective in 45 minutes. We suffered three casualties and took 93 prisoners.

3. Why it worked. "Our successful operations were due, in part, to the following:

a. Reconnaissance. "Detailed reconnaissance and observation from the ground, the air, and maps.

b. Preparation. "Timely issuance of warning and final orders; careful briefing of all personnel, and coordination of supporting fires.

c. Direction and control. "Reconnaissance of routes, recording of compass bearings, and careful location of landmarks; designation of phase lines and advance by bounds; use of artillery fire and white phosphorus.

d. Secrecy. "Reduction of noise to a minimum.

e. Vigorous execution. "Maximum speed, boldness and aggressiveness."

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 HEADQUARTERS
 EUROPEAN THEATER OF OPERATIONS
 UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED

3 FEB 1945

INDEX

This index covers all "Battle Experiences" issued to date and supersedes the index issued as Number 90, Headquarters, Twelfth Army Group. Issues published by First United States Army Group (1-13) and those published by Twelfth Army Group (14-90) are indicated by underlined numbers.

<u>SUBJECT</u>	<u>NO.</u>
Administration (See Staff Procedure)	
Aerial Photography	<u>32</u> , <u>66</u>
Ammunition	<u>5</u> , <u>15</u> , <u>23</u> , <u>29</u> .
Antiaircraft Artillery	
Against Ground Targets	<u>15</u> , <u>23</u> , <u>41</u> , <u>75</u> , <u>77</u> , <u>24</u> .
General	<u>33</u> , <u>63</u> , <u>28</u> .
Air Support	
Armor	<u>22</u> , <u>36</u> , <u>38</u> , <u>42</u> , <u>45</u> .
Infantry	<u>6</u> , <u>13</u> , <u>14</u> , <u>31</u> , <u>34</u> , <u>35</u> , <u>73</u> , <u>82</u> , <u>88</u> .
Method and Organization	<u>6</u> , <u>14</u> , <u>28</u> , <u>31</u> , <u>42</u> , <u>43</u> .
Air Support Party Officer	<u>2</u> .
Antitank Weapons (Iaf)	<u>30</u> , <u>40</u> , <u>69</u> , <u>75</u> , <u>83</u> , <u>20</u> , <u>23</u> , <u>35</u> , <u>44</u> , <u>45</u> .
Artillery (Field)	
Air OPs	<u>20</u> , <u>22</u> , <u>29</u> , <u>31</u> , <u>32</u> , <u>34</u> , <u>38</u> , <u>44</u> , <u>45</u> , <u>46</u> .
	<u>66</u> , <u>67</u> , <u>77</u> , <u>14</u> , <u>28</u> , <u>32</u> , <u>33</u> , <u>36</u> , <u>42</u> , <u>43</u> .
	<u>45</u> .
Ammunition	<u>5</u> , <u>15</u> , <u>23</u> .
Communications	<u>21</u> , <u>32</u> , <u>84</u> , <u>22</u> , <u>27</u> , <u>45</u> .
Counterbattery Fire	<u>43</u> .
Forward Observers	<u>5</u> , <u>17</u> , <u>31</u> , <u>40</u> , <u>45</u> , <u>46</u> , <u>70</u> , <u>73</u> , <u>77</u> , <u>84</u> .
	<u>10</u> , <u>26</u> , <u>27</u> , <u>36</u> , <u>42</u> .
Infantry Coordination	<u>30</u> , <u>42</u> .
Infantry-Tank-Artillery	<u>7</u> , <u>57</u> , <u>10</u> , <u>42</u> .
Medium Artillery	<u>18</u> , <u>81</u> , <u>88</u> , <u>41</u> , <u>49</u> .
Shell Reports	<u>5</u> , <u>22</u> , <u>79</u> , <u>86</u> , <u>12</u> , <u>30</u> , <u>39</u> , <u>49</u> .
Tactics	<u>6</u> , <u>9</u> , <u>17</u> , <u>19</u> , <u>20</u> , <u>41</u> , <u>46</u> , <u>59</u> , <u>69</u> , <u>70</u> .
	<u>79</u> , <u>81</u> , <u>28</u> , <u>42</u> , <u>43</u> , <u>44</u> , <u>45</u> .
Technique	<u>24</u> , <u>28</u> , <u>31</u> , <u>45</u> , <u>46</u> , <u>59</u> , <u>62</u> , <u>70</u> , <u>73</u> , <u>77</u> .
	<u>79</u> , <u>81</u> , <u>82</u> , <u>88</u> , <u>9</u> , <u>28</u> , <u>41</u> , <u>42</u> , <u>43</u> , <u>44</u> .
	<u>45</u> , <u>46</u> .
Training	<u>18</u> .
Weapons	<u>43</u> .
Armored Units	
Air Support	<u>22</u> , <u>36</u> , <u>38</u> , <u>42</u> , <u>45</u> .
Attack	<u>3</u> , <u>11</u> , <u>19</u> , <u>22</u> , <u>33</u> , <u>46</u> , <u>67</u> , <u>80</u> , <u>1</u> .
Defense of	<u>2</u> .
Fighting in Towns	<u>75</u> , <u>82</u> , <u>12</u> .

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SUBJECT

Armored Units (Cont'd)

General	3, 11, 18, 19, 22, 33, 34, 42, 45, 46.
	<u>51, 67, 68, 75, 80, 83, 84, 88, 89, 1.</u>
	2, 8, 9, 10, 13, 18, 28, 30, 31, 32.
	35, 37, 42, 45, 49.
Infantry-Tank Teams	3, 4, 8, 13, 17, 28, 29, 30, 35, 37.
	<u>45, 51, 53, 54, 57, 59, 60, 80, 89, 4.</u>
	6, 10, 11, 18, 20, 39, 45.
Infantry-Tank-Artillery Teams	7, 57, 10, 42.
Attack	
Examples of	32, 41, 34.
Fortified Positions	<u>49, 50, 54, 58, 60, 62, 63, 64, 65, 66,</u>
	<u>67, 68, 73, 75, 79, 81, 82, 84, 87, 88.</u>
	14, 25, 26, 31, 48, 49.
Hedgerows	1, 3, 6, 8, 9, 12, 18, 37.
Infantry-Tank Teams	4, 13, 17, 28, 29, 30, 35, 36, 37, 45.
	<u>51, 53, 54, 57, 59, 60, 80, 4, 6, 10,</u>
	11, 18, 20, 39, 45.
Infantry-Tank-Artillery Teams	7, 57, 10, 42.
Night	21, 25.
Reconnaissance	39.
River Crossings	<u>60, 75, 81, 87, 1, 7, 13, 15, 16, 31,</u>
	<u>33, 39, 47.</u>
Smoke, Use of	<u>27, 34, 59.</u>
Street (City) Fighting	4, 50, 61, 76, 80, 82, 89, 2, 3, 8.
	12, 21, 22, 30, 37, 38, 45, 48.
Surprise, Element of	<u>60, 68, 17.</u>
Time of	4, 23, 35, 59.
Woods Fighting	7, 62, 71, 82, 83, 84, 86, 11, 19, 24.
	29, 45.
Automatic Rifle (BAR)	19.
Bayonet Assault	37.
Bazooka	<u>12, 35, 51, 52, 56, 81, 1, 5, 7, 13,</u>
	<u>17, 20, 25, 29, 30, 32, 36.</u>
Booby Traps	1, 11, 37, 65, 67, 72, 86, 2, 4, 7.
	9, 10, 11, 27, 35, 49.
Bulldozer	4, 31, 38, 39.
Camouflage	4, 20, 61, 76, 80, 82, 89, 2, 3, 8.
City (Street) Fighting	2, 21, 22, 30, 37, 38, 45, 48.
Civilians - Problems	<u>28, 42, 60, 65.</u>
Cannon (Infantry)	<u>41, 54, 58, 65, 6, 17, 20, 26, 44.</u>
Cold Weather	16, 21, 33, 38, 40, 46.
Command Post	<u>34, 41, 42.</u>
Communications	
Artillery	21, 32, 84, 22, 27, 45.
General	<u>23, 36, 39, 66, 84, 33.</u>
Panels	<u>34, 35, 44, 65, 66.</u>
Radio	5, 10, 16, 25, 29, 36, 39, 42, 46, 52.
	<u>54, 58, 62, 64, 66, 69, 71, 74, 77, 78.</u>
	86, 7, 20, 23, 28, 33, 37, 38, 49.
Repair	13, 26.
Training	10, 7, 20.
Wire and Telephone	5, 17, 25, 29, 39, 46, 52, 56, 60, 64.
	<u>69, 71, 78, 84, 3, 12, 14, 24, 26, 33,</u>
	34, 38, 39.

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<u>SUBJECT</u>	<u>NO.</u>
Contact (See Liaison)	
Convoys	28.
Coordination of units	45.
Counterbattery Fire	43.
Countermortar Fire	43.
Dental Service	5, 6, 26, 30, 36, 45, 62, 69, 72, 78.
Enemy, Information Concerning	5, 36.
Attack Methods	22, 40, 42.
Challenging	26, 60, 78, 27, 36.
Defense Methods	47.
Equipment	1, 5, 6, 10, 11, 17, 20, 21, 27, 39.
Organization	42, 49, 52, 56, 61, 62, 64, 66, 68, 82.
Snipers	89, 17, 35, 41, 47.
Tactics, General	12.
Tricks	42, 25.
War Dogs	9, 10, 12, 20, 27, 36, 37, 14, 47.
Weapons	44, 5, 27, 41.
Engineer Operations	1, 12, 19, 20, 27, 33, 36, 37, 65, 67.
Equipment, Individual	78, 84, 86, 1, 4, 21, 25, 26, 27, 32.
Explosives	35, 37, 38, 39, 42.
Fortified Positions, Attack of	23.
Foxholes	5, 71, 82, 85, 5, 6, 12, 13, 27, 32.
Fire Distribution and Discipline	35.
Fire and Movement	5, 18, 54, 63, 66, 80, 88, 2, 6, 7.
Feeding	23, 24, 35, 36, 41, 47.
Gasoline	1, 9, 21, 24, 9, 13, 21, 28.
German Army (See Enemy, Information of)	45, 47.
Grenades	49, 50, 54, 58, 60, 62, 63, 64, 65, 66.
Hedgerows	67, 68, 73, 75, 79, 81, 82, 84, 87, 88.
Attack With Tanks	14, 25, 26, 31, 49, 48.
Attack Without Tanks	7, 46.
German Defense Of	1, 4, 43, 46.
House, Village and Street Fighting (See City Fighting)	27, 37, 46.
Identification of Front Lines	46, 34, 41.
Illuminating Shell	34.
Infantry	12, 35, 30, 48, 11.
Air Support of	3, 8.
Antitank Weapons	1, 6, 8, 9, 12, 18, 37.
Artillery Coordination	1, 10.
Attack	45.
Bayonet Assault	11, 13, 20, 32.
Cannon Company	6, 13, 14, 31, 34, 35, 45, 73, 82, 88.
Fire and Movement	30, 40, 69, 75, 83, 20, 23, 35, 44, 45.
Fire Distribution and Discipline	42, 30.
	2, 11, 17, 20, 24, 27, 29, 35, 41.
	37.
	41, 54, 58, 65, 6, 17, 20, 26, 44.
	27, 37, 46.
	1, 4, 43, 46, 4, 29.

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<u>SUBJECT</u>	<u>NO.</u>
Infantry (Cont'd)	
Infantry-Tank Teams	<u>3</u> , <u>8</u> , <u>13</u> , <u>28</u> , <u>29</u> , <u>30</u> , <u>35</u> , <u>36</u> , <u>53</u> , <u>54</u> , <u>59</u> , <u>60</u> , <u>80</u> , <u>89</u> , 4, 6, 10, 11, 18, 20, 39, 45.
Infantry-Tank-Artillery Teams	7, 57, 10.
Reconnaissance	<u>24</u> , <u>36</u> , <u>39</u> , <u>80</u> , 1.
Scouting and Patrolling	<u>5</u> , <u>20</u> , <u>25</u> , <u>26</u> , <u>29</u> , <u>35</u> , <u>37</u> , <u>39</u> , <u>40</u> , <u>58</u> , <u>69</u> , <u>84</u> , 14, 18.
Training	<u>5</u> , <u>10</u> , <u>12</u> , <u>14</u> , <u>19</u> , <u>20</u> , <u>21</u> , <u>24</u> , <u>30</u> , <u>40</u> , <u>51</u> , <u>52</u> , <u>53</u> , <u>54</u> , <u>56</u> , <u>59</u> , <u>60</u> , <u>71</u> , <u>73</u> , <u>75</u> , <u>77</u> , <u>79</u> , <u>80</u> , <u>81</u> , 18, 37.
Weapons (See Weapons)	
Individual Equipment	1, 9, <u>21</u> , <u>24</u> , 9, 13, 21, 28.
Intelligence	
Dissemination of Information	<u>34</u> , <u>56</u> , <u>59</u> , <u>66</u> , 34, 47.
General	<u>16</u> , <u>36</u> , 4, 5, 31, 40.
Security	<u>85</u> .
Training	<u>16</u> , 39.
Liaison	2, 30, 36.
Liaison Planes	<u>20</u> , <u>22</u> , <u>29</u> , <u>31</u> , <u>32</u> , <u>34</u> , <u>38</u> , <u>44</u> , <u>45</u> , <u>46</u> , <u>66</u> , <u>67</u> , <u>77</u> , 14, 28, 32, 33, 36, 42, 43, 45.
Leadership	<u>33</u> , <u>34</u> , <u>37</u> , <u>44</u> , <u>48</u> , <u>53</u> , <u>60</u> , <u>68</u> , <u>69</u> , <u>70</u> , <u>74</u> , 5, 12, 22, 26.
Machine Guns	<u>16</u> , <u>27</u> , <u>54</u> , <u>58</u> , <u>59</u> , <u>85</u> , <u>89</u> , 8, 35, 39, 48, 49, 11, 37.
Maintenance	
Ordnance	<u>29</u> , <u>45</u> , <u>51</u> , <u>54</u> , <u>74</u> , <u>89</u> , 18, 21, 24, 26, 30, 32, 33, 47.
Miscellaneous	<u>74</u> , 38, 15.
Tips	38, 46.
Maps	16.
Marching Fire	4, 29.
Medical Operations	<u>6</u> , <u>15</u> , <u>18</u> , <u>37</u> , <u>39</u> , <u>45</u> , <u>58</u> , <u>66</u> , <u>75</u> , <u>87</u> , 2, 5, 9, 10, 11, 15, 16, 22, 30, 42, 46, 48, 40, 47.
Military Police	<u>28</u>
Mines	<u>11</u> , <u>33</u> , <u>41</u> , <u>42</u> , <u>66</u> , <u>67</u> , <u>71</u> , <u>72</u> , <u>89</u> , 3, 4, 7, 9, 10, 14, 20, 25, 27, 33, 35, 38, 39, 41, 46, 47.
Mortars	<u>6</u> , <u>10</u> , <u>12</u> , <u>20</u> , <u>23</u> , <u>25</u> , <u>27</u> , <u>28</u> , <u>34</u> , <u>37</u> , <u>46</u> , <u>52</u> , <u>54</u> , <u>58</u> , <u>73</u> , <u>86</u> , <u>88</u> , 8, 11, 18, 20, 24, 27, 32, 43, 46, 48, 49, 13, 25, 29, 2, 33, 40, 51, 66, 88, 21, 46.
Chemical (4.2)	
Countermortar Missions	<u>25</u> , <u>89</u> .
Motor Movement and Traffic Control	<u>11</u> , <u>21</u> , <u>64</u> , 20.
Mountain Fighting	23.
Night Fighting	21, 25, 31, 36, 40, 43, 48.
Observation Posts	40, 41.
Orders, Issuance of	<u>39</u> .
Ordnance	21, 30.
Panels	<u>34</u> , <u>35</u> , <u>44</u> , <u>65</u> , <u>66</u> .
Patrols	3, 4, 8, 14, 15, 18.

~~RESTRICTED~~

<u>SUBJECT</u>	<u>NO.</u>
Personnel	
Reconditioning	<u>24</u> , <u>62</u> , <u>75</u> .
Reinforcements	<u>16</u> , <u>17</u> , <u>56</u> , <u>71</u> , <u>79</u> , <u>86</u> , 49.
Prisoners of War	<u>46</u> , <u>73</u> , 29.
Radio (See Communications)	
Reconditioning (Personnel)	<u>24</u> , <u>62</u> , <u>75</u> .
Reconnaissance	<u>36</u> , <u>39</u> , <u>80</u> , 1, 3, 4, 28, 31, 45.
Reinforcements (Personnel)	<u>16</u> , <u>17</u> , <u>56</u> , <u>71</u> , <u>79</u> , <u>86</u> , 49.
Relief	<u>30</u> , <u>41</u> .
Rifle, M-1	<u>60</u> .
River Crossings	<u>60</u> , <u>75</u> , <u>81</u> , <u>87</u> , 1, 7, 13, 15, 16, 31, 33, 39, 47.
Road Blocks	<u>44</u> .
Rumors	<u>40</u> .
Salvage	18, 20, 46, 35.
Scouting and Patrolling	<u>5</u> , <u>20</u> , <u>25</u> , <u>26</u> , <u>29</u> , <u>35</u> , <u>37</u> , <u>39</u> , <u>40</u> , <u>58</u> , <u>69</u> , <u>84</u> , <u>14</u> , <u>18</u> .
Searchlight Illumination	<u>10</u> .
Security	<u>85</u> , 3, 21, 27, 29, 35, 43, 44, 47, 48, 49.
Shell Reports	12, 30, 39, 49, 5, 22, 79, 86.
Siegfried Line, Attack of	<u>49</u> , <u>54</u> , <u>58</u> , <u>60</u> , <u>63</u> , <u>65</u> , <u>66</u> , <u>67</u> , <u>68</u> , <u>73</u> , <u>79</u> , <u>82</u> , <u>84</u> , 14, 25, 26, 31, 48, 49.
Ski-Litters	<u>47</u> .
Smoke	<u>27</u> , <u>34</u> , <u>59</u> , <u>73</u> , <u>82</u> , <u>86</u> , 23, 27, 31, 43, 45.
White Phosphorus	<u>3</u> , <u>20</u> , <u>35</u> , <u>73</u> , <u>83</u> , 9, 27, 34, 48.
Snipers	<u>9</u> , <u>10</u> , <u>12</u> , <u>20</u> , <u>27</u> , <u>36</u> , <u>37</u> , <u>60</u> , 14.
Spies	<u>37</u> .
Staff Procedure and Administration	
Casualty and Strength Reports	<u>71</u> .
Command Post Locations	<u>34</u> , 41, 42.
Evacuation	<u>45</u> , 5, 11.
Information, Dissemination of	<u>34</u> , <u>56</u> , <u>59</u> , <u>66</u> , 34, 47.
Orders, Issuance of	<u>39</u> .
Periodic Reports	<u>28</u> .
Personal Effects	<u>77</u> .
Prisoners of War	<u>46</u> , <u>73</u> .
Street (City) Fighting	<u>4</u> , <u>50</u> , <u>61</u> , <u>76</u> , <u>80</u> , <u>82</u> , <u>89</u> , 2, 3, 8, 12, 21, 22, 30, 37, 38, 45, 48.
Submachine Gun	<u>27</u> .
Supply	
Classes of	<u>43</u> , <u>47</u> , <u>55</u> .
By Air	<u>29</u> .
Discipline	<u>11</u> , <u>73</u> , 15, 32, 34, 36, 44, 48.
Feeding	<u>46</u> , <u>34</u> , <u>41</u> .
General	<u>16</u> , <u>26</u> , <u>29</u> , <u>36</u> .
Individual Equipment	<u>1</u> , <u>9</u> , <u>21</u> , <u>24</u> , 9, 13, 21, 28.
Maintenance	
Ordnance	<u>29</u> , <u>45</u> , <u>51</u> , <u>54</u> , <u>74</u> , <u>89</u> , 18, 21, 24, 26, 30, 32, 39, 36, 47.
Miscellaneous	<u>74</u> , 15, 38.

-5-
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<u>SUBJECT</u>	<u>NO.</u>
Supply (Cont'd)	
Replacement (Equipment)	<u>39</u> , <u>81</u> , 7.
Salvage	<u>3</u> , <u>41</u> , <u>71</u> , <u>74</u> , 18, 20, 35, 46.
Truckheads	<u>36</u> .
Surprise, Elements of	<u>60</u> , <u>68</u> .
Tanks (See Armored Units)	
Tank Expedients	8.
Tank Destroyers	<u>2</u> , <u>29</u> , <u>35</u> , <u>46</u> , <u>51</u> , <u>52</u> , <u>54</u> , <u>56</u> , <u>67</u> , <u>70</u> ; <u>78</u> , <u>81</u> , <u>82</u> , <u>83</u> , <u>89</u> , 9, 12, 14, 25, 30; <u>45</u> .
Tank Hunting	<u>44</u> , <u>48</u> .
Tank Retriever	<u>46</u> , <u>47</u> .
Task Forces	<u>34</u> , <u>36</u> .
Telephone (See Communications)	
Tires	15, 18, 24, 26, 32, 33.
Traffic Control and Motor Movement	<u>11</u> , <u>21</u> , <u>24</u> , <u>64</u> , 28.
Training	
Artillery	<u>18</u> .
Communications	<u>10</u> , 7, 20.
Infantry	<u>5</u> , <u>10</u> , <u>12</u> , <u>14</u> , <u>19</u> , <u>20</u> , <u>21</u> , <u>24</u> , <u>30</u> , <u>39</u> ; <u>40</u> , <u>51</u> , <u>52</u> , <u>53</u> , <u>54</u> , <u>56</u> , <u>59</u> , <u>60</u> , <u>66</u> , <u>71</u> ; <u>73</u> , <u>75</u> , <u>77</u> , <u>79</u> , <u>80</u> , <u>81</u> , 37, 18.
Intelligence	<u>16</u> , 39.
Reconditioning Personnel	<u>24</u> , <u>62</u> , <u>75</u> .
Reinforcements	<u>16</u> , <u>17</u> , <u>56</u> , <u>71</u> , <u>79</u> , <u>86</u> , 49.
Trip Flares	9, 35.
Truckheads	<u>36</u> .
Village Fighting (See City Fighting)	
Weapons	
Antitank (Infantry)	<u>30</u> , <u>40</u> , <u>69</u> , <u>75</u> , <u>83</u> , 20, 23, 35, 44, 45.
Artillery	<u>43</u> .
Bazooka	<u>12</u> , <u>35</u> , <u>51</u> , <u>52</u> , <u>56</u> , <u>81</u> , 1, 5, 7, 13; <u>17</u> , 20, 25, 29, 30, 32, 36.
Browning Automatic Rifle	<u>19</u> .
Cannon (Infantry)	<u>54</u> , <u>58</u> , <u>65</u> , <u>41</u> , 6, 17, 20, 26, 44.
Care of	<u>40</u> .
Grenades	<u>12</u> , <u>35</u> , 11, 30, 48.
Machine Guns	<u>16</u> , <u>27</u> , <u>54</u> , <u>58</u> , <u>59</u> , <u>85</u> , <u>89</u> , 8, 11, 35; <u>37</u> , <u>39</u> , <u>48</u> , <u>49</u> .
Mortars (Infantry)	6, <u>10</u> , <u>12</u> , <u>20</u> , <u>23</u> , <u>25</u> , <u>27</u> , <u>28</u> , <u>34</u> , <u>37</u> ; <u>46</u> , <u>52</u> , <u>54</u> , <u>58</u> , <u>73</u> , <u>86</u> , <u>88</u> , 8, 11, 13; <u>38</u> , <u>40</u> , <u>44</u> , <u>27</u> , <u>32</u> , <u>43</u> , <u>46</u> , <u>48</u> , <u>49</u> .
Mortars (4,2 Chemical)	<u>12</u> , <u>19</u> , <u>24</u> , <u>33</u> , <u>40</u> , <u>51</u> , <u>66</u> , <u>88</u> , 21, 46.
Rifle, M-1	<u>60</u> .
Submachine Gun	<u>27</u> .
Use of	<u>56</u> , <u>85</u> , <u>89</u> , 8, 11.
White Phosphorus Smoke	3, <u>20</u> , <u>35</u> , <u>73</u> , <u>83</u> , 9, 34, 48, 27.
Winterizing	16, 21, 33, 40, 46.
Wire and Telephone (See Communications)	
Withdrawal	42, 44.
Woods Fighting	7, <u>62</u> , <u>71</u> , <u>82</u> , <u>83</u> , <u>84</u> , <u>86</u> , 11, 19, 24, 29, 45.

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- 6 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

Doc No 49

FEB 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER.

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I FLASH HIDER FOR HEAVY MACHINE GUN.

"We find the flash hider to be one of our most useful accessories. Besides hiding the muzzle blast it serves as a convenient handle when carrying the receiver on the shoulder. Also, if the muzzle is jammed into the mud the flash hider will take the blow and it requires only a few seconds to unscrew it and tap out the mud. The flash hider should not be oiled as the oil will smoke and blind the gunner."--Co D, 378th Inf Regt.

II TRIBULATIONS OF A REINFORCEMENT.

"On my way to the front as a reinforcement officer I met various personnel who had been in the line and were coming back. Invariably they told me of experiences where their outfits were wiped out or had been pinned down all day; a platoon sergeant told me that an officer doesn't have a dog's chance as they had had 16 different officers in two weeks. I expected to be blown to bits within 15 minutes after getting up front. It affects men the same way. Old men should keep their mouths shut and avoid such subjects around reinforcements. Give the new men a pat on the back and we will have fewer men going on sick call before an attack."--Lt, Co D, 378th Inf Regt.

III BOOBY TRAPS.

"In Holland we found three farm wagons loaded with ammunition blocking the road. They appeared to have been hastily abandoned. Upon inspection they were found to be booby trapped -- any movement of the wheels would have detonated the charge."--Engr Report, Hq 9th Army.

IV OCCUPYING PILLBOXES.

"When we capture a pillbox and its occupants, we keep two with us in the box as a precaution against booby traps. As soon as the box is captured, set up a guard. German patrols often come around on a routine check during the evening. They are not very cautious in approaching the box and we have captured many of them."--Sgt Kincaid, Co C, 378th Inf Regt.

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V 81MM MORTAR TIPS.

1. Base plate. "Carry the base plate in front -- it will stop a lot of shell fragments.
2. Carrying tripod. "To carry the tripod easily, spread the legs and carry one leg on each shoulder."--Co D, 378th Inf Regt.

VI SHELL REPORTS.

"The 95th Infantry Division and supporting troops have done an excellent job of 'getting in those shell reports'. In two cases their shell reports directed the corps counterbattery section to areas in which were found five medium and two light guns. Fire was placed on these weapons with excellent results."--Counterbattery Report, XX Corps Arty.

VII BURN ABANDONED VEHICLES.

"Prisoners have stated that many of our vehicles were captured in perfect condition during the German advance. The prisoners think our personnel should be trained to burn all vehicles in case of retreat, for the Germans will take parts from smashed or partially destroyed vehicles and repair one vehicle."--G-2 Report, VIII Corps.

VIII RADIO DISCIPLINE.

"Prisoners stated that our tank crews do not have enough radio discipline. The Germans have similar sets in their armored vehicles and can easily monitor our conversations. Very often our intentions were given away by crews talking before the attack started. The only thing that confused the Germans was slang -- which their best interpreters were not able to understand."--G-2 Report, VIII Corps.

IX TIPS FOR 155MM HOWITZER BATTERIES.

1. Digging in. "The piece will hold its position much better if the trails are dug in deeper than the jack float.
2. Firing mechanism. "The tendency of the firing mechanism to fly out of the breech block when the gun is firing can be corrected by stretching the handle spring in the firing mechanism.
3. Obturator spindle plug. "When firing rapidly, a constant check must be made of the obturator spindle plug. If it becomes defective, the primer will not be sealed properly and damage to the firing mechanism may result. If this happens, a new obturator spindle plug should be installed."--After Action Report, 227th FA Bn.

X TANK FIRE ON TARGETS OF OPPORTUNITY.

"During an inactive period we used one of the combat team tanks effectively on the front line against targets of opportunity. The tank would be placed in a firing position from which it could cover an area where targets were likely to appear. A wire was run from the tank to the regimental observation post. Targets were hit with 75mm fire within a few seconds after they appeared. Positions were changed each night and the tank drew little counter-fire."--After Action Report, 60th Inf Div.

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UNITED STATES ARMY

BATTLE EXPERIENCES

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31 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I ASSAULTING PILLBOXES AT NIGHT.

"Successful night assaults on pillboxes were made using the following plan: Assault groups consisted of a demolition party of two or three men with three 12-pound satchel charges of composition 'C', and 6 to 10 men armed with rifles, antitank grenades, sub-machine guns and automatic rifles. Assault group leaders studied the terrain and the pillboxes in daylight, selected routes and recorded azimuths. Just before the assault, time fire was placed on a number of bunkers, including the ones to be attacked. This drove the enemy inside without indicating exactly which bunkers were to be assaulted. The assault group used antitank grenades and other fires to kill guards and button up the bunkers. Men climbed on top of each pillbox, and with a cord, swung a satchel charge into the entrance. As soon as it exploded another satchel charge was thrown into the entrance corridor. In every case this brought the Jerries out."--CO, 1st Bn, 378th Inf Regt.

II KEEP YOUR AMMUNITION.

"Both leaders and men must check to see that automatic rifles and antitank ammunition are kept moving to the front even when the men originally carrying it are wounded. One time when the bazooka ammunition carrier was wounded we were without this ammunition for several hours simply because no one thought to pick it up."--Lt, Co E, 330th Inf Regt.

III TANK HUNTING TEAMS.

"Each of our companies has organized five tank-hunting teams. Each team includes two men armed with bazookas and pistols, one rifleman with an antitank grenade discharger, and two other riflemen whose mission is to provide protection. The teams try to immobilize the tank by hitting its tracks first and then to get a bazooka shot into the rear."--Ex O, 104th Inf Regt.

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IV WHO'S LISTENING?

"Officers and noncommissioned officers must be careful not to give orders or plans for patrols in the presence of civilians or soldiers whom they do not know. Recently an officer permitted many outsiders to hear a patrol plan including the hour of departure, number of men, and the weapons to be carried."--106th Inf Div.

V M-4 SIGHT.

"A small flashlight bulb taped to the front of the M-4 mortar sight so it will shine through the collimator makes sighting on aiming stakes considerably easier when firing at night."--Pvt Bernard Raimy, Co D, 405th Inf Regt.

VI TIME FIRE WITH RIFLE GRENADES.

"We get effective time fire with white phosphorus and fragmentation rifle grenades. A grenade, with the pin in, is placed in the grenade adapter and pushed all the way down on the launcher. As soon as the gunner is ready to fire, the pin is pulled. By inclining the rifle at about a forty degree angle, a burst at a height of about eight to 10 feet can be obtained at a range of 150 yards."--CO, 1st Bn, 405th Inf Regt.

VII FOILING THE SNIPER.

"We use two expedients to reduce the danger from snipers while observing in open terrain;

a. "On a clear day, a small periscope made from two mirrors furnishes good observation up to 1000 yards.

b. "Observers in several different foxholes take turns. A cord connects all foxholes and is used to notify each man when it is his turn to observe. This makes unnecessary the exposure of any one to effect the relief."--CO, Co B, 405th Inf Regt.

VIII FORWARD COLLECTING POINT FOR CASUALTIES.

"In the attack we have a battalion forward collecting point for casualties, and keep one litter team and a litter jeep there. It has communication with the battalion and company command posts by SCR 300 and, when possible, by wire. If a casualty needs blood plasma, the company commander can tell us when he reports the casualty and the plasma can be brought from the aid station before the man arrives."--Bn Surgeon, 405th Inf Regt.

IX SECOND STORY MACHINE GUN POSITIONS.

"When fighting in villages we like to place our machine guns in the second story of buildings. Enemy tanks seem unable to elevate their guns sufficiently to bring fire on the second story of a house."--S-3, 38th Inf Regt.

X GRENADES IN VILLAGE FIGHTING.

"We have found the white phosphorus grenade much better than the fragmentation grenade for house fighting."--CO, Co E, 38th Inf Regt.

XI PRESTONE CONSERVATION.

"We use a piece of cardboard to deflect Prestone into a bucket when draining a 1-ton truck. The drain cock is over the front axle and without such precaution much Prestone will be lost when it splatters against the axle."--Motor O, 334th Inf Regt.

END

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

29 JAN 1945

DECLASSIFIED
No. 47

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I SKI-LITTER.

"A standard litter bolted to a pair of skis is invaluable in snow. One man can pull a casualty on a ski-litter much faster than four men can carry him. Two men can handle three sitting patients. Medical supplies placed on this litter can be pulled by a jeep. The skis do not prevent folding the empty litter."--Litter Bearer, 2d Bn, 318th Inf Regt.

II MISFIRES OF EXPLOSIVES.

"Misfires of explosive charges have frequently resulted from applying too much pressure when crimping caps with the new type crimpers. A recent test indicated that best results are obtained by crimping just enough to hold the cap to the fuze. Crimping with full pressure so constricts the powder train that the spark is stopped."--Engr XIX Corps.

III USE OF TANK TO PLACE BRIDGE.

"During the bridging of the Seille River under hostile artillery fire, we made plans to launch an M-1 treadway bridge from a medium tank T1E1. The tank's mine exploder rollers were removed and the bridge was launched like the British Valentine tank-launched bridge, but without scissoring the treadways. A 30-foot section and a 15-foot section were needed to cover gaps in an existing masonry arch. The tank moved up and launched the treadway without difficulty, but the existing part of the bridge collapsed as the tank backed off."--After Action Report, XX Corps Engineers.

IV CHALLENGING BY GERMAN SENTRIES.

"When a German guard challenges he does not call halt, but gives the first part of the password. The challenged person must give the second part in order to proceed; no other questions will be asked. If the first challenge is unanswered, the guard will repeat the same word once and if not answered then, will shoot. The guard is not allowed to enter into conversation."--G-2 Report, XIII Corps.

- 1 -

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DECLASSIFIEDV DON'T EXPOSE YOURSELF

1. German observations. "American front line troops continually expose themselves during the day, according to a German prisoner of war. The Germans do not open general fire on them with their small arms for fear of the mortar fire it would draw. Snipers, however, have been able to inflict many casualties and still not expose machine gun and other positions. A lack of snow camouflage makes it quite easy for them to pick up American patrols and other activities.

2. German sniper score. "A German sniper working for a seven-day furlough, the reward for ten successful shots, accounted for five Americans before he was captured. Four of the five were shot from the same position in one day. In each instance the victim had carelessly left cover and stood still in the open. In two cases the sniper had three bunched-up men from whom to select his target."--G-2, Periodic Reports, XIX Corps.

VI DISSEMINATION OF INFORMATION TO LOWER UNITS.

"The necessity for prompt dissemination of intelligence information to small units was illustrated in two recent incidents.

a. "On 22 December a patrol discovered that one of the roads to Bastogne had been cut by enemy who were in position in a house alongside the road. This information was reported but not received by everyone and when a column of our tanks tried to move down the road, the leading tank was knocked out opposite the house, constituting a road block.

b. "After interrogation of prisoners and civilians, our squadron was reasonably certain that a certain area near Bettendorf was clear of the enemy on 27 December. This was reported but apparently did not reach the forward units as they advanced slowly and with great caution although no enemy were encountered."--CO, 90th Cav Rcn Sq.

VII ANTIPERSONNEL MINEFIELDS.

"In one operation an entire company passed through an antipersonnel minefield during a very dark night by following a narrow trail, with the lead scout testing for mines ahead of the main body."--CO, 1st Bn, and Ex O, 2d Bn, 71st Inf Regt.

VIII TANK RETRIEVER, T-2.

"Turning the boom on the T-2 to the front makes it much easier to guide the recovered vehicle, and gives more room on the rear deck to carry parts. Snatch blocks must be used on the cables to prevent their breaking. We use all the cable we can when retrieving tanks from minefields and have everyone stay well away from the operation, except the man in the tank operating the winch."--Maintenance Officer, 2nd Regt.

IX MISFIRES CAUSED BY ICE.

"We found that some failures of our light automatic weapons to fire the first two or three rounds--especially on patrol missions--were due to the weapons having been carried into warm rooms during a briefing. This caused moisture to condense on the weapon, and the ice which formed when it was again exposed to the cold interfered with the initial operation of the piece."--CO, 345th Inf Regt.

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
1946

26 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I CONTROL OF 81MM MORTAR BATTERY FIRE.

"The battery fire of our 81mm mortars is directed from a control center, which includes the platoon leader, who computes the fire data; the platoon sergeant, who passes the orders to the mortars and coordinates their fire; a messenger-radio operator; and a wire repair crew of two men. Communication is by sound-powered telephone to each of the three mortar sections; KE-8 telephone to the battalion command post and SCR-300 or SCR-536 radios and sound-powered telephones to the two observation posts."
--Ex O, Co D, 315th Inf Regt.

II REDUCING DISPERSION OF 4.2 MORTAR FIRE IN COLD WEATHER.

"Excessive dispersion caused by the effect on powder of near zero temperatures has been eliminated by having some men in each squad keep a supply of powder rings for the mortar shells inside their shirts."--Asst CWS Officer, XII Corps.

III BATTLEFIELD SALVAGE.

"Our system of recovering battlefield salvage is this: Battalion ammunition and pioneer platoons follow the companies and place recovered material in squad piles. Each company supply sergeant takes from the piles such items as his company can use. The remainder is placed in a battalion pile and turned over to the regimental S-4 who cleans, sorts and reissues it and turns in what is not required to division G-4."--
Ex O, 2d Bn, 131st Inf Regt.

IV USE YOUR FIRE POWER.

"Remember that a man in a foxhole cannot tell by the crack of a bullet whether it is two inches or 20 feet over his head. Use your fire-power to keep Jerry's head down. Worst possible action to take when fired on:

- a. "Hit the ground and stay there doing nothing.
- b. "Try to crawl away."--Bn training program, 36th Inf Div.

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V TANK RETRIEVER FOR REMOVING ABATIS.

"A tank retriever with a large grappling hook was used successfully to remove enemy abatis protected by anti-personnel mines and small arms fire. The retriever would pull the trees away one at a time to a covered position where they could be disengaged from the hook. Two modifications to increase the effectiveness of the device have been planned but not tested:

- a. "Flattening the contour of the prongs and filing down the points on the hook to permit disengaging the trees from the hook without assistance from outside the tank.
- b. "Welding, on older tank retrievers with a short boom, an 'A' frame over which the cable would run, to hold the grappling hook farther from the tank."--CO, 2d Engr Bn.

VI DO NOT STACK ENEMY MINES.

"Enemy mines which have been lifted should be placed in small groups but not stacked. Casualties have been caused by stacking mines until the heavy pressure detonated those at the bottom."--CO, 2941st Engr Technical Intelligence Team (R).

VII ARTILLERY ADJUSTMENT IN SNOW.

"We have found that observers in cub planes can sense high explosive rounds on snow-covered terrain more readily if delay fuze is used. However, care must be taken to avoid sensing ricochet bursts."--Ex O, 107th FA Bn.

VIII ADJUSTMENT BY HALF-BATTERY.

"When reinforcing artillery was scarce or non-existent we have adjusted a battery simultaneously on two targets, using two sections on each. The computer has little difficulty in handling such a situation and observers report that two guns fired at the maximum rate have an effect comparable with that of a battery. On one occasion a battery had a difference of 1600 mils in the laying of its two halves."--Ex O, 107th FA Bn.

IX RECHECK ROADS FOR MINES.

"Roads in forward areas should be repeatedly swept for mines. Frequently the enemy infiltrates and lays mines on roads which have been previously cleared."--CO, 120th Engr Bn.

X THREE-MAN FOXHOLE.

"We use a three-man foxhole to give our front line soldiers maximum protection from cold, rain, and hostile fire. Except when under fire one man remains alert outside the rear entrance while two are resting. The holes are 8' x 4' x 6'; covered with four layers of logs and dirt, and camouflaged. Three fire slits and a fire step are prepared on the forward side. Entrance is by a small hole in the rear which is kept covered by a shelter half or blanket. Cardboard box tops or other salvage material is used to keep the rain out and pine boughs or dry grass are placed on the floor."--Ex O, 2d Bn, 121st Inf Regt.

XI RADIATOR PROTECTION.

"Most of our general purpose vehicles operating in front areas carry the spare tire on the front of the vehicle to protect the radiator from shrapnel. The chance of damage to the tire is the same on the front or back."--Maintenance Officer, 32d Armd Regt.

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UNITED STATES ARMY

BATTLE EXPERIENCES

25 JAN 1945

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No. 15

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I WOODS FIGHTING.

1. Tree bursts. "When artillery is bursting in trees men should lie on the ground close to a tree. Even in thick woods enough rounds are ground bursts to cause casualties if men stand against trees. (Note: This conflicts with a previous report of another unit that advised standing against tree trunks.)"
2. Avoid unusual spots. "Don't stop at the edge of a clearing or where different types of trees meet. The Germans adjust accurately on any clearly outlined area."
3. Outflank mines. "In woods, most anti-personnel minefields can be by-passed. Except when the enemy is in a line of bunkers, dense minefields are seldom more than 100 yards long."
4. Minefields zeroed in. "Don't stop at the edge of a minefield in woods. German artillery and mortars usually are zeroed in on them. If you can't go forward or around, pull back at least 250 yards."
5. Not just from front. "Enemy action can be expected from any direction. Too many men -- particularly reinforcements -- look for the enemy in one direction only."-- 1st Bn, 8th Inf Regt.

II BANGALORE FUZES.

"Be sure bangalore fuzes look long enough for safety. Nervousness caused by sight of a short fuze may result in improper use."-- 1st Bn, 8th Inf Regt.

III MORE TRACTION FOR TANK DESTROYERS.

"An effective method to help M-10 tank destroyers negotiate winter roads, icy hills, and slippery slopes is to cut seven "V" shaped notches into a standard track grouser and mount five grousers per track. Use of this expedient in combat in Luxemburg was of great value."-- CO, 773d TD Bn.

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DECLASSIFIEDIV CHEMISE PANELS FOR FRONT LINE IDENTIFICATION.

"Cerise panels were used effectively by front line infantry formations to identify themselves to air observation posts in our attack through the woods on 14 January. The success of this method has led to its adoption by all our infantry regiments."--CO, 83d Inf Div.

V. EXTRA SMOKE FOR RECONNAISSANCE SQUADRONS.

"We found it well worth while to carry considerably more than the normal load of smoke ammunition. On one occasion we saved vehicles and many lives because we were able to maintain a smoke screen for the escape of one of our platoons which had blown a bridge under enemy fire."--Cav Rcn, Sq, 10th Armd Div.

VI. MAXIMUM USE OF ARTILLERY SUPPORT.

1. Careful planning. "An artillery plan which made maximum use of available types of shells and fuzes helped the infantry capture a small town which was a key position protecting the flank of the enemy line. Although the defenders had excellent fields of fire controlling the only possible approaches, the infantry incurred only four casualties. The plan was as follows:

- a. "A smoke screen was laid in front of our infantry as it advanced on the town across the open ground.
- b. "Time fire was placed on probable enemy strongpoints on the forward edge of the town.
- c. "The main road intersections in the town were interdicted with high explosive using delay fuze.
- d. "Medium artillery placed additional smoke along a high railroad embankment in the town to prevent enemy enfilading fire as our troops passed over it.
- e. "When the infantry reached a given point all fires were lifted and placed on the flanks of the town and upon exit roads.

2. Communications. "The liaison officer had a wire line to the fire direction center, with an SCR 609 as a reserve. An SCR 300, borrowed from the infantry was used to listen in on the infantry command channel and proved valuable as it enabled the artillery to coordinate its fires after the infantry disappeared into the town."--904th FA Bn.

VII. COORDINATION.

"Our antitank guns nearly opened fire on friendly tanks that entered our sector without notifying us one night when we were being attacked by enemy tanks. Advance information on such moves is necessary for the safety of both units and to prevent causing false alarms."--After action report, 99th Inf Div.

VIII. ARMORED INFANTRY WITH TANKS IN ASSAULT OF A VILLAGE.

"When assaulting villages we have a rifle squad in a half-track follow each tank at about twenty-five yards, rather than have the infantry ride on the tanks. The advantages are that a complete, organized squad is available to go into action, and that the infantry does not have to dismount every time the tank halts to fire during the approach. Also, the ability of the half-track to maneuver in rear of the tank affords the infantry some protection against enemy small arms fire. We had fewer casualties among infantry when riding in half-tracks then when riding on the tanks."--CO, 10th Tk Bn.

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UNITED STATES ARMY

BATTLE EXPERIENCES

No. 44

24 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett

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Brigadier General, USA
Adjutant General

I DECEPTION AIDS DELAY.

"During a period when our supply of mines and bazooka ammunition was low, we had to slow the German advance by keeping them guessing which road blocks were mined and defended. At undefended road blocks we scratched up the ground, put in dummy trip wires, and left men to fire a few shots before withdrawing. The enemy was forced to be cautious as some road blocks that appeared exactly the same were mined and defended."
--CO, 110th Inf Regt.

II GERMAN COMMENTS ON ALLIED ARTILLERY METHODS.

"The following comments were made by a captured German general who has been a professional artilleryman since World War I:

a. "It seems to be an established principle of allied artillery not to fire in rainy or foggy weather, at lunch or dinner time, or at night. When shelling took place during these times I concluded that special orders had been issued by higher headquarters and I immediately warned my unit commanders to be prepared for an attack.

b. "Allied interdiction fire on critical points was carefully planned but I could anticipate its location in time to take necessary countermeasures to protect my convoys and troops. Traffic in rear of the German lines can be jammed more effectively if artillery commanders keep this question constantly before them: "What alternatives has the enemy in order to get his supplies through?" Mental alertness and imagination in the choice of objectives will increase the value of the allied artillery superiority."
--Report of 7th Army Arty Officer.

III GERMAN ROAD BLOCKS.

"German road blocks generally have conformed to a set pattern. They consisted of an abatis of about 40 trees, several booby traps attached by trip wires to the first few logs, and a minefield of six to 12 Tellermines and Riegel mines laid on the enemy side of the logs. Stakes about a foot high were placed on each shoulder of the road to mark the beginning of the mined area. The Tellermines often were laid one on top of another."
--After Action Report of 99th Inf Div.

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IV PROTECTING SHELTER ENTRANCES.

"The sentry guarding a shelter or dugout can cover the entrance most effectively from a foxhole 25 to 50 yards from the shelter. Germans who infiltrated and attempted to rush our command posts were easy targets for guards so placed."--After Action Report 99th Inf Div.

V TRAPPING GERMAN TANKS.

"Single German tanks, accompanied by infantry, sent out to probe roads at night were trapped in the following manner: An uncamouflaged 'daisy chain' of mines, was put across the road about 100 yards in front of a band of carefully camouflaged mines covered by bazookas and a machine gun. The Germans, after removing the 'daisy chain', tended to feel that all was clear. Usually the tank hit the concealed mines, whereupon we opened fire on the infantry. If the concealed mines were discovered or failed to stop the tank, the bazooka men opened fire on it, while the machine gun fired on the infantry."--CO, 110th Inf Regt.

VI ANTI-TANK COMPANY TIPS.

1. Care of guns in cold weather. "Freezing up of 57mm guns in cold weather was reduced to a minimum by using gasoline on the elevating and traversing mechanism several times daily. A light coat of oil was applied after each cleaning.

2. Hasty mine barriers. "We placed a small stack of mines near all road junctions and crossroads immediately behind the front lines in our area. The stacks were marked by placing a triangle of stakes and engineer tape around them and putting up a sign: 'For Road Blocks'. Anyone could then set up a hasty mine barrier when necessary."--AT Co, 330th Inf Regt.

VII CANNON COMPANY TIPS.

1. Communications. "It pays to train two men from each gun crew as wiremen and to lay W-110 to each infantry battalion immediately upon going into position. W-110, though not authorized by our Table of Equipment, has proved our only sure means of communication.

2. Forward observers. "We had to train our noncommissioned officers as forward observers so that we could furnish one officer and two noncommissioned officers to each battalion. Forward observers must not go forward with the assault platoons where they will get pinned down and be unable to do their job.

3. Cold weather firing. "When using the maximum charge in extremely cold weather the howitzers should be fired from the firing base to prevent bending the trails. There will then be little strain on the trails if the recoil of the gun is at the proper level."--CO, Cannon Co, 330th Inf Regt.

VIII MAXIMUM USE OF ENGINEER TOOLS.

"A responsible man should be designated to insure maximum use and proper maintenance of engineer tools drawn for use in preparing positions in frozen ground."--After Action Report, 99th Inf Div.

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 43

22 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett

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Brigadier General, USA
Adjutant General

I SMOKE MARKERS FOR FIGHTER-BOMBERS.

"We brief our fighter-bomber pilots in the air by means of artillery smoke put down by prearrangement on selected points -- towns and principal road junctions in the sector. To facilitate rapid placing of the smoke, the markers are given numbers which are furnished to the artillery with the coordinates. For example, if a road is to be reconnoitered, the marker nearest the point at which the reconnaissance is to begin is called for by the air support officer and fired by the artillery. The flight leader is then briefed with reference to the marker. Colored smoke combinations and changes in the spacing of bursts prevent the enemy from duplicating our marks."--Air Support Officer, 45th Inf Div.

II USE OF SMOKE TO AVOID COUNTERBATTERY FIRE.

"The fire of our 155mms usually brought down immediate counterbattery fire from the enemy. This was overcome by putting the observer well forward and placing a smoke candle screen in front of the battery positions. The screen prevented the enemy from observing his fire and made his counterbattery efforts ineffective."--Arty Comdr, 90th Inf Div.

III FLASH SPOTTING BY CUB PLANES.

"We make it a practice to put an additional cub plane in the air just before evening twilight and keep it up until last light. Hostile batteries are spotted most easily at this time of day. The pilot's only mission is spotting and plotting the flashes. As soon as he lands he transmits the information obtained to the counterbattery intelligence section."--Div Arty Air Officer, 28th Inf Div.

IV ORIENTATION OF AIR OBSERVERS.

"Our air observers use an ungridded oblique photo together with a 1:25,000 map; the important artillery concentrations are plotted on both. This combination helps the observer to orient himself."--S-2, 107th FA Bn.

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V. SEARCHING AN AZIMUTH LINE FOR HOSTILE MORTARS.

"On one occasion we were able to get an azimuth but no intersection on hostile mortars. We began firing on the azimuth line as close as possible to our infantry and worked back along the line, firing a battalion volley every 100 yards, to the limit of mortar range. This required a large expenditure of ammunition but we received no more mortar fire from that azimuth."--CO, 107th FA Bn.

VI. FLASH REDUCTION FOR THE 155MM GUN, M-12.

"When firing normal charge, we save the super increments of the flash reducer T-1 for future use. Two super increments tied around one normal propelling charge result in effective flash reduction and no alteration in the velocity error correction. No additional tapes are necessary to tie these increments around the powder as the loose end of the first reducer increment is secured by the overlap of the forward edge of the second when tied in position."--CO, 557th FA Bn.

VII. LACK OF SECURITY IN TOWNS.

"Recently many small units have suffered heavy losses while billeting in or defending towns. Poor planning and technique have been the chief causes for these incidents. Some specific faults have been:

- a. "Failure to post and maintain an all around alert security, thus allowing the enemy to infiltrate.
- b. "Failure to maintain tactical unity, due to dispersing elements throughout the town to obtain sleeping quarters.
- c. "Failure to make advance plans for fires, including artillery, antitank, and mortars, to break up enemy attacks.
- d. "Failure to establish adequate communication to alert units for action.
- e. "Failure to use all weapons in defensive action."--CO, 222d Inf. Regt.

VIII. DISGUIISING NIGHT FIRES.

"When we fired our 81mm mortars or 75mm assault guns at night, we sought to prevent disclosure of our gun and mortar positions by firing at the same time as our supporting artillery. We obtained a schedule of fires from the supporting artillery and arranged our fires accordingly. The lack of counterbattery fire on our positions indicated that our plan was successful."--68th Armd Inf Bn.

IX. ALERTNESS AND FIRE DISCIPLINE.

"Alertness and good fire discipline paid off as one platoon of the 357th Infantry, and its supporting artillery, accounted for 100 German infantrymen and five tanks. As the leading enemy tanks approached, the bazooka team held their fire until the first tank was close in, and knocked it out with the first round. As the tank crew tried to run to safety, a light machine gunner picked them off. Other men held their fire until the German infantry following the tanks approached to within 25 yards. In the meantime the company commander had called for artillery fire on the four remaining tanks. When these were destroyed, the remaining enemy infantrymen decided they had had enough. Eighty-three walked in under a white flag."--The Sniper, 90th Div publication.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

21 JAN 1945

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Brigadier General, USA
Adjutant General

I INCREASED TRACTION FOR STEEL-TRACKED VEHICLES.

"We have increased the traction of our M-4 and M-5 artillery tractors on ice and frozen ground by welding three steel calks on every second shoe of the tracks. The calks are 7/8" high and 1/2" wide. The longest of the three calks is welded on perpendicular to the axis of the vehicle and gives the added traction. The other two, parallel to the axis of the vehicle, prevent side skidding. A welder can equip a tractor in six hours, using 22 feet of bar stock steel for an M-5 and 34 feet for an M-4. A tractor thus equipped pulled a four-ton truck, with brakes set, up a steep frozen hill."--Ord Officer, XII Corps.

II INFANTRY ADJUSTS ARTILLERY FIRE.

"The ability of our infantry officers and noncommissioned officers to adjust artillery fire was one of the biggest factors in helping us inflict heavy casualties on the Germans in the recent attack. Prior to the attack, both theoretical and practical training had been given to classes of 35 to 40 infantry officers by our artillery officers. The infantry officers then conducted unit schools for the noncommissioned officers. This training helped to enable one infantry battalion to stop the attack of a German division. In one instance a five-man outpost destroyed an enemy company principally through their ability to adjust artillery fire. They called for 155mm howitzer fire within 50 yards of their positions. This fire killed 150 Germans without loss to the outpost."--CO, Co L, 109th Inf Regt.

III STOPPING TANKS WITH MASSED ARTILLERY FIRE.

"Our massed artillery fire usually would cause German tanks to withdraw. We adopted the plan of letting the German armor come in close, stopping them with massed artillery fire, and then letting our tanks knock them out at close range."--CO, 48th Arm'd Inf Bn.

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IV DAYLIGHT WITHDRAWAL.

"A daylight withdrawal was carried out by our entire combat command without a casualty by closely adhering to the principles laid down in the field manuals. Following heavy artillery concentrations on enemy positions our move was screened by smoke laid by the artillery. The bulk of our infantry then withdrew, followed by the tanks, and finally, the remainder of the infantry riding on the vehicles of the tank destroyer platoon."--CO, 48th Armd Inf Bn.

V SELECTING A NEW DIVISION AIR FIELD.

"When the advance of the division requires selection of a new air strip, I send a jeep with an SCR 610 to the vicinity of the new division command post. I fly to the area with an observer, select a field from the air, and direct the jeep to that field by radio. The jeep crew reconnoiters the field and if it is suitable, I land. If the field is satisfactory I send the jeep back to the division command post and have a telephone line run to the field. Leaving the jeep crew there, the observer and I return to the old field where the observer acts as guide to move the ground crews and vehicles forward. Planes are dispatched from the old air strip and land at the new. The SCR 610 with the jeep provides communication for the new strip until the arrival of the other equipment."--Div Arty Air Officer, 28th Inf Div.

VI DIVISION DENTAL SERVICE.

"We have put into effect a system which permits maximum continuous dental treatment, regardless of the tactical situation. It works like this: Infantry regimental dentists set up in the regimental rest areas. They are able there both to provide dental treatment and to help supervise the area. The engineer battalion dental officer operates a prosthetic laboratory in the division rest area where 55 men arrive daily to receive treatment and to rest. The division artillery dental officer operates a clinic by appointment at the artillery headquarters aid station. The special troops dental officer remains with the division rear echelon, treats all special troops and makes a dental survey of reinforcements before they go forward, treating them as required."--Dental Surgeon, 100th Inf Div.

VII GERMAN TRICKERY SHOVED RIGHT DOWN THEIR THROATS.

"A private recently made good use of his ability to speak German and his knowledge that Jerries have been wearing American uniforms. As he was returning from a patrol, two 'supermen' sprang from concealment and proudly announced that he was a prisoner of war. In just the right tone of exasperation, our hero told his captors in perfect German not to be fools that they were impeding his mission of scouting the American lines. They allowed him to proceed. He soon returned with his sergeant and killed one and captured the other of his late captors."--V Corps Report.

VIII MOVING RAPIDLY BEHIND THE ARTILLERY.

"A battalion which was required to regain the outpost line from which they had been driven turned the trick by timing their advance to make the most of supporting artillery fire. The artillery was asked to place a barrage on the position and notify the battalion one minute before it was to end. The battalion covered most of the last 300 yards to the objective at a run during the last minute of fire and recaptured the line without a scratch."--CO, 312th FA Bn.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

20 JAN 1945

DECLASSIFIED No. 4

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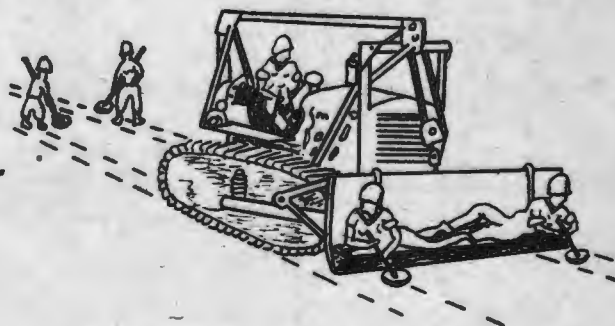
By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I. BULLDOZER-DETECTOR TEAMS FOR CLEARING MINES.

1. Personnel and Equipment. "British engineers have developed a mine clearing team which removes both antipersonnel and antitank mines by use of a D-8 bulldozer and four men with mine detectors. An improvised platform is suspended in front of the dozer blade. In British tests it consisted of two Bailey Bridge chasses suspended about a foot above the ground by two five-foot lengths of angle iron bent to form brackets which hook over the blade.

2. Method. "Two men equipped with Polish short-arm detectors lie on the platform and sweep lanes ahead of the tracks. The dozer blade is lifted until it just clears the ground. When antitank mines are detected the bulldozer stops and the mines are removed. Antipersonnel mines which escape the detectors will detonate harmlessly under the dozer tracks, the men on the platform being protected by the dozer blade. Two other mine detector operators follow the dozer, walking in the paths cleared by the tracks, and sweep the area between the two paths for antitank mines. After clearing a gap or road in this manner the dozer operator drops his blade until the ground carries its full weight and backs up along the path. The pressure of the blade detonates any Schumines or S-mines between the tracks that were not detected."--Ex-tracted from OPD Information Bulletin, Vol III No.7.



II. CONTROL OF KITCHENS.

"By keeping our kitchens under battalion control we are able to keep them close behind the troops and serve more hot meals. No time is lost moving meals or kitchens, vehicle use is reduced, and road traffic is lessened."--S-4, 179th Inf.

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III. BATTALION COMMAND POST.

1. Two echelons. "We operate our battalion command post in two echelons -- command and supply. The forward or command echelon includes the battalion commander, S-3, artillery liaison officer, heavy weapons company commander and, sometimes, the S-2. The rear or supply echelon includes all of the remaining headquarters personnel, vehicles and other equipment. Each echelon has a switchboard. The distance between echelons varies with the tactical situation and available facilities.

2. Advantages. "Advantages of this system are:

- a. "Administrative personnel of the S-1 and S-4 sections operate more efficiently because they are not as subject to heavy artillery and mortar fire.
- b. "Vehicles and other valuable equipment are protected by being well back.
- c. "The use of two switchboards makes it simpler to displace and still maintain continuous wire communication."--Ex O, 1st Bn, 331st Inf Regt.

IV ADJUSTMENT OF 155MM GUN, SP, M-12 FOR DESTRUCTION.

"The 'book' procedure of adjustment must be abandoned after the first 20 rounds when firing the 155mm gun, SP, M-12, for destruction. When the adjusted quadrant elevation is obtained and deflection is correct, further heating and fouling of the tube cause rounds to fall progressively short. Use of the following table will result in the maximum number of direct hits:

- | | |
|-----------------|---|
| 1 - 20 rounds; | Adjustment completed. Use normal improvement fire methods with an additional plus correction of one-tenth mil added to the quadrant elevation after every group of three rounds up to the 20th round. |
| 20 - 30 rounds; | Add one-tenth mil after every two rounds fired. |
| 30 - 80 rounds; | Add one-tenth mil to the quadrant elevation per round."--CO, 557th FA Bn. |

V FRONT LINE RELIEF.

"When in a defensive position, we send men back in small groups to areas where they can get warm, wash their feet, change socks and get hot meals, rather than rotate battalions every few days. We do, however, rotate front line and reserve companies. The system has the following advantages: The men are not kept up all night every four or five days effecting the relief; units are in a sector long enough to become thoroughly familiar with the enemy activity; men take more interest in improving and making their positions comfortable when they know they will occupy them for longer periods. This system also increases the probability that when a battalion is relieved it can count on staying out of the line an appreciable time."--COs, 406th Inf Regt, 1st Bn, 406th Inf Regt, and 1st Bn, 407th Inf Regt.

VI GERMAN OBSERVATION POSTS.

"Siegfried line observation posts equipped with periscopes sometimes were so well hidden and camouflaged that our troops passed without recognizing them. We also found many pillboxes equipped with periscope devices which permitted machine guns to be fired by remote control."--Ex O, 357th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

19 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I RUMORS.

Note: Credulous acceptance of unverified reports or rumors is an ever present danger in the battle area. It is characteristic of such rumors that they spread rapidly and grow as they spread. To emphasize the dangers of accepting and repeating unverified reports, there are presented below a number of actual occurrences of the kind, some of which actually had serious results or were kept from doing so only by very narrow margins.

1. Battalion withdrawal. "A rifle company ammunition bearer coming from the rear reported to his company commander that the battalion command post was withdrawing. The company commander, about to withdraw his company as a result, was persuaded by an adjacent company commander to check the story first. The facts were that the battalion command post had been hit by two 88mm rounds and had been moved to an alternate location a short distance to the rear."--CO, 2d Bn, 10th Inf Regt.

2. Reports of parachutists. a. "A regimental headquarters notified its battalions at 1300 hours that higher headquarters reported an enemy parachute landing in the vicinity of a particular hill. A check was begun. Thirty minutes later a modifying report stated that two parachutes had been found on the ground. By 1530 hours it was established that an American pilot had bailed out over the area."--CO, 3d Bn, 12th Inf Regt.

b. "A sentry reported one night that he had seen enemy parachutists drop in the area. He gave the time, location, and the course of the hostile plane and was quite persistent in his story. It was finally determined that the 'parachutes' were white flak bursts near an enemy plane."--Asst G-2, XII Corps.

c. "It was reported to a corps headquarters that 150 paratroopers had landed in the corps zone. During a checkup various sources set the number as high as 500. Soon all corps units were asking for verification. It was established that the capture of the one remaining paratrooper from a small group that had dropped the night before had been mixed with a report from higher headquarters to the effect that 150 saboteurs were working in rear areas. The two added together made the rumor. Another factor adding to the excitement was the rearward movement of a division which was being relieved. It was assumed to be withdrawing because of enemy action."--Hq XIX Corps.

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3. The Germans are coming. "A few men in a quartermaster truck company observed American engineers preparing bridges for demolitions and noted that other bridges already had been blown. They ran back to their company with the story that all the bridges had been blown and the Germans were coming. The entire company moved hurriedly to the rear leaving behind tires, gasoline and equipment."--FA EX O, VI Corps.

4. Other varieties. a. "A weather unit used a balloon device to assist in wind readings. The balloons were observed by many while in the air and one of the devices was found on the ground. They were 'enemy parachutists' to those who saw them in the air and 'anti-radar balloons' to those who saw them on the ground."--XII Corps reports.

b. "The numerous wolf cries of 'counterattack' that spread through front line units because of the slightest enemy rifle or machine gun activity can have serious effects. When the real counterattack comes we might be low on ammunition that was expended because of the false reports."--Arty FO, 89d Inf Div.

c. "Relief of front line units has been the cause of many rumors. Uninformed observers often misconstrue the rearward movement of the relieved unit as withdrawal because of enemy action."--Reports from 315th Inf Regt, and XIX Corps.

II NIGHT ATTACKS.

1. Check weapons. "A night attack, preferably just before dawn, is the most effective way to take a limited objective (1000 to 1500 yards). One time we jumped off at 0700 hours, without preparatory fires, completely surprising the enemy, and capturing a German town quite easily. Surprise was nearly lost, however, when one man accidentally discharged a rifle he had failed to lock. Since then we have allowed sufficient time for each leader to personally check each weapon in his unit before the jump off.

2. Short artillery preparations not wanted. "We feel that unless sustained artillery fires can be maintained ahead of the infantry in such attacks we would rather have none at all. Short preparations only serve to alert the enemy."--CO, 3d Bn, 331st Inf Regt.

III AIDS FOR OBSERVATION POSTS.

1. Azimuth disk. "Our observation posts use a ten-inch azimuth disk which enables observers to catch fleeting targets which would be lost while waiting for the compass needle to come to rest. The board is made by mounting a ten-inch azimuth dial card, reproduced by the corps topographic company and graduated both in degrees and mils, on a piece of plywood or masonite. Masonite is preferred for wet weather use. A pivoted sighting bar is mounted on the board so it can be sighted on an object and the reading taken directly from the card. The board is oriented by compass when first put into position.

2. Periscope. "We have also improvised a periscope from two small mirrors, which permits continued observation even while under enemy fire."--G-2, 28th Inf Div.

IV CARE OF WEAPONS IN COMBAT.

"Negligence in the cold weather care of infantry weapons recently had the following results:

- a. "A heavy machine gun crew found the jacket had burst following a heavy freeze.
- b. "Water was allowed to collect in the tube of an 81mm mortar. It froze and prevented the functioning of the firing pin mechanism."--Report of 3d Inf Div.

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- 2 -

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HEADQUARTERS

EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 39

18 JAN 1945

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. Although not necessarily applicable to all units in all situations, the items are based on actual experiences and are recommended for careful consideration. Contributions of similar material will be welcomed from all individuals and units; reports of corroborative or contrary experiences are particularly desired.

By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I. MINES HIDDEN BY SNOW.

"Tellermines were laid on a road and camouflaged with snow by civilians or enemy patrols who had infiltrated. The road had been previously swept and posted as clear of mines. The possibility of similar occurrences should be considered after each snowfall in areas where the enemy may have infiltrated."--Engr Report Hq XII Corps

II ACCURACY IS VITAL.

"Correct reporting of what has been seen is one of the most difficult things to teach. Ten Germans will be reported as a company, or two tanks as a massed armored attack. It is impossible for commanders to make correct decisions quickly unless the reports are what the observer saw or heard and not what he imagined."--CO, 2d Bn, 110th Inf Regt.

III QUICK METHOD OF TRANSPORTING AND FIRING THE LIGHT MACHINE GUN.

"We facilitate transporting the light machine gun and putting it into action by fastening it securely to a standard packboard. It is carried barrel up. It can be put in action quickly, using the packboard as a firing platform. In emergency it can be fired from the back of the man transporting it by merely having him fall face down. The gun is carried loaded with the ammunition belt lashed down by a strap which can be loosened quickly."--Americal Division (Pacific)

IV INFANTRY-TANK COMMUNICATION.

"Satisfactory infantry-tank communication was achieved by installing SCR 536s in the tanks. Removal of a bolt from the top of the turret provided a hole for the antenna. A short piece of rubber hose was placed around the aerial to keep it from grounding out against the turret. The radios were modified to permit the tank driver to use a throat microphone and operate the switch with an improvised extension."--Ex 6, 3d Bn, 330 Inf Regt.

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V PROJECTING WIRE ACROSS A STREAM.

1. With rifle grenade. "The rifle grenade will carry W-110 wire from 100 to 125 yards. If the safety pin is pulled the explosion of the grenade will destroy about ten feet of wire; if the pin is not pulled disposal of the dud is necessary.
2. With a bazooka round. "The round is not removed from the cardboard case -- the nose cap of the case is removed and a slot cut in the side of the case back to the fins of the round. The bottom end of the case is left in to prevent the round from sliding through. The case is taped to a tree or post at the desired angle. A stick long enough to reach the ground is taped to the lower end of the case to serve as a brace. The wire to be projected is tied to the pipe of the rocket through the slot in the case and is coiled on the ground nearby in figure eights. The rocket is fired by a battery which, for safety, should be about ten yards away. With a 30 to 35 degree elevation the rocket will carry W-110 wire about 180 yards and W-130 wire about 225 yards.
3. Use. "We use this system to shorten wire lines when existing bridges would require a detour, or when no bridge exists."--Lt, 5th Sig Co.

VI SUPPLY OF A BRIDGEHEAD.

Note: The 3d Battalion 378th Infantry was supplied for 16 days on a bridgehead through the use of carrying parties, assault boats, barges and, part of the time, a foot bridge. The following method was used:

1. Organization. "Supplies were placed in company piles on the near bank by details from the A & P platoon, drivers and cooks. The supplies were ferried across the river at night by these details and placed in company piles at the same spot each night on the far bank. A noncommissioned officer was responsible for each company dump. Company carrying parties in groups of five to ten men each under a reliable leader carried the supplies forward from the company dump. It was found that control was facilitated by using not over ten men in a group.
2. Supply command post. "A rear command post under the battalion S-4 was set up on the near bank in a covered position. This command post handled all evacuation and supply matters during the night -- acting as an evacuation point for casualties and collecting point for prisoners. Communication with the forward CP was by SCR 300.
3. Coordination on far bank. "On the far bank the battalion S-1 consolidated and transmitted all requirements early in the day to the supply command post on the near bank. The S-4 procured the supplies and placed them on the far bank notifying S-1 when they were ready. Company carrying parties were coordinated by S-1, who would also notify S-4 when all supplies were in."--CO, 3d Bn, 378th Inf Regt.

VII INCREASED IMPORTANCE OF SHELL REPORTS.

"The recent extensive employment by German artillery of flash-reducing elements increases the need for aggressive action in obtaining and turning in shell fragments and accurate shell reports. A direction obtained from the furrow, the area of impact, or from the flash is of far more value than one indicated by the sound alone. Accurate shell reports will enable our artillery to silence enemy batteries."--Report of XIX Corps Arty.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 38

17 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I COMMUNICATION EXPEDIENTS.

1. Directional antenna for SCR 610 radio. "A directional loop antenna for the SCR 610 can be made from the mast sections of the set. It strengthens weak ground signals and does not affect communication with liaison planes. The loop antenna can be made from the three mast sections MS-53 and one mast section MS-51 and can be mounted on the mast base MR-49. When operating, the loop is turned until the signal is strongest."--S/Sgt David H. Wainwright, Hq Btry, 283d FA Bn.

2. Extension cords. "Extension cords about 30 feet long can be made for SCR 600 series radio sets from cable that comes with the sets. Using the extension it is possible to have the radio in the open and operate it from cover."--S-3, 224th FA Bn.

3. Marking wire line tags. "Wire line tags should be either punched, painted, or cut in distinctive shapes. Written identification on the tags usually becomes unreadable in wet weather."--29th Div Report.

II MOTOR MAINTENANCE TIPS.

1. Jeep sector shaft. "We find that sector shafts in $\frac{1}{2}$ -ton vehicles often are improperly lubricated. Lubricant No. 90 should be used."--Motor Sgt, 29th Div Arty.

2. Tire iron. "Use of the tire iron 41-I-773-50 issued with second echelon Set No. 2 makes it easier to dismount $\frac{1}{2}$ -ton tires from rims and prevents cutting the bead of the tire. A similar iron can be made by service companies or batteries.

3. Saving trailer springs. "A two-inch block of rubber between the axle and frame of a $\frac{1}{2}$ -ton trailer in place of the present block has reduced the number of broken springs.

4. Pitman arms. "Pitman arms must be checked thoroughly at each inspection. They bend easily, resulting in poor wheel alignment and excessive tire wear. Their inspection is frequently neglected because they are located between the frame and the motor."--S/Sgt Joseph Siespak, T/5 Eugene N. Robinson and T/5 Hans H. Boe, Jr., Hq Btry, 967th FA Bn.

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5. Tail light connections. "Tail light connections should be taped to prevent accumulated mud causing them to pull out."--T/5 Parrent, 29th Div Arty.

6. Care of the winch. "Keep the winch operating lever and hinge oiled and dry and place a little oil on the hinge. It saves time and trouble when the winch must be used."--T/5 Parrent, 29th Div Arty.

III RADIOS FOR THE SURVEY PARTY.

"The use of SCR 536 radios by the artillery survey party makes it possible to place computers in protected locations where they are not interrupted by enemy fire and at the same time gives the survey officer continuous contact with all of his sections."--Survey Officer, 29th Inf Div.

IV SPEEDING UP WIRE RECOVERY.

"Use of an improvised reel made from an old bicycle and a reel unit RL-31 permits faster wire recovery with less work. The unit has been so arranged that the reel handle replaces the bicycle pedal and the front bicycle sprocket is attached to the reel axle. The bicycle sprockets and chain make the turning of the axle easier."--Pfc Richard Galanaugh, Btry B, 967th FA Bn.

V TOWN FIGHTING.

1. Basement tunnels. "We found that the Germans moved from basement to basement through connecting doors and holes. They also had tunnelled avenues of escape from basements to other organized areas."--Report of 104th Inf Div.

2. Firing into buildings. "Our tanks start firing into the ground floor of buildings occupied by the enemy and work up to the top floor. This forces the enemy to go into the basement, where our infantry can move in and trap him, or to occupy a higher floor where the fire will eventually catch him."--Lt, 750th Tk Bn.

3. Use of antitank grenades against personnel. "We used antitank grenades effectively against personnel in town fighting. When we heard the Germans coming up the street in the dark we fired at the sound, bouncing the grenades off the pavement and the walls of buildings. We found a number of dead Germans in the street the next morning."--Lt, 110th Inf Regt.

VI SNOW CAMOUFLAGE.

"The white cloth wrappings on powder charges were used effectively as garlands in the nets of one artillery battalion as snow camouflage. Another battalion reports that wrapping the guns in strips from the powder bags renders them almost invisible from a distance." 80th Div Arty.

VII DECAY MARKING OF MINEFIELDS.

Note: Evidence of another German tactic reported as follows:

"Near Metz a six foot wide path or lane through a mined area was found marked on each side by white tape. Friendly engineers removing mines in the vicinity were using a similar method to indicate a safe lane. When troops attempted to use this lane casualties were incurred from mines. The engineers in the vicinity stated that they had not swept or marked this lane."--Hq, III Corps.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 37

16 JAN 1945

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By command of General KISSINGER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I VILLAGE FIGHTING.

1. Assault. "Where resistance has been weak and we can employ tanks on the flank or rear of the town, we mount a squad with many automatic weapons on each tank and charge into the town with all guns blazing. All supporting fires are also used and the surprise and shock often results in the enemy giving up without a fight. The remainder of the rifle company follows on foot and assists in mopping up.

2. Crossing gaps. "Usually we proceeded from house to house by 'mouseholing'. When there was an open space between houses, or a street to be crossed, we would simulate an attack on one house by using smoke grenades and firing bazookas into the objective. Bazookas and rifle grenades were also used to blast open the doors of the buildings in the vicinity of those we intended to enter. At the same time we would fire rifles and BARs at all likely supporting positions. When all this fire broke loose, the enemy usually opened up with their defensive fires, thus permitting us to determine their strength and dispositions in that locality. We would then neutralize the known points of support and attack rapidly across the open ground.

3. Preventing enemy reoccupation. "After taking a block of houses we placed guards in pairs on the outside, front and rear, to prevent the Germans from reoccupying them."
--CO, 3d Bn, 378th Inf Regt.

II INFANTRY RADIO EXPEDIENTS.

1. Additional aerial. "Improved range and reception with the SCR 300 resulted whenever we were able to use local material as an antenna extension. Broken telephone or electric lines worked well -- and we even used water pipe and radiators in houses with good results.

2. Patrol communication. "When using the SCR 536 on patrols, the antenna is kept nearly all the way down, except when transmitting. This reduces receiver noises which might be overheard by the enemy."--CO, 3d Bn, 378th Inf Regt.

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DECLASSIFIED**III NON-SKID TANKS.**

"Our light tanks were enabled to climb an icy hill and to move without slipping or skidding after we spot welded small studs on every fourth shoe. The studs wore off in a few days but by that time the ice was gone."--CO, 6th Rcn Bn.

IV WATCH OUT FOR SPIES.

Note: The two instances related below indicate the need for an alertness in dealing with strangers even though they are dressed in American uniforms.

1. German success. "A half-track vehicle was stopped by four men in American uniforms in a jeep. They killed the driver and drove off with the half-track.
2. German failure. "A sentry post was approached by a party of 15 men in American uniforms. The sentry post was alert and disposed for mutual support. When the approaching group saw they faced capture they ran. Thirteen were shot and found to be Germans." --Asst G-3, III Corps.

V TRAINING COMMENTS.

Note: These comments made by two noncommissioned officers concerning training deficiencies noted in their units during their first action emphasize the need for added stress on basic principles. It is interesting that the two men, from different units, gave first place to the same point.

1. Armored division. a. "All men must understand clearly the succession of command in a platoon and squad and they all must be given the situation and the plan of action. On one occasion when the platoon leader and most of the noncommissioned officers had become casualties, an entire platoon ran back to ask the company commander what to do. They were willing to fight but had no leader who knew the plan."
 - b. "Men in action for the first time get 'trigger happy' and waste ammunition. One 57mm antitank gun crew fired about forty armor-piercing shells into a house suspected of holding Germans, placing most of the rounds in the upper floor. The Germans occupied the lower floor and the basement and remained there until we attacked and drove them out."
 - c. "Men went into action without helmets, canteens, intrenching tools and other necessary equipment because they had scattered it in the dark and were unable to find it when required to move in a hurry. One machine gun ammunition bearer who discarded his personal weapon when he had to assist in carrying the machine gun was later wounded because he had nothing with which to defend himself."--T/Sgt Walter J. Wirski, Co C, 55th Armd Inf Bn.
2. Infantry division. a. "All men down to the last private must know the succession of command. Otherwise, they become helpless when their officers and noncommissioned officers are lost."
 - b. "Men must know well how to use the bazooka and the rifle grenade discharger. Training should include much more than just firing one or two rounds with each."
 - c. "We had no idea where our supporting tank destroyers were and they apparently knew little more about us. Coordination measures must be understood by all."
 - d. "Out guards must be alert and should not make themselves so comfortable that it is easy for them to go to sleep. In one case, a man from an eight-man out guard who was designated to stay awake apparently dozed off; the group was surprised by several Germans and only two of our men got away."--T/Sgt Albert T. Douglas, Co G, 346th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 36

15 JAN 1945

DECLASSIFIED
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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I DEFENSIVE FIRES FOR A COMPANY AREA.

1. Organization. "When organizing a defensive area for over 12 hours we plan mortar and artillery fires to fall from 50 to 75 yards in front of our forward positions. While the area is being organized, the fires are planned to fall 200 yards or more to the front, but are moved closer when the work is completed. All men are required to prepare deep foxholes with cover -- preferably logs and dirt.

2. Advantages. "The system has several advantages. Enemy patrols can be knocked out very close to our position without using small arms fire which would give away our dispositions; Germans can be captured easily when they rush forward to get out of the fires and -- very important -- it has sold the men on the effectiveness of mortar and artillery fire and made them more eager to follow concentrations closely in the attack.

3. Example. "On one occasion a night attack by about 200 Germans was stopped 50 yards in front of the company, with 100 Jerries either killed or wounded. First, the artillery and mortar fires hit them, and then, as flares lighted the area, riflemen and machine gunners picked them off."--CO, Co L, 13th Inf Regt.

II SAVING ENGINEER EFFORT.

"Careful traffic planning and discipline will result in increased effectiveness of engineer support. Exempting vehicles from a 'one way' rule and failing to enforce 'no passing' regulations may damage one-way roads to such an extent that necessary road maintenance will reduce available engineer support in more important tactical operations."--Corps Engr, V Corps, and CO, 1171st Engr Combat Group.

III WATERPROOFING BATTERIES.

"To keep batteries dry place them in the inner cellophane or celotex liner from 155mm powder charges."--T/4 W. Kadunce, 867th FA Bn.

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IV ARTILLERY TIPS.

1. Forward observers. "Three forward observers should be kept with each infantry battalion at all times to insure that observers will be available for reserve companies that are hurriedly committed. Forward observers should remain forward during the night. Recently a strong attack at night on one of our units was repelled largely by an alert observer who brought in the fire of 15 artillery battalions.

2. Extra air observation posts for direct support battalions. "We have often found it necessary to give each direct support artillery battalion four planes, thus enabling them to keep one in the air at all times. We obtain them from the corps artillery groups and the general support battalions of divisions."--Ltr, XII Corps.

3. Night firing. "Painting the breech ring and breech lever of the 155mm howitzer with phosphorescent paint greatly simplified the problem of loading at night."--Sgt M. T. Vennille, Section Chief, 227th FA Bn, 29th Inf Div.

V FIGHTING TANKS AT NIGHT.

"At night we emplaced a machine gun on either side of a tank destroyer. When hostile tanks were heard approaching the machine guns fired tracers until ricochets indicated a tank was being hit. Both guns would then fire at the tank and the tank destroyer would aim at the point of the V made by the converging machine gun tracers."--Asst G-2, 101st AB Div.

VI RELIEF FOR BATTLE TENSION.

"An effective way to relieve tension is to get men out of their foxholes, when the situation permits, and have them move around and contact other members of the squad. I also have them observe shell holes in the area to convince them they were not as close and concentrated as they seemed."--T/Sgt Breinard, 330th Inf Regt.

VII BAZOOKA AIMING POINT.

"We aim our antitank rockets to miss the baffle plates when firing at German tanks from the flank. The baffle plates deflect the rockets into the top of the track causing little damage, whereas rounds that miss the plates penetrate the tank."--CO, AT Co, 116th Inf Regt.

VIII GERMAN NIGHT ATTACKS.

"In night attacks the Germans sometimes have five to eight tanks advance on a front of about a thousand yards. Usually about nine men ride each tank. The main force of supporting infantry are not necessarily spread over this front but may be concentrated behind any of the tanks. This makes it difficult to determine the location of the main effort."--Asst G-2, 101st AB Div.

IX SMALL UNIT LIAISON.

"Platoon leaders must check on the ground the location of flank units. A platoon of tanks was reported by higher headquarters to have withdrawn from my flank; only after I contacted the tank platoon leader did I learn that he was still there and had no order to withdraw."--Lt, 773d TD Bn.

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I IMPROVISED TRIP FLARE.

"An excellent booby trap flare may be improvised by taping a half-pound block of TNT, with a firing device inserted, to the nose of a 60mm mortar illumination shell after removing the safety wire from the nose of the shell. The device should be fastened firmly to some object with trip wires extending in several directions. Pressure on the wire detonates the TNT which fires the shell. Care must be taken to place the flares at least 50 yards from and higher than friendly gun positions or the gunner will be blinded by the glare."--After action report, 99th Inf Div.

II CONTROL OF INDIRECT FIRE OF A TANK COMPANY.

"The indirect fire of our tanks is controlled by placing all the tank radios of each platoon on interphone and connecting them by means of W-110 wire, clipped to the extra headset unit of each tank. The jack of the unit is then plugged into the tank interphone control box. By hooking a field telephone on one end of the circuit the platoon leader can communicate with all of his tanks. This system also works when tanks support infantry on road blocks. The wire is run to the listening post and the sentry can communicate directly with the tank crew."--Com O, 81st Tk Bn.

III GERMAN TRICK.

"There is some evidence that the Germans used reproduction machines to simulate vehicle noises. On two occasions air reconnaissance could find nothing in locations where reliable ground reports had indicated sounds of considerable motor transport."--CO, 3d Bn, 12th Inf Regt.

IV USE OF GERMAN WEAPONS ON THE DEFENSE.

"We used about 25 German machine guns in a defensive position and they proved valuable when repulsing a night attack. The guns were placed at intervals along the line with a belt of ammunition in each. No special instruction on the weapons was necessary as the riflemen who manned them only had to pull the triggers."--CO, Co L, 13th Inf Regt.

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V PROFITABLE EXERCISE.

"Exercise for men normally confined by headquarters work was turned into a useful activity in the 430th AAA Battalion. Each officer and enlisted man of headquarters battery was required to take a daily one hour and fifteen minute hike and to carry back as much salvageable property as he could find. In six days the system netted: 800 gasoline cans, 120 water cans, 16 M-1 rifles, 60 miles of field wire, 35 wire reels, one truck tire, 14 blankets, 11 raincoats, 26 pairs woolen trousers and much other material." --AAA Officer, XIX Corps.

VI SECURITY POST.

"I like to set up security posts as follows: Use a machine gunner, a bazooka man, and a rifleman. Have them dig a V-shaped trench large enough for all men and from which the bazooka and machine gun can be fired. Provide half the trench with overhead cover. Arrange for communication to the organization and require it to be tested frequently." --Sgt J.A. Goveart, 821st TD Bn.

VII "CAMOUFLAGE" FOR MACHINE GUN FIRE.

"To make it difficult for the enemy to pick up the location of a machine gun that is about to open fire, we have several rifleman open with rapid fire simultaneously from the same vicinity." --T/Sgt Wallace, 330th Inf Regt.

VIII TRAVEL LIGHT WHEN ATTACKING.

"Experience in recent attacks has convinced me that, regardless of weather or transportation difficulties, it is better for men to travel light and not be hampered by rolls or overcoats. Men should have only essential ammunition and food; provision must be made for getting rolls forward after dark." --CO, Co B, 116th Inf Regt.

IX ENEMY BOOBY TRAPS IN OUR MINE FIELDS.

"Two men in one of our patrols were killed because the enemy had booby trapped the gap we left in our minefields. Now we watch for this -- and we booby trap all enemy minefields." --Lt Col, 313th Inf Regt.

X "PANTHER" VULNERABLE TO 57MM ANTITANK GUN.

"Test firing has proved that the Mark V (Panther) tank is vulnerable to the 57mm antitank gun using armor piercing ammunition. This gun, firing from various ranges up to 500 yards and from various angles, broke the tracks and penetrated the turret and hull (except frontal armor). All penetrations, except of the turret, resulted in setting the tank on fire." --CO, 776th TD Bn.

XI INCREASED CARRYING CAPACITY OF BAILEY BRIDGES.

"On several occasions this battalion has constructed long Bailey bridge spans of low classification. The load carrying capacity was successfully raised by constructing temporary trestle bents under major panel points, to reduce the unsupported span. These bridges have been subjected to loads of higher classification but no failures have resulted due to shear over the bents or to rivet action at the abutments." --20th Engr Bn (C).

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13 JAN 1945

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No 34

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Adjutant General

I AGGRESSIVE ACTION.

1. General. The following accounts from units of the 101st Airborne Division illustrate the value of aggressive action even against a superior enemy force.

2. Bastogne. "A group of 20 men, armed with four light machine guns, two bazookas, rifles and carbines, found itself at daylight, Christmas Day, opposed by a German company of about 150 men supported by four Mark IV tanks. The Germans were digging in when discovered. The tanks opened fire on the farmhouse around which the U.S. troops were disposed, forcing them back 200 yards to the edge of a patch of woods. The hard-pressed platoon leader decided that his best defense was to launch a bold attack. He was able to borrow several riflemen from a nearby company. The machine guns were used to keep the infantry down and the tanks buttoned up while the riflemen, with the two bazookas, moved around to the German flank. The aggressive maneuvering force inflicted heavy losses upon the German infantry, knocked out three tanks with bazookas, and forced the other tank to withdraw to a point where an adjacent unit destroyed it. Not content with this, the small group attacked a nearby enemy-held farmhouse. The Germans occupying it surrendered and turned over their weapons to American prisoners they had been holding in the building."--Pfc William Rubendael, 502d Pch Inf Regt.

3. Holland. "A parachute infantry regiment had the mission of seizing and holding a corridor through Vechel, Holland. In the sector of one of its under-strength battalions an aggressive enemy force began to build up strength. One company of the parachute battalion was sent to the general area occupied by this hostile force, initially to provide security. As the German force continued to build up, the parachute battalion commander obtained permission to attack before the hostile superiority of force could be made even greater. In a well-coordinated action, the company which originally provided security was sent to the rear of the hostile force while the remainder of the battalion attacked the hostile position from the front and flanks. The frontal attack routed the German force and the company in rear completed its destruction. German losses were 418 captured, 40 killed and 40 wounded; the Americans lost five killed and five wounded."--Summarized from Report of Historical Section, ETOUSA.

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II THEY "EAT IT UP".

"I found that it was helpful to have after-battle conferences for all men and officers when a battalion was pulled out for rest. First I would give them the whole picture from the viewpoint of the army, corps and division; then I would go into detail concerning what the battalion had done, what German units they had fought, and how many casualties they had caused the enemy. The men ate it up. This procedure keeps men abreast of the situation, increases their morale and keeps up their fighting spirit. In addition, it gives me an opportunity to emphasize how much of our information regarding the enemy was obtained from prisoner of war interrogation, and to impress on them how disastrous their talking could be if they were captured."--Asst G-2, 34th Inf Div. (Italy).

III USE OF WHITE PHOSPHORUS TO ILLUMINATE HOSTILE NIGHT ATTACKS.

"White phosphorus shells fired beyond the main body of Germans attacking at night silhouetted the enemy soldiers and enabled our machine guns to break up the attack with accurate fire."--5th Army. (Italy).

IV PROTECTING WIRE LINES.

"We have saved our wire crews much work by carrying on each tank destroyer two poles with hooks on the end so that we can quickly lift field wire lines and run under them."--Ex O, TD Bn (Italy).

V SAVING GASOLINE.

1. Method. "Gasoline can be transferred from 55-gallon drums to five-gallon cans quickly and without waste by using a little salvage material and the procedure described below:

a. "Drill a hole large enough to permit insertion of a piece of 1" pipe in the end bung of a 55-gallon drum. Insert a pipe long enough to extend almost to the bottom of the drum. Bend the pipe several inches above the bung so that it will extend to the outer edge of the drum. Weld the pipe to the bung and connect a faucet to the outside end of the pipe.

b. "Drill a second hole in the bung and weld a valve stem from an automobile tire into the hole.

c. "Introduce air pressure into the drum through the valve by means of an air compressor or a hand pump.

2. Mobility. "The dispenser can be moved easily from drum to drum and a length of gasoline hose can be fastened to the faucet to hold the five-gallon can off the ground while filling. We sometimes mount the drum on a hand truck and roll it down the line of cans."--Lt, CWS.

VI HOT FOOD FOR THE FRONT LINE.

"We get hot food to front line units in places inaccessible to transportation by heating C ration cans in boiling water, putting the cans in 155mm shell containers, and strapping three containers on a packboard. The food stays hot for four hours. Hot water for cocoa and coffee also is sent up on packboards in five-gallon water cans. Each can is wrapped in two blankets to keep the water hot."--Asst Div G-4, (Italy).

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12 JAN 1945

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I AN EASY WAY TO SAVE TIRES.

"When walking along roads or sweeping them for mines, kick that shrapnel off into a ditch. It is better than buying a War Bond because it saves a tire already in the battle zone, while a War Bond only buys one to ship here months later."--Capt, 121st Engr Bn (C).

II COMMUNICATIONS.

1. Failures of radio equipment. "Following are several remedies for radio failures caused by dampness:
 - a. "Tape the section joints of the antenna to eliminate leakage losses in the antenna.
 - b. "Keep the switch door closed on the SCR 284 dynamotor. Cover the dynamotor unit with salvaged shelter halves to keep it dry.
 - c. "Cover the microphone and phone jack cords of the SCR 300 with spark plug type covers that will fit over the jack holes. This prevents water leakage into the jack holes."--T/Sgt Bailey, 29th Inf Div.

2. Use of codes. "We have found the M-209 converter too slow for use between regimental and battalion headquarters. It is good for use only between regiment and higher units. A system of prearranged codes has proved best when working with battalions, special units and observation posts. Used correctly, the slidex has been the fastest means of encoding messages when on the move."--Pvt Frank Williams, Message Center Clerk, 29th Inf Div.

III FIRST AID AGAINST TANKS AFTER A RIVER CROSSING.

"Our rifle company personnel carry antitank mines when crossing a river. When the enemy counterattacked our beachhead with tanks our minefields slowed or stopped the tanks, making them easy targets for bazooka and artillery fire."--S-3, 357th Inf Regt.

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DECLASSIFIED**IV REDUCING WINTER DISCOMFORTS.**

Note: Measures to reduce the discomforts of front line soldiers during mobile operations in a cold climate were discussed with officers of the 157th, 179th, 180th, 313th, 314th and 315th Infantry Regiments. Some of the ideas are repeated to provide a summary which may be of assistance to other units:

1. General. a. "All units stressed maximum use of rest areas to give men a chance to dry out and rest. All also stressed maximum use of buildings, though one pointed out that this has tactical disadvantages..
- b. "A number of units made it a practice to place a heated pyramidal tent close behind the front line to dry clothes and to permit men to visit it by reliefs. One unit used the aid station in a similar manner.
- c. "All stressed the importance of making hot soup and hot coffee available whenever practicable.
2. Foxholes. a. "Most units emphasized the two-man foxhole as being warmer and safer--because the men can sleep in reliefs and double up on bedding.
- b. "In one unit, when digging in is accomplished prior to dark, the men are encouraged to burn one or two K ration cartons in their foxholes to dry out the bottom and sides. Other units put straw or boughs in the bottom of the holes.
3. Clothing. a. "Most units felt that clothing is reasonably adequate, particularly when men double up on their bedding. All made it a practice to dump rolls close in rear of the position or deliver them close to the soldier in some other way about dark. One unit prohibited promiscuous use of rolls for sanitary reasons.
- b. "A number of units had a system of clothing exchange, permitting frequent provision of dry clothing. The 179th Infantry Regiment used a captured German ammunition trailer, boxed in and divided into bins for this purpose. They claim to be able to handle 1250 men per day. Nearly all units had some plan to furnish dry socks daily. One also required that every man carry an extra pair of socks pinned to his undershirt under the arm.
- c. "The new winter parka is being used by the 157th Infantry Regiment at night like this: Men keep on the inner liner and use the outer to cover shoulders and back in their sleeping bags. The shelter half and raincoat are used to keep the rain out.
4. Other utilities. "The 179th Infantry Regiment, which improvised the traveling clothing exchange, also improvised a regimental washing machine and shower unit. The washing machine was made from an old iron drum powered by a jeep motor and mounted on a German truck. The shower consists of an improvised hot water heater, and a 250 gallon tank, also mounted on a captured German truck. The truck has six shower heads on each side. A large tent is pitched over the truck and a stove set up inside to keep the tent warm."

V CUB TRICK TO LOCATE HIDING BATTERIES.

"When patrolling cub planes were unable to detect any hostile batteries, they flew toward home at a high altitude. After flying a few miles, the cubs returned at such a level that they were not silhouetted against the sky but were still able to observe. Frequently the enemy had opened fire, thinking he was not under air observation."--410th FA Group.

VI STRINGING W-130 WIRE.

"One fast method of elevating W-130 wire was to slash trees at about shoulder height and lay wire in the gash between the trunk and the peeled-back bark. This obviated making a tie, which was the most constant cause of wire 'shorts'."--WD Combat Lessons.

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BATTLE EXPERIENCES

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11 JAN 1945

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I FLAT TIRES REDUCED 88%.

"One company reduced the daily average number of flat tires from 17 to two after the division started an active campaign to have all drivers probe their tires to locate and remove embedded metal which had not worked into the tires far enough to cause a puncture. A surprising collection of nails, screws, and even .30 caliber bullets was uncovered."--Report of 100th Inf Div.

II WELDING .30 CALIBER MACHINE GUN ON TANK TURRET.

"We welded a .30 caliber machine gun with a cut-down tripod to an M-4 medium tank turret. The machine gun was placed in front of the tank commander who used tracers to indicate targets to the other tanks in his platoon."--Med Tk Co Comdr from opn notes No. 21, Hq XII Corps.

III PORTABLE WELDING SET.

"We made a two-man pack welding set consisting of a French automobile acetylene tank and a French oxygen tank with two cubic feet capacity. These were mounted on pack boards and equipped with ten feet of hose fitted to a welding tip. The set was used successfully to seal steel doors and embrasures of pillboxes."--Asst Ord O, XX Corps.

IV AIR OBSERVATION POST FOR LOCATING ENEMY PARACHUTISTS.

"We found artillery air observation posts valuable in locating enemy parachutes caught in trees, thereby giving us an indication of the pattern of the drop."--Security Comdr, VII Corps.

V FOOD FOR THE ENEMY.

"A prisoner of war captured by the forward elements had been cut off behind our lines for more than a week. He lived on rations discarded or abandoned by American troops."--Periodic Report 8th Inf Div.

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VI WATCH GERMAN BRIDGE CLASSIFICATION.

"Jerry is building bridges of light construction and putting heavy tonnage signs on the bridge. When our vehicles try to go over the bridge, they collapse, thus forming a good road block. All bridges should be suspected. Check the size of the bridge timbers, as well as the way they are fastened together."--CO, 315th Engr Bn.

VII GERMAN AUTOMATIC CARBINES.

"The new German automatic carbine, encountered during the recent counteroffensive, proved no match for the M-1 rifle. The carbine produces a considerable volume of fire but is quite inaccurate and lacks range."--Sgt Victor H. Szidon, 506th Prcht Inf Regt.

VIII AXES AND SAWS.

"The use of axes at night to obtain material to cover foxholes is too noisy and draws fire. We use small saws and hack saw blades that the men have picked up when passing through towns."--Co L, 157th Inf Regt.

IX MORTAR TIPS.

1. Illuminating shells for artillery observation. "Sixty millimeter mortar illuminating shells were used to permit observation for adjustment of artillery on an enemy tank that had been firing into our area at night. The mortar shell was known to illuminate 11 seconds after leaving the muzzle and to burn for 15 seconds. The artillery reported that the time of flight of the artillery shell to the target was 17 seconds. The heavy weapons company commander arranged to fire the two at exactly the same time, thus giving the observer nine seconds of light after the strike of the artillery. This enabled him to call corrections back to the battery and the procedure was continued until accurate fire was placed on the tank."--Exec O, Co E, 119th Inf Regt.

2. Adjustment by sound. "Many times it is advantageous to adjust without observation. Teach men to adjust fire by sound -- it is a good trick and can be done."--Lt, Co H, 119th Inf Regt.

3. Round emplacement. "We like the round German mortar emplacement better than our own standard square type because it provides sufficient space to work rapidly when it is necessary to move the base plate; yet the hole is no larger than our type."--Sgt Unger, Co H, 119th Inf Regt.

4. 'Time area' fire. "When covering an area target with 81mm mortars we wait two or three minutes between each group of two or three rounds. This pause gives the enemy opportunity to get up and move around; otherwise, the enemy stays under cover and no casualties are inflicted after the first few rounds."--Lt, Co I, 119th Inf Regt.

X BAZOOKAS FOR 'MOUSEHOLING'.

"A bazooka fired into the wall of a building makes a hole large enough for a man to enter. Using this system when fighting from house to house overcomes the necessity for inexperienced men to use dynamite charges. Antitank rifle grenades can be used similarly but are less effective."--Exec O, Co G, 119th Inf Regt.

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I NIGHT FIGHTING TIPS.

1. Brief the medics. "In night fighting the medics should be briefed as thoroughly as any other men in the outfit. Each litter bearer should be taken to the observation post ahead of time so he can see exactly how to get up and back the quickest way.
2. Use more men for heavy weapons. "Put enough men on each heavy weapon to insure its getting forward in case you hit tough terrain or deep water. We lost a mortar and another unit next to us lost a machine gun because only one man was carrying each. When we reached a stream which was deeper and had a swifter current than we expected, the weapons were washed away. It's a good plan to have the man or men carrying heavy weapons tie themselves to the piece with a rope so it won't be lost in the dark."--415th Inf Regt.

II TIMELY RECONNAISSANCE.

"Platoon leaders should make their reconnaissance as late as possible before the attack. Five hours before a night attack our reconnaissance showed a stream only a foot deep. By the time we reached it, around midnight, it was four feet deep and almost delayed us. A small dam upstream had been blown out in the meantime."--415th Inf Regt.

III ANTI-DIM FOR TANK SIGHTING INSTRUMENTS.

"We put regular gas mask anti-dim on the sighting instruments (periscopes, telescopes, and panoramic sights) in our tanks to prevent their fogging up when we go into action buttoned up. The anti-dim clears the vision completely. It lasts between six and eight hours."--Platoon leader, Co C, 21st Tk Bn.

IV SCALE FOR M-49 TELESCOPE.

"A scale was made from a C-ration lid to facilitate quick laying on a given azimuth with the M-49 telescope. The edge of the lid was marked and numbered in 5-degree gradations and the lid was attached to the bottom of the pintle. An index wire was attached to the pintle housing and extended downward to the lid."--S-2, 1st Bn, 302d Inf Regt.

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V RIVER CROSSING AID.

"One boat in the leading wave of each company should carry with it to the opposite shore a rope with several colored buoys. The rope can be used as a guide by succeeding waves and also may help personnel whose boat is sunk or overturned during the crossing."
--CO, 143d Inf Regt.

VI PREVENTING HOSTILE ARTILLERY ADJUSTMENT.

"We have had the enemy artillery fire smoke into our area for adjustment and then follow with high explosive. We adopted the practice, whenever a smoke shell fell, of running out with shovels and covering the shell with dirt to prevent the smoke from rising. When we did this, no artillery fire followed."--796th AAA AW Bn (SP).

VII SCREENING OPERATION.

"Two hundred smoke pots (HC, M-1) were used effectively to screen the forward movement of an armored division combat command past a road intersection that was under enemy observation. The area to be screened was so close to front line troops that mortars and artillery could not be used. Twenty rows of ten pots each were placed at intervals of 20 yards. In each row the pots were laid on their sides and placed end to end so that they would burn successively after the end pot was lighted. A continuous screen was maintained for one hour. Enemy artillery fired into the smoked area and hit three of the rows of pots but the screen was not materially effected."--Asst Div Cml O, 8th Inf Div.

VIII TIPS FROM PRISONERS OF WAR.

1. Firing into occupied buildings. "Prisoners believe that our artillery and tanks waste ammunition and do not get maximum results when they fire into the ground and top floors of buildings. They believe it is better to shoot armor-piercing shells, followed by high explosive, into the foundations and basements. This, they claim, will kill most of the occupants -- who usually occupy basements -- whereas shooting into top floors caused debris to fall on the basement roof, thereby giving more protection to the defenders.

2. German reaction to our reconnaissance. "Americans fail to exploit the advances made by reconnaissance units, according to statements of prisoners. They say the Germans noticed that our reconnaissance elements would drive well forward during the day and then fall back some distance for the night. As a result they could determine the direction of the American drives and dispose their troops accordingly. They consider that once reconnaissance units push out, much advantage would be gained by holding, even lightly, the ground they have gained."--Lt of IPW unit.

IX DEMOLITION OF ENEMY PILLBOXES.

"We found that pillboxes could be demolished by using a 35-pound beehive charge to blow a hole in the concrete and then packing the resulting hole with composition C. When this is set off the pillbox disappears."--CO, 32th Engr Bn (C).

X COOPERATION WITH FIGHTER BOMBERS.

"After marking the target with smoke for fighter-bombers, and about one minute before the bombers make their run, we fire one or two volleys of time fire over the target area. This practice has been effective in silencing enemy antiaircraft and the pilots have been very appreciative."--Air Support Party Officer, 102d Inf Div.

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R. B. Lovett

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Brigadier General, USA
Adjutant General

I AID FOR THE MEDICS.

1. Saving the litter men. "Frequently there have been duplications of calls for litter bearers -- one man is wounded and three or four calls come in. This unnecessarily endangers the lives of the litter men. Requests should be as specific as possible. Walking wounded should start back to the aid station without waiting for a litter squad. If necessary a guide should be provided for a group of such casualties.

2. Ambulance blankets. "A stout wire along each side of the ambulance compartment provides a convenient and clean place to carry blankets. Because of the cold weather and as the patients' clothing is usually wet and must be removed we find it advisable to carry 16 blankets instead of the usual 12."--Enlisted Men of the 104th Med Bn.

II IMMOBILIZED TANKS.

1. Protection. "Usually only the tracks of a tank are damaged by a mine and it can be repaired and put into operation in a few days. The enemy knows this and tries to get close enough to set the tank on fire with a bazooka or grenades. The infantry must prevent this by protecting the tank with automatic fire.

2. Use. "The tank cannon may still function though the tank is out of action. Each rifle company should have some men trained to fire this weapon so its fire power will not be wasted. Two men in the tank are sufficient, a gunner and a loader."--CO, 3d Bn, 180th Inf Regt.

III LIAISON OFFICERS.

"The artillery should have a liaison officer at regimental headquarters and with each infantry battalion. It is no longer exceptional for all three battalions of a regiment to be committed simultaneously. Each rifle company should have a permanently assigned artillery forward observer. When the reserve company is committed it is unsatisfactory to take an observer from one of the other companies."--45th Div Arty.

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DECLASSIFIED**IV REINFORCING FIRES FROM RESERVE TANKS.**

"Tanks and tank destroyers in reserve or being repaired should have wire communication with the fire direction centers and be used for reinforcing fires--even if they are in the maintenance park."--45th Div Arty.

V REST CAMPS.

"Regimental and battalion rest camps are of inestimable value. A battalion camp may not be more than an artillery-proof dugout with a stove and hot coffee in it. But to a soldier on the verge of exhaustion, an opportunity to dry out in a safe place for a few hours is a haven of refuge that will revive his will to fight. Kitchen personnel can be used to operate the rest camp."--3d Bn, 180th Inf Regt.

VI ASSAULT OF A VILLAGE.

"Each rifleman carried four bandoleers and, as they approached the village, fired at every window, door or other opening. After entering the village, designated men fired straight ahead, others into the buildings on the right and left, while some watched to the rear. Machine guns were emplaced to cover side streets as they were passed by leading elements. Some 31 enemy were killed and 29 prisoners taken without any casualties to our troops."--3d Bn, 180th Inf, 1st Bn, 179th Inf Regt.

VII BAZOOKAS AND RIFLE GRENADES.

"These weapons have been very effective in reducing strong points in houses. Rifle grenades fired so as to fall on the roof will cause enemy to evacuate upper floors. French houses often have a barn under the same roof. Setting fire to the hay with bazookas or rifle grenades drives the enemy from the house."--3d Bn, 2d Bn, 180th Inf Regt.

VIII COORDINATION OF TANK DESTROYER FIRE.

"Tank destroyer positions for supporting tank-infantry attacks have sometimes been at such a distance that identification and location of targets were difficult. Successful results were obtained by having tanks mark such targets for the destroyers with machine gun tracers."--After action report, 9th Inf Div.

IX SHALL REPORTS.

"We require each of our gun crews to measure the deflection to a flash or explosion with their panoramic sights. The battery executive officer converts this to a 'Y' azimuth direction. Gunners take the 'flash-bang' time. Thus, there are always 18 flash and sound observation posts alert and watching. With flank batteries widely separated, a good intersection is often obtained on the same enemy battery. We don't wait for Jerry to shoot at us to initiate the shall report."--CO, 87th Armd FA Bn.

X SMALL ARMS MAINTENANCE

"Ordnance small arms service to the infantry regiments was improved by attaching a small arms mechanic from the division ordnance company to each regiment. He is responsible for performing certain third echelon maintenance, for supervising the work of regimental armorer-artificers on first and second echelon maintenance of salvaged arms, and for keeping thoroughly informed as to the ordnance needs in the regiment. The division ordnance team contacts him when arriving in the regimental area and does the necessary work without bothering S-4 personnel who are usually too busy to keep a detailed check on all ordnance equipment."--Ordnance O, 102d Inf Div.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 29

4 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I INFANTRY COMMENTS.

1. Tactics and security. a. "We have lightest casualties in attacks on villages or hasty field defenses when our men employ marching fire as far as 150 yards from the objective.

b. "Our night security measures include a number of two-man listening posts, and one man on alert in each squad area, whether we are in a defensive situation or halted during offensive action.

c. "Don't depend on information you receive about the location of friendly troops on the flanks. Always maintain flank guards far enough out to command the high ground on each side.

2. Ammunition supply. a. "Two bandoleers should be issued to every rifleman before an attack to cover needs during reorganization without depending on additional supply.

b. "Every effort must be made to get ammunition forward as soon as the objective is taken. Riflemen often use larger amounts in an attack when employing marching fire and feel insecure if they have only a clip or two left."--Os and AM, 1st Bn, 2d Inf Regt.

3. Marching fire in woods. "When attacking in woods, we issue each rifleman three or four extra bandoleers of ammunition and form a skirmish line at wide intervals. After the supporting fire has been lifted, the men advance covering the area straight ahead with as much fire as possible. In one instance we were sent in to take an objective which another unit could not take. We used this method, took the objective and had only two men wounded."--CO, Co I, 179th Inf Regt.

4. Prisoner guards. "Men should be specifically designated to take prisoners to the rear and should be given a definite place to take them. Otherwise half the company will soon be engaged in this work."--Os and EM, 1st Bn, 2d Inf Regt.

II EMERGENCY SUPPLY BY AIR.

"Fighter-bombers were used successfully to drop medical supplies to a unit cut off by enemy fire in a bridgehead during a recent river crossing operation. The area was

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too heavily covered with flak for sub planes to enter. Blood plasma, dressings and other medical supplies, securely wrapped in blankets, were placed in eight wing tanks, slit open for the purpose. The pilots were briefed thoroughly on the area occupied by the troops. The ground troops waved white articles of clothing and equipment at the point of drop. As other fighter-bombers gave them protection from enemy air activity, the four P-47s flew in just above tree top level and dropped six tanks exactly on the agreed location. The other two tanks failed to drop from the planes."--G-4, 90th Inf Div.

III LAXNESS IN SECURITY.

"Two common errors in the execution of security measures have come to the attention of commanders and staff officers since the institution of protective steps against German commandos:

- a. "Two-man teams which stop and check passing vehicles are careless in approaching vehicles. Often, both men come up to check the vehicle occupants in such a way that both could be killed easily. One man should always remain concealed and cover the other.
- b. "Bridge guards posted at the ends of bridges sometimes content themselves with occasional inspections to see that no one is approaching on the river or along the river banks. One post should be so placed that the approaches below the level of the bridge are under observation at all times."--Report of Combat Observer.

IV USE OF COMPANY SUPPORTING WEAPONS IN WOODS.

1. Light machine guns and automatic rifles. "I attach the light machine guns to the leading rifle platoons and use them as a base of fire for maneuvering the remainder of the company. When only one platoon is in the assault one gun is used on each flank. When two platoons are in the assault the machine guns cover one flank of each platoon and Browning automatic rifles the other flanks.

2. 60mm mortars. "The 60mm mortars advance in rear of the center of the company and the observer and wire crew move with me close to the assault units. When we meet opposition the wire is run back to the mortars which are set up 200 to 300 yards from the front line."--CO, Co I, 179th Inf Regt.

V USE OF THE BAZOOKA TO BREACH WIRE OBSTACLES.

"Three rounds of 'sensitized' rocket ammunition were fired from 75 yards at a German double-apron fence reinforced with heavy concertina in a recent test to determine the effectiveness of the bazooka for breaching this type of obstacle. The first round, detonated when it hit the strands of concertina, severed three strands of the double-apron fence and blew the concertina to the rear of the fence. The second round was detonated by another strand of wire and cut additional wires. The third rocket hit at the base of a picket and cut all remaining wires, except one, and completed clearing a path two feet wide. Another possible advantage of this technique is the detonation of any antipersonnel mines in the path."--39th Inf Regt.

VI TIPS FOR

1. Alertness and self-confidence. "Always be on the alert, regardless of how safe you believe your position to be. Confidence in oneself is the biggest asset a man in combat can have. It is always comforting to remember that the Germans are as much as or more afraid than you are."--Pfc Obra Spangler, and Pfc Galbawy, Co C, 116th Inf Regt.

2. How to become a casualty. "I was wounded twice and it was partly my own fault in each case. The first time I was hit in the leg by machine gun fire because I wasn't aggressive enough to keep moving. The second time I was hit in the arm by shrapnel from an air burst simply because I hadn't taken cover."--Pfc Galbawy, Co C, 116th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED

3 JAN 1945

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By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I SEVENTH ARMY ARTILLERY EXPERIENCES.

1. Locating position by artillery fire. "Artillery can be used to aid in maintaining direction or checking location during movement. By arranging for concentrations to be fired on call on several points that can be observed from the route of march the unit commander can ascertain his position in relation to or by resection on the bursts.

2. Adjustment of artillery fire by sound. "When observation is difficult or impossible in wooded terrain, artillery fire may be adjusted by sound. Observers can be trained in this method by firing at night or at defiladed targets."--Report of Seventh Army.

II ARMORED COMMENTS.

1. Tanks in woods fighting. a. "Teams of one medium and two light tanks were found valuable when fighting along trails. The medium follows the trail with a light tank on each flank.

b. "Most targets for the 75mm gun called for fuze delay. Loading of the piece was expedited by setting the fuzes on delay before placing the ammunition in the tank.

c. "Caliber .50 machine guns should be removed when fighting in the woods. Branches damage the gun and cradle and endanger the tank commander by causing the gun to swing around.

2. Additional armor. "Welding an additional piece of armor to the floor of light tanks underneath the driver and bow gunner has reduced casualties from mines.

3. Additional ammunition load. "We have found the medium tank normal ammunition load to be insufficient when working with infantry. To facilitate stacking additional shells, steel studs have been welded between the sponson racks and on the floor of the turret basket. The studs keep the ammunition from slipping and 50% more 75mm shells can be carried."--191st Tank Bn.

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DECLASSIFIEDIII OBSERVATION FLIGHTS BY S-3.

"Our regimental S-3 makes frequent observation flights in cub planes using the SCR 300 for direct communication with company commanders or the SCR 610 for communication with battalion commanders."--Communication Officer, 18th Inf Regt.

IV CLOTHING AND EQUIPMENT RESERVE.

"Waste has been eliminated and better distribution effected by maintaining regimental reserves of clothing and individual equipment. Socks, underwear, blankets, and other items frequently lost, are carried by the service company and reissued when needed. Individual barracks bags have been done away with and the extra clothing is issued on an exchange basis. A pair of socks is taken from each man daily, sent to the laundry unit for washing, and returned to the unit with the rations."--36th Inf Div.

V PROVISIONAL RECONNAISSANCE SQUADRON IN AN INFANTRY DIVISION.

"The division reconnaissance troop was incapable of maintaining necessary continuous mechanized reconnaissance in open country. A provisional reconnaissance squadron was formed, consisting of the division troop, the reconnaissance company of the attached tank destroyer battalion, and the light tank company of the attached tank battalion. An attempt was made to keep only four platoons committed but on many occasions the necessity for reconnoitering all routes, maintaining contact with adjacent units, and screening the flanks, required the commitment of five or six platoons. Difficulty with communications was reduced by the use of relay stations."--3d Inf Div.

VI CONVOY SPEED REGULATION.

"We never set a convoy speed limit but announce 'average speed'. The average should be based on a mixed column of medium artillery, armor and 2½-ton cargo vehicles, and adjusted as demanded by local factors. Rarely is it possible to attain an average speed of more than 15 miles per hour."--3d Inf Div.

VII RECONNAISSANCE BY CUB PLANES.

"The use of cub planes for prompt reconnaissance of routes of communication proved to be of inestimable value. Low altitude reconnaissance, including pictures, permitted early and accurate decisions by the engineer as to which bridges should be reconstructed and the type of reconstruction to be attempted."--Report of Seventh Army.

VIII COUNTERING ANTI-AIRCRAFT FIRE.

"The value of counter-antiaircraft fires during air support operations is indicated by the following report on the counterflak preparation fired by VII Corps artillery units; Ninth Bombardment Command reports that antflak fire on 16 November was extremely effective. No planes were lost and only 13 slightly damaged due to flak'."--VII Corps Artillery Section.

IX TESTING RADIOS UNDER OPERATING CONDITIONS

"Radios used in various arms should be tested under operating conditions before being employed in action. For example, radios of forward observers riding in tanks have not worked because the crystals were not set and the radio tested with the tank moving."--Exec O, 411th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

2 JAN 1945

No. 27
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I A NEW ONE-MAN MORTAR POSITION.

"One man in a kneeling position fires the 60mm mortar without a bipod or base plate by resting the tube over one arm and loading with the other arm. When the ground is soft, the spherical projection is rested in a helmet filled with dirt. One company in Holland accurately fired 3000 rounds in one day."--Officers 508th Prcht Inf, 82d A/B Div.

II TRIPLE POINT FORMATION.

"Our battalion used a triple point in the advance. Each point consisted of one scout, one light machine gunner or automatic rifleman and two or three riflemen selected for their aggressiveness. The points were supported by a moving base of fire which included two or three bazooka teams and some men who fire the 60mm mortar individually. This moving base was followed by an assault force of a company or a strong platoon which mopped up. The points pushed forward rapidly and when some were stopped the remainder outflanked the opposition. Never were the three points stopped at once. This formation was particularly effective in ditch or hedgerow country where the terrain was compartmented."--Officers 508th Prcht Inf, 82d A/B Div.

III USE OF SMOKE.

"One of our cub planes adjusted artillery fire on four tanks knocking out two of them. Smoke was then laid on each of the enemy's flanks to help our tanks locate and knock out the remainder."--Report of XII Corps Arty.

IV MARKING TARGETS FOR PLANES.

"Targets for bombing should be marked with two rounds of white phosphorus so that planes can distinguish the marking from other single rounds of white phosphorus being fired in the area."--99th FA Bn, 3d Inf Div.

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V USE OF GERMAN 88MM GUN.

"We place one captured 88mm gun with each artillery battery. It is used as a roving gun and emplaced well away from our batteries. This gives the battery more fire power and facilitates deceptive measures. We have found that when we are confronted with a new type of weapon it causes us much concern and we believe that this use of 88mm guns affects the Germans in the same way."--CG, VI Corps Arty.

VI SIMULATED BURNING VEHICLES.

The following was extracted from a captured German order:

"It has been found that enemy fighter planes attack vehicles until they are smoking. Since the enemy can very often be fooled, smoke grenades will be drawn and kept in each vehicle. If attacked by planes the driver will leave the vehicle and throw the smoke grenade under it to make the vehicle appear to be burning."--From G-2 Report, Seventh Army.

VII BOOBY TRAPS.

"The enemy has been known to booby-trap stockpiles of engineer materials. On one occasion personnel of this battalion sustained injuries when they attempted to fill holes in the road from a conveniently located gravel stockpile which exploded when a shovel was thrust into it."--48th Engr C Bn.

VIII DETECTION OF WIRE TAPPING.

"Tests were conducted with both German and American telephones to determine whether or not the daily line readings would detect an instrument on the line. It was found that the combined use of the open circuit resistance, capacitance, and ground readings were sufficient to detect any normally available line tapping equipment."--57th Sig Bn.

IX INFILTRATION.

"Prisoners of war report that the Germans have adopted the Russian tactic of infiltrating small patrols at night for several nights in succession until a sizable force is built up in the rendezvous area. Then, coordinating with a frontal assault, they attack from the rear to disrupt communications and cut supply lines."--G-2 Report, 3d Inf Div.

X GERMAN 18-DAY DELAY IGNITER.

"The German 18-day delay igniter is a cylinder 3" long by 2" in diameter, with a protruding detonator at one end, and is colored dark brown. Such a device was found camouflaged with potatoes in a potato bin and was connected with 2400 pounds of explosives."--G-2 Periodic Report No. 126, XII Corps.

XI CONTINUOUS COMMUNICATION WITH FORWARD OBSERVERS.

"Our forward observers usually required 10 to 15 minutes to remove their SCR 609 (or 610) radios from their jeeps and set them up. We have solved the problem of maintaining continuous communication by mounting the radio and batteries on a packboard, with the antenna changed to extend upward."--CO, Btry A, 374th FA Bn.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 26

1 JAN 1945

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I LEADERSHIP EPISODE.

"A platoon leader of a 7th Infantry Company was wounded by a sniper while enroute to his command post one evening with the orders for a night attack. The platoon sergeant, knowing an attack had been planned and sensing something wrong, on his own initiative proceeded to the company command post and quickly got the plan of attack. He led the platoon, that night, through a booby-trapped minefield to its objective, directed and controlled the dispersion of the men under a heavy enemy artillery concentration, reconnoitered to within 50 yards of enemy positions, moved his men onto these positions, organized the area, and began to dig in before the movement was detected. His subsequent organization and direction of effective fire on the enemy caused them to withdraw from buildings in the area, making it possible for another company to pass through the following day in a successful attack on the town."--Chief of Staff, 3d Inf Div.

II SIGNAL REPAIR.

"We found that placing the radio and telephone repair sections under the supervision of the division supply officer greatly facilitated operations. The entire group operates with the division quartermaster company to avoid moving every time the signal company displaces."--Div Sig O, 102d Inf Div.

III SUPPLY BY LIGHT TANKS.

"A company of light tanks was used in the supply system when heavy enemy fire and rough terrain made it difficult to operate trucks. Supplies for two infantry battalions and two medium tank companies were brought to an intermediate point by trucks and trailers. Trailers were then coupled to the light tanks and the supplies in the trucks were re-loaded on the tank rear decks. Only two light tanks were lost as a result of enemy fire during the four days of operation."--G-4, 7th Arm Div and CO, Co D, 40th Tank Bn.

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DECLASSIFIED**IV SAFETY IN WIRE LAYING.**

1. Splicing. "Wire laying parties should play safe and stop to make wire splices between reels while they are in defiladed areas, even though all the wire on the reel has not been used. Splices are often made in exposed areas simply because the reel runs out of wire at that point."--Oe and EM, Co D, 2d Inf Regt.

2. Battalion wire teams. "Our practice of having a wire team move in the center of each assault unit has been found to have several advantages. It assures continuous communication with the unit, gives the wire men protection, and in night operations, insures that they do not get lost. Result -- we have not lost one wire man because of enemy small arms fire."--CO, 2d Bn, 415th Inf Regt.

V REDUCTION OF A PILLBOX.

"Mixing 105mm and 240mm howitzer fires proved an effective way to reduce a troublesome pillbox. The light battalion adjusted on the pillbox, passed the data on to the heavy battalion, then stood by for a time on target shoot. The 240's fired a few rounds for adjustment using quick fuzes, then changed to concrete-piercing T-105 fuzes, which caused the Germans to leave the pillbox. As they came out, the 105mm time on target shoot caught them and inflicted heavy casualties."--Arty Exec O, XV Corps.

VI GERMAN DISCEPTIVE TRICKS.

"Captured documents indicate that German soldiers have been trained in certain deceptive tricks, a few of which have been encountered on the Western Front. Following are some examples of such instructions:

- a. "Put a shot through the helmet to increase the impression of being dead.
- b. "Cut telephone cables at night and lead one end into an ambush, so the enemy line party can be killed or captured.
- c. "Put up boards with 'Danger-Mines' or a death's head on them in an area and fence off the area with wire. Then make tracks around the dummy minefield and mine the tracks. Obvious footpaths should be mined under unusually careful camouflage.
- d. "Lure the enemy into ambush with captured motor vehicles.
- e. "When encountering the enemy suddenly in woods open fire at random, fall to the earth and yell like made while still under cover. This will make him open fire and give away his location and strength.
- f. "Simulate digging, especially when you are going to attack, by such means as rattling wood, driving in pickets, and shoveling sand.
- g. "Spread piles of gasoline-soaked straw or wood in front of your position. If the enemy approaches at night the area can be illuminated by firing at these piles and lighting them."--Periodic Report, VIII Corps Arty.

VII TIRE PROTECTION.

"Tires are protected from shell fragments by sand-filled ammunition boxes quickly placed against our truck and howitzer wheels when we move into a new position."--CO, Btry B, 325th FA.

VIII COMMUNICATION FOR FORWARD OBSERVERS

"We have found it profitable to supply each forward observer radio operator with two sound-powered phones and a small reel of W-130 wire. This enables the observer to remain at his vantage point while the radio operator transmits from the most suitable position for his radio."--CO, Cannon Co., 399th Inf, 100th Div.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 25

30 DEC 1944

DECLASSIFIED
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By command of General EISENHOWER:

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Brigadier General, USA
Adjutant General

I NIGHT ATTACK.

1. The attack. a. "Careful planning and thorough orientation preceded our night attack on the town of Altdorf. Aerial photos were used to familiarize each man with the layout of the town and the action to be taken by his squad. A prominent church steeple was used as reference point.

b. "To achieve surprise the attack was preceded only by normal harassing fires. A line of skirmishers armed with rifle grenades preceded the battalion and placed mass grenade fire on previously located enemy defenses and automatic weapons. The assault companies moved rapidly through the town and took up defensive positions on the far side. The reserve company mopped up. The support platoon of the reserve company carried anti-tank mines which were used as road and bridge blocks. Machine guns and mortars were carried by hand and emplaced rapidly after the objective was reached.

c. "The only breakdown in plans occurred when artillery time fire in the adjacent division area illuminated the battalion just as it reached the line of departure. Realizing that surprise was lost, the battalion officers speeded the advance and reached the town before enemy supporting fires could seriously affect the attack.

2. Comments and lessons. a. "Aerial photographs furnished to each squad give men a thorough knowledge of the objective. They may also be used to make clear each individual's mission and its relation to the task of the unit, thereby increasing the individual's feeling of responsibility.

b. "Natural approaches should not be used at night. The only such approach to the town was pounded constantly by artillery, mortar, and machine gun fire.

c. "Always check to insure that your attack will not be exposed by time fire or flares of adjacent units.

d. "Rifle grenades employed in mass can effectively cover areas known to contain enemy automatic weapons.

e. "Aid men should be kept active and well forward to counteract the men's fear of being wounded at night and left until daylight without being found.

f. "The M-29 cargo carrier (weasel) was the only vehicle suitable for supply and evacuation in the soggy terrain."--CO and Executive Officer, 1st Bn, 120th Inf Regt.

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DECLASSIFIEDII LACK OF OXYGEN MAY BE DANGEROUS.

"Recent battle experiences in pillboxes and underground caves indicate that caution must be exercised in entering such places after blasting or considerable firing therein. The supply of oxygen necessary for breathing may be used up and in addition blasting may produce sufficient carbon monoxide to poison personnel. **WARNING:** the regular issue gas mask does NOT protect against lack of oxygen or against carbon monoxide."--Office of the Chief Chemical Warfare Officer, Headquarters European Theater of Operations, USA.

III BAZOOKA COMPANIES.

"Captured tables of organization and field orders revealed that special bazooka companies have been organized in the Volksgrenadier Divisions to take the place of the conventional regimental antitank companies. The table of equipment calls for 18 bazookas per platoon, 72 per company. The company is not committed as a unit, but split up. Usually a platoon is attached to an infantry battalion."--VI Corps Report.

IV DIRECT SUPPORT BY TANK DESTROYERS.

"One platoon of our tank destroyer battalion was supporting an infantry battalion which was pinned down by small arms fire from dug-in armored vehicles. Artillery could not give support because the infantry was too close to the enemy. The tank destroyer platoon leader, from the infantry battalion observation post, ordered fire upon an emplaced half-track which was holding up the advance. Three rounds of high explosive fired at a range of 4200 yards burned the vehicle and killed the crew. Five more rounds neutralized enemy resistance sufficiently to permit the battalion to resume its advance into the nearby town. The infantry cleaned out the lower floors of buildings while the tank destroyers knocked out enemy strong points located on the upper floors."--S-3, 77th TD Bn.

V ENEMY MINE TRICK.

"An intentionally poorly camouflaged 'S' mine was found by the side of a road. A mine detector was used by the engineer who moved forward to remove it. He found that a circle of well-hidden 'S' mines surrounded the conspicuous mine. His caution in using the mine detector saved him."--1120th Engr Group.

VI NIGHT ATTACK AIDS.

"We used white phosphorous shells, fired one per minute, to provide light to guide companies to their objective in a recent night attack. .50 caliber tracers fired overhead also are used to help troops maintain direction at night."--CO, 1st Bn, 116th Inf Regt.

VII MARKING OF MINEFIELDS.

"We have lost men and vehicles because the following basic rules have been violated;

- a. Units being relieved must furnish complete information of friendly minefields to the relieving units.
- b. "When our minefields block a road or an area that friendly troops may use, they must be marked and guarded."
- c. When friendly minefields no longer needed it must be taken up."--CO, 14th Cav Group.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

DECLASSIFIED
No. 24

29 DEC 1944

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Adjutant General

I VARYING VIEWS ON WOODS FIGHTING.

1. Using a trail; supporting weapons; deception. a. "I generally attack with two companies abreast, astride a trail. The third rifle company, followed by tanks, moves close behind and mops up. I place one round of artillery fire per minute along the trail of advance and on lateral trails and firebreaks in my zone. The mortars, including the 4.2 chemical mortars, are my best close supporting weapons.

b. "Heavy artillery preparations give away our positions and intentions. Generally I use such preparations as a ruse, moving a couple of tanks forward at the same time and encouraging the enemy to open up with all his weapons. After the excitement has died down I move in."--CO, 3d Bn, 26th Inf Regt.

2. Avoiding trails. "We prefer not to attack along trails in heavily wooded areas because enemy mortars and artillery are registered on them. We attack cross-country, using a platoon of engineers with each infantry battalion to build new trails as we go. Progress is slower but we avoid casualties."--S-3, 18th Inf Regt.

3. Use of light machine guns. "We substitute light machine guns for the water-cooled guns of the heavy weapons company in the attack, attaching a section to each rifle company and keeping one section in reserve. We attack with two sections of 81mm mortars and use the remaining section for carrying ammunition."--S-3, 1st Bn, 26th Inf Regt.

II COMBINING 81MM AND 60MM MORTARS.

"We have worked out a plan for employing one 60mm mortar from each rifle company in battery with the 81mm mortars. In close fighting, 81mm mortar positions usually are within 60mm mortar range of the targets and there are two advantages to the combination:

a. "Expenditure of 81mm mortar ammunition is reduced. Previously, some 81mm mortar ammunition was used simply because the rifle company commander could communicate with the 81mm mortar platoon more easily than with his own 60s.

b. "There are fewer casualties among 60mm mortar crews because the 81mm mortars are usually in better sheltered positions."--S-3, 18th Inf Regt.

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DECLASSIFIED**III TIRE CONSERVATION.**

"Vehicle drivers must be reminded that use of the winch often will save their tires. Recently, the driver of a bogged-down armored car wasted rubber by spinning his wheels for 40 minutes. A passing officer required him to use his winch and the car was extricated in two minutes. The crew had not used the winch because they would have to clean the cable."--CO, 14th Cav Group.

IV GROUND TARGETS FOR LIGHT ANTI-AIRCRAFT WEAPONS.

"During a recent attack one 40mm gun and two M-16B half-tracks were placed on each flank of the division to provide harassing fire to discourage counterattacks. Guns placed on the south flank were sited for direct and indirect fire on the enemy's main supply road. The guns on the north flank delivered indirect fire on an enemy-held town, assembly areas, pillboxes, roads and junctions. Excellent results were obtained and activity on roads and in assembly areas was severely curtailed. Tree bursts obtained by the 40mm guns were particularly effective. Firing was limited to daylight hours to prevent tracers from disclosing the positions. Counterbattery fire was received from mortars and self-propelled guns, but as all weapons were dug in, there were no casualties."--Report of 447th AAA AW Bn.

V ENGINEER TIPS.

1. Signs. "Many times we must move out on a job before the reconnaissance party has completed its work. In these instances our reconnaissance party erects signs as it moves forward. Units then can follow the signs to the site without waiting for the reconnaissance party to return.

2. Treadway bridges. "We attach three truckloads of treadway bridge material to each of our battalions. This permits them to build spans up to 36 feet without sending for additional material."--CO and Staff, 1120th Engr Group.

VI COMMENTS OF AN INFANTRY DIVISION COMMANDER.

1. Laying field wire. "Due to heavy enemy shell fire, wire laid through streets went out very frequently. To eliminate this, wires were brought together at a point two or three hundred yards outside of a town, and cabled before being brought into the switchboards.

2. Laying mines at night. "The bottoms of mines to be laid at night were painted white and distributed for emplacement with the painted side up. This made it easier for the laying party to see them and helped insure that none would be overlooked."--CG, 29th Inf Div.

VII HEAVY WEAPONS COMPANY TIPS.

1. Spare parts. "We carry extra ammunition in place of the machine gun spare parts kit. We tape the surplused ammunition to the cradle.

2. Protection of machine guns. "The machine guns of our supporting tanks give the rifle companies close machine gun support in the initial stages of attacks on towns. This permits the heavy weapons company platoons to follow the rifle companies closely and prepare quickly for supporting fires when the town is reached."--Os and EM, Co D, 2d Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

27 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I GERMAN WAR DOGS.

"The Germans recently have used war dogs effectively as a security aid along their extended front. A three man reconnaissance patrol crossed the Moselle River at night without detection but one of the men lost contact with the other two. He continued on his mission but was discovered by a German war dog which he wounded with a grenade. The Germans responded only by firing rifles and automatic weapons. He remained in observation for two days and nights and then returned with valuable information. The other two men of the patrol had a similar experience and wounded a dog with rifle fire, but also remained in observation two more days. In both cases, had the Germans acted aggressively after the dogs discovered our men, the patrol would have failed in its mission."--CO, 14th Cav Group.

II USE OF SMOKE GENERATORS.

"Mechanical smoke generators were used as front line weapons in the Vosges Mountains, on several occasions being emplaced within 500 yards of the enemy. It was found that the wind in the heavily wooded, mountainous terrain was generally channelized, usually moving down the valley. This proved important in advances up a valley as supply roads, artillery positions, and engineer work parties could be covered with smoke without interfering with operations of advancing troops. It was also found that a successful haze could be established over the valley with wind velocity higher (15 - 20 miles per hour) than is ordinarily considered ideal for smoke operations. The cloud was contained by the valley and not dispersed as would have been the case in more open terrain."--
Oal O, VI Corps.

III MOVING 57MM ANTITANK GUNS INTO POSITION.

"We mount $\frac{1}{2}$ -ton truck pintles from salvaged vehicles on the front bumpers of all our $\frac{1}{2}$ -ton antitank vehicles. The 57mm gun can then be pushed, barrel forward, into difficult firing positions with minimum loss of time and exposed movement."--CO, AT Co, 377th Inf Regt.

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DECLASSIFIED**IV COMBAT EXPERIENCES IN THE VOSGES MOUNTAINS.**

1. Enemy delaying tactics. "The enemy's principal delaying positions were in towns, at road junctions, and along natural obstacles such as rivers. The majority of the towns had been converted into formidable strongpoints with streets blocked, mined, and covered by automatic weapons. The enemy often could be outflanked by advancing along mountain ridges. Usually, the more difficult the ridge, the less the enemy opposition encountered.
2. Infiltration and counterattacks. "In the forests the enemy employed a large number of snipers, ambush patrols, and infiltration groups. On one occasion a large group succeeded in infiltrating and established a road block on a main mountain trail which cut off one of our battalions for seven days. Other small groups succeeded in infiltrating, usually at night, causing some casualties and disrupting our supply lines. Enemy counterattacks usually were launched just after dusk or just before daylight.
3. Artillery fuzes. "Due to the height of the trees in the forests the use of superquick fuze produced tree bursts that were too high for maximum effect. Delay fuze was found to be more effective.
4. Radio antennae. "The only types of antennae which functioned satisfactorily in the mountainous terrain were flat top antennae on SCRs 399 and 299, and inverted L antennae on SCRs 193.
5. Engineer experiences.
 - a. "Tank dozers proved to be the most effective implement for removing abatis and other types of road blocks.
 - b. "In the soft loam generally found in heavily wooded areas, corduroy roads will accommodate heavier traffic and require less maintenance than any other type of improvised surface.
 - c. "It is mandatory that all culverts be examined minutely for concealed charges. In the Vosges area we encountered 21-day delay devices one of which was located in a culvert and blew a 70 foot crater at a critical point.
6. Objectives. "Attack orders should rarely give a small stream as a phase or objective line. A bridge at St. Michel could have been taken intact had the road junction on the far side been the objective rather than the river itself."--Report of VI Corps.

V EXTRA SCR 300 HANDSET.

"Carrying an extra SCR 300 handset permits keeping the radio in operation when the handset fails because of mud, rain or moisture from the operator's breath."--CO, 1st Bn, 116th Inf Regt.

VI PREPARATION OF RECOMMENDATIONS FOR DECORATIONS AND AWARDS.

"A clerk in the rear of preparing recommendations for awards, commendations and battlefield promotions should be provided for each battalion headquarters company. He could rotate all companies after each action, get the necessary information, and prepare all papers. This would take the burden from the hard-pressed line company officers and would assure all papers being submitted neatly and in accordance with administrative requirements."--1st Sgt Ernest F. Sharpe, Hq Co, 1st Bn, 120th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 22

26 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I ATTACK OF A VILLAGE.

1. General. "Our plans for the attack of a village cover three phases; the assault, the defense of the objective, and the destruction of enemy tanks in the village.

2. The assault plan. a. Preparation. "Careful observation of the objective and a detailed study of aerial photos are carried out prior to drawing up the plan of attack in order to permit assignment of specific tasks. We always employ the following general principles; attacking towns on a broad front; crossing the line of departure rapidly and gaining the objective under cover of supporting fires; using marching fire; blocking roads and cutting communication lines immediately; clearing the town thoroughly; and organizing quickly after seizing the objective.

b. Execution. "The assault units push all the way through the town beating down the enemy with all available fire on targets and suspected targets. Seizing the objective quickly, they leave the mopping up to support platoons and the reserve company. Catching the enemy between the assault and mopping up groups encourages him to surrender. Bazookas and antitank guns are kept well forward and often fired into buildings. White phosphorous is used to drive the enemy outside.

3. The plan for defense. "We carefully pre-plan the composition of the defensive force and the positions to be occupied after taking the objective. The assault companies take up positions on the edge of town, put out light outposts, and dig in. Initial supporting weapons are the machine guns and 60mm mortars attached to the assault platoons, and the antitank guns. After the first counterattack we complete the dug in perimeter defense. We do not plan on getting the bulk of the heavy supporting weapons into position until after the first counterattack. This avoids their getting caught half-prepared. The battalion supporting weapons have definite fire missions which have been made known to all personnel. We employ a system by which mortar fire can be called for by number. Number one mortar is always laid to fire on number one primary target, number two on number two primary target, etc. When fire is called for on a certain target there is no question as to who delivers it.

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4. Knocking out tanks. a. Team composition. "The reserve company is charged with knocking out tanks. We have two 18-man teams organized and trained in each rifle company to be used as tank assault teams. Each team includes an officer leader, a noncommissioned assistant leader, one runner, two two-man bazooka teams, one three-man flame thrower team, four men each with four antitank mines strung on wire 30' apart so they can be drawn across the path of tanks, two men each with bangalore torpedoes and two men with Browning automatic rifles. The leader has an SCR 536 radio. Seven men with rifles or carbines are equipped with grenade launchers for fragmentation or white phosphorous grenades.

b. Employment. "The team employs a series of set operations, any one of which is capable of knocking out the tank. The tank is first smoked; then boxed in with mines under cover of the smoke; fired on by bazookas placed to shoot down on it or to hit the turret; fired on with the flame thrower; and, if the flame thrower fails to ignite, the mixture is squirted on the tank and ignited by a white phosphorous grenade. As a final touch a bangalore torpedo is placed under the tank."--CO, 2d Bn, 120th Inf Regt.

II OVEREMPHASIS ON PERSONAL EXAMPLE LEADERSHIP.

"We overemphasize personal example leadership in our training and teaching to the extent that we are losing many valuable leaders -- from generals to corporals. Experienced leaders are difficult to replace and the loss is seriously effecting the efficiency of some of our units. Emergencies sometimes arise which require leaders to expose themselves, and, by personal example, get an attack moving or calm down men who are about to break. Some leaders, however, carry it to the point that their presence is almost standing operating procedure and their junior leaders do not move unless they are there. A regimental or battalion commander with a front-line platoon can affect only a small part of his front and in the meantime he is out of contact with his other units, which are losing the advantage of his training and experience. More emphasis should be given to training each man to do his job, then giving him the chance and requiring him to do it."--Div Comdrs, Staff Os, Regtl and Bn Comdrs, 2d, 28th and 83d Inf Divs.

III ARTILLERY COMMUNICATIONS.

The following instructions were published recently by Headquarters XII Corps Artillery:

"Unit commanders must be kept informed of the status of their artillery communication channels as a failure of these communications involves the grave risk of advancing or holding without adequate artillery support. Artillery observers, liaison officers, and artillery commanders are charged with the responsibility of notifying the commanders of supported units when artillery communications are not working."

IV DENTAL SERVICE.

"As our experience has shown little opportunity for dental service in infantry regiments during fast moving operations, we withdraw the regimental dental officers to the rear echelon where they are used to service the supporting units of the division. When the tactical situation permits, one to eight dental officers are placed with a regiment to complete the necessary work in minimum time."--Division Surgeon, 3d Inf Div.

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 21

25 DEC 1944

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By command of General KISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I NIGHT OPERATIONS.

"We make gains at night by moving to a well-defined objective, by-passing enemy strong points. We mop up the strong points after daybreak without great difficulty because Jerry is inclined to give up when you get behind him. One or two battalions advance in column along a carefully selected route behind an expert guide and deploy and organize their positions when they have reached the objective. Artillery fires, controlled by phase lines, cover the advance and protect the organization on the objective. Once we were stopped along one route of advance, we withdrew and reached the objective by another route."--CO, 414th Inf Regt.

II ORDNANCE TEAMS.

1. Organization and employment. "The mud and bad weather have so intensified the small arms maintenance problems of the units that we have sent ordnance teams forward to each regiment. These teams are composed of one noncommissioned officer and six privates from the small arms sections of army ordnance units which are supporting the corps. The teams usually work in the regimental train bivouac area. Weapons are sent in from aid stations, units, and battlefield recovery teams. The ordnance team has a small stock of parts and weapons from which to make exchanges or replacements.

2. Advantages. a. "Weapon re-supply is quicker.
b. "The added speed in servicing reduces damage by rust.
c. "Prompt service improves the morale of the combat troops."--Ord Officer, XIII Corps.

III 4.2 MORTAR POSITIONS.

"We don't use 'ideal' mortar positions, because the Germans are familiar with the ground and are zeroed in on the best positions. We find that locations in towns are most satisfactory -- gravel roads provide solid base plate positions and nearby buildings give excellent cover and concealment."--CO, Co C, 92d Cml Bn.

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IV USE OF TOWNS.

"Cases have been reported where the Germans permitted unopposed occupation of towns by our troops in order to cause casualties by artillery fire when mass lines were formed or reliefs were in progress. Observation posts on nearby heights eliminated any guess-work in the timing."--Operations notes, XII Corps.

V SECURITY.

"Don't learn security the hard way. During a conference three of our experienced company commanders and one artillery observer were surrounded and captured because they failed to provide a security guard."--CO, 414th Inf Regt.

VI TRAINING FOILS GERMAN TRICK.

"We have trained our men to know that the Germans put mortar fire just behind our artillery fire to make us think our own artillery is falling short. This instruction has increased our troops' confidence in their own artillery so that they keep going and close with the enemy before he recovers from the effects of our artillery fire."--S-3, 60th Inf Regt.

VII WE STILL "FALL FOR IT".

1. New version of the white flag trick. "Recently an ambush patrol under command of a platoon sergeant was approached by two Germans with a white flag. In good English the Germans told the sergeant his patrol was surrounded and that he should surrender to avoid needless bloodshed. The sergeant was unconvinced but was persuaded to send two of his men under the white flag to talk to the German commander. Nothing has since been seen or heard of the two Americans. This appears to be a trick to obtain prisoners and identification economically and since it was successful once the Germans may attempt it again."--G-2 Report, XX Corps.

2. Another variation. "A group of Germans consisting of two officers and nine enlisted men came out of Fort Metzger in single file with about five yard intervals between men. One man had a white flag tied to the end of his rifle. One of my men went forward to accept his surrender and was fired on by other Germans. A fire fight started. One of my men was killed and three wounded. We wounded three Germans and captured the remainder except the major, who escaped but was captured the next day. It turned out that the Germans were all armed with rifles, carried hand grenades and were fully equipped. The white flag was just a ruse to cover a break for freedom."--Platoon leader Co E, 30th Inf Regt.

3. Play it safe. "Never go forward to accept the surrender of Germans. Stay down and make them come to you."--Man of Co E, 30th Inf Regt.

VIII OVERSHOES.

"Men tire quickly when wearing overshoes in an attack across muddy ground. We have the overshoes taken forward with the blanket rolls to make them available after the attack when the men need them in the foxholes."--Executive Officer, 334th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 10

24 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I GETTING THE MOST OUT OF THE BAZOOKA.

*These things will help to develop aggressive and efficient use of the bazooka:

- a. *Select aggressive men.
- b. *Make the bazooka their primary weapon. Give them only a pistol in addition.
- c. *Put bazooka teams for training and operation under a noncommissioned officer who has used a bazooka in battle and believes in it.
- d. *Give bazooka personnel special training to include the following:
 - (1) *Vulnerable points on hostile tanks.
 - (2) *Replacing the bazooka to obtain concealment and surprise.
 - (3) *Tank stalking. This should be by patrols of two bazooka teams and a rifle squad with several submachine guns.
- e. *In combat, use your bazookas in pairs under company control unless a special situation makes another method necessary."--Executive Officer, 334th Inf Regt.

II LONG HANDSET CORD FOR THE SCR 300.

*We use an SCR 300 in the forward regimental command post for communication with battalion commanders. We add a long handset cord which makes it possible to put the radio on a roof and use the handset in a cellar. Getting the set up high improves communication, especially when battalion command posts must be located in positions unfavorable for radio communication."--Co Comdr, 334th Inf Regt.

III THREE INCH ILLUMINATING SHELL.

*Observers report that it is easy to adjust fire on any target disclosed by the 3" star shell, Navy, fuze M-54 (See Battle Experiences No. 11, 13 December 1944). Best results were obtained by firing a series of four rounds at ten second intervals, with a fifty mil shift in deflection for each round. An area about four hundred yards square is effectively lighted by each round, using a burst height of 1100 feet."--Executive Officer, 634th TD Bn.

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DECLASSIFIEDIV INFANTRY COMMENTS.

1. Get mines out early. "Always block roads with antitank mines immediately after occupying a new position. One time when trying to reorganize in the dark after an attack we suffered casualties when a German tank moved up a road we had not blocked and fired high explosive shells into the trees around our position.

2. Tank use sometimes harmful. "An attack against a weakly held enemy position was stopped on one occasion because our supporting tanks drew intense artillery fire on the infantry approaching the objective. Our tank fire power was never used because of a lack of targets. A surprise attack without tanks probably would have obtained better results.

3. Control of combat vehicles. "We load a minimum number of battalion vehicles with the ammunition and equipment which will be needed first and keep them as close to the battalion as practicable. All others are held in the rear where they will not jam roads or receive artillery fire. This has paid dividends as we haven't lost one vehicle through enemy action in five months."--Executive Officer, 3d Bn, 313th Inf Regt.

4. 60mm mortar illuminating shells. "The 60mm mortar illuminating shells fired with four or more powder increments produce a muzzle blast that gives away their position and draws fire. By designating only one mortar to fire this type of shell and having it change location after each round we get maximum results with comparative safety.

5. 57mm antitank gun. "We have used the 57mm antitank gun effectively to destroy enemy buildings. Best results were obtained by knocking holes in the walls with armor-piercing shells and firing high explosive through the holes."--Executive Officer, 1st Bn, 313th Inf Regt.

6. Cannon company employment. "We normally give direct support to the regiment and fire under field artillery control only when necessary. Wire communication with our combat team artillery battalion makes it possible for either of us to direct fire for the other. We have a forward observer team with each battalion and have established a fire direction center manned by the company executive officer and an enlisted assistant, who records the data for him."--CO, Cannon Co, 406th Inf Regt.

7. Movement of reserve company. "Moving reserve companies forward along the same route taken by assault companies permits taking advantage of routes cleared of mines. If heavy artillery fire forces a detour, cut back to route of the assault companies after the shelled area is passed."--Officers of 2d Bn, 120th Inf Regt.

V S-4 OPERATIONS.

1. Recovering organization equipment. "We keep a noncommissioned officer at each aid station to collect all organizational equipment -- particularly watches and compasses -- from the wounded. The battalion supply officers pick up this equipment daily.

2. Battlefield recovery. "We have organized a graves registration section consisting of one officer and 30 men. Seven men are attached to each battalion during attacks for the removal of battlefield dead. When we defend, these sections police the area for abandoned equipment. Company supply sergeants are good men to direct this search as they know the former location of their companies."--S-4, 334th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 19

23 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I WOODS FIGHTING.

1. General. Comments on woods fighting from the 3d and 4th Infantry Divisions have been compiled below as a guide to what can be expected in this type of operation and to present some of the opinions of those experienced in such fighting.

2. Methods. a. Fortifications. "German organized positions were generally of the field fortification type constructed of logs covered with soil, with connecting and communication trenches. Overhead cover was such that their own artillery fire could be placed on the positions without danger to the occupying troops. There were few pillboxes.

b. Obstacles. "Obstacles included road blocks of felled trees with mines, wire fences, and loose concertina. Wire and mines generally were placed along final protective lines, which usually had good fields of fire along firebreaks.

c. Mines and booby traps. "Riegel mines, Tellermines and other types of antitank mines were used. Schu-mines, other anti-personnel mines, and booby traps were found along road shoulders and ditches, on trails, in likely bivouac areas and along final protective lines.

d. Patrol and counter-patrol actions. "The enemy consistently used ravines as patrol routes. Avenues of approach into friendly positions should be carefully watched and covered by planned mortar and artillery fires.

e. Tanks. "The enemy in defense uses a small number of dug in and camouflaged tanks and self-propelled guns. They are placed among buildings in clearings, and on hills along the edges of woods. In counterattacks they are used on the basis of about one tank to 25 men, and move up roads and trails.

3. Methods of attack. a. General. "Coordinated attacks on broad fronts to secure limited objectives were successfully employed. Small, local attacks bring down heavy concentrations of fire and have little chance of success. Patrols must be used to locate enemy positions to avoid having large attacking groups pinned down along final protective lines and hit by heavy mortar and artillery concentrations. Objectives were terrain features such as road and trail junctions that controlled avenues of approach into friendly positions. In every case these features were assumed to be occupied.

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III TANK EMPLOYMENT IN INFANTRY DIVISIONS.

"Infantry and tanks should be employed in the proper proportions and under the appropriate command to do the particular job most effectively. A task that is chiefly a tank mission should be handled under command of the tank battalion commander using a force that is mostly tanks with infantry attached. When the job indicates that a predominance of infantry will be more effective there should be no hesitation in attaching a proper number of tanks to the infantry commander in order to accomplish the mission."-- Operations Notes, Hq XII Corps.

IV 81MM MORTARS.

"We emplace our 81mm mortars so they can fire in battery, and employ them so each assault company has a section in direct support. A forward observer and an assistant accompany the assault echelon and use an SCR 536 for communication with the section. In case the SCR 536 fails, the mortar platoon command post can be reached through the rifle company SCR 300."--2d Bn, 120th Inf Regt.

V PATROLLING TIPS.

"The following points were brought out at a conference of officers and men of the 60th Infantry Regiment following a period of intensive patrolling:

- a. "Do not repeat patrol routes on successive days.
- b. "German snipers or small patrols sometimes follow our returning patrols to our outposts. Watch out for Kraut coming in behind you.
- c. "Draws are easy terrain features to follow, but experience has taught us to work on the ridge, or halfway up it, guiding on the draw rather than traveling along its bottom. Jerry usually covers the natural approaches with fire.
- d. "Even though terrain features are available to guide on, azimuths of proposed routes should be studied. Knowing the azimuth helps in checking location and selecting new routes in case of unexpected occurrences.
- e. "We like a six man patrol, armed with four M-1s and two Tommy guns.
- f. "Patrols moving in snow cannot avoid making a noise. They should take advantages of sounds -- wind, artillery or mortar fire -- to cover the noise of movement. Walking in each other's footsteps in snow conceals the number of men in the patrol and reduces the chance of setting off booby traps. This interferes with careful observation and study of the terrain, but frequent stops for observation will reduce this disadvantage.
- g. "Patrols working in the snow should never leave their lines from an outpost or return directly to one. A German patrol followed our footsteps and shot one of our officers at an outpost.
- h. "It isn't enough to warn men on the outpost line that friendly patrols are operating to their front. They all should be told where they are operating and what time to expect them to return."--S-2, 60th Inf Regt.

VI TIRE REPAIR.

"We operate a tire repair section in our regimental motor park which repairs tires and tubes that cannot be repaired by drivers. In three days the section repaired 181 tubes. The section is also responsible for evacuating tires and tubes which it cannot repair to the rear for repair or salvage."--S-4, 334th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No.

21 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I INFANTRY IN THE ATTACK.

1. General. Reports of the 30th Infantry Division indicate that during the XIX Corps offensive in early November, the division captured many prisoners and gained much ground while suffering relatively few casualties. The assistant division commander, the G-3, and two of the regimental commanders, in discussing the campaign, attribute the division's success to time-honored infantry fundamentals, and offer some apt illustrations of their application. Extracts from their statements appear below.

2. Advance planning. "Before the attack we planned everything from start to finish, using maps, aerial photos, sand tables, air observation and all possible ground reconnaissance. The plans were carried out almost without change.

3. Surprise. a. "The Germans had come to expect us to attack in the early morning and after a preparatory barrage. On 16, 17, and 18 November, we attacked later and instead of waiting for the artillery preparation to finish, one of our infantry regiments jumped off with it. The regiment was on its objective when the enemy came out to man their positions. Prisoners admitted they were so completely surprised they could not fight back.

b. "One infantry battalion had tried to capture Warden twice from the southwest and west. Finally they sent a company with a platoon of tanks to attack from the south, coming in on the German rear. The town was taken with little trouble.

c. "On 23 November, the town of Pattern was captured. Fire support came from one direction while the maneuvering force attacked from another. The Germans were completely surprised. Several of their self-propelled guns were sited to meet an attack from the expected direction and three of them were caught in flank and knocked out by the maneuvering forces. When the Germans attempted to shift to meet the maneuvering force, an artillery battalion caught them with 'time on target' fire and inflicted heavy losses. The only American casualties were three, caused by mines after the town was captured.

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4. Speed. a. "We were often surprised by how rapidly our troops were frequently past the German line of defensive fires before they could be brought down.
- b. "On 18 November, two battalions of one of our regiments attacked the towns of Kinzweiler and St. Joris. At H-hour the infantry, covered by heavy neutralizing fires, dog-trotted across the fields toward the objective. Supporting tanks started five minutes later with four infantrymen (one armed with an automatic rifle) riding each tank and entered the town simultaneously with the infantry. The forces then fanned out and captured both towns with ease.
5. Base of fire. a. "We always beat down the enemy with fire before advancing. When we got to the limit of its effective support, we brought up the base of fire and repeated the operation. We always attempted to cover the enemy escape routes by fire.
- b. "In the attack on Kinzweiler and St. Joris, supporting fires were furnished by heavy weapons of the attacking regiment, those of another regiment and by tanks, tank destroyers and artillery. Some machine guns were mounted in second-story rooms to permit the delivery of overhead fire.
- c. "In capturing Langweiler, we concentrated tank and tank destroyer fire on one house after another, shifting it to the next house when the infantry approached the first one. The escape routes were covered by machine gun fire from the flanks."

II BAZOOKA TEAMS.

"One company has consolidated its five bazooka teams into a group with a staff sergeant in charge in order to place direct responsibility for getting these important weapons forward. The bazooka men have been armed with a pistol in lieu of a rifle or carbine to lighten their load and increase their feeling that the bazooka is their primary weapon."--Operations notes, XII Corps.

III DISABLING GUNS ON ABANDONED TANKS.

"Our tanks which are knocked out by mines or antitank fires must be made useless to the enemy if they cannot be protected. This has been accomplished by removing the back plates from the machine guns and the percussion mechanism from the tank gun. All spare parts also should be removed."--After Action Report, 746th Tank Bn.

IV GERMAN ALTERNATE POSITIONS.

"Germans make excellent use of alternate and supplementary positions, generally having about four positions for each weapon and two or three foxholes for each rifleman. The system caused us much trouble on one occasion. We isolated German positions and sent patrols in, only to find they had changed to alternate locations and were delivering fire from other directions. We now have adopted similar methods."--CO, 504th Parachute Regt.

V FIRE DIRECTION CENTER OF A CANNON COMPANY.

"Our cannon company fire direction center consists of one 'operation' man, assisted by a telephone or radio operator, and sometimes by the first sergeant. The observer reports targets, including coordinates, by telephone or radio to the fire direction center. The gun section is alerted by phone and in the meantime the 'operation' man computes the firing data on an artillery chart. The data is relayed by telephone to the gun section which by then is ready for action."--CO, Cannon Co, 39th Inf Regt.

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- 2 -

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BATTLE EXPERIENCES

20 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I SUPPLY AND EVACUATION IN RIVER CROSSINGS.

1. General. "Supply and evacuation during the division's crossing of the Moselle River early in November were complicated by the fact that the river was out of its banks and one and a half to two miles wide. Speed of the current was eight to 10 miles per hour. The operation of boats was complicated by such obstacles as fences, posts, hidden shallows and mines. Bridging operations were slow, as spans were repeatedly washed out.

2. From the divisional viewpoint. a. "Supply dumps should be built up on the near shore two days ahead of the actual crossing to give sufficient time to sort the items and organize for priority. Dumps for supplies other than ammunition should never be more than two or three miles in rear of the crossing site.

b. "A build-up on the far shore should be begun as soon as a bridgehead is established and plans made to get the supplies over without counting on bridges. Ferries, assault boats and motor launches can maintain essential supply. On one occasion C-2 explosive and other small items including medical supplies were dropped from cub planes.

c. "DUKWS can be used to carry many items, including light vehicles. Crossing sites for DUKWS should be selected near roads and well away from intended bridge crossing sites. Turn-arounds should be provided where wounded can be loaded or unloaded, and ramps placed on both banks.

d. "Items that should be given priority for crossing are bazooka ammunition, grenades and demolition supplies. Bazooka ammunition especially is needed to stop armored counterattacks. Individual rolls and dry clothing must be sent over early.

e. "The supply plan must include the organization of carrying parties to get the supplies from the far shore to the assault troops. One combat team used about 1,000 men including the cannon and antitank companies, cooks, and administrative personnel for these parties, taking wheelbarrows, wagons and even baby carriages to get supplies to the fighting troops.

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manhandled into position. These were moved by jeeps with .50 caliber mounts and these in turn by communication vehicles, medical jeeps and the rest of the light transportation. Meanwhile the civilian boats were still being used to ferry ammunition and other supplies. The bridgehead was established."

II TRENCH FOOT.

"Trench foot has been successfully controlled in this unit by carrying a change of dry socks for each man and after a daily change, having one man carry the wet ones to a house in the rear to be dried."--CO, 504th Parachute Regt.

III TIRES AND TUBE CONSERVATION.

"Tire conservation measures in this division include:

- a. "The use of Signal Corps rubber tape and powder from excess artillery increments for tube vulcanizing when hot patches are not available.
- b. "Use of captured tires, (slightly larger than ours) on our 1-ton trailers, to permit using the trailer tires on 2½-ton trucks.
- c. "Pooling, by one unit, of all ½-ton spare tires. When a jeep has a flat tire a spare is sent to it."--G-3, 35th Inf Div.

IV COMMUNICATION IN NIGHT PATROLS.

"Luminous watches or compasses are used for communication by members of night patrols. The watch or compass is strapped to the inside of the hand and prearranged signals given by opening and closing the hand."--S-3, 60th Inf Regt.

V ASSEMBLING SEMI-FIXED ARTILLERY AMMUNITION.

"We use the device shown below to eliminate pinched fingers when assembling the projectile to the case of 105mm ammunition. It simplifies and facilitates assembling rounds at night and when operating with reduced personnel. The frame of the device is constructed from an ammunition box and the slide from a ground stake of camouflage set No.2. The base of the shell case is placed against the stop and the projectile at the top of the slide which guides it into the case."



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DEVICE FOR ASSEMBLING SEMI-FIXED AMMUNITION

--CO, 229th FA Bn & Exec O, Battery A, 229th FA Bn.

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UNITED STATES ARMY

BATTLE EXPERIENCES

No 14

16 DEC 1944

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By command of General EISENHOWER

R. B. Lovett
R. B. LOVETT,
Brigadier General, USA,
Adjutant General.

I PATROL CONTROL BY TELEPHONE.

1. Method. "A system for telephone control of patrols from battalion headquarters was worked out by the 1st Ranger Battalion in Italy and Africa. Communication was provided from each patrol to its parent unit and to other patrols which were operating simultaneously. Field telephones (preferably sound-powered) and light field wire on one-half mile spools were carried by each patrol.

2. Details. "The following example illustrates the method. At dusk each of six patrols would hook into the battalion switchboard and proceed along the prescribed route to the end of the first spool. Each patrol would then check in, using pre-arranged identification numbers, and receive any further orders. Calls would be made from each successive half mile check point. Patrols could talk to each other through the switchboard and sometimes could coordinate their movements to take aggressive action against enemy groups or installations in the area. The coordination afforded by the system tended to increase the confidence of the men and facilitated longer periods of activity by each patrol."--CO, 1st Ranger Bn.

II WIRE LAID BY AIRPLANE.

"A wire reel attached to a cub airplane was used by the 6th Field Artillery Group in Italy to lay wire quickly over difficult terrain. On one occasion wire was laid over a mountain to a point three miles away in a very few minutes, a job that would have taken several hours by wire truck. The reel was designed, built and attached to the plane by the chief mechanic of the group's air section."--CO, 6th Artillery Group.

III COUNTERING SNIPER ACTIVITY.

"German snipers covering road blocks at the entrance to towns have caused us a number of casualties. Division reconnaissance elements now use at least one armored vehicle well forward to cover our dismounted men."--Sgt, Div Rcn Troop, 103d Inf Div.

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IV PILLBOX DESTRUCTION

1. "A 12" by 6" hole was blasted in a German concrete fortification with six rounds from an M-36 tank destroyer at a range of 2,300 yards. Five rounds were high explosive with T-105 fuzes; one round was armor-piercing. The concrete pierced was approximately 36" thick and was reinforced by four rows of 3/4" iron rods, spaced 10" apart vertically and 18" horizontally. The penetrating projectile struck the wall at an angle of 30 degrees."--Report of 610th TD Bn.

V SCOUTS AND RAIDERS.

"Our platoon of scouts and raiders, composed of selected and specially trained soldiers, (described in 'Battle Experiences' No. 35) has done an excellent job. They are especially useful for:

- a. "Supplementing the work of our intelligence and reconnaissance platoon.
- b. "Observing and patrolling in a new area when we take over from another unit. Their training and experience enable them to learn quickly Jerry's habits--particularly as to patrolling.
- c. "Night patrolling."--22d Inf Regt.

VI AIR SUPPORT AID BY ARTILLERY AIR OBSERVER.

1. Uses of the air observer. Another method (see 'Battle Experiences' No. 2, 25 November 1944) of effective cooperation between the division air support party officer and the artillery air observer has been reported by the 28th Infantry Division. The system works as follows: "The air observer watches the target area during the time between the call for an air strike and the arrival of the planes, and informs the air support party officer if a change in the situation makes a change in the assigned target desirable. The air observer also reports to the air support party officer when the planes attack and with what results. The air support party officer in turn keeps the pilots informed of the accuracy of their attack and notifies them when the bombing or strafing is not in accordance with the briefing. The air observer also has been able to check the effectiveness of colored smoke used to mark targets. If the smoke blows away or becomes faint before being picked up by the fighter-bomber pilots, the air observer passes on this information. He often can assist the air support party officer in his vectoring by keeping him advised as to the movement and location of the fighter-bombers prior to the attack. Communication is from the air observer to his base set at the field, where the message, by remote control and direct line, is sent to the division fire direction center. The message is relayed from the fire direction center by direct line to the air support party officer."--Artillery Air Officer, 28th Div.

2. Communication methods. "Other divisions have indicated a desire to place an artillery radio with the air support party, or to install a VHF radio in the artillery plane, to permit direct communication between the air observer and the air support party officer. One division's air support party officer believes that he could obtain more effective results by installing a VHF radio in an observation plane and vectoring the fighter-bombers from there. Technical problems which must be solved for successful installation of the SCR 522 in an L-5 plane include shielding the motor to reduce interference and installing a generator which will provide sufficient current to operate the radio."--Air Support Party Officers, 7th Arm Div and 4th Inf Div

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VII TELLERMINE WITH DELAY ACTION FUZE.

"Tellermines have been activated with delay action fuzes. When such mines have been removed by ropes, they have exploded about 30 seconds later."--Report from VIII Corps.

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UNITED STATES ARMY

BATTLE EXPERIENCES

15 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT,
Brigadier General, USA,
Adjutant General.

I COMMENTS OF TANK PLATOON LEADER.

Note: The officer making this contribution is well versed in tank problems, having risen from private to second lieutenant since arrival on the continent and having performed all tank duties required of the grades up to and including his present one.

1. Terrain appreciation. "Successful movement of tanks through mud and other areas normally considered as tank barriers depends largely upon how well the driver can appraise the terrain. For example, in a recent action, it was possible to capture a strongly held fortification with three tanks and 42 men because the tanks occupied positions that could be reached only through heavily wooded terrain. The Germans apparently had considered the area impassable and were unprepared.

2. Artillery fire. "Men have a tendency to abandon tanks when subject to heavy artillery fires, not realizing that the tank affords excellent protection against all artillery fire except a direct hit by a heavy shell. Before abandoning a tank that has been hit, occupants should always try to move it out under its own power.

3. Red flares. "Red flares are helpful for contact signals between infantry and tanks, especially in heavy woods.

4. "88 fever". "Replacements should be taught the advantages of our tanks over those of the enemy, instead of constantly being told of the effect of the German 88mm gun. Although our tank guns will not always penetrate the frontal armor of enemy medium tanks, our Sherman tank is faster, more maneuverable and has faster turret action than any tank the Germans have. Their slower turret makes it difficult for them to track our tanks.

5. Tankers must be versatile. "Tankers should be familiar with all infantry weapons. Often it is necessary for them to fight from foxholes and slit trenches as infantrymen."--
Platoon leader, 745th Tk Bn.

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DECLASSIFIED**II TIPS FROM AIRBORNE TROOPS.**

1. Use of bazookas. "When the supporting artillery fire lifted, bazookas were used to give the impression of continued artillery fire. This enabled the infantry to move close to the enemy positions without receiving small arms fire.
2. 60mm mortar illuminating shell. "The illuminating shell for the 60mm mortar can be given greater range by adding one increment, making a total of five. To prevent increments from dropping off they must be removed from the large opening of the fins and inserted onto the small openings."--Report of Airborne Task Force.

III FIRST AID POUCH.

"We find that wounded men can reach the first-aid packet more easily if it is carried just to the right of the belt buckle instead of over the right hip. For those who carry compasses it merely means exchanging the compass and the first aid pouch. A well man can easily reach his compass when over the hip whereas a wounded man often has trouble getting at the first aid packet in that position."--Executive Officer, 405th Inf Regt.

IV SIGNAL REPAIR TEAMS.

"Once each month a repair team from the telephone maintenance group of the division signal company visits all regiments, infantry and artillery battalions and miscellaneous units to inspect signal equipment. Only minor repairs are made, major work being scheduled for the repair shop. Aside from the actual repairs, benefits of this system are:

- a. "It provides a check on first echelon maintenance.
- b. "It permits scheduling of major overhauls so as to insure efficient use of the repair shop.
- c. "It affords an opportunity to review and make appropriate changes in operating methods.
- d. "It increases the units' confidence in the service being furnished by the signal company."--Report from XIX Corps.

V EFFECT OF GERMAN BAZOOKAS.

"Enemy bazooka fire will temporarily cripple a tank but it causes few personnel casualties. We have only had one man killed as a result of such fire."--Motor Officer, 745th Tk Bn.

VI SELECTION OF RIVER CROSSING SITES.

"Deception in the selection of three crossing sites in a recent river crossing operation proved successful. A feint was made in another area and crossings were successfully made at all three sites. The sites were selected for the following reasons:

- a. "Site A was located opposite a small town on the far bank as it was felt the enemy would not consider this a likely crossing spot.
- b. "Site B was located at the point where an earlier small bridgehead had been established and driven back across the river. It was felt that Jerry would not expect us to use the same place again.
- c. "Site C was located opposite a long row of houses which we thought Jerry would consider too much of a handicap at a crossing."--3304th Inf Div.

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UNITED STATES ARMY

BATTLE EXPERIENCES

No. 12

14 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
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Brigadier General, USA,
Adjutant General.

I GERMAN COMPASS READINGS.

"It should be remembered when reading captured German minefield diagrams that the German march compass used for plotting them is divided in mils and also that it is read counterclockwise."--2898th Engineer Technical Intelligence Team.

II NEW USE OF GERMAN PANZERFAUST (bazooka-type, short-range, recoilless antitank weapon).

"The Germans have used their panzerfaust, fired by a trip wire, as a trap for vehicles. The tube is secured either to a fence or to stakes driven into the ground along a road or other vehicle approach. A tripwire is fastened to the firing mechanism and run across the road about two feet above the ground and anchored on the opposite side. This wire, however, can usually be seen quite easily in the daytime. (German instructions for its use point out that one panzerfaust can cover a road which would require many tellermines to block, and that each unit has panzerfaust weapons, whereas tellermines are available only to the engineers and in a limited quantity). The weapons actually found were panzerfaust 30, which require modification for this use. The panzerfaust 60, with its simplified trigger mechanism and lever, however, can be used without alteration."--21 Army Group.

III REPORTING HOSTILE WEAPONS.

"Troops must learn to report and ask for counterfires against observed enemy weapons or fires, even though not directed at them. The Germans often cross the fires of their artillery, mortars, machine guns and direct fire weapons. Men must realize that good teamwork in reporting them will assist the entire advance."--S-3, 112th Inf Regt.

IV WIRE ROUTES.

"Wire lines will usually stay in longer and lives of linemen servicing them will often be saved if wire laying teams will pay more attention to using cover and protected

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wire routes. These routes may be a little longer, but wire knocked out because it was improperly laid on exposed routes often costs the lives of linemen who, working in small groups, are good targets for enemy snipers."--Sgt Calvin Triese, Liaison Section, 229th FA Bn.

V. LITTLE THINGS COST LIVES.

"Every 'little' detail must be checked by alert junior officers to assure successful operations. Indifference and complacency and the 'let the sergeant do it' attitude lead to failures which cost lives. Whether it be artillery, infantry or any other branch--when things go well it is because plans have been well laid and preparations have been thorough; when they fail, it is usually because the small details haven't been checked. For example:

a. "Before an attack the artillery forward observer must check his radio--just because he has drawn a new battery he can't assume it's a good one; and he must see that the artillery concentrations are properly plotted on his map--just having the overlay is not sufficient. Failure in one of these details can mean the difference between a successful attack and a costly defeat.

b. "When an infantry platoon leader is charged with posting a guard an hour before dusk he must see that it's posted then--not two hours after dark. If he is responsible for machine gun positions, he must check to see that they are properly chosen and that they are dug in--not just assume that all this is taken care of.

c. "Care of equipment is often not sufficiently emphasized. Critical and delicate items, such as radios and telephones, are banged around and thrown in the mud. Truck drivers will drive over gas cans lying in the road rather than make the effort to avoid them. Important items of equipment are often left lying in the road and many men pass them by without making the slightest effort to move the article to a safe place."--Capt, 229th FA Bn.

VI. TANK DESTROYER ANTI-PERSONNEL MISSION.

"Our tank destroyer company fired an indirect fire mission on some woods 11,000 yards to the front using high explosive with superquick fuzes. Surprise was obtained by having all twelve guns open fire at the same time and continue with rapid fire. It was later reported that 593 dead Germans were found in the woods."--Lieutenant, 814th TD Bn.

VII. TANK FIGHTING IN TOWNS.

1. Method of operation. "We recommend the following procedure: Approach the town indirectly as though going around it. Scout the town and surrounding terrain. Plan a coordinated tank-infantry attack from two directions, aimed to pinch off a part of the town between the prongs of the attack. Designate infantry half-tracks to cover flanks and rear of attacking infantry and tanks. Use the mortar and machine gun half-tracks to augment the fire of the assaulting infantry. Mount assault infantry on tank decks until forced off by fire. Put a section of tanks on each street. See that riflemen protect tanks from the rear and act as the eyes of the tanks. Use artillery on routes not covered by the tanks to deny them to the enemy.

2. Indication of a defended village. "If we approached a village and saw the citizens proceeding with normal daily routines we felt sure the enemy was not defending. If the people were indoors and quiet, it was a sure indication the enemy was prepared to defend."--CO, CCB, 5th Armd Div.

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- 2 -

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BATTLE EXPERIENCES

No. 11

13 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General.

I 81MM MORTARS.

1. Use of codes. "We employ a simple code to give observers the mortar locations after displacement without violating radio security. The codes, which are changed often, are set up in ten letter groups as in the following example:

LUCKY	STRIP
12345	67890

Coordinate figures can be given by transmitting the corresponding letters in the phonetic alphabet.

2. Fire control center. "A fire control center has been set up and is operated by the platoon sergeant. Fire missions are called back, plotted on paper, and the data given to the gunners in degrees, making it unnecessary for each gunner to use a firing table.

3. Recording of missions. "The observer should always give the fire direction center both the designation of the target and the effect of the fire. The target can then be plotted on the observer's board and the mission re-fired quickly if desired. Information on fire effect increases interest of the gun crews.

4. Use of instrument corporal. "We employ the instrument corporal to assist the platoon sergeant and charge him with the jobs of issuing rations, drawing and distributing ammunition, maintaining radio equipment and laying the battery line between mortars."--After Action Report of 39th Inf Regt.

II LITTERS IN EACH COMPANY.

"Evacuation of wounded has been expedited and lives saved by furnishing one litter to each company headquarters. When a man is wounded, instead of calling for battalion litter bearers and awaiting their arrival, company personnel can evacuate him to a place out of danger and more accessible to the battalion litter bearers or stretcher jeeps. It also helps morale to move wounded quickly from near those still fighting."--After Action Report of 39th Inf Regt.

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III COOPERATION BY THE TANKERS

"I make it a practice to carry extra .30 caliber ammunition when supporting infantry. In one attack across difficult, muddy terrain ammunition supply for infantry machine guns became critical and I was able to give the infantry 4,000 rounds. Later, the dough-boys had to hold a position in that area during the night but the roads were so muddy their vehicles could not bring up supplies. At the request of battalion S-4, I sent two of my tanks back to a point the infantry supply vehicles could reach to bring up the necessary ammunition, food, water, and radio parts for the infantry."--CO, Co A, 771st Tank B

IV USE OF ILLUMINATING SHELLS.

"The tank destroyer 3" illuminating shell has been the key to a team play by infantry, artillery and tank destroyers which has been effective for destructive night firing. When infantry outposts hear enemy activity at night the artillery is informed of the suspected position. Several artillery battalions are laid on the position and an illuminating shell is fired over the area by a tank destroyer unit. This sometimes enables the artillery forward observer to pinpoint the target and usually only a small shift is needed for the battalions to fire for effect. On one occasion a suspected tank assembly was detected by sound. An illuminating shell confirmed the presence of tanks and seven artillery battalions fired a 'time on target' shoot with excellent results. The illuminating shell is effective for about twenty seconds and best results are obtained when it bursts between 500 and 1,100 feet above ground."--VII Corps Artillery Report.

V DETERMINING POSITION IN WOODS.

"Exact positions can be determined in woods in the Siegfried line area by finding the numbers on the concrete survey plugs found usually at the corners of firebreaks. Each plug, which juts out of the ground about a foot, is numbered on two or four sides, the numbered side of the plug facing the woods to which the number refers. Corresponding numbers are marked on wooded areas indicated on the 1/25,000 operational map."--After Action Report of 39th Inf Regt.

VI SUPPORTING WEAPONS IN THE ATTACK.

"Mortars and light machine guns attached to rifle platoons in the attack should move far enough behind the platoons to avoid being pinned down by the fire that stops the platoons. If they are immobilized they are of no value as supporting weapons. Often operations have been held up and smoke has been required to permit withdrawal of these weapons."--After Action Report of 39th Inf Regt.

VII HAND GRENADES AS BOOBY TRAPS.

"An effective booby trap can be made with white phosphorous or fragmentation hand grenades by removing the safety pin, placing the grenade in the container (minus cover) which is anchored to the ground, and attaching a trip wire to the grenade. When the wire is hit the grenade is pulled from the container and activated."--After Action Report of 39th Inf Regt.

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BATTLE EXPERIENCES

No. 10

13 DEC 1944

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By command of General EISENHOWER:

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R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I MINES AND BOOBY TRAPS.

1. Booby traps. "Every roadblock we have encountered has been booby trapped. The trap is usually attached to the first object that must be moved and often can be discovered by careful examination. Objects which cannot be thoroughly examined should be pulled out, using a long rope.

2. Pulling mines. "Personnel pulling mines or booby traps from a distance should face the explosion so they can see and dodge the flying debris."--Lt, XIX Corps.

II MINES AND MINEFIELDS.

1. Delayed detonation of Riegel mines. "There have been three instances reported in which Riegel mines have detonated a few minutes after their removal. There is indication that the mines were equipped with Z44 fuzes which detonated the mines from five to thirty minutes after their removal.

2. Minefield marking. "According to the notebook of a German cadet officer at an engineer school the following method is used to distinguish between real and dummy minefields: REAL minefields have the signs written with letters slanting forward; DUMMY minefields with letters slanting backward. The color of minefield signs does not indicate whether the minefield contains real or dummy mines."--XX Corps Engr Technical Summary.

III MEDICAL EXPEDIENTS FOR ARMORED UNITS.

1. Evacuation of casualties. "The following system has been successfully employed by a tank battalion of an armored division:

"Each medium tank company is furnished an aid man in a $\frac{1}{2}$ -ton truck who evacuates casualties to the battalion aid station. If casualties are heavy, additional vehicles may be dispatched or the battalion surgeon may go forward to treat the casualties. An advantage of this system is that travel from front to rear and return presents fewer hazards than travel laterally from company to company.

2. Equipment for medical vehicles. "Each medical vehicle should carry a .50 caliber ammunition box filled with medical supplies most used in combat. Splints, litters and plasma should also be part of the normal load of each vehicle."--Surgeon, 10th Tank Bn (From WD Board Report)

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DECLASSIFIED**IV ARTILLERY OBSERVERS IN TANKS.**

1. Tank commanders as forward observers. "Tank commanders are often in a good position to act as forward observers because they are where they can see what is holding up the infantry. In a recent action in Germany, one noncommissioned tank commander successfully directed the fire of corps artillery, including 240mm howitzers. The communication channel in this instance was by radio from the tank commander to the supporting tank assault gun platoon which was tied into the division fire direction center by wire."--CO, 707th Tank Battalion.

2. Artillery view. "An artillery forward observer should go forward in one of the tanks of each supporting element of tanks. Although tank commanders did an excellent job as artillery forward observers in the action mentioned above, the artillery should not expect the tankers to do this habitually."--Executive Officer, 229th FA Bn.

V SEARCHLIGHT ILLUMINATION.

"This division has operated on several nights while using the illumination furnished by British antiaircraft searchlights. The lights were placed from 4,000 to 6,000 yards behind the front line, in defilade, and adjusted on low clouds to give a reflected light. The resulting light over a large area was equal to that of a half-moon and was extremely helpful. Careful planning and adjustment are necessary to achieve desired results without giving away your plan to the enemy. Advantages of this use of lights were:

- a. "Removal of enemy minefields at night was simplified and expedited.
- b. "Black-out driving in the division area was much safer.
- c. "Defense was simplified because the foreground was lit up, thus making enemy patrols more visible.
- d. "Engineers were able to do emergency road repair in forward areas at night."--G-3, 84th Inf Div.

VI DISADVANTAGES OF INFANTRY RIDING TANKS.

Information concerning the employment of infantrymen carried on tanks in the attack was contained in Battle Experiences Nos. 28, 30, 35, 54, and 59. The commander of Combat Command B, 7th Armored Division, however, believes that the infantry should never remain on the tanks during actual fighting. He feels that maximum results from armor are gained by violent execution of a carefully planned attack, using to the utmost the mobility and great fire power of the tanks. Carrying infantry on the tanks, he believes, does not lend itself to this type of attack for the following reasons:

- a. "The tank driver moves more carefully because of his consideration for the riders, and this restricts mobility.
- b. "Tanks in rear of the leading wave have to be more careful of their fire because of the danger of hitting infantry riding on forward tanks. In a tank assault every machine gun should be shooting.
- c. "The tank is apt to take routes which offer more protection to the infantry. This restricts maneuver.
- d. "The turret guns, when rapidly turned, are apt to hit the infantrymen. Operation of the guns is thus restricted.
- e. "When infantry are mounted on tanks their squad and platoon organization is disrupted. When they dismount to fight, time is lost during reorganization, and fire from normal supporting weapons and fire are inadequately coordinated.
- f. "Employment of the antiaircraft machine guns on the tanks is hindered."

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

11 DEC 1944

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"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experiences are desired.

By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General

I HIGH ANGLE ARTILLERY FIRE.

"Dropping a round through the roof of a house is often easier and more effective than knocking a hole in the wall. The use of high angle artillery fire on targets on a crest or a reverse slope in very rough terrain gives a much smaller probable error on the ground."--Report of 8th Inf Div Arty.

II TANK DESTROYER ACTION.

"Good concealed positions on the flanks of tank approaches enabled my platoon to knock out eight Panther tanks in a recent action astride the Meijel-Austen road. All of my guns were knocked out but I was able to evacuate two of the destroyers. The latter part of the engagement, particularly, demonstrated the morale and efficiency of my gun crews. My last two remaining M-10s were engaging two attacking Panthers which were supported by four overwatching Panthers. The first Panther had been hit when an overwatching tank secured a hit on the turret of one of the M-10s, wounding the loader and assistant driver. The crew, except the gunner, evacuated the vehicle and removed the two wounded. The gunner continued firing and knocked out the leading Panther. The other M-10 knocked out one overwatching tank before being hit and burned. The gunner of the M-10 which had been hit in the turret then dropped down into the driver's seat and drove it out under the cover of four smoke pots placed by other members of the platoon."--Platoon Leader, 814th TD Bn.

III. WHITE PHOSPHOROUS.

"When a pillbox is breached, a round of white phosphorous fired into it before the infantry assault is effective. The enemy cannot recover quickly from the effect of the white phosphorous, and our troops have time to reach the pillbox."--CO, 1st Bn, 18th Inf, 1st Div.

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DECLASSIFIEDIV OPERATION OF TANKS IN COLD WEATHER.

"Officers of other units sometimes do not realize the problems of tank operation in cold weather. Some of the difficulties which should be understood are:

a. "A solid footing must be found for each tank if it is to be left in position for several hours. If this is not done it will freeze to the ground as though it were encased in cement. A strenuous effort to break out will result in track failure.

b. "In cold weather batteries will not start the engines unless fully charged. It is, therefore, necessary that the somewhat noisy auxiliary generator be run the greater part of the time that tanks are not actually engaged in combat.

c. "The proportion of tanks needing maintenance will be greater during cold weather because of the additional load on the batteries, engines and electrical systems."--CO, 749th Tank Bn.

V COMBAT BLANKET ROLLS.

"We have found it advantageous to make up combat rolls, consisting of blankets wrapped in a shelter half and tied with a tent rope, for every man in the battalion. These rolls can be dumped on the company position each night and there is no need for each man to find his own roll."--Bn CO, 329th Inf Regt.

VI FIRST AID PROBLEMS.

"Additional training is needed to get wounded men to give themselves proper first aid promptly and to move to the rear under their own power when they can. Some men, by waiting and calling for aid men and litter bearers, not only increase the ill effects of their own wounds but occupy the attention of medical personnel needed to aid more seriously wounded."--CO, 331st Inf Regt.

VII BOOBY TRAPS.

"Locations of recently discovered German booby traps again emphasize the necessity for the utmost vigilance:

a. "A wounded American soldier was found booby trapped where he had lain for 72 hours. Litter bearers successfully neutralized the trap before evacuating him.

b. "German ammunition has been booby trapped frequently and serious explosions have resulted. Captured ammunition should not be handled except under orders and with proper precautions."--G-2 Report, XII Corps.

VIII ANTIPERSONNEL MINES AND TRIP FLARES.

1. Antipersonnel mines. "Antipersonnel mines have proved successful against enemy patrols in areas lightly held by our troops, but it has been found that many casualties to our own troops will result unless they are laid in definite fields and patterns and properly marked on the friendly side with barbed wire. Care should be used to select minefield sites which are not accessible to livestock as one or two livestock casualties will give away the location of the field.

2. Trip flares. "Trip flares proved successful as a warning device and did not endanger our own troops."--S-2, [unclear]

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

9 DEC 1944

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experience are desired.

By command of General ELSON W. BAKER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I MACHINE GUNS.

1. Emplaced in buildings. "When we emplace machine guns on the ground floors of buildings to deliver grazing fire, we put them well back in the room to hide the flash and muzzle blast, and place chicken wire over the ground floor windows to stop grenades.

2. Indirect fire. "Batteries of .30 caliber and .50 caliber machine guns have been employed effectively on indirect fire missions to harass the Germans and keep them awake at night. German prisoners report that they do not like this fire and cannot locate the guns."--CO, Co H, 329th Inf Regt.

II SPREAD IN EMPLOYMENT OF DIRECT FIRE WEAPONS.

"During a stabilized situation I employed all types of weapons in a direct fire role without loss. This required thorough planning, reconnaissance, selection of routes and position and rapid and efficient operation by gun crews. A typical example of the employment of a 155mm self-propelled gun was as follows:

- | | |
|--|------------|
| a. "Time required to get into position | 6 minutes |
| b. "Time required to reduce pillbox by firing three rounds | 4 minutes |
| c. "Total time exposed | 10 minutes |
| d. "Time before counterbattery fire fell | 25 minutes |

By this time the gun had moved to its alternate position."--Bn CO, 18th Inf Regt.

III ATTACK ON A VILLAGE.

"We used an unusual plan to take a small town of about thirty stone buildings near Nancy. Ten battalions of artillery placed three rounds on the town and then smoked the area. Under cover of the smoke a company of medium tanks moved in on each flank and fired into the houses. Then the infantry dashed through the town throwing incendiary grenades into the windows, and dashed out again. Shortly, every house was burning and the Germans who had probably been in the cellars began to run out. We killed or captured about 300."--CO, Combat Command, 7th Armd Div.

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DECLASSIFIED**IV TANK EXPEDIENTS.**

"Some units have modified the mounting of the turret cover of the M-4A3E2 tank so the cover opens to the rear. This permits leaving the cover open when moving without danger of damage from striking obstructions. Some units also weld a steel ring around the outside edge of the hatch opening recess to prevent water running into the recess."-- Executive Officer, 7th Armd Group.

V CHECK LISTS FOR PATROLS.

1. Early planning. The following report on a successful system of patrol planning and employment by the 102d Cavalry Reconnaissance Squadron (Mechanized) emphasizes early and detailed planning, and interrogation, using standard written forms for conveying and recording information. The method so far has been employed only in a static situation.

2. Orders and reports. "The patrol orders are given to the patrol leader at least 36 hours before the time to depart, and he issues his order to the patrol in time to allow 24 hours for preparation, reconnaissance and inspections. The mission is made out on a fixed form sheet; the patrol leader puts his plan down in detail on another form, and upon return from the mission the patrol leader is interrogated by the battalion S-2 or S-3 and all information set down in detail on still another form. The interrogation system has proved more effective than requiring the patrol leader to submit a report because many small details otherwise overlooked are brought out by the interrogator. The system has paid dividends in more efficient planning, conduct, and execution of patrol activity.

3. Mission form. "The mission form given to the patrol leader includes the patrol's mission, size, times of departing and returning, routes and special instructions such as other patrols operating in the vicinity during the period.

4. Plan form. "The detailed plan which the patrol leader must prepare in writing includes, in addition to the above information, an alternate route, formation to be employed, communications plan, signals for control, disposition of any attached personnel (artillery, medical, engineers), method of employment of supporting weapons, action of patrol upon contact with enemy or upon discovery of mines and booby traps, plan of defense if ambushed, assembly or rallying point if elements are separated, and the support to be called upon if ambushed.

5. Interrogation form. "The interrogation form records all information obtained, such as actual times of departure and return, the routes actually followed, enemy observed, prisoners taken, action taken under special circumstances, and patrol losses, if any."--V Corps Observer

VI 60MM MORTARS.**DECLASSIFIED**

1. Mixing types of shells. "We use 60mm high explosive and illuminating shells alternately. The Jerries freeze in position when the illuminating shells are fired and heavy casualties can sometimes be inflicted with the following round of high explosive.

2. Observers with radio. "We have used the SCR 536 for effective communication between the observer and the 60mm mortars. The support not only has been better but the mortars can be emplaced where they are safer from enemy fire and where ammunition supply is easier."--Bn CO, and Bn Executive Officer, 329th Inf Regt.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 7

7 DEC 1944

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experience are desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I RADIO SECURITY.

"The possibility of location of front line radios by intercept methods worried us until we learned better and still seems to bother the Germans. In one case they apparently thought their position was located by a detection device when it was actually given away by poor radio procedure. A German patrol was picked up on our SCR 536 net. We put an interpreter on the radio and were able to follow the patrol's exact course from their references to terrain features. A trap was laid and six of the thirteen-man patrol were either killed or captured. The remainder were heard to request permission to withdraw because of heavy casualties. They stated that they were reorganizing in a chalk mine bed and gave its location. We immediately placed artillery fire on the area. They again called and reported artillery fire falling near them, giving the location of the strike with reference to them. Our artillery adjusted on this information. The patrol's last report was: 'The Americans are registering on our radio, we are closing down.' A later patrol came into our position using the same radio net, but made reference only to numbered positions. We could not determine its route until the patrol happened to run into one of our platoons."--CO, 2d Bn, 329th Inf Regt.

II TNT FOR EVERY MAN.

"We issue every officer and man one-half of a stick of TNT with fuze and detonator. The explosive is carried taped to the trench knife sheath, pistol holster or other convenient spot. Most men carry the fuze and detonator in the canteen cover. We have found the explosive to be most useful when foxholes are needed in a hurry as, for example, just after we have taken a position and are expecting a counterattack or shelling. The ground can be shattered sufficiently with the TNT so that a man can dig a hole in ten minutes that will provide protection from fire. If two blocks are used, a hole that will provide protection from a tank can be dug in 15 minutes. Best results are obtained in medium or chalky soil. This distribution also makes explosive readily available for emergency demolitions."--CO, 331st Infantry.

III BAZOOKAS FOR THE INFANTRY IN A RIVER CROSSING.

"The collection of available bazookas from supporting artillery units to supplement those of the infantry helped to assure adequate antitank defense for leading waves during the crossing of the Mark River."--CO, 10th Infantry Division

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IV CLEAN CLOTHING FOR COMBAT TROOPS.

"We have accumulated enough clothing to maintain a stock of approximately 50 duffle bags of shirts, trousers and underwear for each battalion. Each item is classified as large, medium or small and each duffle bag contains only items of the same type and size. Most of the duffle bags are carried on the regimental train but each battalion carries a limited number to take care of emergency needs. When a unit desires clean clothing the battalion S-4 draws the necessary bags and takes them to the company where the supply sergeant issues the clothing, and returns the dirty clothing to the regimental S-4 through the battalion S-4. It is laundered and then sorted and put back in the bags by regimental supply personnel. The system makes it possible to have a complete change of clean and dry clothing for every man in the regiment. Attached units have approximately ten duffle bags each and are responsible for their own sizing and laundering."--314th Inf Regt.

V LAYERS OF MINES.

"The Germans are burying mines as many as three deep in soft muddy roads. Sometimes the top mine is located by means of the mine detector and lifted without the other mines being detected. Several vehicles may pass over the remaining mines without setting them off, but when the ruts are worn deep enough detonation occurs. In most instances the deeply buried mines are booby trapped. We have found that the quickest method of handling such mines is to blow them in place with dynamite and then repair the hole in the road."--22d Inf Regt.

VI ENGINEER OPERATIONS.

1. Use of a standard overlay. "We reproduce and distribute a 'ditto' overlay to companies and reconnaissance sections when we are assigned a reconnaissance area where many overlay reports probably will be required. Issuing this standard overlay saves making separate overlays for each report and eliminates inaccuracies usually encountered when many different persons trace their own overlays."--CO, 159th Engr Bn (C)

2. Civilian engineer cooperation. "It is SOP to contact local civilian engineers upon entering a new area in order to obtain engineer construction information and comparisons of local steel and wood section modulus values with those carried in military handbooks for items of American manufacture."--CO, 159th Engr Bn (C).

3. Civilian highway officials. "Road and bridge reconnaissance teams find that civilian highway officials often have valuable charts and reports which show data concerning bridges, rock quarries, road material and conditions of rivers and streams. Valuable information has also been obtained on snow conditions and usual locations of snowdrifts."--CO, 35th Engr Bn (C)

VII ENEMY MINES AROUND PILLBOXES.

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1. The pattern. "Recently, the enemy has scattered booby traps and anti-personnel mines in an area extending outward about 25 yards from each pillbox. He has placed a wire around three sides of the pillbox connected to continuous bands of trip wires to which the mines are attached."--Bn CO, 18th Inf Regt.

2. The countermeasure. "I have used the fires of 81mm mortars effectively against mines around enemy pillboxes. Mortar shells exploded many mines by sympathetic detonation, and also made craters which gave protection to our troops against enemy fire."--CO, 18th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

No. 4

5 DEC 1944

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experiences are desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I VALUE OF INFANTRY CANNON.

1. Employment. "The 11th Infantry Regiment found the quick support provided by its cannon company, under regimental control, particularly valuable in the capture of three important city objectives -- Angers, Chartres, and Fontainebleau -- during the period of fast movement across France. The cannon company was usually included as part of the advance guard to insure close, rapid support. When battalions took different routes a cannon platoon normally was attached to each battalion.

2. Angers. "In the battle for Angers the cannon company initially moved into action quickly and fired as a separate battery with its own fire direction center. On the 8th and 9th August it was credited with knocking out two 20mm and two 40mm antiaircraft guns depressed for ground use, one antitank gun, one 88mm gun and an enemy command post. It also fired on other targets under field artillery direction.

3. Chartres. "The best example of the use of cannon controlled by the regimental commander was at Chartres. In one instance a rapid movement into position and brief barrage on a group of 90 Germans trapped between two of the battalions, forced a quick surrender. In another case an enemy group estimated at about 1000 (less 100 killed) was surrendered by a German colonel after his positions in a forest were thoroughly covered by cannon company fire. A German observation post in a steeple knocked out by cannon at the beginning of the barrage neutralized enemy counter fires, and the fireworks caused by a hit in an ammunition dump added to the enemy's confusion.

4. Fontainebleau. "The Fontainebleau crossing of the Seine was effected hurriedly. Cannon company fires neutralized much of the German support that was sent forward to knock out the 2d Battalion in its shaky bridgehead. Additional fires of friendly artillery battalions were adjusted by cannon company observers."--11th Inf Regt.

II TANK RIDES FOR THE INFANTRYMAN.

"Every infantryman should be given a ride in a buttoned-up tank to show him the limited vision and field of fire and the closed off feeling of the tankers. It will do much to counteract the dread of a tank attack and increase his faith in his own ability to resist them."--Bn CO, 175th Inf Regt.

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DECLASSIFIED**V MISUSE OF AMMUNITION.**

"A 105mm howitzer crew tried to increase the velocity and destructiveness of the high explosive, antitank shell, M-67, by substituting the propelling charge for the high explosive shell, which is about double the proper charge for the antitank shell. The effect on the target was no greater than that produced by the proper propellant and the 20th round exploded in the tube."--Asst Ord Officer, XIX Corps.

VI S-2 COMMENTS.

The following comments were made by various unit S-2s at a recent meeting of intelligence officers of the 90th Infantry Division:

a. "We obtained valuable information quickly by placing a prisoner of war interrogator at a battalion command post during the Maizieres attack. In one instance we learned how many enemy were in a nearby house, how they were armed, and the location of mines and booby traps. This information was sent to forward platoons by radio about the time the troops reached the house. In another case, an officer prisoner stated that he had been in a certain house before his capture. The house was searched immediately and a captured map revealed mortar positions which our fire soon silenced.

b. "Riflemen should be encouraged to send back all the documents and papers which are found.

c. "Men who have not been under fire previously are useless on patrols which are likely to receive fire.

d. "Wounded men have valuable information. I am going to place an intelligence and reconnaissance man at the clearing station for the purpose of talking to the not too seriously wounded.

e. "A company recently received most of an artillery concentration. It reported the origin of the flashes. When the fire fell adjacent to it, the company failed to report. Reports on adjacent fires are a valuable means of helping the shelled unit.

f. "The smoke pot offers patrols a good means of escape from enemy fire and should be used more often.

g. "Every S-2 should go on a patrol mission to understand problems which arise to confront the men.

h. "When a patrol opens fire upon the enemy, it should fire simultaneously with all its weapons.

i. "Care of maps should be stressed. Try to anticipate your needs, and take care of the maps you get. Don't waste them and don't let them get wet."--G-2, 90th Inf Div.

VII USE OF GERMAN PACK HOWITZER.

"We have used the German 75mm pack howitzer effectively as direct fire weapons at ranges up to 1000 yards with the open sight. They are manned by crews from the anti-tank platoon and towed by the M-24 cargo carriers. The use of such weapons is profitable as replacements are easily obtained and we can afford to take more chances with them."--Bn CO, 18th Inf Regt.

VIII NEUTRALIZING ENEMY SMALL ARMS FIRE**DECLASSIFIED**

"Enemy small arms and automatic weapons fire at night in a static situation was held down by using direct fire weapons, including the infantry cannon and captured 75mm howitzers. These weapons were placed in camouflaged positions and zeroed in during daylight by firing two or three bore-sighted rounds near the enemy positions. When Jerry would open up at night we would lay a few salvos on the suspected positions, usually silencing the fire and definitely improving the morale of our troops."--Bn CO, 18th Inf Regt.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

1 DEC 1944

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By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I. MARCHING FIRE.

"Marching fire has saved us casualties by making Jerry keep his head down. When we use it every man begins by firing one full clip or magazine from whatever weapon he is armed with. Company I on one occasion used it against an enemy force which was dug in 500 yards away behind a stone wall. Our troops had to cross a wide open field. The attack was started by a flare signal. On this signal every man came up and fired a full clip and then continued to fire as he advanced. We did not have a casualty and took 400 prisoners whom we found crouched down in their holes, some of them crying. On being questioned they said they could not get their heads up to fire."--Officers of 329th Inf.

II. INFANTRY-TANK COORDINATION.

"We find control is facilitated in infantry-tank operations by using the following SOP:

- a. "When tanks are moving ahead of infantry, a tank is held back to provide the infantry commander radio communication with the other tanks.
- b. "When tanks and infantry are moving together, the infantry company commander rides in a leading tank with the tank platoon leader."--CO, Co E, 16th Inf.

III. MANURE PILES AS CAMOUFLAGE.

"The Germans were using dugouts camouflaged under manure piles in the towns of Migneville and Reherrey. Firing slits usually gave good fields of fire in several directions. The dugouts were so well camouflaged as to be unnoticeable from the road and were difficult to discover except from behind the manure pile."--G-2, 79th Inf Div.

IV. INTERROGATION OF PATROLS.

"Returning patrol members should be carefully questioned by experienced officers. On one occasion a patrol reported that nothing of value had been observed. Questioning revealed that one man had seen a number of dead sheep. Another patrol was sent to this area and found a minefield."--S-2, 1106th Engr C Group.

- 1 -
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V MINES AND BOOBY TRAPS.

1. German stick mines. "We have recently encountered German 'stick' mines consisting of an 18 inch stake with a concrete head containing glass and steel fragments and a core of dynamite. The top of the mine is four inches wide and is about one foot above the ground when the stick is emplaced. The sticks were placed about eight feet apart, joined by trip wires ten inches above the ground, and hidden in grassy areas along trail: woods and natural routes of advance."--CO, 2d Bn, 357th Inf Regt.

2. Controlled mines. "One of our units encountered a controlled mine field near Bezange La Petite. Wires led from each mine to a foxhole and one man in the foxhole could detonate the mines as our troops passed by pulling the proper wires."--G-3, 26th Di

3. Riegel mines. "These mines are approximately 31 inches long, 3½ inches high, 3½ inches wide, weigh 20 pounds and are painted buff color. They have been found in quantity by the XII Corps. These mines should never be stacked as they can be activated in such a manner that two pounds pressure or rough handling will cause detonation. Whenever practicable, they should be pulled by rope from their position and blown without delay. Their destruction should be carefully supervised and only one man should approach the mine to set the charge."--Report of XII Corps.

4. Russian large box antitank mine. "This mine is constructed of ½" rough lumber and is painted dark gray with black lettering. It will not be picked up by the mine detector. It is approximately 20 inches long, 8 inches wide and four inches high. A pressure of 250 to 300 pounds will crush the false bottom and cause detonation."--Engr O, XIX Corps.

5. Improvised antitank and antipersonnel mine. "This is an unpainted wooden box mine 18 inches long, 10 inches wide and seven inches high. However, it contains enough metal to permit discovery by the mine detector. The lid rests on a center cross piece, which allows either end of the lid to be depressed, thus detonating the mine. The amount of pressure required is adjustable."--Engr O, XIX Corps.

6. Russian paper infantry mine PMK40. "This mine is constructed of heavy paper held together with glue and waxed for waterproofing. It is dark brown and cannot be detected by the mine detector. It is circular, about 2-3/4 inches in diameter and 1½ inches high. It is activated by crushing the lid. This mine cannot be neutralized but can be handled if caution is used not to place any pressure on the top."--XIX Corps.

7. Booby traps at Aachen. a. "Civilians in Aachen proved a reliable source of information on location of mines and booby traps. Ten out of 22 reports received at the group headquarters were from civilians and in every case the report was correct. It was felt that the desire to remove danger from their own homes and vicinity prompted the information.

b. "We found one small area containing 25 traps of different types.-- generally made from grenades attached to trip wires. One was made with two grenades arranged so that either tripping or cutting the wire would activate the device. Another was placed to detonate when a plane landed."--Report of 1106th Engr Group.

8. Booby traps. "Booby trapped fence posts were encountered by the 95th Division. They were similar in construction to the stick mine.-- the explosive in the center surrounded by glass and steel fragments, all inclosed in concrete. The top wire of the fence was connected to the detonator. The surface of the posts was smoothed over with a light layer of concrete to give them a normal appearance but only those posts through which the top wire passed were trapped."--Report of IX Corps.

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- 2 -

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

30 NOV 1944

DECLASSIFIED
"Battle experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experiences are desired.

By command of General EISENHOWER:

R. B. Lovett

R. B. LOVETT
Brigadier General, USA
Adjutant General.

I IMPROVISED MINE PROBE.

1. A useful "cane". "We have used the rods from 155mm cloverleaf ammunition containers to aid in locating mines. We put a point on the rod and bent one end to form a handle. We issued about 250 per infantry regiment.

2. Uses. "The cane can be used to discover trip wires by swinging it gently ahead; to feel in advance, when crawling, for trip wires and prongs of mines; and to probe for buried mines. Probing should be done at an angle so as not to detonate mines which require only light pressure. Schu-mines, for example, are detonated by pressure of five pounds or less.

3. Training. "Troops can be convinced of the value of the expedient by training them in our own mine fields. Replacements, particularly, should be given some of this training."--S-3, 15th Engr Bn.

II WIRE TROUBLE SHOOTING.

"Wire trouble shooting has been simplified by setting up check stations at intermediate points along the line. The stations, each manned by a lineman with a telephone, have separate code rings and are numbered consecutively forward from regimental headquarters. When the line goes dead, the operator rings the stations consecutively until one does not answer, thereby localizing the trouble between that station and the last one to answer. Normally no more than three such test stations are used."--Communication Officer, 414th Inf Regt.

III STANDING OPERATING PROCEDURE FOR MOTOR PATROL SECURITY.

1. The method. "It is standing operating procedure in the 415th Infantry that when the first jeep of a patrol is halted by enemy action the men in the following jeeps dismount and proceed to either flank. The action is automatic, like a well-rehearsed football play.

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2. An example of results. "The intelligence and reconnaissance platoon was leading one column of the regiment during an advance. The leading jeep was halted. Its occupants had seen a foxhole and captured two German prisoners. As the platoon commander reached the scene, he heard firing to the rear which soon became general on either side. Deciding he had entered a prepared position, he ordered the jeeps turned around. This was accomplished under cover of the fire of the men to the flanks. The platoon withdrew without loss. A checkup showed that seven Germans had been killed and two German prisoners were taken."--S-2, 415th Inf.

IV FIGHTING IN TOWNS.

Note: The following are comments of men of Company I, 357th Infantry after the capture of Maizieres-les-Metz:

1. Comments of riflemen. a. "The rifleman should fire at any opening to keep the enemy down until he gets inside the building. We used a three-man team in searching rooms -- one man with grenades ready to throw at the first sign of occupancy, and two men covering him. Speed is essential."--Pfc Macozzi.

b. "Every man must know his individual mission. In our attack each man was responsible for a definite objective. When the squad objective has been taken, half of the squad should consolidate the position while the other half returns and mops up. We augmented our armament with every automatic weapon we could get."--Pfc Gottlieb.

c. "Carry plenty of ammunition. We found the following to be sufficient: three extra bandoleers, four fragmentation and two white phosphorous grenades. When you start, keep moving. Throw grenades into cellar windows but hold them for a few seconds so they cannot be thrown back. Keep contact with adjacent units no matter how small. When the objective is taken, consolidate for a counterattack."--Pfc Bulok.

2. Comments of a Browning automatic rifleman. "The Browning automatic rifle should be in the leading echelon and every likely target should be treated to a generous dose of fire -- especially before entering a house. Often there is not sufficient time to get a clear sight picture but fire must be delivered to cover the riflemen. More training should be given in hip shooting and in the use of the Browning automatic rifle as a close-in weapon."--Pfc Hadash.

3. Comments of an assistant squad leader. "Some of the essentials to success in town fighting are knowledge of the plan of attack, intensive personal reconnaissance, following the supporting artillery fire as closely as possible, speed of movement, and keeping the platoon leader advised of your position."--Sgt Floyd.

4. Comments of squad leaders. a. "The following preparations for an attack will tend to dissipate the feeling of being lost and make the attack almost like a repeat performance: provide maps and sketches for every man in the platoon and give each a chance to familiarize himself with the area he is going into; let the platoon and squad leaders make as bold and complete a daylight reconnaissance as practicable. Each squad should have an SCR 536. Wire or radio are needed for communication with adjacent units as observation is usually impossible. Hit the enemy hard and fast and don't forget to consolidate after taking a position."--Sgt Almond.

b. "I found it best to split the squad into two or three groups and have each group hit a different building simultaneously. When a building is entered, some of the men should clear it while the others attack the next building. When the objective is taken, a mop-up group should be organized to return and clean out any enemy that have been left hidden in closets, and to locate booby traps."--S/Sgt Tardiff.

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HEADQUARTERS
EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

BATTLE EXPERIENCES

25 NOV 1944

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"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrary experiences are desired.

By command of General EISENHOWER:

R. B. Lovett
R. B. LOVETT
Brigadier General, USA
Adjutant General

I INSTALLATION OF BOOBY TRAPS.

"We avoid casualties while installing booby traps by using an improvised firing device consisting of two metal contacts installed at any point between the power unit and the blasting cap. The contacts are held apart by a wooden wedge connected to a trip wire. During installation the battery is not connected. This makes it possible to test the trip wire. A used BA 70 battery supplies sufficient current to operate five traps wired in series. Wire W-130 is used as a conductor and is connected to poles 'plus B-1' and 'plus B 2'. Number 6 electric blasting caps are used. Neutralization of TNT blocks by exposure to weather has been prevented by encasing the 1/2-pound blocks in prophylactic rubbers."--CO, AT Co, 38th Inf.

II A DIVISION COMMANDER'S COMMENTS.

The following comments are extracted from a document prepared by Commanding General, 29th Infantry Division:

1. Parley either useless or dangerous. "The time taken for parley with the enemy is either wasted or of advantage to him. The proper approach is to pour it on.
2. Beware of villages. "Villages are good places to stay out of. They should be taken by envelopment and reduced by fire. One of my companies took up a position in a village with four tanks for security. The Germans took the tanks and the bulk of the company without difficulty.
3. Jeep ambulances. "The importance of jeep ambulances cannot be over-estimated. In one of my regiments, the jeeps have evacuated an average of 750 casualties each since D-Day."

III CONTACT.

"We have found it valuable for units moving forward to anticipate the location of their flanks for the night and notify adjacent units by 1200 hours, so that adequate plans for contact can be made."--238th Engr Bn (C).

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IV ENGINEERS AS INFANTRY.

The 1106th Combat Engineer Group recently was required to take over a defensive position from the infantry unit occupying it. The following discussion of preparations for an execution of the task is extracted from a report of the Group commander.

1. Reorganization and reequipment. a. "A reorganization was necessary, based upon the changed primary mission of the group. One of the features of our reorganization was the formation of a provisional reserve company, made up of non-driver personnel from the two bridge companies. The drivers remained with their vehicles.

b. "Each engineer battalion needs a platoon equipped with four 81mm mortars and, if possible, a platoon of antitank mortars. Crews should be trained in headquarters and service companies.

2. Preparation and orientation. a. "An overlap period of at least 24 hours is desirable, during which the engineers and infantry both occupy the forward positions. It is particularly important that company officers become well acquainted with the positions by day and by night. All officers and some non-commissioned officers should be familiar with the location and missions of attached and supporting units. Some non-commissioned officers of the engineer unit should accompany the infantry patrols during the overlap period.

b. "Every effort should be made to prevent enemy identification of the incoming unit. Identifying insignia should be removed and vehicles with conspicuous markings kept well away from the front. Special steps should be taken to prevent capture of any member of the relieving unit during the overlap period.

3. Operations. a. "Group headquarters should coordinate patrolling and assign patrol missions.

b. "The artillery liaison officer with the battalion should coordinate the pre-arranged defensive fires of artillery and other supporting weapons.

c. "New observation posts must be developed daily. Sightseers must be kept away from them. We established a 'kibitzer' line, forward of which visitors were not permitted to go.

d. "Group headquarters made daily allocation of critical types of ammunition. Only items of Class V supply were drawn through division supply channels.

e. "The demands on the communication platoon of the group headquarters are severe and special steps must be taken to insure that this personnel get adequate rations and rest. We laid more than 50 miles of telephone wire, in addition to what we took over from the infantry."

V AIR SUPPORT PARTY OFFICER METHOD OF OPERATION.

"I find it valuable to go up in a liaison or artillery plane and study the targets and permanent terrain features prior to employing fighter-bombers for close-in missions. Knowledge of the appearance of the target areas from the air makes it much easier to brief the fighter-bomber pilots and to direct them to the targets without loss of time."--
Air Support Party Officer, 2d Inf Div.

VI SELF-PROTECTION AGAINST BAZOOKAS FOR TANKS.

"A tommy gun and hand grenades should be kept on top of the turret where the tank commander can use them quickly against bazooka teams or other close-in enemy."--Co D, 67th Armd Regt.

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- 2 -

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EUROPEAN THEATER OF OPERATIONS
UNITED STATES ARMY

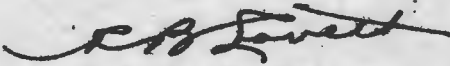
BATTLE EXPERIENCES

No. 1 (Last Twelfth Army Group issue was No. 90)

18 NOV 1944

"Battle Experiences" are published periodically to disseminate rapidly combat information which may have training value for other units. They are based on actual experience and are recommended for careful consideration. Reports of corroborative or contrasting experiences are desired.

By command of General ~~W. H. H. H. H. H.~~ HOWER:


R. B. LOVETT,
Brigadier General, USA
Adjutant General.

NOTE: This series of publications is a continuation of the series published under the same name successively by the First U.S. Army Group and the Twelfth Army Group. The general nature and purposes of the publication will remain unchanged.

I ARMORED "CHARGE".

1. Situation. "The 2d Armored Division had made repeated efforts to capture an objective about 3000 yards from the friendly front lines, using both tanks and infantry, without success. The terrain was devoid of cover and every attack was stopped by artillery and antitank fire.

2. Decision and plan. "It was decided to endeavor to obtain surprise and throw the enemy off balance by making an attack at high speed. A medium tank battalion, less one company, with one light tank company and one company of armored infantry attached was given the task. The infantry company was dismounted. Simultaneously with the launching of the attack artillery was to keep continual fire on known and suspected hostile locations and observation posts. The light tank company was the leading wave and had orders to proceed to the objective at 35 miles per hour. The infantry was to follow the medium tanks and mop up the dug in infantry which had been overrun and by-passed by the tanks.

3. The action. "The light tanks went about 1000 yards beyond the objective where artillery and antitank fire was encountered. They then withdrew to the objective, overrunning in the process some hitherto unobserved infantry and artillery locations. The infantry captured about 150 prisoners. The attackers lost four medium tanks.

4. Danger of the method used. "The method of action entailed the danger that the unreconnoitered ground might contain antitank ditches, mine fields or natural obstacles which would have disrupted the entire plan. Fortunately, none of these was encountered."
--CO, 67th Armd Regt.

II VALUE OF RECONNAISSANCE.

"One of our platoons was given the mission of setting up a defense in the northwest part of a German town which was subject to constant mortar and artillery fire. The scout

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section was sent in to locate the enemy, reconnoiter and secure a foothold. The platoon leader then caused careful foot reconnaissance to be continued to locate positions for the vehicles. At dusk the vehicles moved directly to their positions, guided by members of the scout section. Not a man was lost in the operation. Another unit with a similar mission moved its vehicles in daylight and suffered several casualties."--CO, 67th Ar Regt.

III USE OF TANK FIRE POWER.

"Many tankers, including some with battle experience, do not fully realize the effectiveness of the fire of tank weapons. Too many are prone to withhold their fire until they have been fired upon. In this organization, it is SOP that during an advance, reconnaissance by fire is begun as soon as enemy-held ground is within range and continued until objectives have been taken or defiladed positions reached. This is done regardless of the number of tanks making the advance. We feel that the wisdom of this policy has been conclusively proved by the number of weapons found abandoned and by statements of German prisoners that this type of firing drove their men away from their weapons."--2d Bn, 67th Armd Regt.

IV OTHER TIPS FOR TANKERS.

1. Tank defense at night. "Interspersing light tanks among the mediums for defense at night is considered a good practice. The .30 caliber machine gun and the 37mm gun with canister ammunition have proved very effective against enemy infiltration."--Co B, 67th Armd Regt.

2. Use of azimuth indicator. "Setting the azimuth indicator to read zero when the gun is pointed toward magnetic north serves these two purposes; first, it facilitates use of the gun for fire missions under battalion control and, second, it permits quick determination of the direction of enemy artillery for shell reports. The gun is simply pointed in the direction of the enemy gun and the azimuth read."--Co H, 67th Armd Regt.

V ALERTNESS AND INITIATIVE AID A RIVER CROSSING.

"During the recent crossing of the Mark River in northern Holland, Company A, 415th Infantry Regiment, was scheduled to follow Company B across in assault boats. While Company B was crossing, a lieutenant of Company A discovered a footbridge a short distance below the crossing point and disconnected mines which had been placed to demolish it before they could be fired. The company commander, disregarding the original plan, took all of the company that was available across the footbridge. While they were crossing heavy artillery and mortar fire came down on the original crossing point and operations there had to be stopped. The Company A commander occupied a favorable position with the men he had available and shortly after drove off, with severe casualties, a German unit of about platoon size which was trying to emplace a machine gun. The position was held until further crossings by the division were effected."--CO, Co A, 415th Inf.

VI BATTERIES FOR BAZOOKA

"Several divisions have worked out an ordnance-approved expedient to meet the shortage of bazooka batteries. They take the TL-122 flashlight, remove the reflector and bulb, paint over the lens and wire the remainder of the flashlight to the forward part of the stock. They place a drop of solder on the flashlight switch to hold it in the 'on' position and wire the flashlight to the firing mechanism."--Report of WD Observer Board.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 90

11 NOV 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

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C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

NOTICE: This index of previous "Battle Experiences" is the last issue of this publication by Twelfth Army Group. Succeeding issues will be from Hq, European Theater of Operations, U.S.A. Policies governing the distribution of information and the publication of "Battle Experiences" material will continue unchanged. The address of this activity is now: Commanding General, European Theatre of Operations, U S Army, attention G-3 Combat Lessons Branch, APO 887, U S Army.

"BATTLE EXPERIENCES" INDEX
(Issues 1 through 89)

<u>SUBJECT</u>	<u>NO.</u>
Administration (See Staff Procedure)	
Aerial Photography	32, 66.
Antiaircraft Artillery	
Against Ground Targets	15, 23, 41, 75, 77.
General	33, 63.
Air Support	
Armor	22, 36, 38, 42, 45.
Infantry	6, 13, 14, 31, 34, 35, 73, 82, 88.
Antitank Weapons (Inf)	30, 40, 69, 75, 83.
Artillery (Field)	
Air OPS	20, 22, 29, 31, 32, 34, 38, 44, 45, 46, 66, 67, 77.
Communications	21, 32, 84.
Forward Observers	5, 17, 31, 40, 45, 46, 70, 73, 77, 84.
Inf-Tank-Arty	7, 57.
Medium Artillery	18, 81, 88.
Shellreps	5, 22, 79, 86.

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DECLASSIFIEDSUBJECTNO.**Artillery (Field) (Cont'd.)**

Tactics	6, 9, 17, 20, 41, 19, 46, 59, 69, 70, 79, 81.
Technique	24, 28, 31, 45, 46, 59, 62, 70, 73, 77, 79, 81, 82, 88. 18.
Training	
Armored Units	
Air Support	22, 36, 38, 42, 45.
Attack	3, 11, 19, 22, 33, 46, 67, 80.
Fighting in Towns	75, 82.
General	3, 11, 18, 19, 22, 33, 34, 42, 45, 46, 51, 67, 68, 75, 80, 83, 84, 88, 89.
Inf-Tank Teams	3, 4, 8, 13, 17, 28, 29, 30, 35, 37, 45, 51, 53, 54. 57, 59, 60, 80, 89.
Inf-Tank-Arty Teams	7, 57.
Attack	
Examples of	32, 41.
Fortified Positions	49, 50, 54, 58, 60, 62, 63, 64, 65, 66, 67, 68, 73, 75, 79, 81, 82, 84, 87, 88.
Hedgerows	1, 3, 6, 8, 9, 12, 18, 37.
Inf-Tank Teams	4, 13, 17, 28, 29, 30, 35, 36, 37, 45, 51, 53, 54, 57, 59, 60, 80.
Inf-Tank-Arty Teams	7, 57.
Reconnaissance	39.
River Crossings	60, 75, 81, 87.
Smoke, Use of	27, 34, 59.
Street (City) Fighting	4, 50, 61, 76, 80, 82, 89.
Surprise, Element of	60, 68.
Time of	4, 23, 35, 59.
Woods Fighting	7, 62, 71, 82, 83, 84, 86.
Automatic Rifle (BAR)	19.
Bayonet Assault	37.
Bazooka	12, 35, 51, 52, 56, 81.
Booby Traps	1, 11, 37, 65, 67, 72, 86.
City (Street) Fighting.	4, 50, 61, 76, 80, 82, 89.
Civilians - Problems	28, 42, 60, 65.
Cannon (Infantry)	41, 54, 58, 65.
Command Post Locations	34.
Communications	
Artillery	1, 2, 84.
General	3, 6, 39, 66, 84.
Panels	34, 35, 44, 65, 66.
Radio	5, 10, 16, 25, 29, 36, 39, 42, 46, 52, 54, 62, 64, 66, 69, 71, 74, 77, 78, 86, 58.
Training	10.
Wire and Telephone	5, 17, 25, 29, 39, 46, 52, 56, 60, 64, 69, 71, 78, 84.

DECLASSIFIED

~~RESTRICTED~~SUBJECTNO.

Defense 5, 6, 26, 30, 36, 45, 62, 69, 72, 78.
 Enemy, Information Concerning
 Attack Methods 26, 60, 78.
 Defense Methods 1, 5, 6, 10, 11, 17, 20, 21, 27, 39, 42, 49, 52, 56, 61, 62, 64, 66, 68, 82, 89.
 Organization (in C's) 42
 Snipers 10, 12, 20, 27, 36, 37.
 Tactics, General 4
 Tricks 2, 19, 20, 27, 33, 36, 37, 85, 67, 78, 84, 86.
 Weapons 5, 71, 82, 85.
 Engineer Operations ~~5, 18, 54, 63, 66, 80, 88.~~
 Equipment, Individual 1, 9, 21, 24.
 Fortified Positions, Attack of 49, 50, 54, 58, 60, 62, 63, 64, 65, 66, 67, 68, 73, 75, 79, 81, 82, 84, 87, 88.
 Fire Distribution and Discipline 1, 4.
 Fire and Movement 27, 37, 46.
 Feeding 46.
 German Army (see Enemy, Information of)
 Grenades 12, 35.
 Hedgerows
 Attack With Tanks 3, 8.
 Attack Without Tanks 1, 6, 8, 9, 12, 18, 37.
 German Defense of 1, 10.
 House, Village and Street Fighting (See City Fighting)
 Infantry
 Air Support of 6, 13, 14, 31, 34, 35, 45, 73, 82, 88.
 Anti-Tank Weapons 30, 40, 69, 75, 83.
 Bayonet Assault 37.
 Cannon Company 41, 54, 58, 65.
 Fire and Movement 27, 37, 46.
 Fire Distribution and Discipline 1, 4.
 Inf-Tank Teams 3, 8, 13, 28, 29, 30, 35, 36, 53, 54, 59, 60, 80, 89.
 Inf-Tank-Arty Teams 7, 57.
 Reconnaissance 24, 36, 39, 80.
 Scouting and Patrolling 5, 20, 25, 26, 29, 35, 37, 39, 40, 58, 69, 84.
 Training 5, 10, 12, 14, 19, 20, 21, 24, 30, 40, 51, 52, 53, 54, 71, 56, 59, 60, 77, 79, 80, 81, 73, 75.
 Weapons (See Weapons)
 Individual Equipment 1, 9, 21, 24.
 Intelligence
 Dissemination of Information 34, 56, 59, 66.
 General 16, 36.
 Security 85.
 Training 16.

DECLASSIFIED

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DECLASSIFIEDSUBJECTNO.

Liaison Planes	20, 22, 29, 31, 32, 34, 38, 44, 45, 46, 66, 67, 77.
Leadership	33, 34, 37, 44, 48, 53, 60, 68, 69, 70, 74.
Machine Guns	16, 27, 54, 58, 59, 85, 89.
Maintenance	
Ordnance	29, 45, 51, 54, 74, 89.
Miscellaneous	74.
Medical Operations	6, 15, 18, 37, 39, 45, 58, 66, 75, 87.
Military Police	28
Mines	11, 33, 41, 42, 66, 67, 71, 72, 89.
Mortars	6, 10, 12, 20, 23, 25, 27, 28, 34, 37, 46, 52, 54, 58, 73, 86, 88.
Chemical (4.2)	2, 19, 24, 33, 40, 51, 66, 88.
Counter mortar Missions	25, 85.
Motor Movement and Traffic Control	11, 21, 24, 64.
Orders, Issuance of	39.
Panels	34, 35, 44, 65, 66.
Personnel	
Reconditioning	24, 62, 75.
Replacements	16, 17, 56, 71, 79, 86.
Prisoners of War	46, 73.
Radio (See Communications)	
Reconditioning (Personnel)	24, 62, 75.
Reconnaissance	36, 39, 80.
Replacements (Personnel)	16, 17, 56, 71, 79, 86.
Rifle, M-1	60.
River Crossings	60, 75, 81, 87.
Scouting and Patrolling	5, 20, 25, 26, 29, 35, 37, 39, 40, 58, 69, 84, 85.
Security	
Siegfried Line, Attack of	49, 54, 58, 60, 63, 65, 66, 67, 68, 73, 79, 82, 84.
Smoke	27, 34, 59, 73, 82, 86.
White Phosphorous	3, 20, 35, 73, 83.
Snipers	9, 10, 12, 20, 27, 36, 37, 60.
Staff Procedure and Administration	
Casualty and Strength Reports	71.
CP Locations	34.
Evacuation	45.
Information, Dissemination of	34, 56, 59, 66.
Orders, Issuance of	39.
Periodic Reports	28.
Personal Effects	77.
Prisoners of War	46, 73.
Street (City) Fighting	50, 61, 76, 80, 82, 89.
Submachine Guns	
Supply	
Classes of	43, 47, 55.
Discipline	11, 73.

~~RESTRICTED~~

<u>SUBJECT</u>	<u>NO.</u>
Supply (Cont'd)	
Feeding	46.
Individual Equipment	1, 9, 21, 24.
Maintenance	
Ordnance	29, 45, 51, 54, 74, 89.
Miscellaneous	74.
Replacement (Equipment)	39, 81.
Salvage	3, 41, 71, 74.
Truckheads	36.
Surprise, Elements of	60, 68.
Tanks (See Armored Units)	
Tank Destroyers	29, 35, 46, 51, 52, 54, 56, 67, 78, 81, 82, 83, 89.
Task Forces	34, 36.
Telephone (See Communications)	
Traffic Control and Motor Movement	11, 21, 24, 64.
Training	
Artillery	18.
Communications	10.
Infantry	5, 10, 12, 14, 19, 20, 21, 24, 30, 39, 40, 51, 52, 53, 54, 56, 59, 60, 66, 71, 73, 75, 77, 79, 80, 81.
Intelligence	16.
Reconditioning Personnel	24, 62, 75.
Replacements	16, 17, 56, 71, 79, 86.
Truckheads	36.
Village Fighting (See City Fighting)	
Weapons	
Anti-Tank (Inf)	30, 40, 69, 75, 83.
BAR	19.
Bazooka	12, 35, 51, 52, 56, 81.
Cannon (Inf)	54, 58, 65, 41.
Grenades	12, 35.
Machine Guns	16, 27, 54, 58, 59, 85, 89.
Mortars (Inf)	6, 10, 12, 20, 23, 25, 27, 28, 34, 37, 46, 52, 54, 58, 73, 86, 88.
Mortars (4.2 chemical)	2, 19, 24, 33, 40, 51, 66, 88.
Rifle, M-1	60.
Sub-Machine Gun	27.
Use of	56, 85, 89
White Phosphorous Smoke	3, 20, 35, 73, 83.
Wire and Telephone (See Communi- cations)	
Woods Fighting	7, 62, 71, 82, 83, 84, 86.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 89

10 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I ADDITIONAL .30 CALIBER MACHINE GUN FOR TANKS

Substitution of a .30 cal MG for the .50 cal MG on the tk AA mount has been reported as desirable by tk Os in the Mediterranean Theater. They feel that Allied air superiority makes the .50 cal MG unnecessary and that the additional .30 is desirable for use against personnel. Other advantages mentioned are that am sup is simplified and that more am can be carried in the same space. Units which have tried the modification find the gun "very handy".--Report of Armd Group to WD Board.

II CITY FIGHTING

1. Fire power. "I learned to use the fire power of every available wpn in the Aachen fighting. We took one strongly held position without a single casualty by laying an arty barrage, a closer-in mort barrage, and having every man in the assault wave throw a grenade as the fire lifted and the assault started.

2. Infantry-tank coordination. "We kept the tks and TDs well forward, usually one to a street. Four infantrymen were assigned to protect each vehicle from bazookas and other AT wpns."--Bn CO, 26th Inf.

III SUPPLY AND REPAIR OF ORDNANCE ITEMS.

"Ord sup and repair has been speeded by placing the responsibility for the requisition, issue, and repair of all wpns on the regtl am section. The mun O has given one of his sgts the specific duty of collecting items for repair and of receiving them from the div ord co for reissue."--Report of 11th Inf Regt.

- 1 -
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IV ATTACK AGAINST REVERSE SLOPE DEFENSE (Extracted from memo of 83d Inf Div)

1. Jerry's short range weapon. "PW reports verified by actual contact with combat patrols indicate the enemy is arming units of co size with a 1944 model automatic rifle. This wpn is efficient only at short ranges and is no match for the M1 rifle at medium and long ranges.

2. His defense. "One method used by the Germans for obtaining close contact has been the use of reverse slope tactics in defense. Only a few of the defending force are placed on the forward slope near the crest. The bulk of the force with supporting wpons is well dug in on the reverse slope. Any force attacking such a position finds little trouble reaching the crest of the hill, but once it starts across the crest it comes under heavy fire at short ranges from a mass of automatic wpons, including MGs.

3. How to crack it. "The proper method of attacking such a position is to quickly drive the defenders from the forward slopes, and cross the crest only after the reverse slope has been thoroughly swept and plastered with WP and HE mort and arty fire. Once the reverse slope is thoroughly covered by fire the attackers must move quickly over the crest and attack with marching fire, hand grenades and the bayonet.

4. Countering the counterattack. "The German counterattack is almost automatic and usually hits a flank just as the attack approaches its climax or immediately after it succeeds and before reorganization can be effected. The best method of countering the counterattack is by a reserve composed of tks and inf so disposed as to permit hitting the counterattacking force in its flank. Defensive arty fires to assist in breaking the counterattack should be planned before the action starts.

5. Action after successful attack. "Immediately after the position is taken, action is necessary to prevent heavy loss from arty and mort fires which are almost certain to follow closely. If the attack is to proceed, the attacking forces should move forward from the position quickly; if not, a small holding or observing force should be left and a position organized for the bulk of the force on the reverse slope."

V MINES

1. Antipersonnel. "Increasing numbers of antipersonnel mines have been encountered--some nonmetallic and not susceptible to location with the mine detector. Antipersonnel mines are normally placed in groups. In one instance the lead man of a patrol stepped on a Schu-mine. Three other men, including the patrol leader became casualties from other mines when they attempted to assist him.

2. Antitank. "Enemy AT mines now are being more carefully camouflaged. Mines on hard surface roads are even being covered with a light layer of tar to give the appearance of a repaired hole. Some of our units locate German mines and then ring them with mines and booby traps to catch German inspection parties--but the Germans sometimes do the same to ours."--Report of V Corps Obsr.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 88

9 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I MORTAR FIRE.

1. Eighteen-mortar battery. "We fire 81mm morts as bn btrys, employing control similar to that used by arty. This has made possible the simultaneous use of the morts of all three bns on regtl targets.
2. Types of fire. "The types of fire employed are as follows:
 - a. "Mortar time on target (MTOT), in which all rounds strike a selected target at the same time.
 - b. "Mortar time on line (MTOL), in which all rounds strike along the same line simultaneously.
 - c. "Mortar time on area (MTOA), in which each bn btry fires on a bn line, each bn at a different range, giving simultaneous area coverage.
 - d. "Rolling barrage, which employs either MTOL or MTOA fire, increasing the range for each succeeding round.
3. Time of flight. "No time of flight tables are available for morts. In order to place simultaneous fire on regtl missions, it is necessary for each btry to register on the prescribed target and record time of flight.
4. Method of firing. "When using this type of barrage on known targets, it has been found most effective to fire one round per mort, repeating the fire any number of times at odd intervals. The enemy usually finds cover before a second round strikes.
5. Results. "Enemy PWs stated that the fire was very effective chiefly because they never knew when it was going to strike next. In one case they were even afraid to get out of foxholes to feed in their co area. Small details had to be sent around from hole to hole with the food. We also developed a technique of sniping at these details with 60mm and 81mm morts."--CO, 117th Inf

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DECLASSIFIED**II ATTACK OF A FORT.**

NOTE: The following "lessons learned" are extracted from a report of the 90th Inf Div covering the period of the attack on Fort Driant.

1. Engineer activities.
 - a. "Engrs must determine the amount and type of explosive needed to breach the casemates.
 - b. "Once a casemate is breached, gasoline and oil should be poured into it and ignited, preferably with a WP grenade. Flame throwers can be used but are of limited effectiveness.
 - c. "Sandbags must be provided after each casemate is captured to seal tunnels running to the next casemate.
 - d. "Oxygen masks should be made available for underground operations.

2. Use of tanks.
 - a. "Tks are useful in reducing pillboxes, but are not effective against casemates.
 - b. "Tks must be withdrawn at night and protected from enemy infiltration. Tankers must assist in their own local protection. They must not all get in their tks and 'button up'.

3. Artillery and 4.2 mortars.
 - a. "Arty was generally ineffective on casemates, but some casemates were knocked out by SP 155mm guns at a range of 800 yds.
 - b. "Cml morts were not effective against casemates, but were useful for smoking enemy obsn.

4. Air support.
 - a. "The 1000 lb HE and 'jell' bombs dropped on the fort were not effective.
 - b. "The 2000 lb HE bombs dropped on Ft Verdun, similar to Ft Driant, did some damage.
 - c. "It is believed that 4000 lb HE bombs would cause the desired destruction. Air preparations using these bombs should be made the day preceding the attack."

III HEAVY ARTILLERY SHARPSHOOTING.

"Pinpoint accuracy by supporting heavy arty was reported by the 90th Inf Div in a recent action. A large building, strongly held by the enemy, was holding up the clearance of a town. Inf troops were on three sides of the building and within 100 yds of it in some places when the task was turned over to a 240mm how and one 8" btry. The guns were fired from a range of 9000 yds and controlled from an OP 1000 yds from the target. Due to the proximity of friendly troops, the arty registered 300 yds beyond the target and crept back to it. A total of thirty-seven 8" shells and seventeen 240mm shells were fired, completely destroying the building and killing all of the defending enemy plat except one O and five men. Friendly troops within 100 yds of the fire were untouched."--Report of CG, 90th Inf Div.

IV DESTRUCTION OF GERMAN RAILWAY GUN.

"Destruction of a German heavy cal (probably 280mm) railway gun in the Metz area, is claimed by XX Corps Arty. The gun was reported as hidden in a shed on a track in the railroad yard. The corps arty intelligence section, with the cooperation of French railroad officials traced the gun to a particular 100 yd area within four hours. A btry of 155mm guns, adjusted by a high performance plane fired 140 rounds. As a result the gun was demolished and 22 casualties were reported. A few WP rounds caused fires lasting several hours."--Report of ~~XXXXXX~~ Arty Hq.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 87

8 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I COORDINATED ATTACK ON A PILLBOX AREA.

NOTE: The following description of a coordinated attack by an inf rifle co reinforced by one medium tk plat, a plat of TDs and a plat of engr, and supported by arty, is extracted from a report by the CO 634th TD Bn to the CG, 1st Div.

1. Enemy position. "The objective was a group of three concrete pillboxes located on the far side of a dense woods which the Germans apparently depended on to stop armd vehicles. The pillboxes had a field of fire of less than 100 yds and were not covered by AT fire.
2. Armored reconnaissance. "A route for each armd vehicle was reconnoitered completely through the woods after the attack order was issued.
3. Covering noise of movement. "The tks and TDs crashed their way through the woods under cover of the noise of the arty preparation.
4. Covering the debouchment. "The debouchment from the woods was covered by a rolling barrage. As the assault groups advanced, every vehicle and man kept up a continuous fire. These fires kept the enemy buttoned up in the pillboxes until the inf and engr were practically in position to reduce them.
5. Security for reorganization. "While the individual pillboxes were being reduced and the ground was being organized, the armd vehicles deployed to the right and left and to the front. When the reorganization was complete, the armor was withdrawn to replenish its supplies."

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II EVACUATION DURING A RIVER CROSSING.

The following material, extracted from a report of the Surg, 10th Inf Regt, pictures the problems of evacuation occasioned by a river crossing, and the subsequent bridge construction.

1. Plan of operation. "The plan was for two bns of the 10th Inf Regt to cross in assault boats, one behind the other, under the supporting fires of the third bn, establish a bridgehead and cover the construction of an adequate bridge for the div. Evacuation was to be by assault boats until rafts or bridges were completed. Two outboard motors were to be furnished for the medical boats. Orders were issued by the regtl comdr at 1400 hours, 9 Sept, and the crossing was to begin at 0055 hours, 10 Sept.
2. Crossings. "The first bn to cross surprised the enemy and secured a foothold but encountered heavy opposition a short distance from the river. Casualties were heavy. Initially the bn evacuated its casualties by means of assault boats returning for new loads. As soon as spare assault boats became available the regtl surg began evacuation by boats using outboard motors. This system worked well. The second bn completed its crossing during the early hours of daylight and by 0800 hours both bns were on their objectives. Repeated enemy counterattacks continued until about 1330 hours, however, inflicting many more casualties. The third bn crossed by boat in the afternoon, secured and mopped up a town bypassed by the two leading bns, and, after nightfall, assembled in a reserve position.
3. First day's evacuation. "By midnight 10-11 Sept, 120 cases had been evacuated. Evacuation was by litter to the river, by boat across the river, then again by litter from the near shore, across a small canal by foot bridge to the ambulances. Some litter hauls were as much as 2000 yds. It was not until dawn 11 Sept that the first litter jeep was ferried across.
4. Second day's crossings. "The second morning a bn of the 11th Inf Regt crossed at the same point to assist in enlarging the bridgehead. This bn's casualties also had to be evacuated by the 10th Inf ferry. By this time the litter bearers of the first bn to cross were nearly exhausted and it became necessary to send them all remaining litter bearers. By the end of the morning all litter jeeps of the first two bns had been ferried across, easing the problem somewhat. On the near shore the condition was also relieved by running jeeps from the shore to the ambulance.
5. Heavy enemy fire. "The evacuation continued through heavy enemy mort and arty fire until 0130 hours, 12 Sept, when evacuation was temporarily stopped. By that time one ferry had been sunk, all the assault boats had been sunk or filled with holes, and all work on the bridge had ceased. It was not until dawn, that a medical sgt found one unshattered assault boat on the far shore, and the evacuation continued. From then until completion of the bridge, evacuation by ferries and assault boats continued despite heavy mort and arty fire. In the meantime additional litter bearers had to be secured from corps units and ferried over to assist the litter bearers on the far shore. By midnight 12-13 Sept all aid men and litter bearers showed signs of fatigue.
6. Completion of bridge. "Finally, on 13 Sept the bridge was completed and casualties could be evacuated across the river in litter jeeps to a point where ambulances picked them up. Three litter jeeps, however, were knocked out by enemy fire. The next problem was the dispersion of the aid stations which had set up together on the far shore. The engrg constructed a bn aid station farther up the hill and one bn was moved to that point. The expansion of the bridgehead continued with heavy casualties. On 18 Sept the regtl CP and aid station moved to the far shore.

TWELFTH ARMY GROUP

BATTLE EXPERIENCES

DECLASSIFIED

No. 86

7 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I MAINTAINING CONTACT

1. In woods. "Physical contact is the ideal. While moving through the thick underbrush in the Forret de Parroy the CO of the co on my right and I agreed to keep our flanks in sight of each other. By this means we were able to search every foot of ground and not one enemy was by-passed."--CO, Co F, 313th Inf.

2. Using the SCR 536. "SCR 536s furnished to adjacent plats of adjoining cos facilitates lateral contact. These radios work on a frequency different from those employed by either co command net."--Exec O, 314th Inf.

3. Using the SCR 300. "The SCR 300 provides adequate lateral contact if the country is not too wooded, but we like to keep it off the air as much as possible. Cos of adjoining bns or regts maintain lateral contact during an attack by obtaining the frequency of the adjacent bn, and making contact through the bn comdrs, who often have an additional SCR 300 radio for this purpose."--CO, 313th Inf and Exec O, 314th Inf.

4. By patrols. "Contact patrols should be SCF with all cos. This provides the surest means of contact, particularly if phase lines are designated on which contact must be made before resuming forward movement. The attack is slowed somewhat by this method, but particularly close contact results."--CO, 313th Inf and Exec O, 314th Inf.

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II ARTILLERY COOPERATION

"An excellent example of the value of shellreps and of close cooperation among corps arty sections involving actions and com across corps and army boundaries occurred as follows:

- a. At 0630 hours the enemy began to shell a town in V Corps zone of action.
- b. V Corps counterbattery sent the shellrep to VII Corps counterbattery.
- c. An obsn bn of VII Corps reported a sound location from the XIX Corps sector that fitted the shellrep.
- d. VII Corps FDC requested XIX Corps FDC to fire the mission.
- e. XIX Corps fired at 0715 hours and the shelling on the town ceased."--Arty O, VII Corps.

III REPLACEMENTS

"We have adopted the practice of assigning not more than two replacements to a sqd at one time. This enables sqd and plat leaders to know their men and makes it impossible for a sqd to be made up entirely of green men. It has been found unwise to regard the MOS numbers appearing on replacement unit special orders as always correct. Often this indicates the last job a man held in his previous orgn, even though he had held other jobs for longer periods. Specialists are often discovered by checking the Form 20's."--Adj, 313th Inf Regt.

IV CONTROLLING 81 MM MORTAR FIRES.

The following methods of controlling 81mm mort fires have been used by Co M, 313th Inf with the indicated advantages:

1. In the attack. "Control of fires is based upon use of a map divided into numbered thousand meter grid squares. FOs using SCR 300 call for fire in a particular section of a given square. The mort plat leader computes the data and fires on the area. By using this system obsrs can place fires accurately without knowing the exact location of the mortars.

2. In the advance. "A continuous band of numbered target areas is planned across the entire front and an overlay given to each rifle co comdr. The mortars are laid so as to permit at least one piece to fire on each area without moving the bipod. As a result, accurate fire can be placed within a few seconds after the call is received. By use of this method, mortars have been successfully used to drive off hostile night patrols, thereby eliminating the necessity of disclosing the position of automatic wps."

V CONCERTINA WIRE AND BOOBY TRAPS IN BUILDINGS

"The enemy recently effectively defended a building by stringing concertina wire throughout all rooms on the ground floor and hooking to it booby traps which could be controlled from the basement by other wires. When a member of the attacking force entered a room or cut the concertina a booby trap in the room would be set off by a man in the basement. Three attacks on this building were repulsed, and the building was taken only after it had been demolished by arty fire."--CG, 90th Div.

VI SMOKE GENERATORS

"A smoke generator co proved valuable in a daylight river crossing. The smoke screened the bridge site during the construction period and was used to cover the area as long as the enemy had obsn of it."--Report of 11th Inf Regt.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 85

DECLASSIFIED 6 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I COUNTERMORTAR MEASURES.

NOTE: The recent comparatively static situation has resulted in increased emphasis on countermortar measures. Following are extracts from a report dealing with the 4th Inf Div activities along this line. Similar procedures in the Mediterranean Theater are discussed in paragraph 6.

1. Organization. "We are training obsr and survey teams of one O and four EM for each rifle co and heavy wpns co in each regt. They forward mort reports similar to shellreps, through normal command channels. Each hq takes such action as is indicated to bring fire on the mort. The reports rinally get to the div G-2 section where the data is plotted on the div mort report board. We also have a section of the sound and flash bn, and one btry of FA working on this project.

2. Method. a. "Direction of hostile morts may be determined by listening posts manned by specially trained men in forward co areas. The direction of the sound of the mort propellent must be determined prior to the arrival of the shell. As the enemy will cross-fire morts, it is necessary that the azimuth of the sound of the mort propellent and time of fire be reported by adjacent units also.

b. "The shape of the crater is influenced by the direction of flight and the angle of descent of the mort shell. A shell falling vertically will cause a round crater. The greater the range from the mort, the smaller will be the angle of descent in relation to the ground; and, as the angle of descent decreases, the snape of the crater gives an increasingly clearer indication of the direction of flight.

c. "The general area of the enemy mort positions may be determined by plotting on a map the crater and lines of flight as determined from the crater and from azimuths reported by listening posts. As the enemy doctrine of mort employment corresponds to our own, careful examination of a large scale map often will permit tying down the

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probable mort positions to a small area.

3. Examining the crater for clues.
 - a. "The ground around a crater is serrated by grooves which form a definite pattern. The grooves extending furthest outward from the point of impact run perpendicular to the direction of the mort.
 - b. "The mort fin and fuze splinters will bury themselves along the line of the trajectory at the bottom of the inner crater and in front of the point of detonation. They can be found by gentle probing and a clue to the direction to the mort obtained by extending a line along the tunnel made by the fin to the point of detonation.
 - c. "When the crater is quite distinct, the line of flight can be determined more easily, as the edge of the crater farthest from the mort will have under-cut turf but the nearest edge will be shorn of growth and much serrated.
4. Determining size of the mortar. "Examination of the fins permits determination of the type of mort. Fins of the 120mm mort have a diameter of 4-3/4" while those of the 80mm mort have a diameter of 3-1/4".
5. Results. "We are using this system and all echelons have been enthusiastic about it. There is no question as to its effectiveness in static situations. The real test will be in a fast moving attack situation."
6. Mediterranean Theater. A memorandum of the Mediterranean Theater indicates the use of a similar system in that theater. Points of interest include;
 - a. "Appointment of a 'Div countermortar O' in each div arty hq. The assistant S-2 of the div arty is considered a logical appointment.
 - b. "Designation of a 'Bn countermortar O' within each light arty and TD bn to operate in the FDC.
 - c. "Tying in of inf heavy wpn cos and cn cos, and atchd 4.2 mort bns, to the FDC whenever possible.
 - d. "Use by the div countermortar O of aerial photographs, PW interrogation, and reports of air OP surveillance of suspected areas, to determine probable mort locations. He also anticipates periods of maximum enemy mort activity and directs appropriate countermortar concentrations just prior to these periods. He maintains the same type of records as those kept by the div counterbattery O."

II MASSING .50 CALIBER MACHINE GUNS.

"A btry of twelve .50 cal MGs was organized for one operation by taking guns from hq, service AT, and cn cos. The CO heavy wpns co of the reserve bn located positions for the guns, assembled the crews and supervised preparation of the positions. The btry gave direct support to the bn making the main effort by neutralizing known enemy positions. This fire was effective and permitted the rapid advance of the leading cos. The fire was then lifted to a high ridge which was the regtl objective. When the ridge had been captured, four .50 cal MGs were placed on the MIR of each bn. The fire from these guns helped to break up two enemy counterattacks."-- Os of 313th Inf Regt.

III SECURITY.

"Carelessness in carrying classified data recently resulted in valuable information for the enemy when a bn comdr and part of his staff were captured with documents and memoranda containing much information as to our dispositions. In another instance, two staff Os carrying important documents went on rcn and barely avoided capture."-- V Corps Obar.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 84

DECLASSIFIED

6 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGEB
Adjutant General

I COUNTERING ENEMY TANK TACTICS IN WOODS.

1. Attacking. "Enemy tks in woods usually fire from well camouflaged, dug in positions, where our tks and TDs can not get at them. We fire smoke from our 81mm mortars on the tks and at the same time maneuver our tks to the enemy flanks or rear. The enemy tks move to avoid being screened and this permits our TDs and bazookas to 'draw a bead' on them.

2. Avoiding harassment. "Dug in enemy tks in woods remain comparatively quiet during the daytime, but during the night they move around and shoot just enough to keep our troops disturbed. Keeping TDs and tks well up toward the front counters this threat and greatly increases the morale of the men.

3. Defending. "German inf and tks attacking at night seem to move in alternate bounds, the inf advancing first about 25 to 50 yds and then hitting the ground until the tks come up. We fire 60mm mort illuminating shells up to a range of 800 yds, shoot hand flares close in, then open up with everything we have, including TDs and tks. We shoot like hell when the inf is advancing because if you stop the inf you stop the tks."--Os of 314th Inf Regt.

II ROAD TRAPS.

"Wire cable has been found stretched across roads at a proper height to decapitate individuals riding in a vehicle. Two traps of this type have been found recently, one well behind our lines and probably strung by civilians. Attachments to vehicles prevented injury to the occupants in both cases."--XIX Corps Periodic Report.

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III USE OF FLAME THROWER IN ATTACK ON SIEGFRIED LINE.

"An inf regt equipped with 75 flame throwers reported only one successful use of the wpn in three weeks' fighting in the Siegfried line. In that case the flame thrower was used from a captured pillbox and fired through an embrasure into an adjoining fire trench. When pillboxes were outflanked, they usually surrendered or were knocked out by pole charges, and flame throwers were not required."--Cml O, 30th Inf Div.

IV ARTILLERY OBSERVER WITH INFANTRY PATROLS.

"Inclusion of an arty obsr in large patro has proved valuable. Arty support obtained through his radio often has been the deciding factor in driving back enemy patrols and accomplishing the mission of the patrol."--V Corps Obsr.

V AFTER ACTION REPORTS BY PLATOON LEADERS.

"Instruction in the application of tactical doctrines for future operations is facilitated in the 70th Tk Bn, by requiring plat leaders to make simple after action reports as soon as possible after an engagement with the enemy. These reports, usually accompanied by a rough sketch, are turned in to the S-3, and used during after action discussions."--Os of 70th Tk Bn.

VI TIPS FOR TANKERS.

1. Indirect fire by tanks. a. "Tks customarily use the center tk as the base gun. When this is done the arty unit to which the tks are atchd should be notified as the arty practice is to use No. 1 gun as the base piece.

b. "Greater accuracy is obtained by placing the tk broadside to the direction of fire and on level ground.

c. "Tks are able to confuse enemy counterbattery fire by buttoning up and continuing to fire. The enemy apparently decided that they were firing in the wrong places as the fire usually ceased or shifted to another location.

d. "We put a captured German telephone in each tk to permit the gunners to hear fire orders while buttoned up."--CO, Co C, 709th Tk Bn.

2. Tank escape hatches. "We have removed the backs of seats to facilitate handling of am and access to escape hatches. The escape hatch levers have been removed as they frequently stick. The hatches are then fastened with wire."--Plat Leader, Co C, 709th Tk Bn.

VII LINE ROUTE MAPS.

"We have speeded wire repair by making it SOP for all units to send a line route map with the wire crew to the wire chief of the unit to which the line is being laid. If such a map is not available, or security makes its use inadvisable, the wire crew makes contact with the wire chief receiving the line and marks the route on his map. This facilitates the work of repair crews."--Com O, 188th FA Group.

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- 2 -

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BATTLE EXPERIENCES

No 83

5 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

NOTES ON WOODS FIGHTING

NOTE: The material in paragraphs one to seven was extracted from an operations memorandum of 4th Inf Div. Paragraphs eight, nine and ten were taken from a report of the 314th Inf Regt.

1. Organization. "Each assault rifle co may be organized into two assault groups and two support groups. The assault groups are armed only with hand wpns and grenades. They normally advance in column preceded by scouts. The support group follows its assault group within the limit of visibility, provides flank protection, and gives support with 60mm morts and light MGs. Reserve groups should be held far enough to the rear to insure against their becoming involved in the fight of the assault cos. They are employed in localities where the advance is successful. When employed, they should be furnished guides and moved rapidly over previously reconnoitered routes.
2. Control. a. "Individuals are designated in each assault group to maintain direction by compass.
b. "Each assault group keeps in com with the co comdr by laying a wire line as it advances. This ties the assault group together and provides a route for runners, am carriers and litter bearers. The distance advanced can be determined easily if the wire line is tagged every 100 yds prior to starting.
c. "Phase lines are desirable to permit the advance to be made by bounds, to provide opportunity for periodic lateral contact, and to facilitate supporting arty and mort fire.
3. Security measures. a. "Roads, trails, clearings and buildings must be avoided as they usually are included in the enemy's prepared fire plan.
b. "Overhead cover should be provided whenever possible. When halting temporarily each man should get close to a large tree as this affords some protection from tree bursts. The danger from tree bursts is somewhat lessened by the enemy's lack of obsn.

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4. Antitank guns. "Enemy counterattacks can be expected along the routes through which his reserve armor can be employed. AT guns should be leap-frogged forward to cover these probable routes of approach and not held in reserve coupled to their prime movers. AT guns should be emplaced so as to permit firing while under arty or mort fire themselves.

5. Light tanks. "Light tks can be used effectively to support an assault group after contact has been made. Time must be allowed for orientation of the tk plat leaders, and rcn and marking of the tk route to the area from which the assault is to be made. The tks lead the assault, closely followed by the assault group. All tk wpns are fired and the accompanying inf use assault fire, advancing rapidly and making as much noise as possible. Each tk plat has atchd to it one inf sqd, one engr mine removal sqd, and a bazooka team. A telephone is affixed to the rear of each tk and connected with the tk intercommunication system. The sqd leader can make contact with the tk comdr over the telephone and point out targets with tracer rifle fire. Prearranged pyrotechnic and smoke signals or hand and arm signals also may be used.

6. Enemy positions. a. "Concrete fortifications encountered by assault groups should be contained by minimum personnel and a special task force with the means for reduction sent forward.

b. "Clearings and fire breaks are usually strongly organized and should be given special consideration.

7. Emerging from woods. "Prior to debouchment supporting wpns must be brought up, a suitable formation adopted, and arrangements made for arty fire. These steps should be taken before reaching the edge of the woods. The exit from the woods may be made rapidly or by infiltration, depending upon the amount of fire encountered. Scouts should precede the debouchment by at least 500 yds or as far as the next terrain mask."

8. Tanks and tank destroyers. "We have effectively used tks and TDs in woods, both on and off roads. They need some terrain feature to guide on and reasonably firm and dry ground. The sound of our tks has a demoralizing effect on the German soldier.

9. White phosphorus. "WP smoke is very effective in woods and the employment of 4.2 cml mortis would be of great value.

10. Stopping counterattacks. a. "Mortis and SA fire are most effective in stopping enemy inf counterattacks. Mortis, due to their high trajectory, are not subject to the difficulties of the arty and are particularly effective in the woods. Troops must concentrate SA fires on suspected enemy localities when a counterattack threatens because observed targets are seldom found. Prisoners stated that our mortis and SA caused the most casualties in their counterattacks.

b. "When the enemy is known or suspected to be preparing a counterattack, concerted fire to the front by all wpns at prearranged intervals will break up his plans. This entails the possibility of giving away our locations, but the enemy is usually well aware of our approximate location after he has made one or two counterattacks."

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 8

2 NOV 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I USE OF TANK DESTROYERS.

1. Aggressiveness. "The practice of holding TDs back -- the inf going forward, then the tks, followed by the TDs -- tends to foster timidity and lack of aggressive action. Plat leaders and M-10 comdrs should go forward with the inf, locate effective firing positions, and then have their vehicles brought forward.

2. Employment by junior infantry officers. "Senior inf Os generally understand the correct use of TD but junior Os sometimes do not realize their capabilities and limitations. For example, a section of TDs attd to an inf plat was ordered into impossible terrain where the vehicles became hopelessly bogged down."--CO, 634th TD Bn.

3. Infantry-tank destroyer communications. "Inf cos and TD plats must be tied in by wire, and by radio if possible, to insure mutual support and coordination.

4. Concealing noise of approach. "Arty fire placed on three enemy tks caused them to button up and prevented the enemy from hearing our TDs moving up. The TDs knocked out all three tks without loss."--S-2, 813th TD Bn.

II USE OF WOODED AREAS IN THE SIEGFRIED LINE.

"Dense woods usually were less heavily defended than roads and more open terrain. Frequently the enemy has failed to continue the line of dragon's teeth through woods which appeared too dense for tk movement. In most such cases, tks, with inf support, have been able to move through the woods. The effectiveness of tk HE fire is increased by the number of tree bursts obtained."--Report of 1st Div.

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III TANKS IN VILLAGE FIGHTING.

Note: Os and EM of the 70th TK Bn, which has fought its way from the beaches into Germany, make the following comments on tk participation in village fighting.

1. During the approach. a. Main roads or CRs near small villages should be avoided as they are often mined and generally have one or more road blocks.

b. "The enemy's first line of defense has usually been outside the village. These defenses must not be permitted to separate the tks and inf. If the tks pass them ahead of the inf, they become subject to short-range AT fire, and cannot fire at the by-passed enemy without endangering our own troops.

c. "A base of fire should be formed with tks and other direct fire wpons, while additional tks encircle the village and attack from the flanks.

d. "When inf are carried on tks, they should dismount before entering a village. However, in one night attack, the inf remained on the tks and fired at enemy on roof tops and in upper stories of buildings.

2. Within the village. a. "It is not necessary for inf to precede the tks into small villages, but they should remain abreast of or close behind them to provide AT protection.

b. "If more than one street is available, parallel attacks should be made. Narrow streets should be avoided, as only the fire power of the leading tk can be employed in them.

c. "Hand grenades were found to be of great value as tk comdrs could throw them through windows without leaving the tk, and sometimes cause the enemy to evacuate buildings. This conserves tk am and is less dangerous to our inf than use of the tk wpons.

d. "WP can be of great value in village fighting but a definite plan for its use must be made before the attack begins, and explained to all elements. WP rounds should hit in or behind buildings. If they hit in front the enemy can escape in the smoke without being seen. A round of WP will usually cause the enemy to surrender or leave the building.

e. "Where resistance is stubborn, all buildings should be fired upon and either burned or destroyed. Enemy soldiers often seek cover in buildings, but a few rounds of HE usually will bring the survivors out.

3. After the attack. Both inf and tks should move out of a village as soon as it has been taken, to avoid mort and arty fire.

IV MARKING TARGETS FOR AIRCRAFT.

"When we use colored smoke to mark enemy targets for air support, our air support O contacts the planes and the arty that is to mark the target. He gives the command to fire when the planes reach the target area and when the arty announces 'on the way' the air support O repeats this to the planes so that the pilots can watch for the burst. In less than a minute from the time 'on the way' is given to the planes the target is marked and the planes sweep in for bombing or strafing or both. 5th Div.

V USE OF CAPTURED ARTILLERY AMMUNITION

"The projectile of captured 105mm shells fit our shell cases and guns but the case will not. To use the captured am we have modified some of our shell cases so that they can be used over and over. The case is cut down to the size of the German case and the primer from the German case is removed and screwed into the American shell case. It requires about three hours to complete this modification."--Ord O, XX Corps.

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TWELFTH ARMY GROUP

DECLASSIFIED BATTLE EXPERIENCES

No. 87

31 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I DESTRUCTION OF PILLBOXES BY 155MM GUN SP, M-12.

1. Method of attack. "Our bn attacked 43 pillboxes by short range M12 fire. We adjusted with delay fuzes changing to fuze T105 on obtaining a hit. Evidence of penetration was obtained on all targets.

2. Conclusions. a. "Effective destruction of a point target depends on range and not whether the method of fire is direct or indirect. When it is possible to use short range indirect fire by the expenditure of two or three rounds for adjustment, this should be done. Two guns were lost occupying positions for direct fire; none was hit employing indirect fire.

b. "HE shell with fuze T105 does not obtain its maximum effectiveness at ranges under 2000 yds if supercharge is used. Evidence exists that when the terminal velocity is excessive the shell begins to shatter slightly before the delay fuze operates. This was eliminated by firing normal charge instead of supercharge at short ranges. With very little instruction the gunner can be taught to employ the direct laying sight, graduated for supercharge, with normal charge."--258th FA Bn.

II MAKE YOUR WEAPON COUNT.

"During 'rest periods' wpns are rezeroed and all personnel are trained with the bazooka if possible. At 200 yds with a rifle and 75 yds with a bazooka our boys can handle anything Jerry can offer. Longer ranges too often are attempted when patience would mean a certain 'kill'."--53d Armd Inf Bn, 4th Armd Div.

III REPLACEMENT AND SUPPLY.

"Losses of vital or material equipment replaced in 75% less time if the losses are reported to the supply point by the fastest means available. We use radio when wire is not available. We use the best available means to keep better informed on the sup status

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by traveling with their units rather than with the train."--53d Armd Inf Bn, 4th Armd Div.

IV TANK DESTROYER EMPLOYMENT.

Note: The following comments were made in an after combat discussion conducted for platoon leaders and TD commanders of the 703d TD Bn. These men had used the M-10 TD's with considerable success, destroying 34 tanks, 12 SP guns and numerous trucks, pillboxes, etc, while losing only three TDs. It is noteworthy that comments of these battle-experienced men principally re-emphasized existing tactical doctrine.

1. Targets. a. "On enemy infantry use HE, fuze delay, and aim slightly short. Ricochets will often cause low air bursts over the enemy.
b. "Use the .50 cal MG on thin-skinned vehicles up to 300 yds. Over that distance use three inch HE.
c. "Range cards are still necessary. Get exact ranges from the map in daylight, and if possible, zero in on critical points and record the data.
2. Movement. "Move into position slowly. The vehicle can be better controlled and better prepared to fire. Fast movement attracts attention and causes considerable noise.
3. Orders. "Orders must be complete and precise, and given with an air of confidence. Too often they lack the information necessary for even a simple operation.
4. Personnel. a. "A well disciplined outfit goes farther with fewer losses. Even at the front the disciplined outfit is marked by its morale, pride of unit, saluting, appearance and wearing of the uniform.
b. "New men should be thoroughly oriented and put at ease as soon as they join an outfit. They must be made to feel that they are an important part of the crew.
c. "The best place to get away from mortar and artillery fire is in the M-10 TD. A long slit trench under the hull will also make excellent protection for the whole crew.
5. Equipment. a. "Keep your equipment on the vehicle so you can move quickly.
b. "Field glasses can be used effectively in the moonlight.
c. "Always completely destroy an enemy vehicle before you leave it.
6. Security. a. "The security outposts for road blocks should have wire connected to the guns.
b. "When MGs are dismounted for security work, dig them in. The tendency is to throw the gun on the ground and forget about it.
c. "Learn more about booby traps and mines, and forget about the souvenirs.
d. "If you have no infantry support at night, pick a position with open fields to the front. Then put your outpost out quite a ways and get the artillery to prepare a fire plan for the front."

V ARTILLERY EMPLOYMENT.

1. Planning artillery fire. "In planning attack our infantry and artillery commanders get together and plan fires for the attack and for sniping fires after the objective is reached. After taking the objective it pays dividends to mass artillery fire on all sounds and observed movement, as this will prevent reorganization by the enemy. On one occasion we broke up a counterattack by firing at sounds coming from the woods.

2. Artillery support of night river crossings. "We plan only defensive fires for a night river crossing for if the crossing is not discovered there is no need for fire. We have been extremely successful with this procedure."--CO, 46th FA Bn, 5th Inf Div.

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- 2 -

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TWELFTH ARMY GROUP

No. 80

BATTLE EXPERIENCES

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31 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I STREET FIGHTING IN AACHEN.

1. Reasons for success. The CO of a regt which fought through Aachen attributed his success to several factors:

- a. "All available fire power, common sense, and normal tactical principles were employed.
- b. "The operation was not unduly hurried; it was realized that street fighting is a slow, tedious process which requires much physical exertion and time if buildings are searched thoroughly.
- c. "The enemy was forced to fight on our terms. At every opportunity we would attack from the direction he least expected. We would first isolate a small section, then leave a small holding group, and work around to the rear.

2. Value of mopping up thoroughly. "At no time during the operation did the enemy fire a shot from behind our lines. To accomplish this, every room and closet of every building was searched and every sewer was blown. It paid dividends because fighting troops didn't have to fear being sniped at from the rear, and command and supply personnel functioned more efficiently.

3. Supporting weapons. "To avoid detection we put the tks, TDs and SP guns into position just before daylight or at dusk. We had the engrs and the pion plat blow a hole in the near wall of a building. We then ran the gun through this hole into the building and fired through another hole in the opposite wall just large enough for the gun barrel.

4. Enemy fire. "The enemy covered all avenues of approach with AT guns and used his tks and SPs as roving guns in constantly changing positions. Their 120mm mortars were used effectively at 400 yds and were difficult to locate."--CO, 26th Inf Regt.

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II RECONNAISSANCE.

"Valuable road and bridge information can be obtained quickly by simply changing the crystal in the SCR 510 on the rcn plat 1/2-ton so it can communicate with the arty in plane."--53rd Armd Inf Bn.

III TANKERS USE GRENADES AND FLAME THROWERS.

"In the absence of inf, tks have made effective use of hand grenades to clear the enemy from entrenchments and places of concealment. On enemy defensive positions the tks run along the entrenchments and drop in the grenades. Along roads the grenades are tossed into foxholes or suspected positions, thus discouraging the enemy use of bazooka and AT grenades. Each tk carries ten or more grenades for this purpose. We have also found flame throwers on tks effective against enemy bazookas and personnel placed along side the road."--CO, 70th Tk Bn.

IV ENGINEER SUPPLIES.

1. Use of local materials. "Supply rcn by our S-4 has facilitated getting considerable quantities of vital engr materials. With civilian cooperation, our group now operates four sawmills and a rolling mill, which cut lumber and provide I-beams to our specifications. We haul the logs to the mill for cutting.

2. Standard bridges. "A 400 ft, two-way class 40 (one-way class 70) bridge using I-beam stringers, has proved to be a standard type for most purposes. Each bn has shifted its basic loads to permit carrying sufficient material for one of these bridges. Additional material for their maintenance is carried in the group dump."--S-4, 1137th Engr Group.

V INFANTRY-TANK COOPERATION.

"We insure coordination between inf and tks by requiring our NCOs and plat ldrs to get together with the tk NCOs and plat ldrs and talk over their difficulties. Each man is allowed to express his opinion and as a result we get better cooperation between units."--Capt, 41st Armd Inf.

VI SQUAD LEADER'S ADVICE.

"Each man should be alert to pick up arty targets and to send the information back to the arty FO so fire can be brought down on them. This also holds true when enemy arty is firing. It is foolish to take arty fire and not try to locate the guns so the fire can be returned."--Sqd Ldr, CO I, 41st Armd Inf.

VII IMPROPER EMPLOYMENT OF TANKS.

"Instances of improper employment of tks with inf units have been observed recently as a result of the following practices:

- a. "Specifying SOP assignments for supporting tks which break down tk units to the extent that the employment of tks in mass and depth is not possible.
- b. "Employing tks under conditions where tk crews did not have visibility even as far as enemy bazooka range.
- c. "Using tks to draw fire along routes which offered no place for maneuver and employment of wpns.
- d. "Having tks occupy exposed positions for long periods of time without inf protection.
- e. "Operating tk dozers with inadequately trained crews.
- f. "Employing tks as fixed pillboxes or MG posts for long periods of time, thus violating the principle of fire and movement, and drawing excessive fires upon nearby inf."--XX Corps Memo. - END

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- 2 -

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TWELFTH ARMY GROUP

DECLASSIFIED BATTLE EXPERIENCES

No. 79

31 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I ARTILLERY EXPERIENCES DURING THE REDUCTION OF BREIT.

1. Organization of artillery fires for continuing operations in an area. a. "Targets in an operation of this type remain relatively fixed. It was found advisable to assign a concentration number to each target as soon as it was located, and to publish a list of these concentrations to all units to be plotted on firing charts. This eliminated the duplication of concentration numbers on the same target and furnished a common reference system for all units.

b. "Additions to the list were published daily as new targets or corrected locations of old targets were given. The targets in each div area were grouped daily, a code name assigned each group, and a fire plan published assigning the concentrations to bns. The fire plan scheduled each concentration to be fired with a one bn volley. The time necessary to fire through the plan was indicated on the schedule.

c. "When inf was to follow the fire, the div arty called for the appropriate preparation by code word through the corps arty JDC. The volume of fire could be increased as desired by requesting double or triple the basic rate on each concentration.

d. "It was found that buildings, even though fortified, should not be destroyed by heavy arty unless the direct support arty could maintain neutralization until the inf assaulted the area. If the fire was lifted the Germans would move back in and construct fortifications from the rubble which were often harder to reduce than the original buildings would have been.

2. Harassing fires. "PW reports indicate that intermittent harassing fire had little effect on troops provided with adequate cover, even when the fire was from heavy arty. As soon as the troops were convinced that their cover was adequate occasional rounds did not disturb their normal routine.

3. Civilian reports. "Friendly civilians were generally unable to give precise locations on a map but were frequently able to pin-point locations on a photograph.

4. Shallrang. "It is not reasonable to expect troops under fire to turn in complete

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shellreps. As in previous operations continuous pressure was required to get this information to assist our counterbattery fire."--VIII Corps Arty report.

II DEMOLITION AND SEALING OF PILLBOXES.

1. Escape hatch. "The amount of TNT needed to blow pillboxes can be considerably reduced if the escape hatches can be found and plugged first. These hatches, found in nearly all pillboxes, are about two feet square and plastered over so as to be scarcely noticeable.
2. Ventilation pipes. "Pillboxes have been blown effectively by putting charges in the ventilation pipes which run vertically through the side walls near the pillbox entrance. First the bottoms of the pipes are plugged, then 30-50 lbs of TNT dropped in, primed and tamped. In one case the firing of the charge breached the wall completely and surviving occupants were either stunned or wounded by flying concrete.
3. Welding embrasure openings with thermite grenades. "By closing the door and placing the grenade on the slideway a mass is formed which prevents the door being opened. The door itself is not welded but is jammed by the obstruction in the slideway. One grenade is sufficient for small doors but two should be used on large doors with armor plate thicker than two inches. If the grenade cannot be placed in the slideway a trough of $\frac{1}{2}$ inch metal may be used to cause molten material to run into the slideway. The surface on which the weld is to be made should be clean and dry. Doors that work on hinges cannot be welded with thermite grenades as the molten material cannot be controlled sufficiently to make a strong band between the door and the frame."--Asst G-3, V Corps.

III TRAINING OF REPLACEMENTS.

Note: The following comments regarding replacements were made by an O who has commanded the same rifle co through 16 months service in Iceland, 10 months in England and Ireland and five months in the present campaign.

1. The old soldiers' attitude. "The replacement is dealt off to all orgns like a card from a deck. The old-timers look him up and down and go back to their own circle. The old-timers will always ignore a recruit. This is bad psychology. The new boy may be fighting Germans within the next 30 minutes or in one or two days.
2. Common replacement faults:
 - a. "He will say 'yeah' instead of 'Yes sir'.
 - b. Every arty shell makes him jump.
 - c. He is slow to shoot. He has been told to hold his fire and not give away his position. This is wrong. If you see the enemy, shoot him whether you give away your position or not.
 - d. His physical condition is not so good.
 - e. He lacks pride.
 - f. He is a 'buncher'.
 - g. He won't move.
 - h. He won't take care of his equipment.
 - i. He has no knowledge of what may be called 'combat sanitation'."

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- 2 -

TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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27 OCT 1944

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By command of Lieutenant General BRADLEY:

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Colonel, AGD
Adjutant General

I GERMAN PIGEON SERVICE FROM LIBERATED AREAS.

1. General. "Information has been received that German agents are transmitting information from behind Allied lines to Germany by means of pigeons. From small lofts behind the lines messages are carried by these pigeons to larger more centrally located lofts from which the information is re-transmitted to Germany by wireless. The majority of the German birds carry on their leg-rings the marking 'Wehrmacht' or 'Wehrmacht Briefftauble' besides several numbers. Additional birds commandeered from France, Belgium and Holland have other markings.

2. Warning. "All personnel are cautioned to capture or kill pigeons that are suspected of being carriers of these messages."--7th Armd Div periodic report.

II TANK DESTROYER EMPLOYMENT.

1. Positions for towed guns. "There is a feeling in many towed TD units that they should be far back behind the inf line to 'stop a breakthrough'. In certain types of terrain, defense of reverse slopes is essential. Guns too far behind the MLR are useless, for if a breakthrough occurs the enemy is intermingled with our own troops and TDs cannot fire. Breakthroughs must be prepared for locally -- not in areas 1800 to 2500 yds to the rear."--4th Armd Div Memo.

2. Movement of towed guns into firing position. "In many cases the towed 3" gun cannot be pulled into position by the prime mover because of the danger of drawing enemy fire. To avoid manhandling the gun, we reinforced the jeep front bumper, mounted a pintle on the front of the jeep and pushed the gun into position."--CO, 644th TD Bn (SP)

III IMPROVISED BATTERY.

"Substitutes for BA-40 batteries for 600 series radios can be made by taping together four BA-2s stacked two high, two BA-23s placed alongside them, and a plate

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plug from an old BA-40 added to the top of the stack. The BA-2s are connected in series and the BA-23s in parallel."--Com O, 12th Inf Regt.

IV GERMAN TANK-INFANTRY NIGHT ATTACK.

1. German tanks will attack at night. "On one occasion the Germans launched a tk-inf attack at night over muddy ground against our position. After taking the objective the tks withdrew before daylight leaving their inf to hold the ground. A counterattack restored our position.

2. The attack. "The Germans sprayed the area with fire and used star shells and flares in an attempt to frighten our troops. The enemy tks were not road bound but maneuvered across country racing their engines and milling around to cause confusion among our inf. Our inf fired MGs at the sound of the tks and the sparks from ricochets located them sufficiently for the TDs to fire. One German SP gun was knocked out in this manner."--CO, 813th TD Bn.

V DEFENSE OF DIVISION COMMAND POST.

1. Organization. "A CP defense bn of eight cos has been formed from personnel of div hq, special troops, and atchd troops. Bn strength is 1550 Os and EM. Each co has four rifle plats and one wpns plat. Wpns plats employ .50 cal MGs, Bofors of AA units, M-51s (quadruple mount .50 cal AA MGs) and the 57s of the defense plat. There is a sig plat from the div sig personnel in one co; another co has a T plat from CM co; and the rcn co is made up of TD bn hq using scout cars and 1/2-ton trks.

2. Training. "Training was conducted daily for three weeks and each unit dug in and organized its positions. Now that positions are organized thoroughly and personnel trained, one alert period per week is held."--CG, 8th Inf Div.

VI COMMUNICATIONS IN THE FIRE DIRECTION CENTER.

1. Simplification. "To reduce confusion in FDC com installation, we have housed the S-3, HCO, VCO, and computers in one tent and used a system which gives us the features of a switchboard without the necessity for an operator.

2. Installation. "Twelve phones are placed side by side in a wooden carrying case --these phones are as follows, one simplex phone to each of the three firing btrys, one remote control phone to each of the three btry radio sets in com with the FOs, one remote control phone to the SCR 608 at bn, one phone for use with any supporting or atchd arty, two lines to the bn switchboard, one to the div arty FDC and one to the cn co for use when acting as an arty btry. Atchd to the six phones that are used the most is a small bulb that lights when the phone rings, thus simplifying the identification of the incoming call. The wires from the 12 phones run through a 12 circuit cable of short length to the outside of the tent where they are atchd to a terminal strip. A five pair cable runs from the terminal strip to the bn switchboard linking the three simplex phones and the two direct lines. Radio operators atch their own remote control wires to the terminal strip.

3. Modifications. "Two additional modifications have been recently called which have proved very helpful.

a. "Two plugs from a head-and-chest set were connected and used to bridge any two phones so that any one calling in may be put in com by wire or radio with any obsr.

b. "A loudspeaker was atchd to the SCR 608 thus enabling all FDC personnel to hear calls for fire missions, particularly those originating with ln Os. By the time the message has been 'Rogered' by the FDC O, the HCO and VCO have plotted the target and data is on the way to the computers. Also all personnel were able to hear the progress of the missions and the effect upon the targets."--Report of 11th FA Bn. END

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TWELFTH ARMY GROUP

DECLASSIFIED **BATTLE EXPERIENCES**

No. 77

26 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I CALIBER 50 ANTI-AIRCRAFT FIRE ON GROUND TARGETS

Note: The quadruple .50 cal MG mount installed in the M-2 half-track has been designated the "M16B".

1. With infantry. "On several occasions when there was no air activity the M16B was teamed with the 40mm gun for support of inf units, the M16B acting as the prime mover (for the 40mm). The 40mm would fire obtaining air bursts against trees, hedges, buildings etc. At the conclusion of the firing the M16B would move the 40mm out before the enemy had time to register with mort or arty fire, covering the move with its cal .50 fire.

2. With armor. "The M16B has been used effectively with tks to protect their rear when there was a possibility that the tks might make a deep penetration and the inf would have difficulty keeping up.

3. With artillery. "A plat of M16Bs was providing protection for an arty bn on a march when the column was attacked by some 400 Germans. At the end of a three-hour battle approximately 100 enemy were killed and 250 taken prisoner. There were no casualties or damage to the column and the arty comdr gave much of the credit to the protection afforded by the AA unit."--AAA Notes No. 7, Twelfth Army Gp.

II ARMORED BATTALION COMMUNICATIONS

1. Tying in tank destroyer units. "Atchd TD units are added to our command channel by allocating to them one of the three SCR 509 radios in the mort plat. The morts generally are used in btry, thus freeing a radio for this purpose.

2. Fire control. "The channel normally taught as 'administrative' is used by the executive who controls the fires of the morts, assault guns, arty, and of one of the

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cos when it forms part of the base of fire. He is also charged with effecting the forward displacement of these elements as necessary, and has found this channel greatly facilitates his control."--CO, 68th Armd Bn.

III ARTILLERY NOTES

1. Use of base ejection shell. "Base ejection smoke shells which were set for a 200 yd height of burst, were found to burn with a bright light all the way to the ground and to continue burning for a period after landing. When fired over German front line positions simultaneously with a few shots from a flare pistol, they caused the confused Germans to fire their SA in all directions, apparently certain they were being attacked."--Lt, 84th FA Bn.

2. Simultaneous missions fired by an air observer. "An arty air obsr while beginning an adjustment on enemy tks saw four P-47s bombing other tks. An enemy AA btry was firing on the P-47s and preventing effective bombing by them. Continuing his adjustment on the tks, the obsr called for the fire of another bn on the AA btry. Both missions were conducted simultaneously, the obsr giving his sensings and commands first for one and then for the other until the tks were knocked out and the AA btry neutralized."--FA Report, VII Corps.

3. Cooperation. "A system of delivering simultaneous counterbattery fire from two directions has been devised by the VII and XIX Corps artys, both using TOT fire. Increased efficiency is also obtained from coordination of obsn."--Ex O, XIX Corps Arty.

IV QUARTERMASTER TIPS

1. Danger from water cans. "In the ki area mess gear cleaning cans should not be filled and left uncovered overnight. Water-filled cans will reflect flares dropped during air raids like mirrors.

2. Crating for personal effects. "We use the fiber containers of grenades and am up to 155mm to ship personal belongings of evacuated personnel to the Effects Quartermaster. The only other materials needed are tape and address labels.

3. Use of wrappings and cans. "The waterproof wrapping of Class II clothing makes an excellent liner for dugouts and slit trenches. Cardboard from the 10-in-one ration makes a sanitary floor in the field ki."--29th M Co.

V MISCELLANEOUS COMMENTS

1. Oral messages. "The importance of training in oral messages cannot be overstressed. They are used time and again in the front lines and they must be passed on accurately."--O's and EM, Co K, 358th Inf Regt.

2. Cannon Recoil System. "A day to day check of the recoil systems on our cannon insures the proper functioning regardless of the am charges that are used."--CO, Cav Co, 11th Inf Regt.

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- 2 -

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TWELFTH ARMY GROUP

DECLASSIFIED BATTLE EXPERIENCES

No. 76

25 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

Note: The following material is extracted from a report of Hq VIII Corps and is a study of the methods employed and the technique developed by three inf divs. Other discussions of this subject were published in Battle Experiences No. 50 and 61.

I CITY FIGHTING IN BREST.

1. Boundaries. "Streets formed the boundaries between units. In some cases the entire street was included within the zone of a unit; in other cases the boundaries were drawn down the middle of the street. Many felt that the responsibility for the street was immaterial, since no one dared use it.
2. Zones of action. "Plats and sqds must be assigned definite groups of buildings. Where the near side of a city block is held, one unit (sqd or plat) should be assigned the group of buildings on each side of the block while a third unit remains on the friendly side of the block to give support by fire into the windows of the buildings on either side. Such support is very necessary. If only two units are available one should remain to support by fire. The blocks usually form roughly a hollow square of buildings across the center of which the supporting fire is delivered. Bazookas, BARS, tommy guns and the SMG M-3 are effective for such support.
3. Routes of advance. "Routes of advance for plats and sqds varied. Hallways, stairways, rooftops and basements were used. Sometimes it was only necessary to blow two or three walls in an entire block of buildings. It was found best to cross streets near the center of blocks. To make sure that the doors of buildings across the street were open, the locks were shot away or the doors blasted open with bazooka or AT grenades. The street was then filled with smoke from WP hand grenades and the men dashed across under its cover.

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4. Enemy firing positions. "Sometimes a single brick was removed to provide a loop-hole for firing from a basement. MGs located in the upper stories of buildings often were able to get effective fire from ricochets on the stone streets.

5. Entry of buildings. "A front line plat ldr felt that it was better to enter the lower floors of buildings -- for, if necessary, the building could be burned from the bottom -- and the Germans could do the same if our troops were above. The plat ldr also found that, when the ground floor was captured, a few AP shots from the M-1 or BAR through the floors would usually bring the Germans down with their hands up. The German point of view was explained by a sqd ldr. Said he, "The German quits when we enter the building he is in. Of course he could hold out for a while but he figures our men might not play 'Kamerad' if he did. When he finds himself surrounded he gives up. When the Germans held out in the basement, a well-tamped charge of TNT on the floor above usually was effective.

6. Demolitions. "Pole and satchel charges were used generally and were prepared by the engrs in almost all cases. Care was necessary in determining the amount of the charge since it was difficult to estimate the thickness of the walls, which averaged about 18". In a few cases, a too heavy charge brought the entire building down into its basement, forming an obstacle. Our men were not injured in these cases, since they would always be two or three buildings back at the time of the explosion. One solution to this problem lay in placing the charges in fireplaces where the heavier side walls of the fireplace would prevent collapse of the walls.

7. Demolition teams. "A & P men were at a premium as advance was limited by the number of demolition teams available. The front line troops joined with the men from the A & P plats to form demolition teams. One unit reported that if the A & P plat sent down a four-man team, four three-man teams were formed, using one A & P man in each.

8. Burning buildings. "Buildings were set afire with 81mm WP shells, but only as a last resort because this left a difficult obstacle. Such fires were set at night so as not to interfere with daylight combat.

9. Relief of units. "One co comdr recommended that the relief of a forward co, be accomplished in daylight. He pointed out that routes forward led through basements, around buildings, through holes in walls, and over half-demolished walls. If men were brought to their stations during darkness, they had no idea what they were guarding against.

10. Interpreters. "The use of men who could speak German to call upon small groups to surrender proved extremely valuable. One sgt's ability to speak German resulted in many prisoners being taken. A hundred and twenty men came out in answer to his calls in two days and many smaller groups were similarly taken.

11. The 60mm mortar shell. "The 60mm mort shell was extensively used for direct fire through windows, launched from rifles by wiring to the grenade projector adapter M-1. (See Battle Experiences No. 10)

12. Aerial photographs. "There was a uniform desire for aerial photographs in quantity and it was pointed out that they should be taken almost daily in city fighting if they are to show accurately which buildings remain

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- 2 -

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TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 75

25 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I USE OF 40mm GUNS AGAINST GROUND TARGETS.

1. Air bursts. "The 40mm AAA gun, firing am with the supersensitive fuze is particularly effective against emplaced wpns and personnel because branches or underbrush will cause detonation and air bursts. Care must be exercised that the shells hit no trees or branches near our own troops.
2. Employment. "When used close to the enemy lines, the 40mm guns should be dug in deeply and a parapet built with three rows of sand bags. The parapet should be extended around to the front, leaving only a limited sector of traverse, and the top covered with logs to protect from overhead and nearby shell bursts. With this preparation there is no need to change position frequently. Frequent changes of position make obsn of enemy gun locations less accurate and unnecessarily expose the crew.
3. Firing at night. "Night firing is inadvisable. The tracers soon bring down enemy arty and mort fire. Also, there is a possibility of hitting unseen branches or other minor obstacles, endangering our own troops."--AAA Notes No. 8, Hq 12th Army Group.

II ANTI-TANK COMPANY.

"When employed on the line of forward rifle cos we have often found our AT sections so far away from the cos that enemy infiltration cuts them off. Bazooka teams closer to the rifle cos could serve the same purpose and the AT co guns could be used for coordinated protection of the flanks and rear of the regt."--AT Co, 47th Inf Regt.

III STAY IN YOUR HOLE.

"It always pays to stay in your hole when you're not advancing and come under mort and arty fire. I've often seen men get excited and run for safer places, but they always ended up as casualties. Just remember these things: Always dig in, and when you come

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under fire -- stay in that hole and 'sweat it out'. That's what you dug it for!"--S/Sgt H.E. Carlson, 115th Inf Regt.

IV SUPPLY BY ARTILLERY SHILLS.

"Arty was used to shoot medical supplies to the 3d Bn, 120th Inf, when it was cut off from more normal methods of supply in the Mortain area in August. None of the plasma got through intact but bandages, tape and some morphine were recovered."--After Action Report 120th Inf.

V TANKS IN TOWNS AT NIGHT.

"Tks should never be left in towns at night. A town in our hands is a good target for the enemy at any time and the presence of tks will almost insure an enemy arty concentration."--CO, 747th TD Bn.

VI EFFECT OF ANTITANK GUNS ON PILLBOXES.

"Excellent results have been obtained with 3" HE am with delay fuze against small pillboxes. Prisoners removed from small emplacements so attacked have had bloody noses, out faces, and other wounds. Inspection of some of the captured boxes indicates that the concussion caused splintering of the concrete inside the pillbox."--AT O, V Corps.

VII RIVER CROSSINGS.

"In the planning of assault boat river crossings provision must be made for the replacement of lost boats. In a recent operation a co of engrs was to ferry personnel at three points and construct an inf bridge at a fourth. Boats used in the assault crossings were necessary for building the bridge. Twenty-five of these boats were sunk by the enemy and construction of the bridge was greatly delayed."--Report of 9th Inf Div.

VIII FORGET THE HEDGEROW.

"The quicker we can forget the hedgerow style of fighting and get back to the idea of using our hvy MGs in support, the better off we will be."--T/Sgt L.A. Coleman, Co H, 11th Inf Regt.

IX REGIMENTAL REHABILITATION CENTER.

* We have established a rehabilitation center staffed by a medical aid man and an NCO for our combat exhaustion cases. Such cases are sent to the center by the bn aid station. They are kept there for at least 48 hours undergoing marches and athletics. They receive hot food and are provided with recreation in the form of movies and books. The surg examines each man daily. When the man is declared fit for combat by the surg he is returned to the service co for re-equipping and return to his orgn. In 14 days of heavy fighting we had 128 men pass through this center. All were returned to duty and only 12 were again returned to the rehabilitation center. We thus reclaimed 90% of our combat exhaustion cases within one week."--Battl Exec O, 79th Inf Div.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 74

24 OCT 1944

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By command of Lieutenant General BRADLEY:

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Colonel, AGD
Adjutant General

I LEADERSHIP EPISODE.

1. The following routine report of a combat operation submitted by a T/Sgt of Co E, 109th Inf Regt, presents a picture of aggressive leadership which is a partial indication of why that T/Sgt is now a 2d Lt.

2. a. Situation. "Our understrength co was held up by German mort and MG fire on a hill just inside the German border. A German machine gunner was covering the draw in front of us from the left flank. There were also Germans in a pillbox up the road in front of us, from where they were apparently directing mort and arty fire.

b. Mission. "Our acting co comdr gave orders that my plat (we had had no plat ldr for some time) of about 12 men, assisted by a tk, was to take and hold this pillbox.

c. Preparation. "I looked over the map and terrain and saw there was a fire trench directly behind the pillbox. I got my men together and after dark withdrew to where we were to meet the tk. The tk comdr and I made our plans together and I carefully oriented my men.

d. The approach. "We started moving at 1030 hours closely following the tk down the road, and shortly ran into mort and arty fire. The tk fired at the pillbox every once in a while as we advanced. When we got to the area where the tk had to stop, the tk comdr asked when he should stop firing at the pillbox. I told him, "When we get so close you have to stop, then stop". I started one of my sqds toward the pillbox about 350 yds away. They ran into some barbed wire which they started to cut, but I figured we couldn't waste time at that. I found a way around the wire and led the sqd forward. We had been getting mort fire and about that time I ran into MG fire and some of my men had stopped following me. Sgt Moulding got the BAR and three riflemen to keep moving toward the pillbox. I yelled back to them, 'Keep coming, these Heinie bastards can't hit us'. Another sgt and three of his men kept coming but we were down to nine men now.

e. Attacking the pillbox. "I got to the pillbox and about that time the tk cut loose again. It threw a little dirt on me but I figured and hoped it would be his last round. My men were still coming and one of them had 10 lbs of TNT. While I waited for them, I tossed a couple of hand grenades at the back door just to keep the Germans in until I got

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some help. When they arrived one sgt and two men covered the fire trench in the rear, and our demolition men placed the TNT by the door of the box but it didn't go off. The rest of our co had advanced to within 200 yds and they sent up a man with two more 10 lb charges. The second one also failed to go off and I was sweating. We finally got the third charge in and at last she blew. It didn't even bother the box but I guess it jarred the Heinies. I left two men to guard the box in case they came out and the rest of us (now eight men) pushed on to the fire trench. It was empty as was a Heinie sleeping quarters into which we threw a couple of grenades through an open door. About that time I heard a shot from the pillbox and ran back to see what was happening. Twenty-one Germans, including a capt and two lts, were marching out with their hands over their heads. One had tried to make a run for it but got himself a couple of slugs from an M-1 rifle. The rest figured it was time to quit.

f. Reorganizing. "I searched the prisoners and figured we had better take a look inside the pillbox. I took one of the prisoners and made him start moving stuff in case there were any booby traps, but fortunately there weren't any. I sent the prisoners back with three of my men and set up a defense with the rest of my men who had come up by this time. There were only nine of us but it was all that could be spared at the time. In the morning they sent us some help and we held the position for several days before withdrawing to reorganize."

II SALVAGE AND MAINTENANCE.

1. Arms repair crew. "The grouping of rifle bn artificers in the service co train under the supervision of the regtl munitions O and his assistant has proved effective. It has speeded up the return of both individual and crew served wps to the line and has relieved the load on the div ord co. Results: Since D-day we haven't requisitioned a single M-1 rifle.

2. Salvage crew. "A salvage crew of one O, one NCO and four men with the duties of clearing the areas of all salvage, evacuating the dead, and handling the effects of casualties, has made it possible to reclaim and reissue large quantities of ord and individual clothing and equipment.

3. Radio repair. "The regtl hq co radio repairman operates his repair shop on the service co train, handling all radios issued in the unit. Radios are now repaired more rapidly and a considerable burden is taken off the div sig co.

4. Maintenance inspection. "The maint section has been divided into inspection crews with the responsibility of making periodic, systematic inspections of all organic T. They have detected minor deficiencies that might soon have become more serious."--S-4, 115th Inf Regt.

III ARMORED INFANTRY.

"Our armd inf fight from their vehicles just as long as possible. This permits maximum use of vehicular wps, some protection from SA fire and shrapnel, and the man fresher for the final assault."--6th Armd Div.

IV REMOTE CONTROL OF RADIO IN RECONNAISSANCE VEHICLE.

"As it is sometimes inconvenient or dangerous to get into the vehicle when we want to use our radio, we have worked out a satisfactory system of remote control. We use an interphone box BC-606-D and wire it with four-conductor cable, similar to an interphone hook-up. The box with the speaker and headset atchd can be kept near the operator in a dry place, and has been used satisfactorily with as much as 100' of extension wire."--CO 5th Rcn Tr.

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TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 73

24 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I ARTILLERY FORWARD OBSERVATION PARTIES.

"All lts of the bn take their turn as FOs with the inf in tours of 4 days duration. Btry comdrs can only be spared for two day tours. The bn comdr and staff visit OPs and inf bns in the line. Personnel of the FO parties are rotated so that even the canoneers get up with the inf. This creates a high unit spirit, a profound respect for the hard job of the inf, and makes each man personally realize the necessity for accurate shooting."--Report of 110th FA Bn.

II USE OF WHITE PHOSPHORUS SHELLS.

"The use of WP to mark initial rounds for ground and air obsrs should be discouraged in medium FA bns. With reasonably accurate initial data, and by noting the time of flight from the range tables the medium burst can usually be picked out. Excessive use of WP for marking initial rounds not only is wasteful but adds to the obsrs' difficulties by increasing the battle haze."--Report of 227th FA Bn (155mm How).

III EMPLOYMENT OF 81MM MORTARS.

1. Organization. "In terrain that is poor for normal use of 81mm morts a system of employing 4 morts in battery, controlled from an FDC, has been quite effective. Two FOs, with SCR 300s, operate with the forward rifle cos. The third section of the plat furnishes the necessary FOs and radio operators.

2. Advantages. "Using this method it has been possible to keep the morts between 500 and 1000 yds to the rear, where they draw very little enemy fire. This distance makes it possible to cover a wide sector of fire, without moving base plates and re-registering from new positions. Four morts have been found sufficient to fire almost all bn missions."--Cpl Jerome S. Metzger, 115th Inf Regt.

IV ENEMY REACTION TO MARKING AIR TARGETS WITH SMOKE.

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"On one occasion when our arty used red smoke to mark a target for our fighter-bombers, the enemy immediately returned the fire with mort shells of the same type. These shells landed at least 500 yds in rear of our forward elements. The fact that these rounds were fired into our lines only a few seconds after ours had landed indicates that the enemy may have used radio intercept."--G-2, 2d Armd Div. (Note: Some units have reported that when our aircraft are in close support they use an arty OP plane to watch for and immediately report this enemy tactic.)

V OPERATIONS AGAINST PILLBOXES.

1. Demolitions. "Where firing slots and embrasures cover the door and each other, making it impracticable to place a charge against the door, an explosive charge placed on the roof has proved effective. The concussion was so severe as to black the eyes of the occupants."-- Report of 9th Inf Div.

2. Burning gasoline. "Attempts to cause the surrender of pillbox garrisons by pouring gasoline through the ventilators and then lighting it, have been unsuccessful. The ventilating systems are so designed that the gasoline goes through the vertical shaft and runs out the side of the box. Air is taken into the pillbox by a ventilating shaft that is an offshoot of the vertical one."--Report of the 9th Inf Div. (Note: The 5th Ranger Bn recently reported successful neutralization of a pillbox, using gasoline and oil in addition to other weapons.)

VI TIPS FROM A PLATOON SERGEANT.

1. Keep your equipment. "There should be some way, prior to going into combat, of showing men how foolish it is to throw away equipment, such as grenades and grenade launchers. After a while our men found out how valuable they were, but often it was impossible to get some of these abandoned articles when we needed them most. With our close air support, a front line panel display often gives the troops a much better feeling. These panels are bulky and easily thrown away--don't let them do it.

2. Get rid of prisoners. "Don't keep prisoners too long. Get the information from them and send them back. Above all, don't let men group around them and give other Germans a good MG target.

3. Don't give away positions. "Don't use tracer am. It gives your position away. On the other hand, German smokeless powder makes their locations hard to find. Wait for them to move and then let them have it.

4. Watch the noise. "When advancing to the attack keep the noise down. Prisoners have told us that we lose surprise effect by our noisy approach to their positions.

5. Help the new men. "Work hard with inexperienced men. They will help you in battle if you help them in training. Don't forget extra hours on the drill fields save lives on the battlefield."--T/Sgt Benjamin Frishman, Co A, 9th Inf Regt

VII MISCELLANEOUS COMMENTS.

1. Grenades. "Men should be taught to remove grenades from pockets and put them in handy holes when occupying defensive positions. We have had several exploded when the men were hit."--S-2, 9th Armd Bn, 6th Armd Div.

2. Teletype from corps. "The use of teletype machines from corps arty hq to FDCs takes a great load off our telephone lines."--CG, XII Corps Arty

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 72

23 OCT 1944

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By command of Lieutenant General BRADLEY;

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

AMERICAN USE OF ANTIPERSONNEL MINES AND BOOBY TRAPS

Note: The first detailed report of extensive use of antipersonnel mines and booby traps by American troops comes from Co A of 297th Engineer Bn (C) which was attached to the 4th Cav group during the period 17 Sep to 2 Oct, 1944. The Cav group was occupying a wide front and made free use of booby traps.

I METHODS AND EXTENT OF USE.

1. Procedure. More than 100 booby traps of various types were set and maintained under close supervision of the two plat cmdrs. Traps were checked daily. Exploded ones were replaced and changes made to conform to changes in the front line or to provide for special situations. In certain special locations, the traps would be installed at dusk and removed at dawn.

2. Location. The traps were placed on roads, trails and paths leading from the front, and near gates and similar traffic bottlenecks. On a number of occasions traps were laid at special locations after a tactical buildup designed to cause the enemy to send personnel to the points selected. For example, a patrol would establish contact with the enemy during daylight. They would then place a line of traps at the point from which contact was established and withdraw slightly at dusk. They capitalized on the observed habit of the enemy of sending special patrols to investigate points from which we had made contact with them. In a number of cases, booby traps were placed in temporarily abandoned German locations, frequently with good results.

II IMPROVISED DEVICES.

1. The bean can. An ordinary No. 2 can was loaded with three pounds of dynamite pressed as hard as possible with 60d nails along the inside edge of the can. The center of the can was kept clear of nails to permit inserting the firing device. These were

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detonated with a No. 8 blasting cap, trip wire and a pull-type fuse. The trip wire is ineffective if over 15 feet long. This same type was made with C-2 compound which proved more effective than dynamite.

2. Another was constructed from an American AT mine with a half-pound block of TNT, equipped with pull-type detonator, attached to the spider. A variation of this was to place a few hundred rounds of MG am on top to act as additional shrapnel.

III THE GERMAN REACTION.

1. He is a "dummkopf". Results proved that the German soldier is poorly trained against mines and booby traps and an easy prey to the quick-thinking and imaginative American in a battle of wits.

2. He is careless. On 18 Sep a mine, attached to a gate so that opening of the gate would set it off, was blown. The German soldier's leg was broken and shrapnel pierced his body. A new mine was immediately placed in a slightly different position and a short time later two Germans tried the same gate. One was killed and the other severely wounded.

3. He is unhealthily aggressive. An engineer party, out looking for locations for additional traps, met a German patrol and had a fire fight with them lasting about an hour. During the firing they set up their mines with trip-wires and then withdrew. About ten minutes after they had withdrawn they heard one of their mines explode. Upon returning they found one German dead and the other with a broken leg and shrapnel wounds in legs and arms.

4. Surprises for him at home. a. One night one of our patrols located an enemy bazooka position with wps still in place but no personnel around. They put 4-lb of TNT with a No. 8 blasting cap and a pull-type device in the loaded bazooka and attached a trip wire to a nearby tree. The next day the bazooka was found wrecked with a dead German soldier lying near it.

b. Another temporarily abandoned position was found to contain a MG, some Tellermines and a box of MG am. One of the Tellermines was dug in and rigged with a pressure release device under the box of MG am. Three days later a check showed the Tellermine had been set off, exploding the box of am. Two German soldiers were found dead.

IV THE SUPPLY ANGLE.

An unexpected by-product of this activity was the frequent supplementing of the ration with beef, venison and rabbit, as a result of animals running into the trip wires.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES
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No. 71

22 OCT 1944

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Colonel, AGD
Adjutant General

I COMPANY ADMINISTRATION

1. Problem. "Considerable difficulty has been experienced in obtaining casualty information and strength figures because of casualties among 1st sgt. When evacuated, the necessary information and records often went with them and time was lost in getting these records back. In other cases, the 1st sgt was used as a plat leader and, therefore, slighted administration.

2. Solution. "As a remedy the bn sgt major and his clerk now keep complete rosters of all cos in the bn. They make duplicate copies of all reports and keep these rosters up-to-date. It is then possible for the sgt major, when the 1st sgt is a casualty, to take over the administration of that co until another NCO can be acquainted with the routine. In cases in which the co is so separated that a report is impracticable, the sgt major can go ahead and submit one based on the best available information. This system has been quite effective."--115th Inf Regt.

II LOCATING ENEMY WEAPONS

"When we receive reports of flat trajectory wpns being fired from any given direction we make a contour study of the map and select possible locations for the gun. Arty fire is then placed on these locations. We have been extremely successful in silencing such guns."--Regt1 CO 79th Div.

III RADIO DISCIPLINE

"We need more radio discipline. Even old timers slip up on this. I had quite a conversation with a Jerry one day until he slipped up on the call sign."--Capt, 11th Inf.

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IV COMMUNICATION WITH PATROLS

"When we patrol toward important terrain features we send either an SCR 300 or SCR 536 with the patrol depending on the range. If the patrol reaches an important locality we can direct it to remain while we decide whether to reinforce it. As a result we have never had to fight for an important point that we have once held."--Regtl Kx O, 79th Inf Div.

V ATTACKING ENEMY TANKS IN WOODS

"We find that enemy tks in woods generally fire from prepared and camouflaged positions. We get as close as we can with our inf and register our morts with HE shell in the vicinity of the tk. Then we change to smoke shell and blind the tks while we close in with bazookas and bayonets. We use the same system on hostile strong points in woods."--Regtl CO, 79th Inf Div.

VI WIRE HEAD

"We use a forward wire head to assist in servicing our wire lines. It is manned by two men and is placed immediately in rear of the point where the regtl line diverges to the various bn locations. Using this system we can determine more quickly the exact location of a break."-- Regtl CO, 79th Inf Div.

VII SALVAGE

"We have set up a reclamation sqd which searches our zone of action after we have passed through. As a result we have reclaimed more than enough material of all classes to make up for the battle losses, not including damaged material, that we sustain."-- Regtl Kx O, 79th Inf Div.

VIII MAP READING BY REPLACEMENT OFFICERS

"Replacement Os have been found weak in map reading on the ground. They are inclined to pay too much attention to works of man, particularly roads and trails, and not enough to natural terrain features."--Regtl Kx O, 4th Inf Div.

IX MINE DETECTORS WITH BATTALIONS.

"Div ordinarily attaches a plat or co of engrs to the regt. From them we attach a mine sweeper detachment to the reserve co of the bn to clear the way for vehicles. This system has saved a lot of jeeps and ambulances."--Regtl Kx O, 4th Inf Div.

X MINES

"In mine clearing operations any area which cannot be searched due to temporary obstacles should be marked. The warning should not be removed until that area has been searched. On one occasion a wrecked jeep was removed and a trk attempted to cross the area it had occupied. It struck a mine which the wreck had covered."-- After Action Report, 295th Engr Bn.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 10

21 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon
C. R. LANDON
Colonel, AGD
Adjutant General

I LEADERSHIP

"Leadership is based on knowledge. First, every O and man must know his job -- this yields faith in each other. Second, every man must realize that his Os and NCOs know their jobs -- this gives confidence in command. Third, each man must know his mission and the mission of the unit -- which gives continuity of effort regardless of losses. The first is obtained in training, the second in maneuvers and combat, and the third by careful briefing and orientation on the ground. Results of such briefing were shown in a recent operation in which 200 Germans were killed and 800 captured at a cost of 16 casualties. After each engagement critiques should be held in each plat followed by one for the Os."--Bn CO, 6th Armd Div.

II FORWARD OBSERVERS

1. Proper use of artillery. "One of the FO's most important jobs is to get across to infantrymen the types of targets on which he can give them the maximum support. After a little combat experience the infantryman learns the true value of arty and doesn't call for support unless the target merits it. He then doesn't want to waste valuable am that he knows he may need more on some other target.

2. "Innocent bystanders" at the Observation Post. "Well meaning infantrymen who attempt to crowd about the OP to observe the results of the fire or to steal a look through the BC telescope must learn that they are inviting fire from the enemy. OPs are high on the priority list of enemy targets and the importance of their camouflage discipline can't be over-stressed.

3. A morale builder. "During heavy shelling from enemy btrys the FO can give the men a boost if he can tell them the type of shells the enemy is using and where they're

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coming from. It also helps to know that he is there sending in the shell reports and preparing to return that fire many times over."--Capt, 111th FA bn.

III ARTILLERY-INFANTRY COORDINATION.

1. Problem. "The problem of coordinating the inf advance with the lifting of close-in arty fire has been solved in several ways but there is general agreement on two points. First, the method used is dependent on the particular situation and such factors as the type of terrain, light conditions, availability of maps, and the degree of training of the inf in following arty fire. Second, the method of coordination must be simple and carefully worked out by the arty and inf comdrs and the information disseminated to all troops.

2. Solutions. "Following are some methods that have been used:

a. Arty FO informs inf co comdr when last volley is on the way and he informs the plat ldr by SCR 536. This is dependent on all SCR 536s being in good working order and presents the important problem of quickly notifying each man in the plat.

b. Firing the last one or two volleys as high bursts (time fire). This is dependent upon time fire not being part of the concentration itself, upon inf obsn not being cut off by trees or hills, and upon absence of trees in the impact area to cause air bursts.

c. Lifting fire on a closely coordinated time schedule. This is normally practicable only for preparatory fires up to about H plus 10 or H plus 15.

d. The use of a block of schedule fires modified to fit the actual rate of advance by repeating fires, when necessary, on call. This again presents the problem of notifying all troops of changes in the schedule.

e. Designation by arty FO of inf front line locations during the advance, using 1:10,000 maps with fields numbered. This is dependent on having accurate maps available and the time in which to number them.

f. Firing of colored or white smoke in one of the last two volleys. This has several disadvantages:

(1) The only easily distinguishable colors--red, violet, and yellow have other important uses. Green is not easily distinguishable, and white is easily confused.

(2) The enemy can fire white smoke into an arty concentration.

(3) Enemy is warned that the concentration is lifting.

(4) Colored smoke cannot be seen during darkness or at dusk and dawn.

3. Additional aids. "Desirable features in any method include:

a. If possible, more than one system of warning.

b. Inf plat ldrs having their men organized well ahead of time to permit moving forward without delay.

c. Use of wire to forward plats when possible."--VIII Corps' Os.

IV TANK DESTROYER GUNNERY.

The following consolidation of a report from the 628th TD Bn indicates that even at extreme ranges the German Mark VI (Tiger) tk is vulnerable to the M-10 TD. A plat comdr reports the following results, within a 30 minute period, of a recent action in Germany:

a. "No 1 gun hit its first tk at a range of 1800 yds. The enemy crew abandoned the tk and four more rounds of APC were fired at it, three of which could be seen to bounce off the front plate. The fourth round hit the shield and ricocheted down through the top of the tk. Two rounds of APC BDF were fired which exploded on the front of the tk. A second tk at the same range was hit with two rounds of APC BDF which caused it to burn. Both enemy tks were moving directly toward the gun that knocked them out. Later a third tk was knocked out by a hit on the side from a range of 3000 yds.

b. "No 2 gun knocked out one tk by getting three hits with an APC in rear of the tk at a range of over 3200 yds.

c. "No 3 gun knocked out one Mark VI tk with three APC hits in the side at a range of 1900 yds."

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 69

20 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON

Colonel, AGD

Adjutant General

I POOR LEADERSHIP.

Examples of good leadership have been presented in previous issues of Battle Experiences. The following incidents, illustrative of poor leadership, were reported by an inf bn ccmdr and may be of equal value in the formation of a picture of that quality.

1. Poor discipline. a. "At the midpoint of a long foot march by an inf bn the bn adjutant passed through the column in his vehicle on orders of the bn ccmdr. As he passed through the column one ccmdr called, "Do you have to bring that ---- jeep through here?" Later the adjutant was again called forward to billet the bn and as he passed the trs the same co ccmdr called, "I know that ---- bn doesn't know what it is doing. We are probably lost again." When the adjutant returned to take the co ccmdr to his area he refused to go, whereupon the adjutant took the executive and pointed out the area to him.
b. "During the CHERBOURG campaign the bn dug in on a crest on which the enemy was accurately registered. The bn ccmdr decided to move the cos forward to lower ground. The co ccmdr mentioned above believed this to be dangerous and showed marked hesitation and his hesitation continued in the face of a direct order. The bn ccmdr assumed command of the co and directed the second in command to move the unit forward. The co ccmdr retired to the rear. This occurred in the presence of the Os and men and was largely responsible for the decline of the co. The co ccmdr was relieved."
2. Poor judgement. "During the advance on LESSAY, a co was ordered to follow the route of another co to a certain point and then swing S to the objective. Without rcn the co ccmdr took another route across open terrain without deploying and ran into about 100 Germans. Some 40 casualties were incurred before the resistance could be by-passed. Upon reaching the objective the co ccmdr placed most of his men and his CP on a CR. Early the next morning German arty fire fell on the CR and inflicted ten casualties among the massed personnel. Because of poor leadership, lack of rcn, failure to use common sense and failure to obey orders, the co lost 50 men. The co ccmdr was relieved."

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II EMPLOYMENT OF THE 155mm GUN, SELF-PROPELLED.

1. "The 155mm gun SP should be employed by direct attachment of a btry to the div arty. There should be careful evaluation of requests for its fire and an ample allowance of time for the btry cmdr to select positions.
2. "In deciding as to its employment the following factors should be considered;
 - a. The noise of the wpn and the maximum rate of march of 20 miles per hour.
 - b. Its limited rate of fire due to the difficulties of loading without elevating the tube.
 - c. Its high silhouette in firing position.
 - d. The absolute lack of protection for the crews from SA fire. The gunner is particularly vulnerable due to his open position on top of the tk.
 - e. The huge muzzle blast which draws counterbattery fire."--CO, 196th FA Gp.

III REGIMENTAL COMMUNICATIONS.

1. Alternate radio link to battalions. "We have obtained SCR 610 radios for use within our AT and cn cos. In addition to providing longer range com for these cos, this also permits a possible alternate means for the regt to contact the bns. When the cn co FO is at the bn CP, the cn co channel can be used to reach the bn CO.
2. Transfer of wire from DR-4 reels to DR-8 reels. "We improvised a means for transferring our W-130 wire from the DR-4s to the DR-8s by using a captured German pack reel unit, some parts of a reel unit RL-39 from a CE-11, and a bicycle sprocket and chain. The bn com Os collect the empty DR-8s and send them to the regtl wire section for refill."--CO, 47th Inf Regt.

IV PATROLLING.

"Our patrols report that in wooded or hilly terrain the enemy will allow the lead man to come through their lines and when the other members of the patrol can be observed the Jerries start shouting, whistling, and firing a few rifle shots from either flank. The patrol leader immediately gets the impression that he is surrounded and endeavors to pull out, sometimes leaving casualties and with his patrol disorganized. During such action, the enemy is careful not to disclose his positions by firing automatic wpons; usually he will rely on a few rifle shots to create this confusion."--2d Bn, 47th Inf.

V ANTITANK GUN POSITIONS.

1. Displacement. "We have adopted the procedure of digging new gun positions before displacing the gun. In fast moving situations this is impractical but when there is time, half the sqd goes to the new position, leaving the other half to man the gun. Time for emplacing is thus cut to a minimum.
2. Siting. "AT guns should always be placed several hundred yds from the road they are covering to obtain flanking fire, better camouflage, and safety from German arty fire which usually falls along the road."--CO, AT Co. 115th Inf.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 68

19 OCT 1944

"Battle experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I LEADERSHIP EPISODE.

"Cos B and C were attacking against heavy opposition. By afternoon the CO and two plat ldrs of Co C were casualties and only two plats of the co remained. The co comdr of Co B took command of the two plats and with these and the remnants of his co took the bn objective. When the Germans counterattacked, the two plats of Co C were isolated and Co B surrounded. Co B held their position until ordered to retreat. The co comdr then led an attack to relieve the other two plats, during which he personally knocked out two MGs. After reaching the two plats he reorganized and fought his way back to the bn area, managing to bring all the wounded with him"--Report from 35th Inf Div.

II SURPRISE.

"While going through the Siegfried Line a plat was given the mission of knocking out a bunker situated on a steep and heavily wooded hill. The plat proceeded slowly in line of sqd columns on a 50 yd front with scouts out 20 yds. The plat ldr and plat sgt acted as the center scouts to facilitate control. Upon reaching the edge of the woods about 75 yds from the bunker the plat halted. Three Germans were walking along the edge of the woods but the plat held its fire until discovered. It then shot the three Germans and rushed the bunker. Two Germans outside promptly surrendered and two grenades thrown in the entrance of the bunker brought about the immediate surrender of the garrison of 22 men. The element of surprise brought about the reduction of the bunker without a shot being fired by its crew."--2d Bn, 47th Inf.

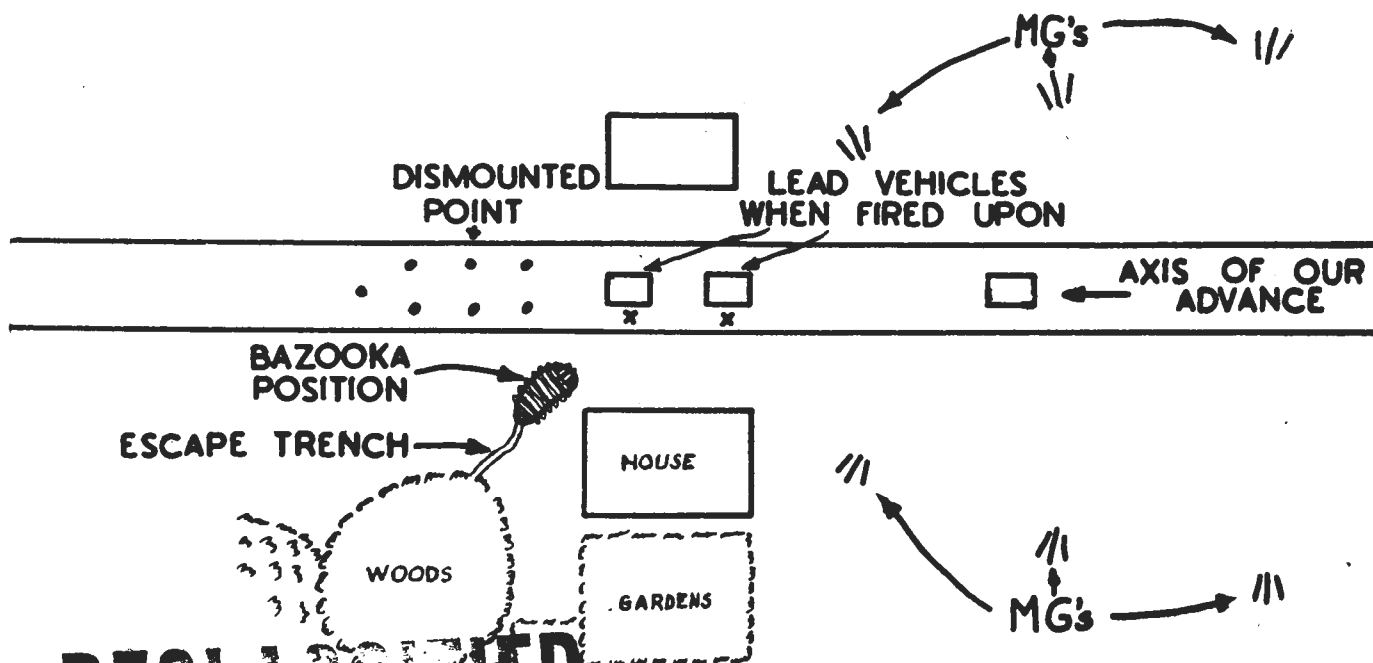
III EXTRA ARMOR PLATE FOR CAR, M-8.

"A reinforcing plate of $\frac{1}{2}$ " armor on the bottom of the M-8 armd car, installed by our ord co, has proved of value. In one instance one of these cars, partially reinforced, ran over a mine with the result that the two men in front protected by this armor were only slightly injured, whereas the two turret men, with no added protection, were killed."--Co 5th Hcn Tr.

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IV NAZI ANTTANK TACTICS.

The 7th Armd Div has recently encountered a type of German delaying position designed to destroy the leading tks of an armd column and cause confusion and delay. The particular set-up has been encountered repeatedly and the div has evidence that the Germans have been studiously practicing and perfecting the technique. As shown in the diagram below, a covered and perfectly camouflaged foxhole for a two man bazooka team is normally dug in a semi-circular shape around the corner of a house or building near (5 to 50 yds) a road. A camouflaged escape trench leads from the rear of the bazooka emplacement to any nearby cover such as woods, garden shrubbery, or additional buildings. MGs are placed in a V formation with the open end of the V from 300 to 400 yds from the road in the direction from which our approach is expected. When the column is preceded by a dismounted point, fire is withheld until the bazooka team is certain of knocking out the lead vehicles. When the bazooka fires, all MGs open up on the remainder of the column, not principally to cause casualties, but to cause confusion and make it difficult to ascertain from where the bazooka fire has come. Due to the excellent camouflage of the positions and escape trench and the confusion caused by the cross-firing MGs, it has been found extremely difficult to determine the location of the resistance. A possible solution offered by a member of the div, is to have foot patrols, preceding the armor, advance with two columns on each side of the road, at distances of 20 yds and 70 yds from the road.



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TWELFTH ARMY GROUP

DECLASSIFIED BATTLE EXPERIENCES

No. 67

18 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I TANK UNIT EXPEDIENTS

1. Use of map blowups for briefing tank crews. "Under present conditions, with plenty of time for the preparation of our attacks against enemy fortified positions, we find it invaluable to use 1/5,000 map blowups in the briefing of tk crews. The blowups are made by hand and take four to ten hours, but data such as pillbox locations can be put on them and shown to the crews very clearly."--Capt, 70th Tk Bn.

2. Tank and antitank gun spotting by artillery planes. "The arty ln planes spot enemy tks and AT guns and communicate the exact coordinates of their locations to us. Our tk co cmdrs keep one receiver on the ln plane frequency for this purpose."--Capt, 70th Tk Bn.

II ENEMY TRICKS

1. Time bombs. "The Germans have laid effective traps by setting two time bombs for detonation within a few moments of each other. On one occasion two such bombs, placed under sidewalks directly across the street from each other, went off fifty seconds apart. The second explosion, as planned, caught some personnel who had run to investigate the damage and assist those injured by the first blast."--WD Board Report.

2. Use of civilian clothing. "That Germans have been sending patrols dressed in civilian clothes across the river and into our area was established when we captured some of them in the act of changing clothes. These soldiers pose as Polish and Russian workers."--Ex O, 3d Cav Gp.

3. Dummy trick. "This is a trick the Germans have used to draw our fire during the day. They fix up a dummy, fully dressed and including a shiny buckle on the uniform. Then they put it, buckle showing, half-exposed, in a foxhole on their side of the river."--Ex O, 3d Cav Gp.

- 1 -
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III SIEGFRIED LINE EXPERIENCES.

Note: Units of the 2d Armd Div report the following lessons learned during reduction of a large number of pillboxes:

1. Organization. a. "One reinforced co observed that the mort sqds and the hvy MG sections slowed the advance of its two assault teams. It was also noted that flame throwers were not always needed and preferably should have been held in reserve. Accordingly, the conclusion was reached that teams of the following composition would be most desirable:

<u>Assault Teams</u>	<u>"Mop-Up" Team</u>
One plat of med tks (with tk dozer)	One plat of lt tks
One plat of inf, less mort sqd	One plat of inf, less mort sqd
An arty FO in a tk	One plat of hvy MG
	One plat of engrs with flame throwers and demolitions
	Inf plats 60mm mort sqds grouped as a btry with 81mm plat

2. "Mopping-up". "A hvy MG plat and the lt tks were used advantageously in the "mop-up". All wires had to be cut and all compartments of pillboxes carefully searched, as a telephone operator or arty obsr often attempted to hide and remain behind to direct fire.

3. Flame throwers. "Another bn discovered an unusual method of using the flame thrower for reducing a pillbox. The pillbox would be covered with fire in the usual manner, and the flame thrower team brought forward to test the flame thrower somewhere behind the line of tks, but where the occupants of the pillbox could see the flame. Usually, the pillbox would surrender shortly thereafter. However, hvy arty fire often made it difficult to get the flame thrower team well up.

4. Flanking action. "Outflanking was found to be the fastest method of reduction where there was not a concentration of pillboxes. One assault plat concentrated on the pillbox and was covered by the other assault plat. One section placed hvy fire on the embrasures while the other section moved around and put hvy fire into the back of the pillbox. When the pillbox surrendered, it was sealed temporarily by the tk dozer. Engrs follow us and weld the doors shut as we have found that dozing or blowing the handles off the doors is insufficient."--Report from 2d Armd Div.

IV THE M-10 TANK DESTROYER.

1. Ammunition for M-10. "In planning for woods fighting it is essential that the basic load of 3" am for the M-10 TD be modified to include a majority of AP or APC. The use of HE is greatly limited by the possibility of tree bursts on friendly trs.

2. .50 caliber machine guns mounted on M-10s. "Mounting the .50 cal MG on the right forward section of the turret of an M-10 TD for use against personnel has proved valuable. When this gun was employed against entrenched enemy they shortly surrendered to our accompanying inf.

3. Employment of infantry anti-tank guns. "The inf 57mm AT guns should be kept well forward behind the inf and as the attack develops, assigned the mission of setting up flank and rear road blocks. This allows the TDs to follow to a great depth to the AT defense and at the same time preserving their mobility."--CO, 773d TD Bn.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 66

17 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I TRAINING IN THE MAGINOT LINE

"Our div, in its preparation for the assault on Siegfried fortifications, has made effective use of the Maginot Line. Rifle plats have been put through problems in the attack of fortified positions using the areas with wire and pillboxes as the training ground. We have found the training valuable as it permits detailed planning and practice for assault teams as well as exercises involving coordination of all areas."--CG, 83d Div.

II HELPING THE SURGEON

"Bn and regtl surgs will manage evacuation problems more intelligently and alertly if they are kept acquainted with the situation. The indulgent doling out of necessary information upon repeated requests from the surg discourages him and causes him to lose incentive and initiative."--Regtl Surgeon, 115th Inf.

III ENEMY REOCCUPATION OF PILLBOXES

"When pillboxes have been covered with dirt by tk dozers Jerry has often re-entered by digging holes just large enough for a man to get through. The man is armed with an automatic wpn. As he usually has a good field of fire it is difficult to get him out. The answer seems to be to pile more dirt over the opening. The enemy also will reoccupy partially and completely blown boxes and man them with crew-served wpns."--Extract from report of 28th Inf Div.

IV BREACHING THE SIEGFRIED LINE

1. Training. "When we came to attack the Siegfried line we found that our assault dets which had been trained in England had become casualties. This time we trained all personnel on all wpns. That proved valuable on the day of the assault for whenever the leading elements were cut down the nearest man could pick up the wpn and do the job.

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2. 4.2 Mortars. "The arty and 81mm morts were very effective in reducing movement of personnel outside of pillboxes but it was the 4.2 cml morts, firing 150 yds ahead of the assault cos, which most effectively reduced the enemy fire during our assault. It was not necessary to use bangalore torpedoes or wire cutters for the wire had been pretty well torn up by the 4.2 mort barrage."--Bn CO, 117th Inf.

V ENGINEER OPERATIONS

1. Destruction of mines. "When mines are to be destroyed near the front lines they should be collected in one spot and blown all at once and not blown individually or in small piles. We have found that a series of explosions with the resulting black smoke invites enemy arty fire.

2. Security for mine clearing parties. "It has been found necessary to have scouts in advance and to the flank of mine clearing parties for security. The enemy frequently attempts to ambush mine clearance parties operating away from inf elements."--Report of 121st Engr C Bn.

VI REGIMENTAL COMMUNICATIONS

1. Antenna repair. "Used lengths of open circuit telephone wire have been found valuable for repairing damaged antenna on the SCR 300 and SCR 536 radios.

2. Map reading. "Our map reading instruction, emphasized in the com plat while in England, has been invaluable. Our men now have confidence in their ability to read maps and can get to the right places easily when using them.

3. Signal supply. "In our div we have found it best during combat to handle signal supplies through com channels. Bn com Os submit requests to the regtl com O, who in turn passes them on to the div signal supply O. The supplies are picked up from the higher unit by the lower using the same channels. The regtl S-4 disregards com requisitions submitted through S-4 channels and thus avoids duplications. Advantages are that signal supplies can be obtained and repairs effected more rapidly. Critical signal supply items can be regulated more easily by the com Os."--CO 47th Inf Regt.

VII SIGNALLING AIRCRAFT

"Two plats of one co were in contact with the enemy and had pushed forward rapidly. Suddenly our planes appeared overhead on a bombing and strafing mission. A hasty check revealed that no panels or smoke grenades were available. During this time one bomb exploded behind the unit and the strafing was close. One plat withdrew one hedgerow to the rear, where the men immediately stripped off white undershirts, which were used with V-mail forms, etc., to form a large U.S. in the middle of the field. On the next run the unit received a friendly sign from one of the planes and the bombing and strafing was confined to an area where it did the most good."--Report of 2d Bn, 47th Inf.

VIII DETAILED PHOTOGRAPHS FOR PLATOON LEADERS

"Aerial photographs are interpreted and annotated in the field and then rephotographed to provide our plat leaders with an easily read interpretation of German defenses in their areas."--C/S, 28th Div.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 65

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Colonel, AGD
Adjutant General

I PILLBOX DEMOLITION

Note: Neutralization of a strong pillbox, by a patrol of the 5th Ranger Bn, was effected through use of explosive and gasoline and oil. Considerable difficulty was experienced as indicated in the following extract from a report of the Bn Comdr.

1. Construction. "The pillbox consisted of a 12" steel dome set on a concrete emplacement approximately 30' in diameter. The steel extended 6' below ground to the roof of the concrete emplacement. There were 6 firing embrasures each with a 12" steel door. The pillbox was on a knoll and had a rear entrance with steel doors.
2. Gunfire ineffective. "Fire from 1200 yds with 155mm SP guns and from 300 yds with 3" guns was ineffective. Some rounds from 300 yds stuck in the turret but did not penetrate.
3. First assault. "A plat of 22 men made a direct assault on the box on 17 Sept, reaching the objective at 1500 hours. Supporting pillboxes were engaged by 3" guns. The enemy refused to surrender and a 40 lb charge of C2 was placed in the vision embrasure adjacent to the entrance and fired at 1506 hours. An extremely heavy mort barrage caused the plat to retire and the damage from the blast could not be ascertained.
4. Second assault. "At 2140 hours the same day an 11 man patrol, covered by an arty barrage, moved up to the pillbox again. The patrol consisted of 2 scouts with Tommy guns the patrol leader, 4 men with pistols each carrying 5 gallon cans of an oil and gasoline mixture, 2 men armed with pistols each carrying a 40 lb C2 demolition charge, one man carrying a 50 lb beehive charge, and one man with a Tommy gun as rear guard. Each C2 charge was placed in a firing embrasure, the beehive charge was placed on the side of the pillbox, and the oil and gas poured around and over the box and in the entrance. The blast was set off with an 18 second fuse, and the box burned for 40 minutes. All men returned safely.

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5. Results. "The entire area surrendered the following day and the following results of the assaults were disclosed; a. The 40 lb charge set in the afternoon blew a 3-foot hole through the shelter wall, causing heavy damage to the concrete box and killing 12 men inside.

b. The charges set in the embrasures at night, together with the gasoline, destroyed the interior of the turret, completely neutralizing the position and killing 3 more men.

c. The 50 lb beehive charge had no effect on the turret.

d. Prisoners taken from adjacent installations stated the effects of the raid were terrifying and that they believed a flame thrower and oil bombs had been used. They also stated that as a result of the raids all personnel remained alerted on the outside of other pillboxes to prevent similar action."

II PANELS ASSIST AIR ARTY OBSERVERS.

"It is difficult for our arty air OPs to see our infantrymen when they move cross country or in split columns along roads. In order to assist the obsrs we have adopted successfully the practice of having a panel carried by the first sqd in each plat. On one occasion one foot of panel held up from a dugout was sufficient to enable the obsr to spot our troops."--Lt, 229th FA Bn.

III MISCELLANEOUS COMMENT.

1. Hand grenades on trees. "A PW stated that in his area hand grenades were atchd to trees. The pins were atchd to ropes leading to fox holes so that the grenades could be detonated from a covered position."--29th Div G-2 Report.

2. Civilian aid. "Two lost EM of a corps unit recently accepted an offer from a civilian to guide them. He led them straight to a German CP where they were interrogated and interned. They later managed to escape and return to our own lines. The incident illustrates that a complete lack of faith in civilians is necessary for adequate security."--30th Div G-2 Report.

3. M-3 Howitzers (105mm). "To correct a tendency of the M-3 how to elevate itself after a round has been fired, we have made a small brake drum, approximately four inches in diameter, with self-snubbing action that will loosen itself and is adjustable. This device has proved quite satisfactory."--Ord O, 9th Inf Div.

IV NO CIVILIAN RESISTANCE.

Section II of Battle Experiences No. 49, dated 26 Sept 44, stated that the 3d Armd Div had reported stubborn resistance from enemy civilians and soldiers on 17 Sept 44. A letter just received from the div cmdr states that no civilian resistance was observed by or reported to him and he considers the report erroneous.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 64

13 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I TRANSPORTING AN INFANTRY REGIMENT.

Note: The following solution to transporting an inf CT using only the T of atchd combat units was worked out by the 18th Inf Regt.

1. Situation. "After the break-through we were faced with the necessity of moving forward more rapidly than foot troops could walk if we were to keep pressure on a disorganized enemy. There was no corps or army T available. After crossing the Seine River we succeeded in making arrangements by which we could move between 30 and 35 miles per day and still keep the men in condition to fight. Prior to this time we had used as many as 108 QM trks to do the same job.

2. Method of transporting troops. "We counted the T of our atchd TD co, 155mm how bn, and 2 plats of med tks and set up the following plan:

a. Leading battalion (adv gd).

(1) Riflemen rode the 15 ki trks (ki loads and rolls dumped) and the trks and vehicles of 2 tk plats and 1 TD plat.

(2) Hv wpns co men rode their own T.

b. Second battalion.

(1) Riflemen rode the wpns and T of the FA bn of the CT.

(2) Hv wpns co men rode their own T.

c. Third battalion.

The cn co, AT co, 2 plats of the atchd TD (SP), and a 155mm how bn moved with this bn. These orgns were able to carry all of the riflemen of the third bn.

3. Advantages. "This method of motorizing the regt depends, of course, on using T of atchd units. In this div, it is normal procedure to attach the TD unit, 155mm how arty, and tks to the CT and to always attach the same units. Having the atchd units carry the foot soldiers furthers mutual understanding and reliance on each other. An additional advantage is in having inf rifle orgns always present to defend the arty units when caught by surprise attacks."--S-3, 18th Inf Regt in WD Board Report.

- 1 -

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II DESTROYING CAST STEEL PILLBOX TURRETS.

"Experience in the Brest operations indicated that the only effective method of reducing cast steel turrets on pillboxes is to use a C-2 explosive charge of 18 lbs or more placed in the embrasure. None of the direct fire weapons (3" guns and 155mm hows) used were able to penetrate these turrets and thermite grenades were ineffective because of the high percentage of slag in the cast steel."--29th Inf Div Report.

III ROUTE MARKING.

"To reduce the number of guides and route markings an arm'd FA bn in Italy used the following SOP: 'Except when markers indicate otherwise the unit stays on the road. At a 'Y' junction with equal road conditions it takes the right-hand fork. Upon arrival at a crossroad it continues straight ahead. At extraordinary intersections, main traffic crossroads, or any places where doubt may arise, a guide is dropped.'--AGF Board Report.

IV REPAIR OF SPIRAL-FOUR CABLE.

"The following method of splicing spiral-4 cable was devised because of the lack of equipment for executing regular factory splices; 'On each side of the break peel back the rubber insulation about six inches, at the same time keeping the shield intact. Then peel back the shield over the rubber insulation, exposing the conductors. Splice the conductors at staggered intervals of $\frac{1}{4}$ ", $\frac{1}{2}$ ", 1" and $1\frac{1}{4}$ ", using a soldered Western Union method. Cover the exposed area of the conductors with one layer of friction tape. This prevents the shield from cutting into the splice. Next, slip one side of the shield back over the insulation for the entire length of the splice and secure it by wrapping with seizing wire. The other side of the shield is then slipped over the spliced area in the same manner, thus giving it a double shield. Solder together the two layers of shields. Wrap two layers of black rubber vulcanizing tape over the splice and vulcanize for about thirty minutes.'--Sig O, XIX Corps.

V FRONT LINE COMMUNICATIONS FOR CORPS LIAISON OFFICERS.

"To give the corps ln Os coms from front line positions a system of radio cars using SCR 193s and SCR 506s has been set up by our sig bn. The use of simple remote control systems which the bn has developed makes it possible to operate the sets even from fox holes."--Sig O, XIX Corps.

VI AIR BURSTS ON CAPTURED PILLBOXES.

"Immediately upon the demolition of a captured pillbox by our engr's the enemy invariably covers it with arty fire fuze'd for air bursts. The quickness and accuracy of these fires indicate that the fire data has been previously prepared."--CO, 47th Inf Regt.

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- 2 -

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TWELFTH ARMY GROUP

DECLASSIFIED **BATTLE EXPERIENCES**

No. 63

11 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity or the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. H. LANDON
Colonel, AGD
Adjutant General

I

INFANTRY-TANK-ENGINEER ACTION IN THE SIEGFRIED LINE

1. Source. Beginning on 17 Sep the 3rd Armd Group, composed of the 741st and 747th tk bns, was attached to the 28th Inf Div which used it as part of a task force having the mission of widening a gap which had been made in the Siegfried Line. The comments below are extracted from a report of the tk group comdr to the CG First Army.
2. Composition, strength and organization. "The bulk of the force was composed of the tks with one inf co at greatly reduced strength supporting each tk bn. Each tk bn had about 35 medium tks. Each bn was organized into two composite cos. Tk dozers were attached to the assault cos and all available assault guns were placed in positions permitting direct fire support.
3. Plan and operation. "The general plan of attack was for the tks to assault a position, gain fire superiority and for the inf then to move in and occupy the position until a tk dozer had covered the embrasures and entrances to the pillbox. In four days of operation 49 pillboxes were buried and an additional eight were captured by the task force and destroyed by engineers.
4. Hostile counter measures. "After the second day of operations, the enemy modified his tactics to meet our methods with increasing effectiveness. He mined the ground in front of embrasures and entrances and stationed bazooka men in foxholes around the pillboxes and in some cases on top of the pillboxes.
5. We change our tactics. "Plans were then drawn up for a coordinated attack by two inf cos, a reinforced tk co and engr working in teams on a group of pillboxes about 2000 meters from the location of the previous attack.

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6. Planning and operation. "The teams were carefully briefed and rebriefed as to missions, routes, signals, etc. on large-scale maps, aerial photos and actually on the ground. These briefings were all at joint meetings which were held over a period of three days.

7. Deception. "During the briefing and planning period, daily diversion attacks were made by tks in the area of principal operation. On the day the main attack was launched, another strong diversion was carried out by tks not included in the main attack and reinforced by mortars and assault guns. This attack lasted from 0730 to 1130 and drew extremely heavy arty and mortar fire.

8. The main attack. "The main attack jumped off at 0930 and in the beginning drew almost no fire as a result, it is believed, of the deceptive methods employed. The assault teams were composed of a sqd of inf supported by two tks and sufficient engr to destroy the pillboxes when taken. In six hours eleven pillboxes were captured and 51 prisoners taken in a strongly defended area.

9. Conclusion. "Where the enemy is relatively disorganized, attack by tks alone or attacks with a minimum of inf support, will accomplish results even against concrete emplacements, but when his defense begins to take on form and coordination, profitable results can be obtained only through carefully planned attacks of inf-tk-engr teams.

10. Miscellaneous observations. a. "On fairly level ground, a tk dozer can effectively bury a pillbox in about 15 minutes.

b. "Covering up pillboxes still occupied by the enemy has a psychological effect. A number of PWs stated that they surrendered because they preferred that to being buried alive.

c. "tks can blow openings in dragons teeth with direct fire from their cannon. About 50 rounds are required to blow an opening large enough to permit passage of a tk."

II AA TACTICS

"A system of area AA defense was instituted in the ___ Div area, by an AAA AW Bn, to eliminate attaching AA elements to FA Bns. The purpose was to prevent the high concentration of AA which resulted from the bunching of FA units. AA guns were placed two in each 1000 meter grid square. This resulted in better positions being selected and permitted a higher percentage of fire units to remain in position at one time. It simplified coms and AAIS, and also gave relief from counterbattery fire as the rear guns always leap-frogged to the front of the sector on moving."--AA Bn After Action Report.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 62

9 Oct 44

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By command of Lieutenant General BRADLEY:

C. R. LONDON
Colonel, AGD
Adjutant General

I DIGGING IN PAID OFF

Note: The value of properly organized and prepared defensive positions is emphasized in this account of a German counterattack against positions of a 1st Inf Div Unit in the Siegfried line zone.

1. Artillery and mortar preparation. "On the night of 2 Oct 44, the Germans counterattacked positions of our regt in an effort to seize an important road and ridge. The counterattack was preceded by the heaviest arty and mort preparation to which we had ever been subjected. The preparation began at 2300 hours and lasted until 0130 hours, an estimated 2000 to 3000 rounds falling during that period.

2. Low casualty rate. "The area covered by the barrage was approximately 1500 yds in width and 1000 yds in depth and was occupied by approximately 200 men. Only eight men were killed or wounded during the barrage and the counterattack that followed. The low casualty rate is attributed to thoroughly prepared defensive positions including deep and well covered foxholes. These positions had been continually improved during the few days we had occupied the defensive area.

3. The Germans counterattack. "Following the preparation the Germans attacked in two waves, Engrs and inf in the first were to seize the pillboxes and inf in the second was to occupy them. Some of the first wave managed to reach our positions but the second wave was cut off and dispersed by our planned arty and mort fires. Of four SP assault guns that attempted to penetrate our positions, three were knocked out when they hit our mine fields and one was abandoned because of motor trouble.

4. Restoring our lines. "During the entire operation about forty Germans were able to penetrate the position and seize one pillbox. All of these had been killed, captured or driven out when our lines were restored at 0500 hours. Trip flares and 60mm mort flares were used effectively in this action."

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II DETECTION OF PILLBOXES

"Some German pillboxes have been so well camouflaged that detection is most difficult. In a few instances we sprayed suspected areas with MG fire and located the pillboxes by the ricochets. We then used 75mm and 105mm HE to clear off the camouflage and AP shells to penetrate the doors."--S-3, 16th Inf Regt.

III BATTLE CONDITIONING

Note: NCOs and privs of Co K, 11th Inf made the following comments:

"The best mental conditioning for offensive fighting is a gradual introduction to combat. Ten days of dug in defensive combat at the beginning gave our outfit a chance to learn what it meant to be under fire, the value of our own fire power, how to tell the difference between Jerry wps and our own, how to keep out of sight, and whom we could depend on as our real ldrs. It took away the first tenseness of battle and gave us confidence. Also, very important, it gave us a good idea of the toughness and ability of the enemy. It was the best way to get experience."

IV WOODS FIGHTING

Note: Extracted from a 9th Inf Div memorandum on combat in woods, the following describes one technique of close terrain fighting.

1. Organization. "For woods fighting special task units are formed consisting of assault, support and reserve groups. The assault groups are organized for close combat with the enemy and the support groups for providing them with supporting fires and with protection for their flanks. The reserves are maneuver forces to exploit the areas where maximum progress is being made.

2. Assault and support groups. "Each rifle co is divided into two assault and two support units. The assault groups are armed with grenades, BARs and rifles and include a number of expert scouts capable of maintaining direction when advancing through dense woods. Within the co they move on parallel azimuths and are mutually supporting. The support groups have LMGs, 60mm morts and sufficient rifles for their immediate local protection. They follow the assault groups by bounds always ready to give close support and flank protection.

3. Concrete fortifications. "When a concrete fortification is encountered an assault group determines its type and size, drops off the minimum number of men to contain it, and after reporting this information to its next superior, continues on its mission. A specially organized and equipped task force then comes up and reduces the concrete fortification.

4. Emerging from woods. "Before arriving at the far edge of the woods timely arrangements are made for resuming normal combat formations upon breaking into the open."

V INFANTRY COMMUNICATION EXPEDIENT

"I have mounted SCR 608 in my jeep and have com with everybody including my arty bn. I like it better than the SCR 284."--CO, 9th Inf Regt.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 61

9 OCT 1944

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By command of Lieutenant General BRADLEY:

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Colonel, AGD
Adjutant General

STREET FIGHTING IN BREST

Note: The following material, extracted from a memorandum of the 2d Inf Div concerning the experiences of that unit in large scale street fighting in Brest, is worthy of note as indicative of conditions likely to be encountered by units fighting in German cities. A discussion of this subject by the div comdr was published in Battle Experiences No. 50.

1. Enemy defense methods. a. "Streets were covered normally by grazing fire of automatic wpns located in pillboxes and in basements. Pillboxes were located frequently at street intersections.
- b. "Riflemen were placed both in upper stories and in basements to cover the automatic wpns positions. Riflemen were located also in many gutted buildings, small holes having been made in the remaining walls to enable fire to be placed in the centers of blocks.
- c. "Buildings within the interior of a block normally were not occupied as they did not afford fields of fire and were easily surrounded.
- d. "Direct fire wpns were kept at some distance and were used mainly to fire at upper stories, in many cases denying the use of upper stories to arty obsrs.
- e. "A large number of tunnels and underground installations were used as protective shelters, storerooms, or repair shops. Entrances to these shelters often were defended.
- f. "Buildings were set afire frequently in order to block the advance of attacking units. After the buildings had burned out the additional open space gave the defenders improved fields of fire.

2. Zones of action--Formations. a. "Widths of zones of action were reduced due to the height and depth of the area to be neutralized and captured. Co zones varied between one and two block fronts with each plat assigned a row or block of buildings. A definite street or building was assigned to each assault sqd and plat.

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b. "It was found desirable to attack two cos abreast, with the reserve co held much closer to the assault units than in open terrain. The reserve co could deal with local counterattacks rapidly and could prevent successful infiltration in rear of the assault units.

c. "To insure maintaining a continuous front, each sqd and plat coordinated with the next higher unit after securing an objective.

3. Method of advance. a. "Because the streets were so heavily defended, the buildings provided the routes of advance. Entry was gained by blasting holes through covered sides of walls. In some cases, demolition teams with prepared charges were attached to each assault plat; in other cases, engrsr prepared and furnished the charges and the inf executed the demolitions.

b. "After a hole had been blasted, a rifle sqd, or half-sqd made an assault through the hole before the enemy could recover from the shock. Once a building was entered, each floor had to be cleared in turn.

c. "Experience proved it was often best to enter a building from the roof or top floor and work down. Scaling ladders were invaluable in providing entrances through windows and ceilings.

d. "Smoke grenades were used to cover the units crossing streets and gaps between isolated buildings. Enemy AW sometimes could be located when they fired at the smoke.

4. Time of operations. a. "Experience showed that advances could be initiated any time after daylight, the hours of darkness being utilized to blast holes in initial objectives for the following day.

b. "Three or four hours sometimes were necessary for consolidation of positions for the night. This was found desirable to enable units to prepared positions to cover every enemy approach. Without this coordinated defense for the night, the enemy infiltrated riflemen behind advance elements and seriously hampered operations on the following morning.

5. Supporting artillery. a. "Close arty support from organic hows was of little value due to the varying heights of buildings and to the very close contact with the enemy.

b. "Arty rendered invaluable support in engaging targets some distance ahead of front line units and in placing an intense 24 hour program of harassing and interdiction fires on selected areas and targets in the enemy's rear.

c. "TD wpns and 155mm self-propelled guns proved extremely helpful in neutralizing or destroying heavy emplacements, pillboxes, heavily defended buildings and strong points. These wpns also were instrumental in providing avenues of advance for units by blasting walls of buildings. The following points are worthy of interest in the employment of these wpns:

(1) A ln O or NCO should remain with the rifle co comdr at all times to speed delivery of fire.

(2) Guides should be furnished to lead the wpns into positions and to point out targets.

(3) The wpns must be given protection against enemy AT wpns.

(4) Wpns should follow front line units by bounds when not employed.

(5) Morts or arty fire should be used to conceal the noise of wpns moving to positions.

(6) Normally one section of hows was attached to each assault co. Subordinate and adjacent units should be informed when these wpns are to fire.

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6. Chemical mortars. "The 4.2 cml mort was one of the most effective supporting wpns. It was able to shoot over high buildings and to render support within 100 yds of front line elements. Large amounts of WP were used to drive the enemy out of cellars and buildings into the range of rifles and automatic wpns.

7. Infantry weapons. a. "The most effective automatic arms employed were AKs Thompson SMGs, and carbines modified for automatic fire.

b. "HMGs furnished little support due to limited fields of fire. They were normally used to cover streets leading into the flanks, and where possible, to fire down streets to the front to prevent the enemy from crossing streets and shifting positions.

c. "Rocket launchers were profitably employed when it was possible to advance within range. They were effective in clearing out MG positions in houses and pillboxes.

d. "57mm AT guns were held near street corners in ready positions, from which they could go into firing position rapidly, fire and withdraw.

e. "60mm mort were used on close-in targets, and were effective in keeping enemy riflemen from roofs or top floors of buildings. They were of more value in residential districts than in solid blocks of high buildings, but in both cases were helpful in fixing the enemy and in preventing his movement to new firing positions.

f. "81mm mort provided excellent support at ranges not to exceed 1500 yds. Displacement was normally by section as suitable areas for plat positions were rare. WP am was used extensively for screening and for casualty effect, and HE (both light and heavy) for destruction of buildings.

g. "Hand grenades (fragmentation and WP) were essential for clearing out basements, houses, and pillboxes.

h. "Flame throwers were used in several instances when direct fire wpns could not be employed and proved a great incentive to the enemy to surrender.

8. Ammunition supply. "Co sup dumps were maintained one block in rear of assault units, because front line units could not normally carry a full day's sup.

9. Communications. a. "SCR 536 radios proved to be of little value, because transmission and reception in buildings were not good.

b. "Com with plats was maintained by sound-powered telephones.

10. Mine clearing. "Mine detecting personnel from am and pion plats and from combat engr followed the assault closely in order to clear routes of advance for TD and AT wpns.

11. Engineers. "Engr troops were of invaluable assistance in the following roles:

a. Gapping walls, floors or ceilings to permit inf units to advance.

b. Clearing routes and preparing positions for self-propelled wpns. This often was accomplished during hours of darkness with hand tools to avoid disclosing positions.

c. Filling craters, which were numerous, with rubble from destroyed buildings.

d. Filling numerous AT ditches by placing explosives inside walls of adjacent buildings in such a manner that the debris was blown into the ditches. This was found to be much faster than blowing in the shoulders of ditches, due to rock and hard surfaced roads.

e. Checking streets for mines. Some mines were found under regularly spaced removable concrete squares. These concrete blocks were not camouflaged and normally would be presumed to cover slots for holding steel roadblocks.

f. Cutting steel roadblocks with TNT. This was found to be the quickest and safest method.

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12. Conclusions. The following conclusions have been reached as a result of the operation:

- a. Greatly increased initiative is required of sqd and plat ldrs, because the capture of each city block and group of buildings is a distinct operation in itself.
- b. Narrow zones of action are imperative.
- c. Interiors of city blocks, rather than defended streets, provide best avenues of advance.
- d. Consolidation of positions prior to darkness is necessary to prevent enemy infiltration during the night.
- e. Close arty how support is normally impracticable.
- f. Direct fire arty, AT wpns, morts, grenades, flame throwers, and light automatic wpns are most effective.
- g. SCR 536 radios are unsatisfactory when used in buildings.
- h. Engr troops are invaluable in clearing routes and accomplishing demolitions."

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES
DECLASSIFIED

No. 60

8 Oct 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. LONDON
Colonel, AGD
Adjutant General

I LEADERSHIP EPISODE

"During an attack against a fortified hill the co comdr of the reserve co brought his co into the line at 0700 hours. He personally led attacks with SA, hand grenades and bayonets until wounded in the arm at 1000 hours. Refusing to be evacuated he led another attack and was cut off. The Germans demanded his surrender and upon his refusal attacked. Standing up he killed four Germans, firing his carbine with his good hand. He continued to lead the attack until 1300 hours when most of the hill was clear, and then went to the OP and adjusted arty fire for two hours before he allowed himself to be evacuated."--Extracted from an 8th Inf document.

II OPERATIONS IN THE SIEGFRIED LINE

1. Prior planning. "Using the mosaic supplied by corps, supplemented with oblique photos, each co in the bn constructed a sand table replica, to scale, of its zone of action. All Os and LCOs studied it until thoroughly familiar with every detail. Assault teams were also rehearsed on similar terrain in the rear. This training proved invaluable."--CO 1st Bn, 117th Inf.

2. River crossing. "In our area the WURM River has very steep banks 6 to 7 feet high and is about 3½ ft deep and 10 to 15 ft wide. To facilitate crossing by troops several three-section foot bridges were constructed, 12 ft long and 2 feet wide. Two sections were placed at a slant, one on each bank, extending from the bottom of the river to the top of the bank. The third section was placed as a bridge between the other two."--CO, 1st Bn, 117th Inf.

3. Breaching wire. "The only wire obstacle found along the German border consisted of two rows of double apron fence with concertina between the rows. We blew gaps in it with 4.2 mortars using 703 rounds of HE to make two gaps." --G-3, 30th Inf Div.

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4. Trenches outside of pillboxes. Most pillboxes had foxholes for MGs dug on the three sides not covered by an embrasure. Rifleman were found in most of those occupied -- our arty and mort fire apparently having prevented the MGs from being brought up." -- G-3, 30th Inf Div.

5. Defensive fires. "I frequently have my arty bn CO prepare the fire plan for the employment of all wpns larger than the 81mm mort, to include the indirect fires 300th A.2 mort, AT co and TDs. This procedure saves duplication of effort and makes for better coordination of fires." -- CO 9th Inf Regt.

III TANK-INFANTRY ASSAULT

"Regardless of the initial formation, it is not essential that tks and inf keep their respective positions in an assault. A tk must stop to fire effectively but that is the time for the inf to press on. The inf may be stopped by MG fire and if the enemy AT defenses are ineffective the tks should press on. Both arms must realize that the fact that one stops is not necessarily a reason for the other to stop." -- Report of XIX Corps.

IV MISCELLANEOUS COMMENTS

1. Snipers rifle. "If effective use is to be made of this wpn the sniper must be considered a specialist -- not a front line rifleman. Snipers should be carefully selected and not allowed to trade their rifle for an M-1 because of its greater fire power." -- CO, 1st Bn, 26th Inf.

2. Successive enemy attacks. "If an enemy attack against a unit on my flank is repulsed, I always get out my am as he will usually hit my positions next. On one occasion when I was defending a large hill the enemy attacked successively every position on the hill." -- CO, 1st Bn, 36th Inf.

3. M-1 rifle. "The Germans have a very healthy respect for this wpn. Marksmanship training should emphasize well-aimed shots, increased rate of fire, and the use of slings in combat. If you see a Jerry who does not see you, there is no reason for hasty unaimed fire." -- CO, 1st Bn, 26th Inf.

4. Use of stealth. "A surprise attack by the inf without tks will often catch the enemy unaware -- especially when in close contact. The noise of the tks warming up warns him of the impending attack. On one occasion after a tk-inf attack had failed, I attacked the next morning in a slight ground haze without tks or arty and caught most of the enemy asleep." -- CO, 1st Bn, 26th Inf.

5. Telephone lines. "We always cut a gap in the enemy wire. Usually we are able to pick up a prisoner who is sent out to repair the line." -- CO, 1st Bn 26 Inf.

6. Leadership. "The presence of high ranking Cs -- bn, regtl and div comdrs -- well forward gives men confidence. They reason that 'if the old man is up this far we should be further ahead'" -- CO, 1st Bn, 36th Armd Regt.

7. German civilians. "It is SOP in this unit to send all male civilians up to the PW cage for questioning. Recently I sent back two men who were passing through our lines and it turned out to be both German soldiers." -- CO, 1st Bn, 36th Armd Regt.

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TWELFTH ARMY GROUP

DECLASSIFIED EXPERIENCES

No. 59

5 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I INFANTRY RIDING TANKS

1. "When a tk on which inf is riding is knocked out the inf should immediately mount another tk. No more than 4 men should ride on one tk. A greater number may prevent movement of the turret gun. When tks attack in waves the machine gunners in the rear tks must be careful to avoid hitting the men on the leading tks."--CO Co "B", 33d Armd Engr Bn.

2. "When carrying inf on the rear deck of your tks through towns be sure that the tks in rear do not fire their bow guns as the bullets will glance off buildings and inflict casualties among your own inf."--Lt, 31st Tk Bn.

II FUZE SELECTION IN ARTILLERY SHELLS

1. "The effect of delay fuze on prepared enemy positions was not appreciated until recently. Obars reported that when delay fuze was used in a concentration it brought the enemy out in the open and enough ricochets were present for casualty effect. It is believed that in firing against dug in positions at least 50% delay should be used - especially in the medium and heavy calibers. The enemy dugouts with overhead cover could easily withstand the effect of time and impact bursts, but the delayed action bursts tore into the positions and brought the enemy out.

2. "A medium arty bn and a light bn teamed up on several occasions for greater casualty effect. After locating a bunker the medium bn would fire a volley of delay fuze to drive the enemy into the open. The light bn would fire time shell into the area about 30 seconds later."--AGF Board Report from Italy.

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III USE OF ALL ARTILLERY CALIBERS AVAILABLE

"Every effort was made to have FOs realize the availability and value of the varied caliber wpns within their sector. Precision adjustments of 8" hows were made, during pauses in the attack, on pillboxes, bunkered houses and other obstacles that would hold up the next advance of the inf. Light and medium arty would have little effect on such targets. At first obsrs seldom thought of or realized the availability of any guns except those of their own units. Later they called for a caliber to take care of the job to be done. The inf caught on too, and on several occasions requested fire by caliber. The use of heavy caliber arty in close supporting destruction missions is a big help in breaking down enemy resistance."--AGF Board report from Italy.

IV "NATURAL SMOKE"

1. "Arty and mort smoke are invaluable during daylight, but I am a firm believer in the use of "natural smoke", i.e., the periods of low visibility in early morning and late evening. The enemy fights stubbornly at longer ranges, but his will to fight quickly disappears at the bayonet point. The cheapest way to get from MG range to bayonet range is by using the cover of darkness of early morning and late evening mists. I am not referring to a complicated night attack, but of the tactic of using periods of low visibility for approaching enemy positions. My bn comdrs are enthusiastic over this system and find that it lessens the effect of the enemy's mutual supporting fires and prevents early dissipation of our striking force.

2. "In one instance I had two green rifle cos which needed a short, successful fight to weld them into combat units. I deliberately held them in reserve although their objective was obvious most of the day, because the open terrain through which they had to pass to reach that objective was commanded by the fire of a strong point in the zone of an adjoining regt. When late in the day this strong point had fallen, these two new cos quickly and cheaply passed through the open terrain under cover of limited visibility and took their objective like an experienced outfit. They are good rifle cos now--both they and I know."--CO, 121st Inf.

V MISCELLANEOUS COMMENTS

1. Machine gunners. "Most machine gunners fire too long bursts. This results in excessive smoke, dust, and sometimes steam, thereby disclosing the gunner's position. Such long bursts also result in wild firing unless followed by re-laying. The rate of fire should not be reduced, but bursts of not more than 5 rounds are more effective.

2. Notification of jump-off time. "Higher hq should always notify adjacent units if a certain unit does not jump off on time when making a coordinated attack. Failure to do this has resulted in near disaster to units which attack on time. Another mistake often made is that of attacking at the same hour every day for several days --Jerry soon gets wise and gets set at that hour."--CO 1st Bn, 26th Inf, 1st Div.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 58

5 OCT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

FIGHTING IN THE SIEGFRIED LINE

Note: This issue of "Battle Experiences" consists entirely of obsns of O's and men of the 28th Div in contact with the enemy in the Siegfried line since 11 Sept. The terrain in which they have been operating contains many steep hills, some as high as 515 meters, woods with thick underbrush, and streams. Consequently it is generally poor tk country. Pillboxes are of 3 types - some with one aperture, some with the MG emplacements and 2 apertures, and others used as troop shelters. Pillboxes are of a density of approximately one per 100 yds in width and depth and are mutually supporting. The enemy has had excellent obsn and an abundance of arty and mort support.

I RIFLE COMPANIES (Comments of four Rifle Company Commanders)

1. Movement. "Most of the pillboxes seem to be sited for long range fires, and once you get fairly close there are quite a few dead spaces through which troops can filter. Routes should either be viewed the previous day from a good OP or a thorough map rcn made. It is best to move across the open ground from ridge to ridge during the hour just before daylight. As an example, Co B fought all one day and gained only 100 yds due to extremely heavy mort and MG fire. In the hour before daylight the next morning they covered 1000 yds without losing a man and took 6 pillboxes without the aid of supporting wpns.

2. Supporting Weapons. "Tks or TDs are excellent supporting wpns for the attack of pillboxes. They must, however, be closely followed by inf. The bazooka is a good wpn and sometimes will penetrate the steel doors on a pillbox. The flame thrower is a heavy piece of equipment and only good for a short time. It only takes a short squirt to do the job. Conserve it and use it only when necessary. It may be needed on another pillbox further on.

3. Cooperation with mechanized support. "When tks or TDs are used, inf should be deployed in position to rise and advance with them as they pass through the inf position."

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Inf must not be allowed to stop because of mort or arty fire for if they lose close contact with the tks they are more vulnerable and the demoralizing effect upon the enemy of an inf-tk assault is lost.

4. Assault teams. "We use a 12 to 16 man assault team. Each man must know his wpn and job, plus the wpn and job of everyone else in the team (flame thrower, demolition charge, rocket launcher, etc.). We sometimes assign each rifle plat a fixed zone of responsibility. Each pillbox becomes a phase line for coordination and reorganization. In many instances one plat can cause 2 or 3 pillboxes to "button up" by firing at the embrasures, but the enemy often can continue to fire through small slits in the embrasure. Men must not forget that pillboxes are mutually supporting. Include in your plan fire on flanking pillboxes as well as on those to be assaulted.

5. Use of smoke. "Never forget that a blind man cannot shoot straight. Make use of the 81mm mort and arty for WP and smoke. Smoke can be used before the assault to save the lives of your men.

6. Infantry and direct supporting fires. "The supporting direct fire wps (tks, etc) should cease fire on pillbox apertures without signal when the inf comes within 25 yds of the pillbox. The infantrymen nearest the aperture must immediately take the aperture under fire to insure its being kept closed. Two flanking groups of 3 or 4 men each should take position in rear of the pillbox to cover the rear entrance and apertures. The support sqd must look for, and cover with fire, the embrasures in the pillboxes which are sited to support the pillbox being attacked. The rest of the co or plat should move past the pillbox and secure the ground beyond it to protect the assault team while it does its job.

7. Close up action. "A man should be worked in close to the pillbox to throw in a fragmentation or WP grenade. When there is a quiet moment he should shout, "Kamerad?" and "Wir schutzen nicht" (We won't shoot). If the enemy doesn't surrender, use rifle grenades or the bazooka against the steel doors or apertures. While all this is underway, other riflemen must cover all fire ports.

8. Digging them out. "If the enemy does not surrender, some men must work to the blind side of the pillbox and blow the embrasure with TNT. After this, it is best to work from the top to place a pole charge against the door. Never allow anyone to enter the excavated area to the rear of the pillbox as it is always covered by a small embrasure built especially for that purpose. Under no circumstance allow anyone to enter the pillbox to take prisoners; make them come to you. Sometimes they will claim to be injured, but we have found that after a second charge of TNT they somehow manage to walk out. When approaching these pillboxes all persons should be warned against 'ointment box' mines. They are very small, but very dangerous. (NOTE: This mine is a metal box 2" in diameter and 1" thick. It telescopes when stepped on, thus activating the 3 oz charge.)

9. Other methods of knocking them out. "If the above measures fail, a demolition charge can be used, tks can blast in the rear of the pillbox, or a tk dozer can cover the door and embrasures with dirt. The use of tk dozers may not prove successful in the future because the Jerries are planting mines, some of them activated by remote control, as a counter remedy. The flame thrower and pole charge method of attack proved quite successful the one time we used it. The combination started a fire in the interior of the pillbox among some am and the resulting confusion made it easy to clean out.

10. The WP grenade. "Jerry will often remain in his hole after an embrasure has been blown out until persuaded to leave by a flame thrower or hand grenade. A hand grenade in the ventilator of a pillbox sometimes stuns the Boche but a WP grenade in the same air shaft is a great little reviver.

11. Precaution on surrender. "If the enemy surrenders do not forget to keep the pillbox covered and throw a grenade in each room before entering; there may be some men who didn't come out.

12. Make them useless. "Pillboxes should be demolished immediately after taking as they may be reoccupied. Six pillboxes in our portion of the line have had to be taken three times. Blowing of the aperture and doors does not make it untenable. The pillbox has to be completely destroyed, right down to the ground. Otherwise if one wall is left standing it leaves a place to fight from. Therefore, someone should follow close behind with the equipment to completely destroy these pillboxes.

13. Prepare for counterattack. "After the pillbox is taken everyone must deploy to the front and flank to guard against counterattack and be prepared for the rain of mort and arty fire that always follows. Don't bunch up around prisoners. Send most of them to the rear as quickly as possible, because we have had Jerry shoot his own men rather than let them be taken prisoners.

14. When to prepare. "Attacks should stop if possible at least one hour before darkness, even earlier if possible so a proper defense can be set up; the Jerries will push a strong counterattack just after dark and if you are not organized they will push you off your hard-won ground.

15. Where and how to prepare. "If you are to occupy the position dig your men in around and in between the pillboxes. Use the pillbox as a rest position to relieve your men from their fighting positions. Don't let the enemy counterattack and catch you bunched in a pillbox. Enemy combat patrols may send one or two men around your flank to knock out your MGs when they attack from the front. Do not become so interested in firing on the main attack that you neglect to watch your flanks and rear.

16. Smashing the counterattack. "German counterattacks have been made during darkness and preceded by a lot of screaming and talking. It is nerve-racking to troops that know they do not have a well organized position. If, however, the troops are in a strong position and experienced, it merely makes them alert and the attack usually suffers. 60mm illuminating shells are good against these attacks. Hold your fire until Jerry comes in close, then cut him down in your FPL. Use plenty of grenades, fragmentation and WP. When he retreats follow him with fire and your rifle fragmentation grenades."

17. General rules. The regt has found the following general rules applicable in our zone:

- a. Pole or satchel charges must contain at least 30 lbs TNT.
- b. Assault teams cannot be given just one pillbox but must be prepared to take whatever pillboxes are in their zones. This is because maps do not show all the pillboxes.
- c. SP TDs are especially valuable in firing on pillboxes farther away than those under immediate attack. Towed TDs and AT guns are of less use due to enemy arty and mort fire.
- d. Smoke is desirable only in some instances.
- e. Light arty fire has no effect on pillboxes, but time fire causes personnel around them to retire inside.
- f. The flame thrower is used very little. In most cases the men carrying it are not able to get within good firing distance.

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g. Assault cos cannot take the time to destroy or occupy pillboxes; troops immediately in rear of the assault bn should mop up and occupy the ground.

18. Example. The following example of a rifle co attack occurred on 15 Sept:

a. "We attacked a hill on which were 3 pillboxes. Due to heavy fog, our TDs could not fire but by 0730 we were within 50 yds of the pillboxes.

b. "We then moved close enough to the pillboxes to bring fire on the aperture, causing it to close. This took a BAR and a couple of riflemen. When the aperture was closed we moved around to the back of the pillbox. Those men not part of the assault section moved out beyond the pillboxes and secured the hill which was our objective. The assault teams were left to reduce the pillboxes. The teams then closed in on the pillboxes from the rear. We called for the Germans to surrender but they fired a few scattered shots in return. We then fired two bazooka rounds into the doors at the rear of the box. The bazooka and a couple of hand grenades thrown through the doors brought them out in the open. This happened to two of the pillboxes. We had four prisoners from one and six from the other.

c. "The third pillbox, however, presented a bit of a problem because the enemy refused to come out of it. A couple of bazooka rounds fired at the doors and a couple of hand grenades thrown through the door drove them from one room to another. Finally they were driven into the room where the aperture was and a short burst of the flame thrower brought them out. We left three men in the vicinity of the pillbox and the rest of the men moved up with their platoon."

II HEAVY WEAPONS COMPANIES (Comments of Heavy Weapons Company Commanders).

1. Tracers. "By using only a few tracers at the beginning of each belt we have found that the guns draw less arty and mort fire than by using the usual 4 and 1 load. Some WCOs believe we should eliminate tracer altogether.

2. Close supporting machine guns. "In the attack we have used a section of heavy MGs in support of each assault co. Their mission is to protect the flanks of the bn. When the attack succeeds they may come up closer to cover the reorganization on the objective. When the attack is resumed they drop back to carry out their flank security mission. If they get too close to the assault co they cannot accomplish this and they draw mort or arty fire on the assault troops. After reaching a final objective we like to draw the HMG sections into the center of the two forward cos and let the LMGs take the flanks.

3. Long range machine guns. "The other plat of HMGs should if possible follow the assault cos near or in front of the support co. They should be given the mission of long range and overhead fire. They must not fire unless they have a target; they must not use tracers; they must change position after a few bursts; they must put one section above the other when ground permits; the support co must protect them with a sqd from the support plat; the plat ldr must be given freedom of movement and decision by the co comdr, especially as to displacing forward.

4. Machine guns for support rifle company. "If the support co is committed we sometimes attach the long range and overhead plat or at least a section of it to this co. If one section goes with the support co the remaining section can continue the long range or overhead mission, or be shoved forward to the co delayed by the heaviest fire or support it by fire from where it is.

5. Machine guns in defense. "When it has been necessary to defend we have found it quite difficult to establish final protective lines because of the hilly terrain. We have placed the MGs to protect the flanks and avenues of approach into our positions. A rear slope defense seems to be the most practical as extremely accurate arty fire makes a forward slope almost untenable.

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6. Control of mortars. "Control of the 81mm mort plat is by SCR 300. Giving the plat ldr one of these sets permits each mort obsr with a rifle co comdr to call for fire direct, over the rifle co SCR 300. The hv wpns co comdr exercises any necessary control by using the SCR 300 of the bn comdr.

7. Displacement. "The mort plat ldr must be given great freedom of decision as to movement. He displaces wpns forward only when necessary to remain in close support as the movement of am is a difficult problem.

8. Mortars in reorganization. "Upon reorganization the 81mm plat moves up near the center of the bn zone and is immediately prepared to lay protective fires, or hit targets of opportunity. Smoke is ready if needed and rcn is made for further movement. If the final objective is reached, defensive fires are plotted and security - especially to the rear and flanks - is put out or requested.

9. Effectiveness of mortar fire. "We have found our HE heavy will not eliminate pillboxes. I have seen direct hits on them ineffective. However, a round or two of smoke around them with a few rounds of light right behind causes casualties among the enemy who seems to always place a gun or two or a few covering riflemen around a pillbox or an emplacement. Also we fire on terrain above or dominating a pillbox - the enemy will be found there also. It is also a good idea to throw some smoke on a haystack or clump of bushes on a ridge. We have located several enemy OPs in these harmless looking places.

10. Use of personnel. "In the attack we use the instrument cpls for ln. The plats do not send a runner to co. They need every man. We use the T cpls and drivers as carrying parties when needed."

III INFANTRY AT GUNS (Comments of Antitank Company Commander).

1. Targets. "The 57mm AT gun has been used to place fire on the ridge line to the rear of the attacking inf and on embrasures of pillboxes and targets of opportunity. Targets of opportunity included half-tracks, personnel, MGs, AA guns, morts and AT wpns.

2. Preparation needed. "The towed AT gun has little chance of giving any close-in support to the attacking inf unless the amount of enemy fire from morts, arty, AT guns, and AA guns can be greatly reduced by a thorough arty preparation and vigorous counter-battery fire.

3. HE needed. "Fire on targets of opportunity requires a continuous supply of HE. The use of AP for targets of this nature is wasteful and usually of little effect."

IV INFANTRY CANNON (Comments of Cannon Company Commander).

1. Selection of positions. "It must be remembered that when a position is selected it must be one that provides a wide sector of fire and allows delivery of close-in fire for the front line. In one instance a mask prevented us from firing close-in fires, making necessary a change in gun positions. We also select our positions so that in the event of a counterattack we can place fire on the position occupied by our troops. Alternate positions must be selected because if much night firing is done the enemy will soon locate your position.

2. Use of time fire. "We have fired a large amount of M54 time fuze. It is an excellent method of adjusting fire in woods and in the early morning, especially if the fog is thick. We have had to use the time fuze M54 due to the scarcity of WP smoke. Time fire is effective against open emplacements that surround almost every pillbox.

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In one instance one of our FOs fired with M54 fuze with the plan in mind of causing a graze burst in front of the pillbox, causing the fragments to enter the aperture of the box. This has proved successful but demands a precision registration. Shell heat will not crack the pillboxes in our sector.

3. Liaison. "It is most important to maintain constant ln between the gun positions and the bns - especially at night. In the event of enemy activity at night the Cn Co ln O can offer suggestions to the bn S-3 as to which concentrations can be fired with best effect. The Cn Co comdr should contact the bn S-3's each day and offer suggestions as to fires for the night and interdictory fires. He should also get the ln plan of patrols and other night activities.

4. Forward Observers. "FO's tend to get too far forward - with the foremost elements of the rifle cos. When pinned down the FO cannot observe and often cannot use the SCR 300 because the long antenna draws additional fire. We have used the method of leap-frogging from one point of obsn to the other and have been able to direct fire on enemy opposition when it presents itself. We have adjusted fire through FO's exclusively since we arrived in France.

5. Fire control. "The SCR 300 is very satisfactory for com between obsr and gun position. A relay station was necessary only when the radios were masked by gulleys or dense woods. We are experimenting with 610's, mounted in jeeps, as relay stations one 610 at the gun position and one near the bn CP as relay."

V PATROLLING AND INTELLIGENCE (Comments of Intelligence Officers)

1. Common mistakes. "We have found common patrolling errors to be:
 - a. Returning without accomplishing mission.
 - b. Engaging in a fire fight contrary to orders.
 - c. Failure to send prompt reports of results to higher echelons.
2. Remedies. "To eliminate these difficulties, the regt assigned patrolling missions for each night - simple ones at first, gradually increasing in difficulty and importance. Schools were conducted behind the lines to train inexperienced men.
3. Help from prisoners. "We found it valuable to use the 1/25,000 map with the defense overprint to facilitate pin-pointing of positions by German prisoners. They could point out their pillboxes and those occupied by their comrades.
4. Observer information. "Our OP obsrs have watched Germans remain in pillboxes for several days, coming out only to get food from fields and farmhouses. The Germans will get careless if they do not know you are observing and will start fires in the pillboxes and woods. They occasionally shoot flares from the pillboxes to help them spot patrols."

VI AMMUNITION AND PIONEER PLATOON PRACTICES (Comments of Platoon Leader)

1. Battalion distributing points. "We keep each co's am loaded on their own wpm carriers. In this way we can establish a forward DP and a rear DP. The forward DP is usually close to the bn CP. The rear DP is some distance behind with the balance of the bn vehicles.
2. Carrying parties. "We tried pack boards but the men did not like them. The carrying parties can carry as much in both arms, and if it becomes necessary to fight, it is easy to drop their loads and take up the fight. Carrying parties have been formed from replacements going forward to the cos.

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3. Ammunition reserve. "We had an ammunition reserve and get low on the tin. At one time the ASP was ninety miles from our position."

4. Division of duties. "We divided the am and pion plat into three groups. One sqd operates the mine detectors. One is used as an am sqd and the other is used for other pion duties. The Bn CO's vehicle and radio vehicle both carry a mine detector. The drivers have been trained in their use so they can check suspected areas."

VII SUPPLY PROCEDURES (Comments of Regimental S-4)

1. Supply sergeants. "We found it advisable to have supply sgts visit their co CP once daily regardless of the difficulty in getting back and forth."

2. Supply by carrying party. "The situation generally required carrying supplies from 400 to 1500 yds to the troops. A priority of supplies was set up as follows: ord, am, rations, PX rations, blankets and shelter halves, K-1 materials, new clothing, and water. Water was given low priority because of its weight. The water supply problem was solved by taking forward empty cans and a chlorinating solution. Cos filled these water cans from nearby streams and purified their water with the chlorinating solution. High losses in water cans was experienced as a result of shell fragments and MG fire."

3. Supply requests. "Requests for supplies by carrying party must be made 24 hours in advance; the individual making the request must be informed of the priorities so that he can properly proportion his requests."

4. Formation of carrying parties. "Normally carrying parties can be made up of separate co details but due to heavy casualties in one bn it was necessary to form a bn carrying party, consisting of drivers, stragglers, and even replacements. It was found by this bn that it took 60 men two trips nightly to resupply their unit. The idea of using replacements for carrying parties forward proved successful, as it soon accustomed them to operating in the darkness and to front line conditions."

5. Carrying blanket rolls. "The practice of going into any initial phase of action without a one blanket roll at least, in this weather, proved a serious handicap. When it became necessary to move rolls forward under combat conditions it was found that the most efficient system was to roll as many blankets and miscellaneous sizes of shoes, if necessary, into a one-man load rather than single blanket rolls or sqd rolls. Personal articles must never be included in rolls since the rolls are frequently re-rolled by personnel other than the owner."

6. Protection for carrying parties. "Carrying parties should never be allowed to operate without riflemen for protection and these rifle guards should not be cargo bearers of any sort. One bn operated carrying parties successfully by organizing them forward and sending them to rear, rather than the reverse."

VIII MEDICAL DETACHMENT EXPERIENCES (Comments of Regimental Surgeon)

1. Aid station radios. "We have a radio in each bn aid station operating in their respective bn nets. This has enabled us to permit litter bearers to rest frequently and remain on call at the aid station instead of continuously searching the field for casualties. Each co is able to call for litter bearers as required. The litter bearers

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ride forward on the jeep as far as possible, then go on foot to the casualty and bring him to the jeep - which gets the casualty rapidly to the aid station. If there are many casualties the litter bearers establish a collecting point at a point accessible to the jeep, and the jeep ambulance then can quickly transport the patients to the aid station.

2. Evacuation. "Another of our practices is to establish the bn aid station where the ambulances can come to it. During periods of heavy casualties the litter bearers of the coll co are used ahead of the aid station to help clear the field. We believe it would be desirable to have regtl com to the supporting coll co. Such com would allow more accurate contact than the uncertain method of ambulance in which is not always satisfactory in rapid moves."

IX COMMUNICATION (Comments of Regimental Communication Officer)

Additional radios. "We issue two extra SCR 300s to each bn, one for the AT plat of the hq co and one for each bn aid station. When cn plats are atchd to bns each plat is given two 300s and they enter the bn net. This puts the cn plats within reach of all co comdrs as well as the bn comdr. We are going to give our regtl surg an SCR 284 to call the coll co for extra ambulances when needed."

X ENGINEER OPERATIONS (Comments of Division Engineer)

1. General. "The principles of assaulting fortified positions as taught at the Engineer School and at Assault Training Center in the U.K. are sound. This was demonstrated when an attack, in which inf, arty, tks, SP guns, and engrs were well coordinated, succeeded beyond expectations. It differed from our assault training in two respects, the Jerries were there and the fortifications were more than pillboxes, they were forts.

2. Description of large pillbox. "In large pillboxes, walls and roofs are six to seven ft thick and the roofs are reinforced with 12" I-beams. There are usually four to seven rooms, with heavy connecting steel doors. Embrasure plates are $4\frac{1}{2}$ " steel. A pole charge won't always drive the Jerries out. We blew one box from the inside, using 300 lbs of TNT placed in an inner room, and after the explosion a Jerry walked out.

3. Use of explosives. "The destruction of front line emplacements is slow, back-breaking work for the engrs. Explosives must be carried in, usually crawled in. We have used packboards borrowed from the inf, the haversack for demolition block M-1 - these are excellent - and sand bags slung in pairs over the shoulders."

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 57

4 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

THE INFANTRY-TANK ARTILLERY TEAM IN A RAIDING OPERATION

NOTE: The following, extracted from the report of an O of a separate tk bn on an operation in the Italian theatre, contains an unusually detailed description of the mechanics of preparing and conducting a combined minor effort. The completeness of the planning and preparation is particularly noteworthy. The action involved a reinforced rifle co, a plat of medium tks, an engr det and nine bns of arty.

1. Action on receipt of orders. Upon receipt of orders for the operation, on D-4, I went immediately after dark to the CP of the inf bn CO who also had just been notified. We made a tentative outline of the plan of action and agreed upon a request to higher hq to change the time of attack from 1800 hours to dawn, in order to permit the approach to be made virtually under cover of darkness, but with sufficient light to permit the tankers to see the friendly inf in front of them. The recommendation was approved.
2. Planning and reconnaissance. At our first conference the inf bn CO and I discussed and agreed upon certain details connected with the following preliminary activities:
 - a. Patrolling to determine the hostile strength, obstacles, mine fields and avenues of approach for both inf and tks.
 - b. The preparation of gaps in obstacles and mine fields, both friendly and enemy, and marking lanes through them.
 - c. Personal rcn by comdrs to locate the prepared gaps, become familiar with the terrain and enemy positions and select tentative routes for the attack.
 - d. Establishment of a com system between inf and tk comdrs.

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- e. Arrangements for smoke cover for the withdrawal.
- f. Selecting locations for spare tks to take the place of any which might be disabled during the action.
- g. Preparing and distributing overlays of the fire support plan.
- h. Fixing a time schedule for the movement from rear to forward assembly areas, so that the tks would not interfere with the marching inf.

3. Reconnaissance. On D-3 I went with the tk co cmdr, plat cmdr, each of his tk cmdrs and the tk rcn 0, to the inf bn CP where tk and inf cmdrs discussed plans and operations. We all went together later in the evening to the position from which the inf would launch its attack. We there chose locations for the tk wire gap and for a dug-in tk position. Each tk cmdr was shown the objective, the suspected location of enemy gun positions and the approximate position each tk would take after passing through the wire. Each tk cmdr was impressed with the importance of keeping his fire in front of the advancing inf. The inf 0 who was to provide the tk guides worked with the tk rcn 0 on their locations. We returned to the inf CP and discussed the attack further in the light of what we had learned.

4. Rehearsals. On D-2 rehearsals were held in a rear area on terrain very similar to that over which the attack was to be made. The second rehearsal was held at dusk in order to conduct it under light conditions generally similar to those which would prevail during the actual operation. All obtained a reasonably exact picture of the attack plan, to include the method of withdrawal. That night we all met again and discussed a number of questions that had arisen during the rehearsal, arriving at a satisfactory conclusion on all. After this discussion, my rcn 0 took his guides over the route and actually placed them in the positions they were to take.

5. Checking Gaps. During the night of D-1 the gap was made in our wire. The tk rcn 0 again went to the forward position to recheck the route and to make certain that the gaps were properly made.

6. Final Details. On the night before the attack my tk plat cmdr went to the inf bn CP and discussed last minute details with the inf co cmdr. Gaps in the mine fields were also made during this night and marked with white engr tape.

7. Control. The tk co cmdr went with the inf bn cmdr to the forward CP. From that point the inf co cmdr was in direct radio ccm with the bn and the tk co cmdr had direct radio contact with the plat cmdr.

8. Withdrawal. The entire operation worked smoothly and was successful. When the inf began its withdrawal the tks remained in position until notified that the withdrawal had been completed. One tk was hit during the withdrawal and immobilized. Since the mission of the operation had been accomplished, it was decided to destroy this tk, rather than attempt to retrieve it.

9. Assault Gun Support. My assault gun plat, organized into two firing btrys each of three 105mm hows and three medium tks in indirect firing positions fired under the direction of the div arty FDC until H-hour. It then reverted to the tk bn control and brought immediate prearranged configurations in accordance with requests of the cmdrs transmitted through the tk co cmdr. The assault guns, as well as the tks aided in the withdrawal by firing according to the plans that developed in the arty screen.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 56

4 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon
C. R. LANDON
Colonel, AGD
Adjutant General

I HARASSING FIRES BY TANK DESTROYERS

"Excellent success has been reported by the 813th and 607th TD Bns in delivering harassing fire on long straight roads. A plat of TDs was placed in position in prolongation of the tangent. A cub plane would conduct an adjustment daily at ranges between seven and twelve thousand yds, zeroing the plat in for direction. A 24 hour harassing fire at odd intervals and varying ranges was fired with HE. After the road had been captured an examination disclosed that this fire had been very effective. Roadside trees had caused air bursts; rounds striking the hard roadway had ricocheted causing heavy casualties to vehicles and personnel on the road."--CO 5th TD Group.

II FIRE POWER

"Many men do not realize the power of their own SA fire. Recently one of our outposts of 4 men, located about 200 yds in front of the MLR, saw a German night patrol of 8 men move across their front only about 30 yds away. Another group of 5 enemy went in the other direction. The outpost personnel said that they did not fire because they were out-numbered and firing would disclose their position. Both groups could have been eliminated by a few blasts from the BAR and with two or three grenades."--PFC M. T. Didelot, Inf Rifle Co, 30th Div.

III FIGHTING IN OPEN COUNTRY

"After fighting in the hedgerows our units, back in open country, did not appreciate at first that the enemy could, by long range fire, catch the entire unit with one burst. Now it is necessary to have the scouts and flankers well out. In one action the Germans let the scouts get within 50 yds before firing. As the plat was too close

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it was pinned down while in column and could not develop enough fire power to engage the enemy. If we had not had tks present the casualties would have been heavy."
--Inf Co Comdr, 30th Div.

IV CONFERENCE CIRCUITS IN BATTLE

"On one occasion during the recent operations, our three rifle cos were attacking the enemy position from three sides. Wire com was available and the command line to each co was put on a conference circuit. The bn comdr instructed the co comdrs that he would monitor the circuit and assist where possible, but that the show definitely belonged to the co comdrs. By use of the conference circuit the co comdrs were able to exchange information and coordinate their efforts. All comdrs concerned believe that this procedure greatly aided in the speedy reduction of the enemy position."--CO 2d Bn, 28th Inf.

V EMPLOYMENT OF TANK DESTROYERS

"Senior Os of units supported by TDs sometimes curtail the efficiency of their support by insisting upon prescribing details of the methods the TD shall use to accomplish their missions, even to the point of telling a section when to fire and when not to fire. The TD Os should know the capabilities and limitations of their own weapons and should be permitted to employ their own methods in carrying out assigned missions to the greatest extent practicable."--Report of 701st TD Bn.

VI MISCELLANEOUS COMMENTS

1. Replacements. "No matter how badly men are needed replacements should not be rushed into battle. They should be brought in during a rest period in order that they may learn their leaders. At one time we received replacements when we were engaged in heavy fighting. The new men became bewildered, froze in position and suffered heavy casualties."--Sgt Wolf, inf sqd leader, 30th Inf Div.

2. Use of Tank Destroyers as Tanks. "TDs should not be used as tks; they cannot fire while moving and do not have the MGs and maneuverability of tks."--Report of 701st TD Bn.

3. Bazooka Fire. "The bazooka is an excellent wpn against tks, houses and pill-boxes. Frequently enemy machine gunners located in houses will withdraw when bazooka fire is directed against them. Every man should be able to fire the bazooka in the event that the regular bazooka man becomes a casualty."--Sgt F. Singer, inf rifle co, 30th Inf Div.

4. Flanking Fire. "The Germans put their small AT guns directly to your front to draw your attention while his 88's hit your tks from the flank. We have fewer losses when the morts smoke our flanks as we jump off."--Lt, 31st Tk Bn.

5. Information to Reserve Unit. "Information must get back to the reserve unit in an attack. My plat was part of the reserve co in the attack on CHARTRES. When we were thrown in to plug the gap created by disorganization of another unit, my tks were stopped by the same AT ditch which had stopped it. I could have avoided this obstacle had I known of its presence."--Lt, 31st Tk Bn.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 55

3 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

CLASS II AND III SUPPLY IN COMBAT

Note: There is given below a summarization of reports regarding Class II and III supply in combat collected from a number of units over a period of from two to three weeks.

1. Class II Supply, a. - Weapons. (1) Practically all units reporting had adopted some system designed to speed up the replacement of wps. In armd units the supporting ord heavy maint co gives considerable assistance along this line. The 773rd TD Bn reported that replacements generally were received in from two to three days. In the 3rd Armd Div, the Ord medium maint co is kept right up with the div and maintains a fair stock of available items, as does the div ord itself. The maint bn of the 6th Armd Div carries a small number of extra MGs, from which immediate replacement can be made.
 - (2) Inf units reported the adoption of various expedients to speed the process of wpn replacement. Some of them follow:
 - (a) In the 28th Div battle casualties of wps are phoned in by regtl S-4s to the div ord co. When replacements are received the regt is notified by phone and picks the wps up immediately.
 - (b) The 2nd Inf Div OO carries a small stock of wps, including one 57mm gun and one 105mm how. Losses are reported by regtl S-4s direct to div ord supply O. If he does not have a replacement in stock he contacts the army ord supply O and arranges to get a replacement in time to deliver it to the regt the same day. When issues are made from stock, requisitions for replacement are submitted immediately.
 - (c) The 134th Inf has worked out a plan for the use of an over-strength sgt and armorer-artificer of the service co to operate a wpn repair shop. The S-4 claims that this scheme saves the evacuation of a large number of wps.
- b. - Other Class II Items. The operation of the supply of other Class II items

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than wpns works along normal lines and seems to function satisfactorily when the needed supplies are available and supply points close enough to the front. Certain special steps have been taken by some units as follows:

(1) The 13th Inf places heavy emphasis on supply discipline and believes that this has resulted in a large saving of equipment by reducing the amounts thrown away.

(2) The 121st Inf stresses the recovery of individual and organizational equipment from casualties by medical and graves registration personnel. In the 314th Inf the re-supply of shoes posed a serious problem for a time when a long period of operation on foot through mud and water resulted in excessive failures of shoes. Their solution, which was reasonably successful, was to pool all extra pairs and issue them to the men in greatest need.

(3) In the 314th Inf the Bn S-4s are required to make constant checks on salvage in the forward areas, assisted by members of the bn A & P plat. Clothing salvaged is examined for serviceability and a small stock of unit-laundered items is kept on hand to meet emergencies.

2. Class III Supply. a. - In armored units. (1) The 6th Armd Div follows these methods of resupply of fuel and lubricants, according to the situation. When supply points available to the div are close, re-supply is effected by subordinate unit trks on a can-exchange basis. In a moving situation the div establishes a Class III supply point in its div train area.

(2) In the 3rd Armd Div, div trks usually bring forward the supplies from the ASP and deliver them to the using units about dark. The div fuel trks then return to the supply point for a refill.

(3) In the 773d TD Bn the bn fuel truck is sent forward on call from the cos. The trk is met by plat guides who lead it to the plat CPs or to individual vehicles, if practicable. Normally the distribution is from plat CPs by hand-carry when the unit is engaged.

b. In inf units. (1) The 2nd Div QM draws supplies from a corps or ASP and establishes one or more div dps. The regts draw from these dps and establish regtl dps. Vehicles from lower units return to the regtl dp for refill or, on occasion, the needed supplies are sent forward on a light trk.

(2) Both the 13th Inf and the 314th Inf comment on the fact that no fuel trk is organically available to inf regts. Making one available for normal supply activities causes no special concern, but in fast moving situations, when two or three trks are needed, considerable difficulty is encountered.

(3) The 134th Inf reports using 2 2½ T trks with trailers (not explaining where the trks came from) to haul the supplies from the ASP to the regtl field tn bivs. Bn maint vehicles there exchange empty for full cans and all vehicles coming into the biv are directed to fill up to save transportation. The bns usually have to ground some gasoline, in order to use the maint vehicles, but seldom very much.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 54

2 OCT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I DESTROYING PILLBOXES

a. The 112th Engr C Bn in pillbox demolitions on the Siegfried line has obtained good results by tamping with sandbags 40 lb charges of TNT against each end of 4" embrasure plates. Several boxes of captured 80mm mort shells, or two 150mm shells were used with the TNT charges in each case. With this arrangement the embrasure plate was either blown out or badly damaged and the concrete around the embrasure badly ruptured. Two 150mm shells standing on end at each end of the embrasure with 4 pounds of TNT fastened to them yielded good results without tamping against 12" concrete and 3/8" embrasure plate.

b. The Third Army has used 400 pound charges of TNT, captured am or explosives with the result that the doors are blown off and the roof shattered. The destruction is usually sufficient to render them unusable. Another method which requires only one pound of explosive is to lock or jam all openings from the inside and then lock the door and blow the handle off with a small charge. This is not foolproof as the charge sometimes blows the door open. A third method is to cover the pillbox with earth by using a bulldozer. This is satisfactory but is relatively slow.

Note: The Engr Sec. this hq considers the use of 400 pounds of explosive excessive and does not recommend it for general use.

II INDIRECT FIRING ON TANKS BY TANK DESTROYERS

"It is often impracticable for a TD to move forward to engage enemy tks because of dug in AT guns. On such occasions the fire by an M-10 on a reverse slope has been directed by an obar on the crest holding up his hand in line between the TD and the target. The obar then moves right or left until a correct deflection is obtained. Sensing of over or short are relayed by voice until the tk is destroyed. If the obar is in or near a hedgerow only AP shells can be used as HE may explode in the hedgerow."---Col. L.E. Jacoby, CG, 5th TD Group.

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III MISCELLANEOUS COMMENT

1. Mortar Fires. "We need 1/25,000 maps with the phase lines marked on them in every sqd of the mort plat. Then by communicating with bn we could find out where our troops were by phase line and deliver harassing fire even when we could not get obsn. We seldom know for sure how far forward our riflemen are and of course we can't fire."--Cpl. A.L. Prior, hvy wpns co, 119th Inf, 30th Inf Div.
2. Machine Guns. "Make sure that all men have fired the hvy MG using the light MG tripod - we used it oftener than the hvy tripod in the hedgerows."--Lt. M.G. Wright, MG Plat Leader, 119th Inf, 30th Inf Div.
3. Brake Shoes. "We cannot get brake shoes for our jeeps. We have removed the brake shoes from the 1/2-ton trailers and installed them in our jeeps."--Lt. E. Johnson, Motor O, 119th Inf, 30th Inf Div.
4. Cannon Company Observer. "In hedgerow country stay with the assault co; in open country stay at the bn COs CP as long as you can get obsn. Be prepared to adjust your fire close to the front line troops but stay in the front lines when you do. Keep coms at all times."--Lt.L.J. Kraus, Plat leader Cn Co, 119th Inf, 30th Div.
5. Communications for the 81mm Mortar Platoon. "We found that by providing the 81mm mort plat with an SCR 300 we could get mort fire in any sector on the bn front. Rifle co comdrs have SCR 300s and can contact the mort plat and bring down and adjust fire within a very short time."--Capt. C.P. Wayne, Exec, 1st Bn, 119th Inf, 30th Div.
6. Control After Dismounting From Tanks. "One of our greatest problems was the confusion when we dismounted from tks to attack on foot. To prevent this we altered our orgn to fit the number of tks we were to work with and put a complete unit on each tk. This system helped greatly."--S/Sgt J.E. Carver, Squad Leader, 119th Inf, 30th Inf Div.
7. Don'ts in the Anti-tank Gun Squad.
 - a. Don't set up on a crossroad - Jerry has them all zeroed in.
 - b. Don't let the sqd ride into the gun position. Dismount and man handle the gun. One shell almost got our trk, gun and sqd.
 - c. Don't have unnecessary movement around the gun position. A German tk saw one of our men, and though the gun was hidden, became suspicious and got away.
 - d. Don't go into a gun position blind. Make a thorough reconnaissance. More than once if I hadn't reconnoitered I'd have led my plat into an enemy strong point."--T/Sgt Anaya, Plat Sgt. AT Co, 119th Inf, 30th Div.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

DECLASSIFIED
1 OCT 1944

No. 53

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I LEADERSHIP EPISODE NO. 7

The following account of the actions of a lt, a FA FO with the 3d Arm'd Div, in action near Ranee, France, in mid-August, is extracted from an account given by his btry comdr. While the O was not exercising leadership at the time, he displayed a tireless zeal, initiative, resourcefulness and a calculated willingness to endanger his own life in order to promote the success of his unit, which appear to be worthy of emulation.

1. First situation. A part of the battle group to which the lt belonged was cut off from all friendly troops. The lt volunteered to accompany an inf patrol. This patrol located enemy inf and a column of nine trks. The patrol withdrew but the lt remained in obsn and called for arty fire. This fire destroyed four trks and forced the enemy troops to abandon the remainder. These troops took cover in the field from which the lt was observing, not more than 50 yds from him. Despite their closeness, he called for arty fire on them and obtained a direct hit in the middle of the group, killing 19 of the 20.

2. Second situation. Upon his return to the CP he was sent to an inf outpost to observe. Upon arrival there he learned that a patrol was about to leave the outpost and requested permission to accompany it. Enemy inf cut this patrol in two. The lt, who was with the leading half of the split patrol, moved far enough forward to observe details of an enemy road block and then worked his way back through the enemy to rejoin his unit. Upon his return he stated his belief that he could get back to a position

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from which he could direct observed fire on the road block. Accompanied by a ren sgt he made his way back and located two Mark V German tks commanding the road and approximately a plat of enemy inf armed with bazookas. He adjusted arty fire and immediately destroyed or dispersed the enemy inf. He obtained two direct hits on each tk, but without knocking them out. He then made his way back to the CP, reported the exact location of the tks and fired a round of red smoke to spot them for air attack. Dive bombers destroyed both tks.

II AN INFANTRY BATTALION COMMANDER WITH AN ARMORED DIVISION.

The comments below are extracted from an account given by Major Adams CO, 1st Bn, 26th Inf and members of his staff after a period of attachment to the 33d Arm'd Regt, 3d Arm'd Div.

1. Operation against pillboxes. We use the inf to determine what positions are manned and to clear the way so that tanks can be brought up to fire on them. We save the inf by using tank fire against suspected occupied positions.

2. Fighting in towns. In the street fighting in Liege, we had a point of foot inf precede the inf-tk team by about a half block. The leading tks followed with inf marching on the sidewalks. The tks covered the inf by firing MGs into the windows. The principal resistance encountered consisted of MGs and AT fires from the flanks at street crossings and junctions. We overcame this by maneuvering to their flanks and rear. AT grenades were used effectively in this fighting. Morts were not so effective because of poor obsn.

3. Securing captured critical points. When arm'd units spearhead an attack followed by inf, they should establish road blocks covered by fire at critical points to prevent re-entry by the enemy before the inf reaches the area. It is especially important that key bridges be so protected. At Liege one of my plats and a plat of light tks were left behind to guard an important bridge. The Germans also had left a plat to destroy it. While the Germans were drinking in a cafe, my plat seized the bridge and, with the assistance of Belgian white Army forces, held it for two days until the 9th Div arrived. A failure to hold the bridge would probably have resulted in a considerable delay.

4. Battle Sounds. The ability to identify and distinguish battle sounds is of supreme importance. The older men in my bn can readily tell by the sound of an arty or mort shell or burst from a MG if it is time to hit the ground or continue to advance. New men will usually take cover needlessly.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 52

DECLASSIFIED SEPT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I RECONNAISSANCE PLATOONS OF TANK DESTROYER BATTALIONS.

1. The two rcn plats provided by T/O for this bn are inadequate since all three gun cos are invariably committed and each needs a rcn plat.
2. We have organized a third plat, taking personnel from the maint, T and hq plats. The rcn O commands it. To equip it we robbed our rear echelon and CP of jeeps, radios, wpns, etc. We feel that the benefits have fully justified the effort.
3. Though the primary mission of the rcn plats is to locate enemy tks, we use them also to determine the location of our own front lines. They perform this task by the following methods. The rcn plat sends a sgt to each front line inf bn of the unit it is supporting. The rcn plat leader receives reports from these sgts at regtl hq and checks them against the regtl situation map. The information is then furnished the gun co comdr and relayed by him to bn where it is checked against the information received by the div.--Report of 823d TD Bn, 30th Inf Div.

II BAZOOKA TEAMS.

We find that it is a good idea to hold fresh bazooka teams in reserve, so that when tks are located the fresh men can be sent forward to engage them. Often the front line bazooka teams are not aggressive enough because of fatigue. We have lost several of these teams because they were too exhausted to use proper cover and movement tactics. The bazooka is definitely effective against the tk. Hit it on the side, do not shoot at the front. After it is stopped work around to the rear and let him have one, and the tk will normally catch fire.--Report of 1st Bn, 119th Inf to 30th Div.

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III USE OF WIRE.

As an aid to control within plats, we have been laying wire to each gun position, providing the plat comdr with rapid sure com to each gun sgt. We find this more reliable than radio. Also a telephone can be operated from a foxhole. When we use radio we dismount an SCR-610 and place it in the foxhole with the operator.--Report of 823d TD Bn to 30th Inf Div.

IV MISCELLANEOUS COMMENTS.

1. Prepared Mortar Fires. Always arrange prepared mort fires, that can be fired without obsn. Send overlays to the front line cos so they can request those fires when necessary. In order that request for fires can be promptly acted upon, there should be com from the mort plat to the bn CP.--Report of Co D, 119th Inf to 30th Inf Div.

2. Harassing Fire. The Germans often fire harassing arty fire on a time schedule. Check your watch often to determine if this is taking place. It will let you know when to get low. However, do not depend upon it too much as Jerry will often change his time schedule.--Report of Co D, 119th Inf to 30th Inf Div.

3. Hip Shooting. "We need training in firing from the hip. In shooting this way I found that my tendency was to shoot too high."--Rifleman of 119th Inf, 30th Inf Div.

4. Clean Ammunition. "Have the riflemen check the am they have carried for days. We have had many jams caused by rusty cartridges. This always happens at the critical time."--Sgt R.A. Hawes, 119th Inf, 30th Inf Div.

5. Bazooka Teams. "When stalking tks bazooka teams should be well covered by fire. The teams should be kept together near the co hq so they can be moved to the point of need readily."--Os of 3d Bn, 119th Inf, 30th Inf Div.

6. Counter Mortar Fire. "60mm morts should be atchd to the plat and should move well forward for obsn. After firing for effect the morts should change position by at least 100 yds for the enemy will usually return the mort fire."--Os of 3d Bn, 119th Inf, 30th Inf Div.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 51

20 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

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Colonel, AGD
Adjutant General

I RESUPPLY OF 4.2 MORTAR BATTALIONS

"We have established dps for 4.2 mort, when atchd, due to the difficulty the cml cos have in resupplying themselves. They have only $\frac{1}{2}$ -ton trks and trailers and to send these back for am would be an uneconomical use of T. We use div T to bring am from the ASP for these wpns and establish a DP close to the regtl field tn of the regt to which the mortars are atchd."--Maj. T.M. Andrews, G-4, 40th Inf Div.

II MAINTENANCE

"I have my own maint unit which has functioned very efficiently. I have only lost one vehicle. All others hit have been returned to action within 24 hours. The more maint done by forward units the greater the number of vehicles that can be kept in action."--Lt Col. Dunnington, CO 486th AAA Bn.

III PROTECTIVE SANDBAGS FOR TANKS

Personnel of the 749th Tk Bn, including tk crews, think that sandbags are worth while even at the expense of the added weight.

1. On 20 Sept a tk of Co "A" received a direct hit from a large cal AT wpn on the front of the tk between the driver's and assistant driver's bulges. The sandbags seemingly deflected or retarded the projectile. The armor plate was cracked and a sizeable "well" was made but only minor injuries were sustained. The same tk received a direct hit on the right sponson a month ago and in that case also the projectile glanced off causing no injuries because of the sandbags.

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2. On the same day a tk of Co "B" received a direct hit on the front slope plate to the right and slightly above the assistant driver's bulge. The projectile was deflected though it gouged out a large furrow. In the same action Co "B" received AT gun hits on the turret of another tk which was not sandbagged. The projectile penetrated the turret, killing the gunner and loader and injuring the tk comdr.

IV INFANTRY TANK COOPERATION

Some tk bn comdrs have reported that the inf units to which they are atchd do not get maximum effectiveness from the tks because they do not include the tk comdr in staff conferences and planning. Use of a tk comdr as an advisor of the inf comdr can often prevent committing tks to unsuitable tasks and other errors which may cause casualties of trained personnel and a lack of mutual confidence between inf and armor, in the opinion of these tk comdrs. Lack of accuracy and dependability of information as to the positions of our own troops and of the ground the enemy is holding, have sometimes handicapped the tk units, they report.--CO, 7th Armd Group.

V MISCELLANEOUS COMMENTS

1. M-10 Tank Destroyer. "The high roar of the M-10 motor can be considerably silenced when operating in close proximity to the enemy by using second gear with RPM of 800. This is hard on the motor, but almost silent operation is obtained." --Col. L.E. Jacoby, CO 5th TD Group.

2. Bazooka Batteries. Batteries for the bazooka have not always been available, but we have ample flashlight batteries. By enlarging the hole in the stock to hold flashlight batteries and rearranging the connections to fit we can use them.--S-3, 120th Inf.

Note: The following comments are extracted from a report of battle experiences of the 823d TD Bn.

1. The Right Weapon. Choose the wpn for the job. Too often MG positions are disclosed by firing on targets more suitable for rifle fire.

2. Reconnaissance by Fire. During an inf attack against gun positions use your MGs to fire at any suspected locality. In other words reconnoiter by fire. If hit, the enemy will scream and disclose his location.

3. Use your Artillery. Remember, if you cannot reach a target, arty may be able to do so; get your plat comdrs arty conscious. The arty has helped us a lot.

4. Defending Towns. Defend a town from the outside, not from within. The enemy will infiltrate into buildings over-looking your gun positions and knock out your personnel.

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TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 50

28 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I FIGHTING IN THE CITY OF BREST

Note: The following is extracted from comments of Maj Gen Walter M. Robertson, CG, 2d Inf Div. on the fighting within the city of Brest.

1. Street Fighting. a. The term "street fighting" is a misnomer, for the street was the one place we could not go. Streets were completely covered by pillboxes and rapid-fire 40mm guns, with each street corner swept by at least four pillboxes. Our procedure was to go from house to house blasting holes through the walls with satchel charges.

b. The biggest problem was in reducing fortified apartment houses six to seven stories high; in a number of cases we built fires and smoked the enemy out. Another problem was to cross streets and get into the next block. If possible we found a blind alley or a defiladed access. If not, the TD's fired at point blank range and knocked a hole in the wall across the street. We then covered the pillboxes with MG fire and infiltrated across, preferably under cover of darkness.

c. The Boche adopted a clever expedient that slowed us down the last three or four days. If they saw us about to break into a house, they set it afire and delayed us from six to twelve hours while the house burned out. This delayed us more than any other single thing they did. When a house was burned, a sunken pit was left, in the basement, and it was necessary to fill it with rubble before TD's could be taken into the next block - another time-consuming operation.

d. A most surprising thing to me in the house-to-house phase in the Brest operation was our extensive use of direct fire guns including 155mm (SP) guns fired at ranges as close as 500 to 600 yds.

e. Another interesting sidelight on city fighting - I tried initially to keep fairly uniform progress along the line to cover the flanks, but found that it made little difference in the city. Unequal progress did offer opportunities for outflanking - just as it does anywhere else - without the same jeopardy to our flanks.

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2. Assault of Walled City. a. Another interesting feature was that when we got against the wall itself - an old fortification with modern pillboxes surmounted by shrubs and turf - we had to do a lot of shooting to uncover the pillboxes before we could knock them out. We called it "agricultural shooting". In the final assault of the walled city, it was the direct fire wpns rather than the normal arty which suppressed enemy fire on the wall. I had the place ringed with direct fire wpns which completely dominated the pillboxes.

b. Before the assault, I kept a slow concentration of arty and mort fire going within the city for 60 hours. It was a light concentration. The result was that internal coms, hence, the enemy command set-up was absolutely knocked out and normal supply could not be effected. In other words, we ran them into deep pillboxes and tunnels and kept them there. When the assault was made, there was no change in the tempo of arty fire except to lift it at the point of penetration.

c. The actual results were better than I had hoped for. We effected the penetration, finding the soft spots for which I was searching, and pushed a whole bn through before the Boche, except those in the immediate locality, were aware of it. We knocked out a pillbox and piled right on through without meeting real resistance until we reached the center of the city.

d. This assault was made at dusk, and we moved in under cover of darkness. This was one of four separate assaults. The Boche expected an assault from the east rather than the north, and we had their attention diverted.

3. Summary. I feel that the div came out of the Brest operation far better trained than it went in, particularly because of the house-to-house fighting, which was essentially a squad leader's battle. To illustrate - at night when we "buttoned up" frequently it would take the co comdr from three to four hours to locate all points occupied by his squads in apartments, basements, etc. Leadership of NCO's was developed to an astonishing degree. I found the Brest operation an intensely interesting one, and I think that the men did too, because they were able to supply effectively a superiority of fire power and see the immediate results.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 49

26 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I REPORT FROM V CORPS

- 1. Reduction of pillboxes.** "In attempting to enlarge some pillbox embrasures, the enemy have weakened the embrasure sides so that 105mm and 3" guns can pierce the concrete with AP am and 155's with ordinary am. Since we made this discovery pillboxes have been dealt with effectively by maneuvering SP wps to get a direct shot at the embrasure. Others have been neutralized by arty or air. The inf then works up and puts a satchel charge through the embrasure. When a pillbox is captured to prevent its reoccupation by the enemy, it must be sealed or demolished, or a guard left.
- 2. Hostile personnel.** "It is becoming increasingly apparent that every available man is being used in the defense. Elite SS troops have been encountered as well as men only recently released from hospitals after being seriously wounded. The intelligence of many is quite low and the percentage of over-age men is high. A hastily organized bn of 0 candidates also has been encountered.
- 3. Air against artillery.** "The close air support of the inf divs has produced excellent results against heavy enemy arty which has been definitely located.
- 4. Taking out dragon's teeth.** "These tk obstacles have been demolished by fixed charges placed by inf or engrs under cover of fire or darkness. Charges dislodge the obstacles which are then pushed aside by tk dozers.--Os of V Corps.

II CIVILIAN RESISTANCE

1. The 3d Armd Div reported that on 17 Sept their attack received stubborn resistance from enemy civilians and soldiers."

III REPORT FROM 20TH DIVISION

1. **Weak resistance.** "When we reached the Siegfried line, 10 Sept, our patrols walked

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through without opposition. By 12 Sept the enemy had collected enough troops to occupy the bunkers dominating the roads--relying on our tendency to be roadbound. Since then enough troops have arrived to occupy a majority of the pillboxes. However, resistance has been weak in most cases and the garrison will usually surrender if vigorously attacked.

2. Poorly organized personnel. "The two units facing us have been reinforced by groups of stragglers collected as they became available. Some soldiers and Os have no knowledge of the orgn above them and sometimes cannot identify the next higher command. As they are assembled, a guide takes them to a location and orders them to occupy the pillboxes in the area and defend them to the death. Sometimes wpns are carried in, other times they are found in the positions. The resulting garrison is a hodgepodge of mixed units. Counterattacks, however (some of which are only raids of strong patrols) are generally staged by good troops -- all SS and from the same unit. The same state of disorganization did not seem to exist in the arty.--G-2, 28th Div.

IV REPORT FROM 60TH INFANTRY REGIMENT

1. Locating gaps. "We avoid the strong defenses of dragon's teeth, steel gates, mines and other prepared defenses by using recon patrols to locate the lanes through such defenses occasioned by terrain features such as streams and ravines. Through finding such gaps, building bridges, and preparing fords, we were able to get through with little interference from enemy fire.

2. Enemy strong points. "Our map overprints show only part of the pillboxes actually present. Strong points are generally located so as to cover roads, trails and fire breaks in forests. A strong point usually consists of a pillbox, 88mm guns and entrenched infantrymen equipped with automatic wpns and rifles. The pill box is used principally as a shelter from our fires. Most enemy fire is delivered from surrounding dug in positions. The Germans fear being trapped in pillboxes and do not like to fire from them. One German O surrendered his group of 20 men, stating that they became hysterical in the pillbox under shell fire.

3. Methods of attack. "We maneuver to a flank of a line of pillboxes and throw all the lead we can. We use arty for tree bursts over dug in positions around pillboxes wherever possible. In general a bn attacks with two cos abreast and one in support mopping up. If a unit is pinned down, a base of fire is established while another sqd or plat maneuvers to the rear of the enemy position. We move entirely across country, behind our own arty fires, staying away from roads, trails and fire breaks. Our fires usually drive the enemy into the pillboxes. If they fail to surrender we bring up tks, TDs, AT guns, bazookas and 155mm (SP) guns and open fire at embrasures. This usually brings them out but if it does not we use tk dozers to seal the doors and embrasures with dirt.

4. New German weapon. "We have captured a new German 88mm piece that can be man-handled and which has only a 2 foot silhouette above ground when its carriage wheels are removed. We have found 2 of these in the vicinity of one pillbox.

5. Use of pillboxes. "The Jerries use pillboxes for mort and arty OPs. It is a mistake to use the pillboxes for our CPs or OPs, as Jerry knows exactly where they are.

6. German beliefs. "German prisoners say we have two beliefs of their upon which they can rely: 'Americans never attack at night' and 'Americans fight along roads'.

7. Use of German civilians. "We have had definite indications of civilians behind our lines supplying military information to enemy units."--CO and G-3, 60th Inf.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 48

25 SEPT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

WHAT THE GI WANTS IN HIS LEADERS

1. Sources of Material. An ober from this hq recently questioned a number of co Os and EM of a bn of an inf regt engaged in combat regarding their ideas as to the essential qualities of leadership. The resultant composite picture is given below.
2. Qualities Desired. The recurrence of demands for certain qualities in their leaders make these qualities appear to be of outstanding importance. They are as follows: self-confidence and decision; a sure knowledge of his job; fairness, self-control; attention to the safety and welfare of his subordinates; exemplary conduct; a rather vague something which can best be called "personality". A number also stressed the importance of a leader keeping his men continually informed of the situation. The succeeding paragraphs deal with each of these qualities, in the language of the men who were questioned.
3. Self-confidence and decision. He must be able to make quick decisions. He must be calm and confident in his decisions when the going is rough. He must make his own decisions without hesitation. He must issue orders with an appearance of confidence in his own judgment.
4. Knowledge. He must have a thorough knowledge of his job. He must know his tactics. He must have something which causes him to be automatically accepted by his men as best fitted to guide them. He must know his job to a "T".
5. Fairness. He must rotate duties and missions. He must show no partiality. He must be fair minded. He must have a sense of fairness. He must be human but not allow personal emotions to affect the performance of his duties.

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6. Self-control. He must show a cheerful front under the most trying conditions. He must never get excited. He must not show his real feelings at the end of a hard day. He must be able to keep from blowing his top if something goes wrong. He must have the utmost control of his personal emotions. He must be clear thinking.

7. Care of his men. He must make the men feel that he is doing his best to help them. He must speak up (another one said "stick up") for his men. He must take interested care of his men.

8. Conduct. He must comply with his own rules and regulations. He must never ask his men to carry out a mission he would not be willing to undertake himself. He must be able to carry out any task he assigns his men. He must be with the men at all times in combat. He must not expose himself unnecessarily or permit his men to do so. He need not expose himself foolishly but must be in the fight with his men. He must have courage and sometimes purposely display it as an example.

9. Personality. He must have the confidence and friendship of his men through sharing their common lot. We like to feel that he is one of us. He must know his men personally. He must understand the job of every man under him. If the men do not feel free to come to him, he is not a leader. He must not complain or belittle or attack his superiors to his men. He must encourage, rather than nag.

10. Keeping men informed. He should orient the men as to the situation and mission. One of the best plat leaders we ever had always told us everything he knew about what was going on.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 47

24 SEPT 1944

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C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

CLASS I SUPPLY IN COMBAT

1. Sources. During the past two weeks detailed reports on the operation of combat supply within the div have been received from a number of units in combat. Among those furnishing information are the following: G-4 3rd Armd Div; G-4 2d Inf Div; G-4 1st Inf Div; G-4 30th Inf Div; Asst G-4 9th Inf Div; Asst G-4 6th Armd Div CO 102d Cav Gp Mecz; S-4 134th Inf; S-4 314th Inf; S-4 121st Inf; S-4 119th Inf; S-4 13th Inf; S-4 28th Inf.

2. Treatment. A summary of the information obtained with respect to Class I supply is given in succeeding paragraphs. A more or less typical description of the general methods of operation is followed by a description of certain expedients or methods adopted to minimize a difficulty in the system or otherwise to improve the service to the combat troops. Other classes of supply will be discussed in future issues of "Battle Experiences".

3. Method. Some units attempt to feed 2 hot meals daily, as advised in current WD manuals. Some, however, habitually feed only K rations while in combat. A few of the latter have obtained sufficient one-burner cooking outfits to permit practical all men to heat these rations before they are eaten. Rations are issued by the di QM to regtl S-4 by unit distribution from the div truckhead and in turn by the reg S-4 to co kis under regtl control, by the regtl train bivouac. Both of these issues are normally made in daylight. The regtl S-4 then determines, from his knowledge of the situation whether the morning and evening meals will be served in daylight or under cover of darkness. Sometime between breakfast and early afternoon, the bn S report to the regtl S-4 their feeding plans, based upon the situation of their unit. This information is passed on to the kis which place the meals in containers according to requirements. Some regts send one 2½T trk per bn to the bn motor pool or other selected release point. The meals are there picked up by jeeps and transported

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a point from which they are hand-carried for final distribution. This method requires about one to one and one-half hours. Other units have the co jeeps with trailers go to the regtl ki biv at a prescribed time. Using this system, the time from ki to troops is said to be only about 30 minutes. Where the C ration is prepared in the ki, most units preheat the cans and place them in similarly preheated marmite cans to be transported forward. The time for feeding after arrival at the troop area varies from 40 minutes to one and one-half hours. Water usually is sent forward with the meals.

4. Unit Reserves. A number of units report the practice of maintaining a rolling reserve, usually of one of the more desirable types of ration. The principal object of this is to permit taking advantage of unexpected opportunities to serve one of the better types of ration. In the 30th Div, the div QM train carries a reserve of B and K rations and can adjust on short notice to give a unit the best type it can use. The 314th Inf, which normally serves K rations when in combat, carries a 10-in-1 ration in reserve. In addition, each of its bns keeps a field ki with the bn train. This ki has sufficient cooking units and personnel to cook a hot meal for a unit which has the opportunity to use it. The 134th Inf keeps on hand one C ration, one K and one 10-in-1.

5. Feeding Isolated Groups. In the 28th Inf, small isolated groups, such as outposts or guards for road blocks, are given one day's uncooked ration and prepare their own hot food on small individual burners.

6. Cleaning of Mess Kits. In general, the cleaning of mess kits seems to be working satisfactorily. These two methods are in use in the 8th Div. First, hot water or a sterilizing solution is carried forward with the meals and a mess kit cleaning line is formed in the co area; second, the mess kits are kept at the co ki, sent forward with the meal and issued indiscriminately. They are collected after the meal and taken back to the ki for washing. The first of the two methods described is somewhat noisy and involves a danger of drawing hostile fire. The 13th Inf of the 8th Div, on those occasions when hot water or a cleaning solution cannot be sent forward, furnishes the men with napkins from the 10-in-1 rations to place in their mess kits. The 6th Armd Div requires its co Os to supervise closely the cleaning of mess kits and also requires a daily spot check by a bn medical O.

7. Extras. A number of units during the long days issued an extra K ration to the men in the morning to be eaten in the late afternoon and tide over the gap between the noon meal and a supper which they might not receive until almost midnight. Still other units try to economize on or arrange for extra fresh bread and coffee to permit serving hot coffee and sandwiches late at night, on the theory that almost all men in front line units are awake during much of every night.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 46

22 SEPT 1944

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By command of Lieutenant General BRADLEY:

C. R. Landon

C. R. LANDON
Colonel, AGD
Adjutant General

I WIRE COMMUNICATION IN FAST MOVING SITUATIONS.

"The recent 15 to 75 mile daily advances made by the div presented a situation in which it was beyond the capabilities of the div personnel and equipment to maintain continuous wire communication with field wire. Extensive reconnaissance was carried out prior to the movement of the CP so that a wire net could be quickly laid. All available French commercial wire and power lines were used; in one instance a net of 70 miles of operating circuits was installed in 5 hour with only 12 miles of field wire. It was found best to dead-end circuits at each end of a village and lay field wire through the town. This eliminated the need of cutting numerous lead-ins to buildings."--Reports from units of 9th Inf Div.

II TDs WITH AIR OP.

"Each TD has a channel on the arty air-ground net. Each TD co comdr has this channel monitored during hours of daylight. When the Air OP spots a TD target he calls "Hello 99" giving the coordinates. The TD co comdr nearest the target answers and notifies the plat concerned. The plat comdr checks in on the air-ground net and has his 4 TDs listen in. The plat then reverses the identification panels on their vehicles for identification by the air OP and engages the target. The air OP keeps the plat informed of the movements of the target."--Reports from units of 9th Div.

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III COORDINATION OF CLOSE SUPPORT MORTAR FIRES.

"When we fire a preparation with mortars the last round from each wpn is smoke. When the inf see the smoke they advance. Even if the enemy catches on to this system we have the jump for he can never be sure that the fire has lifted."--Lt Col. J.E. Golden, Exec O, 12th Inf, 4th Div.

IV COORDINATION OF RCN TROOP AND I & R PLAT WITH ARTY.

"The regtl I & R plats and the div rcn trp are trained to adjust arty fire. When a plat of the rcn trp is working with a combat team it leaves an M-8 with radio at the CP. If the remainder of the plat is stopped by enemy resistance it radios back the location of the target and that it will adjust fire. Dependent upon the range either the cn co or the arty bn may be used. In this way opposition is often cleared out prior to the arrival of the foot troops."--Col Kramer Thomas, C/S, 79th Div.

V MISCELLANEOUS COMMENTS.

1. Tanks. "The best thing a soldier can see on the front is his own tks. We want the tks right on a line with us, not 150 yards to our rear."--Men of Co I, 10th Inf, 5th Div.
2. Keep Moving. "When crossing open terrain under small arms fire keep moving forward. If one hits the ground he becomes a still target for small arms, mortar and arty fire. This co marched 2 miles across open ground at La Chapelle firing from an upright position. We kept Jerry down by constant fire and did not have a single casualty."--Men of Co I, 10th Inf, 5th Div.
3. Prisoners of War. "Do not separate prisoners and the documents they carry. Many times we get marked maps and documents that we need the prisoners to explain."--Lt Col. Murray, G-2, 7th Armd Div.
4. Staggering Meal Hours. "In a defensive position near Balleroy we had our ki about 600 yards from the front line. Hot meals were served at 0600, 1200 and 1700 hours. As a result we were shelled daily at those hours. Meal hours near the front should be staggered."--S/Sgt Trainor, Mess Sgt, Co I, 10th Inf, 5th Div.
5. Tank Destroyers in Support of Field Artillery. "When supporting the arty we improvised an FDC from the co hq. The arty furnished survey and obsn."--Lt Col Cole, CO 625th TD Bn.
6. Improvvised Antennae for SCR-300. "Replacements being scarce we improvised an aerial for the SCR-300 by soldering to the original base of the AN-130-A a length of French transmission wire, gauge 8 or 10, equal to the original antenna. To support the transmission wire in the base, seizing wire was wound 2 inches above and below the joint and the soldered. Reports from units of 9th Inf Div.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 45

16 SEPT 1944

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H. B. LEWIS
Brigadier General, USA
Adjutant General

I. MAINTENANCE IN AN ARMORED UNIT.

1. Saving Spark Plugs. By increasing the normal idling rate of about 400 rpm to about 1000 rpm carbonization of spark plugs is greatly reduced. Since replacements are difficult to obtain, this greatly reduced a trying problem. It is doubtful if this practice wastes gas in the long run, since fouled engines consume fuel at an excessive rate.

II. EVACUATION OF TANK WOUNDED.

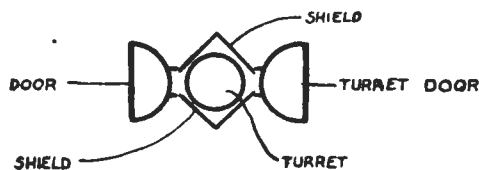
1. In every action to date we have had tks attached to our bns. A total of 15 tankers have been wounded. We have had attached one tk med aid man and one half-track ambulance. These were not needed. The half-track drew fire despite its Red Cross markings.

2. The principal problem has been the removal of wounded and treatment of very severe burns. We had our aid men practice these two operations before our inf went into action. This training has proved effective and invaluable. The wounded tankers were given first-aid by our rifle co aid men. They were moved from the point of injury by a litter bearer squad made up of men from the regtl section, plus a few men from the bn section. From the aid station they are evacuated by normal methods.

III. PROTECTION FOR TANK COMDR.

We do not "button up" our drivers and asst drivers except under heavy arty fire. The tk comdr's turret stays open. To give him some protection we devised a Y shaped shield which was welded around his station. (see sketch)

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The shield is made of 3/8 or 1/2 inch steel. Slits 1/2 inch wide and 6 to 8 inches long permit vision. This device provides good protection against SA fire and has greatly reduced the number of sniper victims.--Lt Col C.O. Parker, CO 1st Bn, 66th Armd Regt.

IV AIR COVER.

Our air cover has been excellent and has helped us out of many tight spots. At El Boeuf they knocked out 8 German Mark V and Mark VI tanks that were giving us a great deal of trouble. They also helped us at Tessy-sur-Vire by knocking out tanks. They are on call by any unit down to a plat, calling through co and bn, and giving the location of the target. Then the ASPO contacts the air cover and gets a strike within a matter of minutes. I have seen the air strike within 3 minutes after the call was made. We like to know the air is there. We want it all the time.--Lt Col C.O. Parker, CO 1st Bn, 66th Armd Regt; concurred in by Lt Col L.C. Herkness, CO 2nd Bn and Maj R. O'Farrell, CO 3d Bn.

Our arty FO, who follows the leading plat, maintains com with our cub plane while it is in the air, and while we are moving. He thus gains valuable information of hostile elements which might hinder our movements.--Maj R. O'Farrell, CO 3d Bn, 66th Armd Regt.

V MISCELLANEOUS COMMENT.

1. Forward Observers with Armored Units. The inf and tks should each have an FO. The FO's should work separately but be in constant com with each other. In this way fire can be placed promptly on targets picked up by either tks or inf. The tk FO must be well forward.
2. Road Blocks. When you halt prepare road blocks. Dig 2 holes about 15 yds apart, one on each side of the road, and put 3 or more men in each hole. String mines on a rope and on the approach of hostile vehicles draw the mines in front of them.
3. Evacuation of Armd Wounded. In combat it is often impossible for the medics to evacuate wounded in the normal way. In such cases we put a stretcher on the back of a light tk and evacuate wounded by that means. The entire regt uses this system. --Lt Col C.O. Parker, CO 1st Bn, 66th Armd Regt.
4. Forward Observation Vehicle. To secure obsn for my assault guns and morts, the assault gun plat leader is mounted in a light tk instead of the assigned half-track. Using the light tank he can go wherever tks go and perform efficiently the duties of an FO, which he cannot do in a half-track.--Lt Col L.C. Herkness, CO 2d Bn, 66th Armd Regt.
5. Targets on Boundaries. Speedy placing of such targets located on div boundaries is a problem. Clearance must be obtained from the adjacent div. The Germans seem usually to have important targets on or near the boundaries.--Lt Col R. R. Reynolds, Jr., Arty Exec, 8th Inf Div.

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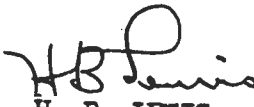
BATTLE EXPERIENCES

No. 44

16 SEPT 1944

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By command of Lieutenant General BRADLEY;


H. B. LEWIS
Brigadier General, USA
Adjutant General

I LEADERSHIP EPISODES NOS. 3, 4 and 5.

(NOTE: The facts and opinions given below were obtained by personal interview with Lt. Col. J. E. Rudder, CO 2d Ranger Bn, immediately after that Bn has completed 17 days of combat as a part of a task force of the 29th Div assigned to the reduction of Le Conquet peninsula - the southwest portion of the Brest peninsula. During that period the following were captured; The main battery east of Locrist containing four 280 mm and three 75 mm guns; an AA battery at Ploumoguier; a 75 mm battery at pt. de Corsen; 75 mm battery at pt. de St. Mathieu; a battery at Kervillou with four 20 mm AA guns and two 75 mm coastal guns; and 1213 prisoners. The Bn lost eight killed during the entire period. These facts, together with the incidental disclosure, through his interview, of the things that Lt. Col. Rudder thinks about as Bn Comdr, appear to entitle him to a respectful hearing when he discusses the subject of Leadership.)

1. Leadership Fundamental. In my opinion, leadership requires that bn, co and plat comdrs constantly keep up with the men in the line and encourage them by example. The weak leader must be promptly replaced or the reaction will go on down to the last man and the unit will not move. Leadership is a question of life or death to the man in the ranks.

2. An Example. One night the Germans opened with two 280 mms on our personnel. The 280 has very large shell fragments and is not an antipersonnel weapon, but the blast is terrific. The Germans made no direct hits. We had no serious casualties but two men were buried in their foxholes and had to be dug out. Morale was severely strained. However, the men stood to their foxholes; less well trained men might have retired.

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3. Another Example. Lt. Edlin provided what I consider a good example of leadership. He led a patrol of 10 men into the 280 mm ("Graf Spee") battery near Icorist. He entered the CP of the German btry comdr with a hand grenade in his hand and demanded surrender. The German called Colonel Furst, in command of the Germans on the peninsula, then offered to arbitrate. Edlin insisted upon immediate surrender. I had arrived in the meantime and Colonel Furst requested we come to his CP, 3000 yds away. I moved troops around Furst's CP then took Edlin's patrol in with me. Furst surrendered the fort and we took about 500 prisoners.

4. How to Save Infantry. a.- Inf sometimes takes heavy losses when a line is built up too strongly and the enemy attacks with arty and mortars. We should keep moving and flanking out positions. If I cannot find a flank, I hold tight and build up in another place by stealth or under cover of darkness.

b.- In one case where we were built up strongly, we suffered 30 casualties among 240 men in two hours - more than our casualties for any other two days. The next day we flanked the position and gained 2000 yds with only 21 casualties.

c.- When working with tks we should use minimum numbers of inf around the tks - only enough to protect the tks from bazooka fire from both flanks. If we place a lot of inf around the tks, they take casualties from arty and mort fire aimed at the tks.

5. Another Example. Lt. Kuminski ran onto a German outpost. He had light tks hit it from the front. He and ten men then went around and behind the position and wiped it out while the Germans were concerned with the tks to their front.

6. Dealing with German Patrols. The Germans set up their patrols as we do, with some men intended to get back with information as to the position from which the patrol received fire. They then put arty and mort fire on the position. If a member of a hostile patrol gets away after contacting one of our positions, the position should be moved immediately several hundred yards. The best procedure is to let the whole patrol get inside our position and then surround it, to insure that none escapes.

II METHOD OF PLOTTING FRONT LINES

"Front lines can be plotted quite well if panels are displayed at specified times and observed from the ln plane by either the arty obsr or ln O flying for the purpose. Flights of 1000, 1200, 1400, and 1600 hours were standardized. The obsr plotted his obsns on a photo map."--Lt Col O'Connell, CO, 2d Bn, 137th Inf, 35th Inf Div.

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- 2 -

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 43

13 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

H. B. Lewis

H. B. LEWIS
Brigadier General, USA
Adjutant General

SUPPLY WITHIN THE DIVISION. (Note: The following discussion of the operation in combat of supply in divisions and lower units is extracted from a number of reports on the subject.)

I. CLASS I SUPPLY.

1. Flexibility. a. - Since rations reach the using unit 48 hours after requisition, it is manifestly impracticable to seize unexpected opportunities to serve a better type ration, such as may result from a 2-day relief from the line of a certain unit. G-4 tries to keep on hand a 10-in-1 or B ration for this purpose. In addition, we try to meet the desires and special situations of subordinate units. Frequently we issue two-thirds of a C ration and one-third of a K ration, or vice-versa, for a single day. -Officers of the 137th Inf, 35th Inf. Div.

b. - We maintain a reserve. If an unexpected opportunity arises for a unit to use a B or 10-in-1 ration and they have drawn another kind, we exchange with them and adjust by the use of our reserve. -Lt. Col. Van Notten - QMC - 30th Inf. Div.

2. Preparation. a. - When we serve either the C or the 10-in-1 ration, they are first heated in the kitchens. We usually serve them hot for breakfast and supper. At noon the men eat a cold K ration. -Lt. Col. Kymer, G-4 1st Div.

b. We work this system to serve hot C rations. The rations, still in cans, are heated in boiling water. They are then put into marmite cans, also preheated in boiling water. They reach the troops hot. -Officers of the 137th Inf, 35th Inf. Div.

3. Movement Forward. a. - Ki Tns are always released to units. They are moved well forward before dark. Rations usually are issued between 0600 and 1200 - not during hours of darkness. - Lt. Col. Kymer, G-4 1st Div.

b. Rations are moved forward in 2½ ton trucks to bn am dps, where co jeeps pick them up and take them as close to the lines as practicable - seldom more than 500 yards away. Plat carrying parties take them the rest of the way. The average time from kitchens to troops is about two hours. - Officers of the 137th Inf.

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II. CLASS II.

1. Weapons. a. - We have a medium ord co in direct support of the div. We obtain weapon replacements through this co, direct from ASPs. - Lt. Col. Rymer, G-4 1st Div.

b. For a while we reported weapon repair and replacement needs each night through S-4. Normal time of replacement was two days. Later we detailed a salvage officer with several men with the duty of handling this work. Much improvement has been noted. It is believed a small stock of weapons and spare parts in the service co would be a great help. - Lt. Col. O'Connell, CO, 2nd Bn S-3 137 Inf.

c. Clothing. Principal difficulties in the resupply of clothing were due to the rapid advance and the shortage of transportation. Some Os of the 137th Inf. suggested maintenance of a small stock of clothing in the serv co also.

d. Vehicles. Vehicle replacements have been obtained in the time necessary to send to the ASP and return them. Most of the vehicles lost are jeeps. If the div were authorized to stock a few of these vehicles for immediate replacement, I think the system would be improved. - Major Huff, Asst G-4, 9th Div.

III. CLASS III.

1. a. - Each regt and sep bn and co draws direct from the army class III truckhead. Formerly this was 6 to 15 miles back. Now it is as much as 150 to 175 miles. The div carries a reserve of 4000 gallons of gasoline. To save the lower units the long haul, we issue the div res and then refill it. - Maj R. M. Denny, Ex O - 30th Inf Div, QM.

b. - The Div QM transports class III supplies from ASPs to Div dps, where they are picked up by using units. Recently we have allotted an entire truck company to moving forward these supplies, but they are keeping up only with difficulty. - Major Huff, Asst G-4, 9th Div.

IV. CLASS IV.

1. All reports indicate that Class IV supply services have operated well and are well stocked. In some cases, they have fallen too far behind.

V. CLASS V.

1. None of the units of this div have established am dps. They move with basic loads. No am is carried on div ord trucks. For resupply, unit transportation passes back through the div am dp, where they obtain orders on the ASP. - Lt. Col. Rymer, G-4, 1st Div.

2. Our regiments rarely dump am and bns dump as little as possible. Am is usually transferred from bn am tn vehicles to co jeeps and trailers. Bn A and P plats break open chests of sa am, including the liners, in order to save time for the combat cos. - Lt. Col. O'Connell, CO, 2nd Bn and Major Frink, S-3, 137th Inf. 35th Div.

3. Am is transported direct from ASPs using units. We use no dumps.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 42

12 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:

H. B. LEWIS
Brigadier General, USA
Adjutant General

I TANKERS CRITIQUE.

During a recent pause in operations of the 7th Armd Div near Verdun, Major General Lindsay M.D. Silvester, the div commander, called a meeting of certain commanders and staff officers at which the operations of the div were discussed. Certain comments are summarized below as they indicate the phases of those operations which impressed themselves most clearly on the minds of the participants.

1. Tactics in Advance.
 - a. "In the early stages the div often halted in a column extending more than 40 miles. I do not think we fan out fast enough. I like combat commands to move in multiple columns."--A general officer.
 - b. "Do not stand on the road 2 or 3 hours while some one tries to get in touch with his senior. Make up your mind and do something. When a column stops find out what is stopping it."--A general officer.
 - c. "I agree about using multiple columns, even though it does complicate the supply situation and reports."--Division G-4.
 - d. "Our difficulty is having enough reconnaissance in front of us. We went straight down the road and frequently the first 2 or 3 vehicles were knocked out. If we have to keep going down roads and through towns, we will use advanced guards of inf and a plat of tanks to find out the situation."--Lt Col of a combat command.
 - e. "The armor should go around cities and the inf follow up and go in and take them. The main thing I want to impress on you is -- keep moving forward."-- A general officer.
2. Advance Planning. "The greatest trouble I had is getting commanders to think ahead of what they will do when they run into trouble. The advance guard especially must have some plan for immediate action when fired on."--A general officer.
3. Use of Artillery.
 - a. "Always have one battery close to the front. Arty on the road is no good. As soon as resistance is met the battery commander should put his guns

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in position so they can be used."--Lt Col., Field Artillery.

b. "Your best weapon against AT guns is arty. Do not try to attack them directly. Get arty fire on them and then run your tanks around, come in behind, and overrun them. It is SOP and I know it works."--An armored force col.

II AIR-GROUND TEAM.

Members of the staff of the 7th Armd Div and of the 9th Air Force who have been operating with that div summarize some of the mutual obligations between air and ground forces as follows:

1. Reports. The air should report immediately on all troop movements, both friendly and enemy, regardless of the size of the elements involved. The reports should include time observed, location, strength, composition and direction of movement.

2. Panels. When ground elements dismount they must display panels to insure against getting strafed by friendly planes.

3. Routes of Movement. The air must be kept informed of the missions and routes of all ground elements. With this knowledge they can furnish appropriate information without specific request. This was exemplified at the seizure of the bridgehead at Chateau Thierry. The air did not know that the bridgehead was to be secured and made no report regarding the bridges over the Marne and Aisne until it was called for.

III MISCELLANEOUS COMMENTS.

1. Location of Radios. "Stories of Germans spotting our radios are untrue. In our first campaign we did not use the radio; now we would not go without it. We keep our CP close enough to use the telephone or the SCR-300 with telephone connections to cos in the line. The SCR-284 is used only from the regt back. The radio also permits constant control of foot or motor columns."--Col. J. P. Jeter, CO, 121st Inf.

2. German Infantry Organization. A captured document from the German 275th Inf Div gives a new div organization. It is streamlined to meet the existing shortage of personnel and material. Inf cos are reduced to 90 men and 2 officers. Armament is 11 light MGs and one heavy MG per co. All excess equipment and personnel are to be turned over to a div reserve depot.

3. Civilian Cooperation. "If civilians were informed as to the closeness of succeeding echelons they would cooperate more freely with advanced elements, such as armored units. On several occasions the Germans have returned to town after armored spearheads had passed through and 'severely handled' those who openly assisted us."--Lt Jones, 746th Tank Bn.

4. Mines. "Pws state that mines are being laid hurriedly on the inside and outside of curves in the roads. The theory being that tanks and armd vehicles rounding the curves hug the side to get a good view in an effort to spot enemy positions and vehicles and do not watch for mines."--G-2 Report, 30th Inf Div.

5. Use of German Mines in blocking a road. "It is reported that T-35 mines have been used to block roads as follows: A trench about 10 inches deep is dug across the road. Three or 4 mines are placed in it. A steel connecting bar is bolted across the pressure plates of the mines. A flat iron plate is then placed on top of the connecting bar. Pressure at any point will detonate all mines."--G-2 Report, 83rd Inf Div.

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TWELFTH ARMY GROUP


BATTLE EXPERIENCES

No 41

11 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in Europe. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I NEW GERMAN MINEFIELD MARKINGS.

"Recently planted minefields in various areas have been marked by two rows of warning boards, the outer row painted black with white lettering, and the inner row painted white with black lettering. The space between the rows is free from mines. In other areas the presence of mines is reported to be indicated by lengths of barbed wire wound around the wooden posts of the boundary fences. Anti-personnel mines are indicated by a length of wire projecting about three inches from the top of the post while two hoops of wire forming a dome on top of the post indicate antitank mines."--MIS, WD Bulletin.

II USE OF THE 105 HOWITZER, M-3.

"We tried echeloning one 105 inf how up to a defiladed position behind the inf front lines to fire at enemy concrete pill boxes. The cannon co commander fired with excellent results using forward observation methods and very small corrections. We found that HE armor piercing shell is more effective against pill boxes than concrete piercing shell."--S-3, 115th Inf, 29th Div.

III DISPOSITION OF SALVAGE.

1. "In this div all salvage clothing and individual equipment is carefully sorted by the QM. That which is serviceable is then cleaned, resized, reclassified and reissued. This procedure not only saves time, labor and material, but utilizes the facilities of the corps QM laundry at times when it is not otherwise busy. About 70 per cent of the salvage is serviceable and reissued to the troops.

2. "Salvaged blankets are also cleaned and supplied to the clearing station, which uses a very large number of blankets, thus eliminating necessity for clearing station to obtain blankets from medical supply."--Executive O, 30th Div QM.

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IV ATTACK OF HILL 154 NEAR VILLAGE OF BREST.

Note: The bn attack described below resulted in the capture of an important and well protected German position. Its success was attributed by the Div G-3 to initiative, aggressiveness, and leadership which achieved the ideal tactical employment of inf.

1. German Defenses: Hill 154 was a dominating terrain feature which had been highly organized by the Germans with strong forward and reverse slope positions on a North-South line. Enemy positions included 8 concrete, steel-reinforced, pill boxes and a complete network of circular trenches around the crest connected by a network of intercommunication trenches and protected by an outer defense ring of single apron barbed wire. The terrain was rocky with a minimum of cover and concealment. The defenses were garrisoned by an estimated 500 enemy troops.

2. The Attack: Cos I and L were the assault cos, I on the right, and Co K was in reserve. The assault cos, each with a section of heavy MGs attached, advanced in column of plats. Co I advanced under fire over the north slope of the hill, dropping its heavy MG section at the crest to assist Co L, and reached positions 200 yards down the reverse slope where it stopped. Co L's advance was pinned down by heavy fire on the eastern slope of the hill until dark. A gap of some 600 yards existed between Cos I and L. Under the cover of darkness Co K was moved into the gap. Early in the morning Co L resumed the advance, the first plat frontally, the second plat maneuvering to the south. One squad of the first plat was committed on the right front to infiltrate into the enemy lines. This squad succeeded in penetrating the enemy position unobserved and began attacking the resistance with grenade, automatic weapon and rifle fire. At 0645 the enemy counter-attacked the supposed gap between Cos I and L in co strength. Co K killed or captured the entire counterattacking force and then moved up on the left flank of Co I and opened fire on enemy positions on top of the hill. Under cover of the attack made by the squad from the first plat and the fire from Co K the remainder of Co L moved up and the bn captured the hill by 1600.

3. Result of Operation; Enemy casualties: 154 PWs, 100 known dead, an estimated 300 killed or wounded. Our casualties: 7 killed, 28 wounded.

V AAA EMPLOYED AS FA.

1. Paragraph 4 Section II EE 15 c.s. this Hq stated that an AA Gun Bn with the VIII Corps while being used as field artillery obtained its fire data from the FA FDC. The following statement of the methods actually used has been received from the CO, 119th AAA Gun Bn (M) which was the unit involved.

"No firing data was furnished the unit from outside. All computations were made in the unit FDC. All that any other FDC furnished us was air observation for registration and some ground and flash observation for registration and missions. One battery of the unit stood by as an alternate FDC, in case the Bn Hq got shelled out. FA units assisted in position surveys."

2. The importance of siting AAA was also stressed by the same officer as follows:

"When used in a ground role, priority in siting artillery must be given to flat trajectory weapons. They cannot just sit down anywhere. There is only one propelling charge for these guns. Reconnaissance for suitable positions is a long drawn-out job especially if other types of weapons have arrived ahead of the 90's."

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 40

DECLASSIFIED 5 SEPT 1944

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By command of Lieutenant General BRADLEY:

H. B. Lewis

H. B. LEWIS
Brigadier General, USA
Adjutant General

I FLEXIBILITY OF 4.2 MORTARS.

NOTE: On 14 July, the 92nd Cml Bn was attached to the 35th Inf Div for the drive south toward St. Lo. The following description by the battalion commander of the operations of the mortar bn demonstrates various possibilities for the employment of this weapon:

1. "In the late afternoon of 14 July, the bn moved into position to fire a controlled barrage in support of the 134th Inf Regt which was to make the initial push on the div left flank. Registration of one mortar was accomplished by our own observer in the div arty observation plane.
2. "Fire mission began at 0600 hours 15 July, with all cos firing preparatory fires, and continued with a controlled rolling barrage in front of the advancing inf until 2000 hours--a fourteen hour continuous shoot expending 6953 rounds of ammunition. During the whole time fire was controlled by the assaulting inf. They called through their arty who had direct communication to the mortar bn FDC which in turn controlled the fire of the three cos. Throughout the day, rate of fire, rate of advance, and changes of direction were made whenever desired by the assaulting inf. At one period fire was held on a line for four hours with the rate of fire determined by the reorganizing inf.
3. "On 16 July, the attack of the 134th Inf having been successful, the mortar cos were attached to the various regiments for independent direct support missions. Co C continued in support of the 134th; Co B was assigned to the 137th and Co A to the 320th. During this period each co sent forward FO parties with the leading elements of the inf and fired missions desired by the bn commander on targets of opportunity. Co C, for example, accounted for four machine guns with an expenditure of 26 rounds. The time lapse from 'target sighted' until 'mission accomplished' was eleven minutes.

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4. "At all time during these independent missions, each co had at least two platoons in firing position. Although platoons were normally assigned to support the assault bns, the fire of all platoons was controlled through the Co FDC and the co could always mass fire on the regimental front. Normal defensive fires were assigned each night with mortars laid and ammunition prepared. The attachment to regiments for direct support lasted 2 days and all cos reverted to bn control at 1800 hours 17 July.

5. "The complete operation gives a clear picture of the flexibility of 4.2 mortars. In the first phase, the bn of 36 mortars moved into position to give maximum concentrated fire support for the first punch; in the second phase, the supported regiment having broken through, the mortar cos left bn control and were attached to the regiments for independent missions. In the latter phase mortar platoons were 'leaped-frogged' forward to maintain continuous support for assault bns."

II ANTITANK GUN USE.

1. "I have learned not to place my 57-mm AT guns too close together. On 26 August east and north of FONTENAY ST PIERRE, we were attacked by tanks. I had two 57-mm AT guns about fifty yards apart with an observer in a straw stack. The enemy set the stack on fire and jockeyed his tanks so that he kept his heavily armored front towards both guns so that neither could get a shot into the flank. One gun was put out of action before a hit through the tread and front sprocket immobilized the tank."--CO, 1st Bn, 314th Inf.

2. "In a counterattack by enemy inf, 26 August, AT guns assisted in breaking up the attack by use of HE shells in 57-mm guns. The ground was soft from rain and shells would not explode on impact. There was a hard surface road that the enemy had to cross, so we fired at that, causing considerable casualties. Another time, the enemy employed a house as a strong point. We wrecked the walls with armor piercing shells and then used HE causing about twenty casualties out of about thirty Germans using the buildings."--CO, AT Co, 314th Inf.

III ARTILLERY OBSERVERS.

1. "Young officers should be taught to fire precision adjustments. Forward observation methods are not as effective as precision methods in firing at enemy concrete gun emplacements. Most young officers cannot fire precision adjustments.

2. "OP's should be constantly manned and observers taught to be patient and always on the alert to attack enemy guns while actually firing. Otherwise, the enemy is safely underground when we fire."--Arty Executive, VIII Corps.

IV BASIC TRAINING.

"One of the greatest training needs is in night scouting and patrolling -- especially in the maintenance of contact with the enemy. Around Vire contact was not maintained at night and the enemy succeeded in withdrawing. We must also stress and re-stress fire and movement in all training."--CO, 1st Bn, 29th Div.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 39

DECLASSIFIED 6 OCT 1944

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By command of Lieutenant General BRADLEY:

H. B. Lewis

H. B. LEWIS
Brigadier General, USA
Adjutant General

I KEEPING WEAPONS IN ACTION.

"Crew served weapons, particularly the BAR's and the bazookas, have not been kept in action as they should by members of the crew when the gunner becomes a casualty, or when the weapon has been slightly damaged. Many enlisted men have not been taught that supply in combat consists to a large degree of repair or the issue of repaired items. Crews must keep weapons in action as long as there is a man left, or if the weapon is damaged, the crew must initiate repairs or replacement personally or by reporting the location. Weapons replacement became satisfactory in one unit only after a salvage officer and detail were set up to recover the combat losses. This crew either made minor repairs or evacuated the weapon through the usual channels.--0's of the 134 Inf.

II MISCELLANEOUS COMMENTS.

1. Batteries. "Daily issue of radio batteries with rations was found to be the best means to insure keeping radios in action.
2. Time for reconnaissance and orders. "Time for reconnaissance and issuing of orders still is not provided by higher echelons. Thus, when the units in turn attempt to take it, the lower units have no opportunity either for proper planning or the orientation of the troops.
3. Radio Interception. "Radio interception, both for security and location, is considered impracticable for the enemy insofar as small units are concerned if simple prearranged codes are used. Good judgment as to how fast the information becomes obsolete determines the necessity for using various types of codes.

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4. Motor Pool Communication. "When the situation does not permit the motor pool to be forward, an SCR 300 gives prompt vehicle service."--O's of the 134 Inf.

III CLEARING STATIONS AND FIELD HOSPITALS.

1. Hospitals. "I am convinced that the field hospital, set up by platoons in the vicinity of clearing stations, is the best place for effective surgery. These units, however, must be well forward. The less the distance between the place of injury and the field hospital for all non-transportable cases, the greater the incidence of recovery. We have received several severely wounded men whom we were able to save by prompt surgery and by administering plasma and penicillin within an hour and a half from time of injury. These cases could not have been saved had the time lag been four or five hours. If we can always stay within five miles of the front, the death rate can be much reduced.

2. Clearing Stations. "Some divisions keep their clearing stations entirely too far to the rear. On one occasion we were forced to remain fifteen miles behind the lines or set up forward of the clearing stations.

3. Red Cross Respected. "Some medical units are reluctant to keep well forward because of artillery fire and bombing. My experience has been that the Germans have carefully respected hospital installations in their actions. We have avoided locations near main highways and bridges."--CO, 2nd Plat, 51st Field Hospital.

IV PATROLLING.

1. "In the early operations there was a tendency to make patrols too large. Once a patrol of three squads was sent out to obtain information. It was too big for secrecy and too small for a raid. It suffered many casualties and obtained little information. It is believed this error will often occur with green troops and green commanders.

2. "Initially, patrols were not given sufficient detailed information and instructions regarding the mission. In one instance, a patrol leader was not notified until 2100 hours that he would lead a patrol during the night, although it was known much earlier in the day that this patrol was to be dispatched. Patrols now are generally well briefed and well supplied with maps.

3. "The mechanized cavalry should receive more training in dismounted scouting and patrolling."--G-2, XIX Corps.

V GERMAN GUN POSITIONS.

"We have found that the Germans place SP and light AA guns to cover long, straight stretches of main roads to enfilade troops and transport. Where roads are lined with trees the enemy fires into these and into hedges for air bursts. To meet this we stay off these long stretches and detour our leading elements around them. Method of reducing these threats is to advance on a broad front so as to outflank road blocks."--Brig Gen A. D. Warnock, Asst Div Comdr, 5th Div

VI TELEPHONES TYPE EE-8A AND EE-8B.

"Some telephone users have a tendency to turn the switch to CB (common battery). This causes generator to turn hard and the opposite party phone will not ring. Telephones have been sent to us for repair when there was nothing wrong except the switch was turned to CB. Keep switch turned to LB."--CO, 69th Sig Bn.

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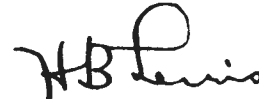
TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 38

3 SEPT 1944

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By command of Lieutenant General BRADLEY:



H. B. LEWIS
Brigadier General, USA
Adjutant General

I AIR SUPPORT OF ARMORED COLUMNS.

NOTE: The following is extracted from an account of very successful air support of Combat Command A of the 2d Arm'd Div, given by Lt Col James L. Zimmerman, who was air support party 0 with the Combat Command. The div had three air support parties-- one with the div commander, and one with each combat command column.

1. "I was mounted in an M-4 tank. All of the tank crew except the tank commander were air force personnel. The tank commander communicated with the column commander by means of an SCR 528. I had an SCR 522 to communicate with the planes. I had changes made in the interior of the tank so that I occupied the assistant driver's station, from which I had outside vision and could work my radio.
2. "Column cover of four fighter bombers to each column was maintained whenever we moved in daylight. The flights were relieved at about 30 minute intervals. The leader of each flight contacted me as he approached, giving his call sign.
3. "The planes worked quite close to us, generally with excellent results. For example, on 27 July we were held up by hostile resistance. I directed the planes against it, and they dived so close that they made me nervous. However, not a bullet hit our tanks, and the resistance was knocked out. During the entire period, 25 July to 6 August, there were only two instances of bombs falling near our troops. In one of these instances the bomb was dropped by a single plane from some other area. I kept in constant contact with the cover and kept them notified of the location of the head of our column. The planes located my tank by a yellow panel which I had placed across it at the extreme rear. They always checked in with me before attacking doubtful targets.

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4. "Our best air recon information came from the column cover. On occasions G-2 asked me for specific information, and I asked the planes to get it. In most cases the pilots furnished information to me without request, especially that of enemy motor movements. Before leaving, the flight leader would report to me on likely prospective targets, and I would pass the information on to the incoming flight commander.

5. "On one occasion we made an unexpected move for which no air cover had been provided. Information was received of a group of hostile tanks in some woods three or four miles away. I called direct to a plane operating in the zone of another corps and asked him to relay a request to fighter control center for some fighters. Within 15 minutes about 12 planes reported in to me. I located my tank for the plane commander by telling him of the yellow panel, then vectored him on to the woods where the enemy was reported. When he seemed to be over the target, I told him to circle and check the woods under him. He located the tanks, and they were attacked successfully.

6. "I think the air support party O with armed columns should perform for the air much the same function as the FO performs for arty. He should be in a tank and must have outside vision and control of his own radio. Assigning a tank for this purpose does not reduce the tank strength of the armed unit. Our tank was habitually immediately in rear of the attacking wave of tanks, and in many cases we actually took part in the fight."

II ARTILLERY AIR OP'S.

1. "We handle air OP's by coordinating levels used by div and corps planes. For example div planes fly to 1000 feet and corps above 1500. This procedure is essential in attack of a small area. We also limit the number of planes in the air at any one time by having FA Group planes patrol on a time schedule.

2. "We back up cav recon with air OP patrols. At one time we organized a tactical recon for the corps commander to report on traffic and bridge conditions, location of leading elements and to cover exposed flanks, etc. G-3's sole data at one stage came from air OP's. We also reported location of enemy tanks to our own tank elements, who then deployed and surrounded the enemy.

3. "We ran a counter-flak program over Brest with air OP's observing arty fire on hostile AA guns, especially during bombing attacks.

4. "Corps arty planes have had only one fatality--that through collision in the air. Flying technique on short fields should be stressed. Green pilots arriving have not had enough of this type training. We send pilots back to the rear to re-practice in order to avoid laxness in flying and hold down the accident rate.

5. "New pilots and observers are weak on communications--they fail to think out what they must transmit to give the FDC complete information for rapid attack of targets.

6. "More tactical training, especially on operations in this war, should be given young O's so that they may observe more intelligently.

7. "Replacement pilots should be sent to corps for training pending assignment.
--VIII Corps Arty Air O.

End

TWELFTH ARMY GROUP

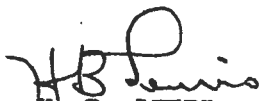
BATTLE EXPERIENCES

No. 37

1 SEPT 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experiences and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of Lieutenant General BRADLEY:


H. B. LEWIS
Brigadier General, USA
Adjutant General

LEADERSHIP EPISODE NO. 2.

NOTE: All of the comments given below were made to an observer from this headquarters by a courageous young lieutenant of the 5th Div only a few hours after he had lost both legs in combat. In spite of this fact, he not only was able to give these constructive and connected comments upon timely military subjects, but he also informed the observer that he had already made plans to complete his studies and resume his chosen career in civil life. He also told the observer that he always tried to do his best as a plat leader, because his plat was composed of a cross section of the finest type of American youth who inspired and were entitled to the highest type of leadership.

1. Bayonet Assault. "The old fire and movement doctrine ending with a bayonet assault is most effective against the enemy in the present phase of operations. In one attack of my plat in which I placed heavy fire on his positions with BARs and rifles and followed with a bayonet assault, we counted 306 Germans dead while losing only eight men killed. This action occurred in the Angers sector."

2. Distrust of the Enemy. "My men have learned, because of various ruses and tricks, not to trust the Germans. In some instances the Germans have hidden to avoid our fighting echelons and then surrendered to rear echelons, who are inclined to treat them more kindly. Front line troops deplore the attitude towards prisoners displayed by rear echelons, such as giving them cigarettes, candy bars, and other familiarities. Our soldiers must be endowed with a hatred and distrust of the enemy in order to successfully pursue the war."

3. Leadership. "Our officers have to be leaders. Discipline in combat depends largely upon the knowledge by the men that the O leading them knows his business and is not reluctant to take risks."

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4. Infantry-Tank Coordination. "In infantry-tank coordination, I use an NCO to direct each tank by means of a telephone attached to each tank. The target designations follows this sequence; "Target (description)"--"Three o'clock"--"Watch my tracer". The infantryman fires the tracer and then the tank immediately opens fire with WP followed by HE. This system has worked very effectively against enemy positions."

5. Booby Traps. "I have had no casualties from booby traps in my plat due to the fact that I do not permit my men to pick up enemy weapons, watches, and other articles from enemy killed by action."

6. French Collaboration. "The maquis have been most helpful and cooperative since we broke out of the Normandy peninsula. In the Angers sector, the maquis supplied each of our plat leaders with accurate and helpful maps showing detailed enemy positions, including snipers, MG emplacements, and other positions."

7. Medics. "The medics are doing a wonderful job in this war. They have shown great courage and exercise a high degree of training and skill in the performance of their duties often under heavy enemy fire. I owe my life to the courage and skill of a co aid man, who ran to me under heavy mortar fire and, together with one of my squad leaders, applied tourniquets to my legs and then carried me to comparative safety in a ditch some 75 yards to the rear."

8. Miscellaneous Comments. a. "The Germans invariably attempt to get on your flank with small groups of men with machine guns.

b. "Plat scouts must be very thorough in scouting an area, or the enemy will lie low until you get on top of them before they open fire.

c. "Men should be trained to pay little attention to the machine pistol or "burp" gun, but to listen carefully for the firing of mortars.

d. "Recently, approximately one-third of the German snipers have been officers. They no longer trust leaving enlisted men behind, as they will soon abandon their position and follow the retreating forces.

e. "In hedgerow fighting always deny the enemy the use of the next hedgerow in rear by laying mortar fire on it.

f. "I generally use two squads in attack and one in support. I attempt to find from which flank he is advancing his maneuvering force, then attack that flank. It is most important to maintain contact with adjacent units and to keep flanks well protected.

g. "The enemy does most of his patrolling in the early morning. He will fire his "burp" gun in the air in an effort to make us reveal our position. We have learned to disregard this, and if he gets close enough, we throw a few grenades at him.

h. "I have used 60 mm mortars both in battery and attached to plat. When attached to plat, I generally use it without base plate.

i. "Units on line should be given relief--as prolonged periods in combat cause men to become careless, largely through fatigue.

j. "I have fired the mortar shell from the rifle, but I do not think it is worth the extra weight of ammunition. Two fragmentation hand grenades will obtain about the same results when fired by the rifle launcher."

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TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 36

31 AUG 1944

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By command of Lieutenant General BRADLEY:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I ONE WAY OF FIXING SNIPERS.

1. The following is from a British publication;

"Snipers in haystacks were more effectively engaged by setting fire to the haystack with tracers and then shooting the sniper as he ran out.

II MISCELLANEOUS COMMENTS.

1. Rcn. "There is an absolute necessity for personal rcn. As an example, I got lost on a cow path one day and nearly got captured. The next day my knowledge of the cow path enabled me to work a co to the enemy's rear, whereupon the entire enemy position surrendered.

2. Use of Personnel. "There is a tendency over here to employ too many people to do a job. Once I cut the number of men attacking a certain position from a plat to a squad, and they went and captured it anyway."--CO, 22d Inf.

III DIVISION TRUCKHEADS.

The G-4 of the 2d Armd Div finds that supply is facilitated by the establishment of a div truckhead for each combat command instead of one for the div. They are established far enough forward so that the using troops will not have to haul their gasoline and ammunition more than five or six miles. The combat commands report the system of considerable help.

IV TANK TO PLANE.

"Cooperation between our combat command and the supporting air has been excellent. Our ASP O and our S-3, Air, ride together in a tank in the leading echelon. This tank has the VHF equipment for communication to planes and also has a crypton light to permit the pilot to identify the tank to which he is talking. We have one tank per bn

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listen on the air frequency and give the information obtained to the CO. We also use colored panels to identify our tanks for the planes, but we have to change the color frequently, as the Germans sometimes use the same color. The planes furnish us excellent intelligence and rcn information, as well as protection."--S-3, Combat Command, 2d Armd Div.

V SLIDEX.

"We had trouble using slidex when we depended upon one person to operate it. There were so many mistakes that it was a definite hindrance. We remedied this fault by having two persons--one to check the other. This has eliminated mistakes, and we now consider slidex our best code."--Troop Commander, 6th Cav.

VI AUXILIARY CHARGER ON CAR, M-8.

"We have found that operation of the radio in the armd car M-8 requires such a heavy output from the battery that it is difficult to keep the battery charged. We remedied this by mounting a "Tiny Tim" charger between the rear wheels to keep the battery up and save running the car engine while using the radio."--Troop Commander, 6th Cav.

VII REMOTE CONTROL FROM MOBILE CP.

"We have set up a mobile CP in a one-ton trailer. In front of the fender on each side we have placed a reel of heavy cable wire for remote radio control. This permits dispersal, and one operator can operate two radios from inside."--Troop Commander, 6th Cav.

VIII ANTITANK POSITIONS.

"AT and TD units are still inclined to sight their guns down roads. Positions on flanks generally afford more concealment and produce more effective fire against flanks and rear of advancing tanks."--Bn CO, 1st Div.

IX QUICK PUNCH.

"I have organized a force composed of two rifle squads, one IMG squad, and one 60 mm mortar squad, to use where a quick hard punch is needed. This provisional plat is composed of selected personnel and is assigned to Hq directly under my control, so that I can employ it on short notice. During a march this plat acts as a point of the advance guard."--Bn CO, 1st Div.

X INFORMATION FROM PWS.

"It has been found that PWS will not point out their CPs on an American map due to their inability to read these maps, but generally will readily indicate troop locations, etc. on a German map. We have furnished all our intelligence sections with copies of German maps which have been reproduced by our corps. This has greatly facilitated the transmission of information in addition to aiding in interrogation."--Report by XIX Corps.

XI GERMAN RUSE.

"A German prisoner of war was found wearing civilian clothes under his uniform. He reported that when observing for mortar fire in forward areas, he would remove his uniform and move about in civilian clothes."--After Action Report of 4th Div.

End

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TWELFTH ARMY GROUP

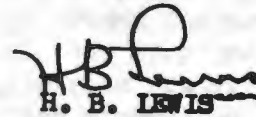
BATTLE EXPERIENCES

No. 35

31 AUG 1944

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By command of Lieutenant General BRADLEY:



H. B. LEWIS
Brigadier General, USA
Adjutant General

I SANDBAGS AS ADDITIONAL ARMOR.

"Sandbags have proved an acceptable substitute for additional or spaced armor in some TD units. One bn reports an M-10, so protected, received a direct hit from an 88 mm without damage. Another TD unit reports the bags effectively protected an M-10 against hostile rocket projectiles. Both these units have added rocks to hold the sandbags in place. In placing bags on the turret, care is taken to avoid interference with efficient operation."--WD Observer's Report.
(NOTE: Some units have expressed the belief that sandbags assist penetration by preventing ricochet.)

II MODIFICATION OF .50 CALIBER MG MOUNT.

"One TD unit has modified its .50 caliber MG mount by placing it low on the right front of the turret, lowering the handles, ammunition box, and trigger, and aiming with a standard prism. This makes it possible to defend the destroyer against inf fire and bazookas, which have been used very effectively by the enemy in close terrain.--WD Observer's Report.

III AGGRESSIVENESS AT DUSK AND BEFORE DAWN.

1. "It was discovered that the Germans, when being attacked at dusk, withdrew their main defense about three hedgerows, leaving only light covering forces. By continuing the pressure at this time, an appreciable gain would be made with little loss.

2. "PW accounts indicated that the Germans always expected an attack to follow an arty preparation. If there was sufficient time for daylight rcn, attacks were arranged

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to take place one hour before daylight, using no preparation and no small arms fire, but leaving the ID with fixed bayonets, and upon meeting opposition, using hand grenades freely. On three successive occasions, this method proved effective, and the troops had great confidence in it. During the hour of semi-darkness, a limited objective advance was made of about three fields, and at daylight our troops were on the enemy main position."--From After Combat Report of the 29th Div.

IV MISCELLANEOUS COMMENTS.

1. Destruction of Tanks. "Our experience has been that one tank will not attack another that is in position waiting for it. Our bazooka men immobilize the Tigers and Panthers by firing at the tracks and wheels. Then our infantrymen surround them and the crews always surrender. The AT rifle grenade is almost as good as the bazooka.

2. Marking Front Lines. "The best method of marking front lines for the air is to cut up the red fluorescent panels into small panels. This has worked time and again and is better than colored smoke."--CG, 29th Inf Div.

V WP GRENADES.

"Our men like WP grenades a great deal because they get the Heinies out of their holes. If you hold your rifle at about 30 degrees, you can get air bursts by using the grenade projection adapters. Our men have learned to burst these grenades over the Heinies holes, and PWs say they really hate it."--G-3, 29th Div.

VI COMMENTS OF CO, 22D INF.

1. More about Tank Riding Infantrymen. "We ride eight men on a medium tank and six on a light tank, all on the rear deck. It only takes ten minutes to train them. We first send out a wave of tanks buttoned up, put time fire from the arty on them, and follow with the tanks carrying the men. The arty observer rides with the leading wave and controls the fire, setting his fuses a little high. To insure control by the inf CO and the tank CO, I put them both in the same tank. The inf CO hangs his SCR 300 radio on the outside of the tank and works directly with that part of his bn which follows, in trucks or on foot. Inf co commanders can talk to tank plat commanders by telephones hung on the back of the tanks. We fought this way for eight days and nights, and the foot soldiers love the scheme. It does, however, have one disadvantage, in that it does not capitalize on the full strength of the inf regt, since it fails to use most of the crew-served weapons. We are going to try to utilize the heavy weapons co by riding it on tanks.

2. Patrols. "We have another scheme that works well. We call them raiders and night hawks. Eight men are selected from each rifle plat for their endurance, initiative, night vision, and ability to read maps. They do no fighting during the day and no KP, guard, fatigue, etc. They are specially trained night fighters only. They have a patrol mission, first, to go to a specific place and accomplish a specific thing; second, having accomplished their mission, to harass the enemy as much as possible, even to the point of using their guns (Schmeisser pistols) at them. When this happens, the Germans come running out yelling and afraid to shoot their own men. As an example, last night four radio patrols of five men each brought back 33 German prisoners."

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES


No. 34

31 AUG 1944

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By command of Lieutenant General BRADLEY:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I TROOPS WANT THE "PICTURE".

"Troops and lower headquarters desire a situation map and glimpse of the big picture more than anything except mail from home. It seems that special distribution of such information, limited as necessary for security, could be rapidly disseminated to divisions or regiments for reproduction."-- Bn CO, 35th Division.

Note: The XIX Corps G-2 Section has provided excellent "big picture" G-2 reports for distribution to each company in the Corps.

II ANOTHER USE FOR THE LIAISON PLANES.

The successful, though unplanned, use of an artillery liaison plane as part of an advance guard for foot troops was described by a company commander of the 83rd Infantry Division as follows: "Our company was the advance guard for our battalion, when the point suddenly made contact with a group of enemy riflemen. Two squads and a BAR team from the advance party dealt with this resistance. Then an artillery liaison pilot flew over, cut his motor, and told us the "Jerries" were starting to retreat 500 yards to our front. We at once resumed the advance, thus preventing a delay of the main body. As we moved forward, the liaison plane continued to keep us informed regarding the enemy."

III RHINO SAVES INFANTRY.

"The rhino devices solved a tank problem in hedgerow country. The trouble with demolitions was that they gave away our positions and the infantry would receive mortar fire. With the rhino in use we need only one tank dozer per company, instead of one per platoon."--CO, 747th Tank Battalion.

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IV CP SECTION.

"Some divisions have had a lot of trouble with bombs lately. That brings out the importance of selecting proper CP sites. Stay out of those big villas. The Germans have used them all and have them plotted; also stay out of open fields because they are difficult to camouflage and soon wheel tracks will give you away. The best place for a CP is in these little peasant farmhouses and barns. There the CP can operate much more efficiently. We simply sandbag the doors and windows."--G-3, 4th Division.

V PANELS.

"Be careful that only the front lines display panels. Once our own planes started strafing our CP's and everybody started putting out panels. The air never did know where the front lines were. If you have to use smoke, red smoke is best."--G-3, 4th Div.

VI THE BATTALION COMMANDER.

"The key to the whole show is good battalion commanders. Just think of the number of things he has to do. He has his artillery officer, tank officer, tank destroyer officer, S-2, S-3, communication officer, transportation officer, heavy weapons officer, and liaison officers, all along with him in his party. He must know how to use all his weapons and to call for their supporting fires. He is the most important commander in the business. Battalions fight as a small combat team, and we need more stress on this type of training. Battalion commanders must know and appreciate the difference between a simple envelopment and a wide envelopment. The Heinies simply will not fight any longer when you get behind them."--Ass't Division Commander, 9th Division.

VII SCREENING FORCE.

"In a fast moving situation, when we do not have armored or cavalry units in front, we have organized a regimental task force to act as a screening force. This force is composed of one motorized rifle company (mounted on half-tracks), one platoon of medium tanks, one platoon of M-10 tank destroyers, one platoon of the cannon company, and two or three reconnaissance vehicles. This force is able to neutralize or fix enemy resistance encountered, thereby permitting the advance of our foot troops without fear of unexpected attack from the front. This force serves as our advance guard, while division reconnaissance units protect any exposed flank."--Regtl Exec O, 1st Division.

VIII SPECIAL USE OF THE 60MM MORTAR.

"We use the 60mm mortar without base plate, especially on patrols, up to eight hundred yards. One man carries the tube and two rounds of ammunition. This use of the mortar is limited to highly experienced personnel."--Regtl Exec O, 1st Division.

IX MARKING TARGETS WITH SMOKE.

"Due to the uncertainty as to the exact time of arrival of aircraft over a target, preplanned target marking by smoke is not practicable and smoke must be placed after VHF radio communication between the SP officer and the aircraft. Only as a last resort and upon failure of the VHF radio should smoke be placed when the planes are seen to arrive in the target area."--G-3, 4th Division.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 33

31 AUG 1944

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By command of the Army Group Commander:

H. B. Lewis
H. B. LEWIS

Brigadier General, USA
Adjutant General

I LEADERSHIP EPISODE NO. 1.

Note: In an effort to build up specific answers to the question of what constitutes good leadership, it is planned to include in this publication a series of specific instances, giving in detail actions or words of an individual which have been considered to constitute good leadership in a specific situation. The first of these, extracted from an 8th Infantry document, is given below.

1. On 24 June, the lieutenant commanding Company E led his company against strongly fortified German positions consisting of a maze of tunnels, dug-outs and gun emplacements. The company was pinned down by devastating artillery, machine gun and small arms fire about 150 yards from the position. Heavy casualties forced it to withdraw.

2. When supporting tanks arrived, the company commander, under terrific fire from the German strong point, rallied his 51 remaining men who were disorganized and reluctant. The company commander mounted one of the tanks and calmly stood beside the turret as it advanced. The men followed. As the battle became hand-to-hand, the company commander dismounted from the tank and fought beside his men with rifle and bayonet--literally carving his way into the German stronghold.

II USE OF LIGHT TANKS FOR MOPPING UP.

1. The After Action Report of the 741st Tank Battalion for July 1944 describes the effective use of its light tank company as a mopping up unit in connection with the attack in support of elements of the 2nd Division in the area northeast of St. Lo.

2. Company D of the tank battalion was not committed until 28 July, two days after the opening of the offensive. With reference to its action, the report makes this

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statement: "The light proved to be excellent in this situation, where the main resistance had been broken and the operation was essentially one of mopping up. They were able, also to keep up with the advancing infantry, even through difficult terrain. They used 37 mm canister very effectively against hostile infantry."

III ANTI-AIRCRAFT FIRE.

Recent observation by a War Department observer of the action of antiaircraft units against an attack by approximately 75 German planes, has led him to make the following comments:

1. "Searchlights went into action but were wholly ineffective as the planes were above the clouds and at no time visible from the ground. They might well have remained out of action entirely, as they served only to disclose ground installations.
2. "Although the attacking planes could not be seen, automatic weapons units were delivering barrage fire. It appeared that the attacking planes were well outside the range of automatic weapons. In this instance, automatic weapons batteries could have determined that the target was not in range from the data of adjoining gun batteries, and fire should have been held.
3. "All commanders with whom the matter was discussed were unanimous in their opinion that the need for searchlight illumination for guns no longer exists, and that they should be used only with spread beam for AW, as beacon lights, and for the illumination of air strips.
4. "The rules of when and when not to open fire should be brought home with greater emphasis to section leaders in training. It is a great mistake and a waste of ammunition for a gun commander to open fire before a target is within range."

IV GERMAN TRICK.

German "S" mines have been found six to eight inches apart with one igniter above ground but with a three-prong igniter buried some distance away. A mine detector operator can easily detect this set-up by the double warbling on the sound indicator.-- From After Action Report, 4th Infantry Division.

V EMPLOYMENT OF 4.2 MORTARS.

"We feel that the 4.2 mortar has a definite mission of its own and does not take the place of artillery. It is most effective for quick fire upon targets of opportunity, including personnel, vehicles and buildings. It is not an effective weapon for "blasting out" missions. We can bring fire on a target more quickly than can artillery. Our greatest service is instantaneous fire on quickly appearing targets."--Lt Col H. H. Batt, CO, 57th Cml Battalion.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

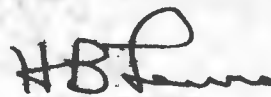
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31 AUG 1944

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By command of the Army Group Commander:



H. B. LEWIS,
Brigadier General, USA
Adjutant General

I USE OF CUB PLANES FOR PHOTO MISSIONS:

1. "We improvised a photo laboratory and dark room by making plywood sides and top for a 1-ton trailer. In this laboratory we do the entire processing including enlargements and can normally deliver about 20 photos two hours after request for a photo mission. All photos are oblique and are taken from liaison planes with the regular K-20 camera.
2. "In addition to the usual use of these facilities for artillery purposes it is possible to reproduce sufficient copies for delivery to and use of infantry battalions as a means of supplementing maps or in the absence of maps. Concentrations can be figured, plotted, and numbered on regular maps, transposed to the photos, and used by any infantry officer to call for specific fire when required. They may also be used for general orientation. Of course more time is required to turn out such large quantities, the facilities of the improvised laboratory being quite limited, but the supply necessary for a division can be produced in less than 24 hours. Such photos were supplied for the 29th Division for their attack on Hill 192 at St. Lo.
3. "An enlarged (10 x 14) photo which shows the locations of any suspected "set" hostile artillery is used by Cub Observer while in the air. Should the enemy open fire, upon radio call of observer, our fire is delivered on the suspected location nearest to the point indicated by the observer. This point is usually within a few hundred yards of a suspected location. Often the fire so delivered has been right on the hostile artillery.
4. "Some information as to the effect of our fire is also obtained from oblique photos taken by our cub planes thereby supplementing data later obtained from Air Force reconnaissance sorties." -- Major W. M. Smith, Counterbattery Officer and Lt. D.J. Gray, Asst. S-2, XIX Corps Artillery.

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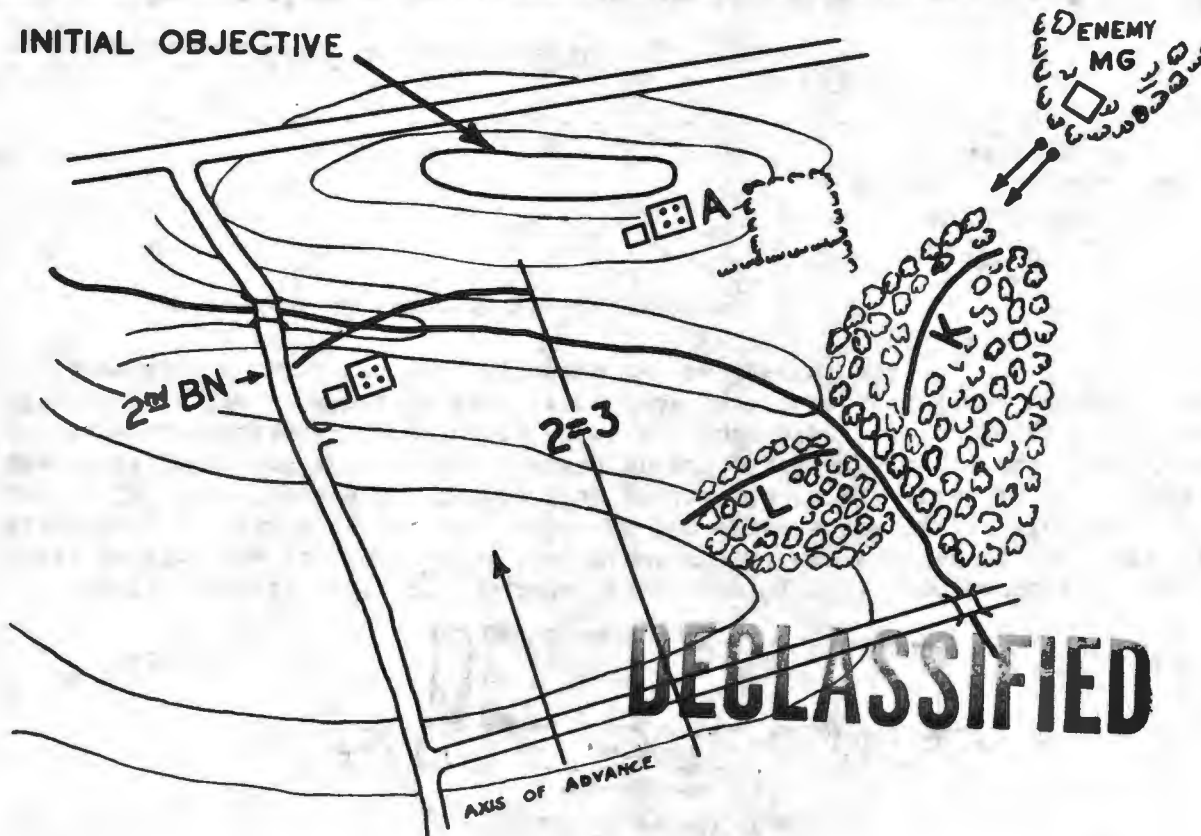
II ARTILLERY COMMUNICATIONS

"In this Corps we lay a direct line to Group Headquarters and Division Artillery Headquarters from our fire direction center, in addition to the normal lines from Corps Artillery to those headquarters. This direct line is also connected to our normal lines through their switchboard and by remote control may be plugged into the Radio net. Group and Division Artillery Headquarters also have similar direct lines, in addition to the normal lines, to each of their subordinate headquarters. This system makes it possible for Corps Artillery to exercise immediate control over all its subordinate units and to bring in fire of any or all elements in an absolute minimum of time. Wire is much faster and better than radio."--Major W. M. Smith, Counterbattery Officer and Lt. D. J. Gray, Asst. S-2, XIX Corps Artillery.

III LUCK WAS WITH THEM

On the morning of 7 August an infantry regiment belonging to the XIX Corps started an advance. At 1000 hours the situation was as shown on the accompanying sketch. For two hours the 3rd battalion made no attempt to move forward. They were being fired upon by machine guns from the right but these could have been outflanked by a small force with little trouble. One reason for the inactivity was that negotiations were under way to bring about the surrender of the German forces. Even the movement of German forces which could be observed was not fired upon. The regimental commander finally ordered the battalion forward preceded by an artillery preparation, and Company K sent a platoon to outflank the machine guns. These tactics resulted in taking the positions without difficulty, but our units in the draw were extremely fortunate in escaping the hostile mortar and artillery fire which is usually brought down during such a delay.--Observer's Report based upon personal observations.

INITIAL OBJECTIVE



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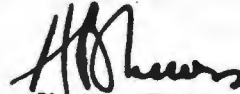
TWELFTH ARMY GROUP
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BATTLE EXPERIENCES

No. 31

31 AUG 1944

"Battle experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of the Army Group Commander:



H. B. LEWIS
Brigadier General, USA
Adjutant General

I ARTILLERY TECHNIQUE.

The following observations are extracted from a recent report of the war Department Observer Board to the Commanding General, Army Ground Forces.

1. Location of Direct Support Artillery. "Direct support artillery battalions should not be closer than 3000 or 4000 yards to the front lines. If they are up as close as 1500 or 2000 yards, a strong counterattack with tanks and armor will overrun the position, and the heart of your communication is lost, as is liaison with supported regiments. Attached battalions may and often should be closer than 3000 or 4000 yards to the front without this risk, as all communication is cleared through the direct support. Direct support battalions must know where our infantry is at all times. Safety of fires is cleared through them."--Brigadier General Reese M. Howell, Artillery Officer, 9th Division.

2. Conduct of Forward Observers. "Artillery forward observers have been going too far forward in many cases. They cannot tag along with the company commander. If they do, they are pinned to the ground and cannot see what is going on except in a very small sector. Often they can see nothing at all and are unable to perform their missions. I know of one forward observer who went along with the point of the advance, where he should never have been. The liaison officer and not the assault commander must handle the forward observer."--Brigadier General Reese M. Howell, Artillery Officer, 9th Division.

3. Cub Planes on Air Alert. "We always keep a Cub plane up on patrol even during quiet periods when no missions are being fired. Yesterday (7 August) our patrol observed a German tank parked on the edge of a small patch of woods. He called for a battery (6 guns) and fired on the lone tank. When the first rounds landed, the observer spotted six more tanks hunched up in the same area. He then called for the

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battalion. We got five of the seven tanks. At the conclusion of this mission, which didn't last long, the same observer spotted a German motor column on a nearby road, which was immediately taken under fire. By actual count we got 25 vehicles. In all we got five tanks and 25 motor vehicles very quickly, which shows what an alert observer can do in a Cub plane."--Captain James B. Gregory, Air Officer, 4th Division Artillery.

II TECHNIQUE OF MOTOR MOVEMENT WITH AIR SUPPORT.

NOTE: Observers from this headquarters have been directed to transmit information regarding coordination of air, armored and other ground forces in fast moving operations in as much detail and as rapidly as possible. The information given below is contained in the first report on this subject. Other reports will be disseminated as promptly as possible after receipt.

1. Situation. In a recent motorized advance, the 79th Infantry Division used the following methods for maintaining control and close air support. A cavalry group was protecting the division's front and right flank, and an armored division was marching on the left flank.
2. Communication. The 79th Division moved in two columns with sections of the division reconnaissance group attached to the heads of each column and to the armored division, so that contact could be maintained through the SCR 506. The SCR 508 in the M-8 armored cars of the sections were set to the frequency of the artillery liaison planes which covered the columns. In some instances these planes determined the method of advance to the columns.
3. Control. The CT commanders were in direct contact with the division commanders through the SCR 193. Combat teams moved from point to point on order of higher authority, usually the division commander with one column and the assistant division commander with the other.
4. Infantry Movement. Truck companies and trucks from the division and attached artillery were utilized to move the infantry. In some instances the motorized infantry moved so rapidly that there was an intermingling of columns with the armored division on the flank, and at other times they had to halt and wait for the cavalry to regain its distance ahead. The division chief of staff recommends that the cavalry in such a situation be given an ample head start, e.g. cavalry starting at daylight, infantry at 1300.
5. Air support. The air support party usually remained with division headquarters, although it occasionally moved to the unit where the greatest difficulty was expected. CT commanders or the reconnaissance troop could get air support almost immediately by radio request to the armed reconnaissance flights which were covering the advancing columns. Requests often went from the cavalry group to our reconnaissance troop to the division air support party to the planes. The armed reconnaissance flights also covered areas as requested by corps and division air support parties. The missions usually were flown by four or six aircraft carrying 500 pound general purpose bombs and .50 caliber machine guns.

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TWELFTH ARMY GROUP

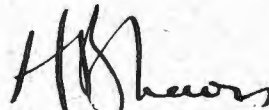
BATTLE EXPERIENCES

No. 30

30 AUG 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of the Army Group Commander:



H. B. LEWIS
Brigadier General, USA
Adjutant General

NOTE: The following paragraphs are all extracted from reports and comments of battalion commanders of the 22nd Infantry Regiment.

I DISCIPLINE.

"More emphasis in training should be placed on discipline. In my battalion, company commanders who had well disciplined companies moved faster in attack and incurred fewer casualties than those in whose companies discipline was lax. We are incurring heavy casualties among our officers and noncommissioned officers, partly because they have to literally lead the men by the hand to insure accomplishment of their mission."

II HOLDING GROUND.

1. "Fully 75 percent of my casualties since D-Day have been incurred while holding ground in static or defensive operations. To avoid these casualties, I have used the following methods to good advantage;

a. During the day I place my automatic weapons in defilade on the high ground, and then place the rest of the battalion behind the high ground.

b. At night I establish well-manned platoon outposts and move the rest of the platoons back about 400 yards. I permit the outposts to fire. If their fire draws enemy artillery fire, the main body of the unit is not subjected to it.

c. Other nights I have moved my entire battalion a short distance to the flank after dark. The Germans, on several occasions, shelled the vacated area throughout the night, while my men slept peacefully in the new area."

NOTE: Similar methods have been used successfully against the Japanese in the Pacific.

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III COMBAT WARNINGS.

1. Hold Your Fire. "Do not fire on enemy patrols. It discloses the location of your flanks so that artillery fire can be brought down on your position."

2. Watch for WP. "The only time I have seen the Germans use white phosphorus shells is when they were determining range. You can always look for an artillery concentration to follow either a white phosphorus shell or a time-fire burst."

3. Use HE and Move. "I have effectively used my 57 mm antitank guns with HE shells on direct fire missions. It is best to fire not more than ten rounds and then get out."

IV SUCCESSFUL INFANTRY-TANK COOPERATION.

NOTE: The attack described below was a successful operation demonstrating the effectiveness of close infantry-artillery-tank teamwork made possible through prior planning, excellent timing, and capable leadership.

1. "The 22nd Infantry, advancing north, had reached their objective in the vicinity of _____. The regiment on the right had been unable to take their objective, a hill, due to heavy fire from that hill, of what was estimated to be one infantry company. It was decided to have a force of the 22nd Infantry assist in the capture of the hill by attacking from the north with one rifle company and one tank company. A map reconnaissance was made and an artillery fire plan prepared by the commanders concerned the night before the attack. The time of attack was set for 0835 and an LD selected about 1600 yards from the objective. During the day before the attack, the force commander (the Infantry Battalion CO), the rifle company commander, and the tank company commander, made a ground reconnaissance up to the LD where they were stopped by machine gun fire.

2. "The attack jumped off on time with one platoon of riflemen riding on the tanks of each tank platoon and on reinforcing tank destroyer vehicles. A 45-minute artillery barrage was placed in front of the attacking force, beginning at H-hour and moving forward at 15-minute intervals. The objective was taken at 1015. The attacking force incurred only two casualties, captured 40 prisoners, and either killed or forced the withdrawal of the remaining elements which had been occupying the hill."

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TWELFTH ARMY GROUP

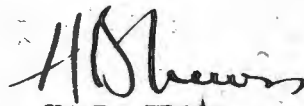
BATTLE EXPERIENCES

No. 29

29 AUG 1944

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By command of the Army Group Commander:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I EMPLOYMENT OF TANK DESTROYERS.

1. "Great care must be exercised in committing towed tank destroyers to insure that routes are available for easy entrance to and exit from positions, particularly when there is no tank threat.
2. "In present operations most reconnaissance should be done in small vehicles and on foot unless an actual tank threat has been established. The M-8's of the reconnaissance platoon draw hostile artillery fire.
3. "The secondary mission of TD's should be exploited to the fullest. One company may have an indirect fire mission, while the remaining two are on direct fire missions. By using the reserve company on the secondary mission, a fire effect comparable to that of a field artillery battalion can be obtained. Another advantage is that fire may be called for to support the companies engaged in their primary mission during a tank attack.
4. "Care must be taken that units whose mission is antitank defense receive complete tank warnings based on facts. False alerts tend to make gun crews skeptical. Some infantry units report any track vehicle as a tank, thus destroying the efficiency of the antitank warning system."--After Action Report of 821st TD Battalion.

II ARTILLERY AIR OP DEFENSIVE TACTICS.

"The Germans have apparently studied the current evasive tactics of the OP planes, and they try to bracket them with time fire. The Air OP's have adopted the policy of avoiding crossroads and permanent land marks, because it is evident that the Germans zero in on these points, then raise the bursts when a plane is over."--29th Division Artillery Report.

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III ORDNANCE MAINTENANCE TEAM.

"The Division Ordnance Officer devised a system of assigning maintenance teams to each regiment as it is placed in reserve or otherwise becomes available, in order to supplement the maintenance of ordnance equipment and make necessary replacements."-- Report of G-4, 30th Division.

IV COMMUNICATIONS.

(The following comments are extracted from the After Action Report of the signal officer of the 30th Division.)

1. "A direct wire from G-3 to the Division Artillery G-3 speeds up shell reports and other communications and relieves switchboard operators.
2. "A teletypewriter has been moved to the G-2 tent and the convenience this affords has been largely responsible for a 200 percent increase in teletype traffic.
3. "Facsimile equipment has been used on several occasions to transmit line route maps to higher headquarters.
4. "Inasmuch as the majority of trouble on field wire lines results from opens, a standard trouble card has been introduced, and the wire chief uses an KE-65-B test set to take a capacity reading. This is entered on a card, and the wire chief also interprets it into distance to the trouble and gives this information to the trouble team when it is dispatched. The card becomes a permanent record for a particular line, and if repeated trouble occurs in any vicinity, the wire chief refers the trouble to the construction officer, who investigates to see whether the line should be re-policed or re-routed.
5. "It is SOP for adjacent regiments in different divisions to monitor channel 33 of SCR 300 to provide prompt correction in case of firing on one another."

V BRITISH PATROLLING HINT.

A British publication states: "In training for patrolling, it is rarely realized that, once contact has been made, caution and concealment must be cast aside, and every man must act boldly and speedily. Noise, properly controlled, is a powerful moral weapon for the attackers."

VI INFANTRY-TANK COOPERATION.

"When tanks are ordered to move at night, after a bivouac has been established, the commanding officers of infantry units in the vicinity should be notified, as the sound of the movement of the tanks will normally draw artillery and mortar fire."-- Report of 709th Tank Battalion.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

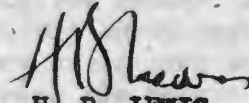
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No. 28

AUG 1944

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By command of the Army Group Commander;



H. B. LEWIS
Brigadier General, USA
Adjutant General

I TANK RIDING DOUGHBOYS.

1. Infantrymen rode tanks into combat and both infantry and tank personnel were enthusiastic about the results achieved by the 22nd Infantry Regiment and the 66th Armored Regiment in the recent breakthrough. The Commanding Officer of the 22nd Infantry makes the following comments regarding this type of action.
2. "Tactical Advantages.
 - a. The infantry are above enemy machine gun fire which is generally set at grazing level.
 - b. The infantry becomes a more fleeting target for enemy automatic weapons. It is difficult for the enemy to traverse and elevate a machine gun from a dug in hedge-row position to bring accurate fire on a tank moving from eight to ten miles per hour.
 - c. The tank turret also provides some protection against small arms fire.
 - d. The infantrymen on tanks are in a good position to toss grenades into fox holes.
 - e. The infantrymen are able to provide excellent protection for the tanks from enemy bazooka and antitank grenade fire.
 - f. The infantrymen help to provide observation for the tank crews.
 - g. This practice undermines the German tactical doctrine of shooting the infantry following the tanks. When German doctrine is undermined, the efficiency of their operations is greatly reduced.
 - h. When the advance is retarded by AT guns, infantry can dismount, deploy and bring automatic fire on enemy gun positions.
3. "Problems which Arise.
 - a. Command and staff organization and coordination.
 - b. Transportation for infantry supporting weapons in order to make them readily available for holding the objective.
4. "The infantry and armor are not organized to work together, and careful and thorough planning are, therefore, essential for such an operation. The command problem was partially solved by having the infantry battalion commanders ride in tanks

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with tank battalion commanders--directing the attack by radio."

II G-4 (S-4) PERIODIC REPORTS.

1. G-4 of the V Corps reports that it has become unnecessary to require a G-4 (S-4) periodic report daily and has made it a weekly report. However, reports of battle losses of equipment are required daily from the Division's Ordnance Officer based on the Ordnance Material Loss Report each day.

III EVACUATION OF CIVILIANS.

1. The following security procedure was developed in the V Corps for a use in a static situation;

a. Divisions evacuated civilians from the area within approximately two kilometers of the front lines, fixed in place those in the next two to four kilometers, and established a line in rear of which circulation for an announced distance up to six kilometers was permitted. All other circulation required a pass from the Civil Affairs Section.

b. Patrol of these lines, which created three zones, was maintained by military personnel in the forward areas, and combined military and civilian patrols, plus a joint MP--Gendarme-CIC-motorized patrol in the rear areas.

c. The evacuation of civilians was accomplished by Division Civil Affairs Officers and Civil Affairs Detachments, using division refugee control points and Corps transit areas, to Army assembly centers.

2. This system became inoperative as divisions moved rapidly forward in the attack. Only a single security line became necessary, forward of which civilians were evacuated and in rear of which the presence of civilians was desired so as to provide potential places for refugees.

IV ENEMY MORTAR LOCATION BY FIELD ARTILLERY OBSERVATION BATTALIONS.

"This battalion has demonstrated that mortars can be located with our present equipment under special conditions. In this instance the base was across the valley and at a slightly higher elevation than the mortars. It was noted that mortars did not fire directly to the front, but at an oblique to the front, which placed them close to our lines. This apparently is a common practice of the enemy. To use our present equipment the base must be exactly surveyed in, as close to the front lines as possible, preferably within 1200 to 1500 meters, and the sound outpost located with and protected by front line infantry elements. Due to the mobility of mortars, fire should be brought down on mortars immediately after they are located. A direct telephone line between the mortar base sound detachment CP and nearby artillery will facilitate this. Experiments should begin immediately, using captured mortars and ammunition to determine the possibilities of our present equipment in the location of enemy mortars."--Report of 8th FA Observation Battalion.

V HANDLING OF PW'S BY DIVISION MP'S.

"Three enlisted men of the Division MP Company are assigned to each infantry regiment as ESCORT GUARDS. Prisoners are taken from regimental CP's, and in many cases battalion CP's, escorted to the prisoner of war inclosure, and there in conjunction with various interrogation teams are searched, interrogated, and evacuated to the Army prisoner of war inclosure."--Report of Provost Marshal, 2nd Inf Div.

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TWELFTH ARMY GROUP

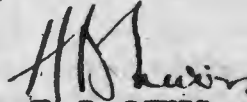
DECLASSIFIED
BATTLE EXPERIENCES

No. 27

27 AUG 1944

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By command of the Army Group Commander:



H. B. LEWIS
Brigadier General, USA
Adjutant General

I COMMENTS OF AN INFANTRY REGIMENTAL COMMANDER.

1. Fire and Maneuver. "The more favorable terrain and the nature of German defense areas encountered during recent operations have made possible more effective use of maneuver. In their withdrawals, the Germans normally organize a terrain feature with a small group of infantry and a few well emplaced and camouflaged tanks. I have found that by using one unit to contain the enemy and another unit of about similar strength to exploit the enemy's flank and rear, we are able to force the enemy to surrender or withdraw. We have also found that the terrain is becoming more favorable for the employment of heavy machine guns in support of rifle units by overhead fire.

2. Assignment of Objectives. "In assigning an objective to a subordinate unit, more attention, including ground reconnaissance wherever possible, should be given to routes of approach and axes of communication. Recently my regiment was given an objective that could be reached by my tanks and half-tracks only after two companies of engineers had worked a day and a night to clear their route.

3. Employment of 81 mm Mortars. "We are now employing our mortars farther back than we did in the early stages of the campaign. This is due to the reduction in the number of snipers and isolated groups that had forced the selection of forward mortar positions for security reasons. We have found the fire of the 81 mm mortar to be more effective against dug-in positions than that of 105 mm artillery.

4. Snipers. "Enemy sniper activities, in my opinion, have been greatly exaggerated. Most of the bullets alleged to have been fired by snipers, actually were ricochets from the front lines, from individuals who had been by-passed, or from the weapons of some of our "trigger-happy" individuals. During the fast moving phase of this operation, the snipers, if any, are retreating as rapidly as the delaying forces.

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5. German Positions. "A new type of enemy machine gun emplacement has been observed recently. It consists of a cave in a hedgerow large enough for a machine gun, ammunition, several days of food supply, and two men. The only opening is on the forward side of the hedgerow. This discourages withdrawal and forces men to fight until they are killed or have to surrender. We have found the fire from these positions to be inaccurate--possibly unaimed. On one occasion an entire company incurred only seven casualties while crossing an opening within the field of such a position.
6. Use of Smoke. "We have used smoke effectively, both offensively and defensively. One especially effective use of smoke occurred when a company was cut off from the remainder of its battalion by fire of enemy tanks. On request of the battalion commander, our artillery quickly placed smoke on the position. The company was able to rejoin the battalion and suffered only a few casualties.
7. German Marking of their Front Line. "One of the few occasions that our positions have been bombed by enemy aircraft, the enemy ground troops fired green flares to mark their positions.
8. Enemy Wearing American Uniforms. "The Germans are now attempting to confuse us by wearing captured American helmets and field jackets. A unit the size of a platoon was seen marching along the road dressed in this manner. They will also use the ruse of exposing themselves to view in our clothing, and yelling to our men in an effort to entice them to show themselves."--Regimental Commander, 12th Infantry.

II COMMENTS OF AN INFANTRY BATTALION COMMANDER.

1. Machine Guns. "I am using light machine guns in my heavy weapons company, because I can get them farther forward with greater speed while sustaining fewer losses. The light machine gun is just as effective for the shorter ranges encountered in this type of terrain. I keep my heavies on my jeep trailers so they can be readily moved up if accurate long range fire is desired.
2. Tommy Guns. "My scouts are equipped with tommy guns for use in spraying hedgerow positions. The additional ammunition supply has presented no serious problem. I have one jeep and trailer loaded with ammunition with each rifle company, and one with each heavy weapons platoon.
3. 60 mm Mortars. "I have used my 60 mm mortars very effectively against automatic weapons. When moving against intermittent resistance, one mortar is attached to a rifle platoon. When strong resistance is encountered, the mortars revert to the weapons platoon and are fired from positions 75 to 100 yards in rear of the leading elements.
4. Enemy Dispositions. "Contrary to some reports concerning enemy dispositions, I have always encountered enemy riflemen and automatic weapons in positions one or two hedgerows forward of their tanks."--Battalion Commander, 22nd Infantry.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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26 AUG 1944

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By command of the Army Group Commander:

H. B. Lewis

H. B. LEWIS
Brigadier General, USA
Adjutant General

I FIGHTING THE GERMAN TANK AND INFANTRY TEAM.

1. An officer of the XIX Corps on July 28/29 had an excellent opportunity to observe German armor and infantry attacking us. The tactics employed by the Germans will probably be repeated. His notes, which follow, are based on close observation over a 36 hour period.
2. "The ease and rapidity with which this small attacking force made its penetration, achieved and sat on the objective, denied the East-West road and interfered with traffic on the North-South road, plus the probable similar employment of smaller groups on identical missions make this analysis of what they did and how they did it of more than ordinary interest; it likewise points to certain remedial equipment, training practices, and techniques that can easily stop such penetrations in the future.
3. "The Germans advanced westward in three parallel columns, each consisting of tanks accompanied by infantry. The center column moved down the main road shooting rapidly and moving at a fast rate. It went from hill to hill with the accompanying infantry spread only one field out on both sides dogtrotting through the fields and over the hedgerows. The center column totaled only approximately eight track-laying vehicles. At least three of these were tanks, one or two were probably self-propelled guns and the others probably half-track troop carriers. Total forces sent to capture and hold the main crossroad consisted of two companies of infantry and probably not more than ten tanks. The number observed by this officer included only the track-laying vehicles named above and possibly a platoon of infantry.
4. "Throughout the night, the Germans reacted forcefully by fire and limited movement to any approach. Their tanks moved slowly and comparatively silently. Immediately after firing, each moved to a new position 25 to 50 yards away from the point used in firing. The noise discipline of the tank crews and accompanying infantry was superior. No talking, shouting, or any sound, except machine gun and cannon

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fire and starting of motors, carried over 100 yards. The Germans always eased their tanks forward, travelled at low speed and were remarkably quiet in all operations except firing. They used long bursts of their rapid firing machine guns to discourage guests. If pressed at all, they shot flares which brought down their own artillery and mortars on their flanks. Their handling of their tanks was bold and sure. They acted as if they knew exactly where they wanted to go and how, and then went there with vigor and determination.

5. "A similar disruption by a comparable German effort can, I believe, be prevented in future by augmenting present AT practices by some of the following:

a. Equip numerous vehicles with a smoke grenade that could be lashed to some well-known, widely disseminated, and readily accessible spot on the vehicle--possibly the steering column. Upon the approach of an enemy tank, use of the grenade in the normal canalized route of tank approach will probably slow up the tank. The Germans fear our use of gas, and no tank normally will advance into the unknown hazards of a smoke screen.

b. Give any unit sent out along the main road down which enemy units may come a supply of standard mines. If these are, as a matter of practice, tied together with a light cord previously laid across the road, they can be pulled out on the road from a concealed position as the tank approaches.

c. The liberal spraying of the hedgerow with tank machine gun fire completely discourages riflemen or bazooka firers from aiming over or around a hedgerow. For this purpose slots should be dug through the hedgerow at such angles and levels that fire from the tank's position on the road cannot go through the slot, but so sited as to permit a rifle grenade or a bazooka to be aimed and fired when the tank reaches some already selected point. The firer must have cover from the tank spray while he is aiming and firing. When the first tank is immobilized, and perhaps burning, the fight becomes a standard infantry fight with standard techniques working as effectively as ever."

II SOME BRITISH PATROLLING METHODS.

1. A report from the Italian theater describes special organization and methods adopted by a British battalion during a period when its primary mission was patrolling.

a. The battalion commander designated a field officer as battalion patrolling officer. The patrolling officer established a patrolling headquarters and a patrolling OP in the battalion area. The headquarters included a briefing officer, certain intelligence personnel and operators for the OP. The commanding officer laid down general policies and the patrolling officer handled all details.

b. One patrol, with a mission of liquidating an enemy outpost, established a base within radio range of patrolling headquarters and from that base moved out on the mission. This base, with its communication facilities, permitted continual communication with the battalion and would have constituted a sure rallying point if it had been needed. It also assisted in the evacuation of casualties.

2. Another patrol, with the mission of determining whether a certain position was occupied by the enemy, advanced unobserved to within about 600 yards of the position. The artillery then laid smoke on the suspected position, following this with a five minute HE concentration. When the artillery concentration was finished, the patrol opened fire with four Bren guns searching suspected areas. Observers posted at vantage points in rear waited for return fire. The Germans opened with three guns from the suspected positions and these were easily and accurately located by the observers. The patrol withdrew without a casualty.

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

No. 25

20 AUG 1944

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By command of the Army Group Commander:

H. B. Lewis

H. B. LEWIS
Brigadier General, USA
Adjutant General

I PROTECTION OF WIRE.

From the report of an AGF observer:

"Since communications directly affect the battle efficiency of a unit, every soldier must be taught to protect wires from damage. I have seen many instances where lines had fallen down and were being destroyed by passing vehicles in the presence of other soldiers who failed to take even the simplest step to correct the situation.

"It is recommended that all branches stress the fact that wire lines must be protected from harm by all soldiers regardless of their branch or rank. All Signal Corps units and others concerned with wire lines must be taught not to leave loose wires on the roads even if this wire is of no further value. The sight of wire being run over and further destroyed cannot help but create in the mind of a soldier the impression that wire is not important."

II USE OF RADIOS IN FORWARD AREAS.

Inexperienced troops are often led to believe that use of low-powered infantry radio sets will draw fire as a result of being located by German direction finding equipment. Carelessness in providing necessary camouflage and in radio security is the real reason these radio sets are subjected to enemy fire. Exposure of a man or vehicle carrying a radio or reference in the clear to a nearby landmark will provide the enemy with a good target, but direction finding equipment will not. Direction finding equipment of a sufficient accuracy to provide information for artillery fire is relatively immobile and must be set up some miles in rear of the enemy lines. The low-powered infantry radio sets do not furnish sufficient signal for this direction finding equipment to obtain accurate information. Location by direction finding becomes a possibility only when done in conjunction with poor camouflage or poor radio security.

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III SCOUTING AND PATROLLING.

1. A corps Commander in Italy makes the following comments:

a. "It should be emphasized that ground once gained cheaply should be held. Time after time a patrol is sent out to determine the enemy strength on some hill and finds that the hill is unoccupied. Almost invariably the entire patrol comes back to report. Then some unit is ordered forward to occupy the hill. It moves forward and finds the hill alive with Germans who smother them with fire from machine pistols, light machine guns, and mortars.

b. "The same thing holds true at bridges. Several times a patrol has found a bridge not blown and the entire patrol has come back to report. Before some other unit can get up to seize the bridge, the Germans have blown it."

2. A battalion executive in Italy recommends: "At night, don't use bird calls as signals. There are no birds in the battle area--they all leave. However, cats and dogs stick around, so dog barks and cat howls are all right if well done. The Germans use cat howls a lot. If a German uses a cat howl, lie down and answer him the same way. He will then come toward you and you can get him with your bayonet."

IV BRITISH COUNTER-MORTAR ORGANIZATION

The following is extracted from a British War Office publication dealing with counter-mortar organization effected by some units in Italy:

1. "A division found it necessary to set up a counter-mortar organization on the lines of a counter-battery organization. One division had a counter-mortar officer with an assistant, together with an assistant counter-mortar officer in each brigade. These were assisted by an adequate staff and provided with necessary transport. In general, all personnel were from the divisional artillery.

a. "The most successful methods of engaging located hostile mortars were in the following order: 4.2 mortars, 3.7 air burst, guns fired at extraordinary elevation.

b. "Enemy mortars were plotted and listed by the divisional counter-mortar officer.

c. "Communication was provided from the divisional counter-mortar officer to each of the brigade assistant counter-mortar officers, to divisional artillery Hqs and to the divisional counter-battery officers. Communication was also provided from the assistant counter-mortar officer to each 4.2 mortar company, to each mortar OP and to appropriate divisional artillery units.

2. a. "Another unit set up two counter-mortar OPs in each battalion and sited them at least 500 yards apart. These were manned by either officers or senior NCOs. Battalion OP parties were given instruction on the characteristics of mortar fire to help them in listening for and in identifying mortars.

b. "OPs made a 'mortrep' report which included time, the code sign of the OP and the grid bearing. If this 'mortrep' gave an intersection or pointed to a known position, the unit counter-mortar officer arranged for immediate counter-mortar fire."

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TWELFTH ARMY GROUP
BATTLE EXPERIENCES

No. 24

18 AUG 1944

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By command of the Army Group Commander:

H. B. Lewis
H. B. LEWIS
Brigadier General, USA
Adjutant General

I 29th DIVISION BATTLE NOTES

(From an after combat report of the 29th Infantry Division for July)

1. Infantry against Armor.

"Our experience has been that properly trained, aggressive infantry can knock out enemy self-propelled guns and armor in close country where our offensive armor cannot operate effectively. Maneuver should always be employed to get the enemy vehicle in the flank with the bazooka or rifle grenade. It was proved in one battle that German Panzer outfits without heavy infantry support were unable to cope with aggressive infantry tactics."

2. Battle Drills.

"We have found that when battalions and larger units are out of the line, they should conduct training to emphasize smartness and precision and simple battle drills to inculcate swiftness of movement in combat. Those used in this division are:

a. The movement of a squad from hedgerow to hedgerow at full speed with at least ten yards interval between men. All move forward on command.

b. Coming under simulated artillery fire, the squad breaks for the nearest cover to the front and then continues to advance during lulls in the fire.

c. Coming under simulated rifle or machine gun fire, individuals use cover available, open fire, and the bulk of the squad maneuvers rapidly under the leader to outflank the fire."

3. Motorized Reinforcements.

"During the past month, the division's experience has shown that reinforcing mechanized cavalry, armor, artillery, etc., fail to employ proper methods for approach to combat. The move up is too hurried and in too large a mass, resulting in the clogging of roads and complete disruption of wire communications. A sufficient force should be employed to feel out the opposition while staging the main body forward by bounds from covered position to covered position. When a weak spot is

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discovered, and not until then, the full strength of the column should be developed."

4. Chin Straps.

"It has been found that chin straps should be worn fastened tight. If not fastened when going over hedgerows and when hitting the ground fast, the helmet must be held on with one hand or it will be lost. The practice of not wearing the chin strap arose as a result of blast from heavy air bombs and heavy artillery fire, which are not present in this theater. However, a man without a helmet is liable to head injuries from small arms fire and shell splinters."

II EFFECTIVE ARTILLERY USE.

"In my opinion the enemy has habitually tucked himself in close to our front line elements in order to prevent us from bringing our mortar and artillery fires down on him. We habitually have had to place some artillery preparation on the enemy front lines. The most effective use of artillery I have found has been to bring time fire down for about 20 minutes preceding the infantry assault and under cover of this fire to make a tank sortie (tanks with rhino attachments) to a depth of about 300 to 400 yards. The time fire prevents the enemy from using bazookas against the tanks, pins him to the ground, and causes heavy casualties among those who attempt to evade the tanks or to shift their positions." -- Major Gen. W. M. Robertson, Commanding 2nd Inf.

III GERMAN DEFENSES AND SUGGESTIONS FOR USE OF 4.2 MORTAR

1. A corps chemical officer recently inspected a German position, captured with the help of a rolling barrage fired by 4.2 mortars. The mortar fired HE exclusively and increased the range 200 yards at specified time intervals. Some of the facts and conclusions of the chemical officer's report follow:

2. The mortar fire was quite accurate as to range but was not always evenly distributed along the line of impact. Each band of fire was about 25 yards wide.

3. All of the hedgerows occupied by the Germans had paths in rear of them. (Whether these paths were made by the Germans or whether the hedgerows were selected for occupation because of the paths, was not indicated.) Sunken roads were used, either as positions or for communications.

4. To increase the effectiveness of mortar fire, the observer thought, fire data (by platoons, if necessary) should be calculated to place the lines of impact on sunken roads and on or just back of hedgerows, instead of firing a regular pattern on a measurement basis. Planning of the barrage can be improved if aerial photos are available for examination for possible positions. Forward movement of the barrage should be on call of the infantry, rather than on a time schedule. White phosphorous will cause about the same number of casualties as HE on troops in the open and will cause more casualties on troops dug in, if they do not have overhead cover. Its psychological effect also is believed to be greater. The 4.2 mortar is considered better adapted for firing WP than the 105mm howitzer, partly because of the greater percentage of WP ammunition allowed (50% compared with 2%).

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TWELFTH ARMY GROUP

BATTLE EXPERIENCES

16 AUG 1944

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No 23

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By command of the Army Group Commander:

H. B. Lewis
H. B. LEWIS
Brigadier General, USA
Adjutant General

I COMMUNICATION NOTES.

The following items are extracted from Training Memorandum dated 8 July 1944, of one of our Corps in Italy:

1. Airplane Relay. An SCR 300 radio on the regimental channel in a liaison plane is invaluable for relay.
2. Geographic Code. In a fast moving situation when radio is the only feasible means of communication, a simple, pre-arranged geographic code is valuable to coordinate supporting fires of adjacent units and to facilitate the execution of flank movements in each others' zones.
3. Movement of Command Posts.
 - a. The CP reconnaissance must be made by an officer who has authority to make the final selection at the time. Once communication facilities have been committed, only major considerations should cause a change.
 - b. The establishment of advance switching centrals at the next selected location of the CP greatly increases speed and flexibility.
 - c. Corps headquarters should be notified at least six hours prior to movement of a division CP if the new location is to be near a Corps axis along which wire has already been laid, and 24 hours in advance if a change of axis is involved.
 - d. Service troops that require wire communications must be moved with the CP's and bivouacked near them. Long lines to supporting units located far to the rear cause a drain on facilities which results in reduced communication for combat troops.
 - e. One division employs the procedure of leaving the Chief of Staff at the old location until the Commanding General or a staff member telephones him from the new location to come forward. This is the best possible method of displacement. In some units when wire was not complete to the new location, an assistant staff member with

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insufficient knowledge of the situation and no authority to make decisions was left at the old location, which was an unsatisfactory solution to the problem.

4. Command Responsibility. It is the responsibility of commanders to get information back to higher headquarters whether wire is in or not. As long as a commander has one runner with him, he is not "out of communication".

II USE OF GERMAN THREE INCH MORTAR.

1. "Captured German three inch mortars are being used extensively by the heavy weapon companies of this division. Our ammunition is interchangeable with ammunition of German three inch mortars, and we usually use it as we have had prematures with captured German ammunition. The German mortar has a range of 4500 yards, and an excellent sight which has a reversible collimator and mirror that permits placing aiming stakes in rear of the mortar.

2. "The range table for the German mortar with our ammunition is the same as our 81 mm range table except that a 'mils' column must be added because the German mortar sight is graduated in 'mils'. For ranges between 3290 and 4500 yards additional increments are used."--Ordnance Officer, ___ Division.

III TIME OF ATTACK.

"When practicable I like to initiate the attack thirty minutes prior to dawn. We have caught the Boche off guard at this time, and he does not like night fighting. In one instance we captured, with such an attack, a German position that I do not believe we could have taken if we had waited until dawn to attack. The most careful daylight reconnaissance must be made prior to such an attack."--Infantry Regimental Commander, ___ Division.

IV AAA AS FIELD ARTILLERY.

(Views of an assistant Corps Artillery Commander and the Commander of an AAA Gun Group who have employed an AAA Gun Battalion as field artillery and have credited it with destruction of an ammunition dump, a field artillery battery and other targets.)

1. "One excellent use for these weapons was execution of "time-on-target" fires. Surprise and demoralizing effect was achieved by synchronization, so that all initial rounds from the battalion arrived at the target together. The high velocity and rapid rate of fire of the 90 mm gun are desirable characteristics for this type fire. Normal targets were bivouac areas, command post areas, and known concentrations of personnel.

2. "Destruction fire on protected targets is not effective using present available ammunition. It is felt that two-thirds point detonating and one-third white phosphorous would be an excellent ammunition ratio for use of the gun as field artillery."

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TWELFTH ARMY GROUP

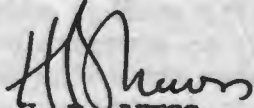
BATTLE EXPERIENCES

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By command of the Army Group Commander:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I ARMORED DIVISION ACTION.

(NOTE: The following comments were made by the Commanding General of an Armored Division regarding recent offensive action by his unit.)

1. Fighting in hedgerow country. a. "We got into trouble when we advanced too rapidly into an open area which had been used as a landing field. It was too small for our tanks to maneuver in but large enough for the enemy to coordinate their fire in. They let us advance about 500 yards into it before they opened up. What we should have done was to send a couple of tanks and some infantry across ahead.

b. "One of our battalions which was most successful stayed well away from the hedgerows. This battalion advanced rapidly and suffered almost no losses from bazooka fire. Another thing this battalion did was to spray every tree in sight before advancing into the open. This took a lot of ammunition, but it also got rid of a lot of mortar observers.

c. "On one occasion, one of our task forces suffered heavily from mortar tree bursts while concealed in a woods. The losses stopped when the force was moved into an open field. The mortars were registered on the woods but had no observation of the field.

2. Reconnaissance. a. "Our reconnaissance elements worked very closely to us-- just ahead. They were always accompanied by medium tanks. Their work was very effective, as they could push aside minor resistance and furnish us quick and detailed information.

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b. "Slow thinking on one occasion caused us considerable loss of time. The reconnaissance unit sent to reconnoiter for a river crossing advanced to a bridge through a narrow gorge which prevented the vehicles from leaving the road. They found a span out of the bridge but located a nearby ford. They remained in place to guard both bridge and ford. When the engineer equipment tried to come forward to work, it could not get past the reconnaissance vehicles. The reconnaissance party should have left personnel and weapons off the road as a guard. It should also have prevented other vehicles entering ahead of the engineer equipment.

3. Speed of advance. a. "The commander of an armored unit must be alert to take every advantage of opportunities to use the roads, but he must be equally alert to know when they cannot be used. I do not know any way to tell how this can be done-- it must just be sensed. A commander who can do it can make a lot of time with relatively few losses.

b. "On one occasion one of my combat commands encountered strong opposition. It left an infantry force to watch the hostile opposition and went clear around it to reach its objective.

4. Air-Tank Team. "As our advance became more rapid, four dive bombers accompanied each of our columns all the time. An Air Force officer was with each column. I think the planes saved us severe losses on a number of occasions. Once we were threatened by a large number of German tanks. One of the bombers disappeared for a few minutes but soon came back with 15 or 20 other planes. When rapid movement is possible, this tank-dive bomber combination simply cannot be beaten. The knowledge that the planes are with them greatly increases the confidence of the armor. They know they will receive warning of a threat and are willing to move ahead boldly. I think this team should always be used under such conditions."

II IMPORTANCE OF SHELLREPS.

1. The importance of complete and immediate reports of hostile shelling should be emphasized in training. These reports should be made to the nearest artillery unit in the quickest manner possible. They should include everything which may furnish the artillery with any information about the hostile battery or batteries, including the designation and location, by coordinates, of the point from which the observation was made, the direction from which the shells arrive, estimated distance to the hostile gun, time during which the shelling occurred, number and type of guns firing, number and caliber of shells and nature of the fire--whether harrassing, interdiction, etc.

2. Shell fragments, particularly those which show the shape and scoring of the rotating band recess, or which show the original curvature of the shell, should be sent to the artillery with, or immediately following, the report.

3. While these reports do not always give the artillery sufficient information to bring down counter-battery on the hostile guns at once, they frequently do so and even where they do not, either by themselves or considered in connection with other information, furnish valuable indications of hostile artillery habits of routine.--
Report from V Corps.

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TWELFTH ARMY GROUP

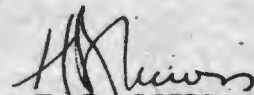
BATTLE EXPERIENCES

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15 AUG 1944

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By command of the Army Group Commander:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I COMBAT WARNINGS. (From a Company Commander, 1st Division.)

1. "Men should be required to dig fox holes instead of slit trenches. Even though they may not be overrun by tanks, they are much better protected against enemy shell fire and strafing. Covers over fox holes are essential to protect against tree bursts of artillery shells and butterfly bombs. Recently there has been a noticeable laxity or carelessness toward digging in, due to the fast moving situation. Numerous casualties have resulted, especially in the vicinity of platoon and company command posts that were not dug in when it was known they would be there only for a short time.

2. "Stricter adherence to tactical principles pertaining to movement of troops by motors should be emphasized. This applies to distances between vehicles and selection of entrucking and detrucking areas. Departure from established principles of motor movement has no doubt been caused by our overwhelming air superiority and poor ground observation due to heavy vegetation and comparatively flat terrain. As we have moved south, we find the terrain to be more rolling or hilly, offering better observation for the enemy. He is also flying more air missions during daylight hours. On one occasion, one unit was loaded on trucks on the forward slope of a hill in view of enemy ground observation. As soon as the trucks were loaded and about to move out, Jerry opened up with his artillery, causing casualties and damage to vehicles.

3. "When truck columns are moving with tanks, tanks should be dispersed along the column. Unless this is done, the enemy will let the tanks at the head pass by and open fire on the trucks in the rear.

4. "Field jackets, especially at night, reflect light, thereby increasing discovery by the enemy. We have smeared ours with green dye to increase camouflage."

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II FIELD ARTILLERY COMMUNICATION:

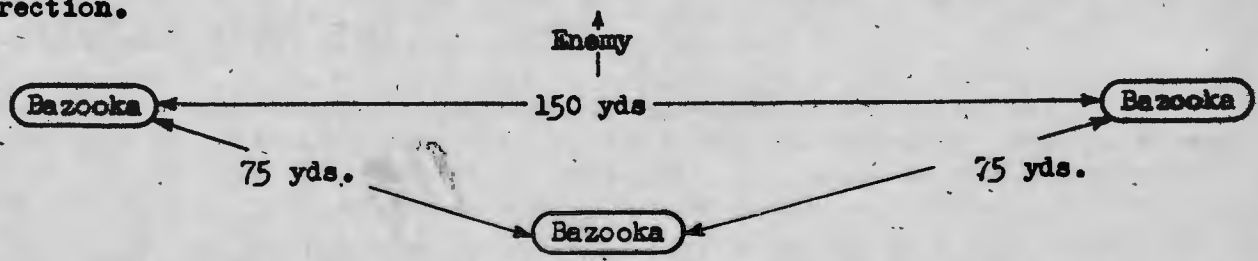
(From a Field Artillery Information Bulletin from the North African Theater)

1. "It has been found that on long OP lines, the practice of establishing test stations, permanently manned, at the base of the OP has been advantageous. On these lines the breaks are caused mainly by shell fire, and it is necessary to repair the lines several times a day. The use of the forward test stations enables crews to start at both ends of the line simultaneously, find the breaks and put the line back in service with minimum delay.
2. "Owing to the large number of circuits that follow the same routes, units should devise some method of distinct tag marking of circuits, e. g., large wooden tags stenciled with unit code name.
3. "Wire crews soon learn the little tricks that simplify the whole communication problem. They service a line properly and carefully during installation so that breaks will be minimized, thus allowing them to get a normal amount of sleep. When wire does go out, repair crewmen, instead of running up and down a line with test clips, check the location of enemy shelling and proceed to the scene of the shelled area, usually finding their trouble right there."

III TACTICS OF GERMAN INFANTRY ANTITANK DEFENSES.

(Note: The substance of the following description of the antitank methods of German infantry units is extracted from a British source.)

1. The defense plans of German infantry companies usually assign to bazooka sections the role of defending narrow tank lanes and defilated approaches. Open areas are covered by A. T. guns.
2. The bazooka is regarded as relatively static, to be fired from a prepared position. The grenade discharger is treated as a mobile reserve weapon and held back at antitank Company Hq. Bazooka sections are usually allotted to the infantry companies against which a tank attack is considered most likely. Bazookas usually work in groups of three, sited in a "V" formation as indicated in the schematic diagram below. From this formation at least two weapons can engage a tank approaching from any direction.



3. The emplacement for the bazooka is usually a "V" shaped pit, with the prongs toward the enemy. The weapon is fired from the most suitable prong, according to the direction of approach of the hostile tank. After loading the weapon, the loader takes shelter from the back-blast in the opposite arm. The loader, armed with a sub-machine gun, is responsible for protection of the position against ground troops.

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TWELFTH ARMY GROUP

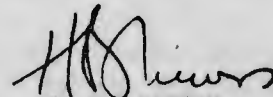
BATTLE EXPERIENCES

No. 20

14 AUG 1944

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By command of the Army Group Commander:



H. B. LEWIS
Brigadier General, USA
Adjutant General

I WARNING TO PATROLS.

"The Germans will let a patrol get erroneous information in order to waylay the troops that try to use the information. On several occasions they have allowed our small patrols to enter villages and wander around unmolested; when a combat patrol came to take over the village, it encountered strong resistance."--Memorandum of _____ Corps, 24 June 1944.

II ARTILLERY SUPPORT.

The method of having each direct support battalion reinforced by a general support battalion proved superior. It gets quick reinforcing fires on any target holding up the infantry advance (if of sufficient importance to justify use of general support Bns). It also permits planning for reinforced defensive fires in case of counter-attack. The third advantage is to give each infantry battalion continuous support during displacement, since forward observers can fire either battalion while the other is displacing.-- Unit Report of the 1st Infantry Division.

III SPOTTING OF 88 MM GUNS

It has been found particularly easy for our air OP's to spot 88 mm guns when they are firing at high angles against our aircraft. When close air support missions are flown in the V Corps Zone, additional air OP's are usually employed to take advantage of this situation. These are usually furnished flak maps in advance by the air force intelligence to direct their attention to suspected AAA locations.--Report from V Corps.

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IV CHARACTERISTICS OF GERMAN GUN POSITIONS.

A systematic study of German gun positions so far located in the zone of the U S V Corps indicates that the batteries are usually placed in open fields with open fields all around. They are never found in woods and rarely in hedgerows. Frequently they are close to a farmhouse which the personnel use for housing. Fire positions for SP guns are frequently found about 300 yards apart on side roads. These guns usually move after firing a few rounds.-- Report from V Corps.

V COMBAT WARNINGS.

Comments of Rifle Company Commander, 9th Division:

1. "It is mandatory that alternate mortar positions be selected two or three hedge-rows over and two or three hedgerows in rear of the primary position. Failure to make use of alternate positions cost me five men of my mortar platoon.

2. "The American soldier is too careless in unduly exposing himself when in view of the enemy. Individually he feels that some other "Joe" will get shot and not he. Until this condition is corrected, the best camouflage is of little value."

VI COMMENTS OF AN ARTILLERYMAN.

1. "In a recent mission against tanks WP shells were used, but the smoke produced by the burning phosphorous screened the withdrawal of some of the enemy tanks.

2. "Artillerymen need more physical conditioning acquired by digging--as artillery positions require considerable digging in."--Captain, FA, 1st Division.

VII BEATING THE SNIPER.

"Snipers have not been as numerous during the recent fast moving phase of the attack as when the situation was more static. They usually band together in small groups ranging from five to fifty men. Our means of dealing with snipers is to sweep the area as cleanly as possible as we advance, spraying suspected sniper positions with BAR fire. Movements of personnel in areas in the immediate rear of front lines should be in groups consisting of several men rather than groups of two or three, or individuals. Snipers will not fire on large groups but will attempt to pick off individuals and groups of two or three. All men near the front should be required to remain in fox holes during brief rest periods or overnight. Some tend to leave their fox holes and wander around over the area. They not only subject themselves to sniper fire, but invite artillery concentrations on their positions."-- Company Commander, 1st Division.

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IXLXELTH ARMY GROUP

BATTLE EXPERIENCES

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13 Aug 1944

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By command of the Army Group Commander:

H. B. LEWIS
Brigadier General, USA
Adjutant General

I COMBAT WARNINGS. (From infantry platoon leaders of the 9th Division)

1. Move. "One of the fatal mistakes made by infantry replacement is to hit the ground and freeze when fired upon. Once I ordered a squad to advance from one hedgerow to another. During the movement one man was shot by a sniper firing one round. The entire squad hit the ground and froze. They were picked off, one by one, by the same sniper.

2. Don't Move. "Men should be taught to play 'dead'--that is, remain perfectly still--if wounded by sniper fire. If they move, the sniper will fire again.

3. Follow Barrages. "There is a tendency, especially among new men, to become overconfident when the attack follows a heavy bombardment such as that of 25 July 1944. Many of them thought all the Germans in the area would be either killed or wounded, and all they had to do was to take over the ground. In training it should be constantly stressed that air bombardment and artillery barrages do not destroy the enemy but only drive them under ground and temporarily disorganize them, thereby making them, for a short time, more vulnerable to infantrymen following close behind the barrages.

4. Know the BAR. "I believe there is a need for more intensive training with the BAR. I have recently lost three men who claimed they were expert BAR men and were so classified on their From 20's. These men were killed because they were not sufficiently trained in the operation of this weapon. The BAR is a most effective weapon in hedgerow fighting and should have highly trained personnel to operate it.

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5. Be Alert. "On one occasion, the failure of two new replacements to realize the value of constant watchfulness and alertness resulted in the loss of two of my noncommissioned officers. The non on the listening post moved back to report Germans using the Japanese trick of calling out in English. During their absence, two Germans slipped into our area and killed two of my noncommissioned officers before they were discovered.

II. AGGRESSIVENESS OF ARMORED UNITS.

1. The following comments are summarized from statements made by the CG, _____ Armored Division and members of his staff, based upon successful operations commencing 25 July 1944:

a. "Teachings on armored principles and tactics are sound. Aggressiveness cannot be overemphasized. Success in our recent engagement is believed to have been chiefly due to the fact that units were ordered not to stop but to keep driving. On one occasion a unit reported it was held up by enemy mine fields. It was ordered to push through and take the losses. When the leading tank drew fire, the other tanks deployed and pushed on through, overrunning and knocking out enemy resistance on the move. In most cases the Germans would fire a few rounds and either retreat or surrender. We are convinced that such aggressiveness means fewer losses in both men and equipment. Had we stopped and attempted to maneuver, the Germans would have brought artillery and other fires upon us. To delay or stop is playing into the enemy's hands.

b. "Our advance was continued even when one battalion was completely cut off for about 36 hours. This battalion continued to fight its way forward. The battalion in rear also pushed ahead and the result was eventual reestablishment of contact between all units."

III. LOCATION OF DIVISION ARTILLERY CP.

The artillery commander of the 1st Infantry Division broke precedent during recent operations by locating his CP approximately 6000 yards in front of the Division CP. His explanation was: "I like my CP to be in the middle of my battalions. The communications are shortened, and I can keep up better with what's going on. I visited the division commander at least twice each day and kept a liaison officer at the division CP at all times."

IV. EMPLOYMENT OF 4.2 MORTARS.

The _____ Corps Artillery Commander reported the following plan for using a Chemical Mortar Battalion:

"The three companies of the Corps chemical battalion were armed with 12 mortars each. The fourth was divided into a service company and a headquarters company. A fire direction center was organized and trained in each company. The companies (three platoons of four mortars each) were trained under artillery direction to lay and fire the mortars like any other artillery weapon. All 36 of these mortars were used in the fire plan of the _____ Division when that unit jumped off on 7 July. Ten minutes after the artillery preparation was completed, the mortar fire was brought down. By this time the Germans had come out of their fox holes and many were killed by these mortars as shown by examination of their bodies. The mortars were used later to reinforce the fires of the direct support artillery and did excellent work. To be used effectively the mortar crews must be trained as artillerymen."

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TWELFTH ARMY GROUP

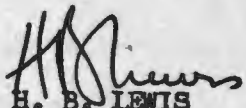
BATTLE EXPERIENCES

No. 18

12 AUG 1944

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

By command of the Army Group Commander:


H. B. LEWIS
Brigadier General, USA
Adjutant General

I LAUNCHING OF BAILEY BRIDGE BY TANKS.

The following incident of the Italian campaign is extracted from a publication of the British War Office:

"Another idea developed during the training was the launching of a Bailey bridge by tanks. To carry out this task, two tanks were employed, both especially fitted, and one having the turret and gun removed. The task was actually executed most successfully during the assault, and the bridge was safely launched in the face of enemy opposition on the far bank. At that point it would have been impossible to have built a Bailey bridge in the normal way. This bridge was one of the only two available during the first day of the crossing."

II BREACHING HEDGEROWS.

"We are successfully using bangalore torpedoes to blow openings in hedgerows for tanks. We place two or three torpedoes, depending on the height and growth of the hedge, about four feet apart and about one-third the height of the mound from its base. We have the tanks push the torpedoes through the hedge."--Captain, ___ Engr Combat Bn.

III MEDIUM ARTILLERY.

1. "More men in a battery should be trained as computers. I have trained my telephone operators, and, although they may not be used as computers, I find that they can do a much better job as telephone operators by having had this training.

2. "In order to increase our angle of traverse, we reverse the trail spade making it flush with the ground to facilitate rapid movement.

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3. "Fine fire, unless observed, results in an excessive number of duds. There is need for a percussion fuse similar to that used by light artillery."--Major, ___ Artillery Battalion (medium).

IV TIPS FOR TANKERS. (Comments of a lieutenant in the ___ Armored Division)

1. "In training tank crews, too much practice in acquiring speed in gun manipulation cannot be given.

2. "We make it SOP to fire into all tall buildings, as they invariably contain snipers and machine gunners. We also cut communication lines as we advance.

3. "On the recent break-through we moved our tanks in column along the roads until the leading tank was fired on, then we deployed or pushed by, depending on the nature of the terrain. If we were not able to knock out the enemy tank or antitank gun from a flank, we by-passed it.

4. "The enemy uses .30 caliber weapons against tanks to determine the range. A tank that receives .30 caliber fire is very likely to get a shell in a short time.

5. "For protection against butterfly bombs we dig a large trench and park a tank over it, leaving a small entrance hole on one end.

6. "Casualties among crews of our tanks that have been set on fire are surprisingly low, usually only one or two. The small arms fire directed at crews, abandoning tanks is very inaccurate.

7. "No inflammable materials should ever be kept inside a tank.

8. "Continue to fire at an enemy tank until it catches fire to prevent its repair and immediate use as a pillbox.

9. "Enemy weapons are usually aimed at the final drive housing of our tanks.

10. "Tank crews should wear steel helmets over their tank helmets.

11. "Tanks should advance through the center of a field instead of close to the hedgerows, in order to avoid bazooka fire."

V EVACUATION OF WOUNDED.

1. "Successful and rapid evacuation of wounded depends upon;

a. Aggressiveness of unit surgeons--that is, keeping personnel and installations well forward.

b. Close coordination and contact between division surgeon and surgeons of subordinate units.

c. Establishing ambulance loading points along axis of advance."--Surgeon, Armored Division.

2. "A more efficient ambulance marking system from the front to clearing stations is needed. Many ambulance drivers lose their way and much time is lost in reaching the clearing station."--Captain, 1st Infantry Division.

TWELFTH ARMY GROUP

BATTLE EXPERIENCES

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No. 17

11 Aug 1944

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By command of the Army Group Commander:

H. B. LEWIS
Brigadier General, USA
Adjutant General

(NOTE: The following material is extracted from a document prepared by the Chief of the Armored Section, Twelfth Army Group, after a visit to three separate tank battalions which had participated in combat. These extracts appear to have so much value for all tank units, and for many units of other arms, that they are reproduced in this form to permit wider distribution.)

I TANK-INFANTRY TELEPHONE COMMUNICATION.

1. All three battalions were enthusiastic about the telephones mounted on the backs of tanks for communication with infantry leaders. They feel, however, that full advantage is not taken of this equipment for the following reasons:

a. To make the idea completely effective, all tanks should be so equipped. This has not been done.

b. Many opportunities to obtain tank fire support have been missed because all of the infantry were not informed that the telephones had been installed.

II TRAINING OF TANK REPLACEMENTS.

1. The need is felt for training courses for both commissioned and enlisted tank replacements. Such courses, if well planned, would result in increased efficiency and mutual confidence. Recommendations are for a two-weeks course for each group, all other training to be suspended during the period. Recommended subjects are as follows:

a. For Officers: A refresher course of two weeks concentrated on radio procedure and radio presence to give confidence in talking over the radio, platoon maneuvering, map reading, slidex, first echelon tank maintenance (crew maintenance), tank weapons and tank driving.

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b. For enlisted men: Intensive training in driving; gunnery; radio; crew maintenance; use of sights, binoculars and other tank equipment. These subjects are recommended because replacements most required are of tank commanders, drivers and gunners.

III SUGGESTIONS FOR SPECIAL TACTICS AND TECHNIQUE.

1. Use of artillery. a. Artillery preparation should be concentrated on improved roads perpendicular to the axis of advance. It has been found that enemy tanks and AT weapons frequently emplace themselves on these roads.

b. Artillery fire on hedgerows which do not contain a road should be secondary. Fire on fields is not particularly effective.

2. Suggestions for infantry. a. Infantry accompanying tanks should avoid using an opening that a tank has just used. The enemy frequently lays on these openings immediately the passage of the tank is observed.

b. White phosphorous grenades have been very successfully used by infantry to point out targets to the tanks.

c. Infantry supplies such as grenades and ammunition, and even rations and water, can be carried in boxes on the rear of tanks. This plan has been used and has been both successful and convenient.

IV RELIEF OF TANKS FOR REPLENISHMENT.

After being in action for a considerable time, tank platoons must withdraw to replenish ammunition and fuel. When the infantry observes this withdrawal, they feel they are being deserted and tend to withdraw themselves. This has been avoided by the following method: One tank platoon completely fueled and with ammunition is kept in the rear. This platoon relieves a platoon on the line by infiltration, one tank at a time. When the relieved platoon is assembled, it proceeds to the company dump, replenishes its fuel and ammunition, and returns to a position in the rear of the line and relieves the next platoon by the same method. The infantryman seeing a tank move forward at the same time a tank moves back realizes that his support has not diminished.

V INFANTRY-ARTILLERY COORDINATION. (Observations made by the Officers indicated.)

1. Additional FO's. "In this country observation is limited, and a forward observer at battalions isn't enough. We have, therefore, placed an additional forward observer with each front line company, usually about six on the division front. The company forward observer is assisted by one sergeant and a radio operator-driver. He has wire line to the liaison officer at the infantry battalion and an SCR 610. As soon as more open country is reached, these company observers will not be needed. However, at present they live with the infantry wherever they go."--Executive Officer, 2nd Division Artillery.

2. German action under artillery fire. "We have had to have our infantry withdraw two to four hundred yards before starting a preparation before an attack in this country. When the Germans get as close as possible to our front lines to gain some protection from our artillery. That seems to be a common tactical tactic here. They will not take what Leavenworth would call a good defense position. No matter how fast they are retreating, if you stop and dig in, they will infiltrate right back to the next hedgerow."--Artillery Commander, 2nd Division.

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TWELFTH ARMY GROUP

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BATTLE EXPERIENCES

10 Aug 1944

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By command of the Army Group Commander:

H. B. LEWIS
Brigadier General, USA
Adjutant General

I TRAINING OF INTELLIGENCE PERSONNEL.

1. The following is from CO, I & R Platoon, ___ Inf, 9th Division:
 - a. Training in booby traps, mines and demolitions should be given to all I & R personnel. The platoon should be authorized mine detectors for this work.
 - b. More emphasis in training should be placed on identification of enemy armor, branches of service, rank or grade, and organization and employment of enemy units.
 - c. Sufficient marksmanship training should be given men armed with the tommy gun to enable them to fire from any position.
 - d. First aid kits should be authorized for I & R jeeps and more thorough training in first aid should be given I & R personnel.
2. The following is from S-2, ___ Inf, 9th Division:
 - a. We should have in our intelligence platoon a number of men who can speak French and/or German. Each assault battalion should have at least one interrogator who can speak the language of the country and of the enemy.
 - b. Training intelligence personnel should be among the first to enter a captured fortified position, command post, or other installations that may contain documents or equipment of military intelligence value.

II INSTRUCTION OF REPLACEMENTS WITHIN THE DIVISION.

1. Purposes and results. The 93rd Division has initiated, and values highly, a course of instruction for replacements. Its purpose is to "debunk" many of the ideas that these men had picked up prior to arrival, and to instruct them in special fighting techniques and the use of certain weapons. The apprehension of new men has been reduced and their self-confidence and morale greatly benefited by the course.

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2. Description. The course lasts two and one-half days and is conducted by battle experienced personnel. During the instruction the men are trained in groups of 12 and are assigned to subordinate units by those groups. This reduces the strangeness of the new organization. The subjects stressed during the course are:

- a. How to live in a fox hole. This includes construction of the fox hole and means of preserving health and bodily cleanliness under such conditions.
- b. The spirit of the offensive. Emphasis is placed on the danger of allowing themselves to become pinned down and subjected to mortar and artillery fire.
- c. The use and effectiveness of the fragmentation grenade, antitank grenade and the bazooka. About 25 percent fire the antitank grenade and the bazooka and all observe their effectiveness.
- d. Some tactics and technique of hedgerow fighting.

III FIELD IMPROVISATIONS.

1. Uses of the SCR 300. A battalion commander in the 83rd Division has used the SCR 300 effectively for communication with the battalion ammunition DP to direct the movement of resupply quickly wherever needed. He also recommends placing an SCR 300, when available, at the battalion aid station to aid in the evacuation of wounded. In general he has found the set one of the most dependable means of communication within the battalion.

2. Improvised mounts for IMG. The 2nd Division Ordnance Officer reports the use of the following expedients for direct machine gun fire at ranges of 100 yards and less. They are generally used only for firing short bursts with the light machine guns. One or more of the various types are supplied to each machine gun squad.

a. Installation of BAR bipod on trunnion of the IMG. An improvised stock similar in shape to that of the German MG 42, made from sheet metal, reinforced with wood, is attached by four screws to the pistol grip. This, in effect, converts the 1919A4 to a 1919A6.

b. Attachment of two metal rods from the 105mm clover leaf ammunition pack, bent into rocker shape. They are attached lengthways on each side, one end to the trunnion and the other to the elevation lug. The shoulder stock described in a above is used.

c. Attachment of a spike, 12 to 15 inches long and 1/2 to 3/4 of an inch in diameter, sharpened at one end and fitted with a simple yoke at the other. The yoke is attached to the trunnion with a bolt. A flange, three inches in diameter, is attached to the stock about four inches from the point. When attached, the spike swings from the trunnion. The shoulder stock may be used or the gun fired with just the pistol grip.

d. In emergency the gun is sometimes fired with no mount at all. The barrel is laid on a hedgerow or any convenient object, and fired in short bursts. Asbestos gloves are sometimes used by the gunner.

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8 AUGUST 1944

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By command of the Army Group Commander:

H. B. Lewis
 H. B. LEWIS
 Brigadier General, USA
 Adjutant General

I EVACUATION OF WOUNDED PERSONNEL.

1. These comments on evacuation of wounded personnel are from the Surgeon, XIX Corps:

a. Evacuation by Tank Battalions. "Each Tank Battalion has three medical half tracks and one litter bearer. This provides one half track per company to evacuate casualties to the battalion aid station. Where necessary, litter jeeps from the medical company with each combat command can reinforce the battalion half tracks. Each medical company has 10 cross-country ambulances and 24 litter bearers to evacuate casualties from the battalion aid station. The medical half tracks of the tank battalions follow right behind the tank companies and so far the problem of evacuation has been simple.

b. Infantry-Tank Evacuation. "The method of employment of the tank-infantry team has resulted in the necessity for using armored medical sections and the armored infantry medical section like those of the non-armored infantry. They are not set up for this type of operation. A task force consisting of a battalion of tanks and a battalion of armored infantry is broken down into platoon groupings and the two medical sections support an area of operation. This area is also infiltrated with supporting infantry from an infantry division. All available litter bearers are sent up by the litter platoons of the medical company and these are reinforced by litter bearers from platoons of the corps litter bearers.

c. Unnecessary Destruction of Clothing. "Clothing is unnecessarily destroyed in clearing stations by routine cutting where it could, in many cases, be rolled up just as easily.

d. Training in First Aid. "It has been observed that few wounded men apply their own aid dressings, but wait until the aid men arrive. The individual line soldier's responsibility for first aid must be indoctrinated continually."

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ARMORED DIVISION

2. These comments are from the Surgeon, 2nd Armored Division:

a. Tank Units. "Jeeps with litter-racks work well forward of the battalion aid station along the axis of advance. When a tank is hit, the medical officer in the jeep immediately radios for a half track ambulance which removes the wounded to the aid station. The aid station is fairly mobile and is located near the battalion CP. Two medical officers are assigned to each battalion in action.

b. Infantry Units. "Litter bearers remove the wounded from hedgerows and other isolated places, to the half tracks or jeeps. The T/O does not provide aid men for infantry companies. We obtain these from other sources and train them for their duties.

c. Artillery Units. "Evacuation to the battalion aid station is similar to that described for tank units in a above.

d. In rear of Battalion Aid Station. "From aid stations the wounded are transported to ambulance loading points located on the axis of advance. Field ambulances are often used for this purpose. Ambulances collect the wounded from these loading points and remove them to clearing stations. Army ambulances evacuate them further to the rear as required.

e. General. "Successful and rapid evacuation of wounded depends upon the following:

(1) Aggressiveness of unit surgeons in keeping personnel and unit installations well forward.

(2) Close coordination and contact between the division surgeon and surgeons of subordinate units.

(3) The establishment of ambulance loading points along the axis of advance.

II USE OF AA GUN BATTALION AS ARTILLERY.

The following summarized report from a statement by the CO of an AAA group with the VIII Corps describes some of the methods used in that Corps when this type of unit is employed on its secondary mission.

1. The AA gun battalion conducts no AA fire from its field artillery location.

2. The AA battalion is located to a flank, but near the field artillery, thereby, eliminating the hazards incident to overhead fire, low trajectory of its weapons, and the type of ammunition used.

3. The AA battalion is located as a battalion and not dispersed by batteries. This facilitates administration and does not detract from its tactical use.

4. The field artillery, FCS furnishes firing data for the AA unit and controls its fires. However, each AA battery must be prepared to compute its own data.

5. Positions for AA fire are always selected and AA fire control equipment is set up at these positions.

6. Normal ammunition supply of the AA battalion is not suitable for performance of its secondary mission. Apparent desirable changes are supply of WP shells and a larger percentage of point detonating shells.

TWELTH ARMY GROUP

BATTLE EXPERIENCES

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8 AUGUST 1944

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By command of the Army Group Commander:

H. B. Lewis
H. B. LEWIS
Brigadier General, USA
Adjutant General

I DEFECTS IN TRAINING.

An analysis of training defects observed during command of the VIII Corps in combat has been made by Major General Troy H. Middleton, U S Army. Following is a summarization of the defects he lists and some of his comments.

1. Failure to follow our own artillery fire closely enough.
2. Failure to make use of their own fire to help them forward. There should and must be more marching fire.
3. Adding to their own losses by permitting themselves to be pinned down by hostile fire.
4. Bunching up.
5. Failure to take advantage of fog and darkness to cross open areas.
6. Lack of training for night operation. Fearing loss of control and disorganization, officers are reluctant to move troops at night.
7. Failure of commanders to provide sufficient depth in combat formations. This leads to over emphasis on lateral contact. A commander hesitates to advance for fear of exposing his flank. If his formation had depth, his flank would be secure.
8. Emphasis on seeing a specific target. Even when no target is visible, if the enemy is known to be in front, the infantryman should shoot in the area in which they believe him to be.

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9. Carelessness when exposed to fire. Men walk when they should creep or crawl; look over a hedgerow when they should look through it; smoke, move, or make a noise, thereby disclosing the location of their position.

10. Failure to dig in properly when not advancing.

11. Failure to properly secure and defend when not advancing. On occasions when the enemy has covered such a position with fire and followed the fire he has been in or around our position without being discovered.

12. Placing of too much reliance by infantry on artillery.

13. Insufficient infantry-tank training. This team is weak and is learning the hard way. Much emphasis should be placed on this training in the U S.

14. Lack of defensive training of armored units. Armored infantry, and perhaps also the tanks, must know how to defend as well as to attack. There will be cases when these troops capture and must hold a terrain feature. I feel that much of their training has been spent on the offensive. I believe that offensive action will culminate in a defensive operation until they can be relieved by other troops.

II IMPROVEMENT IN ACCURACY OF CLOSE SUPPORT AIR BOMBING.

The Commanding General, 30th Infantry Division, believes that the following steps will tend to minimize the danger to our own front line troops in the execution of close support air bombing missions:

1. Require the planes to parallel the front lines. Then shorts, which entail the greatest danger if the planes cross the front line, will fall in enemy territory.

2. Provide ground observers with radio communication to the planes for immediate notification of errors.

3. Provide special planes manned by personnel specially instructed as to the target, to mark the target in the air for the bombers and make immediate report of inaccuracies.

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FIRST U.S. ARMY GROUP

BATTLE EXPERIENCES

NO. 13

1 AUG 1944

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OMAR N. BRADLEY
Lt Gen, USA
Commanding

I. INFANTRY TANK LIAISON.

1. General. - An operational memorandum of the 1st Infantry Division contains the latest of many recent statements emphasizing the advantage of continual combined training of infantry and tank units which are to fight together. Some extracts from the 1st Division's discussion of the infantry-tank liaison problem are given in succeeding paragraphs.

2. Formation of the Team. - A satisfactory solution of the problem of liaison between the tanks and infantry is believed to lie in the assignment by the infantry company commander of one of his rifle squads to work with the tank platoon at all times. This squad precedes the tank platoon in close country, protects its flanks, reconnoiters routes of advance and furnishes its information by pyrotechnics or other visual means. The assignment should be continuous as the liaison improves with practice. The squad leader should be provided with an SCR-536 radio for continuous communication with his platoon and company commanders. In country where anti-tank mines are likely to be encountered, the team may be reinforced by a squad of engineers.

3. Channels of Infantry-Tank Communication. - The use of command channels for giving instructions from infantry to tank commanders is not always feasible. Frequently it does not provide sufficiently close liaison. A means of direct communication between the infantry and tanks is required. The following have been tried with some success: a microphone or telephone on the outside of certain tanks connected with the intercommunication system of the tank; pre-arranged pyrotechnics, or smoke grenades, to designate targets; tracer ammunition for the same purpose and infantry hand and arm signals. Since the

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infantry hand and arm signals are not exactly the same as those normally used by the tanks, pre-arrangement is necessary and practice is advisable. The following have been used by the 1st Division and are recommended.

a. Target Designation. Basic infantry hand signals for direction, commence firing, and cease firing. The squad or platoon leader who is directing the progress of the tanks should be equipped with a weapon which fires tracer ammunition in order to pin-point the target quickly.

b. Types of Ammunition. For 75mm HE, the arm extended pointing with all fingers extended. For WP smoke, the same as for HE followed by covering the eyes with the hand. Normally the tank will use machine-gun fire unless the signal for HE or WP is given. AP will be used only when the target is seen by the tank commander.

c. Movement. The standard vehicular arm signals are used to control tank movement.

II. CLOSE AIR SUPPORT OF GROUND ACTION.

There are given below substantial extracts from some of the conclusions reached by a board of officers which recently completed a study of certain operations involving close co-operation between ground and air forces.

1. Use of Air Within Artillery Range. There is a definite need for air support in many cases, even where the targets are within range of friendly artillery. The main reason for this is the tremendous effect of 500-lb and heavier bombs against highly organized defenses and casemated positions. Large bombs, by their blast, will damage fire control equipment and stun or kill the crews. Casemates are tipped off level by near hits which also sometimes put the gun out of action by piling dirt in front of the ports. The guns will always be neutralized during the air attack. The accuracy of the bombing will determine the duration of the period of neutralization. The nature of the objective, not the ability of the artillery to reach it, should determine whether aircraft is to be used.

2. Planning. a. Ground forces must furnish the air forces detailed and complete information regarding the air objectives, including a statement of the effect desired.

b. Timing of the air attack must be carefully and completely coordinated with the ground forces plans, including the over-all fire plan.

c. A good example of successful co-ordination based on good planning is furnished by a plan frequently employed by one U.S. division. Plan follows: Before the planes arrive the artillery smotheres the target with fire, thereby reducing the loss from flak. Just before the planes arrive, the artillery marks the target with red smoke. The artillery then withholds its fire until the bombing is finished. As the bombing ends, the artillery resumes fire, covering the advance of the infantry, which has been held outside of the danger area during the bombing.

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31 JULY 1944

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OMAR N. BRADLEY
Lt. Gen., U.S.A.
Commanding

I. PARATROOPERS' IMPRESSIONS OF HEDGEROW FIGHTING.

(Note: The following comments are extracted from interviews published by the VIII Corps immediately after the Normandy invasion. Comments were all obtained from officers and enlisted men of parachute units which took part in the fighting.)

1. "Keep Moving if you want to live"-The outstanding impression seems to have been of the importance of aggressive action and continuous, energetic forward movement against the type of opposition offered by the Germans. Example follows:

a. "In fighting the Germans I think if we keep pushing them hard enough we will have a lot less casualties than if we just sit tight."-Lt Col T.J.V. Shenley.

b. "Success in hedgerow fighting is due partly to automatic weapons fire, but principally to aggressiveness."-Lt. Doerfler.

c. "Move forward aggressively. The German is a poor marksman under the best conditions. In the face of heavy fire and an aggressive enemy his fire becomes highly ineffective. A heavy artillery barrage, before the jump-off will provide initial impetus. The advance should then never be allowed to lose its momentum. Display of courage and leadership by officers and NCOs is imperative. An officer who 'hits the ground' furnishes an example to his men and holds up movement."-1st Lt. Karl Lillge.

d. "It is essential to keep moving forward aggressively as long as the resistance is spotty; otherwise the artillery will range in on you. Also, when you move through the hedgerows fast the Jerry will often abandon his guns and equipment. Move right in on him. Follow right after your artillery and you will invariably catch him disorganized."-Capt. Ray Creek.

e. "We have learned to keep moving forward. If there is anything the Germans hate it is close fighting. If he pins you down with sniper or machine gun fire he will zero in on you with mortar and 88 and then you had better dig.

- 1 -
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German snipers hardly ever open up on a large body of men. You have to be constantly on the alert for them but do not ever let them make you hit the dirt. Keep moving if you want to live."-1st Sgt. Asa E. Ricks.

f. "I think snipers should never hold up the advance of a unit, Dispatch one or more men to hunt him out and forget about him. Snipers could never create as many casualties as they cause by pinning you down until artillery zeroes in on you."-Capt. Ray Creek.

g. "When caught in the open by hostile artillery fire, get down fast but stay only as long as necessary. Do not bog down under artillery fire."-1st Lt Rex G. Combs.

2. Effect of 60mm mortar.

The value of the 60mm mortar was repeatedly stressed, particularly because it was claimed the Germans stay under cover when mortars are fired. Following are some of the comments:

a. "The 60mm mortar is of great value because the Germans will stay in their fox holes when it starts firing."-1st Lt. Rex G. Combs.

b. "Our rifle squad should use a 60mm mortar in close support, as the Germans stay in their fox holes when mortar fire starts."-1st Lt. Gerald F. Guillet.

c. "In the face of heavy automatic and mortar fire and an aggressive enemy, German fire becomes highly ineffective. He is a poor marksman at best."-1st Lt. Carl J. Lillge.

d. "Tree bursts with 60mm mortar are very effective."-C.O. 2nd Bn-
Pcht Inf.

3. Bazooka and A. T. Grenade.

a. "The bazooka and the rifle grenade are very effective against enemy dug in along a tree line. A hit above the emplacement on a tree trunk is highly effective."-C.O. 2nd Bn Pcht Inf.

b. "Bazookas should follow the automatic weapons of each squad. They are very effective against machine gun positions."-1st Lt. Gerald F. Guillet.

4. "Crack and Thump"

"The German machine pistol has caused our men a lot of trouble. The passage of the bullet makes a vicious 'crack' behind you. This is followed by a less noticeable 'thump' from the front. I have seen entire squads take cover, thinking they were fired on from behind, when actually the enemy was some distance to the front. The place to look for the man firing is toward the 'thump' and not toward the 'crack'."-1st Lt. Rex G. Combs.

5. Deceptive Method.

"Germans sometimes employ their machine guns this way: One man will fire tracer ammunition high and wild and at the same time another will be laying down pretty effective fire with ball ammunition. They use the tracers to make you think their fire is wild, when it is not."-1st Sgt. Asa E. Ricks.

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FIRST U.S. ARMY GROUP

DECLASSIFIED BATTLED EXPERIENCES

NO. 11

30 July 1944

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OMAR N. BRADLEY
Lt Gen, USA
Commanding

I. GERMAN INFANTRY-TANK DEFENSE.

The VIII Corps reports two different types of German infantry-tank defenses as described below:

1. One of the types is based on the movement and fire of tanks protected by infantry. Such a defense is frequently found set up at an important crossroads or road junction. Infantry digs in along the hedges and at other suitable locations in the immediate vicinity. The tanks move out to varying distances up to several yards to the front and flank and occupy mutually supporting firing positions. After firing from one of these positions they immediately move to another.

2. The other type of defense is based on simulated movement and deception. Tanks spaced about 100 yards apart and well camouflaged are dug in behind a hedge-row to be defended. The infantry digs in along the hedgerow between the tanks. In executing the defense the Mark IV tanks fire but do not move. The company commander, in a Mark V, periodically moves up and down the road adding to the fire of the fixed defenses.

II. GERMAN DEMOLITIONS, MINES AND BOOBY TRAPS.

1. Demolition of Artillery Pieces. Units of the VII Corps report finding various sizes of prepared demolition kits made to fit into the barrels of the different types of German artillery pieces. These are packaged complete with detonators and igniters and appear to be standard equipment in German artillery units. They require only a few minutes to connect.

- 1 -

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2. Magnetic Antitank Mines. Magnetic antitank mines with the detonators and igniters inserted have been found in areas captured from the Germans. Some of these mines are armed without delay pellets making them particularly hazardous to handle.

3. Grenade Booby Traps. German grenades packed in the original boxes have been found in Normandy with one or more of the grenades rigged as a booby trap.

4. "S" Mines in Shell Craters. German "S" mines have been encountered concealed in shell craters in Normandy.

III: TROOP MOVEMENT HANDLED BY G-4.

The VII Corps and its subordinate units have employed experimentally a system whereby responsibility for planning and conduct of troop movements is assumed by the G-4 Section instead of G-3. The G-4 of the Corps recommends the system. He states that it relieves G-3 of movement responsibility, avoids duplication of effort, and lessens confusion and chances of error. G-3's sole responsibility is to notify G-4 what is to be moved, from and to where and when.

IV. CONSERVATION OF EQUIPMENT.

Supply Officers of the VII Corps feel the need of more emphasis in training on the conservation of unit and individual equipment. The lack of accountability and responsibility for property in battle areas, they say, is causing excessive carelessness which sometimes results in critical shortages of items most in demand.

V. EMPLOYMENT OF TANK BOW GUN.

Caution comes from the VII US Corps that when tanks are working closely with infantry great care must be exercised in using the tank's bow gun. Its low position and other characteristics make it a serious hazard to infantry who may be in front of the tank.

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BATTLE EXPERIENCES

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NO. 10

29 JULY 1944.

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OMAR N. BRADLEY
Lt. Gen., U.S.A.
Commanding

I. WHAT THE MAN IN THE FOX HOLE THINKS

1. Some of the U. S. soldiers' own thoughts about his training, in the light of battle experience, were obtained by Dr. Kimball Young through interviews with a number of wounded in general hospitals on 10-11 July, 1944. They are given in substantial extracts from Dr. Young's report below.

2. Sniping. - a. Our men seemed to be taken by surprise by the amount of sniping from trees and hedgerows. They adapted themselves quickly, however, and learned to proceed cautiously and to ferret out the snipers.

b. The sniper-hunting resulted in firing at some of our own artillery observers posted in trees. To prevent this, some units adopted the practice of marking trunks of trees being used by our personnel.

c. The men found that if they kept on the move it was more difficult for snipers to pick them off.

3. Hedgerow hazards. - Particular precautions regarding hedgerows were specified by various men as follows:

a. They readily conceal all sorts of booby traps; keep out of them at night.

b. Existing openings may contain trip-wire lines or may be wired in by hostile weapons; avoid them. Make your own hole.

4. Dispersion. - Men tended to keep close together under fire - to fall into ditches or slit trenches in bunches. This was more apparent with men new to battle.

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5. Movement. - The importance of keeping on the move and of walking or running in a crouching position was stressed. Stopping to look around gave the enemy a stationary and easier target.

6. Weapon recognition. - Several men wished they had received training in recognizing the sound of German weapons.

II. USE OF 60 MM MORTAR SHELL AS RIFLE GRENADE

Equipment. - The ___th Infantry Regiment has found that the 60 mm mortar shell HE may be fired from the M-1 rifle by means of the grenade launcher M-7 and the fragmentation grenade adapted M-1. Six inches of wire per shell and a pair of pliers are the only additional materials needed.

2. Preparation. - The preparation is as follows:

a. Remove increments from mortar shell.

b. Bend outward the fingers of the grenade adapter designed to receive the fragmentation grenade handle.

c. Insert the fins of the mortar shell into the fingers of the grenade adapter. The shell normally is fired with the adapter down as far as it will go on the launcher.

d. Tie a piece of wire around the tips of the fingers of the grenade adapter, thus securing shell to the adapter.

3. Method. - The rifle normally is fired from the kneeling position with the butt resting on the ground. An angle of 45° will give a maximum range of 100 to 110 yards; 60° will give 85 yards range; 70° will give 60 yards range. Low angle fire can also be used and is often fired into thick hedgerow foliage to produce tree bursts.

Note: Caution grenadier to pull safety pin before firing.

4. Duds. - Due to the relatively low force exerted by the rifle grenade cartridge, the fuse will sometimes not arm and the shell will be a dud. This is especially true of low-angle fire which will produce about 25% duds.

5. Sight. - Accuracy has been improved by use of a sight improvised by the Division ordnance company. It is attached to the stacking swivel and establishes the angle of elevation. Direction is obtained by sighting over the barrel.

III. TRAINING OF RADIO OPERATORS

"Radio operator replacements are not trained in the use of the single call sign procedure used here. They are being trained in the use of the Army, and the combined Army and Navy procedure."--Communication Officer, 9th Division.

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~~XXX BRITISH CORPS~~

BATTLE EXPERIENCES

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NO. 9

28 JULY 1974

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OMAR N. BRADLEY
Lt. Gen., U.S.A.
Commanding

I. REPORTS FROM A BRITISH OBSERVER

(Note: The items below are extracted from a report by a British observer after a brief period with the XXX British Corps in action.)

1. Infantry benefits in hedgerow country. - a. The hedgerow terrain of Normandy has been found to give infantry certain special advantages. One of the greatest of these is its increased power against tanks. This is due to the ease with which the infantryman can conceal himself to come within effective range of the tanks with his short-range weapons, either by his own movement or by letting the tanks approach him.

b. It follows that the need of infantry support and protection for friendly tanks is increased.

2. Artillery fire for local security. - Normally, artillery positions will be protected by infantry. The artillery must realize, however, that they sometimes must provide their own local security. On one occasion a British artillery unit accomplished this by firing air bursts at a range of less than 500 yards to repel advancing hostile infantry. The fire was described as "extremely effective".

3. Control of anti-sniper activity. Talk about snipers - some of it exaggerated - is having some bad results. One of these is unjustified and indiscriminate fire at imaginary targets. Such fire, especially in the early morning, frequently causes sympathetic fire by other troops, with disturbing and sometimes dangerous results. Snipers should be countered by other snipers or by some other direct and definite plan - not by an indiscriminate burst of small arms fire.

(Note: This comment is felt to apply particularly to situations where the troops are stationary. It should not be interpreted to discourage the spraying of suspected sniper locations with automatic fire during an advance.)

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II. HEDGEROW FIGHTING

(Note: On 27-28 June 1944 experiments were conducted designed to increase the coordination between tanks and infantry in hedgerow fighting. Certain extracts from a U. S. divisional memo regarding these experiments are given below.)

1. Breaching of hedgerows. - It was found that tanks equipped with dozer blades were not always able to effect breaches. The following supplementary procedure was adopted:

a. Three demolition men were attached to each squad. These came from the support platoon. The demolition charges were prepared in advance and placed in sandbags for convenience.

b. Each charge consists of 29 half-pound blocks of TNT. To the center TNT block about five feet of primacord is attached by a clove hitch. The charge is then placed in the bag, leaving about four feet of the cord outside. Detonation is effected by a primer consisting of one 1/2-pound block of TNT with about two feet of primacord connected to it by a clove hitch, a No. 8 non-electric cap, eight inches of safety fuse, and a fuse lighter. (Note: FUSAG engineers consider it unnecessary to use the 1/2-pound block of TNT as described. They say the No. 8 cap (tetryl) is sufficient to insure detonation if the primacord is doubled or folded around it to insure maximum contact between cap and primacord.)

c. Two holes are dug about six feet apart and about one-third of the way down the embankment. These holes are two feet deep and set at a forty-five degree angle with the horizontal. The charges are placed in the holes. The ends of the primacord from the charges are jointed with a square knot. A primer is then placed on top of each charge and the spoil replaced and tamped.

d. This method causes a breach wide enough for any vehicles to drive through.

(Note: Reports from another division which has made similar tests state that two charges of fifty pounds each, placed eight feet apart, have been found necessary to insure creating a gap wide enough for tanks.)

III. EQUIPMENT.

1. Gloves. - Leather gloves are desirable to protect hands of men going through hedges from scratches and infections.

2. Suspenders. - Suspenders are needed for BAR ammunition belts and are being improvised from officers' web suspenders.

3. Spare parts. - One unit recommends that a small spare parts roll for the BAR and M-1 rifles be carried by the platoon guide or other designated man in the platoon to provide immediate replacements for parts damaged in battle.

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BATTLE EXPERIENCES

NO. 8

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OMAR N. BRADLEY
Lt. Gen., U.S.A.
Commanding

I. ~~INFANTRY-TANK-ENGINEER~~ COORDINATION IN HEDGROW FIGHTING. (THEORY)

The 2nd U. S. Infantry Division has prescribed, in substance, the following procedure for infantry-tank attacks in hedgerow country:

1. Use of Tank Weapons. Indiscriminate firing by tank weapons in an endeavor to blanket all hedgerows and corners to front and flanks, is prohibited. The limited ammunition carried by tanks and the safety of infantry elements advancing through adjacent fields require that close support tanks use only machine gun fire to the front until actual targets are located. This limitation in no way acts to prevent firing of all tank weapons at located enemy positions or targets of opportunity.

2. Special Tank Equipment. In addition to their normal equipment, tanks carry:

a. Nine sets of prepared demolition charges (caps in separate container) for use in breaching hedges.

b. One telephone instrument mounted on rear of tank and connected to inter-phone circuit in order to provide voice communication between infantry and tank commanders.

3. Team Formation. The leading tank of each close support tank column operates as a member of a team consisting of one rifle squad, one engineer demolition detachment of four men and one tank. The engineer demolition detachment accompanies the tank throughout the operation to assist its advance by breaching hedges with demolition charges and to provide a measure of local protection against AT grenades and rocket launchers. The infantry squad does not limit its rate of advance to that of the tank, but continues the attack when the tank is stopped or delayed for any reason.

4. Operation. Elements of the team move from one hedgerow to the next, usually in the following sequence: infantry scouts, covered by the fire of the other infantry and tanks; the infantry automatic weapons; the remainder of the

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infantry squad, accompanied by two engineers who select a firing position at the new hedge for the tank and signal it forward. The new tank position should be near, but not in, an existing gap, or at a planned gap which will afford observation and a field of fire and also facilitate the tank's further movement forward. The tank, accompanied by the two remaining engineers is the last element to move forward.

5. Light tanks. The light tank company of a medium tank battalion normally will be in reserve.

II. INFANTRY-TANK COORDINATION IN HEDGEROW FIGHTING. (PRACTICE)

On 11 July elements of the 2nd Division attacked and captured hill 192. The technique prescribed in the above paragraphs was used and credited with being responsible for the success of the attack with very few casualties. Four previous attacks in the same area had failed. Officers and enlisted men who took part in the attack brought out the following points:

1. Engineers accompanying the leading tank in each team carried mine detectors, and a lane was swept through each field.

2. Two riflemen per squad were assigned the job of tank protectors. They moved to the flank and rear of the leading tank as a defense against individual enemy in spider holes.

3. One half the support squad of each platoon operated in each assault squad zone, usually from one to three hedgerows behind the assault squad, for the purpose of cleaning out snipers. A battalion CO stated that no casualties were caused by snipers during this attack; whereas, in a previous advance made without use of this technique, snipers caused more than one half of the casualties.

4. The battalion commander had a wire line (W-130) to each company during the attack. Communication between infantry and tanks was maintained effectively through use of a EES telephone mounted on the rear of the tank. Extra telephones must be issued for this purpose. Either a longer cord, or plug connectors are needed to avoid breaking the hand set cord if the tank moves suddenly.

5. To facilitate control, each field was assigned a number and progress was reported by the serial number of the field in which the reported element was located. Thus the location of the front line was always known with certainty.

6. Each hedgerow must be a phase line - otherwise, a leading squad may be exposed to flanking fire.

7. One round from the tank cannon should be fired into each corner of the field to be covered in the next bound before any advance is attempted. Any suspected automatic weapons positions should also be shelled. Delay fuses should be used. (Both tank and infantry commanders were positive about this.)

8. Artillery support must be placed as called for because the rate of advance cannot be

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- 2 -

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BATTLE EXPERIENCES

No. 7

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OMER N. BRADLEY
Lt. Gen., USA
Commanding

I. INFANTRY-TANK-ARTILLERY ACTION.

1. General. A recent report of the VII Corps in France describes a successful action on 1 July 1944 involving excellent coordination of infantry, tanks and artillery. While the methods used conform to those prescribed in current training manuals, the facts are published to emphasize that conformance with the prescribed methods, which does not too frequently occur, brought success.

2. Preliminary Action. The tank battalion commander received the alert order for the attack shortly after 1300, 30 June. He immediately initiated route reconnaissance to the area of the impending attack. By about 1400 he and certain members of his staff were at the headquarters of the infantry battalion to confer with that battalion commander, his staff and company commanders.

3. Orders. Plans were coordinated and the orders issued at this time. The orders provided:

- a. H-hour was 0930, 1 July.
- b. One company of six tanks would support each of the two infantry assault companies and one would be in general support.
- c. Artillery preparation would precede the jump-off and when this preparation lifted the tank mortars would fire from positions rear of the LD at suspected AT positions.
- d. All tanks would be held about 800 yards in rear of the LD and the direct support tank units would move forward in time to cross the LD with the infantry at H-hour.
- e. The infantry battalion commander would be furnished a tank radio to permit continuous contact with the tank commander.

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4. Action.

a. The attack began on time. The tanks moved forward slowly on both sides of hedges paralleling the direction of advance, avoiding roads. As they advanced, they sprayed the hedges with machine gun fire. Tanks, tank mortars, and artillery shelled crossroads and other suspected AT gun locations, using WP and HE. Artillery forward observers accompanied the leading wave of tanks.

b. The infantry kept abreast of the tanks and protected them from hostile infantry armed with AT grenades or rifles. The infantry also mopped up and, in the absence of other targets, fired at the most likely enemy cover in sight. When AT guns were encountered, infantry mortar and automatic fire was brought to bear on them in addition to the shelling, and the infantry moved in to out-flank the positions.

c. The supporting tank company and the infantry reserve company advanced slowly behind the leading wave, mopping up bypassed resistance and prepared to meet counterattack.

5. Results. The attack gained 2,000 yards through determined resistance, well organized with open and concrete replacements. The objective was seized at 1500 and secured at 1600.

6. Highlights. These are some of the points credited by VII Corps with the success of the operation:

a. Timely consultation and careful coordination.

b. Ample time for the tanks to make daylight preparations. Three hours is considered essential for a tank company; 5 hours for a tank battalion.

c. Tanks were held well behind the LD until H-hour.

d. Quick mutual support was insured by continual liaison and close proximity of infantry and tank elements and artillery forward observers. Each did the job for which it was best suited.

II WOODS FIGHTING.

A British report tells of methods adopted by a group of about 30 paratroopers to clear a small patch of woods of hostile resistance. The group advanced in two waves, the leading wave armed with Stens, the second with grenades. The second wave (evidently at greatly reduced distance) would throw a volley of grenades over the heads of the leading wave into the thick undergrowth ahead. As the grenades exploded, the leading wave rushed forward about 10 yards, firing their Stens. This process was repeated until the wood was cleared. Nineteen Germans were killed and one captured.

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BATTLE EXPERIENCES

NO. 6

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20 JULY 1944.

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OMAR N. BRADLEY
Lt Gen, USA
Commanding

I EMPLOYMENT OF INFANTRY AND ARTILLERY WITH CLOSE AIR SUPPORT.

1. "Immediately upon cessation of the air bombardment, we found it best for medium artillery to shell the target, with light artillery closer to the troops covering their advance from the bomb line. The fire can then be lifted on call from forward observers, or on prearranged time, as the infantry closes in. Marking of targets with artillery smoke is good."--Regtl CO, 4th Div.

2. NOTE: A slightly different technique of artillery employment in a similar situation is indicated in the following report of the Commanding General, 9th Division:

"Best results were obtained when air bombardment took place when the assaulting troops were not more than 1000 yards from the target, and when they moved in rapidly as soon as the bombardment was over. Since even this limited advance required valuable time, it was found best to cover the target with light artillery fire until the attackers had advanced to a point not more than 400 yards from the target, at which time the heavy artillery concentration could be delivered, followed immediately by a rapid advance of the infantry. When such tactics were employed, success invariably followed. If, on the other hand, air bombardment took place at too great a distance from the attacking troops, it was found habitually that the defenders had an opportunity to recover and to man their positions before the attackers could arrive. In the final assault, tank destroyers and 57 mm guns, if they could be spared from their primary role, were found most useful in firing at the apertures of strong points to cover the advance of demolition parties."

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3. "Difficulties of air support were mostly due to lack of marking the target. Use of smoke to mark friendly front lines usually brought artillery fire from the enemy; panels were better. The ideal distance for air support is 600 yards in front of the infantry. Dive bombing is the most accurate."

--Regtl CO, 4th Div.

4. "The plan must be simple. Coordination is achieved by keying the infantry attack, with its plan of supporting fires, to the hour set for the dive bombing. Prearranging such a scheme requires at least four hours to assure that front line elements are given full information of the plans. In the long run, it will save a great deal of time if an extra hour or two is used for coordination."--CG, 79th Div.

II MISCELLANEOUS TACTICAL OBSERVATIONS.

1. "There are no such things as secure flanks unless a perimeter defense is established. Battalions always set up perimeter defenses to guard against enemy patrols or small units that have been by-passed."--Inf Regtl CO, 4th Div.

2. "Mortar crews must be taught to always displace laterally after firing as they always draw enemy fire in return."--Inf Regtl CO, 4th Div.

3. "Instances have been reported where infantry was not ready to move after an expensive artillery preparation. Some infantry units apparently do not realize that supporting fires do not destroy the enemy, but merely force him underground for a brief period."--CG, 79th Div.

4. "When digging in at night, areas near large trees should be avoided as the enemy fires into these trees with HE shells to obtain air bursts."--Inf Bn CO, 9th Div.

5. "Medical personnel should have more infantry training, especially in such subjects as cover and concealment, map and compass work, and other subjects that will enable such personnel to protect themselves from enemy fire."--Inf Regtl Sur, 9th Div.

6. "As soon as positions are taken, especially high ground, pill boxes, strong points, the enemy opens fire on these positions--on which he has previously zeroed in--hence the necessity for continually pushing on."--Hv Wpns Plat Leader, 79th Div.

7. "Snipers in buildings generally fire rifles from high points, and machine pistols from low points."--Hv Wpns Plat Leader, 79th Div.

8. "Send only two or three men followed by a BAR team to locate enemy positions. The rest of the squad should remain under cover and protect their approach. Heavy machine guns are used to spray taller trees likely to contain snipers."--R Plat Leader, 83rd Div.

9. "I recommend two BAR teams and an additional heavy gun to be used in hedgerow fighting."--R Plat Leader, 79th Div.

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BATTLE EXPERIENCES

NO. 5

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OMAR N. BRADLEY
Lt Gen, USA
Commanding

NOTE: The items below have been reported by our troops in Italy. The report from which these extracts were made did not identify sources.

I SCOUTING AND PATROLLING.

1. General. It was SOP in our division that all combat patrols be led by an officer. Reconnaissance patrols were of three or four men only. They were often used to locate the enemy, return, and lead a combat patrol to the location. Combat patrols consisted of 10 to 30 men. Each battalion had to send out at least one combat patrol each night.

2. Night Patrolling. a. Night patrols should fire their rifles only when their target is clearly defined and their sights are visible, otherwise fire is inaccurate. Hand grenades are better weapons at night. Rifle fire always discloses the patrol's position.

b. Only one mission should be given to a night patrol. Orders should reach all members in time to allow complete daylight preparation, including study of terrain.

c. Inexperienced men should not be sent on regular patrols, as they jeopardize the entire patrol. Training should be accomplished by sending new patrols under an experienced leader two or three hundred yards beyond our lines, and gradually increasing the difficulty of their mission. It is important that a company commander know the capabilities of the personnel he intends to use on patrol missions.

II TRAINING.

1. One infantry battalion commander said small disciplinary matters caused the most difficulty in operations. He cited these instances: Radio operators having no extra batteries, NCO's going on patrol without wire cutters, soldiers in difficult terrain throwing away hand grenades and ammunition and later running out of ammunition. He believes NCO's are not given enough responsibility during training.

III INFANTRY-ARTILLERY COOPERATION.

1. Artillery observers must be able to get direct hits to knock out

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prepared defenses. In several instances one artillery piece, precision adjusted on a defense emplacement, has been effective where area fire of a battalion has failed.

2. Units receiving shell-fire must learn to report it promptly, giving data as to number of rounds, caliber, time, approximate azimuth to enemy guns as indicated by shell furrows, etc. Shell fragments, especially those containing portions of rotating bands, are particularly desired. This will aid in bringing in quick counter-battery fire to stop the shelling.

IV GERMAN HILL DEFENSE AND A CURE.

1. The enemy will occupy the forward slope of a hill with skeleton forces armed with automatic weapons. The majority of the defending troops will be on the reverse slope. As the attackers approach, these occupy prepared positions on the forward slope.

2. To counter these methods our artillery must fire on the forward positions and the undefiladed area just in rear of them until the last possible moment to prevent reinforcements moving over the crest.

V COMMUNICATIONS.

1. It was reported that one battalion in advancing had each company lay two lines forward. If one line remained intact when the objective was reached, the battalion commander considered himself lucky.

2. A zero board was found to be invaluable in larger units. It was located up to 500 yards from the main switchboard and all circuit testing was done from there.

3. When possible keep radios in a defiladed position. The Germans have accurate interceptors and will bring fire on a radio position. Relay messages by use of power phone or messenger. Do not place radios close to troops. If sending messages by radio from a car, run the car up and down the road and send from different locations.

VI ENGINEER OPERATIONS.

Bulldozer operators must be trained to construct by-passes at night. The operator must be able to feel the working of the blade without seeing it.

VII ORGANIZATION OF DEFENSE.

1. Junior officers and NCO's should try to assign the location of each fox hole. Otherwise they will have no tactical value but will merely protect the individual.

2. Men should be placed in pairs with two yards between individuals. Pairs should be so emplaced that front, flanks and rear are defended. All individuals must know this principle and must know where the other members of the squad are. That knowledge will increase the confidence in the unit's ability to defend.

VIII LOCATING GERMAN MG'S. BY THEIR TRACERS.

Look about 30 feet beyond where the tracers begin to burn in order to locate the weapon.

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BATTLE EXPERIENCES

NO. 4

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GENERAL N. BRADLEY
Gen. USA
Commanding

I. TIME OF ATTACK.

The following conclusions of the Commanding General, 4th Infantry Division, are the result of his experiences during the drive on Cherbourg:

1. "Troops engaged in a sustained attack over several days or weeks should halt at least an hour before dark on favorable ground in order to permit reorganization and establishment of security and anticounterattack measures before dark. Local counterattacks usually strike about an hour before dark and unless the above measures have been taken, the attacking troops are caught in their most disadvantageous situation of the day if they are still pressing the attack. Of course, there are always exceptions, when the attack should be pressed home regardless of disorganization or possible counterattack.

2. "The attack should be resumed not earlier than two hours after daylight. Although the advance may have been halted an hour before dark, there is not time for proper reconnaissance, reorganization for renewing the attack, proper coordination or redistribution of supporting fires, and other vital coordination, all of which are necessary to insure that the morning jump-off be thoroughly coordinated and effective. At least two hours are required in the morning for these purposes.

3. "It has been my experience, repeatedly, that when the above procedure was followed, I gained more ground, more rapidly in the long run than I would have if I attacked until dark and jumped off again at daylight. The opinion is unanimously and strongly shared by all my combat team and infantry battalion commanders, based on their recent successful experiences."

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II. INTELLIGENT FIRE DISCIPLINE.

(Note: Be smart about your fire--and don't forget your fire discipline. Twelve British and an unknown number of German casualties, described below, could tell you how they learned that the hard way--if they could tell you. Here are the stories from a British report.)

1. A counterattacking British parachute platoon near Le Plein suffered 12 casualties and had to withdraw. The battalion commander blamed the result partly on failure of a detachment to grenade an embankment known to be occupied by the enemy before trying to rush it.

2. A unit of the same parachute battalion later watched half a company of Germans leave some woods and begin to dig in. Fire was held until the entire group was busy digging. Then machine gun fire wiped out practically the entire half-company.

3. Still later a hostile party, improperly secured, advanced on a platoon of the same battalion, well concealed in a ditch. Fire was held until the enemy was only 10 yards away. Only a few of the enemy escaped. Some of those killed actually fell into the ditch occupied by the British platoon.

III HOUSE FIGHTING.

The following is from a British report:

When searching a house, the top rooms must be cleared before or immediately after entry. A battalion recently sent out a fighting patrol to clear a house reported to be occupied by a six-man enemy listening patrol. They were covered by a LMG and a PIAT. They found the bottom rooms empty and went into a courtyard at the back of the house. The officer and one man were killed by grenades dropped from above.

IV INFANTRY-TANK COOPERATION.

On 17 June 1944 a British infantry battalion, reinforced by tanks and other elements attacked a French town. The terrain was close. The advance was made with tanks in column along the flanks of the infantry units, protecting them. No infantry protected the flanks of the tanks. The attack succeeded, but the British considered the loss of seven tanks unnecessarily heavy. A British comment stated in substance: "In this type of country the infantry must beat the blind country to prevent the tanks being shot up at close range."

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HQ FUSEAG APO 655

BATTLE EXPERIENCES

No. 3

13 July 44

"Battle Experiences" are published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lesson may be determined.

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MAJ GEN N. BRADLEY
Gen, USA
Commanding

I. INFANTRY TANK HEDGEROW TACTICS.

The following material is extracted from Memorandum No. 1, "Armored Notes", published 19 June 1944 by Hq, FUSA:

1. Terrain in Normandy is low, rolling, and in some places flat and marshy. The usable tank terrain is cut by many hedgerows and occasional woods. Hedgerows grow on earth embankments with ditches alongside. Often the hedge is interspersed with stout trees. Roads are narrow, sunken and numerous. Observation is difficult. There are frequent towns and groups of buildings. The German defends the hedgerows and towns. He uses small arms, machine guns, mortars, bazookas, antitank grenades, bombs, mines, obstacles, and a few antitank guns to cover main routes.
2. A successful combination adopted by our troops has been to put a company of M-4 tanks with an infantry battalion. Infantry battalion and company commanders are provided with SCR 609 radios. These are fixed on infantry pack boards and provide effective communication between infantry and tank commanders.
3. Some of the tanks move along the hedgerows running in the direction of attack, using the bow gun and coaxial machine gun to flush out the Germans who are dug in. These tanks are followed closely (sometimes ridden) by the infantry, which mop up.
4. Other tanks, supported by infantry heavy weapons, cover the hedgerows crossing the direction of advance. As the tanks reach each cross row, the infantry mops up and occupies the hedge and protects the further advance of the tanks from attack by hostile bazooka and grenade men.

- 1 -
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BATTLE EXPERIENCES NO. 3, HQ FUSAG, (continued)

5. Tank dozers are used to open passages in the hedges for the tanks. Some tanks must watch the other hedges while this passage is being made, and infantry must protect dozers and tanks from hostile foot elements.
6. Crossroads and road junctions are shelled by artillery or mortars and tank fire to eliminate antitank guns, before tanks advance toward them.
7. Some of the infantry must be constantly alert to shoot snipers who hide in trees and buildings. Tank cannon fire against buildings usually clears them rapidly.
8. The rate of advance is slow. Infantry and tanks must stay close together to permit mutual support.
9. Blitz action by tanks has proved generally unsuccessful. If tanks advance too fast, they have to return to mop up and relieve the pressure on infantry pinned down by pockets of resistance overlooked in a hasty advance.

II BATTLE FIELD RECOVERY OF TANKS.

The ___ Tank Battalion used the following procedure to effectively recover a tank under fire. The tank was 200 yards from the German line.

"Our infantry platoon concealed itself in the hedgerow facing the German line and covering the disabled tank. An 81mm mortar, with an officer in charge, was emplaced on the right flank. The mortar silenced the machine gun. As the recovery vehicle reached the tank, the Germans opened fire and started infiltrating forward. Our infantry took them under heavy fire and the mortar laid down a concentration on them. The recovery vehicle hooked on to the tank and dragged it to safety without further difficulty."

III USE OF WP BY TANKS

Lt Col Nichols, ___ Tank Battalion, stated, "We have had excellent results with WP fired from the 75mm tank gun. It is very effective in the attack of villages, as it sets fire to houses and drives the Germans out more quickly than HE. Its use against enemy armor is giving excellent results, tending to blind the hostile tank crew and allowing our tanks to maneuver."

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BATTLE EXPERIENCES

NO. 2

13 JULY 1944.

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OMAR N. BRADLEY
Lt Gen, USA
Commanding

I. THE 4.2 MORTAR AND ITS USE WITH INFANTRY.

Here are some facts and suggestions regarding the 4.2 mortar, extracted from a report by the commander of a CW Bn with the VII Corps.

1. The weapon and its ammunition.
 - a. The mortar is most effective at ranges of 1500-3000 yards. Its minimum range is 800 and maximum 3500-4000, but firing at extreme range damages the piece
 - b. The mortar fires both HE and WP ammunition. HE is highly effective against personnel, light emplacements and for harassing and interdiction. WP may be used to screen or for casualty effect. It has a tremendous psychological effect.
 - c. Ammunition supply is always difficult. Harassing and interdiction fire should, therefore, be well spaced. Heavy concentrations should be reserved for unusual opportunities, preferably when fire can be observed.
 - d. The mortar has a conspicuous muzzle flash and night firing should be the exception. When it must be done, alternate positions should be used and the mortars should be moved upon completing the mission.

2. Organization.
 - a. Mortar companies have been reorganized into two companies of four mortars each.
(Note: No other corps has reported a similar reorganization). Attachment of one company to a battalion permits the support of each assault infantry company by one mortar platoon.
 - b. A mortar company cannot effectively support a front wider than 1500 yards.

3. Emplacement and Displacement.
 - a. Mortars should not be closer to the supporting troops than their minimum range of 800 yards. They should displace forward when the supported troops are about 2500 yards distant.
 - b. The infantry commander should designate the general position areas for the mortars, but the mortar commander should select the specific positions.

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c. The personnel of mortar units is insufficient to permit them to provide their own local security. They should be ordered only into positions adequately protected by other troops.

d. Mortar units require time for daylight reconnaissance. This must be considered when missions are assigned.

4. Observation and Control of Fire.

a. Each mortar platoon has a forward observer party which accompanies the supported unit. Control is normally by SCR 300 radio. The observer party must move frequently to obtain the best obtainable OP. It must, therefore, guard against losing its mobility by becoming involved in a fire fight.

b. Coordination with FA observers has often proved profitable, and on occasion the artillery liaison plane has adjusted mortar fire when this did not interfere with its artillery mission.

5. Supply.

Mortar companies are responsible for their own Class I, III, and V Supply. They frequently operate under difficult conditions which cause them to require assistance and this should be given to the fullest practicable extent by divisional and regimental supply agencies.

6. Miscellaneous.

a. Mortar units are in great demand and their equipment requires considerable maintenance. They should, therefore, be relieved from attachment and returned to battalion control as soon as the situation permits.

b. Personnel of mortar units should not be diverted from their primary duties by commanders of units to which they are attached.

II USE OF TD'S, SP ARTILLERY, AND TANKS AS ASSAULT GUNS.

1. "The tank destroyers should remain in rear of the assault battalion area. When a suitable target is found, the platoon leader or gun commander should reconnoiter for gun positions and routes thereto before bringing the gun forward. When the target is reduced, the TD should withdraw behind the infantry until a new target is found. Under no circumstances should the guns advance until the infantry has located targets. A very effective weapon when thus properly employed."--CG, 9th Infantry Division.

2. "Tank destroyers and SP artillery as assault guns were only good when you could observe the fortification at 800 to 1000 yards. Tanks with closed turrets were almost necessary, as snipers and hand grenade men would knock out any weapon with an open turret. Tanks with infantry could push up to within 50 to 100 yards of the pill box and fire point blank. Most fortifications hold their fire until you get within 200 yards, and they are hard to locate until you push in close. Then your infantry gets pinned down by their automatic weapons unless you have tanks."--Bn Commander, 4th Division.

3. "TD's or SP artillery were not used as assault guns due to unfavorable terrain. Tanks with 75mm guns were used effectively as assault guns. Sometimes, however, tanks were used in too large numbers. Four tanks per battalion were usually ample, due to the unfavorable terrain."--CO, 1st Inf, 4th Division.

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HQ FUSAG APO 355

BATTLE EXPERIENCES

NO. 1

12 JULY 1944

"Battle Experiences" will be published regularly by this headquarters to enable units in training to profit from the latest combat experiences of our troops now fighting the Germans in France. Although the experiences of certain units at a particular location are not necessarily applicable to all units in all situations, the items published will be those based on practical experience and are recommended for careful consideration by units which may encounter similar problems. Reports of corroborative or contrary experiences are particularly desired in order that the validity of the indicated battle lessons may be determined.

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GMAR N. BRADLEY
Lt Gen, USA
Commanding

I HEDGEROW TACTICS.

1. General. German methods of defense in the Normandy hedgerow country and some of our methods of attack which have been successful are discussed below.

2. German Methods:

a. "The enemy digs good firing positions in the hedgerows parallel and perpendicular to the front. Positions contain machine guns and machine pistols, and are supported by mortar fire in most cases. Often additional support is provided by artillery. The stronger hedgerow positions are usually protected by small groups of machine guns, which are in turn closely protected by numerous snipers in trees, buildings, and on the ground."--CO, _____ Infantry, 4th Division.

b. "In hedgerow terrain, we find that the enemy often employs very few troops with a large number of automatic weapons. Along the hedgerows he will dig fire-trenches in which one man will move to several points, firing successive bursts in order to simulate a large number of men. Four or five machine guns employed in this fashion can pin down a lot of men."--CO, 3rd Bn, _____ Infantry, 4th Division.

c. "Scouts should be especially watchful of corners, as the enemy usually has positions there to command two or more compartments. Fire from mortars, grenades and automatic weapons should be directed against the hedges, and especially the hedge corners, whether or not the enemy is definitely located. Success depends upon maximum initiative by individuals and small groups."--Report by Commanding General, 9th Division.

3. Methods of Attack

a. The most effective method of attack is by the combined action of tanks and infantry, some of the tanks equipped with dozer blades. This will be discussed in detail in a later issue.

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b. Infantry regimental commanders of the 4th Division have the following to say:

(1) "It is best to build a base of fire with automatic rifles or light machine guns. Heavy machine guns are not as much help since they can't be set up as rapidly and cannot move as fast as the riflemen. One solution was to use the light machine gun tripod with the heavy machine gun."

(2) "In this terrain the scouts often operated too close--they should try to keep one hedgerow ahead of the rest of the squad. Normal rifle company formation was a box formation with two assault platoons in the lead followed by the support platoon and the weapons platoon. 60mm mortars are always effective and should be kept close behind the assault elements to bring fire against automatic weapons; usually these mortars fired on machine guns, determining position only by sound. Because of the numerous hedgerows, companies and battalions attacked on a much narrower front than normal. Frontage should be assigned according to definite fields and hedgerows instead of by yardage."

(3) "Direction is best maintained by giving a unit a road to guide on. Roads and houses should be included in a battalion zone and not used as a boundary, since roads were always used for counterattacks and houses are always suitable places for snipers."

(4) "Heavy automatic fire, especially of BAR's, is most useful in flushing them out of hedgerows, but all commanders agree that there is no substitute for tanks for this type of fighting since tanks can flush the hedgerows and also deliver point-blank artillery fire. When tanks were employed, it was often only a few minutes until the enemy is driven out. Half-tracks with .30 caliber and .50 caliber machine guns can sometimes be employed to augment other fires, but are very vulnerable to antitank fire. Tanks and half-tracks must not become roadbound. Infantry must be employed in depth with the leading elements moving right behind the tanks. The enemy will hide underground as the tanks pass, and the leading infantry must pass right through the enemy. Closely following units must deal with the enemy as he attempts to come up and open fire."

c. Rifle and heavy weapons company commanders of the 9th Division make the following comments:

(1) "Distances and intervals between rifle squads and platoons should be small. Squads and platoons advance along hedges--never in the open. Skirmish lines and wedge formations can be used only when attacking fortified positions. Heavy machine guns are usually attached to rifle companies. Riflemen protecting machine guns should be amply supplied with hand grenades."

(2) "Proper distribution of fire over their sector of the target should be emphasized in training riflemen."

(3) "Riflemen must leave first aid assistance to the medics. Four replacements were killed and eight wounded in this company through attempting to render first aid to a fallen comrade."

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II. IMPREGNATED CLOTHING.

1. Warm. "The impregnated fatigue clothes proved to be a great thing for our men in the front line. The impregnation makes the clothes warmer and somewhat waterproof. The cold nights and the heavy morning dew here cause much discomfort, and the men have found that the impregnated suits help a great deal toward keeping them warm."--Regtl S-3, 4th Division.

2. Tough. "Impregnated clothing has turned out to be a blessing to those men who first wanted to throw it away. It is not only warmer and dryer than ordinary clothing but it is also tough and resists the thorny hedges, giving better protection to the wearer. Also, it seems to stand up well under rough usage."--Chemical Warfare Officer.

III. BOOBY TRAPS.

More booby traps are being encountered now that the Germans have had more time to prepare them. Charges concealed in Mauser rifles and Luger pistols have sent some of our men to the hospital. Village pumps have been reported as favorite locations for the traps.

IV. RIFLE AND MACHINE GUN FIRE DISTRIBUTION.

Recent reports from other theaters agree with comments of company commander in France that riflemen must be encouraged during an advance to keep up steady fire on a suspected target instead of waiting for the appearance of a definite target. Well distributed fire will keep the Germans down, but too often all men fire at a single spot when a target does appear, instead of keeping distributed fire over all the suspected target area. Fire distribution is important.

V. GERMAN TRICKS.

1. The Germans have employed the following ruse: One of a defending group would rise with arms up-raised as if to surrender. If this action put our troops off guard, or if anyone exposed himself, the upright man would dive sideways and his companions would spray our troops with automatic fire.

2. German strongpoints are sometimes re-occupied by enemy who have hidden in hedges or otherwise avoided detection as the front line infantry passed through the enemy position. Disruption is caused unless mop-up parties follow closely and prevent resumption of activity in the strong points.

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