NUMBER 4

Instructors Reading this Document

COMBAT LESSONS

UNCLASSIFIED

[redacted]

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NUMBER 4

Rank and file in combat: What they're doing How they do it

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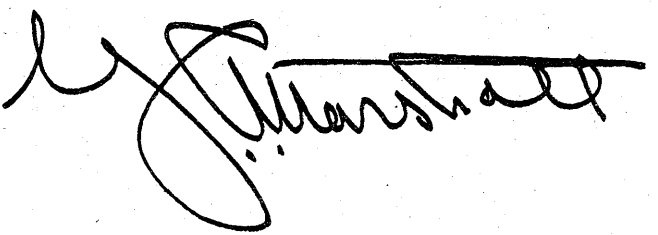
INTRODUCTION

The purpose of "Combat Lessons" is to give to our officers and enlisted men the benefit of the battle experiences of others. To be of maximum benefit these lessons must be disseminated *without delay*. They do not necessarily represent the carefully considered views of the War Department; they do, however, reflect the actual experiences of combat and, therefore, merit careful reading. For this reason, also, no single issue can cover many of the phases of combat; lessons will be drawn from the reports as they are received from the theaters of operation and quickly disseminated so that others may apply them. The suggestions which are made or implied are not intended to change the tactical doctrine by which our Army has been trained but rather to elaborate thereon. Much of the subject matter has been covered in training literature, but the comments show that shortcomings continue to manifest themselves on the battlefield.

The paramount combat lesson learned from every operation is the vital importance of *leadership*. Our equipment, our supply, and, above all, our men, are splendid. Aggressive and determined leadership is the priceless factor which inspires a command and upon which all success in battle depends. It is responsible for success or failure.



Chief of Staff.

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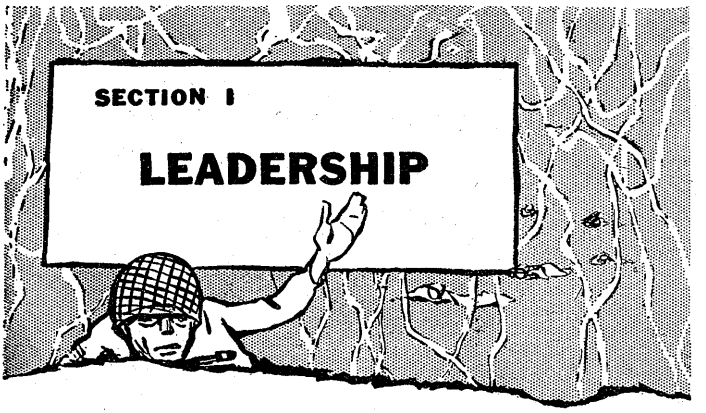
Contributions from readers are invited either in the form of suitable material or suggestions for future issues. Correspondence should be addressed to the Combat Analysis Section, Operations Division, War Department, Washington 25, D. C. Requests for extra copies should be made through regular distribution channels.



LEADERSHIP OF SMALL UNITS

In the mass of reports being received from the active theaters and in the numerous interviews with officers and men returning from combat no single subject is so much emphasized as the subject of *leadership*. It is the leadership of small units—leadership by lieutenants, by sergeants, and by private soldiers—which receives the most comment.

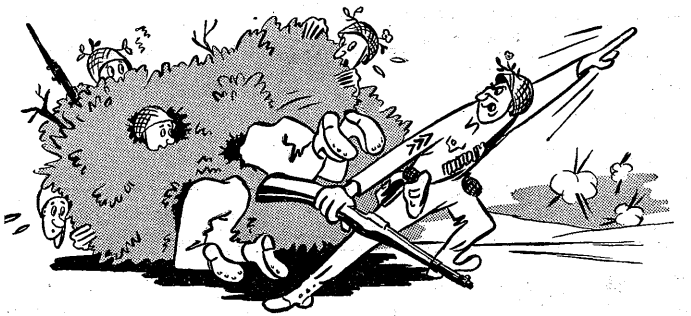
Typical Comments Below are given some typical comments gleaned from recent reports and interviews:

"Leaders must be able to adapt themselves quickly to unexpected and unfamiliar situations . . . they must be able to take the men and material available and do the job."

"Units under fire for the first time require a maximum of personal leadership."

"Wounded men told me several times: 'We have no kick about our leaders—they were up front.' "

"[In landing operations] men always operate in small



"Leadership in Unexpected and Unfamiliar Situations."

groups . . . [often] under confused conditions; . . . such situations call for the highest degree of individual resourcefulness, self-discipline, and leadership."

"Any company is obviously dependent on competent noncommissioned leaders . . ."

So go the reports. It is obvious that in the minds of men in battle, that is, in the minds of the men who know—leadership is the most important factor of all.

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A Fighting Soldier *Fifth Army,* ITALY: *Sergeant James M. Logan,* who at the time was an infantry private, waded ashore with the first wave of the assault echelon at SALERNO on 9 September, and put to immediate use the training he had received during the many months which had preceded this event. His courageous actions have won him the Congressional Medal of Honor.

Round One After his company had moved about one-half mile inland and occupied positions along the forward bank of an irrigation canal the enemy initiated a counter-attack from positions along a stone wall running parallel to the canal and about 200 yards further inland. Sergeant Logan killed the first three Germans emerging from a gap in the wall. In so doing he exposed himself to enemy machine gun fire which sprayed the ground in his vicinity and splattered him with dirt and rock chips thrown up by the impact of the bullets.

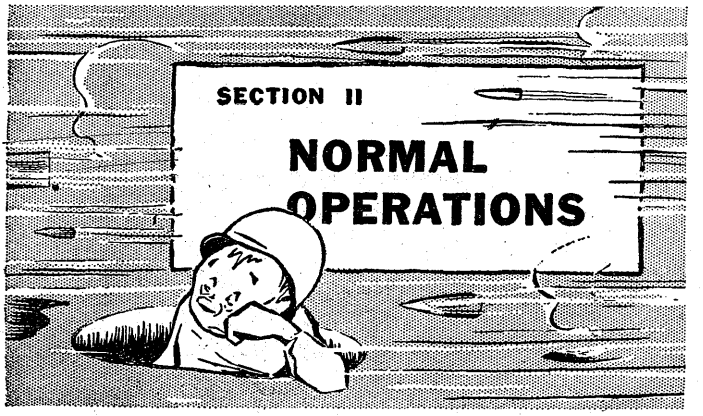
Round Two Then he dashed across the 200 yards space, under a withering stream of fire. Upon reaching the wall he crawled along its base until opposite the machine gun position. Jumping up, he shot the two gunners and, seizing the gun, turned it on other enemy troops and forced them to abandon the position. Running out of machine gun ammunition, the sergeant smashed the gun on the rocks and abandoned it. He then captured a German officer and private who were trying to escape.

Round Three Later the same morning the intrepid sergeant went after a sniper hidden in a house about 150 yards from his company's position. Running another gauntlet of fire he shot the lock off the door of the house, kicked the door in and shot the sniper, who had just reached the bottom of the stairs in an attempt to escape.

A BATTLE is the aggregate of a large number of simultaneous individual combat activities.

U. S. SIGNAL CORPS

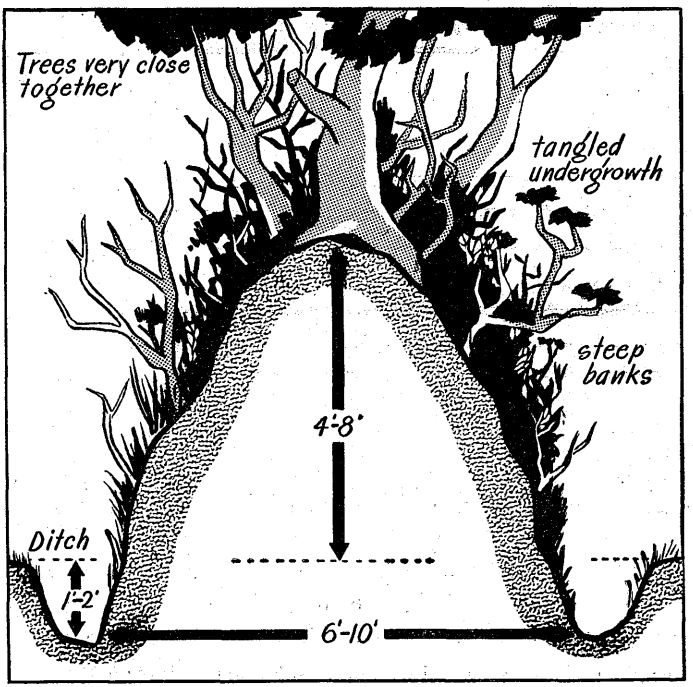
Mopping up.



FIGHTING IN NORMANDY

Bucking the Hedgerows The terrain in the area selected for the initial penetration of French soil was generally level or gently sloping. However, it was broken up into a "crazy quilt" pattern of small fields separated by "hedgerows." These consisted of an earthen mound or wall 8 to 10 feet in width and 4 to 6 feet in height, covered with a scrub undergrowth.

Along the top of this wall grew rows of trees. Forming an important part of the obstacle thus created was the ditch which ran along one or both sides of the mound. The roads, narrow and winding, ran between these hedgerows, and offered the defenders many advantageous positions for ambuscades or surprise attacks on advancing foot-troops and armor. Observation was normally limited from one hedgerow to the next, although an occasional structure, such as the church tower in a village would widen the horizon.



Cross Section of Typical Normandy Hedgerow.

These peculiarities of terrain led to the development of special operational techniques in the application of tactical principles. Quoted below are some experience reports, from the battlefield, of hedgerow fighting.

The German Defense Ever since August 1940 the Germans have been studying and organizing the beach defenses of the French coast. They are past masters of the art of utilizing the terrain to advantage.

As set forth in a letter from the *Commanding General, U. S. XIX Corps:* "The Germans have been thorough in their defense. Their weapons are normally sited to provide long fields of fire. The 88-mm dual purpose gun, the 'Tiger' tank with its 88-mm gun, or the 'Panther' tank which has a 75-mm high-velocity gun, normally takes you under fire at ranges up to 2,000 yards. All weapons are well dug in. The mobility of their tanks is often sacrificed in order to secure the protection of a ditch or the walls of a building.

Sniper Trouble "The German soldiers had been given orders to stay in their positions and, unless you footed them out, they would stay, even though your attack had passed by or over them. Some of their snipers stayed hidden for 2 to 5 days after a position had been taken and then 'popped up' suddenly with a riflle or AT grenade launcher to take the shot for which they had been waiting.

"We found fire crackers with slow burning fuse left by snipers and AT gun crews in their old positions when they moved. These exploded at irregular intervals, giving the impression that the position was still occupied by enemy forces.

"High losses among tank commanders have been caused by German snipers. Keep buttoned up, as the German rifleman concentrates on such profitable targets. This is especially true in villages. After an action the turret of the commander's tank is usually well marked with rifle bullets.

Enemy in Ambush "On several occasions the Germans have allowed small patrols of ours to enter villages and wander around unmolested, but when stronger forces were sent forward to occupy the village they would encounter strong resistance. The Germans will permit a patrol to

gather erroneous information in order to ambush the follow-up troops acting on the patrols' false report."

German Weapons One infantry regimental commander has given a good detailed description of the defensive organization: "We found that the enemy employed very few troops with an extremely large number of automatic weapons. All personnel and automatic weapons were well dug in along the hedgerows in excellent firing positions. In most cases the approaches to these positions were covered by mortar fire. Also additional fire support was provided by artillery field pieces of 75-mm, 88-mm, and 240-mm caliber firing both time and percussion fire. Numerous snipers located in trees, houses, and towers were used.

Our Attack "The most successful method of dealing with these defensive positions was the closely coordinated attack of infantry and tanks, with artillery and 4.2-inch chemical mortars ready to assist where needed. The use of these supporting weapons was severely handicapped by the limited observation."

★

TANK-INFANTRY COMBINE

Teamwork the Key The great emphasis placed on the importance of tank-infantry teamwork is reflected in the many reports and training instructions that have been issued by combat commanders. For example the *Commanding General, VII Corps* published the following narrative of such an action in a training memorandum: "The capture of the high ground north of the MONTEBOURG-QUINEVILLE ROAD was accomplished by the 3d Battalion,

22d Infantry, closely supported by the 70th Tank Battalion, which was operating at a reduced strength of 18 tanks.

"Upon receiving the order for the attack at 1830, 13 June, the tank battalion commander immediately initiated a route reconnaissance to a suitable assembly area and arranged for a conference between his key officers and those of the infantry battalion.

Elements of the Plan "At this conference the following essential elements to effect coordination were agreed upon:

"1. H-hour would be at 0930.

"2. An artillery preparation would be fired from H–15 minutes to H-hour.

"3. When the artillery fire lifted, the tank mortar platoon, from positions immediately in rear of the Line of Departure, would fire on all known and suspected AT gun locations.

"4. Each of the two infantry assault companies would be directly supported by six tanks. The remaining six tanks would be in general support.

"5. All tanks would be held 800 yards in rear of the LD, moving forward in time to cross the line with the infantry at H-hour.

The Advance "The attack jumped off on time, the tanks advancing very slowly, spraying the hedgerows with machine-gun fire. The infantry advanced abreast of the tanks, mopping up as they proceeded. The supporting tank company remained about 500 to 600 yards in rear of the assault companies and covered their forward movement by overhead fire.

"The objective was seized at 1500 after an advance of over 2,000 yards against a well-organized resistance which utilized both open and concrete emplacements."

Corp Commander's Comment: In discussing this attack the Corps Commander made the following comments on infantry-tank cooperation:

"Tank companies require at least 3 hours and tank battalions a minimum of 5 hours of daylight in which to prepare for an attack.

"Tank assembly positions should be selected well in rear of the Line of Departure.

"Tank officers and infantry commanders should discuss and arrange all details of their cooperative effort by personal conference at some prearranged location. If possible this location should allow visual reconnaissance of the zone of activity.

"The tanks should not be advanced to the LD until the time of the attack.

"Artillery observers should be with the leading wave of tanks.

"Radio communication between the infantry CP and the tanks should be maintained.

"The speed of the tanks should conform to the infantry rate of advance. Gaps should not be allowed to develop between the two elements.

"The infantry can assist the tanks in passing through hedgerows by protecting them from hostile AT personnel using AT grenades or rockets.

"In the absence of definite targets forward infantry elements should fire at the nearest cover to the front and flanks. Rifle fire directed along the lower structures of friendly tanks will discourage enemy use of magnetic mines.

"Enemy AT guns firing at our tanks should be immediately smothered by our mortar and automatic-weapons fire, thus forcing the gun crews to take cover and permitting the tanks to outflank and destroy the enemy guns.

"Tanks should be employed on both sides of hedges when advancing along a hedgerow.

"If at all possible tanks should avoid roads during the attack.

"The tanks in general support should mop up any positions which are bypassed by the first wave of tanks.

"Once the final objective is reached the tanks should immediately withdraw to a predetermined rally point. If they remain with the infantry they will attract heavy enemy artillery fire which will seriously interfere with the infantry reorganization."

★

Limited Objectives A letter from *Headquarters, XIX Corps,* stresses the importance of the limited objective in controlling the combined infantry-tank action: "The major objective given in corps, division, and even regimental plans and orders is reached by a series of limited-objective attacks by infantry and tank platoons and companies. Thus the designation of the major objective should be considered as indicating an axis of advance and an ultimate goal for the smaller assault units. Here in NORMANDY the normal objective of each attack is the next hedgerow where there will be a pause for reorganization and for planning the next advance. Keep the distance to be traversed short so that the tanks will not outstrip the infantry, thus losing the close support that is mutually necessary to make the fight effective. It is very desirable whenever conditions permit that each limited objective be visible from the line of departure.

Personal Reconnaissance "The closely coordinated team play that is called for in hedgerow fighting requires a maximum of personal reconnaissance. The key to success

in each fight from hedgerow to hedgerow is personal reconnaissance by the commanders concerned."

★

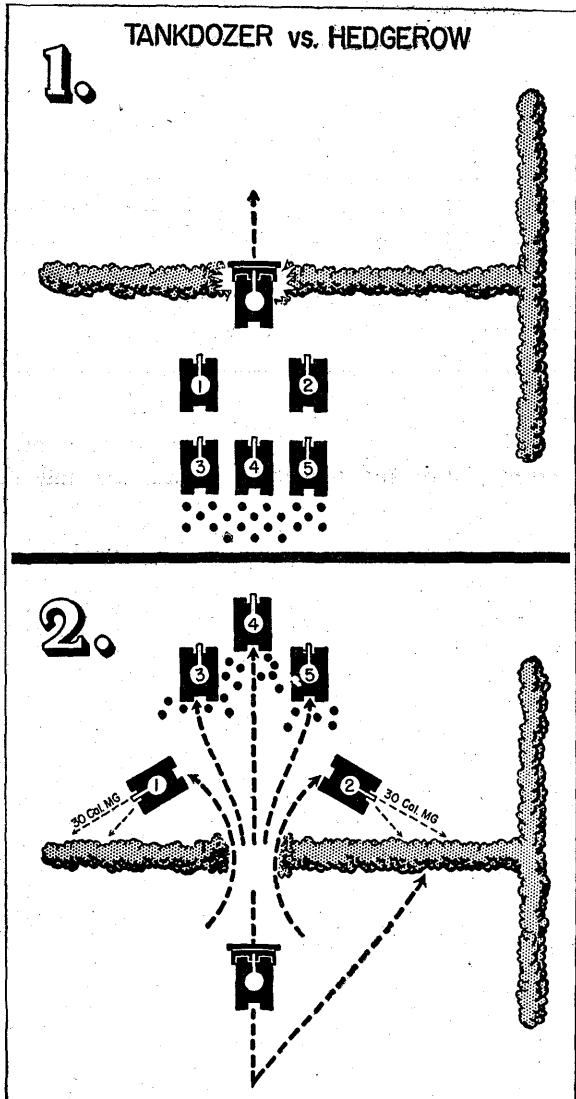
Bulldozer Tanks *An infantry battalion commander wrote from* NORMANDY: "The light and medium tank equipped with a bulldozer blade was successfully used to plow through the hedgerows, cutting openings through which the other tanks would file to fan out and cover the next field. The steep banks which line the roads would be cut down at predetermined crossing points."

★

Fighting Infantry *Infantry Regimental Commander,* NORMANDY: "Fire and movement is still the only sound way to advance your infantry in daylight fighting. Build up a good strong base of fire with automatic rifles and light machine guns. The heavy machine guns are much more effective, but it is difficult to keep them up with the advance. Use your 60-mm mortars to deepen and thicken your covering fire. When you are all set, cut loose with all you've got to keep Jerry's head down while the riflemen close in from the flanks and clean him out.

Hedgerow Hints "Because of the limited range of observation, scouts tended to operate too close to their units. They should try to keep at least one hedgerow ahead of the remainder of the squad.

"Riflemen still have a tendency to wait for a definite, visible target before shooting. Each man should cover with fire any assigned sector which he believes occupied. Only then will he provide the needed protection to his comrades on the move.

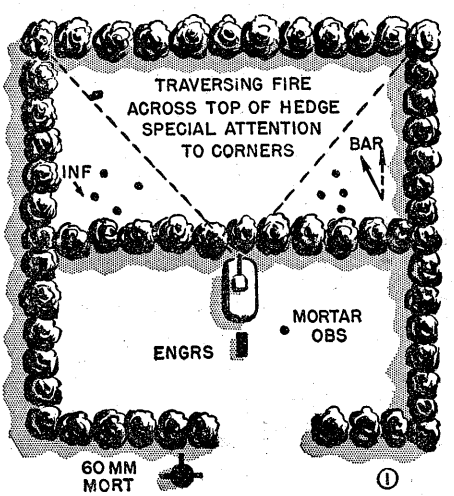

TANKDOZER vs. HEDGEROW
1.
1
2
3
4
5
2.
4
3
5
1
2
30 Cal MG
30 Cal MG

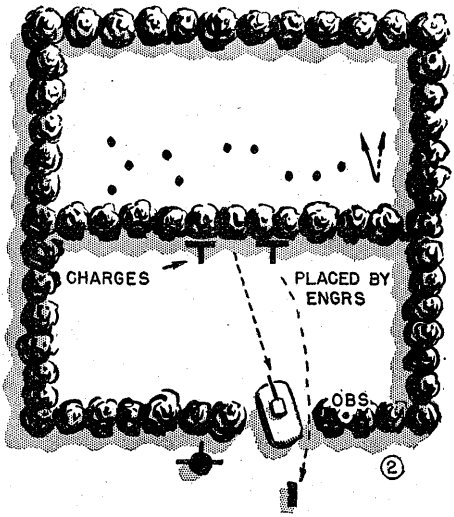
"Avoid the areas in the vicinity of large trees when digging in. Enemy artillery fire in these trees will cause tree bursts with the same effect as time fire."

★

Hedgerow Explosives *Observer's Report,* NORMANDY: "The engineers played their part in the tank-infantry team. The sketches show graphically how the closely coordinated tank-infantry-engineer team worked in one of our divisions.

"The tank would place covering fire on the far hedge from a position behind the hedge to be breached. Under this fire the infantry would move into the field ahead to cover the engineer operations. The engineers would place explosive charges to breach the hedge during the infantry advance.




CHARGES
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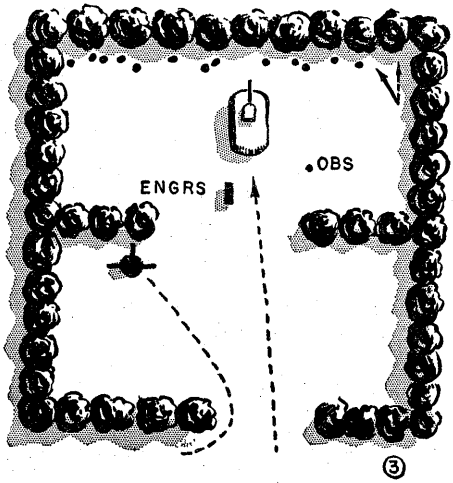
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"When the tank fire had to stop to avoid endangering our own infantry, the tank would momentarily withdraw, and the charges would be detonated. The team would then move forward to the next hedgerow to repeat the performance. It was found that two charges of 50 pounds each placed as shown were adequate to breach any type of hedgerow."

★

Lean on the Artillery Preparation *Commanding General, 79th Division,* NORMANDY: "Heavy artillery preparation fires, terrifically expensive in ammunition, have been wasted because they were not closely followed up by the attacking infantry. Remember these supporting fires do not destroy the enemy but merely force him underground for a brief period. You must be on top of him when he 'pops up' again."

★

The Useful 4.2 *Infantry Battalion Commander,* NORMANDY: "The 4.2-inch chemical mortar has proved to be a wonderful close-support weapon. Captured prisoners stated that they feared it more than artillery shell because they could not hear the projectile. The Germans have shown a marked dislike for WP, and on many occasions a few rounds thrown in their hedgerow positions have caused their precipitate withdrawal.

"We fired the mortars like artillery pieces, using forward observers with the assault rifle companies. The mortars did their best work at ranges of 1,500 to 2,000 yards, but on occasion they have done deadly execution at 3,500 yards."

★

Battlefield Recovery Under Fire *Letter, First U. S. Army Group,* NORMANDY: "A tank battalion used the following procedure to recover one of their tanks which had been immobilized only 200 yards from the German lines:

"An infantry platoon was placed in concealment in the hedgerow facing the German position and disposed so that its fire would cover the disabled tank. An 81-mm mortar was emplaced on the right flank of the infantry platoon. Then the tank recovery vehicle (T–2) started forward. Almost immediately a German machine gun opened fire but was silenced in short order by the mortar.

"When the recovery vehicle reached the disabled tank, the German infantry opened fire and moved forward, but the heavy fire from our infantry platoon, coupled with a concentration from the mortar, caused their precipitate retirement. The recovery vehicle hooked on to the tank and towed it to safety with no further difficulty and no casualties."

★

AIR SUPPORT IN FRANCE

Close Support by Fighter Planes The following incident as related by an observer in FRANCE illustrates the close support which fighter planes have been giving the ground troops in recent fighting in France:

"It was an early morning mission. The planes were to assist the march of one of our armored columns, which was moving rapidly southward. As the planes appeared overhead the following radio conversation took place:

"Ground to plane: 'Hello Kismet Red. This is Bronco. What have you in sight overhead? We have no targets

U. S. SIGNAL CORPS

Tank Destroyers Help the Infantry to the Front.

now. Is there anything in those woods off to the left or over the brow of the hill ahead?'

"Five minutes later the plane reports: 'Bronco this is Kismet Red. Don't see anything in the woods and there is nothing over the hill. There are 12 Tiger tanks retreating about 4 miles down the road. Shall we bomb them?'

"The answer comes back, 'Yes, go ahead and bomb them. Save some of your bombs if you can.'

Tank Trap "The P–47's caught the tanks in a ravine, and blasted the leading tank on their first pass. The others, not able to continue on or turn around, were caught in a trap. The planes made repeated passes at very low altitude and destroyed them all.

"As the tank column proceeded it received artillery fire from a patch of woods about 2 miles distant to the left. Since the airplanes couldn't identify the target the tanks marked it with a 75-mm red smoke shell. The squadron unloaded all their bombs on the target and the artillery fire ceased.

The Surrender "The planes continued to cover the column on its march, and about 10 minutes later spotted eight hostile tanks approaching on a road which ran at right angles to the route of the friendly armor. After reporting to the column commander the planes proceeded to strafe the enemy tanks with machine-gun fire until their ammunition was almost exhausted. A 'jeep' detached itself from the American column and approached the German tanks. When it neared them the tank crews crawled out in haste to surrender.

"This is the type of help the planes are giving. The ground force officers that I talked to were uniform in their praise of the close support fighters."

Antiaircraft in Combat *Colonel W. H. Goodrich, Observer,* FRANCE: "Our complete air superiority has resulted in little activity for the antiaircraft artillery in its primary role. However, several secondary missions have been developed such as antitank fires, field artillery fires, etc. A most successful employment has been its use in hedgerow fighting. The 90-mm gun has proven its ability to blast through the earthern embankment and dig out the enemy infantry and artillery entrenched behind it.

"The rapid, slashing attack of our infantry and armor has bypassed many enemy centers of resistance. This has resulted in bringing many antiaircraft artillery units in close contact with the enemy. Much of the reconnaissance and occupation of positions has been done under small-arms fire from snipers and small enemy combat groups. The training which a number of units had received in combat infantry technique has proven very useful."

★

FIGHTING IN ITALY

Notes from the Beachhead *Monthly Operations Reports of Infantry Regiments, 3d Division,* ANZIO: "Troops remaining for long periods in a defensive situation tend to lose the zest for combat and the aggressive spirit required for successful operations. One corrective measure was to send out 'shoot 'em up' squads. The squads were sent out until contact was made, at which time they would fire all of their ammunition and then withdraw. Also frequent periods of rotation to training areas are recommended.

"A lack of will to employ basic infantry weapons against enemy within range has been noted. All too frequently

officers call for supporting artillery and other supporting fire without employing infantry fire power under their immediate control.

"A more thorough understanding of the use of supporting artillery is desirable among infantry officers and noncommissioned officers. They should all know how to adjust artillery and mortar fire.

Morale "The maintenance of high morale in units committed to action for long continuous periods requires the constant attention of leaders. One solution was to establish a regimental rest area in the vicinity of the field train bivouac. Here showers and clean clothes were made available, as well as hot meals. Writing paper, reading material, radios, and phonograph records were supplied. The men were sent back in small groups from each company on the line. After having been confined to foxholes by day and to limited movement at night, a 48-hour stay at this rest area improved the morale of the personnel immeasurably."

COMMENT: The methods outlined above, to promote fighting efficiency can be carried out by units of regimental and battalion size by the exercise of resourcefulness and ingenuity on the part of unit commanders.

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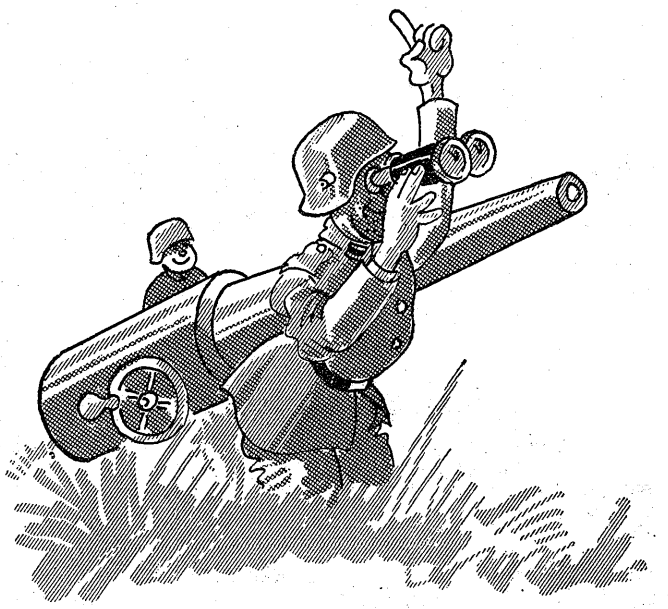
WHEN ON PATROL keep your mission in mind. Don't be sidetracked.

IT TAKES the proper amount of water and plenty of time to soak, together with thorough stirring, to reconstitute dehydrated foods.



Concentrations of Visiting Brass Hats Give Away

Unpopular Visitors *Lieutenant Colonel Schull, Commander Armored Regiment,* ANZIO: "Stay away from observation posts and forward command posts unless your business is urgent. More than one good OP or CP has been knocked out because of careless or unnecessary visitors. 'Adding materially to the harrassing efforts of the enemy' (to quote a battalion commander), there has been a constant stream of visitors from all echelons of command but mainly unengaged staff officers of higher headquarters. These visitors, plus the normal traffic of messengers, aid the enemy materially in locating the OP or CP, as well as

prevent the personnel from getting any rest during quiet periods of the action.

"It is suggested that more reliance be placed on normal channels of communication and systems of liaison officers at

Positions of CPs.

CPs in an effort to reduce the milling mobs of visitors that infest these installations now."

★

Fire Fighting with Tankdozers "After suffering high casualties to personnel and equipment while fighting fires in ammunition dumps, an Engineer fire-fighting unit, assisted by an Armored Engineer Battalion, developed a method of combating these fires, utilizing an experimental tankdozer fabricated by the Armored Engineer Battalion.

"When the ammunition stacks were above ground the firemen would initially attack the fire with their regular apparatus until the ammunition started to explode. Then the tankdozer would move in and 'bulldoze' the exploding ammunition away from the remainder of the stack, spreading the boxes out and banking earth around and over them. Even when this failed to extinguish the fires, it would cut them down sufficiently to permit the regular fire fighters to continue their operations.

"It was found that when the ammunition stacks were dug in, leaving earth banks beside the stacks, the tankdozer could handle the fire alone. It would push the earth banks on top of the stacks of ammunition, thus smothering the fire.

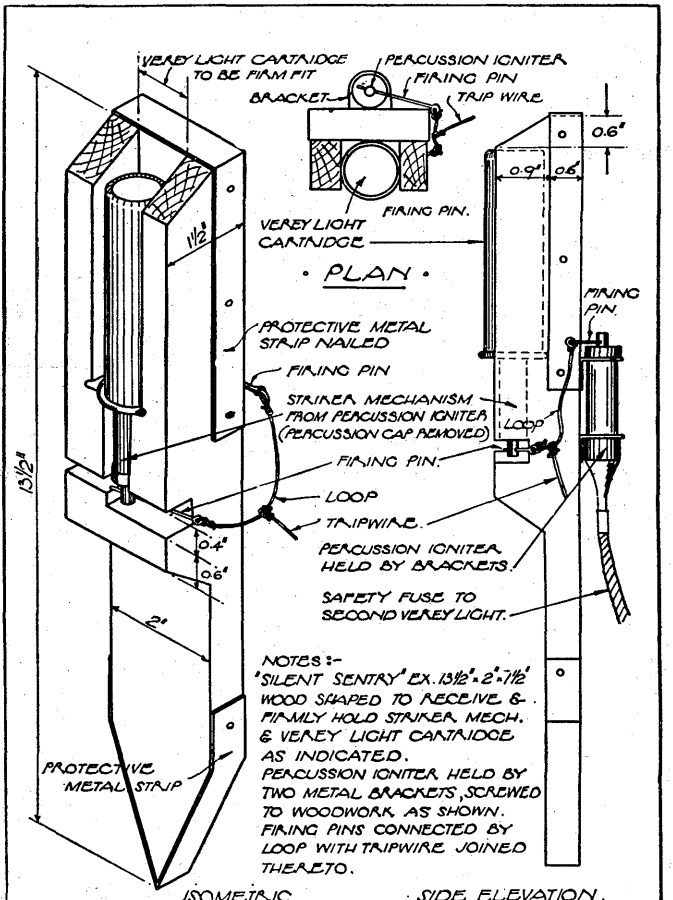
"In combating a salvage-dump fire, the tankdozer was profitably used to throw up an earth embankment close to the fire. This provided protection for firemen handling hose lines."

★

Silent Security A simple alarm device has been improvised in the Mediterranean Theater to assist in providing night security.

It can be readily made up by troops in the field from standard issue materials.

The device is designed to set off two Verey lights in succession. Both are installed on wooden stakes. They are fired by a trip wire which activates the striker mechanisms of two percussion igniters (both of which are on the first stake). One sets off the first Verey light. The other ignites a safety fuse leading to the second Verey light on the other stake. The length of this fuse determines the interval between the flares. The time lag between the two lights should be long enough to allow an



Working Drawing of the "Silent Sentry."

enemy patrol to get back on their feet by the time the second light is fired. The activating trip wire should be stretched across likely avenues of patrol movement.

By gauging direction from the first light, troops can prepare to direct their fire in the right direction when the second light illuminates the enemy.

★

Animated Mine Exploders *Major Luther J. Reid, Observer* ITALY: "A herd of sheep, hurriedly bought up around the local countryside in ITALY, was used effectively by the 36th Division Engineers in clearing an area on the south bank of the RAPIDO RIVER of the Schu mines that had been planted there in great numbers by retreating Germans.

"The mined area was under direct small-arms fire of the enemy. The only apparent method of clearing a path through it was to send men in at night with steel rods to crawl along on their hands and knees and locate each mine by probing every inch of the ground. This was too slow.

Wanted: 300 Sheep "The engineering officer asked the division quartermaster to provide 300 live sheep. These were made available the next day. Two Engineer officers and an enlisted man disguised themselves as native Italian sheepherders and started driving the flock across the mine field. Near the end of the field, after a number of mines had been detonated, the Germans got wise to the ruse and opened fire, the sheepherders taking cover and withdrawing to safety. But the sheep continued to mill around in the area exploding many mines. The project was considered successful as it provided the necessary cleared path to the riverbank."

★

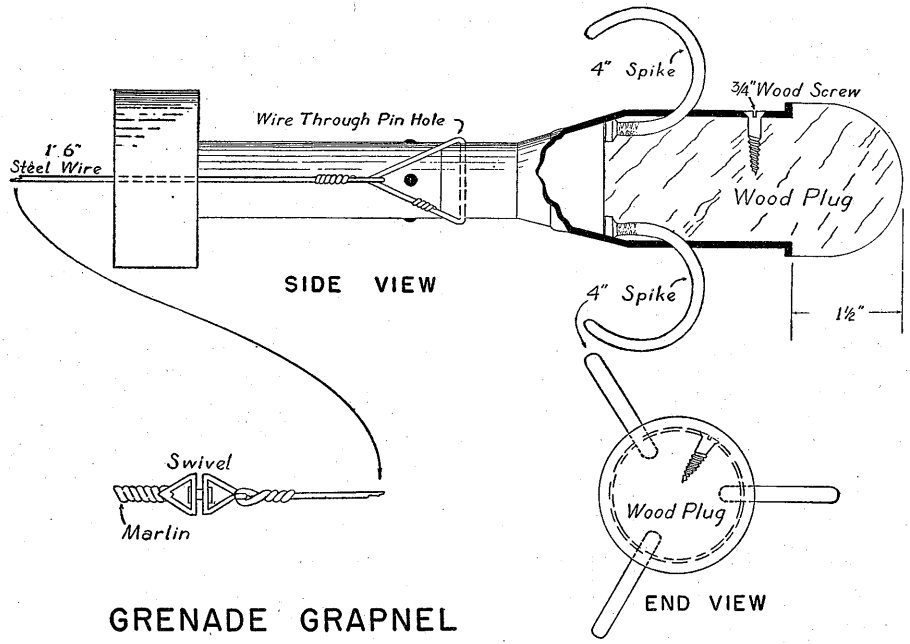
Rifle Grenade Grapnel Aids in Clearing Tripwires A rifle-projected grapnel, devised by a unit in ETO and constructed from a disarmed Antitank Rifle Grenade M9A1, facilitates the clearance of mine trip wires in open fields while permitting the maximum use of individual cover.

Using the rifle grenade launcher, the grapnel may be projected 75 to 100 yards from a covered position. It is then pulled back along the ground by means of an attached cord and the process repeated.

The range of the grenade grapnel, much greater than that of a hand-thrown grapnel, makes possible the clearance of a large area from a single firing position. In confined spaces the grenade grapnel may be hand thrown.

Details of Construction An AT Rifle Grenade M9A1 is stripped of the nose, powder charge, firing mechanism, percussion cap, and booster charge. Three 4-in. common spikes, bent to an approximation of the desired curve, are inserted through holes previously bored at equal distances around the circumference of the body. With 1 inch of each spikehead remaining inside, a wooden plug is driven into the grenade body, forcing the spikes into the plug and binding them in place. The shaping of the spikes is then completed and the points are rounded off. A wood screw inserted through another hole bored in the body keeps the block from loosening. Immersion in water will cause the wood to swell, giving additional binding effect on the spikes. If facilities are available, hooks may be forged and welded to a disarmed grenade.

A 1½-ft. length of cable wire is passed through the fin assembly and attached to the grenade by means of a loop of soft wire threaded through the safety-pin hole. Approximately 150 yards of trailing cord (heavy chalk line) is attached to the cable by means of a swivel.



GRENADE GRAPNEL

Firing Procedure and Range The normal firing procedure for the AT Grenade M9A1 is followed. Extra care is taken that the trailing wire and cord are free of the grenade launcher and rifle, and that the trailing cord is carefully coiled on the ground, preferably to the right of the weapon. With the rifle at a 45° angle, the grapnel will attain a range of 75 to 100 yards.

COMMENT: This method is one of many improvised techniques of clearing antipersonnel trip wire mines with grapnels. It is of limited application but would be useful as an aid in clearing mine fields to which covered approaches are available.

★

Hide Your AT Guns *Captain Don C. Wylie, Infantry Antitank Company,* ANZIO, ITALY: "Position security in this beachhead area is a real problem. The Germans held commanding observation and were quick to spot derelictions in concealment. On one occasion five out of six 57-mm antitank guns that were emplaced in a forward-battalion-position area were accurately located by the Germans either through improper camouflage or through movement near them during daylight. Just after dawn the enemy put down an artillery concentration consisting of a mixture of impact and air-burst high explosive on each of these gun positions and put the entire crews of all five weapons out of action in not over 5 minutes.

"Five German tanks then moved in from the right flank on a road which ran just in front of the positions of the two front-line rifle companies. Without leaving the road, the tanks smothered the position of the right company with fire, enabling accompanying German infantry to work

down a ravine into the position, which was overwhelmed.

"The tanks then proceeded down the road to the position of the left company, losing one tank to the remaining AT gun, which they in turn destroyed. Again they smothered the company position with fire, while another German infantry unit overwhelmed it.

Visitors Not Desired "In this sector we allow no one to visit our forward AT gun positions during daylight nor are the gun crews allowed to move out from under the camouflage. Even at night we do not allow vehicles to approach the positions, thus insuring that their tracks will not disclose gun locations. Pedestrian traffic at night is restricted to well-defined trails or paths."

★

FIELD ARTILLERY

Life of a Liaison Officer "I was a liaison officer for 3 months under combat conditions. It is really a rugged life. You may as well forget your jeep, your bedding roll, and everything that you can't carry on your back. You live right with the infantry and get to talk the same language. It makes a lot of difference if you are well acquainted with the people you are working with, and understand their problems. When they ask for certain types of fire that you know are inappropriate you can tell them they are crazy and explain just what you can do.

"As liaison officer I control all the forward observers who are working with the infantry battalion to which I am assigned. I have also done a lot of observing myself. The infantry battalion commander I was working with was generally at a close forward observation post.

"The worst thing we have to handle at night is the infiltration by the Germans around our positions. On numerous occasions I have had to adjust fire on a point behind me. I did it by calling for fire off the flank and then pulling it around where I wanted it."

★

Forward Observers Reports from all theaters continue to emphasize the importance of forward-observer methods of adjusting artillery fire. Over 90 percent of the fires of light and medium artillery are adjusted by this method.

The furnishing of necessary personnel for forward-observer parties presents a serious problem to the artillery batteries, since the number of men allowed for this specific duty is extremely limited. This situation requires the constant shifting of men from other activities in order to keep the OPs manned.

The relationship between the forward observer and the artillery liaison officer has not, in some cases, been fully understood. Units in combat however have soon learned that while, except in rare cases, it is impossible for the liaison officer to act also as a forward observer, it is extremely important that he be fully cognizant of observer activities. In many cases, where there are several forward observers operating within the zone of action of a supported infantry unit, it has been advantageous to control and coordinate their work through the artillery liaison officer with the supported infantry.

Given below are some battlefield observations on various phases of forward-observer activities.

Planned Observation *Captain Jessup, S–2 Field Artillery Battalion, 36th Division,* ITALY: "In formulating our plan for using our forward observers, we first consider the infantry plan of action and find out just what they expect of the artillery. From this information we set up an observation plan to cover the area where the infantry is going to operate. This permits the thorough briefing of observers prior to their employment, thus providing for more intelligent and effective performance of observer duties.

Maintain Freedom of Action "We have found that the forward observer works more effectively from a position where he can see with maximum possible protection from small-arms fire, rather than having him closely accompanying the front line troops. We feel that under the latter conditions the forward observer becomes more concerned with seeking cover than with carrying out his mission.

"When we attempted to provide close support at the CALORE RIVER last September our forward observers, who were closely accompanying the assault infantry, were 'pinned down' by hostile small-arms fire in positions which offered no opportunities for observation. This caused us to lose touch completely with the progress of our attack. At the same time, terrain slightly in rear of the attacking troops provided excellent observation of the entire area, if we had only had eyes up there with which to see."

★

Teach Enlisted Personnel to Conduct Fire *First Sergeant Adler, Artillery Battalion, 36th Division,* ITALY: "I am convinced that all enlisted personnel who accompany the

forward observer should know how to conduct fire. Then, when the officers become casualties, these men could take the job over and do good work. One of my biggest problems in the gun battery is finding proper personnel for these forward-observer parties."

★

Rules For Observers *Lieutenant Colonel Pritchard, Armored Field Artillery Battalion,* ITALY: "To obtain the best results the following maxims should be kept in mind by all observers:

"Be aggressive. Exert every effort to obtain better observation of your target area. Do not become involved in the infantry fight. An artillery observer in a blind foxhole is a definite liability.

"Forward Observers Should Not Get Involved in Infantry Fights."

"*Acquire maximum facility* in spotting and interpreting target by indications such as flashes, smoke, sound, etc.

"*When you get a really good target* put plenty of ammunition on it. Observed fire properly adjusted is the most remunerative type.

"*Work with other observers.* Use their concentrations if they are already shot in. Fire for effect that comes down on the enemy without warning is really effective.

"*Keep up on the situation* when you are not actually out observing.

Aerial Observation "The following notes are especially valuable for aerial observers:

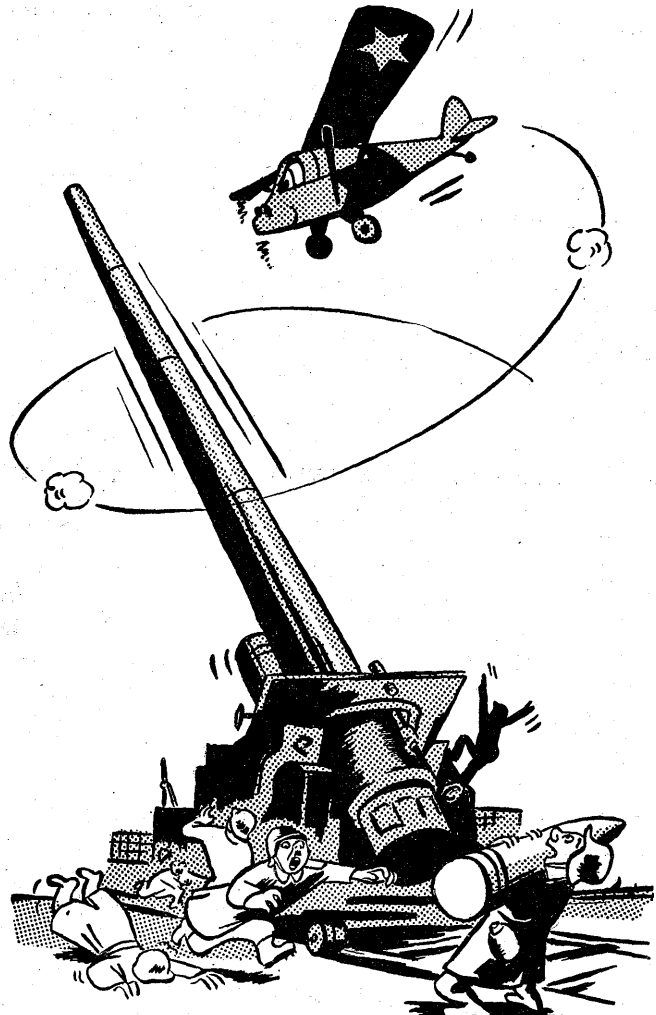
"You can tell the direction from which fire is coming if you can look down on the bursts. The side spray is perpendicular to the line of fire.

"In interpreting flashes to determine the type of enemy weapon that is firing remember that gun flashes are squirts of flame; mortars are just winks; shell bursts are flame splashes; nebelwerfers look like roman candles. The last light in the evening is a particularly excellent time to observe flashes."

★

The Artillery "Jeep Plane" *Colonel Russell P. Reeder, Infantry Regimental Commander,* NORMANDY. "When our division commander asked us what we wanted our reply was 'Keep those artillery jeep planes in the air.'

"These planes were the most effective means of stopping German artillery fire on our troops. We would be taking a real pasting from their artillery until one of these planes would show up skittering across the sky. Immediately the German artillery would stop firing. After one or two



The Artillery "Jeep Plane."

incautious enemy batteries had continued to fire and disclosed their position to the air observer, with 'sudden death' results, the others learned that discretion is the better part of valor.

"Even their mortars respected the eagle eye of the jeep plane and would suspend fire rather than risk detection of their positions."

COMMENT: This disinclination of German artillery to fire under the threat of disclosing their positions to air observers has also been reported from both Sicily and Italy.

★

THE OLD ARTILLERY MOTTO, "A battery seen is a battery lost." still applies.

★

Bore Coppering, 105-mm Howitzer *Test Report, Ordnance Department:* It has been determined that abnormally large variations in muzzle velocities of the 105-mm howitzer M2A1 are caused to some extent by the depositing of copper from the rotating band of the projectile in the lands and grooves of the bore. One result of firing tests of this weapon, of interest to field units, is given in the test report: "Rounds fired with Zone-I charges tend to decopper the bore. Rounds fired with Zone-VII and excess charges tend to copper the bore . . ." Any field attempts to decopper the bore by mechanical means will definitely injure the rifling and affect the accuracy of the piece."

★

Tanks at Anzio *Colonel L. V. Hightower, Regimental Commander, 1st Armored Division,* ITALY: "Most of our work at the beachhead has been indirect firing as artillery. We have fired up to 14,500-yard range by digging the tanks in so as to obtain the necessary elevation. For some time we could outrange any other weapon on the beach.

"We are all set to operate our own fire-direction center whenever necessary. I feel it is highly desirable to be well-trained in indirect fire for the role of reinforcing artillery, but definitely not until the crews are thoroughly trained in direct fire with all their weapons. I will say, however, that the tank gunnery has improved in my regiment since we have been shooting indirect fire. I attribute this to the fact that they are getting accustomed to laying more carefully—both for range and deflection."

★

COMMUNICATIONS

Tricks of the Trade *Staff Sergeant Spieler, Battalion Communications Chief, 36th Division,* ITALY: "We take to the fields to lay wire and keep away from the roads as much as possible. It helps to put in test strips at various places when you have two or three lines running along the same route. Then if vital lines are broken you can temporarily divert the wires from other installations.

"Switchboards are invariably dug in and covered. The covering makes it warmer and provides protection from shell splinters. Your operator will stay with his board under enemy artillery fire if he has this protection.

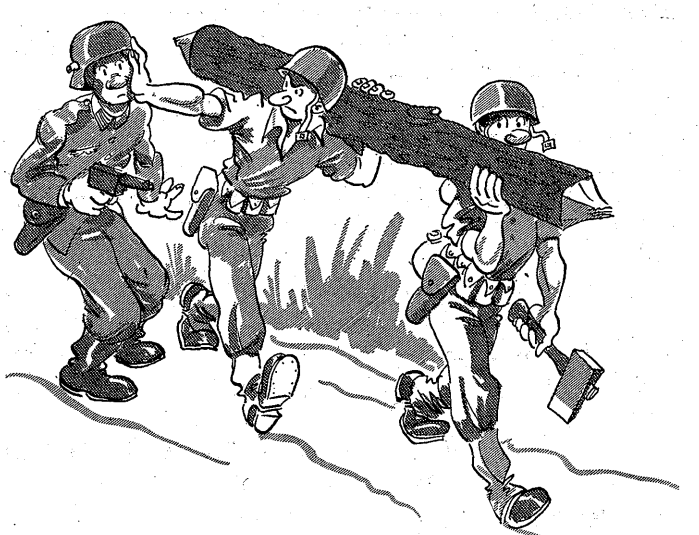
"A forward switching central is necessary if your wire is going to reach. I usually stay at the forward central so as to be nearer to the more vulnerable lines.

"As soon as possible we substitute W110 wire for the W130 which we lay initially."

★

ENGINEERS

Security for Engineer Working Parties *Commanding Officer, Engineer Combat Battalion,* ITALY: "Although we are called combat engineers and are proud of the title, we can't work and fight at the same time. Our experiences



"Combat Engineers Cannot Be Expected To Work and Fight at the Same Time."

in carrying on engineer activities in conjunction with infantry have impressed on us the necessity of providing security for working parties. Offensive power must also be available to drive off infiltrated enemy patrols and to overcome isolated enemy combat groups bypassed by advancing infantry.

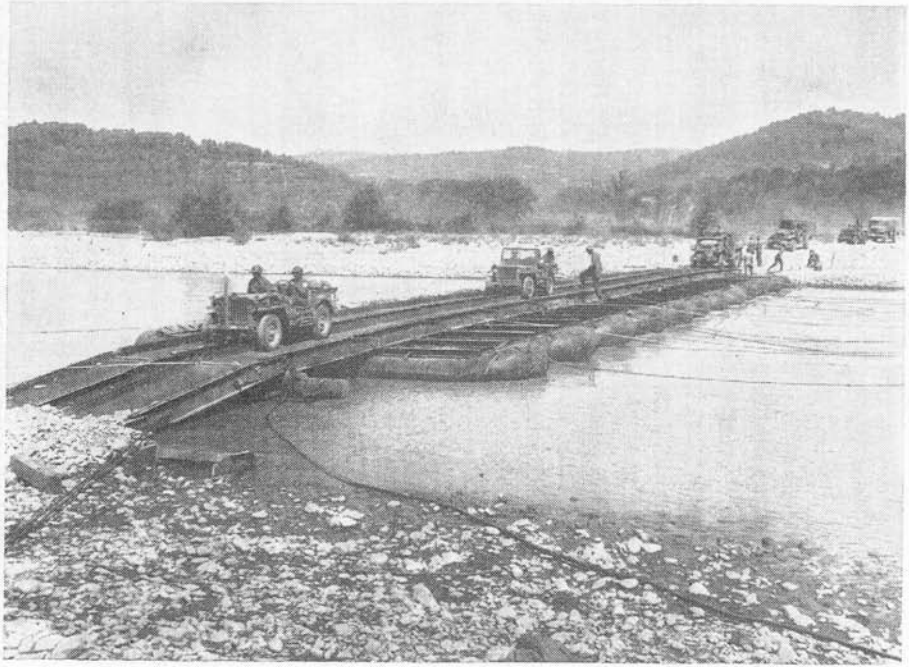
Covering Forces Needed "Recently one of our platoons was unable to make essential repairs on a main supply route due to the activities of an enemy group, 14 men strong, located upon a nearby hillside. One of our half-tracks charged and dislodged the enemy, killing 11 Germans and taking 3 prisoners. Since these half-tracks are no longer available to us for such purposes, combat commanders must consider providing covering forces to protect close-up engineer activities."

★

CHEMICAL WARFARE

Widespread Use of Chemical Smoke *Colonel M. E. Barker, Chemical Officer, Fifth Army,* ITALY: "The amount of smoke we are now using is far beyond the wildest estimates of smoke enthusiasts of a few years ago. Without the mechanical smoke generators and their ability to provide sustained smoke screens it would be very difficult, if not impossible, to meet the demands for smoke.

"In this campaign the German has been fighting a defensive battle on ground of his own choosing and has retained control of commanding observation. Therefore, the maintenance of a sustained smoke haze over vital areas, communication routes, and vulnerable bridges has proven



U. S. SIGNAL CORPS

Engineer Bridge in Southern France.

U. S. SIGNAL CORPS

Infantry Crosses a River in France.

"Without the Mechanical Smoke Generators It Would Be Very Difficult If Not Impossible To Meet the Demands for Smoke."

invaluable in protecting and concealing our installations and operations.

Coverage for a Bridge "The system used very successfully to provide smoke coverage for a vital bridge is to arrange the generators in a circle around the bridge with a radius of about 400 yards. This requires 13 generators. Then towards the enemy there is a line of 5 generators about a mile from the bridge. These latter generators are lined up along the route of the prevailing wind. This method provides a long, thin haze with some thick spots well out in front and gives a good effective coverage over the bridge. The bridge area has been shelled every day for 6 weeks but as yet the bridge has not been hit.

Screening 240-mm Howitzers "At ANZIO, smoke was used to provide screens over two battalions of 240-mm howitzers. These screens were maintained on a 24-hour basis when the howitzers were firing and during periods of good visibility when they were silent. The purpose of the screen was to hide the flash when the howitzer was fired. By this means and by the use of a synchronized dynamite charge to confuse the German sound-ranging equipment, the howitzers were able to avoid effective counter-battery fire."

★

HC Smoke Poisoning *Office, Chief Chemical Warfare Service:* "In the average field concentration, HC smoke is relatively harmless. However, a mild irritation of the upper respiratory tract and of the eyes may result from prolonged exposure, which should be avoided whenever possible.

"Actual poisoning can result from a prolonged exposure to HC-smoke concentration encountered in the immediate vicinity of the generator. The burning of HC munitions in an enclosed space is apt to result in very high concentration capable of serious poisoning effects from relatively short exposures.

"The service gas mask will give complete protection against the poisonous effects of breathing HC smoke."

★

MEDICAL TRAINING

Infantry Subjects *Regimental Surgeon, 47th Infantry,* NORMANDY: "Medical personnel should have more basic infantry training. Subjects such as cover and concealment,

map and compass work and all others that would enable such personnel to protect themselves from enemy fire should be included in their training."

★

Medical Detachment Notes *Battalion Surgeon, Field Artillery Battalion,* NORMANDY: "All personnel should be trained to seek the nearest aid station rather than search for their own.

"We found it is impractical to carry litters crosswise on jeeps in this terrain because the roads are closely bounded by hedgerows. As a result, we improvised a litter rack with three litters parallel to the long axis of the vehicle."

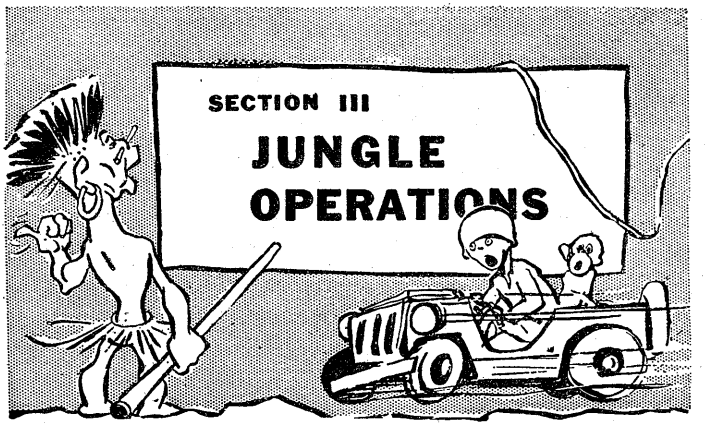
★

WATCH the defiladed approaches to your positions. Cover them with wire, mortar fire, and patrols to discourage enemy infiltration.

FREQUENT SHIFTING of night outpost positions will lessen danger of ambush and confuse the foe.

CONSTANTLY WATCH for and report any enemy activities. A jig-saw puzzle is solved by putting together many scraps.

MOVEMENT covered by fire is still the basic means of closing with the enemy.



BASIC DOCTRINES, NEW SETTINGS

Effect of Jungle on Infantry Technique *Colonel H. H. Haney, Infantry Regimental Commander,* NEW GUINEA: "Our infantry doctrines still hold. We do have to cut our cloth a bit differently in the jungle. The steep hills and the dense vegetation and swamps tend to 'canalize' our advance. Flank security is much reduced. It is difficult to send units more than a few hundred yards to a flank and maintain contact with them. It is next to impossible to have flank security patrolling abreast of a moving column. If we are to make any headway we have to risk exposed flanks.

"The terrain is difficult but determined troops can maneuver. The base of fire should be advanced along the ridges."

★

Action Technique *Colonel O. P. Newman, Infantry Regimental Commander,* NEW GUINEA: "The outstanding factor in the rapid advance of my regiment was the aggressive action of the advance guard. Upon contacting the enemy the point would hit to the front and a base of fire was immediately built up on the point by the remainder of that platoon. The following platoon moved to the flank at once, always on the uphill side. This flanking action was continued by the commander of the leading company and, if necessary, by the leading battalion commander, who would send the next following company even farther to the flank to hit behind the Jap resistance."

COMMENT: The foregoing quotations emphasize the fact that regardless of terrain or other conditions our basic infantry doctrines are sound. Success is attained by modifying technique to fit the special conditions encountered. Experiences in all theaters of operation confirm this.

★

SCOUTING, PATROLLING, SNIPING

Skill Saves Lives *Lieutenant General Walter Krueger, Sixth Army, Report on Operations,* NEW GUINEA *and* NEW BRITAIN: "The assault phase of each landing operation was relatively short. In every case this phase was followed by a long period devoted almost entirely to patrol activities against scattered and isolated enemy groups. Lack of skill in patrolling accounted for many casualties among our troops.

"Certain units, well schooled in patrolling by previous experience or intensive training given by experienced com-

manders, sent out patrols which intercepted and destroyed enemy groups, frequently without the loss of a single man. Other units with the same opportunities but lacking experience or proper training sent out patrols which walked into hostile ambushes or exhausted themselves in long and fruitless expeditions through the jungle.

The Need for Training "The operations amply illustrated the need for thorough training of units and individuals in scouting and patrolling. They also proved, however, that there is no substitute for experience. It is therefore logical that in addition to training, every opportunity should be taken to give our troops actual experience in scouting and patrolling against the enemy. During the later stages of

Patrol Leaders Should Not Get Impatient With New Men

operations, when activities against the enemy are limited to patrolling, troops that have conducted the initial operation could be replaced insofar as practicable by troops which have arrived more recently in the theater and have not been in combat against the enemy."

★

Ambush Patrols A most popular type of patrol in the jungle warfare of the South Pacific is the ambush patrol sent out with the mission of disrupting Japanese patrol activities. In addition every effort is made to bring in prisoners for intelligence purposes. *Colonel Crump Garvin, Infantry Regimental Commander,* BOUGAINVILLE, comments as follows: "The first requisite of a successful ambush is thorough preparation down to the smallest detail. Be sure that the equipment of each man is as complete as possible and in good condition.

Preliminary Reconnaissance "A detailed reconnaissance should be made of the area before an ambush patrol is sent out. When the men are briefed a rendezvous known to all patrol members is selected. The party is guided to the appointed place by a member of the previous reconnaissance party who knows the exact location selected for the ambush.

"Don't waste time and energy setting an ambush in a location that merely might see enemy activity. Look for definite evidence of recent enemy use in a location where there will be undoubted contact with enemy forces. This will prevent your men from becoming restless and 'trigger-happy' since they have something real to occupy their minds.

"Officers leading ambush patrols must possess a high

degree of courage and resolution. Men on ambush duty are prone to allow their imaginations to run away with them. They harbor thoughts that the enemy is attempting to surround them, cut them off, and that they are 'sticking their necks out.' Leaders must take definite steps to counteract such reactions.

"Men on Ambush Patrol Are Prone To Let Their Imaginations Run Away With Them."

Nipping the Nips "Two ambush patrols we sent out were placed in excellent ambush locations by an experienced lieutenant who knew the country, Japanese habits, and the trails used by the enemy. After putting the groups in position he returned to the regiment as ordered.

"The third day both groups returned reporting the presence of large numbers of Japanese, which had caused them to withdraw from the ambush positions to a hidden bivouac

where they remained for 2 days. Not a shot had been fired at the enemy. The leaders stated that they didn't fire upon the enemy because they thought there were Japs all around them, and they were afraid that fire would disclose their presence and the Japs might attempt to cut them off.

"These weak leaders were immediately sent out again under an experienced patrol commander to demonstrate that a group of men can remain close to the enemy and pick them off by stealth and patience if the group has nerve and confidence in itself."

★

Sniper Selection and Training *Lieutenant Raymond H. Ross, Infantry,* BOUGANVILLE: "When selecting men to be trained as snipers, especial care must be taken to obtain individuals capable of acting on their own. This means steady nerves, physical strength and agility, patience and judgment. Above all they must possess good eyesight and be natural marksmen.

"In training one particular group of snipers, I made an extremely difficult 'snap' course with targets neatly camouflaged and concealed. The last phase was stalking. I placed two men 100 yards apart, indicated a direction of advance, and limited them to 30 yards front. The first one to see his opponent would 'snap shoot' if necessary. However, if he was sure he was not seen, he would take cover and wait for an accurate well-aimed shot. Then I worked groups of five men against five.

"The competition was keen and sometimes the men were practically face to face before seeing or hearing each other. I believe this is one of the best ways to train snipers, scouts, and even riflemen. It is both realistic and interesting and develops quick thinking as well as seeing and hearing.

"Snipers Should Be Selected With Care . . . Must be Natural Marksmen."

Lessons from Experience "Our experience in patrol work has taught many things. Some of the more important are:

"Carry three canteens, two on your belt and one in the pack.

"Leave the packs concealed in a probable bivouac site in rear of area of your intended operations.

"Take a dry pair of heavy wool socks, a jungle sweater, and a pair of gloves. These should be kept in the rubberized food containers.

"When carrying 'K' rations, remove the box and carry only the necessary food. The box adds too much weight and waste.

"The medical jungle kit is indispensable. Have one for every two men.

"Paint all rifles olive drab.

"Rifles can be kept perfectly dry at night by placing them on sticks several inches off the ground and covering them with banana leaves.

"Coughs and sneezes can be muffled by placing the cap over the mouth. This should be practiced in everyday training so that it becomes a habit.

Choosing Bivouac Area "The patrol bivouac area should be carefully selected at least 300 yards from trail or stream and preferably on high ground. Reconnoiter in all directions at least 400 yards to insure safety. Allow the men to make themselves as comfortable as possible. Before leaving the area, minimize all traces of your presence. The stumps and butt ends of saplings and plants which have been cut for shelters can be smeared with dirt to make them less conspicuous and destroy the fresh-cut appearance."

ALWAYS SEARCH enemy dead and his abandoned vehicles and positions for unit identification.

WHEN ON THE MARCH the assistant driver's seat is not a bed. Stay awake and help your driver.

GRENADES are more useful than rifles in patrol work.

The Reconnaissance Troop in the Jungle *Colonel Marion Carson, Observer,* SOUTHWEST PACIFIC AREA: "These notes cover the experiences of a divisional reconnaissance troop which had been in action over a period of 2 months. It was employed solely on reconnaissance missions and not used for security purposes.

Types of Operations "The troop was employed in three major types of operations namely:

(1) "The reconnaissance of small islands and of beach localities on larger islands. Each of these missions constituted a small landing operation. Their object was to determine if enemy forces were present and if so his strength, composition, and disposition. The normal strength of these patrols was one platoon. On occasion they were accompanied by artillery personnel reconnoitering for battery positions.

"Natives Were Used Extensively as Guides."

(2) "Extensive reconnaissance by small patrols (7 to 12 men) to determine location and extent of enemy main battle positions and his routes of withdrawal. Patrols operated dismounted except for water transportation along the coast and up the larger streams. Natives were used extensively as guides, both on trails and across country. They also enlisted the aid of other natives in definitely locating enemy groups and reporting their movements.

(3) "As enemy strength increased in certain localities it became necessary to employ strong combat patrols which in turn established trail watching posts. While their primary mission remained surveillance of the enemy, they were prepared to fight to prevent the enemy forces reaching the coast and escaping by water.

Local Security "It was highly important that all personnel be thoroughly conversant with local security methods. Small trail-watching patrols would always have at least one soldier and one native guide on the alert. Larger observation patrols in static positions would utilize trail watchers connected to the platoon leader by sound-powered telephone. During daylight smaller patrols searched through assigned areas. Moving patrols were seldom used at night, security being provided by standing double sentries.

Trail Formation "In movement, patrols of a platoon or less were usually divided into a point, main body, and a rear point. The point always consisted of two men—usually the patrol leader and one enlisted man. Experienced leaders stressed the importance of having the two members of the point move along opposite sides of the trail, practically abreast, and observe the jungle to the front on the far side of the trail, rather than on their own side.

Numerous instances occurred when one member of the point saw a lone enemy soldier about to kill the other member and shot the Jap first.

"The advance of the point was slow and deliberate unless the time element was important. At each bend of the trail and at each crest there was at least a momentary halt for orientation, general observation, and the issuance of any necessary orders. The main body followed the point at about the limit of visibility (usually 10 to 25 yards). It moved in a column of troopers with about 5 yards distance between individuals. The rear point, also consisting of two men, one being the assistant patrol leader, followed the main body at almost the limit of visibility.

Weapons and Equipment "Reconnaissance platoons were armed with submachine guns, carbines, and M1 rifles. The shorter weapons (submachine gun and carbine) were preferred by small patrols as they were easier to carry and aim in the jungle growth. Large patrols remaining in one locality for a considerable period frequently employed the light machine guns for local security.

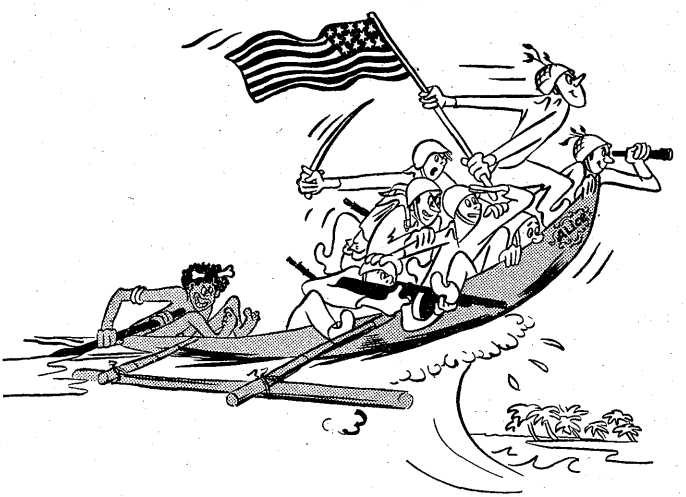
"Boats of various types were used constantly, generally LCV's or native outrigger canoes. The use of the latter became so general that they received the local designation of LCO (landing craft, outrigger).

Use of Natives "An outstanding feature of the work of this reconnaissance troop was the extensive employment of natives in all types of reconnaissance.

"At first because of the lack of knowledge of the language and habits of native personnel it was necessary to have a member of the ANGAU (AUSTRALIAN NEW GUINEA Administrative Unit) accompany all patrols using natives. However, both officers and enlisted men soon learned the

language and gained the confidence of the natives to such an extent that the need for ANGAU personnel was exceptional.

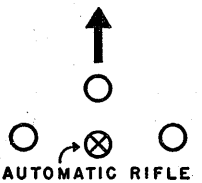
Results "The efficiency of this unit is evidenced by the fact that while missions were successfully accomplished the casualties were very light. The troop lost 6 men killed and 14 wounded in one landing, but suffered no other casualties during the 2 months period of active operations."

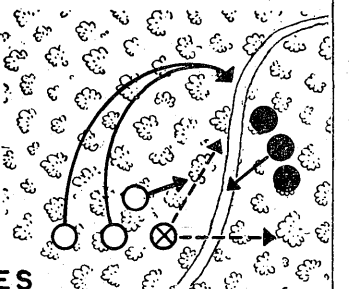


Landing Craft, Outrigger.

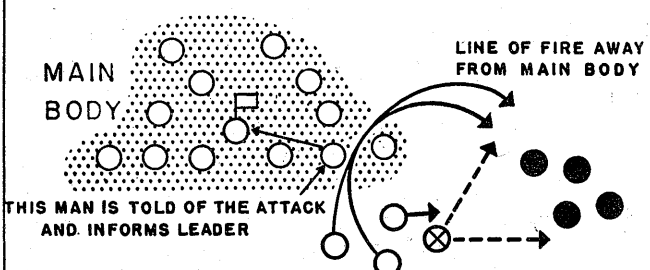
Fire Teams *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "The basis of all small patrols was generally the 'four-man fire team' (three riflemen and one automatic rifleman) in either a wedge or box formation. For example, a reconnaissance patrol might form a wedge or box of wedges of four men each with the leader of each team in the center. In combat, when contact was

THE FOUR MAN FIRE TEAM

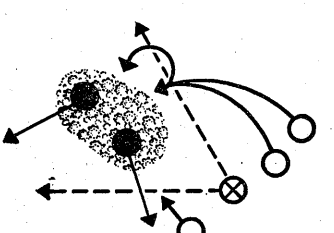




THE TEAM ADVANCES
AND ATTACKS AN AMBUSH ON A TRAIL



OR-ATTACKS AN ENEMY PATROL COMING UP
ON THE FLANK OF OUR FORMATION



OR - ATTACKS A BUNKER

made by one of these teams with the enemy, the idea was that the automatic rifleman would cover the target with fire, one rifleman would protect the automatic rifleman, and the other two would move in immediately to outflank the target.

"The speed of reaction of the team generally measured the degree of success of the attack. An important feature of the attack maneuver was that the pair of flankers moved on the inside of their formations so that their line of fire would be away from other fire teams in the formation."

COMMENT: The Marines have experimented extensively with this four-man fire team. It is nothing more or less than a small-unit application of the tactical principle of fire and movement. The present squad organization of the Marines contains three of these teams.

★

DEFENSIVE TECHNIQUES

Organizing Night Security *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "It is noteworthy that in the defense, each unit, even the squad established itself so as to provide all around security during darkness. This principle was justified by the results in repulsing Japanese attempts to raid our positions. On the first night of the landing the necessity of maintaining close security, even in the battalion command post, was proved most forcibly when it became necessary for the battalion commander and his executive officer to assist in repulsing, with knives, the attack of a Japanese patrol which had successfully passed through our lines and killed one man and wounded another before anyone was aware of their presence.

"In organizing the area defense all automatic weapons were sited on fixed fire lines coordinated with adjacent units. However, it was a standing rule that weapons never be fired at night except to repulse a major night attack. In order to safeguard personnel and to avoid disclosing the position of automatic weapons only knives and bayonets were used to take care of small infiltrating parties.

All Telephones Manned "One feature of night defense which proved extremely important and useful was the system of communications set up within the battalion. Each platoon command post and company command post was connected by telephone. All telephones were on an open circuit and connected so that any message passed was heard by all. It was required that every telephone be manned continuously from dark to daylight obviating the necessity of ringing. Therefore, whenever anything occurred during the night all leaders within the battalion were instantly acquainted with the situation."

★

Curing "Trigger Jitters" *Lieutenant General Walter Krueger, Sixth Army, Report on Operations,* NEW GUINEA *and* NEW BRITAIN: "At ARAWE and SAIDOR unnecessary casualties resulted from promiscuous firing by nervous troops, particularly at night. This action is characteristic of inexperienced troops and is generally referred to as 'trigger happiness.' This condition was not as noticeable at CAPE GLOUCESTER probably due to the general policy of halting offensive action sufficiently early in the afternoon to permit thorough organization of a defensive bivouac before darkness. Uncontrolled fire at night may be reduced by the following measures:

"Trigger Happiness" Can Be Prevented.

"Have the men comb the brush and search the trees of the bivouac area while it is still daylight. This will tend to convince the troops that there is no enemy present.

"Require each individual to become thoroughly familiar with the characteristics of his own position and with the location of friendly troops in his immediate vicinity.

"Make adequate use of barbed wire, booby traps, anti-personnel mines, and trip wires to cover circumference of bivouac and likely avenues of approach.

"Insist on thorough training in fire discipline."

COMMENT: A sharp distinction must be drawn between the promiscuous firing of nervous or inexperienced personnel and covering fire by controlled advancing troops. Many reports have been received which have emphasized the difficulties of fire management, particu-

larly of area-covering fires. The tendency of the American infantryman to fire only at a visible target has sometimes permitted enemy small-arms fire from concealed positions to continue unchecked.

★

Hold Your Position *XIV Corps, Lessons Learned at* BOUGAINVILLE: "During all our training we had emphasized the doctrine of a battle position to be held at all costs. This paid off with large dividends during the recent Japanese attacks on our BOUGAINVILLE beachhead. Infiltrating Japanese would isolate pillboxes, but failed to terrify the occupants or cause a withdrawal. These isolated pillboxes, held by determined individuals, provided the principal supporting fires for subsequent counterattacks.

"Failure to reduce these defensive works forced the enemy to dig in on disadvantageous ground, and further, they prevented him from withdrawing or shifting his position during daylight. Platoon leaders directed the actions of pillboxes rather than of squads. The three to five men in each emplacement worked as a unit under the command of the senior within the box."

★

INFANTRY WEAPONS

Mortars in the Jungle *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "The jungle presents few obstacles to the use of the 60-mm and 81-mm mortars that cannot be successfully and quickly overcome. Mortar-unit leaders from the squad to the platoon must, however, ex-

hibit unusual initiative, ingenuity and skill, and the mortar crews must be trained to the peak of perfection. Equipment and demolitions for topping trees or otherwise clearing field of fire must be available to the mortar squad. By vigorous reconnaissance, however, energetic leaders will frequently locate small clearings from which one or more mortars may be fired in less time than would be required to clear a field of fire.

"This is particularly true if consideration be given to using the higher rather than the lower number of propelling charge increments. Frequently, when mortar fire was urgently required, a test for mask clearance was made by firing a shell from which the safety pin had not been removed. If the shell cleared the mask, the concentration was delivered without more ado.

Adjusting Mortar Fire "In jungle fighting, wire communication is necessary for the 60-mm mortar sections as well as for the 81-mm sections. The observer for these weapons must take station in the front lines or even further forward. The sound-powered telephones are especially valuable for this purpose.

"It was seldom that the mortars could be adjusted by visual observation. As a rule they were adjusted entirely by sound. On more than one occasion confusion was created by simultaneous firing of artillery and mortars because of the similarity in the sound of the exploding shells. However, this difficulty can be readily overcome since artillery and mortar observers were usually close together and could agree among themselves as to who would shoot when.

Tree Climbers Sometimes Useful "As a general rule, except in hilly country or swamps, there was little ad-

"There Was Little Advantage To Be Gained by Climbing Trees To Get a Clearer View . . ."

vantage to be gained by the observers climbing trees in an attempt to get a clearer field of view. However, mortar observers had provided themselves with tree climbers and they were of value on several occasions in locating targets or clearings.

"Due to the denseness of the jungle vegetation which limits the effective radius of the shell burst, mortar concentrations can be brought much closer to our own lines than would be practicable in open country. On many occasions, 60-mm mortars were adjusted to within 25 to 35 yards of our own troops."

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U. S. SIGNAL CORPS

The Flamethrower Proved an Effective Weapon.

Flamethrower *Report from USAFFE Board, SWPA:* "The mopping up mission along the Northeast shore of INSOEMOAR ISLAND, WAKDE GROUP was assigned to and carried out by an Engineer Combat Battalion. Confronting it was the difficult task of driving Japanese groups from well-established positions in caves and connecting tunnels. These caves were in a steep coral slope which rose from the sea to a height of 50 to 75 feet immediately back of the beach.

"Various weapons, including the rifle, Thompson submachine gun, carbine, high explosives, bazooka, HE and WP M15 grenades, and the flamethrower, were employed by the Engineers in their efforts to reduce the cave combat groups. The flamethrower proved to be the most effective weapon. Its ability to follow the curves of the cave is the quality which made it peculiarly effective.

"The method of employment generally followed the principle of advancing the flamethrower operator or team to within effective range under a heavy covering fire from rifles and machine guns. After the flamethrower went into action the supporting fire was maintained and shifted to enemy individuals as they appeared.

"One instance of indirect methods is noted where the flamethrower was operated from behind defilade and directed by an observer who was on the flank and could not be fired on by enemy within the cave.

General Conclusions "The opinion of commanders in the SWPA is that flamethrower operators should be organic members of the infantry rifle squad or platoon. They should be trained in the operation and maintenance of the flamethrower in addition to the training with their basic weapon, the rifle. The training of the flamethrower operator should be continuous, as is the training of the rifleman,

and should be with the flamethrower he will actually use in combat.

"While it is not contemplated that the flamethrower be included as a weapon in the rifle squad or platoon, it should, nevertheless, be immediately available and ready for employment. Thus, the rifleman, on occasion becomes a flamethrower-man and his effectiveness in combat depends initially on his ability as a soldier and next, on this proficiency with his special weapon, the flamethrower."

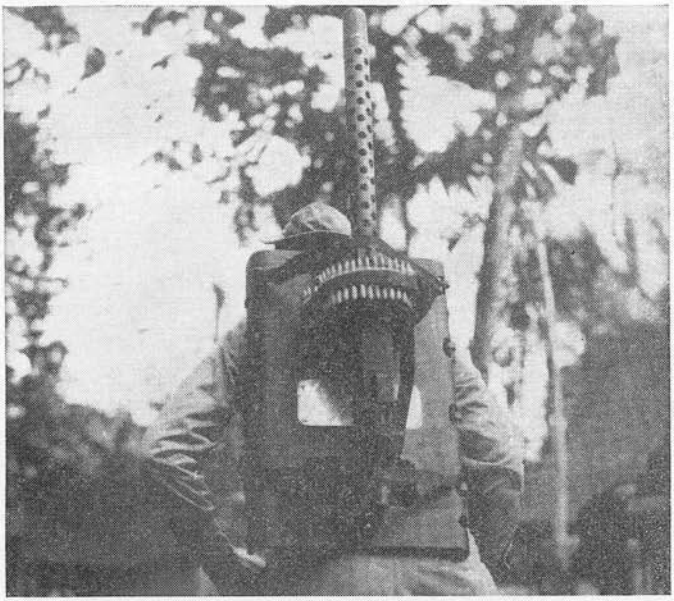
★

The Machine Gun in the Jungle *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "In this operation there was no opportunity for the use of machine guns in distant support or to deliver fire by overhead or indirect fire methods. It was always necessary to place direct-support machine guns right in the front lines. Breakthrough guns could not be sited to cover the intervals between front-line guns because of the jungle growth. They were utilized principally in the defence of command posts and supply routes.

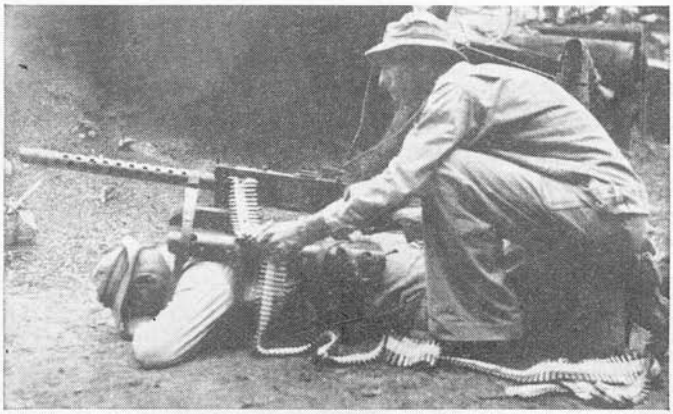
"An interesting use of the heavy machine gun in support of a jungle attack was the custom of raising the fire of the guns to the tree tops 50 to 100 yards to the front at the moment of the passage of our lines by the attacking troop and maintaining this fire until such time as ricocheting bullets might endanger our men. This practice resulted in many casualties to the enemy who customarily took stations in trees in the attempt to overlook our positions."

★

Using the Pack Carrier *Americal Division,* BOUGAINVILLE: "An interesting adaptation of the standard pack carrier to transport the light machine gun and also to act as a firing platform is shown in the accompanying illustrations. It not only simplifies the problem of transporting the weapon through jungle terrain but considerably reduces the time required to put the gun in action."



Pack Carrier Adapted To Transport Light Machine Gun.



Emergency Use as Platform.

Pack Carrier, Adapted as Shown, Saves Time Putting Gun in Operation.

ARTILLERY OBSERVATIONS

Crossing Swamps *Lieutenant General Walter Krueger, Sixth Army, Reports on Operations,* NEW GUINEA *and* NEW BRITAIN: "A large swamp was unexpectedly encountered just in rear of the landing beach at CAPE GLOUCESTER squarely across the route to selected artillery positions. It was only with the assistance of amphibious tractors (LVT's) that the 105-mm howitzers with their prime movers and ammunition were able to cross the swamp and reach their firing positions.

"In a large majority of landing operations of this type, terrain conditions ashore will be practically unknown. It is, therefore, very desirable that amphibious tractors be available, if possible, for emergency use in moving artillery and other heavy equipment over swampy terrain.

Sensing By Sound "In all these operations most adjustments of fire were by forward observer methods. This was due to the very limited visibility. Often the observer would be forced to sense by sound with the unaided ear. Observers should endeavor to acquire facility in locating points of impact from the sound of their detonation.

Keep Dispersed "There was a tendency on the part of inexperienced soldiers to bunch and remain standing when close supporting fires were delivered. Excessive casualties could have resulted if rounds had fallen short. Front line infantry units must keep dispersed and in foxholes or behind cover during periods of close supporting artillery fire."

★

DON'T BE FOOLED by English-speaking enemy.

ATTACK OF BUNKER POSITIONS

Finding the Blind Spot *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "Regardless of any arrangement of bunkers for mutual support, there is always a blind spot in the defense, particularly if the supporting riflemen in rifle pits outside the bunker are eliminated by grenades or small-arms fire. The key to the attack of a bunker position is the finding of this blind spot.

"When a fire team (three or more men with one or more automatic weapons) discovers a bunker either by observation or by being fired upon, all hands take cover. The leader then reconnoiters the position until he locates the blind spot; that is, a point near a fire bay or a door which apparently is not subject to the fire of machine guns sited on fixed lines from the bunker under attack or from adjacent bunkers. The leader then determines, if possible, the location of enemy riflemen, if any, whose fire may cover this blind spot. (See sketch, page 57.)

Delivering the Knockout "Upon completion of his reconnaissance the leader places his automatic weapons to cover the fire ports of the bunker by firing diagonally into them. He places the other members of his team in positions from which they can kill or drive to cover the enemy riflemen covering the selected blind spot. One or two men armed with submachine guns or automatic rifles (M1) and grenades or TNT bombs are then placed where they can, at the proper moment, charge up to the blind spot between the lanes of their own supporting fires.

"Fire is opened on signal and under its protection the submachine gunner and grenadiers move up to the blind spot and approach as close as practical to the fire bay or door where they throw in several grenades or bombs. Im-

mediately following the explosion they enter the bunker and complete the destruction of the defenders by gunfire.

Good Marksmanship Essential "There is, of course, considerable danger to these submachine gunners or grenadiers of being injured by the fire of their own men or by ricochets. Therefore it is essential that this technique be practiced over and over again in training so that close teamwork will be developed and the covering fires be lifted to keep from endangering the men closing in on the bunker. It is obvious that only good marksmen can safely be assigned to fire in such an attack on a bunker position.

"Machine guns are frequently used to furnish the diversionary fires against bunker ports and to keep the defenders away from bunker doors.

"When one of these mutually supporting bunkers has been knocked out, it is generally found that adjacent bunkers are uncovered at several points making possible a quick reduction of the entire position by repeating the performance.

Daring But Profitable "While seemingly a daring and dangerous procedure, this method of attack was found in actual practice to be less costly than any other method that can be employed by riflemen. It must be executed aggressively, the attack beginning the moment the bunker is detected before the defenders can determine the location of the attackers.

"On BOUGAINVILLE relatively few casualties were sustained by the attackers in the reduction of 15 bunkers by this technique. The enemy dead found in and around these particular bunkers numbered 154. The total time required to capture these bunkers was 2 hours and 30 minutes."

★

Mopping Up Bunkers *1st Lieutenant Donald B. Henry, CWS, USAFFE,* ADMIRALTY ISLANDS: "The Japs had been pulling the trick of lying 'doggo' and letting the first assault troops go past their bunker in the belief that they had retreated or had been killed. Immediately after the first wave had passed, the Japs would open fire on their rear. This action even though performed by few or even wounded Japs was causing our troops some casualties.

"In order to avoid this situation the 1st Cavalry Division instituted the following procedure. Flamethrowers and demolition squads were assigned to follow immediately in the wake of attacking troops. As successive bunkers were reduced, the flamethrowers would advance shooting fire into each one, and the accompanying demolition squads would then blow them up. This completely eliminated the possibility of live Japs in the rear of our troops. The flamethrowers proved a fast and efficient mopping up weapon."

★

TANKS IN THE SOUTH SEAS

Light vs. Medium *Colonel Marion Carson, Cavalry, Observer, SWPA:* "The main characteristic in employment of tanks in operations in this area has been the use of individual tanks, groups of two or three tanks, and separate platoons in close support of ground troops. The light tank has effectively used its machine guns and 37-mm canister against enemy troops more or less in the open.

"Also very effective results have been obtained by firing 37-mm high explosive through the slits in pillboxes and bunkers. The medium tank with its 75-mm gun is more useful in reducing bunkers but is under severe operational handicap due to terrain difficulties. Where conditions

permit the medium is preferred to the light as a troop support weapon.

Tank-Bulldozer Combination "The combination of medium tanks with a D–7 bulldozer was successful in keeping the tanks up with dismounted troops. The tanks would overwatch the dozer while it cleared a feasible roadway through the obstacle and then they would advance to the next obstacle where the operation would be repeated.

"It has been conclusively demonstrated that when tanks are attached to dismounted troops certain troops should be specifically charged with the mission of protecting the tanks. If this is not done, infiltrating enemy will immobilize them.

"The Japanese have not effectively made use of mines to counteract tanks. The continued use of tanks in these operations, however, can be expected to bring about greater mine-laying activity on their part."

COMMENT: Reports from Italy of tankdozers which on occasion fought as tanks indicate that they might well replace the D–7 bulldozer in this type of operation.

★

COMBATING MALARIA

The Mosquito Hazard *Colonel Fenton G. Epling, Coast Artillery, Observer SWPA:* "Antimalaria discipline is difficult to enforce both in newly arrived and old-established units. Its efficacy is directly proportional to the emphasis placed on the subject by the unit commander. The simple

requirement to wear shirts with sleeves unrolled and buttoned is most frequently violated. Most men accepted malaria as something like battle wounds or death—one gets it if his number is up."

★

Atabrine Treatment *Lieutenant Colonel George G. Duncan, Medical Corps, SWPA:* "It has been possible to halt abruptly recurrent attacks of malaria even during intensive training by proper atabrine treatment.

"Two types of dosage have proven equally satisfactory, namely 0.5 gram of atabrine on Mondays and Fridays, or 0.4 gram every third day. However, the first-named method is considered the more practicable from an administrative point of view.

"The most important factor is the enforcement of strict discipline in administering the drug. It should be administered by roster with appropriate safeguards to insure that every individual is required to take the prescribed dosage."

COMMENT: Atabrine has proven to be the most successful drug in combating malaria. Where properly and habitually used it completely eliminates malaria symptoms. No ill effects whatever have been noted in large groups of men who have taken atabrine continuously for more than a year. The widespread rumors that the continued use of the drug might cause impotence or sterility have no basis in fact whatsoever.

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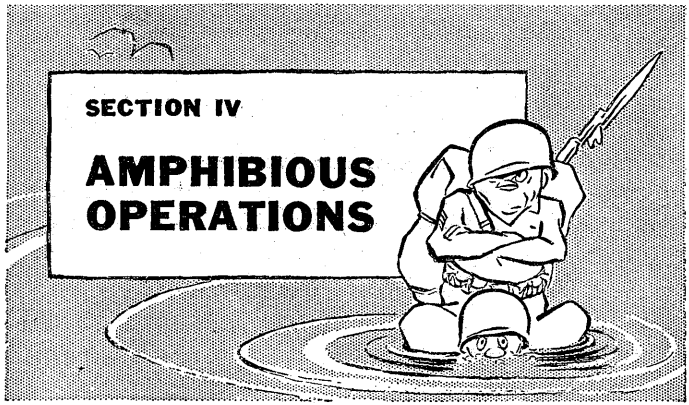
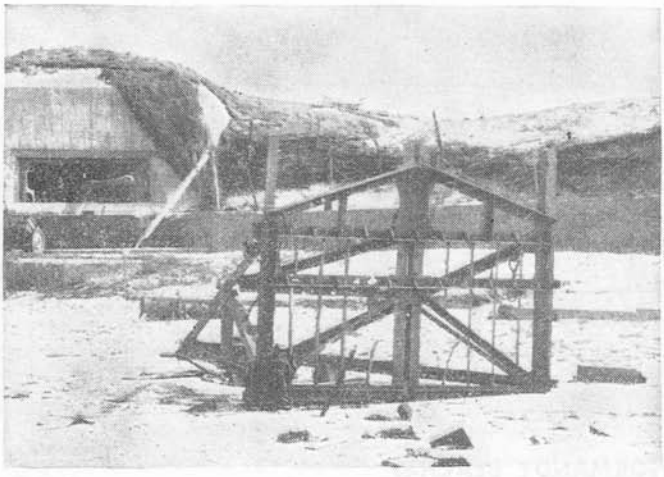


NORMANDY BEACHES

Clearing Beach Obstacles *Corps Engineer VII Corps,* NORMANDY: "The UTAH beach obstacles consisted of element 'C', steel and wooden tetrahedrons, steel hedgehogs, driven steel and wooden piles, wooden ramps and barbed-wire entanglements. Some of the piling had been mined. The obstacles were placed in bands extending generally from the high-tide level to the midtide point on the beach.

"The breaching parties were made up of carefully selected Navy and Army Engineer personnel and were given intensive special training for a 3-week period. Each breaching party consisted of approximately 1 officer and 24 enlisted men.

The Landing "The parties landed from LCM's and LCVP's in 3 to 4 feet of water and waded ashore with 60-pound packs of prepared explosive charges. These prepared charges consisted of 2-pound packages of explosive. Some of these were contained in a special designed canvas



U. S. SIGNAL CORPS

Element "C" (Utah Beach, Normandy).

bag, approximately 1½ inches in diameter and 12 inches long, equipped with a hook-and-string fastener. Due to a shortage of these bags the great majority of the charges were contained in the ordinary issue sock, some 40,000 of these inprovised sock charges having been prepared.

"These charges were tied by hand to the main support members of the various types of obstacles. The breaching crews worked in groups of two to four men. The tank-dozers were effectively used to move and windrow the blown obstacles.

Widening the Breach "The Naval parties worked on the seaward band of obstacles while the engineer parties moved in to the next band. An initial gap of 400 yards was blown, following which the parties moved toward each flank extending the breach until the full width of the beach had been cleared. Hand-placed charges accounted

for practically all of the obstacles and the entire beach was cleared before the tide had reached full height."

COMMENT: The outstanding features of this clearance of beach obstacles, which was accomplished in less than the anticipated time, were:

The selection of well disciplined personnel, thoroughly trained in the simple techniques of demolition work, and commanded by competent leaders.

The use of a simple flexible plan which functioned despite some radical last minute changes.

The provision of an adequate reserve of both men and explosives.

The use of standard prepared charges.

The full cooperation between Naval and Engineer demolition units.

The use of tankdozers working in conjunction with demolition parties.

★

LOS NEGROS ISLAND

A Wading Envelopment *Observer's Report,* SWPA This is a narrative of a unique operation necessitated by exceptional circumstances. It relates the actions of a troop of cavalry in reducing an enemy position consisting of three bunkers, by means of an envelopment in shallow water along the shore. It clearly demonstrates the importance of, and the necessity for, a thorough reconnaissance before determining a plan of action.

Situation "A squadron of cavalry was engaged in clearing the enemy from the area between the south shore of Los Negros Island and Lemondrol Creek to the north.

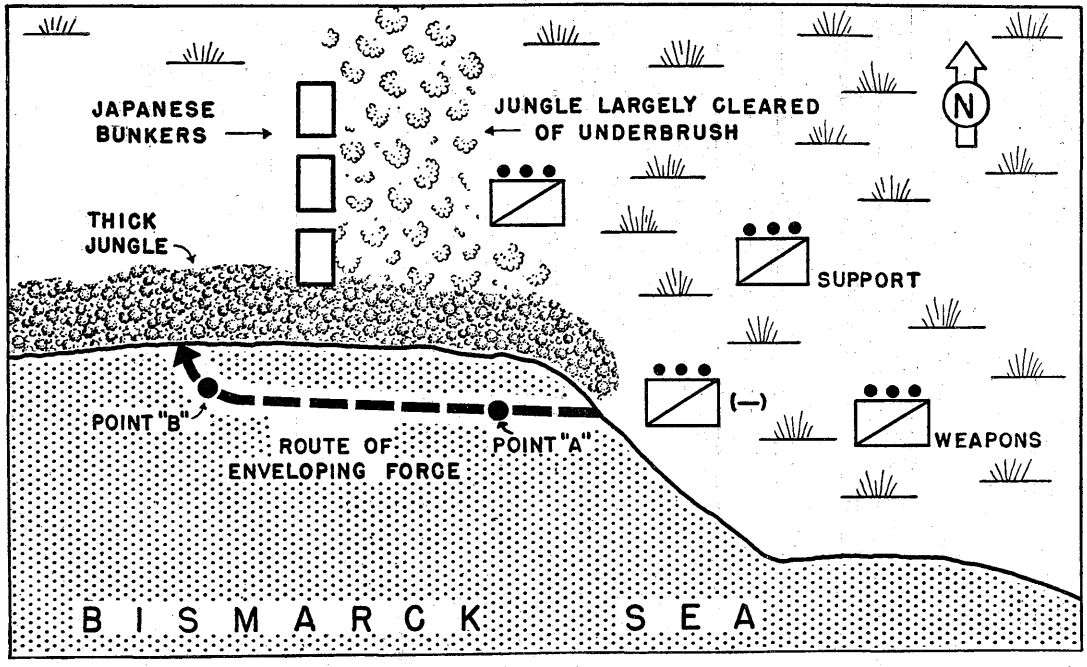
One troop was advancing west along the south coast with its left flank on the shore line. Another troop had the mission of clearing the enemy from the higher ground just west of the swamp, and a third troop was in support of the westward advance, about 200 yards in rear of the leading elements. The primary mission of the weapons troop was to support the advance to the west and its secondary mission was to be prepared to assist the troop to the north upon call.

"The enemy had been executing a delaying action with small combat groups in bunkers and numerous snipers operating between these bunker positions.

Reconnaissance "The leading scouts of the troop advancing westward along the south shore suddenly received fire from their front. They took cover and signalled the remainder of the troop to halt. The troop commander moved forward to join his scouts and acquaint himself with the situation. Reconnaissance patrols were promptly organized and dispatched.

Information Obtained "These patrols returned with the information that there were three bunkers, the southernmost being about 15 yards inland. The bunkers were old and well concealed by growing vegetation, and were covered with one thickness of coconut logs and from 1 to 3½ feet of earth. They had slits on the east and west sides only; this would make a frontal attack a costly operation.

"To the front was a swamp 30 to 60 yards inland and roughly paralleling the shore. It would be impossible to negotiate quietly the swamp to the north of the enemy positions; to send an enveloping force by way of the ridge to the north would require more time than remained before dark.


JAPANESE BUNKERS
JUNGLE LARGELY CLEARED OF UNDERBRUSH
N
THICK JUNGLE
SUPPORT
(—)
WEAPONS
POINT "B"
ROUTE OF ENVELOPING FORCE
POINT "A"
B I S M A R C K S E A

"The vegetation was especially heavy for a few yards inland along the beach. This dense vegetation would permit the approach of individuals especially adept at traversing such growth, but it was doubtful if a platoon, or even a squad, could get through it without detection.

"Considerable underbrush had been cleared away, from about 5 yards inland to within a few yards of the swamp, to provide passage and a field of fire for the Japanese forces.

"There was a protective reef offshore which caused the water along the beach to be quite smooth. The beach sloped off rapidly to shoulder depth about 10 yards out.

The Plan "After consideration of the factors developed by the reconnaissance, the troop commander decided to send one platoon, consisting of two full-strength squads, through the water along the beach to a position in rear of the bunkers. Another platoon would execute a holding attack, and the third rifle platoon would act as support and protect the right flank of the troop. The 60-mm mortars and LMG platoon would support the holding attack initially, but the mortars were to be prepared to support the enveloping force on call. A sound-powered telephone was carried with the flanking unit by the observer from the weapons platoon to maintain communication with the mortars.

The Attack "The enveloping force was formed in a column of half-squads with the platoon leader out in front. The platoon sergeant and the sergeant file-closer were with the second squad. In this formation they waded out into the water to where it was deep enough to leave only their heads and shoulders exposed. The weapons and ammunition were held above the water whenever practicable, but all were immersed at sometime during the move. In

the water the platoon presented a very small but unprotected target.

"As the platoon reached Point 'A' (see sketch) they were fired upon by small arms, presumably from the southernmost bunker. The Japanese field of fire was limited to a very small area unless they withdrew from the protection of the bunkers. The heavy-mortar and automatic-weapons fire from the supporting platoons prevented the enemy from leaving these covered positions. When passing through the fire-swept zone the soldiers kept their heads under water. Some of the men saw bullets hit the water, slow down and drop to the bottom.

"When the platoon reached point 'B' (see sketch) the Japanese began to withdraw from the bunkers. They moved west along the coast and came within view of the mortar observers. The retreating enemy was immediately bracketed and immobilized. A search was later made of the area and 9 enemy dead were found. The cavalry troop suffered no casualties.

"All weapons of the enveloping force functioned after immersion, except the pistol. The Thompson submachine guns performed as efficiently as when dry. Except for operating slowly for the first few rounds, the carbines and M1's functioned perfectly. All weapons had been coated with grease and the muzzles were tipped down, to drain them, before firing.

Conclusion "This operation demonstrated the necessity for initiative in taking advantage of favorable factors and the overcoming or avoidance of unfavorable ones. The dense vegetation along the shore permitted excellent reconnaissance to be made and largely screened the movement of the enveloping force through the water. Surprise would no doubt been lost in attempting a land envelopment to

the north, and the operation would have had to be delayed until the next day."

★

KWAJALEIN ISLAND

Weapon Training *Major Leonard E. Wellendorf, Battalion Commander, 7th Division:* "During the training period for this operation the two major elements stressed were use of demolitions and the knowledge of and use by the soldier of his individual weapon. Sixteen men were chosen from each company and given special training in the use of flamethrowers and demolition charges under many varied conditions. These men were trained to act as a team, or could be divided into smaller units depending on the situation.

"I am convinced that a most important contributory factor to the success of this operation was the thorough training each individual soldier received in the use of his individual weapon. His superior marksmanship over the Jap saved many lives.

Communications "In an effort to solve the problem of rapid communication between tank platoons and sections, and Infantry platoons and companies, a reel of field wire inclosed in a box was mounted on the rear of the tank. A field phone was attached to one end of the wire and installed in the tank while the other end of the wire was left free to drag along behind the tank. Each infantry squad carried an EE-8 field phone so that they could hook onto the wire dragging along the ground. A switch and a light, operated by the ringer circuit, were installed in the tank to act as a signal that the outside phone was connected.

"This system proved helpful on many occasions, although a number of the reel boxes were knocked off or damaged. Also it was impossible at times for the infantrymen to expose themselves long enough to connect their phones.

COMMENT: Reports received from France have also mentioned the successful use of an exterior-mounted telephone on tanks working in close cooperation with infantry. While the method has obvious limitations it is published as having had some measure of success in establishing liaison between tanks and the smaller infantry unit.

★

Night Fighting "I believe that training in night fighting should receive more attention. However, in operations such as at KWAJALEIN, many lives would have been saved if the troops had stopped advancing about 1630, consolidated their position, and dug in for the night. This would have permitted them to become fully acquainted with the terrain peculiarities in their immediate vicinity and with the location of adjacent units. Security would be obtained by using the system developed in the SOUTH PACIFIC of position immobility during darkness with orders to sentries to shoot at anything that moved. This might have prolonged the operation somewhat but would have saved many lives and eliminated the major problem of maintaining communication with moving units during hours of darkness."

COMMENT: The system of immobility during darkness with orders to sentries to shoot at anything that moves can only be used under suitable conditions. Its application offers obviously dangerous possibilities. In this connection recent reports from the South Pacific empha-

size that all types of small-arms fire are discouraged during darkness except in the case of a major hostile attack. The use of the hand grenade is favored since it avoids disclosing the defender's position.

★

Bunkers and Pill Boxes "While the naval and air bombardment did a remarkable job in destroying Japanese bunkers and pillboxes, quite a number of them were still in good shape and had to be destroyed by the infantry. On approaching a bunker, a loud-speaker would be set up and an interpreter would broadcast a warning to the Japs to come out and surrender which they did on several occasions.

"In such cases they would be instructed to strip off all their clothing and to approach with their hands held high in the air. They have a bad habit of hiding a grenade or two in their clothing and using it as soon as they come close to our troops.

"When advancing past a bunker a small guard was left to warn the following troops if there was any doubt that the Japanese occupants had not all been killed. This method was successful in saving many lives."

★

AMPHIBIOUS MISCELLANY

Identification of Landing Craft *3d Marine Regiment, Report of Operations,* BOUGAINVILLE: "On 7 November the Japanese landed a composite battalion west of the KOROMOKINA RIVER just outside the Marines' beachhead. The initial landing was made unopposed although under the guns of an antitank platoon sited for beach defense.

". . . .They Would Be Instructed To Strip Off All Their Clothing . . . "

This was because the lieutenant commanding the platoon failed to recognize the boats as being Japanese.

"Training in the identification of landing craft is an essential subject for personnel of antitank elements since a primary assignment of such elements in an amphibious

operation will often be beach defense. Such training is also of extreme value to light antiaircraft gun batteries which frequently are located on the beach and should form a part of the antiboat defense."

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Souvenir Hunters a Liability *Combat Report, 3d Marine Division,* BOUGAINVILLE: "Very little captured material was turned in by subordinate units although it is known that considerable amounts fell into our hands. Men would not turn in articles they captured because of a desire to save them as souvenirs. This situation can be overcome by explaining to personnel the intelligence value of captured

"No Tickee—No Souvenir."

material and at the same time instituting a system whereby desired souvenirs will be returned to the individual when they have served their purpose as intelligence material. The Jap saying, 'the American fights for souvenirs' is quite true."

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Keep the Rifles Firing *Major General H. M. Smith, Commanding Fifth Amphibious Corps,* GILBERT ISLANDS: "One battalion at TARAWA assigned four men to do nothing but clean and repair rifles. These men would pick up rifles of the wounded and dead, clean and repair them, and then exchange them with front line troops who had no time to clean and repair their own rifles. This improvised method of keeping rifles in operation was excellent, and is recommended for possible adoption by other units in similar circumstances."

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EFFICIENT SECURITY is only obtained by providing against all contingencies, likely and unlikely.

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