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MILITARY INTELLIGENCE DIVISION • WAR DEPARTMENT • WASHINGTON D. C.

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INTELLIGENCE BULLETIN

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NOTICE

The MID monthly publication *Tactical and Technical Trends* has been merged with the *Intelligence Bulletin.* Beginning with this issue, the *Intelligence Bulletin* will include material of the type which formerly appeared in *Tactical and Technical Trends.*

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Cover Illustration: *A Japanese raiding party, having knocked out an outpost, prepares to open fire on a U. S. command post.*



THE "HUMAN" AT MINE

U. S. soldiers, hearing tales of the human antitank mines in Okinawa "spider holes", should not discount this tactic as just a hasty Jap field expedient. On the contrary, the explosive-laden Japs of Wana Ridge went to their death as the result of another directive from the catalog of desperation tactics of Imperial General Headquarters.

Last summer, apparently alarmed by the effectiveness of U. S. tanks in support of American infantrymen, a committee of high-ranking officers in Tokyo met to devise more effective methods of stopping Allied armor. Field experiments, conducted under the direction of Assistant Chief of Staff, General Ushiroku, resulted in what has become known to some U. S. troops as the shoulder-pack mine. These experiments likewise formulated the tactical doctrine by which Jap soldiers in camouflaged spider holes "must face death willingly" in organized attempts to destroy the tank support of American infantry attacks. This doctrine has been standardized by the Imperial General Headquarters, and disseminated throughout the Japanese Army.

Reports from the Philippines and other parts of the Pacific have indicated an increasing use of improvised box mines. Although used in many ways by the Japs, these boxed explosives are recommended by the Imperial General Staff as the principal weapon of Jap suicide soldiers whose mission is to attack U. S. tanks in close combat. As a carrying convenience, larger box charges may be equipped with shoulder straps. Shoulder-pack mines of this type were recovered on Leyte, along with a Jap prisoner who explained his mission to be that of a suicide antitank soldier.

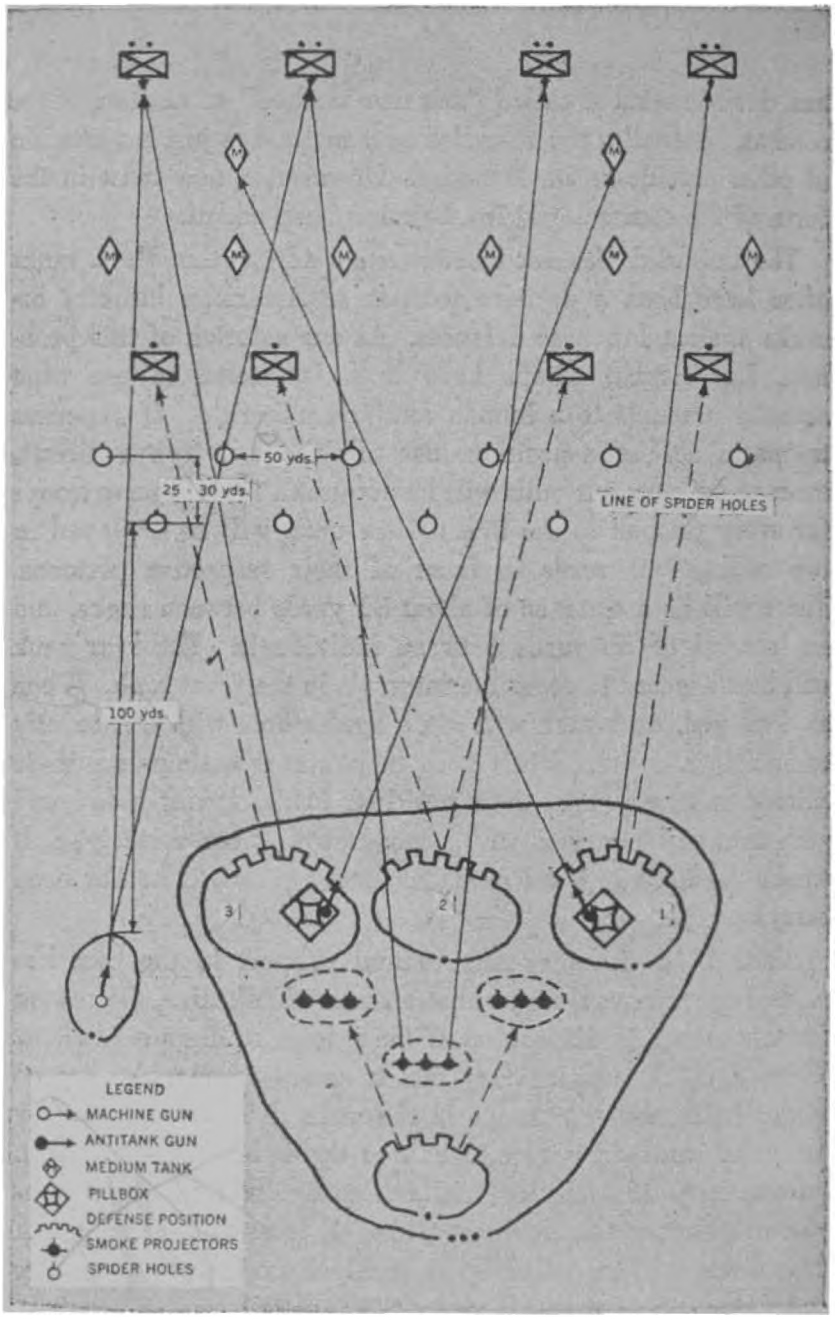
Box mines were recommended for two reasons: They can be improvised easily in the field, and they can be constructed with an explosive charge larger than that contained in many standard Japanese antitank mines. Although it is possible that box mines may be found in varying sizes, charges of from 10 to 20 pounds of explosive have been recommended for use against U. S. armor. These improvised box mines will be fitted with an ordinary pull-type friction fuze of 1-second delay, and with a short length of pull-cord.

It was for this weapon that the Imperial General Headquar-

ters devised what it called "this new method" of antitank close combat. Actually, the so-called new method is just a variation of other suicide antitank tactics. However, a new twist in the form of the camouflaged fox hole has been added.

The Imperial General Headquarters admits that U. S. tanks often have been a decisive weapon in American infantry assaults against Japanese defenses. As one solution of this problem, Jap combat troops have been instructed to use what actually amounts to a human antitank minefield. If Japanese troops in defensive positions use this tactic as Tokyo directs, ten-man tank-assault units will be organized from reserve troops for every platoon in the line. These units will be deployed in two ranks, 100 yards in front of their respective platoons. There will be a distance of about 30 yards between ranks, and an interval of 50 yards between individuals. The rear rank will be staggered to cover the intervals in the front rank. When so deployed, each man will dig a spider hole with a carefully camouflaged cover. When a U. S. attack is anticipated, these suicide units will take their positions in the spider holes, and each man will be armed with a shoulder-pack box mine, a small smoke candle, two hand grenades, and a pistol, if he has been carrying one.

Since U. S. infantry-tank mutual support in the past has made Jap antitank close combat virtually ineffective, the reason for this elaborate disposition of the suicide soldiers is obvious. When a U. S. tank-infantry attack enters the double line of spider holes, the Jap troops in the main defenses will try, by means of small-arms fire, to halt or throw back the American infantrymen. If available, antitank guns within the Jap perimeter will engage the rearmost tanks. It is at this moment that the suicide soldiers will leap suddenly from their spider holes and throw their box mines under the nearest tanks. Since these Japs are instructed to tie the fuze pull-cord around their wrist,



Plan of a Jap platoon defense sector behind a double line of antitank suicide soldiers in camouflaged spider holes. The platoon can give fire support to the tank fighters during their close-combat assault on the attacking tanks.

the mine detonates 1 second after it is thrown. If necessary, smoke squads in the perimeter will launch smoke projectiles into the area to give further cover to the suicide assault.

Fantastic though it may seem to U. S. troops, these tactics have been recommended in all seriousness by the highest Japanese military authority. Like much Japanese tactical doctrine, the spider-hole antitank defense will work only under the ideal conditions outlined here. Much depends upon coordination between the suicide soldiers and the defending Jap infantry—and upon the assumption that U. S. infantrymen will cease to support their tanks at the critical moment. However, it is entirely likely that, as on Okinawa, variations of this tactic will be encountered in future operations when American tanks and infantry move out to crush a Japanese strongpoint.

The Booby Trench

The "booby trench" is a Jap innovation on Okinawa. Advancing U. S. troops are often tempted to take cover in apparently little-used shallow trenches they find dug by the Japanese. But these trenches have been dug in areas which have been previously ranged in, and when U. S. troops drop into them, they are brought under direct mortar fire.

The Japs regard raiding parties as small investments that must pay big dividends. In each case the maximum damage that a handful of troops can inflict is the goal.

COMBAT METHODS OF
SMALL RAIDING PARTIES

Increasing activity in the form of small Japanese raiding parties, which infiltrate through Allied lines in an effort to launch surprise attacks against matériel and key personnel, has become a decided trend in the last few months of fighting in the Pacific.



Clearly intended as a compensation for the lack of artillery and air superiority in battle areas, these attacks may vary from concerted raids by trained units to small suicide assaults executed by ordinary Jap service or combat foot soldiers.

PELELIU

Prior to the operations on Morotai and Peleliu, the Japanese have reported, raids and surprise attacks by small groups had been carried out sporadically, for the most part, and without proper coordination. Moreover, the effectiveness of these raids had been momentary. Methods now are becoming more systematic and uniform, the enemy states. "The Peleliu garrison knew that death awaited it," Imperial Army Headquarters goes on to say. "Each line officer, of course, and each technical, finance, and medical officer, as well—everyone worthy of the name of officer—took his place at the head of a small band of subordinates, and carried out training and other preparations, determined to create death-defying fighting units." Although this statement is extravagant, as are the claims of success made for these raiding parties by the enemy, it is true that training of small infiltration and close-combat teams was undertaken by the Peleliu garrison, and that a number of raids were attempted.

The Japanese especially recommend the use of a flexible unit of small, coordinated teams, of a type employed on Peleliu. "Although procedures must vary, depending on the target, Allied dispositions, terrain, time, and changes in battle conditions, it generally is best to entrust an infiltration raiding attack to a small number of men operating under cover of darkness. This is especially true when each team is composed of only two or three men, who try to infiltrate Allied positions without being detected by searchlights and other warning equipment."

On Peleliu it was considered that the most promising targets were Allied tanks (whether on the move or organized into a

strongpoint within a bridgehead), fire points surrounded by simple obstacles (including land mines), signal liaison centers, warning and searchlight installations, Allied commanders, and bunched-up troops.

"In counterattacks executed under intense bombing and artillery fire," the Japanese said, after Peleliu, "the recommended strategy is to send a large number of infiltration and close-combat teams to probe into the enemy lines from many directions and along a wide front. Within the enemy lines four waves of these teams will attack at night according to a 'saturation plan.' It is particularly important that the enemy's tanks and artillery, the backbone of his combat power, be destroyed. In advancing for this purpose, personnel must take all possible advantage of the terrain—small caves, folds in the land, shell craters, and thickets. After infiltrating, the teams should keep themselves concealed within the enemy's lines for one or two nights, so that the enemy can be caught off his guard by means of surprise attacks on a subsequent night."

The Peleliu operations led the Japanese to recommend the use of small amphibious commando teams equipped with small boats (collapsible and other improvised boats, small rafts, and at times even small landing barges), gasoline in drums, incendiary equipment, mines, depth charges, and small arms. These teams attempt to harass Allied landing craft under cover of darkness, while the raiding parties are launching surprise attacks in beachhead sectors. Also, amphibious commando teams may be supplemented by "suicide swimmers".

MOROTAI

During the past winter it was discovered on Morotai that certain "fundamental instructions" had been given to Japanese soldiers who had been selected, or who had volunteered, to lead small raiding parties in commando operations.

Leaders were to select men who were "daring, quick, healthy, and conscientious" or were to use experienced men. Uniforms —and presumably equipment, too—were to be as light as possible. The danger of leaving footprints was stressed, and the use of rubber-soled canvas *tabi* was recommended.

Flanks were to be kept moving, and precautions taken not to invite air bombardment. Raiding parties were not to linger in any one place. Everyone was to be camouflaged. During the approach, parties were to take advantage of heavy rainstorms and cold weather.

Raiding parties were advised to take cover immediately upon discovering an Allied force and to make sure of their aim at close range. Allied patrols and guards were to be engaged by surprise attacks.



"During the approach, raiding parties were to take advantage of heavy rainstorms and cold weather."

The party leader was to instruct his guards to use hand grenades against Allied gasoline and ammunition dumps. Also, hand grenades were to be tossed into Allied officers' quarters.

The principle of making every round count was emphasized. When firing upon an Allied patrol, the first Allied soldier in line was to be killed, and the remainder in succession. [However, an *Intelligence Bulletin* reader on Luzon notes that, in his unit's experience, the Japanese seldom fired upon the scouts, but waited for the third or fourth man in the hope that he would prove to be the patrol leader. In all battle areas, the Japanese continue to regard small-unit leaders as primary targets.]

It was pointed out that a raiding party might attack to advantage during an air raid.

If attacked, in turn, members of a raiding party were to observe the strength, armament, and equipment of the Allied force—presumably so that all this subsequently could be reported by survivors. Japanese troops were urged not to be afraid of the concentrated mortar fire which could be expected to follow their use of rifles and grenades.

Japanese wounded either were to be hidden, or put to death. It was stressed that they must not fall into Allied hands. This led to mention of the necessity of capturing Allied soldiers for interrogation purposes.

When surrounded by an Allied force, Japanese soldiers either were to break through the encirclement or commit suicide. Nevertheless, provision was made for conduct in case of capture by Allied troops. In particular, the Japanese were warned not to divulge unit code names or the strength of units. It may be noted, incidentally, that the Japanese rarely furnish their troops with such "instructions in case of capture", lest the death-in-battle-or-suicide tradition be weakened.

In Burma, the Japanese are making extensive use of so-called "matériel raiding parties", as well as combat and reconnaissance patrols. Parties are not sent out haphazardly, with general instructions to destroy any matériel. Most active during periods of Japanese attacks, the raiders try to destroy selected equipment that may have an important bearing on the course of the battle. Motor transport bringing forward Allied supplies, as well as artillery pieces engaged in harassing Japanese attacks, constitute typical targets. It should be noted, too, that the Japanese avoid the willful destruction of any Allied equipment that they believe they may be able to capture later on and put to their own use.

Such raiding parties have not hesitated to launch aggressive surprise attacks against Allied personnel operating, or bivouacked, in the vicinity of equipment that the Japs have selected for destruction. On one occasion, for example, a raiding party attacked a vehicle park, drove the defending troops into the surrounding hills, and then destroyed the vehicles by the simple expedient of bayoneting the gasoline tanks and igniting the escaping gasoline. On another occasion, a raiding party succeeded in working its way among some British artillery gun crews while they were firing at night. The Japs destroyed some of the equipment by means of magnetic antitank mines, and killed some of the crews before they could comprehend exactly what was happening. But the surviving gunners—by rallying, killing most of the raiding party, and driving off the remainder —prevented the Japs from achieving large-scale damage.

The Japanese also have been known to try to slip through the perimeter defenses of airstrips, in the hope that they could place bombs—either of the magnetic type or equipped with short delay fuzes—in front of aircraft radiators, in air scoops, in the baggage compartments of aircraft, and so on. Raiding parties



"A raiding party attacked a vehicle park, drove the defending troops into the surrounding hills, and then destroyed the vehicles by the simple expedient of bayoneting the gasoline tanks and igniting the escaping gasoline.

attempting missions of this type are likely to carry bangalore torpedoes, for use against wire defenses.

Matériel raiding parties in Burma appear to consist primarily of infantry and such other troops (generally engineers) as may be dictated by the nature of the respective missions.

LUZON

Information regarding the theory of small Japanese suicide assault units, and the use of Formosans by such groups, was obtained on Luzon.

The enemy envisaged the destruction of U. S. guns, tanks, headquarters buildings, and other installations as the primary missions of these raiding parties. The composition and size of a unit depended upon the nature of its mission, but a three- to five-man group, under a competent noncom, leading private, or first-class private, was considered desirable under average cir-

cumstances. The Japanese felt that a number of such groups (five three-man groups or three five-man groups, for example) under a suitable officer or noncom should be used to attempt raids deep into hostile territory, utilizing gaps in hostile dispositions, and to launch simultaneous attacks against several such objectives as airfields, tank assembly points, and so on.

The idea of using Formosans as the "feelers" for a raiding party during concealed movement was looked upon favorably by the Japanese. The principle behind this was that the Formosans' acuteness of vision and hearing, as well as their physical ability to cope with rugged terrain, made them especially suited for night reconnaissance. Leaders of raiding parties were ordered to maintain the relationship of master and servant between themselves and the Formosans.

In most instances a three-man group was considered sufficient for an attack on a headquarters, a signal station, an assembly point, or a fuel or ammunition dump. Only explosives which could be carried easily were to be used, and a large quantity of incendiaries was recommended for the attacks on the dumps.

LEYTE

During the fighting on Leyte U. S. troops in some areas had to deal frequently with raiding parties bent upon attacking and destroying heavy artillery weapons, tanks, and bridges.

An average raiding patrol of this type consisted of approximately 20 men under the leadership of a Jap officer. Each man was armed with a rifle with only ten rounds of ammunition, and each carried a magnetic armor-piercing mine. Apparently, these raiding parties carried very little food with them, and depended for rations upon what they could forage. Because their mission was to attach their magnetic mines to vehicles and guns, these raiding troops would not engage U. S. troops in combat except in self-defense, or to further their mission.

A distinction must be made, of course, between suicide assault units and small raiding parties that are expected to return, if possible, to a parent unit.

It is well worth noting that the Japanese in the Philippines have found suicide attacks by small raiding parties unusually costly in the loss of key personnel. Recognizing that such a trend is likely to affect the subsequent conduct of battle adversely, at least one Japanese army has directed that privates, rather than officers or noncoms, be assigned to lead suicide assault patrols consisting of two or three men.

Dirty Work on Iwo



During the night, Jap soldiers would booby-trap Marine dead with pressure-release charges.

Snipers wearing Marine uniforms were reported again by front-line troops, and enemy snipers taken prisoner disclosed that they hid under our dead during daylight hours, and came out at night to fire.



COMBAT LESSONS FROM

OKINAWA

Although the Japanese troops on Okinawa have had their hands full defending that strategic island, they nevertheless have found time to observe and analyze the combat technique of the U. S. troops. Their observations have been passed on from one Jap outfit to another. But American soldiers also may pick up some useful information from this Jap's-eye view of U. S. tactics in the Ryukyus.

TANK-INFANTRY TACTICS

As of last April, at least one Japanese unit had formed very definite opinions regarding U. S. use of tanks and infantry. These Japs believed that the best way to fight U. S. tanks was to let them approach within short range of antitank guns, and then to engage the armor with surprise fire. If antitank guns were not available, defensive efforts were to be concentrated on the supporting American infantry. Jap soldiers were taught that seven or eight infantrymen would follow in support of each tank, but that if one American was shot, the others would either halt immediately or withdraw.

The first wave of U. S. armor, the Japs observed, either bypassed or drove swiftly through villages, but succeeding waves of tanks would enter each village and destroy it with gunfire and flame throwers. As a result, the Japs decided that a net of antitank close-combat positions (see the story on "spider hole" tactics, on page 1) should be prepared in the fields in front of the villages.

It was the belief of this Jap outfit that U. S. troops used smoke shells to designate Japanese positions, and then laid concentrated fire on those targets, to cover the advance of the tanks and infantry. Under such conditions, the Japs said they found it best to use the cover provided by the smoke to close in and attack the tanks. They also found it necessary to establish a tank observation post, because the U. S. tanks were quieter than Japanese armor. The identity of tanks, they found, could be determined at approximately 1,000 yards when the tanks were moving on a road, whereas they could not be identified properly when moving cross-country until they were within about 80 yards of the observation post.

American tank troops, they claimed, provided plenty of opportunities for close-combat attacks, because, even though a leading tank was fired upon, succeeding tanks would follow the same route. Also, tanks sometimes would open their hatches to pass ammunition to the supporting infantry.

It is the opinion of some Japanese that U. S. infantry is "decidedly poor" in deploying, rushing, crawling, and firing. Whenever Americans encounter resistance, the Japs said, they do not select the proper targets. Instead, they "fire wildly". The Japs added that U. S. tanks are guided by the supporting infantry, and that every effort consequently must be made to "annihilate" the infantry. They claim that only half of our infantrymen are armed with rifles, that the other half are kept fully occupied carrying ammunition, radios, and litters.

PROCEDURE AT NIGHT

These enemy soldiers observed that the U. S. troops who had opposed them broke off the action at dusk and retired to dig into a perimeter defense for the night. Dusk, the Japs said, is a better time than night for infiltration attacks. However, they noted that there were U. S. guards at 10-yard intervals around the perimeter, and that an all-around defense in depth with automatic weapons was a U. S. procedure. Similarly, tanks at night formed a perimeter with other vehicles.

It was pointed out that U. S. troops fire during the night, but seldom make an offensive move in the dark. The Japs have observed that three or four men work together in building a position for the night, and that a Japanese night attack brings flares followed by mortar fire from the American perimeter. On the principle that the interval between a flare and a mortar barrage generally is very short, the Japs advise their comrades to hit the ground fast.

JAP DEFENSE NOTE

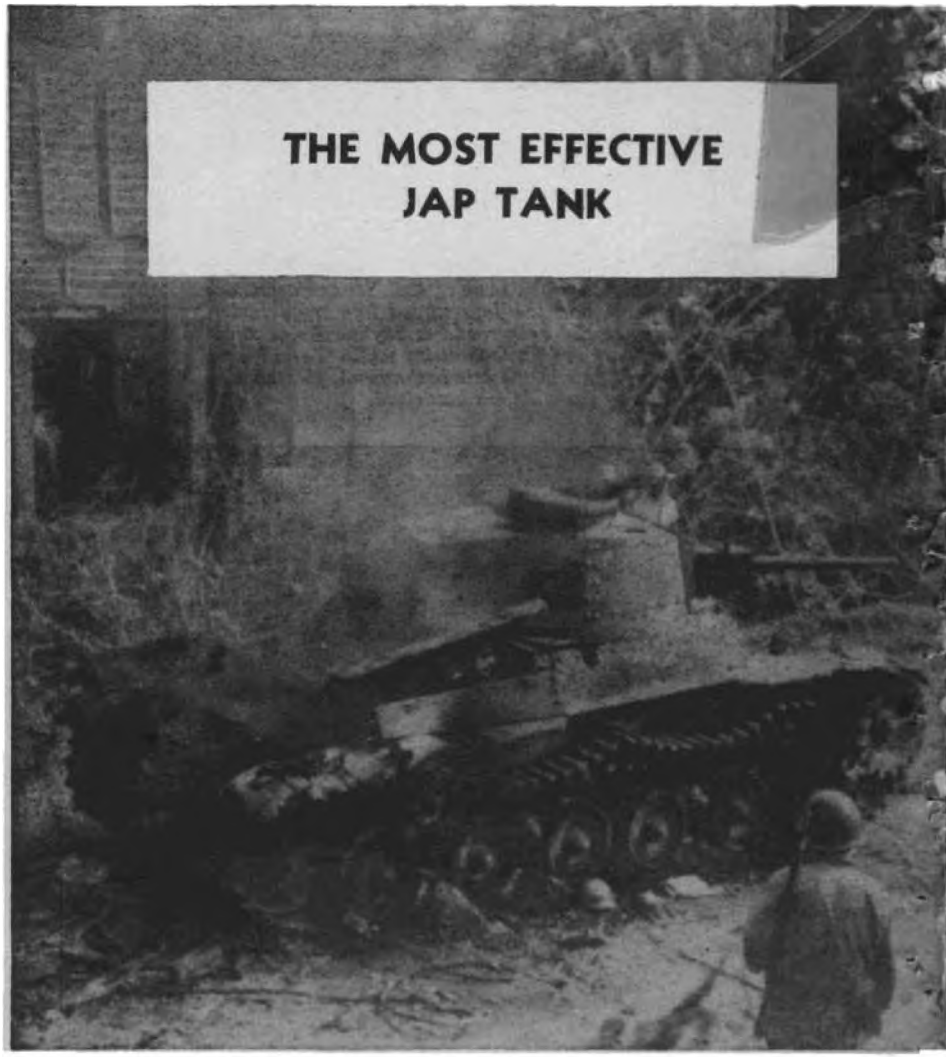
For their own defense, the Japanese advocate what they call the "bottle-shaped" fox hole, completely camouflaged. They recommend preparing numerous bottle-shaped fox holes around the cave-type dug-outs, so that defending troops can fire and change position frequently. Great emphasis is placed upon moving out of a position as soon as it has been discovered. Positions should be changed, the Japs say, "whenever a lull or calmness occurs", as a heavy artillery barrage is sure to follow.

The Japs making the report did not speak very highly of the local civilians who had been conscripted for combat with their organization. Instead of holding a formation, the Japs complained, these conscripts would scatter in all directions whenever they encountered small-arms or artillery fire.



TOMBSTONE HILL

This is Tombstone Hill on Okinawa as snapped by a YANK photographer shortly after its capture by U. S. troops. The burial vaults, some of them blasted apart, are typical of many that the Japs turned into small underground forts. In the background is Skyline Ridge under attack by infantry and flame-throwing tanks. These ridges, and the watery flats in the left background, give an idea of the terrain of the Okinawa battlefield.



The most effective Japanese armored vehicle thus far met by U. S. forces is the Type 97 (1937) medium tank (improved), a 15-ton tank mounting a high-velocity 47-mm gun as its chief armament. This vehicle, which first appeared in the Philippines in 1942, has since been encountered in Burma and the Pacific

theaters. A number of Type 97 mediums (improved) constituted a sizable part of the Japanese armored division which operated on Luzon in January and February 1945.

Although this tank is considered a superior fighting vehicle, Japanese armor on Luzon never mounted an attack with more than 16 tanks at any one time, and never employed the principle of mass. Instead of making use of the mobility of its tanks, the Japanese division chose, instead, to fight from fixed defenses and emplacements and to make piecemeal counterattacks. As a result, the Japanese armored effort resulted in little more than delay.

USED IN DEFENSIVE ROLE

The general design of the Type 97 medium (improved) is satisfactory, but engagements with U. S. tanks have shown that its present maximum armor thickness (1 inch to possibly as much as 1.29 inches) will not withstand high-velocity projectiles. Perhaps for this reason, Jap medium tanks on Luzon—the first formidable armored force to oppose the U. S. advance toward Tokyo—were employed chiefly to stiffen village defensive positions. The tanks—well dug-in under thick, concealing foliage and with adobe revetments—were used as a nucleus around which all other defenses were built. Alternate positions were prepared so that the enemy armor could be shifted around the perimeter as the situation dictated. The number of tanks of all types employed in defense of individual villages varied from nine to 52.

Armored counterattacks were employed only as a last resort, when it appeared inevitable that local defenses would collapse. These limited attacks were launched under cover of darkness in support of infantry *banzai* charges. The enemy tank crews invariably became confused and were easy prey for U. S. antitank weapons.

The enemy on Luzon only once employed armor in daylight to support an infantry counterattack. The three tanks and two self-propelled 150-mm howitzers committed in this attack were destroyed, and three other tanks then withdrew without entering the fire fight.

In many instances, tanks were observed moving in convoy with general-purpose vehicles; however, it was not definitely determined whether this was done to give protection to the column or as a matter of convenience.

HIGH-VELOCITY GUN

The Type 97 medium tank (improved) is a modification of a 15-ton tank first produced in 1937. The Japanese class both as mediums although they fight at about the same weight as the U. S. light tank M5A1. As far as can be determined, the hulls of the original and improved versions of the Type 97 medium are identical, and both are powered by a V-12 cylinder, air-cooled Diesel engine with overhead valves. The chief modifications introduced in the improved version of the Type 97 medium are changes in the turret and the substitution of a high-velocity 47-mm gun in place of the original version's low-velocity 57-mm gun, a weapon unsuited for tank-versus-tank fighting. Although the substitution of this weapon necessitated redesigning the turret, the armor thickness (maximum of 1 inch to possibly 1.29 inches) was not increased, nor was any other major improvement effected.

The Type 97 medium (improved) is readily recognized by its elongated turret, slightly offset to the right. The generally circular turret of the original version has been changed to a rectangular, over-hanging type, long and low in appearance. The turret is 76 inches long and 56 inches wide at its widest point. There is no provision for a hand ring, like the one provided on the original Type 97 medium tank.



Japanese Type 97 (1937) medium tank (improved).

ARMAMENT

The Type 97 medium tank (improved) mounts a Type 1 (1941) 47-mm tank gun and two Type 97 (1937) 7.7-mm tank machine guns. One machine gun is mounted in a ball mount forward in the hull, and the other in the rear of the turret.

The 47-mm tank gun is a high-velocity semiautomatic gun, equipped with a hydrospring recoil mechanism; since the gun is mounted at the point of balance, no equilabrators are used. The gun has a muzzle velocity of 2,700 feet per second; an elevation of -15° to 20°; and a free traverse of 10° right and left, and a mechanical traverse of 360°. The gun is equipped with an excellent 4 x 14° panoramic telescopic sight, resembling the U. S. M6 sight used on the U. S. 37-mm antitank gun M3.

Recent combat reports indicate that the quality of the 47-mm armor-piercing, high-explosive projectile has been improved. Moreover, tests show that the 47-mm tank gun will penetrate the U. S. M4A3 at 500 yards or more. In combat, one U. S. M4A3 medium tank was hit six times with armor-piercing, high-explosive rounds from this gun, at an angle of impact of approximately 30 degrees. Five complete penetrations and one partial penetration resulted. The range, according to members of the U. S. tank crew, was approximately 150 to 200 yards.

SPECIFICATIONS

Additional specifications, based on preliminary reports and subject to correction, for the Type 97 (1937) medium tank (improved) are as follows:

Weight (approx.)	15 tons
Length	18 ft. 2 in.
Width	7 ft. 8 in.
Height	7 ft. 9 in.
Ground clearance	13½ in.

Armor thickness (may vary 5 to 10 mm, and may be increased):

	Millimeters	Angle to vertical
Turret front	33	
Turret sides and rear	26	11°
Hull front	25	11°
Hull glacis	16	82°
Hull upper nose	16	60°
Hull lower nose	20	30°
Hull side	26	25°
Hull lower side	9	0°
Hull rear	20	curved
Hull top	13	90°
Hull floor	8	90°

Transmission:
- Type ..... sliding gear, with high-low transfer case
- Speeds ..... 4 forward, 1 reverse

Width of tracks ..... 13 in.

Performance
- Obstacles
  - Trench ..... 8 ft. 3 in.
  - Ford ..... 3 ft. 3 in.
  - Gradient ..... 30° to 45°
- Speed ..... 25 miles per hour

Crew ..... 4 or 5 men

PENETRATION TEST

A field test has been conducted by a U. S. antitank company to determine the penetration capabilities of U. S. infantry antitank weapons attacking the Type 97 medium tank (improved). U. S. weapons used in the test were the caliber .50 machine gun, the rifle grenade, the 2.36-inch rocket, and the 37-mm antitank gun.

The caliber .50 machine gun fired on the Japanese tank at three different ranges—35 yards, 50 yards, and 100 yards. In firing on the front of the tank at a range of 35 yards, penetrations were registered on the ball-mounted machine gun only; no penetrations were made on the vision aperture, turret, or



Type 97 (1937) medium tank (improved)—front view.



Rear view of Type 97 (1937) medium tank (improved).

curved or sloping surfaces. At 50 yards, 35 percent penetrations were made in the plate behind the suspension system (on the side of the tank), the ball mount of the rear machine gun, and the under surface of the rear of the tank. At 100 yards, no penetrations were made on any part of the tank.

The rifle grenade was fired at a range of approximately 50 yards. When the grenade was fired at a normal angle to 45 degrees from normal, penetration was made on all parts of the tank, with the exception of the gun shield. The diameter of the penetrations was approximately ½ inch.

The 2.36-inch rocket was fired against the tank at a range of approximately 50 yards. Penetrations were made in all parts of the tank when the rocket struck at angles from normal to 45 degrees from normal. The diameter of the penetrations was approximately ¾ inch.

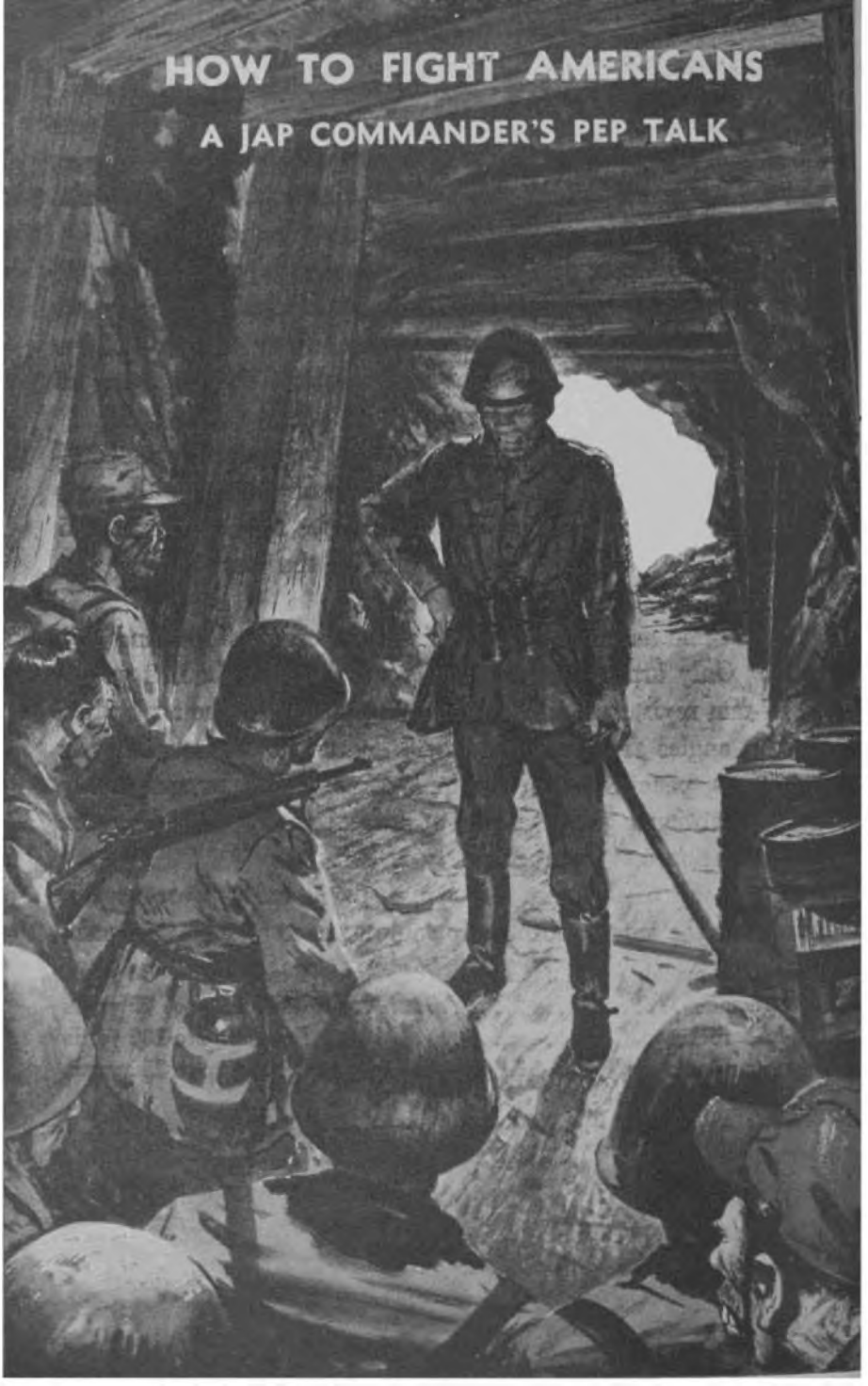
The 37-mm antitank gun was fired at ranges of 100 and 350 yards. Only armor-piercing shells were used. At 100 yards, the 37-mm registered penetrations on all parts of the tank when fired at angles from normal to 45 degrees from normal. At 350 yards, penetration of the tank armor could be made only when the antitank gun was fired at normal angle. The diameter of penetration was approximately 1½ inches.

As a result of this test, the ranges listed below were recommended as the most favorable for employment against this tank:

Caliber .50 machine gun	Ranges up to 50 yards
Rifle grenade	Ranges up to 75 yards
2.36-inch rocket	Ranges up to 100 yards
37-mm antitank gun	Ranges up to 350 yards

HOW TO FIGHT AMERICANS

A JAP COMMANDER'S PEP TALK





Jap officers, who have learned to respect American fire power, are continually seeking a means whereby their troops may survive the effect of bombardment and yet remain an efficient fighting force.

Late in January of this year, a Japanese battalion commander in the Clark Field area was faced with imminent attack by troops of the U. S. Sixth Army driving down the central plain of Luzon. Realizing that it was impossible for his small force to counter the American advance, he withdrew his troops to the hills. There the Japanese major gave to his troops a series of instructions in which he astutely estimated the general trend of U. S. tactics and the best means of conducting a defense against them.

ESTIMATE OF U. S. TACTICS

Placing special emphasis upon the U. S. superiority of fire power, the Jap major told his men that the American attack would come in three phases: fire preparation, advance and encirclement, and the final assault.

"U. S. troops," he said, "will first attempt the complete destruction of the Japanese forces by artillery and air bombardment—even if it requires the constant expenditure of thousands of bombs and shells over a period of 3 days just to neutralize a hill position 300 yards in frontage and depth.

"Then, after this fire preparation, the American tanks and infantry will advance under cover of artillery and air support

until they are within 40 to 50 yards of their objective," he said. "Here they will dig in, and thrust forward gradually until our position is surrounded. Tanks will be used as pillboxes, and, having encircled us, the Americans will close in until we are completely annihilated.

"However," he continued, "if, during their advance, they discover that our troops still occupy their objective, the Americans will revert to the first phase of the attack and resume the air and artillery bombardment. But when the Americans actually reach their assault positions, they will launch attacks against the objective, using flame throwers, hand grenades, and grenade dischargers. During the Leyte operations there were also instances of hand-to-hand fighting.

"American tanks, assisted by superior air and artillery power, will stay outside the effective range of our antitank guns, and will deliver sudden and unexpected neutralization fire. Then, when our antitank guns have been destroyed, these tanks will penetrate our forward positions to prevent us from undertaking hand-to-hand combat.

"Generally, the Americans do not use a large force in carrying out night attacks, and at present it seems as though they are not attacking at night. Instead, they employ every possible means—such as army dogs and listening devices—to prevent our men from infiltrating into their positions. Therefore, it is up to us to devise a method of penetrating American defensive perimeters."

JAP COUNTER TACTICS

Having forewarned his men as to the general pattern of the forthcoming battle, the battalion commander outlined the manner in which the attack would be met. "In opposing such enemy tactics," he said, "it is imperative that you take refuge in caves during the air and artillery bombardments, to prevent the loss

of even a single man. At intervals between bombardments, observers will provide security against the unanticipated approach of hostile infantry. When the enemy infantry comes within our effective range, combat troops will man their weapons."

"In such an event," he continued, "emphasis will be placed principally on sniping both with rifles and heavier weapons. Markers will be placed 50 yards in front of the final protective line, so that when the enemy approaches the marker, fire can be directed against him. Random firing is prohibited, as is all night firing. Each unit commander will instruct his men to make the present supply of ammunition last for over a year of fighting.

"I am establishing ranges at which the various weapons may open fire," the Major said. "The following will be adhered to



Rifles, grenade dischargers, and light machine guns may open fire at 200 yards or less.

closely. Rifles, grenade dischargers, and light machine guns may open fire at 200 yards or less. Other machine guns may fire at 300 yards or less. Machine cannon and antitank guns may open fire at any target under 500 yards range.

"When the enemy has advanced to within 50 yards of our positions, you will either destroy the Americans with grenades, or charge boldly and destroy them by means of the close-combat tactics peculiar to the Japanese Army. It is also imperative that we consider the vast effectiveness of primitive and crafty tactics, such as dropping boulders from cliffs and using straw dummies to divert enemy fire.

"At night," he continued, "we must find the position in which the Americans have halted their attack. Patrols will reconnoiter such positions in an attempt to infiltrate and attack such objectives as heavy guns, tanks, American officers, supply dumps, and so forth. Such infiltrating units will fight at close quarters, but before launching an assault, hand grenades and other explosives will be thrown forward to stun, wound, or kill the enemy.

"In short," the major concluded, "by reinforcing our caves, we must try to reduce damage to ourselves during air and artillery bombardment. But if we neglect the tactics of encirclement and close-quarter fighting, there is very little chance of our defeating the U. S. forces, who depend upon material superiority. In these battle instructions, I am speaking only of the distinctive characteristics of the tactics to be employed against the Americans. As for other matters, it is advisable that you study the appropriate Army manuals. Remember—they are the fruits of bloodshed."

The soldiers of the Japanese battalion, having received their commanding officer's instructions, retired to their cave positions. They were defeated. But the battle was one of the roughest fights in the U. S. liberation of Luzon.

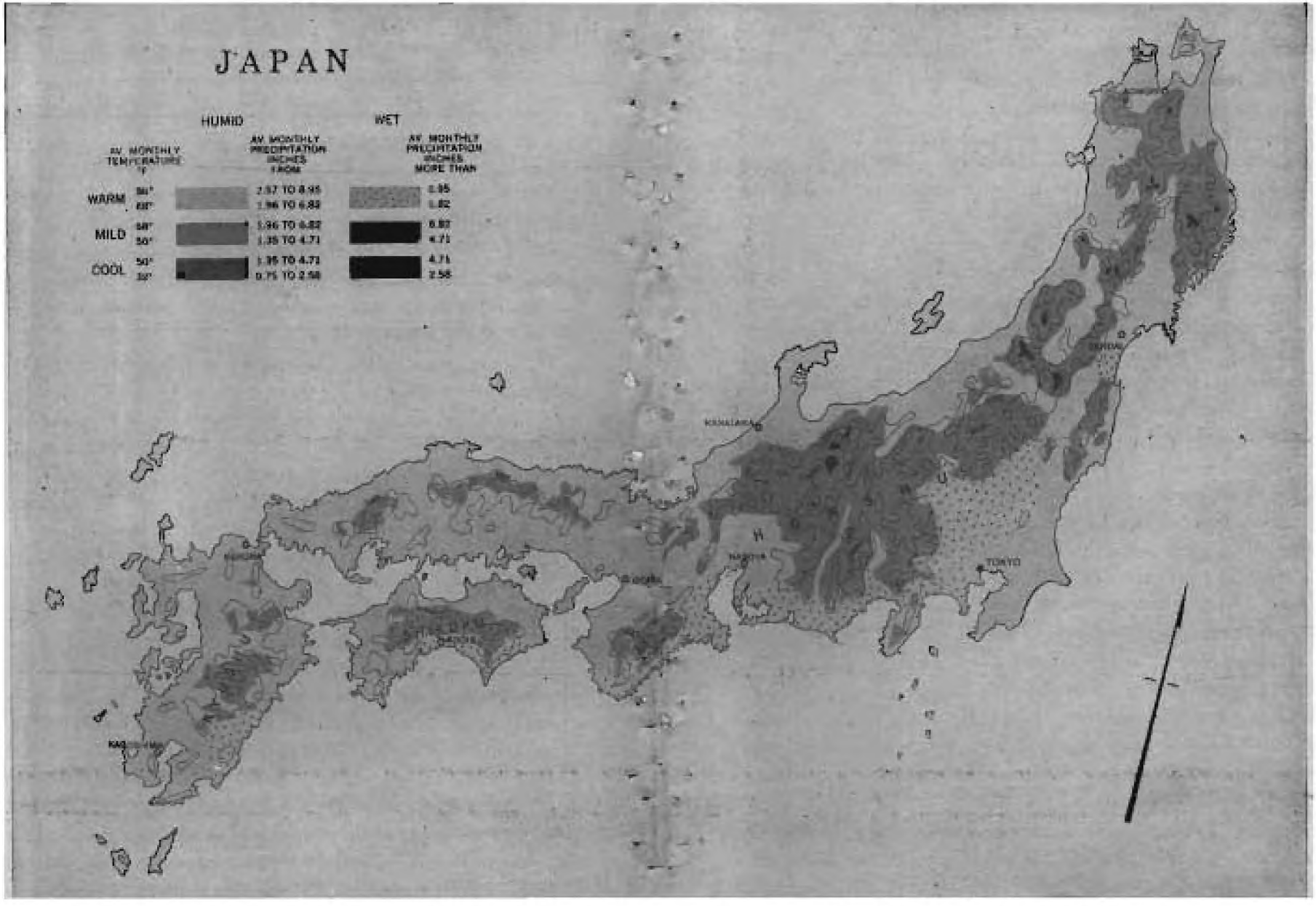
JAP WEATHER

The old gag "It isn't the heat, it's the humidity" must be altered to "It's the heat *and* the humidity" to describe the climate of Japan during August. In this month the relative humidity throughout the islands is above 80 percent. Moreover, just to make things tougher, August is the warmest month of the year in the Japanese area.

This is reported by the Climatology and Environmental Protection Section, Office of the Quartermaster General, which has prepared the accompanying climatic zone maps of Formosa and Japan (minus Hokkaido and the Kurile Islands) for the month of August. First of a series of monthly weather maps of Japan, these charts are designed to give the American soldier a general idea of what to expect in the way of weather around Japan.

In August the average temperature differences throughout most of the Japanese islands are slight, varying from 81° F. in Formosa and Kyushu to 73° F. in northern Honshu. Only in northern and eastern Hokkaido, in the Kuriles, and in the mountainous regions is the climate considerably cooler; the August temperature in the extreme eastern part of Hokkaido averages 62° F., and at Syana, in the Kuriles, it drops to 60° F. Mountain temperatures, which decrease about 3° F. per 1,000 feet, go below 50° F. at about 9,000 feet in central Japan in the Japanese Alps and at about 5,000 feet in central Hokkaido.

The maximum rainfall is approximately 7 inches when the temperature is 68° F., and decreases with corresponding drops in temperature. In general, the wet area is limited to the mountains in Japan, but it reaches the coast along eastern Kyushu,



Climatic zone map of the main Japanese home islands for August.

August is Japan's hottest month, with a high relative humidity.

southern Shikoku, and the mountainous coast of southern Honshu east of Shikoku.

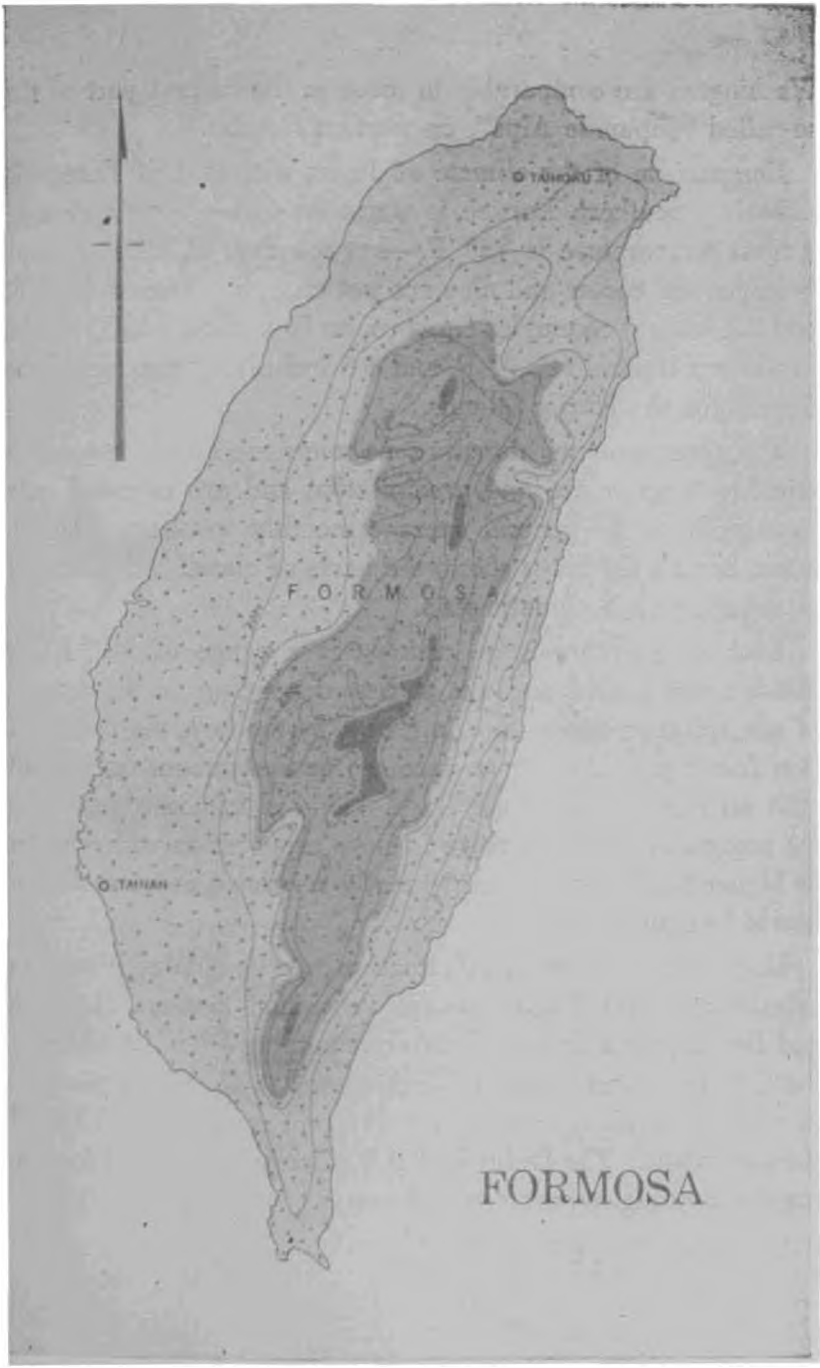
At certain places—Ome, Koti, and Siomisaki—the precipitation may be above 10 inches, and it is above 5 inches practically everywhere on the islands of Honshu, Shikoku, and Kyushu. Average rainfall is 5.88 inches at 60° F., the lowest average August temperature being at about sea level in the Kuriles.

In comparing the climates of Japan and the United States during August, the nearest approach to the lowland climate of Formosa, Shikoku, and Kyushu is found in our southeastern states. Miami, with a temperature of 82° F. and 6.3 inches of rainfall, is somewhat comparable to Naha on Okinawa and Taihoku on Formosa (both 82° F.). However, the rainfall is heavier in both the latter places—10 inches at Naha and 12 inches at Taihoku.

New Orleans (82° F. and 5.8 inches) and Charleston, S. C. (81° F. and 6.5 inches) are similar in climate to southern Kyushu. Central Japan has more rainfall in August than corresponding areas with the same temperatures in the eastern United States. Tokyo (77° F.) and Washington (75° F.) have almost the same average temperatures, but Tokyo has 7 inches of rain as compared to Washington's 4.2 inches.

A better comparison is possible for the island of Hokkaido, where Sapporo (69° F. and 3.6 inches) has practically the same climate as Portland, Me. (66° F. and 3.1 inches). The climate of the Kuriles is similar to that of Newfoundland—Syana (60.5° F. and 3.9 inches) compares favorably with St. Johns (60° F. and 3.5 inches).

For the Japanese mountains the best comparison is with conditions on Mount Mitchell, N. C., which is 6,711 feet high (58° F. and 7.7 inches) and Mount Washington, N. H., which is 6,262 feet high (48° F. and 6.1 inches). Conditions on Mount



Nearly all areas of Formosa can expect a lot of rain in August. For key to the map, see the map of Japan on pages 34 and 35.

Washington are comparable to those in the highest part of the so-called "Japanese Alps", on western Honshu.

Comparison of the climate of Japan with that of Europe is difficult. Southern Europe is warm enough—Rome's average August temperature is 75° F.—but too dry. Central Europe is in general cooler and also not wet enough. Vienna (66° F. and 2.8 inches) resembles Sapporo, on Hokkaido, and Valencia, in western Ireland (58.9° F. and 4.8 inches), approximates the figures for the Kurile Islands.

The accompanying climatic zone maps are based on average monthly temperature and precipitation and are intended only as a guide to the general average monthly weather. The climatic key on the maps shows the basis of classification and of establishing each climatic zone.

Each temperature zone, which has a range of 18° F., is divided into humid and wet phases, depending on the amount of precipitation received. As shown by the key, the precipitation factor provides for an increase in the amount of rainfall with an increase in temperature. This is in accordance with the recognized fact that there is more evaporation with warmer or higher temperatures, consequently requiring more precipitation to be equally effective.

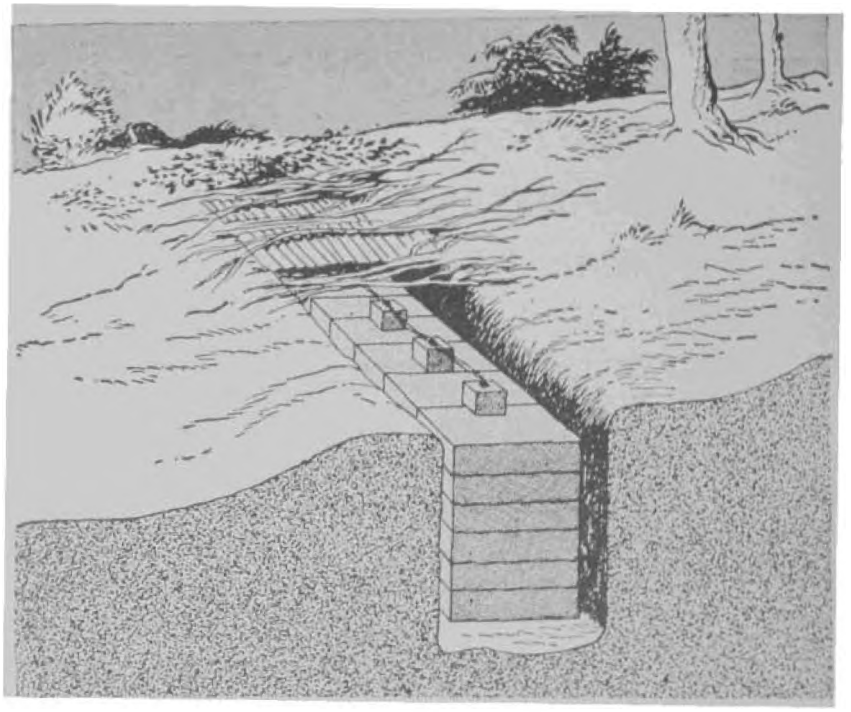
More detailed weather information may be obtained from the Climatology and Environmental Protection Section, Research and Development Branch, Military Planning Division, Office of the Quartermaster General, Washington, D. C., which prepares monthly climatic zone maps for different countries and for all the continents. The findings of this office are used in determining the clothing requirements of troops.

JAPANESE BOOBY-TRAP AMMUNITION DUMPS

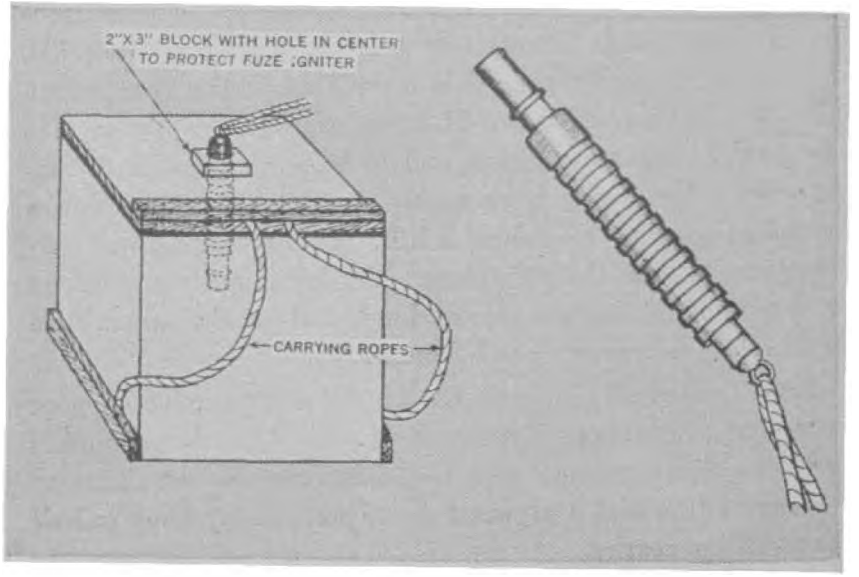
Retiring Japanese troops on the Batangas Peninsula, Luzon, ingeniously booby-trapped three sizable ammunition dumps in the vicinity of Imoc Hill. The existence of probable hidden demolitions in this area was revealed by the shattered bodies of two civilians and a dog, who had paid the price of inquisitiveness. Ammunition dumps at Gapan also had been booby-trapped, and one of these, too, had been detonated by the unwary.

An investigation of the remaining munitions in both areas revealed that other dumps had been cleverly booby-trapped. The munitions booby-trapped in a typical instance (see accompanying sketch) consisted of 75 boxes of Type 99, 7.7-mm rifle and machine-gun ammunition, and 15 boxes of Type 89, 50-mm grenades. The boxes were neatly stacked six high within a revetment cut into the side of a hill. This revetment was only large enough for the munitions. Entrance and encirclement were not possible on the ground level, and inspection could be made only from one end and from above.

From the top of the embankment, the site resembled a poor attempt at concealment of a trench. Loose dirt, twigs, and grass had been thrown on top of a roof consisting of two sheets of corrugated iron and a plywood door, presumably from one of the dwellings nearby.



Booby-trapped ammunition dump cutaway.



Twenty-pound box mine containing picric acid block and painted black. Size: 8½ in. by 8½ in. by 8½ in.

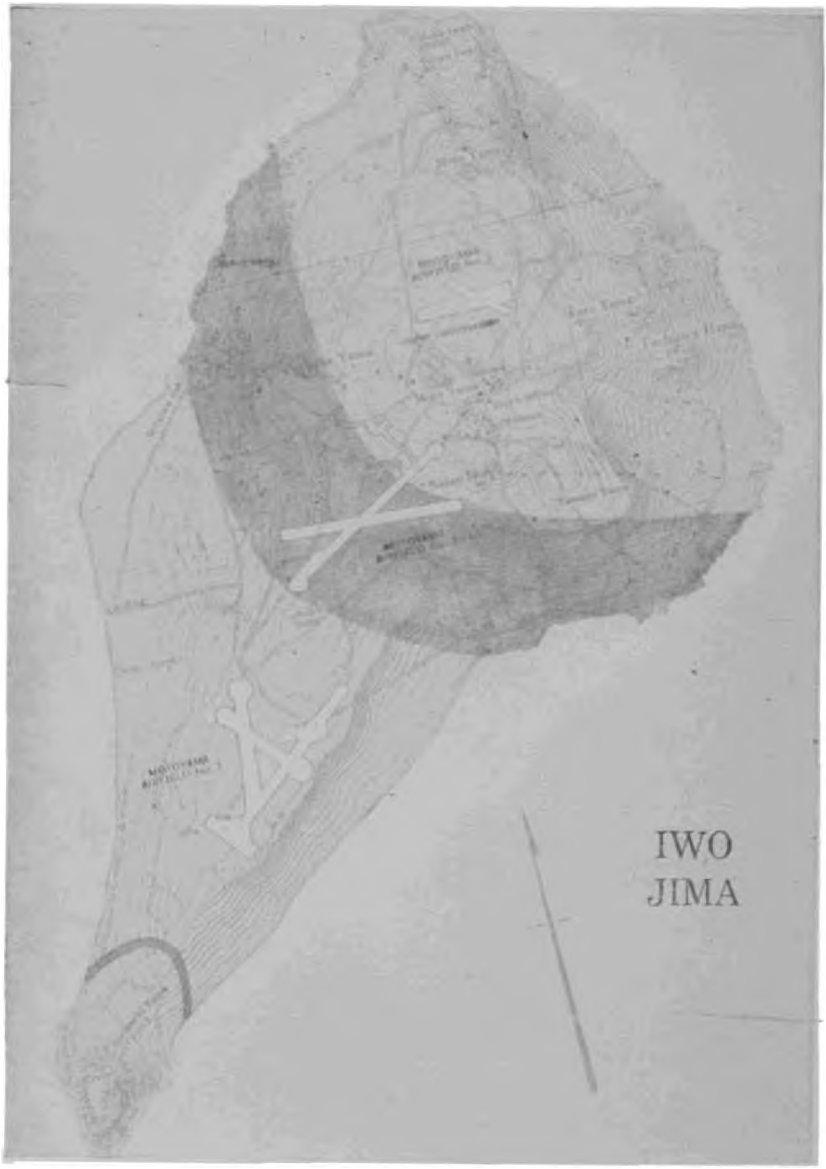
Fastened beneath the main components of the roof to long branches were the strings of *six* pull-type friction igniters fixed in box-type mines. These mines were placed directly on top of the stacks of munitions and carried the entire weight of the roof. Therefore, any attempt to move any portion of the covering materials would be likely to pull at least one of the igniters, detonate the picric acid contents of a box mine, and cause the explosion of the ammunition.



Name, Rank, Serial Number, and Hara-Kiri

Some Jap officers have begun to acknowledge the fact that other Japs sometimes become prisoners of war. They have instructed their men:

"It is desired that the following instruction be carried out if a soldier becomes a prisoner of war. If a soldier unluckily falls into enemy hands, he must not give out any military information. Furthermore, he must use every means to seek out enemy military information and endeavor to escape and return to his unit. If the above-mentioned instructions cannot be carried out, commit suicide."



Map of Iwo Jima—The dark areas indicate the strongest defense zones, according to the Japanese plan.

IWO JIMA WAS READY

JAPANESE PLANS FOR DEFENSE

Several months before the U. S. invasion of Iwo Jima, the Japanese were ready with a plan for each phase of a proposed defense. Applying many of the lessons they had learned on Saipan, Tinian, and Guam, the Japanese deviated from their former basic principle of small-island defense: "Annihilate the invaders on the beaches." Instead, the doctrine laid down for Iwo Jima—and apparently observed in most respects—included protection against preliminary bombardment, establishment of defensive positions in depth, coordination of the fire power of all units, and detailed antitank preparations.

ORGANIZATION OF THE TERRAIN

Organization of the island's defenses posed an immediate problem. The Japanese attempted to solve it by dividing their defensive set-up into three categories—main defenses, beach positions, and inner lines of defenses.

The strongest positions on the island were to be constructed in a zone about 1,100 yards in depth, curving across the center of the island. The front edge of the zone would touch Motoyama Airfield No. 2. Other fortifications were to be built in the Mt. Suribachi sector, at the southern end of the island. The strongest positions in this sector were to be within a line 770 to

880 yards from the foot of the mountain, and strongpoints connected with the beach positions were to be prepared in the forward areas.

In an attempt to defeat the invaders on the beaches, strong key positions were to be organized on the beaches, on both sides of Motoyama Airfield No. 1, and elsewhere. However, the perimeter defense, which had proved unsuccessful in previous island campaigns, was abandoned in favor of reliance on withering artillery fire. Major U. S. landings were anticipated on the southwestern and southeastern coasts. (Actually, they were made on the southeastern side of the island.)

Since American landings also might be made in strength in the northern or eastern sectors, the enemy ordered the forces holding these sectors to be on the alert and to overwhelm any landing attacks. If necessary, reserve units in these sectors were to be committed to exploit the difficult terrain and halt U. S. advances by strong and determined counterattacks.

At possible landing places in the eastern and northern sectors, independent positions in depth were planned, running from a line near the water's edge back to the cliff area. In the interior, several positions which could interdict the main road network leading into the interior were to be established.

The Japs were determined to have strong key positions at all strategic places on the island, if time permitted. They proposed to turn Iwo Jima into a virtual fortress by the gradual reinforcement and connection of these points.

DETAILED BATTLE PLAN

Thinking in terms of what conceivably might happen, the Japs planned the successive phases of their battle strategy as follows:

To avoid excessive losses during preliminary bombing and bombardment: The defense commanders ordered their forces

to resort to dispersal, concealment, camouflage, and maximum utilization of defense works.

To defeat U. S. landing attempts: Maximum artillery fire coordinated with that of coastal-defense guns, as well as stubborn resistance for the beach positions, was ordered. U. S. tanks were to be destroyed by close-quarter attacks.

To prevent U. S. expansion of a beachhead, if the landings succeeded: Artillery and infantry fire, raiding attacks, and other countermeasures were to prevent any expansion or consolidation of the beachhead and were to reduce U. S. battle strength. Primary targets would be command posts, artillery positions, and tank concentrations.

To prevent penetration of the main defenses, if U. S. forces succeeded in expanding their beachhead: The attacks would be met with concentrated fire power, close-quarter attacks, and vigorous local counterattacks.

To prevent capture of the main defenses, if U. S. forces succeeded in penetrating them: Counterattacks supported by fire power were to be launched.

To defend the inner line of positions, if U. S. forces succeeded in capturing the main defenses: The Japanese commanders advised their troops to hold out as long as possible by carrying on stubborn resistance from a line of secondary defensive positions.

If U. S. forces should succeed in capturing the inner line of positions: The Jap commanders admitted that at this point it would be difficult to continue organized resistance. They nevertheless urged all men to fight tenaciously and inflict heavy casualties on U. S. forces before succumbing.

ANTITANK TACTICS

U. S. forces would find it difficult to maneuver tanks on the sandy beaches, the Jap commanders decided. They believed

that for this reason it would be most feasible to destroy the invading tanks by means of land mines, shelling, and close-quarter attacks. If U. S. beachheads were established, Jap raiding parties were to exploit the confusion resulting from artillery fire and darkness.

If the battle drew close to the main positions, where the terrain and artificial obstacles might restrict the movement of U. S. tanks, it was the Jap intention to destroy the encroaching armor by means of antitank guns, a few Japanese tanks, and assaults by close-combat teams.

The personnel of the close-combat teams were to be chosen expressly for this work. The construction of many antitank ditches and other tank obstacles, both outside and inside the positions, was recommended as the best means of reducing the mobility of U. S. tanks and facilitating close-quarter attacks.

ARTILLERY DEFENSES

In setting up their artillery defenses, the Japanese ordered that all artillery units be coordinated, and that fire concentrations be planned not only for the beaches, but for the areas in front of, and within, the main positions. Close cooperation between infantry and tanks also was ordered.

Artillery fire was to begin when small U. S. craft reached the beaches. Targets in the water were to be fired on only by specifically designated forces.

For surprise effect, the Japs ordered the use of "special-type weapons" (presumably their rockets and spigot mortars). Preparations were to be made against surprise night attacks and landings, as well as against airborne raiding units.

USE OF TANKS

To conserve their armor, the enemy commanders ordered that the tank forces be withheld during the opening phases of the

battle. Japanese tanks were principally to be used in conjunction with the fighting around the main positions; however, elements were to support counterattacks in the eastern and northern sectors, should fronts develop in those areas.

COUNTERATTACKS

The Japanese commanders again broke away from the methods employed on other islands when they considered the execution of counterattacks. Because large-scale counterattacks not only had failed to accomplish the desired results in the past, but also had dangerously weakened the defending forces, the commanders ordered that all counterattacks be conducted by small forces only.

Maximum fire power and thorough preparation were to be emphasized in planning counterattacks, which were to be carried out systematically. However, surprise attacks were not to be shelved; the enemy urged that these be used when troops could take advantage of darkness, terrain, or weather conditions, or when a local situation offered favorable opportunities.

DEFENSE AGAINST PARATROOPS

That the Japs feared paratroop landings on Iwo was also indicated in the plan, which included procedures for combating such attacks. Emphasizing the necessity for strict antiaircraft security measures, the Japanese ordered that the planes be fired on before the paratroopers jumped, and also directed that certain elements fire on these men as they descended.

Stressing the point that the airborne troops should be wiped out before they had an opportunity to consolidate, the commanders not only arranged for artillery to deliver neutralization fire on the fields, but assigned forces to attack and destroy any U. S. troops who might reach the ground.



LOST IN THE BURMA JUNGLE

Shot down over the Burma jungle, this RAF warrant officer used common sense and followed a predetermined plan that got him back to his own troops in 7 days. How he did it is unspectacular, but useful to know.[1]

[1] Adapted from "Aim", the Army illustrated magazine of the British Middle East Command.

I knew my position, and knew from the briefing where our troops were, so I decided to make for them. I took out my 1/4-inch maps, and immediately made for cover in the thick elephant grass. I could see no one about, but heard machine-gun fire to the south. When I reached cover, I decided to stay there for a bit: so I took stock of my kit and tested my revolver. I kept my helmet; I went through my maps and made quite sure of my position and the best way of reaching our troops. I knew the country very well from the air.

At about 1300 hours I decided to move off to the north, and reached a nearby trail, on which there were some derelict motor vehicles. I went on further, and reached a river. But when I saw a man lying beside the trail, on the outskirts of a village, I decided to go back and hide in one of the lorries to wait to see what he would do. On my way back I met two natives, who proved unfriendly. We had a row, and, since the native I had seen first must have heard what was going on, I dived into the thicket on the north side of the trail. During this encounter the



pockets containing my emergency rations were torn away, and their contents lost.

Moving about 200 yards into the jungle, I rested for a time and stayed alert, as I expected a search. However, I felt sure that I had not left many tracks. I set off again at 1500 hours, and did not worry too much about the loss of my rations as I was confident of being able to reach our troops within a reasonable time. Reaching the river again, I bathed my head and filled my canteen. I sterilized the water.



I tried fishing with grubs, but had no luck. I scraped some leaves together and made myself as comfortable as possible, but I only dozed. The mosquitoes were very bad, and my kit did not include the headgear with mosquito net when it was issued. I wore my silk flying gloves, but they left part of my wrists unprotected. I wore my helmet, and covered my face and neck with a handkerchief and leaves. Occasionally I heard animals coming down to the river.

SECOND DAY

At about 0600 hours I started off to the southeast, to reach a river that I wanted to cross; it was about 20 yards wide and I swam it without difficulty. The jungle to the north was too thick, so I made for the hills to the northeast.

I continued along a ridge and eventually reached the top of a hill, from which I checked my position. I climbed another hill, reaching the top at about 1800 hours, and decided to spend the night there. But it started to rain, and continued all night, so I was most uncomfortable and could not sleep. I still did not feel hungry.

THIRD DAY



I set off at the same time as before—0600 hours—and again made for the river. An elephant heard me on my way down, but I hid behind a boulder and it rushed past me. I moved along what I took to be an elephant trail. There were one of two footprints, and the grass on either side had been pushed outwards. I heard and saw an occasional elephant, but had no trouble.[2]

At about 1800 hours I decided to bed down for the night. Since the rain had continued throughout the day, I still was most uncomfortable. I saw blood on my stockings, and found four or five leeches, which I removed with a leech stick.[3] I covered my face and hands as before. Throughout the journey I made a practice of starting out at about 0600 hours, resting at midday, and getting ready for the night at about 1800 hours.[4]

FOURTH DAY



I set off for the river again and reached it at 1200 hours. I could not cross it, and got lost in the swamps alongside it. Leeches were bad during the day. I removed 17 from my right leg and 11 from the left. The next morning I found nine more. My legs and ankles were the only parts affected.

[2] *British Army comment:* "It is comparatively rare for wanderers in the jungle to have trouble from animals. This pilot was right to hide behind a boulder, as elephants are shortsighted. One should at all events keep still."

[3] *British Army comment:* "Other ways of removing leeches are:—(a) the juice of a lime (if it is available); (b) salt; (c) strong solution of potassium permanganate; (d) tobacco juice; (e) a lighted cigarette end, applied discreetly so that the leech will not leave its jaws in the wound. Carbolic soap, and probably yellow soap, smeared on the stockings, will keep leeches off."

[4] *British Army comment:* "Among the most important lessons is the extreme desirability of keeping as far as possible—as this pilot did—to regular hours, resting in the middle of the day, and preparing for the night well before dark."

FIFTH DAY

I retraced my steps up the hill, and at about midday found myself on top of a ridge, from which I saw two hills I could identify. I checked them carefully with my maps and compass, and decided to make for one of them. I reached it in the evening. At two or three points, I was careful to check the markings on the map with my position on the ground. I was feeling quite fit, but somewhat tired. I still did not feel hungry, although I had had no food at all. There was plenty of water, which I always sterilized. I took salt tablets the first day, after sweating very badly, but did not take them afterwards. I took Mepacrine (atabrine) every night.

SIXTH DAY

I went down the hill towards the river, reaching it at midday, when I rested for an hour. I knew my position accurately, and knew that there was every chance of our forward troops being close at hand. I fired my revolver three times in quick succession, but without result. I went to sleep in the sun—the first real sleep I had had.

I awoke at 1700 hours and decided to get into the bushes and stay there throughout the night. However, while I was preparing for the night, I noticed five water buffaloes watching me from the river. Then something attracted their attention upstream. I looked, and eventually detected three horses with riders and three men on foot, on the opposite bank. I was certain they were British troops, so I shouted and made my way towards them.

They proved to be a patrol out to find me. They made many attempts to reach me, first with a horse and then with ropes—they failed to find a boat—but their efforts throughout that night were unsuccessful.

SEVENTH DAY

In the morning they got some bully beef across to me, and advised me to eat very little. For the first time, I felt hungry. They also managed to get a rope of three strands of electric cable across the river, and a medical officer came across, hand over hand. They eventually got me across by the same means, after great difficulty. I was taken on a stretcher to a field ambulance unit, where I stayed for three days. My feet were slightly blistered. I was very well looked after in every way, and returned to my squadron 5 days later.

NEW ROLE FOR TYPE 3 MINE

Evidence is at hand that the Japanese are not entirely satisfied with their newest antitank mine—the Type 3 pottery mine first recovered by U. S. troops on Leyte. The Japanese War Ministry has declared it unsuitable for antitank assaults, but reports it to be an effective antipersonnel mine.

This policy was applied on Iwo Jima where pottery mines were rigged with trip wires in antipersonnel minefields, and where the major antitank minefields were made with larger charges, such as antiboat mines and aerial bombs.

See the article on "The Human AT Mine" in this issue for a desperate alternative method of attacking tanks adopted by the Jap high command.

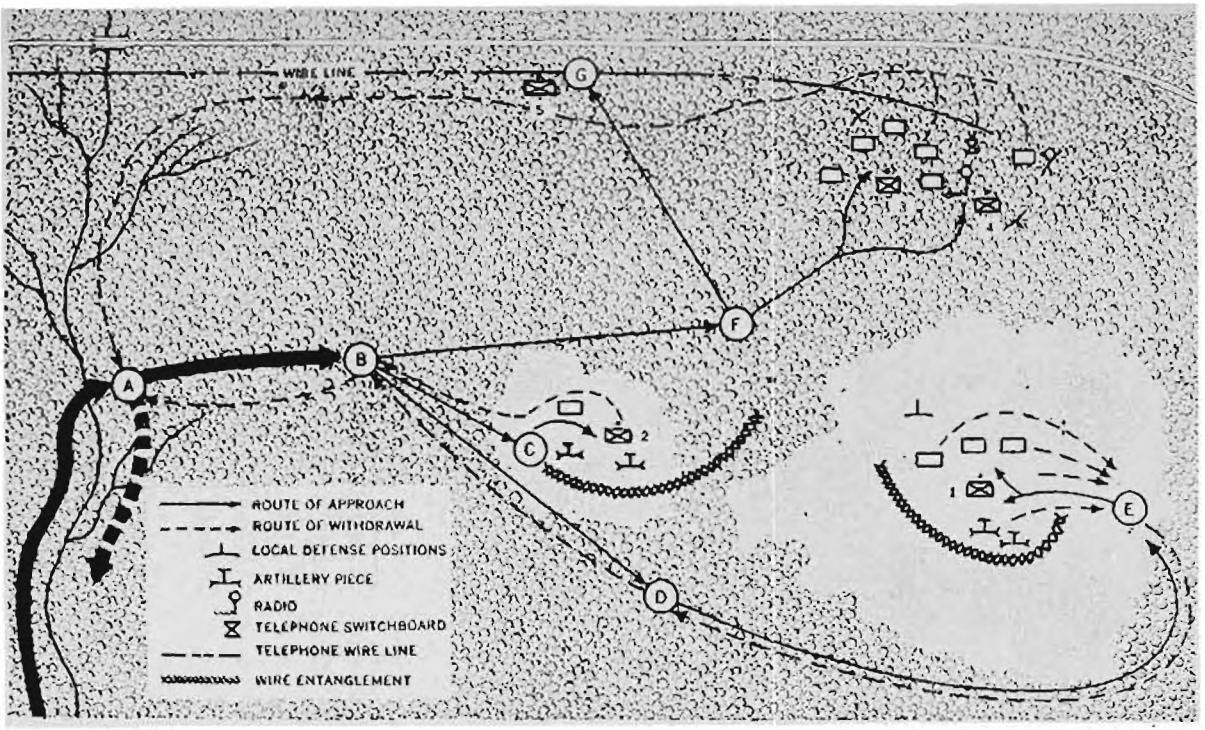
A JAP PLATOON RAID ON A BATTERY POSITION

A plan for a raid by a Jap infantry platoon, which had been given the mission of destroying a battery of artillery and its command post, illustrates typical Jap infiltration tactics. The plan is not only thorough, but serves as an excellent example of this type of enemy tactic.

A complete reconnaissance evidently had been made before the mission was assigned. The artillery pieces and the command post tents had been located, and also the wire entanglements and ground positions established for local defense. Similarly pinpointed and marked for destruction were the hostile battery's radio, a telephone switchboard, and the telephone wire line leading away from the artillery perimeter.

The infantry platoon selected to conduct the raid was divided into two units—an "Artillery Attack Unit" and a "Headquarters Attack Unit". The Artillery Attack Unit, in turn, consisted of two squads, and the Headquarters Attack Unit, of three. However, the exact size of these squads is not known.

According to the Japanese plan, the raiding platoon, having infiltrated the defending lines, would approach the objective area up the bank of a nearby river (see sketch on page 55). After reaching a designated point, A, near the river, the platoon would make its final preparation for the attack. Here unneces-



Plan for a Jap infantry platoon raid on a battery of artillery. Except for the squad designations, the symbols are Japanese.

sary equipment would be left behind, and each man would be ordered to carry only the equipment necessary to the execution of his mission. Final instructions, including the information that the platoon would rally in that area once the mission had been accomplished, would be issued at point A.

From A the platoon would proceed to B, a position about 200 yards from the right flank of the target battery. Here the 1st and 2nd squads, which formed the Artillery Attack Unit, would leave the remainder of the platoon, and would proceed to their separate objectives. A glance at the sketch will show that the battery to be attacked was emplaced in two sections, and that the sections were separated by about 300 yards. This is a common practice of Japanese artillery, but one not often used by U. S. batteries. It is therefore possible that this plan may have originated during a Japanese maneuver, rather than in actual combat.

ARTILLERY ATTACK UNIT

Having left the remainder of the platoon, the 2nd squad, which was designated to attack the right-flank artillery section, would proceed to its attack-preparation position at C, just outside the end of the wire entanglement protecting the artillery. Meanwhile, the 1st squad would proceed to D, where a reconnaissance of the other artillery section would be made. The reconnaissance completed, the squad would continue to point E, its attack-preparation position, located about 50 yards to the left flank of the artillery, which was emplaced in a field of short grass.

HEADQUARTERS ATTACK UNIT

In the meantime, the headquarters attack unit would be infiltrating to F, midway between the gun positions and the command post. At F the 5th squad would leave the unit, and,

bypassing the command post area, would proceed to point G, on the telephone wire line near the road. The platoon leader would remain with the 3rd and 4th squads at F.

ATTACK AND WITHDRAWAL

Presumably the attack was to start at a prearranged time or signal. At such a time, the 5th squad would immediately cut the telephone wire, thereby preventing the battery from communicating with other units. Then all squads would attack their individual objectives—the 1st and 2nd squads destroying the guns, and the 3rd and 4th squads eliminating the command post, with its radio, switchboard, and key personnel.

Immediately after the attack, the members of the Artillery Attack Unit were to disperse in the brush and hide until they could make their way to their respective attack preparation positions. After all men had assembled, the squads would retrace their routes to the platoon rallying point at A.

Meanwhile the 3rd and 4th squads, having raided the command post, would rendezvous in the vicinity of the 5th squad's position at G, and then proceed by squads to the platoon rallying point. When all squads had reassembled at A, the platoon was to withdraw down the river.



SMOKE IN THE ATTACK

A STUDY BY THE KWANTUNG ARMY

During large-scale maneuvers in Manchuria, the Kwantung Army—one of the enemy's most highly trained and experienced units—experimented elaborately with the use of smoke in offensive operations. When the air had cleared, and the last blank round had been fired, Jap officer observers seemed surprised to find that their experiment had succeeded beyond their first expectations.

Smoke as a weapon has not been used extensively by the Japanese, although they are fully equipped for this type of warfare. Apparently they held the Manchurian maneuvers to study the effectiveness of smoke candles used to conceal the movements of front-line troops, and the ability of artillery to blind hostile observation posts with well-placed smoke shells.

However, besides blinding the defending troops, and making it impossible for artillery and heavy weapons to fire anything but direct fire, the smoke produced a strange psychological effect among the "enemy" under attack. The smoke created a feeling of isolation and uneasiness among the defenders. The

Japanese reported that distances seemed enlarged, and the movements of the attacking foot troops appeared elusive and "created illusions in the defender". The normal rate of defensive fire was decreased 25 to 50 percent, and it was discovered that troops subjected to heavy smoke for a period of 30 minutes or longer were forced to use their gas masks. Soldiers who did not wear their masks suffered headaches, sneezing, vomiting, sore throats, and respiratory ailments.

A result of the maneuvers was a series of recommendations for the employment of smoke in offensive operations. The Kwantung Japs concluded that the proper use of smoke on a large scale enabled infantrymen to come to grips with a defending enemy, and to penetrate his positions, against a minimum of defensive fire.

A critique of the maneuver recommended that in conducting such attacks, troops should take advantage of the range and accuracy of artillery to lay smoke concentrations on the enemy's lines. Besides smoke, mortar fire should be used to harass lines of communication and command posts, and to neutralize observation posts and defensive weapons positions—particularly those which could deliver flanking fire into the attacking troops.

At the same time, the infantry should lay its own smoke screen, the critique pointed out. It was mentioned that infantry might find it necessary to lay smoke in depth through a portion of the enemy's lines, or to lay a strong blinding concentration upon a specific part of his defenses. Presumably, smoke mortars and smoke grenade dischargers would be used, in addition to smoke pots and candles.

Following the thought emphasized in Japanese training manuals, the critique touched on the necessity for studying and exploiting wind conditions, the advantages of having several plans for discharging and distributing smoke, and the benefits and of "following to the letter" any plan selected.

The Japanese evidently decided that actual assault operations should be conducted under independent battalion control, or even company control, with the battalion or company commander maintaining artillery coordination and establishing the phase lines. Before such an attack, the battalion or company would be divided into small task units, and each unit assigned a specific weapon position or strongpoint to attack. Similarly, it was recommended that a special task unit be organized to operate under the direct command of the battalion or company commander. Such a special unit, if not committed to reducing a particularly critical strongpoint, would then be used to oppose any unanticipated weapon positions or troop concentrations that might be encountered once the attack was under way.

If a Japanese battalion or company were to conduct a smoke-infantry attack as outlined by the Kwantung observers, the attacking force would be divided into two or more waves before the assault. The first wave, composed of the task units, would engage designated hostile weapons positions. If these strongpoints were not reduced by the time the second wave reached the enemy lines, the second wave would leapfrog through the wave of task units and force a penetration to the enemy rear. Occasionally a "mop-up unit" might follow the second-wave troops, and take over the mission of cleaning out isolated strongpoints left behind by the momentum of the attack, but still active. Heavy weapons also will follow close on the heels of the attacking waves of infantry.

Whenever possible, such an attack will strike from the flank, with the attacking troops making the most of the concealment provided by the smoke. As the defender's final protective line of fire is approached, the attacking troops will advance by rushes and by crawling. Every effort will be made to discover and use defiladed terrain features, or other soft spots in the defensive fire pattern, where attacking troops may move through

the final protective line. Once the line of fire has been pierced, the task units will charge the weapon positions. As the second wave, and other rear units, pass through the final protective line, they will likewise be prepared to engage in hand-to-hand fighting. Because heavy weapons are expected to follow closely behind the assault, they have the mission of breaking any remaining enemy resistance, as soon as the smoke clears.

According to the Kwantung observers, such a large-scale use of smoke offers distinct advantages in furthering an infantry attack. Smoke, they said, is a deceptive weapon that can be employed at any time and place. It can neutralize hostile defensive fire, especially in rolling terrain, and can create in the opposing troops a sense of isolation, insecurity, and fear. The movements of the attacking troops are unrestricted and deceptive, and the speed of a break-through is increased. The use of smoke is also recommended as increasing the opportunities for hand-to-hand combat.

The observers did not fail to note, however, that offensive smoke has certain disadvantages for the troops who use it. Although it may blind the enemy, smoke also blots out hostile terrain and hides the movements of defending troops. And since smoke alone will not destroy an enemy, it is only as good as the troops who use it as an aid in accomplishing a combat mission.



Japanese Counterlandings

Seaborne Attacks on Allied Beachheads

Recent operations indicate that the beachheads of Allied forces, now thrusting toward the heart of the Japanese Empire, may be subjected increasingly to Japanese seaborne counter-attacks. Such ventures of course are entirely in line with the enemy's doctrine of employing the enveloping maneuver whenever possible.

The use of counterlandings by the Japanese must not be confused with the seaborne reinforcements for Japanese land garrisons in areas where Allied forces have landed and established beachheads. Whereas seaborne reinforcements are intended to land on some part of a coast free of Allied forces and then join the main Japanese forces, counterlandings are designed for immediate offensive action against our troops and are likely to take place within the Allied perimeter.

Although the Japs are capable of exploiting mobility, surprise, night action, and the opportunities for close combat in counterlanding operations, they are likely to be confronted with two major difficulties: the problem of ascertaining the precise locations of Allied troops and installations, and the necessity for operating in areas where Allied forces have both air and sea superiority.

Japanese doctrine prescribes that a seaborne counterlanding unit must undertake operations as soon as an Allied force attempts to establish a beachhead, even if a complete picture of the situation cannot be obtained. For the purpose of launching an immediate surprise attack against the Allied troops, and of seizing their strongpoints any key installations, counterlandings on the Allied landing beach itself are recommended. The Japanese counterlanding unit is supposed to get a fierce, sustained attack under way before Allied strength can be consolidated. Also, counterlandings may be made at times other than that of the original Allied landing, and against any portion of the Allied rear areas that can be reached from the sea. If the Japanese cannot eliminate a whole bridgehead, their next efforts are directed toward weakening it as much as possible.

ATTACK ON A BRIDGEHEAD

A Japanese force dispatched to eliminate an Allied bridgehead may consist of one or more counterlanding units. According to enemy doctrine, the basis of a counterlanding unit consists of elements of the infantry regiment, which can be used alone, or combined with other troops for larger-scale operations. In the past, units of varying sizes have been used, and in each instance the strength evidently has depended on the forces available and the missions to be performed.

Embarkation for a counterlanding operation takes place at night, and at a safe distance from the Allied forces. Either the

small boats organic to the counterattacking unit, or such craft as destroyers or small transports, may be used. If the latter types are involved, they carry or tow the landing craft of the counterlanding unit. Upon reaching the anchorage, the unit is unloaded rapidly from the ships, landing craft are assembled, the prescribed assault formation is assumed, and the advance to the beach is begun. On nearing the beach, the usual formation of boats-in-line ahead is changed to that of boats abreast by platoons, and the landing is made.

From the hour of embarkation until the hour when the landing craft begin moving toward the beach, communications usually are by naval signals. Urgent communication between landing craft may be made by Army signals. Air-ground communications, subject to the joint decision of the Army and Navy, normally is by flags or smoke candles.

The details of action ashore are presumed to have been worked out before the embarkation and are derived from previously prepared plans changed to fit the latest information concerning the Allies. On the beach the units are supposed to annihilate the defenders, making the maximum use of cold steel, and to destroy their equipment, ammunition, and fuel. The Japanese plan to complete the action by daybreak, but, if it is not, special measures are to be taken to prevent the Allies from taking full advantage of their superior strength in numbers and equipment; these appear to consist mainly in increasing the pressure against the enemy. The full details of how the unit is expected to operate on the shore are not clear, but such vagueness in instructions is typical of the Japanese. However, the tactics are likely to resemble those used in a Japanese night attack on land.

An enemy effort on Saipan, although not made "immediately following Allied landings," is roughly indicative of what a Japanese counterlanding can prove to be like in actual practice.

It was made about 1 hour before dawn on D plus 3, when the U. S. beachhead, in the Charan-Kanoa area, on the southwest coast, had been expanded to include domination of the southwestern section of the island. Twenty-five to 30 barges came south from Tanapag Harbor and attempted to land on the American beachhead. The counterlanding force was intercepted by American LCI (G)'s, which sank 13 or 14 troop-carrying barges and probably damaged others. (Beached barges examined later in this area were the standard Type "A" 49-foot barges known as *Daihatsu*. During at least three subsequent nights, the Japanese attempted similar attacks on a smaller scale but all were repulsed. On one known occasion, the enemy returned U. S. fire with 37-mm guns mounted on the landing barges.

A more recent Japanese attempt to eliminate a U. S. bridgehead occurred on Okinawa. During the night and early morning of 3-4 May, the enemy made four counterlandings with approximately 1,000 troops. Three of the counterlandings were undertaken on the west coast, and one on the east coast, near an airfield in our possession. In general, these landings were unsuccessful; the Japanese were broken up into small groups, and



Many Japs were killed on the reef or while swimming ashore.

many were killed on the reefs or while swimming ashore. Later, some of the Japanese who had landed on the east coast stated that their mission had been to destroy U. S. artillery and to join forces with the groups which had landed behind our lines on the west coast. The enemy troops were well equipped with 50-mm grenade dischargers, small arms, demolitions, and enough food to last at least a week.

In conjunction with these counterlandings, the Japanese carried out vigorous attempts at infiltration, patrolling, and air bombardment of our rear areas.

On 4 May enemy action was closely coordinated with that of the counterlanding forces that were being engaged in a U. S. corps' rear. Preceded by heavy artillery fire along the entire Corps front, which was especially concentrated on two U. S. infantry division zones, the enemy launched a large-scale counterattack on the left of one of these divisions and on the right of the other. An estimated enemy regiment with 12 to 15 supporting tanks was involved. Fighting was severe, but by 1030 hours the counterattack had been broken up, and the enemy forces were being destroyed systematically. Elements of the Japanese counterlanding forces also were being mopped up.

RAIDS ON A BRIDGEHEAD

For small-scale, seaborne operations against Allied shore positions, the Japanese have organized "amphibious assault and infiltration units" whose primary mission appears to be the attack by stealth of key objectives within the Allied perimeter, such as command posts, vehicles, guns, and supply dumps. The effective operating radius of these units is small, and they depend on secrecy and initial surprise to reach their objectives. The large quantity of explosives, Molotov cocktails, and hand grenades—as well as the rafts, small cargo tubes, and waterproof bags—issued to these companies indicate the methods

that they are to employ to accomplish their missions. Operations undertaken by units of this type do not aim at the elimination of an entire beachhead—which is the basic mission of the larger organizations—but simply at its progressive disorganization and weakening, to make it more vulnerable to the main attacks from land or sea or from both directions at once.

One "amphibious assault and infiltration unit" appears to consist of a 180-man company divided into five platoons. The special title given this company, as well as its equipment and organization, indicates that such a unit may operate independently. The first platoon is especially trained in hand-to-hand combat, the second in infiltration, the third in amphibious assault, the fourth as a machine-gun platoon, and the fifth as a mortar platoon.

It should be noted that most Japanese efforts at counterlandings have suffered because the execution did not measure up to the doctrine, or was not even on a level with the plans laid for the operations themselves. Nevertheless, the existence and use of counterlanding units may properly be regarded as a threat to future Allied landings—especially in the early phases.



NEW NOTES ON 8-MM SUBMACHINE GUNS

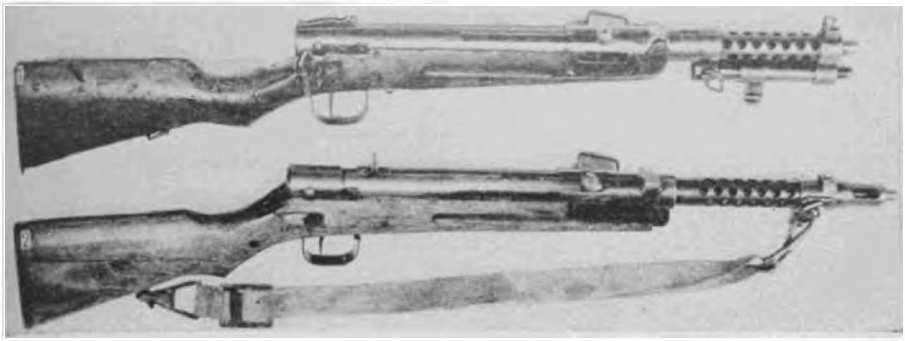
VERSIONS OF 8-MM SUBMACHINE GUN

Complete specimens of all three known versions of the Japanese Type 100 (1940) submachine gun are now in Allied hands. The three versions thus far identified are: (1) the earliest version with removable bipod and bayonet; (2) the paratroop version, with removable bipod, bayonet, and folding stock; and (3) the latest version, with bayonet but no bipod. It was known prior to the capture in Burma of the earliest version that this unusual weapon was fitted with a bipod. Recovery of an actual specimen with bipod reveals that the bipod secures around the barrel jacket by means of a collar. The bipod locks to the tubing below the barrel jacket, thus providing a quick-release feature. Inspection of the various guns shows that the paratroop version of the Type 100 can also take the bipod, and that the paratroop gun is identical to the earliest version except for the folding stock. No bipods have yet been reported as having been found on, or near, captured paratroop Type 100's.

Since the bipod is a most unusual addition, the appearance of the third version of the Type 100 without this feature was not at all surprising. This latest type of Type 100 (briefly described in *Tactical and Technical Trends*, No. 57) is fitted to take the standard Type 30 (1897) bayonet, in line with the official Japanese doctrine which urges fighting with cold steel.

AMMUNITION

Although preliminary tests indicated that Japanese 8-mm pistol ammunition would not function in a Japanese 8-mm



The paratroop version of the Type 100 submachine gun is identical with the ordinary model, except for a folding stock. Above is the paratroop version; below is the latest type.



The earliest version of the Type 100 8-mm submachine gun, with bipod.

Type 100 (1940) submachine gun, further tests now show that such use of the ammunition is entirely practical. In the first tests, caliber 8-mm pistol ammunition packaged for the Type 94 (1934) pistol functioned very badly when used in a later-model Type 100. Some 75 percent of the cases failed to extract, while others were badly bulged. However, tests with other Type 100 guns now show that the performance with ordinary Japanese pistol ammunition is entirely satisfactory. It is presumed that the Type 100 first tested was defective.

In spite of modification of the Type 100 series to the latest form, this type of submachine gun leaves much to be desired. For one thing, it represents a manufacturing problem. The Japanese have made no effort to ease production bottlenecks by the extensive use of stampings throughout the weapon. They have manufactured a Bergmann-type gun, instead of one patterned after the mass-production German "burp gun," the Schmeisser *M.P. 38* (1938). From the operational point of view, U. S. Army Ordnance tests indicate that its cyclic rate of 800 to 1,000 rounds per minute is too high for maximum effectiveness. U. S. Army findings in this respect are bolstered by the experience of other battle-tested armies. German submachine guns have a rate of fire around 500 rounds per minute. The Red Army, which in its *P.P.D.* (1940) and *P.P.Sh.* (1941) tommy guns had weapons with a 1,000-round per minute cyclic rate, later standardized on their M1943 submachine gun with a cyclic rate of 650 rounds per minute. In an effort to correct the drawbacks inherent in a high rate of fire, the Japanese have fitted a type of compensator to the latest version of their Type 100.

Camoufleurs, Please Note!



Neatest camouflage trick of the month on Okinawa: Jap troops were instructed "to deceive U. S. troops" by building "naturally-sited" latrines near the entrances of hidden caves. According to the Jap who brainstormed this order, U. S. troops "thoroughly dislike these outhouses, which will cause them to avoid these areas."

Hara-Kiri With Rations and Quarters



One besieged Jap outfit eliminated its casualty evacuation problem in a characteristic manner. The commanding officer issued an order:

"Those in each unit who are wounded and sick, and are unable to engage in combat, will carry two days rations to the corner of the fortress and on or about the 21st will commit mass suicide.

"Each unit commanding officer will put a responsible man in charge to witness their deaths.

"Freedom of meditation for a day and a night will be granted prior to suicide so that each man may attain for himself the determination of gladly sacrificing himself for the country."