

WAR DEPARTMENT TECHNICAL BULLETIN

USE OF JAPANESE MINE TRAINING AID SET NO. 2

War Department, Washington 25, D. C., June 1945

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Section I GENERAL

1. **PURPOSE.** This Technical Bulletin is a guide for instructing troops in handling Japanese mines. It is intended for use with the Japanese mine training-aid set No. 2 (fig. 1).

2. **SCOPE.** This bulletin describes the components of the set and how they are used in training. It also covers use, recognition, functioning, and disposal of common Japanese mines.

3. **DESCRIPTION OF MINE TRAINING-AID SET.** *a. General.*

(1) *Container.* Japanese mine training-aid set No. 2 (figs. 1, 2, and 3) is packed in an unfinished wood case with hinged top. Outside dimensions of the wood case are 13 $\frac{1}{8}$ inches by 3 feet 2 $\frac{7}{8}$ inches by 5 $\frac{3}{8}$ inches. The complete set and container weigh 40 pounds.

(2) *Mines in set.* The mines in the set have been manufactured to resemble real Japanese mines as closely as possible. Enough of the moving parts have been incorporated in the mines and fuzes of the set to give proper instruction in arming and disarming of the various mines. All mines and fuzes are inert. Several of the mine cases have been designed so they can be filled with soil or sand to simulate the weight of the actual mines. The mines are tagged with instructions for handling, reproduced in Japanese characters. Training should include brief recognition and translation of Japanese inscrip-

tions. An accurate translation of all Japanese characters appearing on tags is glued to the *inside* of the packing case top (fig. 1).

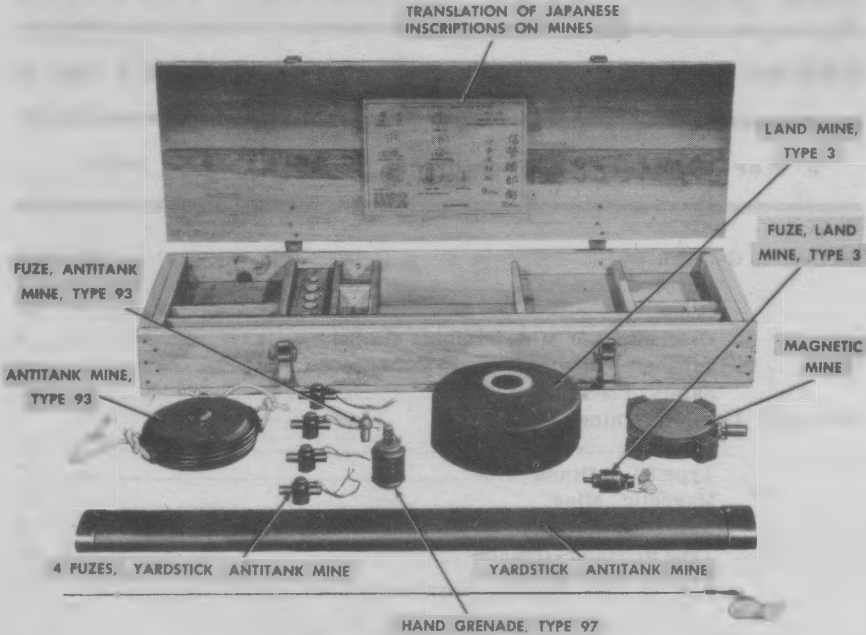


Figure 1. Components of Japanese mine training-aid set No. 2.

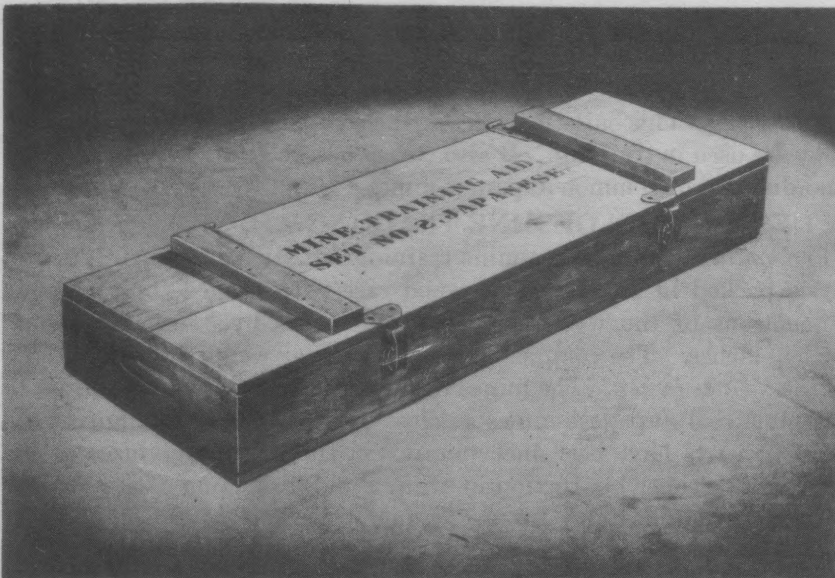


Figure 2. Packing case for mine training-aid set.

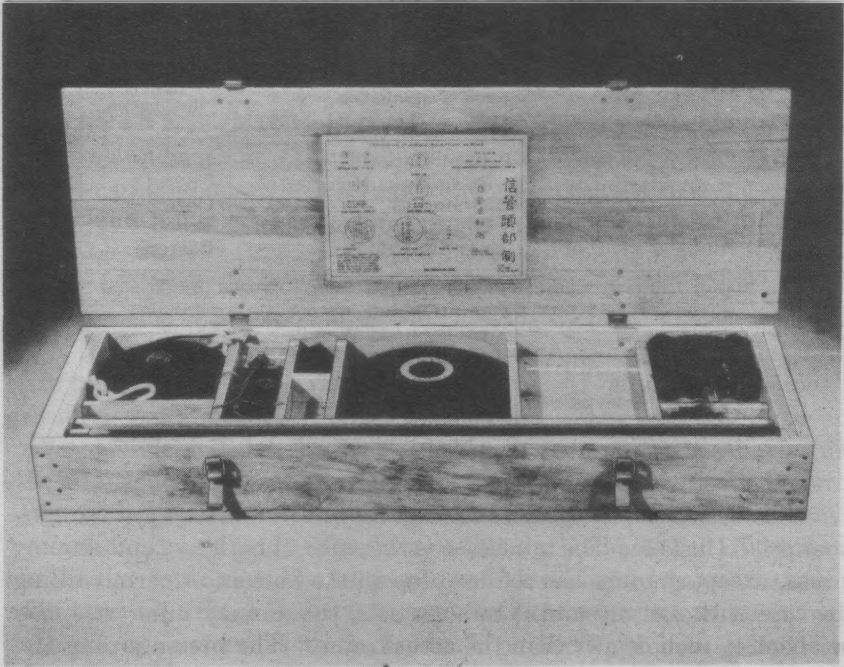


Figure 3. Arrangement of mines in case.

b. *Components of mine training-aid set.* (1) Correct nomenclature and stock numbers of the component parts of the Japanese mine training-aid set No. 2 are listed below :

Set No. 586-02, mine, training-aid, set No. 2, Japanese

Nomenclature	Unit	Stock No.	Quantity
Mine, training-aid, Japanese:			
Antitank, type 93-----	ea NX-----	04-6498. 500-100	1
Armor-penetration, magnetic, type 99.	ea NX-----	04-6498. 500-200	1
Bar, yardstick-----	ea NX-----	04-6498. 500-300	1
Hand grenade, type 97-----	ea NX-----	04-6498. 500-500	1
Land, type 3-----	ea NX-----	04-6498. 500-600	1

(2) *Authorized distribution of the set is as follows:*

T/A No.	T/O & E No.	Name of organization	Basis of distribution	Quantities
AGF T/AS		Sch; AGF Repl Depot	RTC	60
20-2		Div Engr Bn or Squadron	Co	3
20-2		Engr C Bn (nondiv)	Co	3
20-2		Except in Div Engr Bn or Squadron or Engr Bn (nondiv).	Troop	1
			Battery	
		ASFTC {		
		Fort Belvoir		100
		Camp Claiborne		100
		Fort Leonard Wood		100
		Fort Lewis		150
		Engineer School		50
		Granite City Engr Depot		15
		Columbus ASF Depot (Engr Sec).		10

c. *Variations between live and dummy mines.* (1) *Type 93 anti-tank mine* (fig. 1). The mine case is the same in both live and dummy mines, except dummy has a filler plug in the bottom to permit filling the case with soil or sand. In some sets, the dummy mine case may be about $\frac{1}{4}$ inch deeper than the actual mine. The pressure plug and safety tab are identical to their Japanese counterparts. The fuze is identical in appearance to the actual fuze, except that the bottom of Japanese fuze is recessed.

(2) *Magnetic mine* (fig. 1). In appearance, this mine and fuze are identical to the actual Japanese mine. However, the magnets are dummies and the canvas case contains wooden blocks to simulate the explosive charge.

(3) *Yardstick antitank mine* (fig. 1). This dummy mine is identical in appearance to the actual mine. It varies from the actual mine in that the explosive charge is simulated with plaster-of-paris blocks, and the fuzes are made in one piece with no removable parts such as the booster and striker holder of the actual fuzes.

(4) *Type 3 land mine* (fig. 1). This mine varies from the actual mine only in the construction of the fuze. The dummy does not contain a striker and the detonator tube is solid metal. The fuze can be disassembled and recocked by unscrewing the two halves of the fuze body and then pushing the percussion hammer up and reinserting the hammer-release fork. All dummy fuzes have right-hand threads, whereas Japanese counterparts have been found with either right- or left-hand threads. The fuze seat is also removable for filling the mine body with sand or soil.

(5) *Type 97 hand grenade* (fig. 1). This grenade is identical with the actual grenade, except that the fuze, instead of containing the de-

lay train and detonator, is solid. The fuze is removable, but the plug is not.

4. JAPANESE MINE POLICY. Japanese mine technique is improving and each new operation shows an increasing tendency toward the use of land mines on a larger scale. There is little reason to doubt that land mines will become a major problem in future operations.

a. Locations. Past use of land mines by the Japanese shows that mines are most likely to be found on beaches, in open fields and airfields, roads, and cities, and around pillboxes and obstacles.

b. Tactical employment. Captured Japanese notes state that mines are to be spaced 3 to 5 yards apart in front of defensive positions in dead spaces and near wire entanglements. They are also to be employed in defiladed areas which cannot be covered by small-arms fire. In addition to the standard Japanese mines discussed in this bulletin, improvised land mines including aerial bombs and artillery shells are encountered in the Pacific theater. The Japanese use all types of ordnance material and hand grenades in devising antipersonnel mines. Contrary to United States doctrine, the Japanese stress close-quarters attacks against tanks by individuals or small groups, called tank fighters. Their weapons include armor-piercing magnetic mines (fig. 1), combinations of grenades and mines, grenade clusters, Molotov cocktails, and pole mines. The Japanese use antiboat and beach mines extensively as a part of their beach defenses.

5. SAFETY PRECAUTIONS. The following safety precautions should be observed when dealing with all mines:

a. Never move a mine until the mine and the area surrounding it are closely inspected. All mines may be booby-trapped.

b. Remember, shear wires requiring less pressure can be substituted for the shear wire usually found in mines. The type 93 mine fuze is issued with a 25-lb shear for antipersonnel use.

c. Do not carry the mine any farther than is absolutely necessary from the area being cleared.

d. Mark located mines so they can be avoided by other personnel.

Section II

USE OF TRAINING SET

6. GENERAL. *a. Use with other training aids.* The Japanese mine training set used with other mine training aids will be valuable for training troops in the handling and disposal of common Japanese mines. To familiarize troops with the recognition, arming, disarming, and disposal of Japanese mines, the mine training set should be used in conjunction with graphic training aids, film strips, and

film bulletins. Detailed directions of arming, disarming, and disposal methods are given in FM 5-31.

b. Training schedules. Mine training schedules should stress recognizing mined areas, locating mines and booby traps, breaching mine fields, and disposing of mines. *Emphasis should be placed on disposal methods other than hand removal*, such as pulling out by rope or exploding in place. Mines should only be disarmed by hand when conditions do not permit other methods. An effort should be made to reproduce Japanese mine tactics in training. Night operations should be included in the schedule. Instructors should supplement information in this bulletin with the latest material from intelligence notes and documents and FM 5-31.

7. TYPE 93 ANTITANK MINE. *a. Description.* The Japanese type 93 antitank mine (fig. 4) is normally painted olive-drab with a red ring on top. Total weight is 3 pounds, including 2 pounds of picric acid explosive.

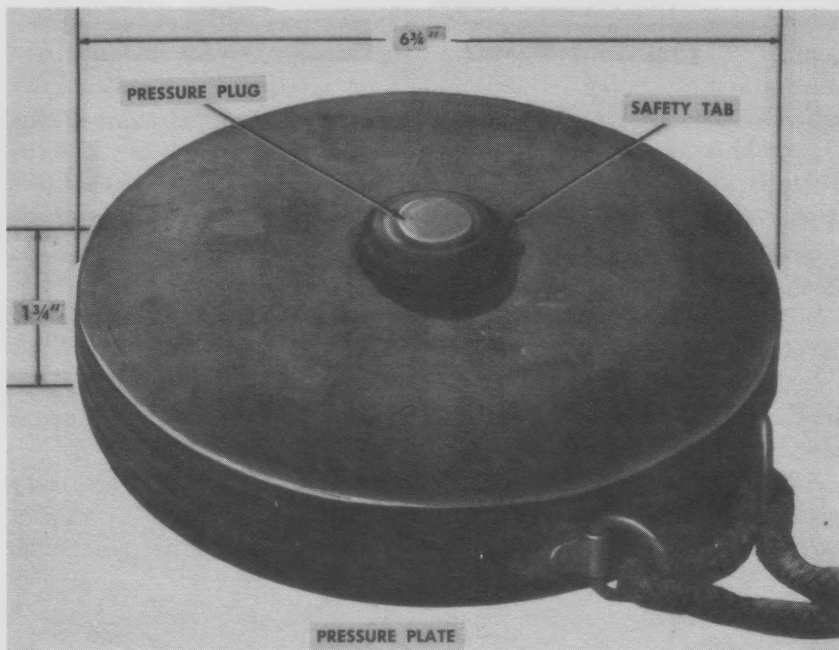


Figure 4. Japanese type 93 antitank mine.

b. Use. The Japanese use the mine against vehicles. To disable tanks, it is used in groups of two or three. The mines are normally tied together, one on top of the other.

c. Functioning (fig. 5). Normally, 250-pound pressure on the pressure plug will fire the mine. The pressure plug depresses the

striker pin which cuts the shear pin. Spring drives striker pin downward, firing percussion cap—detonator—booster—main charge.

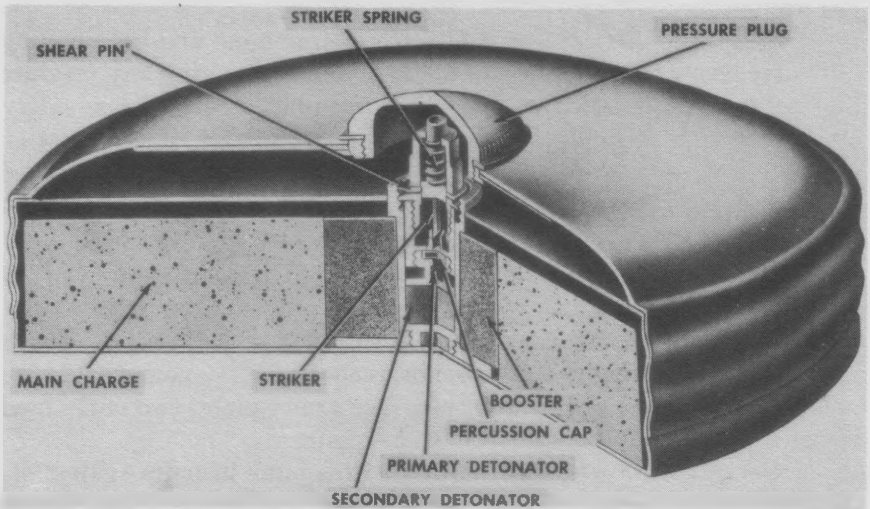


Figure 5. Cut-away of type 93 antitank mine.

d. Installing and arming. Unscrew pressure plug and remove leather washer. Lift off combination washer and sleeve (tab at-



Figure 6. Installing type 93 mine.

tached). Unscrew safety cap from fuze. Replace leather washer and screw pressure plug into place. Finally, bury mine with pressure plug at ground level.

e. Disarming (figs. 7① and ②). Examine mine and surrounding area for booby traps. Without moving mine or exerting any pressure on pressure plate, unscrew brass pressure plug. Screw brass safety cap, if available, firmly into top of fuze. Similarly, if combination washer and sleeve are available, place them over brass safety cap and replace pressure plug. To defuze the mine, (fig. 7③) unscrew pressure plug and then unscrew whole fuze.

8. MAGNETIC MINE. *a. Description.* The Japanese type 99 magnetic antitank mine (fig. 8) is normally covered with khaki-colored canvas. The mine and fuse are carried in a stiff canvas pouch (fig. 9). Total weight is $2\frac{1}{2}$ pounds, including a $1\frac{1}{2}$ -pound explosive charge. One mine will perforate $\frac{3}{4}$ -inch armor plate; two mines used together will perforate $1\frac{1}{4}$ -inch armor plate.

b. Use. The Japanese normally use this mine in pairs against armored vehicles, doors of pillboxes, and similar targets. The mine is held in place, flat against iron or steel objects by attraction of four magnets. The Japanese also use this mine as an antipersonnel weapon (figs. 10 and 11).

c. Functioning (fig. 12). When used against tanks, personnel placing the mine first remove the safety pin and depress plunger of delay action fuze, which releases steel balls into groove in the sliding cap. The striker, driven by the spring, fires the percussion cap which fires the delay pellet—detonator—main charge. The delay fuze allows 4 or 5 seconds for personnel to take cover after placing the mine.

d. Installing and arming. Remove wooden plug from body of mine. Screw fuze into body of the mine. Remove safety pin and press plunger and mine will detonate in 4 or 5 seconds.

e. Disarming. To disarm the Japanese magnetic mine, insert safety pin in safety-pin hole. To defuze the mine, loosen ring holding fuze in place and then remove fuze from mine body. Finally, (fig. 13 (3)) unscrew detonator from fuze to make parts safer to handle.

9. YARDSTICK ANTITANK MINE. *a. Description.* The yardstick mine (fig. 14) is normally painted olive drab. Total weight is $10\frac{1}{2}$ pounds, including 6 pounds of picric acid explosive.

b. Use. The yardstick mine is employed against vehicles and is usually buried in landing strips and trails (figs. 15 and 16).

c. Functioning (fig. 17). A pressure of 335 pounds or more on the mine forces case against head of release plunger of fuze, shearing shear pin and forcing plunger down. The enlarged portion of slot in



① *Unscrewing brass pressure plug.*



② *Screwing safety cap into top of fuze.*



③ *Defuzing.*

Figure 7. Disarming type 93 mine.

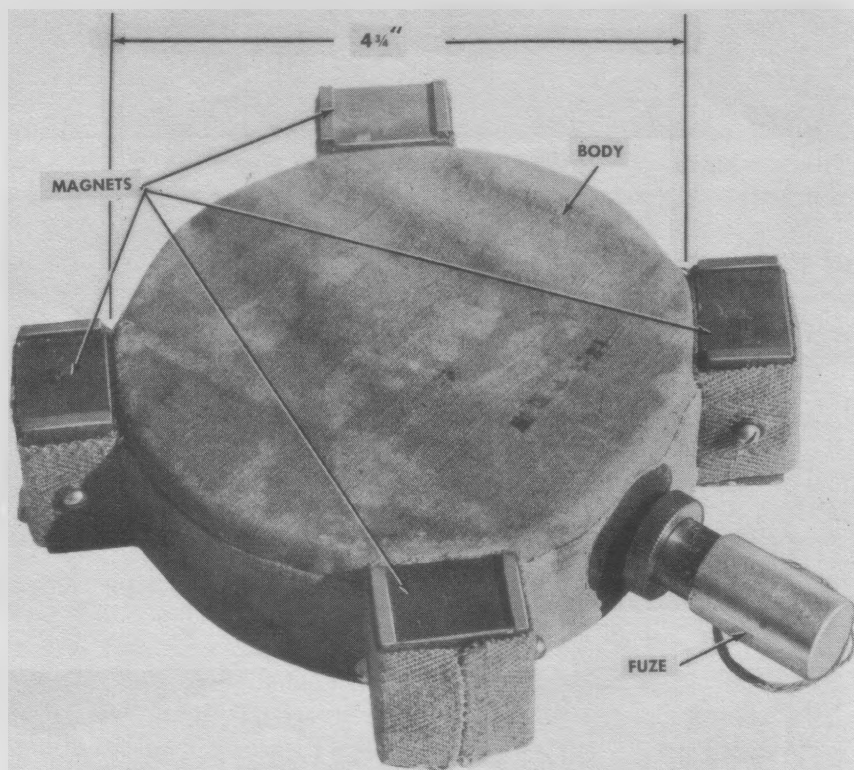


Figure 8. Japanese magnetic mine.



Figure 9. Canvas carrying pouch for magnetic mine.

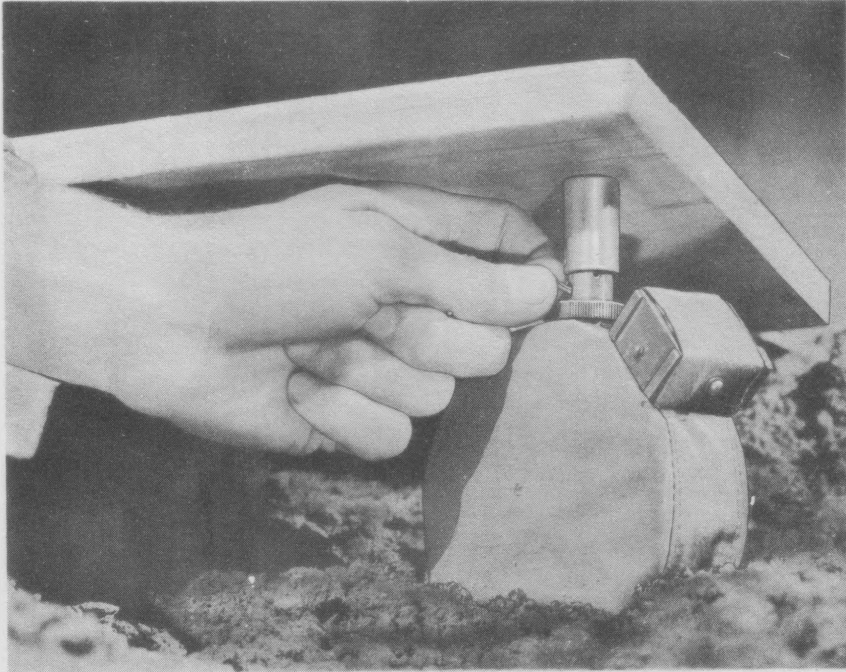


Figure 10. Rigging magnetic mine for use as an antipersonnel mine.



Figure 11. Using plank or board with magnetic mine to give more bearing on fuze.

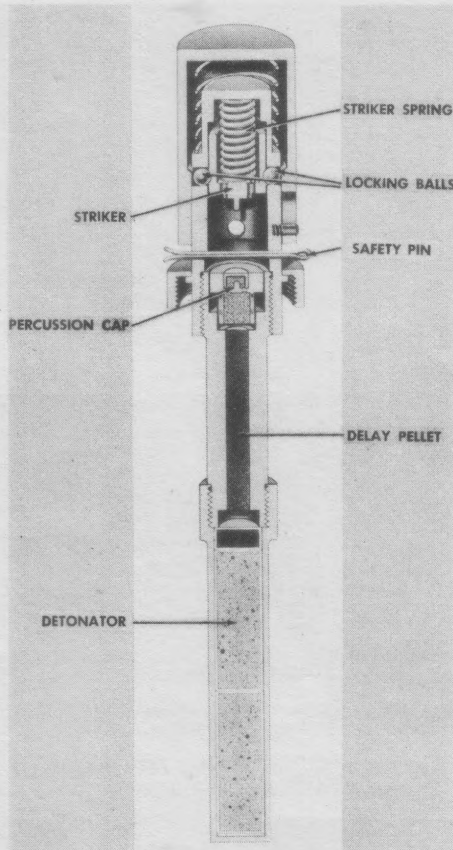


Figure 12. Cut-away of magnetic mine fuze.

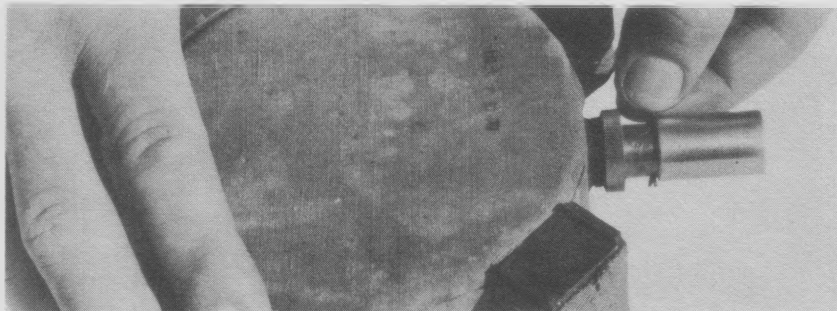
release plunger then moves down, and the striker drives through opening, firing the percussion cap—detonator—booster—main charge.

d. Arming. To arm the yardstick mine, remove the safety wire.

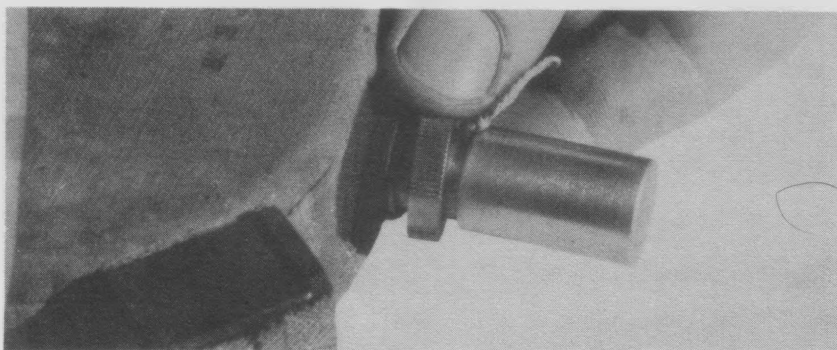
e. Disarming. Examine for booby traps. Remove blocks of explosives and fuzes from each case. Insert safety pin or improvised safety pin in safety-pin hole of each fuze (fig. 18).

10. TYPE 97 HAND GRENADE. *a. Description.* The Japanese type 97 grenade is a pressure-operated fragmentation grenade (fig. 19). It is normally black and has a grooved (horizontal and vertical) cast-iron case. Total weight is 1 pound, including 2 ounces of high explosive (fig. 20).

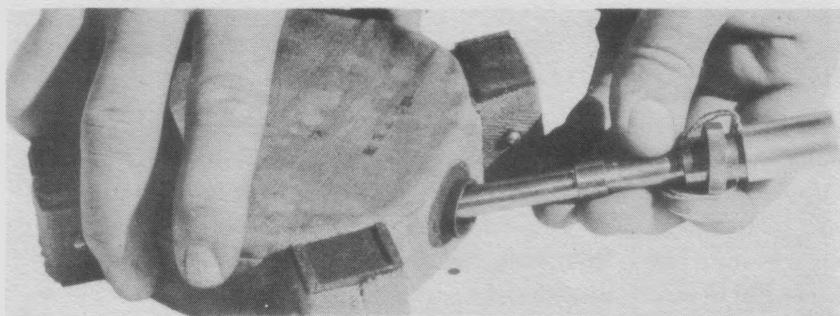
b. Use. The type 97 grenade is the standard Japanese hand grenade. However, it has been used as a pressure-operated booby trap by removing the pin and cap. The grenade has a delay fuze, but it can be removed and the detonator taped in the normal position of the delay



① Inserting safety pin in safety-pin hole.



② Loosening ring holding fuze in place.



③ Removing fuze from mine body.

Figure 13. Disarming magnetic mine.

train. With this change, the grenade fires immediately on pressing the cap.

c. *Functioning* (fig. 20). Remove safety pin and give cap a sharp pressure or blow to drive striker onto percussion cap. The percussion cap then ignites a 5-second delay train which sets off detonator and the main charge.

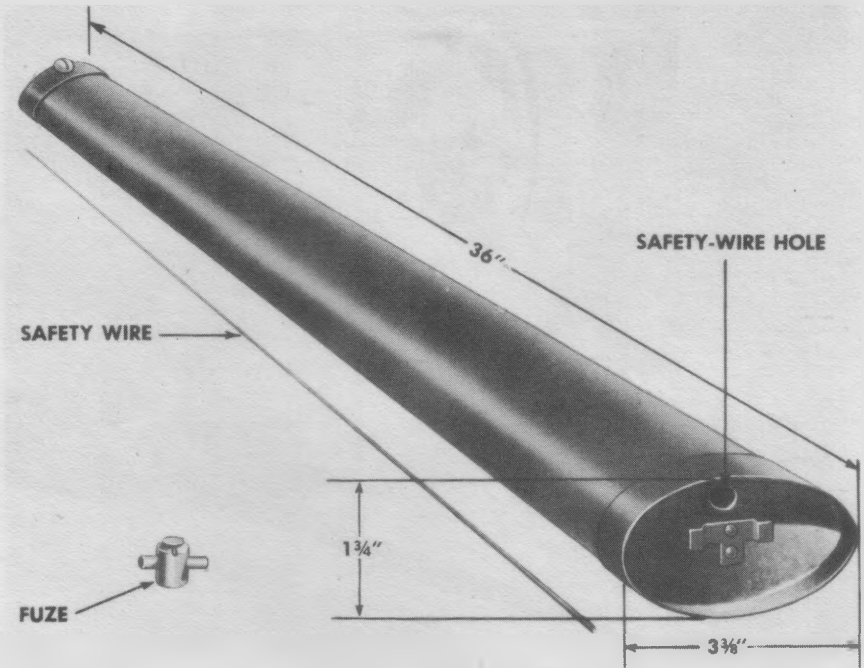


Figure 14. Japanese yardstick antitank mine.



Figure 15. Installing yardstick mine on road shoulder.

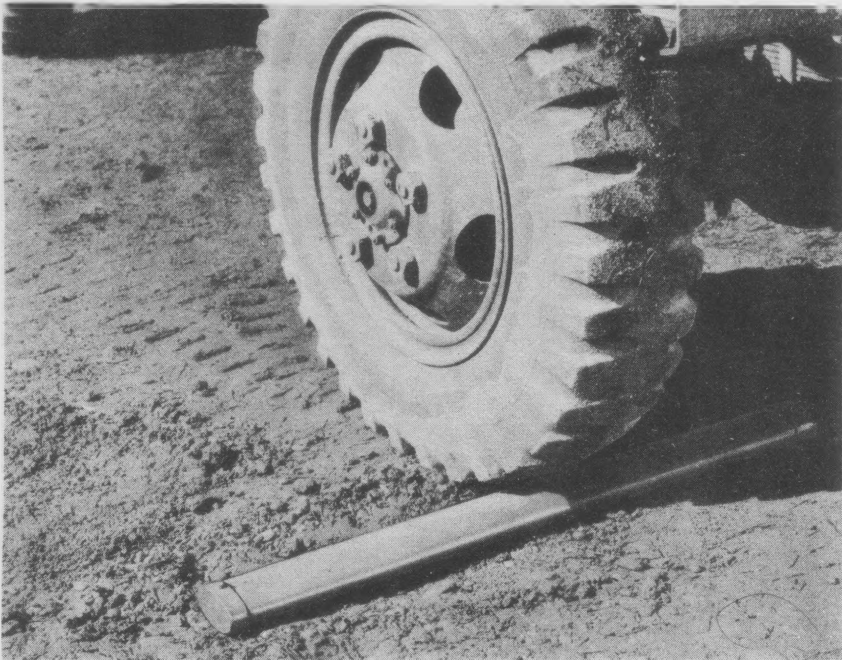


Figure 16. Yardstick mine used against vehicles.

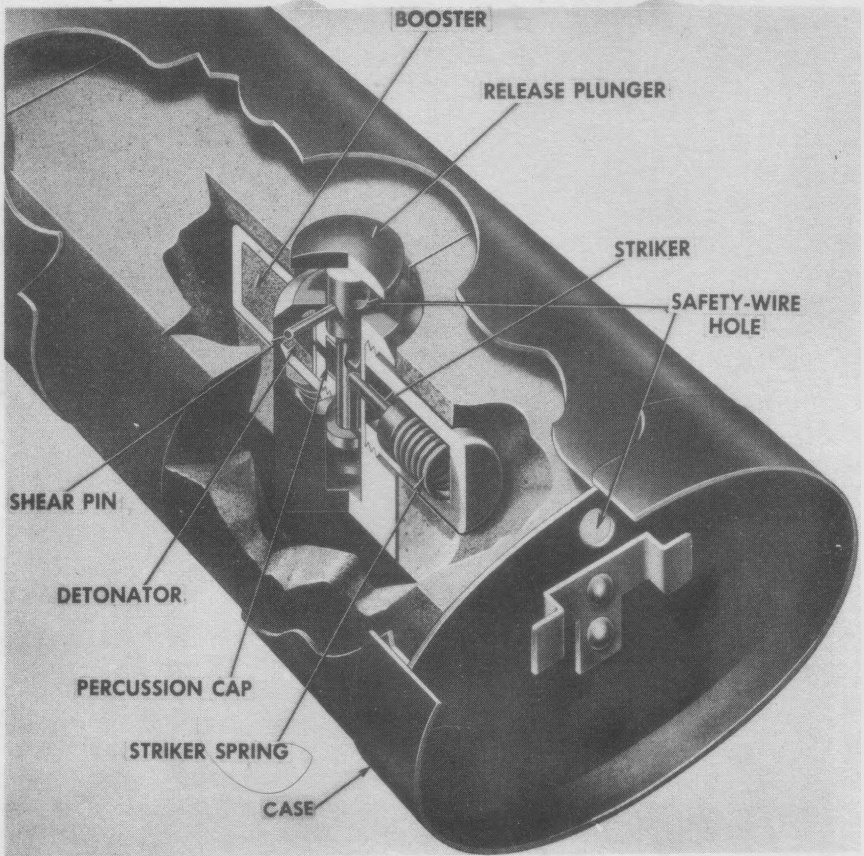
d. Installing and arming. To install the type 97 grenade as a booby trap, dig a small hole in the ground and place grenade upright with cap just above ground level. Camouflage excavation and grenade. Remove safety pin as last step.

e. Disarming. To disarm, remove metal cap and lift out striker. Finally, unscrew fuze and plug.

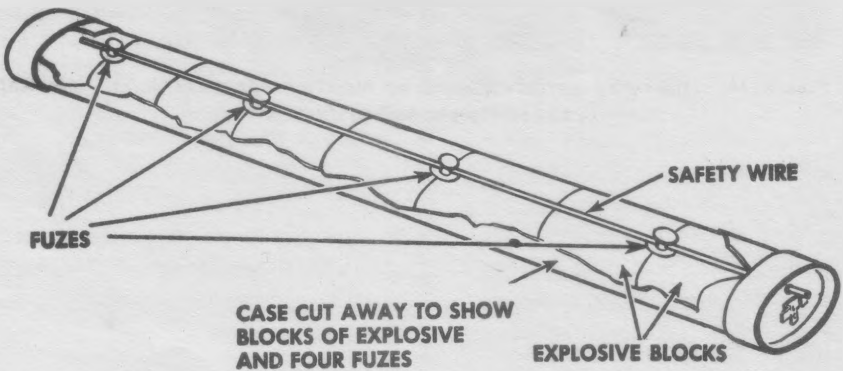
11. TYPE 3 LAND MINE. *a. Description* (fig. 21). The Japanese type 3 land mine has no exposed parts made of metal which makes detection difficult with standard mine detecting equipment. The circular terra cotta case has an earthen color. The fuze body is of bakelite with only springs, pins, and striker made of metal. The mine is manufactured in two sizes, 10½ inches in diameter and containing 6½ pounds of explosive, and 8½ inches in diameter and containing 4½ pounds of explosive.

b. Use. These mines have been found in mine fields and on roads and airfields. Normally they are used as antitank mines but they have been set up as antipersonnel mines with trip wires attached to the fuze. The mine has been found with pressure board on top to increase the pressure area.

c. Functioning (fig. 22). This mine may be detonated by pressure or pull, after the safety pin is removed. Normally, a percussion



①



②

Figure 17. Cut-away of yardstick mine.

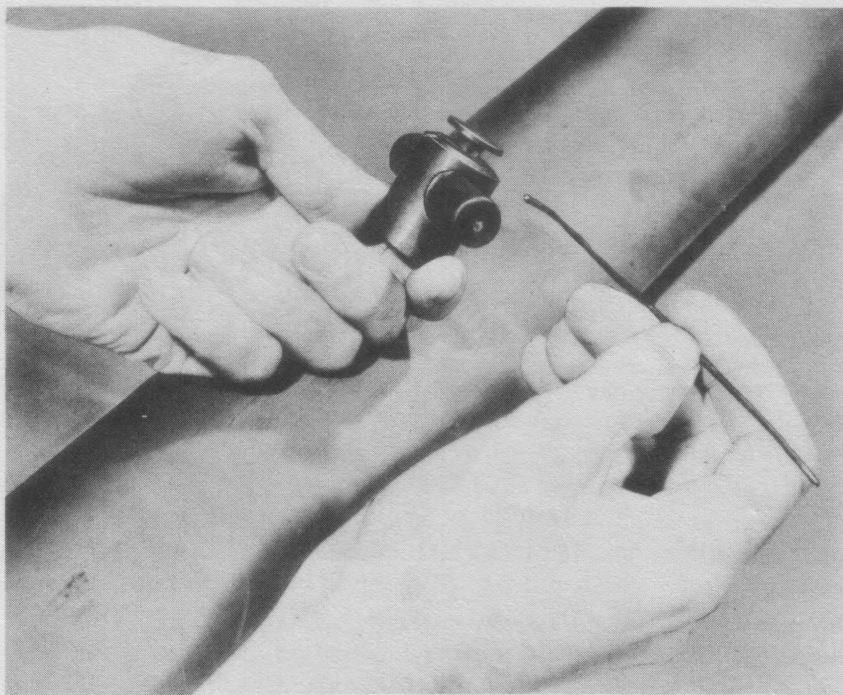


Figure 18. Disarming yardstick mine by inserting expedient safety wire into safety-pin hole of fuze.



Figure 19. Japanese type 97 hand grenade.

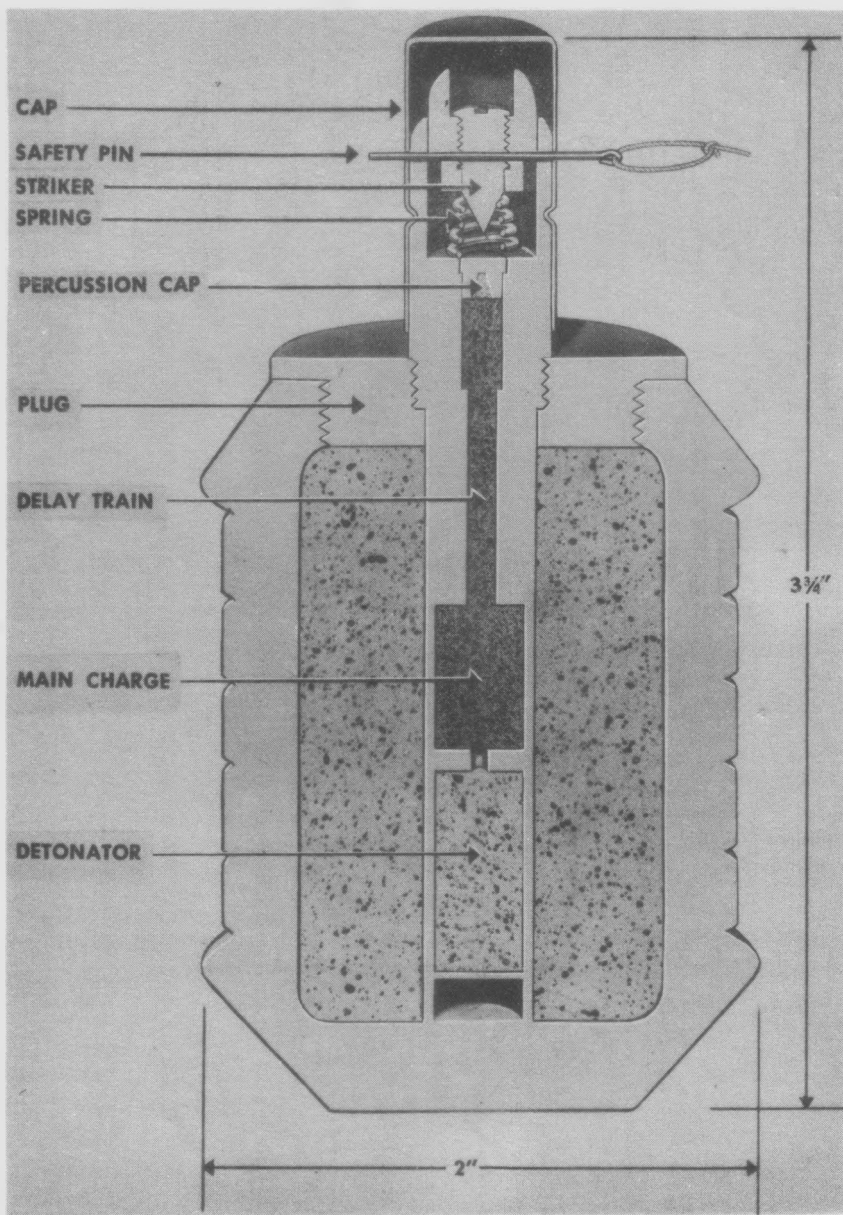


Figure 20. Cut-away of type 97 hand grenade

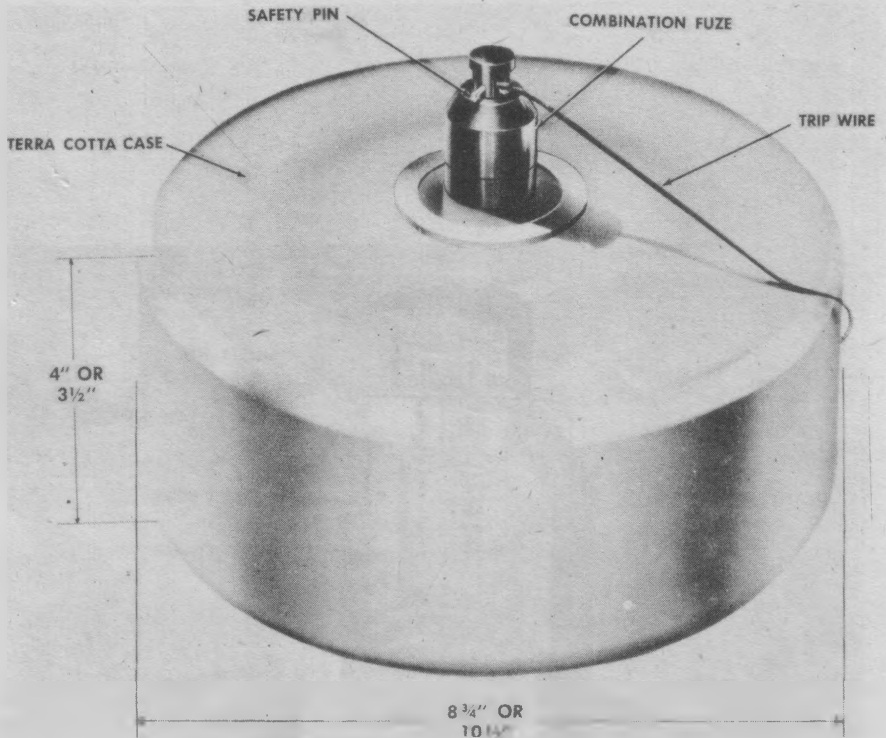


Figure 21. Type 3 Japanese land mine.

hammer within the fuze is held in position by a release fork to which a trip wire may be attached. When the wire is pulled, the fork releases the hammer, which is forced downward by the percussion hammer spring. The hammer hits the striker, forcing it against the percussion cap. A variable pressure up to 40 pounds, or a pull as low as 10 pounds, normally causes detonation.

d. Installing and arming. To install as an antitank mine, bury mine or lay it on surface of ground. Screw fuze into mine body and complete camouflage. Finally, remove safety pin from safety-pin hole.

e. Disarming (fig. 23). To disarm the mine, first examine carefully for trip wires. Then insert safety pin in fuze and cut any trip wires. To defuze, examine for booby traps, then with *safety pin in* and trip wires cut, unscrew fuze from mine (fig. 24). Fuze has either right- or left-hand thread.

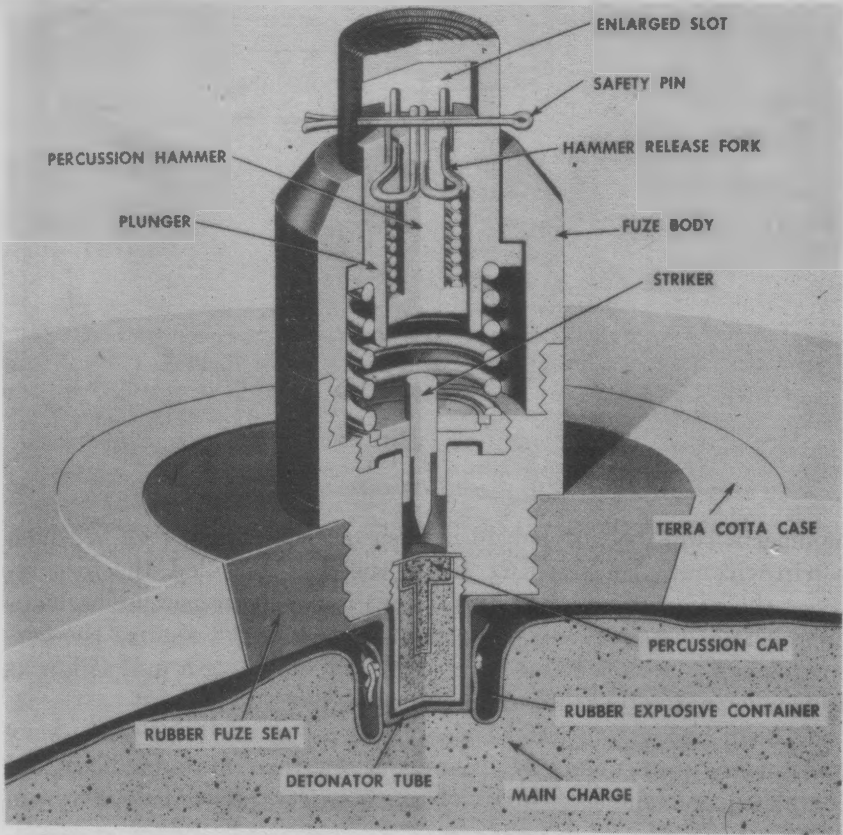


Figure 22. Cut-away of type 3 land mine.



Figure 23. Removing safety pin from safety-pin hole of fuze.



Figure 24. Defuzing type 3 land mine.

[AG 300.5 (4 Jun 45)]

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Refer to FM 21-6 for explanation of distribution formula.