

## ADDENDUM

The following amendments have been found necessary in view of new information which has come to hand during the printing of this booklet. As further information is received, so revised addenda will be issued.

Page	Reference	Action	Amendment
	Index of Files	Amend	For "New Model Tank" to read "New Model Amphibious Tank"
	Last page	..	Delete entire page and substitute with revised sheet enclosed.
	Index	..	For "Rimless" read "Semi-Rimmed".
15	Ammunition	..	For "815 lb" read "714 lb".
57	Total weight	..	<b>"A total weight of 815 lb is also reported; this may apply to weapons fitted with steel wheels instead of the wooden type as shown."</b>
57	Total weight	Add	For "16.03°" read "15.82°"
59	Elevation	Amend	For "12.5°" read "11.83°"
59	Depression	..	For "pneumatic" read "single rubber filled".
61	Line	..	For "2.95 m" to read "2.95 in"
61	Leading	..	For "2.95 m" to read "2.95 in".
61	Leading	..	For "20 seconds" read "30 seconds".
63	Maximum fuse setting	..	For "13.45 lb" read "1320 lb".
65	Weight of Barrel	..	For "98 yds" read "44 yds".
75	Minimum range	..	For "11.45°" read "11.30°".
77	Traverse	..	For "45°" read "40°".
83	Traverse	..	For "5-7000 yds" read "5000 yds"
83	Range	..	For "56°" read "40°"
85	Traverse	..	For "7700 lb" read "6275 lb"
87	Weight	..	For "40°" read "45°".
87	Elevation	..	Under "Elevation"—"Traverse 36°".
89		Add	"Weight 6174 lb".
89		..	"Traverse 6°".
89		..	

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Page	Reference	Action	Amendment
89	Elevation	Amend	For "Estimated 55°" read "65°".
89	Depression	"	For "3°" read "5°".
89	Maximum range	"	For "7000 metres" read "9600 yds".
91		Add	"Weight 130 lb".
91		"	"Traverse 30°".
91	Elevation	Amend	For "75°" read "65°".
91	Depression	"	For "3°" read "5°".
91	Maximum range	"	For "10,000 metres" read "13,000 yds".
95	Line 14	"	For "70 lb" read "20 lb".
105	Line 11	"	For "see page 96" read "see page 103".
119	Later Model Tankette	Amend	Delete entire page and substitute with revised sheet enclosed.
125	Line 2	"	For "it is not certain whether" read "but it is considered to".
125	Lines 3-5	"	For "earlier or later model than" read "improved version of".
125	Line 8	Delete	
126	New Model Amphibious Tank	Amend	Delete entire page and substitute with revised sheet enclosed.
127	New Model Amphibious Tank	"	Delete entire page and substitute with revised sheet enclosed.
138	Heading	"	For "Light Type Respirator" read "Type 98 Army Respirator".
139	Heading	"	For "Light Type Respirator" read "Type 99 Army Respirator".
140	Heading	"	For "Standard Type Respirator" read "Type 95 Army Respirator".
141	Heading	"	For "Standard Type Respirator" read "Type 95 Army Respirator".

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Page	Reference	Action	Amendment
141	Line 3	Amend	For "Canister" read " <b>Container</b> ".
144	Heading	"	For "Type 93 No. 2 Respirator" read " <b>Type 93 No. 2 Naval Respirator</b> ".
145	Heading	"	For "Type 93 No. 2 Respirator" read " <b>Type 93 No. 2 Naval Respirator</b> ".
146	Heading	"	For "Type 93 No. 3 Respirator" read " <b>Type 93 No. 3 Naval Respirator</b> ".
147	Heading	"	For "Type 93 No. 3 Respirator" read " <b>Type 93 No. 3 Naval Respirator</b> ".
155	Sub-para (d)	"	For "Use unknown" read " <b>This is known as 'fire rope' and is ignited for use as a marker at night</b> ".
162	Toxic Smoke Generators	"	For "Large DC. Type" read " <b>Probable Type 97 Medium</b> ".
162	"	"	For "Type 97K" read " <b>Type 99 Self-Protecting</b> ".
162	"	"	For "1612K" read " <b>Type 98 Self-Protecting</b> ".
162	"	"	For "Type 116" read " <b>Type 98 Small</b> ".
165	"	"	For "1411A" read " <b>Type 99 Medium</b> ".
			Generator type numbers to be amended as per page 162.
163	Line 4	Add	After "220 mm (8.7 in)" add " <b>larger specimens also reported</b> ".
163	Line 16	Amend	For "(5.35 in)" read " <b>(6.9 in)</b> ".
164	Diameter	"	For "(2.13 in)" read " <b>(2.03 in)</b> ".
164	Weight	"	For "(2.84 lbs)" read " <b>(2.32 lbs)</b> ".
164	Charging	Add	After "HCE" add " <b>(Hexachloroethane)</b> ".
165	Heading	Amend	For "Type 94A Smoke Generator" read " <b>Type 94A Small Smoke Generator</b> ".
165	Diameter	"	For "(2.13 in)" read " <b>(2.08 in)</b> ".
165	Charging	Add	After "CTC" add " <b>(Carbon tetrachloride)</b> ".

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Page	Reference	Action	Amendment
166	Heading	Amend	For "Smoke Generator—White Band" read "Type 94 Small Smoke Generator (A)".
167	Heading	"	For "Smoke Generator—White Band" read "Type 94 Small Smoke Generator (A)".
167	Length	"	For "(5.35 in.)" read "(6.9 in.)".
167	Charging Note	Add	After "CTC" add "(Carbon tetrachloride)".
167	Note	Add	"This item is identical in design and filling with the generator shown on page 165".
168	Heading	Amend	For "Type 94 Model B Smoke Float" read "Type 94 Floating Smoke Generator (B)".
169	Heading	"	For "Type 94 Model B Smoke Float" read "Type 94 Floating Smoke Generator (B)".
169	Charging Note	Add	After "HCE" add "(Hexachlorethane)".
169	Note	Add	"It is considered that the letter "B" refers to the filling (HCE) rather than to a variation in model or design."
171	Charging Note	Add	After "CSA" add "(Chloroacetic Acid)".
173	Charging Note	"	After "CTC" add "(Carbon tetrachloride)".
175	Line 6	"	After "CAP" add "(Chloracetophenone)".
176	Heading	Amend	For "162K Lachrymatory Generator" read "Type 89 Small Lachrymatory Generator".
177	Heading	"	For "162K Lachrymatory Generator" read "Type 89 Small Lachrymatory Generator".
177	Line 4	Add	After "CAP" add "(Chloracetophenone)".
178	Heading	Amend	For "CAP Hand Grenade" read "Lachrymatory Hand Grenade".
179	Heading	"	For "CAP Hand Grenade" read "Lachrymatory Hand Grenade".
179	Line 8	Add	After "Chemical filling" add "(Chloracetophenone Solution)".
180	Heading	Amend	For "HCN Hand Grenade" read "Prussic Acid (HCN) Hand Grenade".

Page	Reference	Action	Amendment
181	Heading	Amend	For "HCN Hand Grenade" read " <b>Prussic Acid (HCN) Hand Grenade</b> ".
182	Heading	"	For "HCN Hand Grenade" read " <b>Prussic Acid (HCN) Hand Grenade</b> ".
182	Sub-heading	Delete	"Types 172C-K and 172B-K".
182	Sub-heading	Delete	"Types 172C-K and 172B-K".
183	Heading	"	For "HCN Hand Grenade" read " <b>Prussic Acid (HCN) Hand Grenade</b> ".
185	Colour	Amend	For "Unknown" read " <b>Unpainted brass body</b> ".
185	Colour bands	"	For "Unknown" read " <b>None</b> ".
188	Heading	"	For "50 mm (1.97 in) Mortar (Smoke or Incendiary) Bomb" read " <b>50 mm (1.97 in) 10 Year Model, Type A Flare</b> ".
189	Heading	"	For "50 mm (1.97 in) Mortar (Smoke or Incendiary) Bomb" read " <b>50 mm (1.97 in) 10 Year Model, Type A Flare</b> ".
189	Colour	"	For "Unknown" read " <b>Unpainted brass body</b> ".
189	Colour bands	"	For "Unknown" read " <b>None</b> ".
189	Charging	"	For "HCE" read " <b>Potassium nitrate and aluminium powder</b> ".

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## HE-HAND GRENADES

TYPE 97



SAFETY PIN

FUSE COVER

FILLER PLUG  
painted red

BODY (painted black)  
50 segments

TOP VIEW

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NEW IMPROVED TYPE "KISKA"



SAFETY PIN

FUSE COVER

FLASH GUARD

SCREW HEAD

STRIKER

SMOOTH BODY

(painted black)

TYPE 91 and 97 GRENADE IS SAFE WHEN HEAD OF STRIKER IS FLUSH WITH TOP OF FUSE COVER TO ARM TYPE 91-97 GRENADES WITH SAFETY PIN IN, SCREW DOWN STRIKER

## HE-HAND GRENADES

Types 91 and 97 are similar in appearance, size and approximate weight. They are noisy and fragment in pool.

TYPE 91 (Recessed Base Type): May be thrown by hand, or fired, by means of a finned attachment screwed into the base, from the rifle (see page 23), or, plus the addition of a ballistite propellant charge screwed into the base, from the Type 89 Grenade Discharger (see page 31) and 10 Year Type Flare Discharger (see page 33). The fuse delay is approximately 7 to 8 seconds.

TYPE 97 (Solid Base Type): Designed solely for use as a hand grenade. Fuse delay is approximately 4 to 5 seconds.

CHARACTERISTICS: TYPES 91 and 97 Length 4 in (including fuse), diameter 47.7 mm (1.94 in) weight 1 lb (approx).

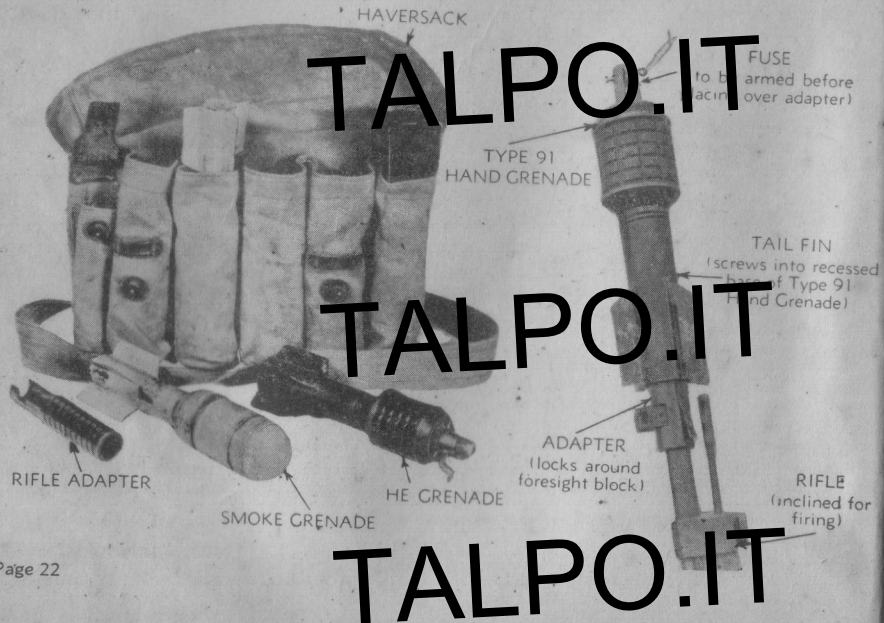
NEW IMPROVED TYPE "KISKA": Has a smooth, non-segmented body and an improved type of fuse. A flash guard is built round the base of the fuse and no arming screw is fitted as with Types 91 and 97.

CHARACTERISTICS: Length 3½ in (incl fuse), diameter 1⅝ in, weight 10½ oz (approx).

TO THROW: Ensure that grenade is armed. Grasp grenade with fuse pointing downwards. Withdraw safety pin. Strike head of fuse cover sharply against hard object driving striker into fuze cap. Throw grenade.

WARNING: DUE TO ERRATIC BEHAVIOUR OF FUSES, CARE MUST BE TAKEN TO THROW IMMEDIATELY HEAD OF GRENADE HAS BEEN STRUCK.

## RIFLE GRENADE AND POUCH



## RIFLE GRENADE AND POUCH

When firing from the rifle, a finned tail piece is screwed into the base of the grenade. Housed in each tail piece is a specially prepared cartridge. This cartridge is Ballastite filled and fitted with a wooden bullet shaped plug of 6.5 mm (.256 in) calibre. This plug is not removed when cartridge is loaded into the breach.

PREPARATION FOR FIRING: Place adapter over muzzle of rifle. Rotate in clockwise direction approximately quarter turn, causing foresight block to engage in adapter locking recess.

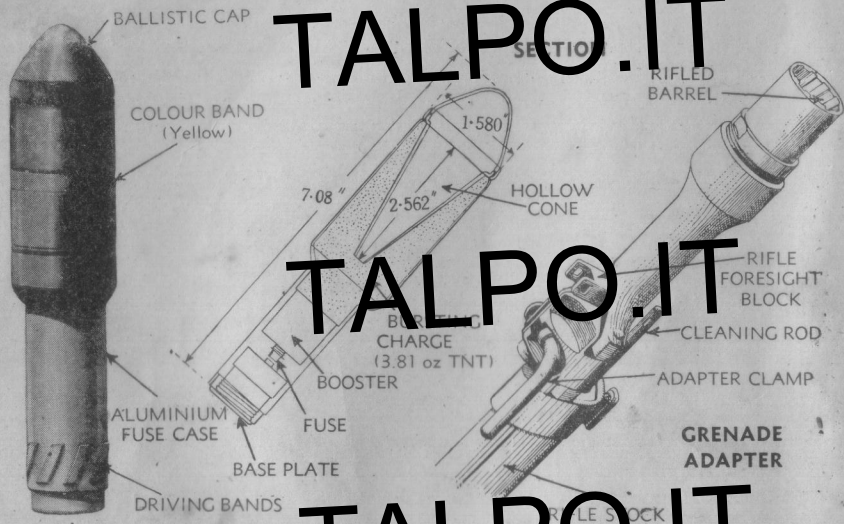
Remove cartridge from grenade tail piece and load into breach. Place grenade over adapter. Fire in normal manner for discharging grenades.

HE GRENADE: Before firing, make sure grenade is armed and safety pin removed. Shock of explosion on base of grenade will drive striker into percussion cap.

SMOKE GRENADE (NON TOXIC): Weight, 1.29 lb.

There is no fuse to this grenade. Action is started by the flash of exploded cartridge.

## HOLLOW-CHARGE RIFLE GRENADE



## HOLLOW-CHARGE RIFLE GRENADE

This Japanese Rifle Grenade is a copy of the German G Pzgr or possibly the larger GR Gpzgr. The grenade incorporates the "MUNRO" or hollow-charge principle and is fired from an adapter which is attached to the standard infantry rifles. This hollow charge principle has also been found incorporated in projectiles for the 75 mm Type 41 Regimental Gun.

### CHARACTERISTICS:

Length, overall	7.08 in	Weight of body (less ballistic cap)	4.61 oz
Length of body (less ballistic cap)	3.218 in	Weight of fuse housing detonator	4.03 oz
Length of fuse housing	3.124 in	Primer and Filling	Cyclonite TNT
Weight complete	12.45 oz		

The grenade was fired statically against a mild steel block and a penetration of  $3\frac{1}{8}$  inch in length and a  $\frac{3}{8}$  inch in diameter at the top of penetration was the result. The cone appeared to be melted and fused with the mild steel block.



## PULL TYPE HAND GRENADE



## PULL TYPE HAND GRENADE

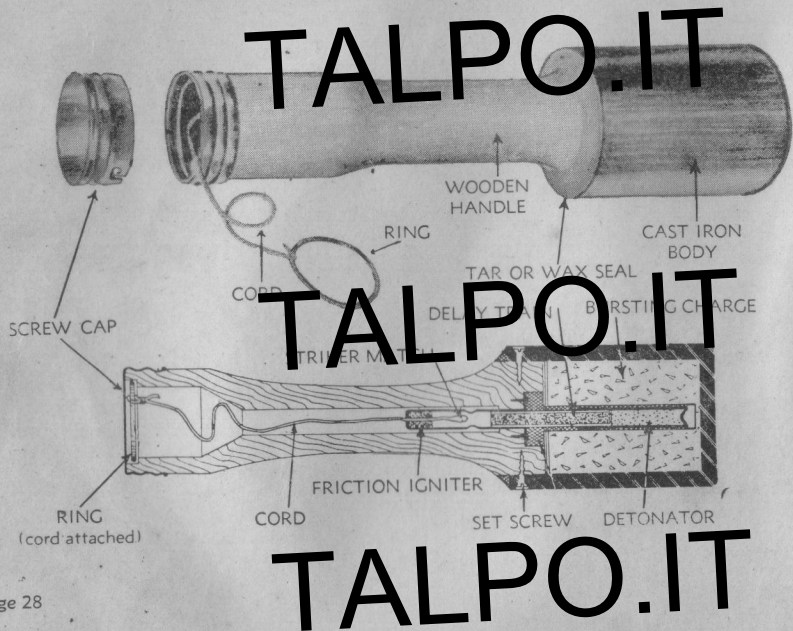
This grenade is easily distinguished by its outward appearance. It has no longitudinal serrations with Types "91" and "97", but has five transverse depressions. On one side, fitted top and bottom, are two metal rings which could be used for carrying a number of grenades attached to the person, or for anchoring grenade for use as a booby trap.

### CHARACTERISTICS:

Length overall . . . . .	3 3/4 in.	Weight of body . . . . .	14.4 oz
Length of fuse . . . . .	1 1/2 in.	Weight of filling . . . . .	1.4 oz
Diameter of body . . . . .	2 in.	Type of explosive . . . . .	Granular TNT
Diameter of cover . . . . .	1 1/8 in.	Body material . . . . .	Cast Iron
Weight complete . . . . .	15.8 oz	Cover material . . . . .	Lead

**OPERATION:** To remove the lead cover, the cover thumb release catch at the side must be depressed. The cover then screws off in one and a half turns, exposing the firing string. When the firing string is pulled, it draws a friction igniter between two pieces of match composition and ignites it. The match in turn ignites the five and a half second delay train which initiates the detonator, thus setting off the main charge.

## STICK GRENADE



## STICK GRENADE

A complete case of these grenades was found covered by other ammunition in a dump at IAP. Although well packed, the majority of the grenades were rusted and the packing damaged. This incident may possibly substantiate previous reports of the grenade being obsolete.

### CHARACTERISTICS:

Length (overall)	7 $\frac{3}{4}$ in	Weight of body	14 oz
Length of body	2 $\frac{3}{4}$ in	Weight of filling	3 oz
Diameter of body	15/16 in	Weight of handle and cap	1 oz
Color	Black	Total weight	19 oz

This grenade is similar in appearance and operation to the German "Potato Masher", but it differs in size, being almost twice as large. The body of the Japanese grenade is designed to give high fragmentation, whilst the German grenade provides less fragmentation and produces a high blast effect.

**OPERATION:** The screw cap is removed from the handle, exposing a ring with cord attached. When the cord is pulled, it draws a friction igniter between two pieces of match composition and fires them. The match in turn ignites the delay train. The delay train detonates a cap initiating the main charge of picric compound.

**WARNING:** The fuse may be erratic in operation—THROW GRENADE IMMEDIATELY IT HAS BEEN INITIATED.

# 50 mm (1.97 in) TYPE 89 (1929) GRENADE DISCHARGER



1 This type of grenade fired from this discharger. Filling is TNT with a Type 88 fuse fitted. Usually named Type 89 Grenade.

2 This is a similar type of grenade to the Type 89 in appearance. Differences being filling possibly smoke compound, and a new Type, air burst fuse is fitted.

3 The Type 91 Hand Grenade, with ballistite attachment provides the third type. Action of grenade see page 21.

# 50 mm (1.97 in) TYPE 89 (1929) GRENADE DISCHARGER

One of the weapons most frequently used by the Japanese for close support. Also employed during Landing Operations being fired from the gunwale of landing craft. This weapon is NOT to be fired from the thigh.

## CHARACTERISTICS:

Calibre	.. .. 50 mm (1.97 in)	Filling	.. .. TNT
Weight	.. .. 10 lb 4 oz	Range	—
Length, overall	25.8 in	Type 89 Grenade:	120-650 metres (130-710 yards approx).
Rifling	8 groove RH	Type 91 Hand Grenade:	40-190 metres (44-210 yards approx)
Bomb	.. .. 25 oz		

**RANGE CONTROL:** The worm protruding into the barrel provides a moveable stop for the bomb. Rotation of the range control knob, by raising or lowering the worm, varies the chamber capacity thereby altering the range.

**TO FIRE:** The weapon is fired in the prone position as with British 2 in Mortar. With the base plate on the ground discharger is held with the LEFT hand at a constant angle of 45°. Sighting by a vertical red line on the barrel, distance is judged and range set accordingly. Grenade is then dropped down the barrel (safety pin removed) and fired by pulling lanyard.

# 10 YEAR TYPE FLARE DISCHARGER



# 10 YEAR TYPE FLARE DISCHARGER

This weapon is a small, light smooth-bore mortar with a trigger-operated firing mechanism.

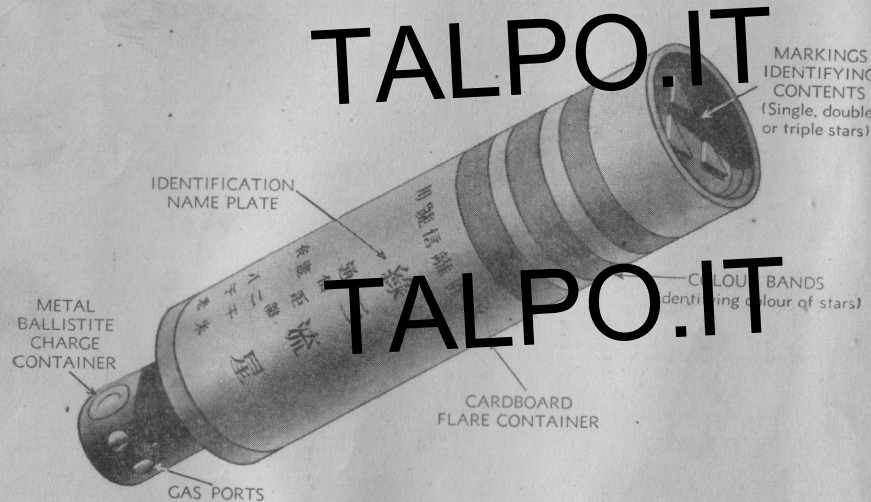
## CHARACTERISTICS:

The general appearance of this weapon in firing position is similar to that of the Type 89 Grenade Discharger (see page 31).

Calibre	50 mm (1.97 in)	Length (firing position)	20.88 in
Length of bore	5.8 in	Weight	5.5 lb
Length (carrying position)	12.63 in	Range	40-200 metres (estimated)

The weapon is fired with the base plate resting on the ground. The pedestal may be removed, as shown on opposite page, and carried inside the barrel, screwed to a threaded collar on the base plate for compactness. A Type 91 Fragmentation Grenade may be fired from this weapon, with a ballistite charge screwed into the recessed base. Range adjustment is made by a gas regulator which controls a gas port located at the rear end of the barrel. Types of flares fired from this discharger are reported on page 31.

## FLARES



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## FLARES

These flares may be fired from the 10 Year Type Flare Discharger (see page 33) or the Type 89 Grenade Discharger (see page 31).

### COLOUR MARKINGS AND USE:

1. BLACK DRAGON: Long range day signal; black smoke; black parachute; black band and black top.
2. WHITE PARACHUTE STAR: Long range night signal; white puff; white parachute; white band and white circle enclosing a white square on top.
3. WHITE SINGLE SHOOTING STAR: Close range signal; one white puff; white band on centre of body; one white square on top.
4. WHITE DOUBLE SHOOTING STAR: Close range signal; two white puffs; two white bands on centre of body; two white squares on top.
5. WHITE TRIPLE SHOOTING STAR: Close range signal; three white puffs; three white bands on centre of body; three white squares on top.
6. YELLOW DRAGON: Long range day signal; orange puff; orange parachute; yellow band and yellow top.
7. GREEN PARACHUTE STAR: Long range night signal; green puff; green parachute; green band on centre of body and green triangle on top.
8. GREEN SINGLE SHOOTING STAR: Close range signal; one green puff; one white band on body; green triangle on a green top.
9. GREEN DOUBLE SHOOTING STAR: Close range signal; two green puffs; two green bands on body; two green triangles on a green top.
10. GREEN TRIPLE SHOOTING STAR: Close range signal; three green puffs; three green bands on body; three green triangles on a green top.
11. RED PARACHUTE STAR: Long range night signal; red puff; red parachute; red band and red top.
12. RED TRIPLE SHOOTING STAR: Close range signal; three red puffs; three red bands on body; three red circles on red top. These identifications are the only colour markings known to date.

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## 7.63 mm (.30 in) "SOLOTHURN" SMG



## 7.63 mm (.30 in) "SOLOTHURN" SMG

The only SMG captured to date from the Japanese in SWP and SP Areas. Weapon is of German manufacture and was made under the terms of the Versailles Treaty, which prevented Germany from manufacturing weapons of 9 mm military calibre. To surmount this restriction, however, weapon was so designed that the 7.63 mm barrel could be removed and a 9 mm barrel substituted, without any modification of the weapon. A standard infantry bayonet may be fitted.

### CHARACTERISTICS:

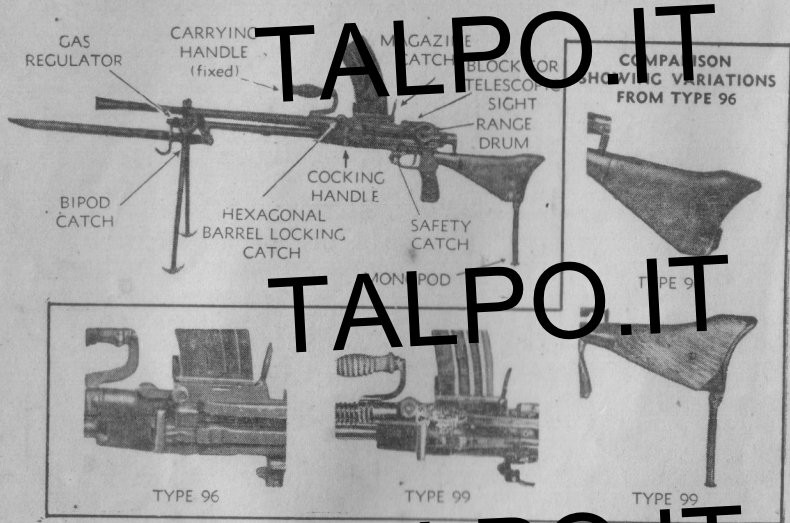
Automatic action is initiated by rotation of spent case and return spring. Bolt is not locked and works on a blow-back principle.

Calibre	7.63 mm (.30 in)	Capacity	30/32 rounds
Length	32½ in	Type of fire	Single/Automatic
Magazine	Horizontal box-type	Rate of fire	700 rpm
Weight (without magazine)	9½ lb	Sights	Open
		Sight range	0-500 metres

CHANGE LEVER: Operation is similar to that of the "Bren LMG".

INTERPRETATION OF LETTERS: "E" Einzel (German) means single (repetition). "D" Doppel (German) means double (Automatic).

## 7.7 mm (.303 in) TYPE 99 (1939) LMG



## 7.7 mm (.303 in) TYPE 99 (1939) LMG

This weapon is the 7.7 mm counterpart of the Type 96 6.5 mm LMG (see page 41). These two weapons closely resemble each other, and care must be taken when identifying them.

Because of the heavier calibre ammunition fired from this weapon and the support given by the adjustable monopod, it is considered it would be a more effective weapon than the Type 96 LMG.

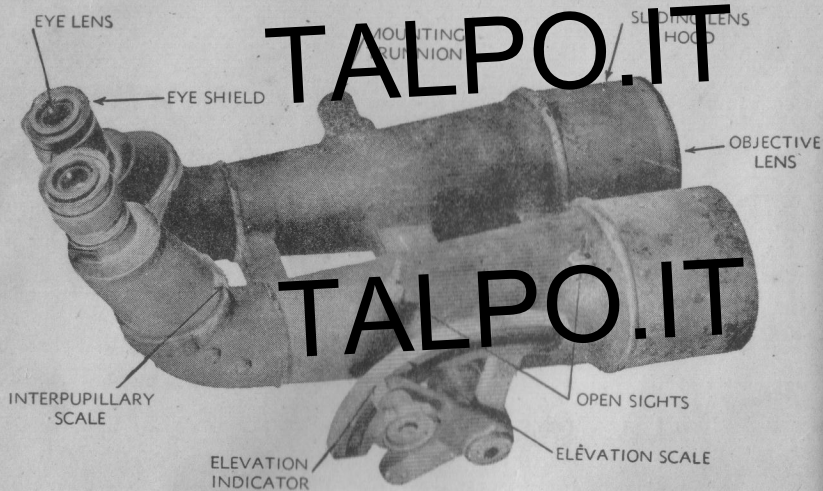
The distinguishing features have been illustrated photographically on opposite page.

### CHARACTERISTICS:

Calibre	7.7 mm (.303 in)	Muzzle velocity	2,300 fps
Length	42 in	Rate of fire—	
Weight	25.03 lb	Practical	.. 250 rpm
Magazine	Bren Type	Cyclic	.. 800 rpm
Capacity	.. 30 rounds	Type of fire	.. Automatic only
Sights—Identical with type 96 LMG (see page 41).			
Range—Maximum 3,800 yds—Effective 1,500 yds.			

AMMUNITION: Model 99 7.7 mm Rifle (see page 19) and Type 99 LMG will NOT fire 30 U.S. ammunition, any .303 British ammunition, or semi-rimless 7.7 mm ammunition used in the Type 92 HMG "Juki" (see page 45). The ammunition used with both Type 99 LMG and Rifle is rimless. However, the Type 92 HMG "Juki" which fires semi-rimless ammunition has a slightly better performance when the rimless Type 99 LMG and Rifle ammunition is used.

# 10 cm MODEL 1929 AA BINOCULARS



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# 10 cm MODEL 1929 AA BINOCULARS

# TALPO.IT

Designed for locating, spotting and tracking a/c and also for spotting AA bursts. These binoculars have fifteen power magnification and have a 4 degree field of view. Tripod mounted, they have 10 degrees depression, 90 degrees elevation and 360 degrees traverse.

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Focal adjustments are made only at the eye pieces, each telescope being focussed independently. The interpupillary scale is graduated from 60-72 mm.

The right telescope contains a reticle calibrated from 0-30 mils and reads in both vertical and horizontal planes. It is calibrated in 5 mil increments and numbered at each 10 mil interval.

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# 70 mm (2.76 in) TYPE 92 (1932) BATTALION GUN

SPRING  
RECUPERATOR  
HOUSING

ELEVATING WHEEL

BREECH BLOCK  
(not shown)

TRAVERSING WHEEL

ADJUSTABLE  
SPLIT TRAIL

DRAG WASHER

# 70 mm (2.76 in) TYPE 92 (1932) BATTALION GUN

A close support weapon issued on the scale of two guns per infantry battalion. It is stated not to be very efficient and viewed somewhat unfavourably by the Japanese.

## CHARACTERISTICS:

Calibre	70 mm (2.76 in)	Traverse	45°
Weight	490 lb	Elevation	75°
Overall length	86 in	Depression	4°
Length of barrel	28½ in	Length of recoil	13½ in
Length of barrel	24½ in	Maximum range	3,000 yds
Overall height	36 in	Effective range	1,500 yds
Overall width (firing posn)	72 in	Muzzle velocity	650 fps

This weapon is a miniature howitzer characterised by a low muzzle velocity. It is employed in the tactical role of a long range mortar.

Ammunition is semi-fixed and range is controlled by varying the powder charges. HE projectile weighs 8 pounds and is fitted with Type 88 percussion fuse which is interchangeable with 75 and 105 mm shells.

# 75 mm (2.95 in) TYPE 41 (1908) REGIMENTAL GUN



# 75 mm (2.95 in) TYPE 41 (1908) REGIMENTAL GUN

Prior to 1935, this was the standard weapon of Mountain Artillery. These weapons were withdrawn, reissued to Infantry Regiments for close support and designated Model 41 "Regimental" Guns.

Issued on a scale of 4 guns to each infantry regiment they are placed under the control of the Regimental Commander.

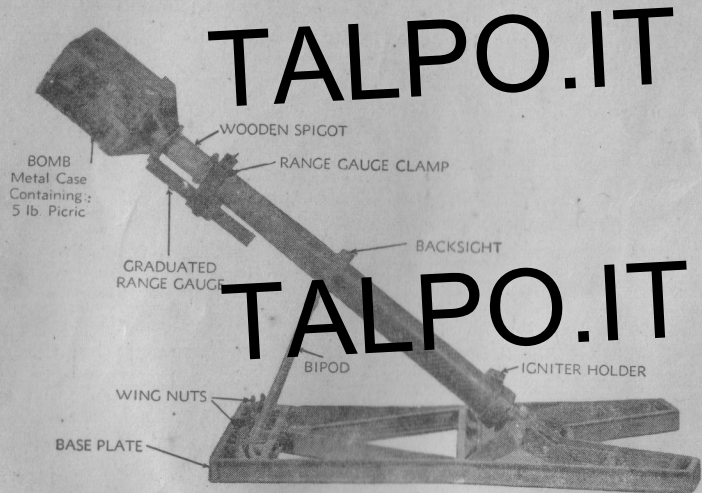
## CHARACTERISTICS:

Calibre . . . . .	75 mm (2.95 in)	Elevation . . . . .	25°
Weight . . . . .	1,220 lb	Depression . . . . .	8°
Length of barrel . . . . .	4 ft 6½ in	Breech . . . . .	Interrupted screw-thread
Length of bore . . . . .	3 ft 7½ in	Maximum range . . . . .	7,000 yds
Traverse . . . . .	7°	Muzzle velocity . . . . .	1,250 fps

Gun is mounted on two iron-shod wooden wheels and has a tubular box-type trail.

It is possible that this weapon is still used in some artillery units, as reorganisation may not yet be complete.

# 50 mm (1.97 in) TYPE 98 (1938) DISCHARGER



# 50 mm (1.97 in) TYPE 98 (1938) DISCHARGER

The discharger is of simple design, consisting of a barrel, base plate, range control scale, base plate stakes, bipod and accessories. With the use of a powder charge, the weapon fires a discharger bomb consisting of a steel box filled with a bursting charge of picric compound in blocks and attached to a spigot. The propellant consists of one or more increments of fine black powder, packed in silk waterproof bags.

## CHARACTERISTICS:

Calibre . . . . .	50 mm (1.97 in)	Range—	
Length of barrel . . . . .	65 cm (25.6 in)	Maximum . . . . .	400 metres (438 yds) approx
Weight of barrel . . . . .	7.4 kg (16.3 lb)	Minimum . . . . .	40 metres (98 yds) approx
Weight of baseplate . . . . .	15 kg (33 lb)		
Weight of bomb . . . . .	6.4 kg (14.1 lb)	Length of bomb . . . . .	70 cm (27.5 in) incl Spigot
Traverse . . . . .	10° R and L		

**FIRING:** Insert powder bags into the barrel, insert a pull type igniter (a) into base of discharger bomb, load projectile into barrel until flange contacts range scale as shown on opposite page, attach wire to pull igniter (a) and then to barrel and place a pull igniter (b) in igniter holder mortar is then ready to fire. A long lanyard is attached to pull igniter (a) and fired by remote control, as a great deal of blast is experienced in the close proximity of the mortar. A recent report states that a finned bangalore torpedo and smoke candles may also be fired from this weapon.

# 70 mm (2.76 in) TAISHO II (1922) MORTAR



# 70 mm (2.76 in) TAISHO II (1922) MORTAR

It is a muzzle loaded, flange type weapon consisting of a metal reinforced wooden base plate and the mortar itself. No tripod is necessary, as the elevating screw supports the barrel.

## CHARACTERISTICS:

Calibre . . . . .	70 mm (2.76 in)
Weight . . . . .	133 $\frac{3}{4}$ lb
Weight of mortar . . . . .	34 $\frac{1}{2}$ lb
Weight of base plate . . . . .	99 $\frac{1}{2}$ lb
Dimensions of base plate . . . . .	31 $\frac{1}{2}$ in x 17 $\frac{3}{8}$ in
Elevation . . . . .	43-78 degrees (approx)
Traverse . . . . .	200 mils (11.45°) R and L
Rifling . . . . .	Uniform RH

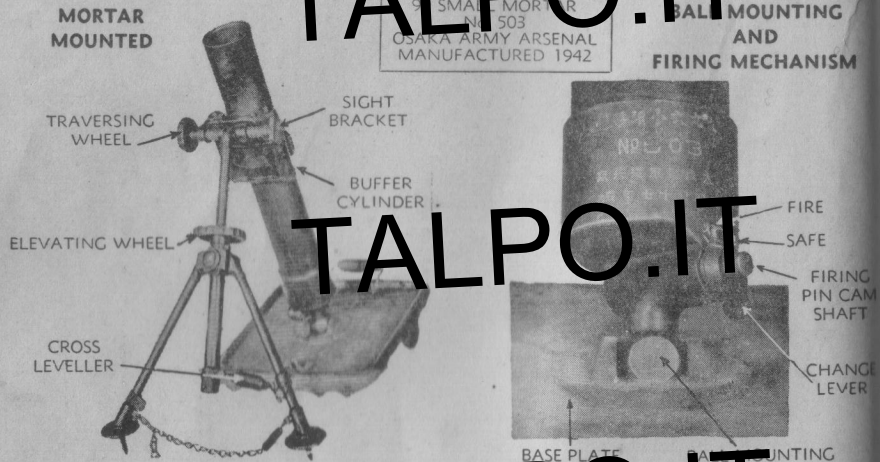
The weapon is fired by means of a lanyard attached to the firing mechanism fitted into a recess at the rear of the barrel. Mortar is mounted by means of trunnions on the barrel, fitting into bearings on the base plate. The elevating screw is then coupled to the barrel by a securing pin.

A grenade of similar appearance to the Type 89 Grenade (see page 31), is reported to be fired from this weapon. The main difference being weight, calibre and a slightly different type fuse. Unlike the Type 9 Grenade fuse there is no safety pin. The fuse is manufactured of brass.

# 81 mm (3.19 in) TYPE 99 (1939) SMALL MORTAR

TRANSLATOR  
99 SMALL MORTAR  
NO. 503  
OSAKA ARMY ARSENAL  
MANUFACTURED 1942

## BAL MOUNTING AND FIRING MECHANISM



TALPO.IT

TALPO.IT

TALPO.IT

# 81 mm (3.19 in) TYPE 99 (1939) SMALL MORTAR

The mortar is similar in design to the U.S. 81 mm Mortar with the exception of the firing mechanism.

## CHARACTERISTICS:

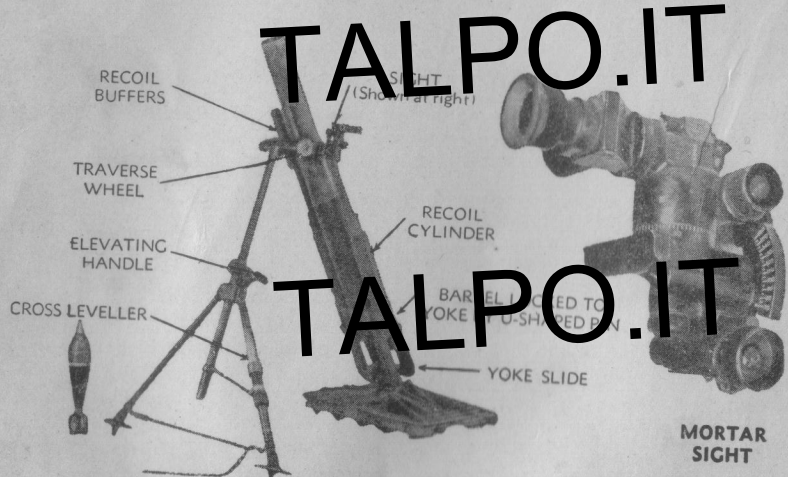
The firing mechanism is located at the lower end of the barrel and consists of a Firing Pin, Firing Pin Cam Shaft and a Change Lever. The Firing Pin is controlled by the Firing Pin Cam Shaft. The Change Lever controls and locks the mechanism in three positions.

Firing Pin may be locked, protruding into the barrel or left free to move under pressure from the Firing Pin Cam Shaft. In the former position, bomb is fired as with the British 81 mm Mortar. In the latter position, the bomb is loaded into the barrel in the usual manner. As the firing pin is not projecting into the barrel, the bomb is not discharged. To fire the Firing Pin Cam Shaft is struck with a hard object driving the striker upward into the propellant cartridge. The third and safe position, locks the Firing Pin below the firing surface.

Calibre	81 mm (3.19 in)	Weight of base plate	18 lb
Length of barrel	25.25 in	Weight of bomb	6.93 lb
Base plate	14.25 in (square)	Total weight	52 lb
Weight of barrel	17.5 lb	Traverse	16°
Weight of bipod	15.5 lb	Range	40-2,200 yds

TALPO.IT

# 90 mm (3.54 in) TYPE 94 (1934) LIGHT MORTAR



TALPO.IT

TALPO.IT

TALPO.IT

# 90 mm (3.54 in) TYPE 94 (1934) LIGHT MORTAR

The most outstanding feature of the mortar is the heavily constructed recoil mechanism.

TALPO.IT

## CHARACTERISTICS:

The barrel and recoil mechanism are secured to each other by a U-shaped locking pin, the whole assembly being mounted on the base plate by means of a ball-mounting and supported by a bipod to which is fitted buffers.

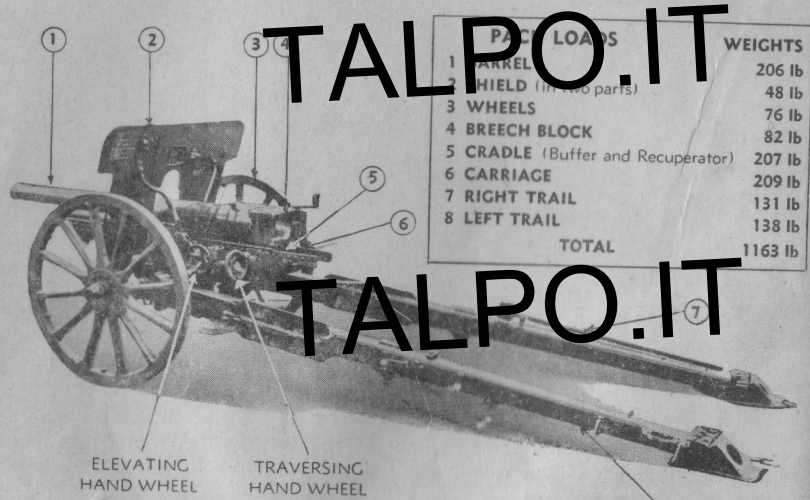
Calibre . . . . .	90 mm (3.54 in)	Maximum recoil	6 in
Length of barrel	47.8 in	Type of recoil	Hydro pneumatic
Weight of barrel	74.1 lb	Traverse . . . . .	10°
Weight of recoil mechanism	104 lb	Weight of bomb	11.5 lb
Weight of bipod	73 lb	Dimensions of base plate . .	28.5 in x 18.5 in
Weight of base plate . . . . .	88.5 lb	Range . . . . .	610-4,050 yds (approx)
Total weight . . . . .	340 lbs		

TALPO.IT

The bomb is fired in the same manner as the British 3 in Mortar. Although the heaviness of the weapon will present transportation difficulties; weight of projectile, recoil system and a heavily reinforced base plate, combine in making it an effective weapon.

TALPO.IT

# 75 mm (2.95 in) TYPE 94 (1934) MOUNTAIN GUN



PACK LOADS	WEIGHTS
1 BARREL	206 lb
2 SHIELD (in two parts)	48 lb
3 WHEELS	76 lb
4 BREECH BLOCK	82 lb
5 CRADLE (Buffer and Recuperator)	207 lb
6 CARRIAGE	209 lb
7 RIGHT TRAIL	131 lb
8 LEFT TRAIL	138 lb
<b>TOTAL</b>	<b>1163 lb</b>

TALPO.IT

TALPO.IT

TALPO.IT

# 75 mm (2.95 in) TYPE 94 (1934) MOUNTAIN GUN

When the Mountain Artillery was reorganised, the original mountain gun, Model 41 (see page 75) was withdrawn and re-issued to infantry regiments as a close support weapon and designated the "Regimental Gun". The Type 94 has taken the place of the Model 41 in Mountain Artillery Units. This weapon has been employed wherever the terrain permits in both SP and SWP Areas.

## CHARACTERISTICS:

Calibre	75 mm (2.95 in)	Traverse	45°
Weight	1,163 lb	Breach	Horizontal sliding
Length of barrel	5 m 24 cm	Sights	Telescopic
Length of trail	8 m 8 in	Range	5-7,000 yds
Elevation	44.3°	Rate of fire	10-12 rpm
Depression	10.5°		

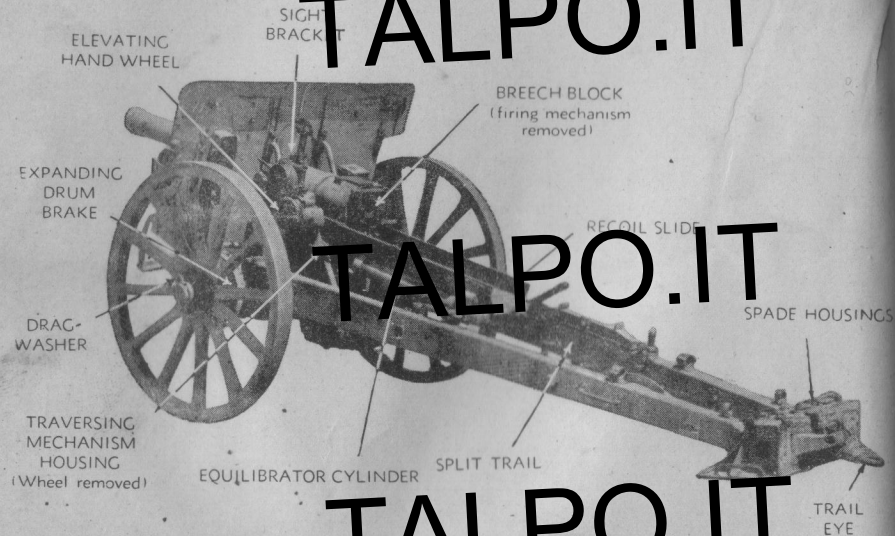
TALPO.IT

The weapon may be broken down into pack loads as shown on opposite page.

It is reported that a crew of five are required to operate the gun. No. 1, to operate sights, No. 2 to open and close breech and fire the gun by lanyard, No. 3 to load the gun, whilst Nos. 4 and 5 are purely ammunition numbers. The gun examined was manufactured at OSAKA Arsenal in 1938 and is designed for rapid assembly, disassembly and carriage by pack animal.

TALPO.IT

# 105 mm (4.1 in) TYPE 91 (1931) LIGHT FIELD HOWITZER



# 105 mm (4.1 in) TYPE 91 (1931) LIGHT FIELD HOWITZER

Characteristics given below are approximate.

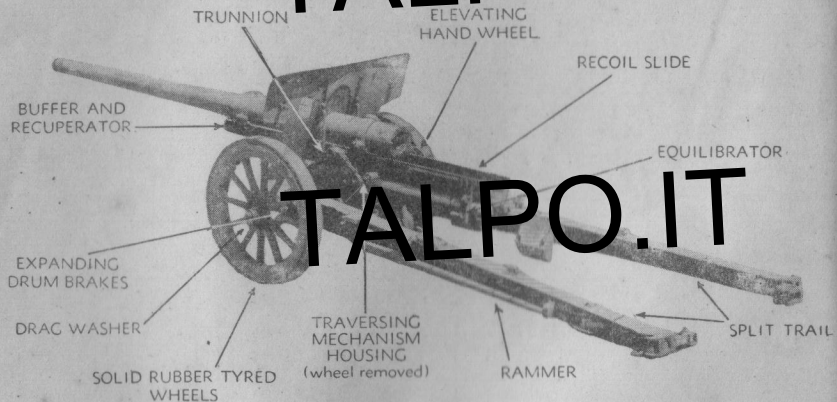
Calibre	.. .. .	105 mm (4.1 in)
Elevation	.. .. .	45°
Traverse	.. .. .	56°
Trail	.. .. .	Split type
Range	.. .. .	11,500 yds
Rate of fire	.. .. .	Slow, 1 rpm
		Normal, 3 rpm
		Rapid, 4-5 rpm
		Intense, 6-8 rpm
Ammunition	.. .. .	HE (time and percussion).
Weight of shell	.. .. .	35 lb
Ammunition Allotment	.. .. .	80 rds per gun
		96 rpg in unit reserve

This howitzer is normally horse-drawn by a six horse gun team. There have been reports of this equipment being pack carried.



# 105 mm (4.1 in) TYPE 92 (1932) FIELD GUN

TALPO.IT



TALPO.IT

TALPO.IT

# 105 mm (4.1 in) TYPE 92 (1932) FIELD GUN

TALPO.IT

Characteristics given below are approximate.

Calibre	.. .. 105 mm (4.1 in)	Rate of fire	.. Slow	1 rpm
			Normal	2 rpm
Weight	.. .. 7,700 lb		Rapid	2-5 rpm
Elevation	.. .. 40°		Intense	6-8 rpm
Trail	.. .. Split type	Ammunition	.. Shrapnel HE (time and percussion)	
Range	.. .. 14,200 yds HE	Weight of shell	35 lb	
	21,000 yds	Ammunition	96 rds per gun 88	
	Streamline	Allotment	.. rpg in unit reserve	

TALPO.IT

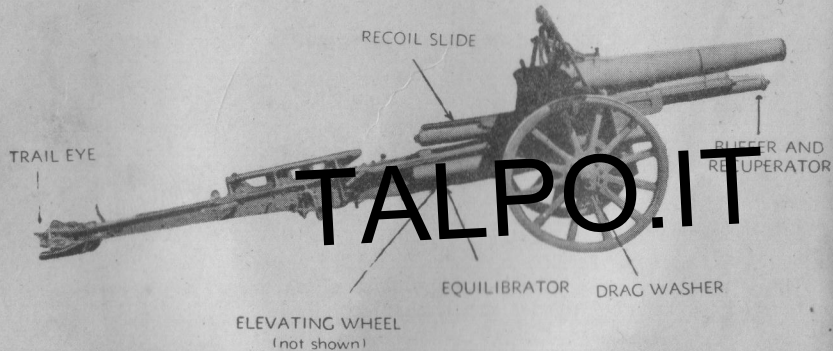
The gun is tractor-drawn, the piece being pulled back approximately 3 feet into the travelling position.

It has been reported that a proportion of shells fitted with delay fuses, fired from this weapon did not explode. A report on the effectiveness of the weapon during the attack on HONG KONG stated that one of every seven shells was defective.

TALPO.IT

150 mm (5.9 in) FOURTH YEAR TYPE (1915)  
HOWITZER

TALPO.IT



TALPO.IT

TALPO.IT

150 mm (5.9 in) FOURTH YEAR TYPE (1915)  
HOWITZER

TALPO.IT

The weapon is a 1915 model howitzer with a box trail and limited axle traverse. The piece examined was manufactured at OSAKA Arsenal in 1924.

CHARACTERISTICS:

Calibre	150 mm (5.9 in)	Elevation	(estimated) . 55°
Length (in travelling position)	18.4 ft (approx)	Depression	(estimated) . 3°
Length of barrel	7.05 m	Maximum range	7,000 metres
Height (muzzle to top of shell)	5.1 ft	Length of recoil	510-1,340 mm (20.08-52.75 in)
Width of carriage	6.3 ft		

TALPO.IT

The breech block is a vertical sliding type, spring loaded to facilitate ease in operation and unusual, in that it slides upward to open.

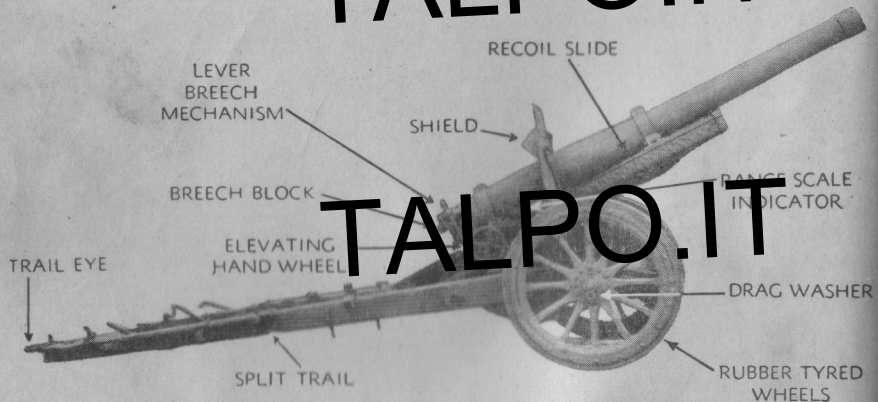
Two equilibrators are attached to a single elevating arc by wire cables to counteract muzzle preponderance during movement of the piece to angles of elevation.

TALPO.IT

The carriage is equipped with expanding drum-type brakes.

## 150 mm (5.9 in) TYPE 96 (1936) HOWITZER

# TALPO.IT



# TALPO.IT

# TALPO.IT

## 150 mm (5.9 in) TYPE 96 (1936) HOWITZER

# TALPO.IT

This howitzer is a modern split-trail weapon manufactured at OSAKA Army Arsenal in 1936.

### CHARACTERISTICS:

Calibre . . . . .	150 mm (5.9 in)	Elevation (estimated) . . . . .	75°
Length (in travelling position)	21.6 ft	Depression (estimated) . . . . .	3°
Length of barrel	11.57 ft	Maximum range	10,000 metres
Height (ground to top of shield)	6.25 ft	Length of recoil	600-1,040 mm (23.6-40.9 in)
Width of carriage	6.6 ft		

# TALPO.IT

The carriage is fitted with a trail equalizer, has solid rubber-tired wheels and expanding drum-type brakes. Equilibrators attached to the rear underside of the cradle counteract muzzle preponderance and facilitate ease in moving the piece to angles of elevation. These are presumably joined to a single elevating arc by wire cables similarly to the Fourth Year Type.

The breech block is a tapered, interrupted screw thread type, having three-quarter thread surface and one-quarter plane in a three-step formation.

There is no obturator; the cartridge case producing complete obturation.

# TALPO.IT

## ARTILLERY PRIME MOVER



TALPO.IT

TALPO.IT

TALPO.IT

## ARTILLERY PRIME MOVER

Photographs taken of aerial reconnaissance over ALEXISHAFEN in November, 1943, revealed a new type tracked vehicle. Comparison with early photographs show this to be an Artillery Prime Mover. Comparing photographs of this vehicle with a report on a Track Laying Reconnaissance Vehicle captured recently in the SPA, establishes the fact that it is not only used as a Prime Mover but also as a Reconnaissance Vehicle.

### CHARACTERISTICS:

Length	12 ft 10 in	Bogies	3
Height	4 ft 10 in	Bogie wheels	6
Width	6 ft 9 in	Return rollers	2
Track width	9 in	Capacity	7 persons (approx)

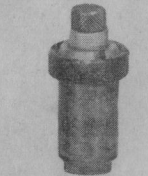
TALPO.IT

The vehicle is unarmoured, unarmed and fully tracked. The engine is a 6 cyl diesel of German design manufactured SHOWA 16.12 (December, 1941) with a 4-speed double reduction gear box and mounted at the rear. A towing winch is located at centre rear of the engine mounting. A track locking mechanism makes this vehicle extremely manoeuvrable, enabling it to turn in its own length.

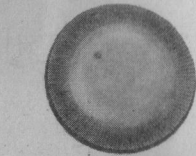
TALPO.IT

# TYPE 93 (1933) LAND MINE

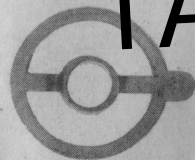
FUSE ASSEMBLED



THREADED BASE

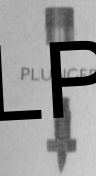


BRASS CAP



SAFETY WASHER

SAFETY CAP



FIRING PIN  
HEAD OF BODY

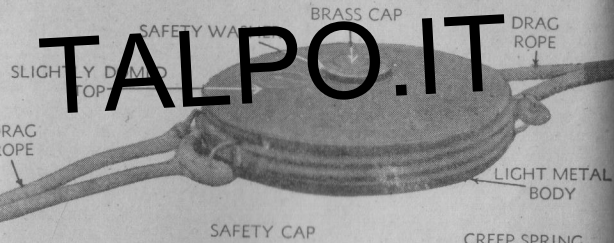


PLUNGER  
BODY  
CREEP SPRING



FUSE ASSEMBLY

DETONATOR



# TYPE 93 (1933) LAND MINE

Body is in two sections and painted a DULL BROWN. A  $\frac{3}{8}$  in RED band surrounds the brass plug which screws into the centre of the body.

## CHARACTERISTICS:

Weight . . . . 3 lb

Diameter . . . .  $6\frac{3}{4}$  in

Thickness . . .  $1\frac{3}{4}$  in

Filling . . . . 2 lb Picric Compnd.

**SAFETY DEVICES:** A small safety cap screws into upper end of plunger (striker). When in position, this prevents plunger being depressed and mine exploded. An additional safety device is provided by a brass collar attached to the safety washer. Collar passes over brass safety cap, and surrounding washer is retained beneath brass plug.

**SHEAR WIRE:** This retains the striker when the safety cap and safety collar are removed. The wire determines the pressure necessary to fire the mine. The thickness of this wire has been found to vary in mines examined from 70 to 270 lb according to tactical use for which the mine was laid.

## TO NEUTRALIZE MINE:

- (a) Examine area round mine for booby traps.
- (b) Without moving mine or exerting any pressure on cover, unscrew and remove brass plug.
- (c) With downward pressure, screw safety cap tightly on to the top of plunger, place safety washer over safety cap. Screw on brass plug. To completely disarm mine, remove fuse.

## ANTI INVASION MINE



## ANTI INVASION MINE

These mines were encountered at PARAWA (Gilbert Group) arranged in a single straight row parallel to and 50 yards from the high water mark. Others were used in conjunction with concrete tetrahedrons ("Scullies"—A Tk, anti-invasion obstacles) one mine being placed between two concrete tetrehedrons.

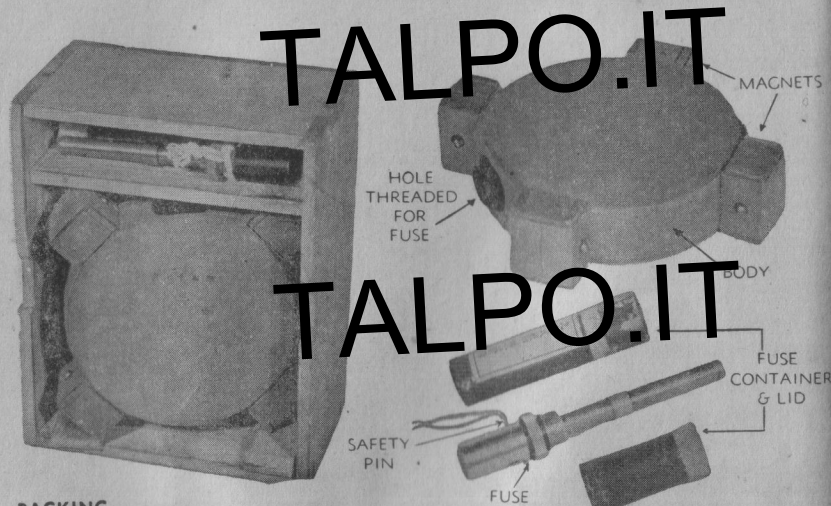
### CHARACTERISTICS:

Weight (less horns, detonator, and wiring) . . . . .	105 lb	Weight of filling—46.5 lb
Height . . . . .	10.62 in	Body Material—3/16 in mild steel
Diameter of base . . . . .	20.25 in	Type of explosive (40/60 per cent. mixture of Hexanitrodiphenylamine and T. nitroanisol)
Type of detonator . . . . .	Acid horns to which is connected a wet cell type of battery.	

The mine is a hemispherical, chemical-horned, all welded mine. The outer body forms a hemisphere with a central opening at the top, into which fits the booster and safety switch. The horn openings are situated diametrically opposite each other on either side of the central opening.

It is fired in a manner typical to all horned mines. When the horns are bent, an acid vial inside the horn is broken allowing the acid to contact two battery plates thus generating sufficient emperge to fire the detonator. This mine is regarded as a sea mine, not a land mine, although it may possibly be used as an A Tk mine on land.

## TYPE 99 (1939) MAGNETIZED AP BOMB



### PACKING

Contains: 2 Bombs. 2 Fuses in tin containers.

## TYPE 99 (1939) MAGNETIZED AP BOMB

These bombs are intended for use against A/V's, steel hatches, or any iron or steel target, rail-box, etc. While probably designed to be thrown by hand, loss of magnetic power due to rust, dirt or age may necessitate the bomb being brought by hand to the objective, the attacker endeavouring to make his escape during the period of delay.

### CHARACTERISTICS:

Bomb consists of eight separate sections of highly compressed TNT contained in khaki cloth covering.

Diameter . . . . .  $4\frac{3}{4}$  in.      Weight with fuse . . . 2 lb 11 oz  
Thickness . . . . . 1 in.

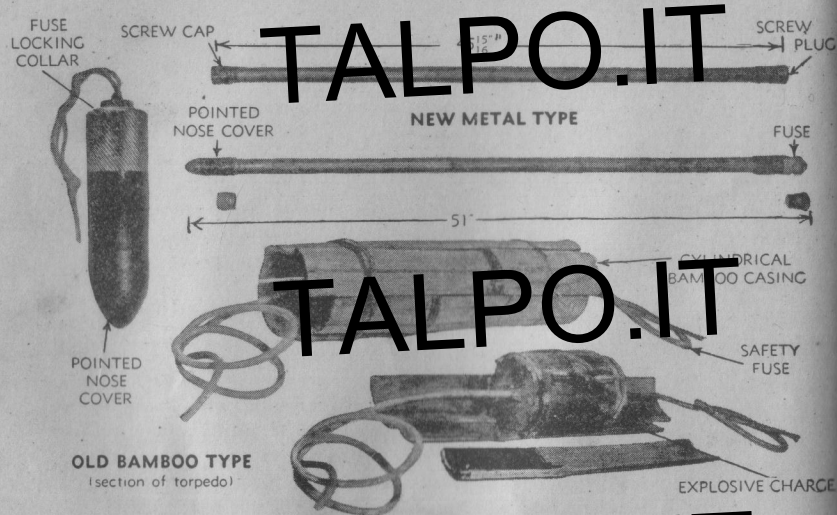
When bomb is carried in haversack, fuse hole is filled by a wooden plug  $3\frac{3}{4}$  in long, the removal of which permits fitting of fuse. The latter is secured by securing down brass locking collar.

### ACTION

To fire, withdraw safety pin and depress plunger.

**WARNING:** ALTHOUGH A RECENTLY EXAMINED SPECIMEN HAD A FUSE DELAY OF 10 SECONDS, IT IS STRESSED THAT EXTREME CARE MUST BE OBSERVED OWING TO ERGATIC BEHAVIOUR OF JAPANESE FUSES.

## BANGALORE TORPEDOES



OLD BAMBOO TYPE  
(section of torpedo)

TALPO.IT

TALPO.IT

TALPO.IT

## BANGALORE TORPEDOES

Two types of Bangalore Torpedoes are shown on the opposite page. These are the only types captured or recovered to date. Variations may be made in the construction for tactical needs, but the principle remains the same.

**OLD BAMBOO TYPE:** This type was first encountered at MILNE BAY. It consists of a series of (5-7) cylindrical cakes of explosive (Ammonium Chlorate—Silican Carbide—wood pulp and an oil binder), connected between charges by means of FID (Instantaneous Detonating Fuse), and initiated at the first charge by a short length of safety fuse and detonator inserted into the centre of the charge. The casing consists of a long bamboo pole split lengthwise and bound round the charges by bands of twine at intervals. Effect of the torpedo would be mainly blast with little fragmentation.

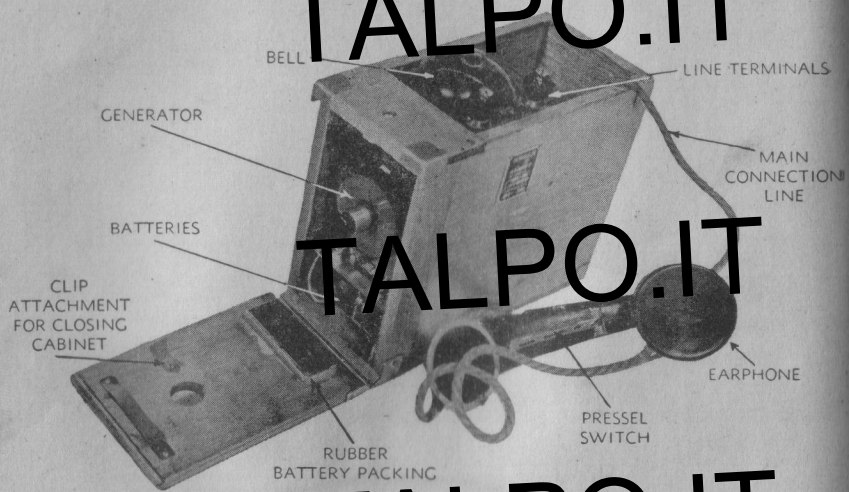
**NEW METAL TYPE:** A Type 99 Demolition Tube has been noted in captured documents. There is a possibility that both types are identical. This torpedo is manufactured of steel tubing filled with 36.4 per cent. TNT and 63.6 per cent. Cyclonite and fitted with a male and female threaded plug, one at either end. These plugs are removed when fuse is fitted. The fuse locking collar, containing the pull-type igniter, is screwed into the female threaded end and a hollow Pointed Nose Cover is screwed on to the male thread. The Nose Cover is used when the torpedo is placed in the ground vertically. Action of the New Metal Type would be considerable fragmentation and a relatively high blast effect.

TALPO.IT

TALPO.IT



## MODEL 2 FIELD TELEPHONE



TALPO.IT

TALPO.IT

TALPO.IT

## MODEL 2 FIELD TELEPHONE

The instrument is housed in a wooden cabinet with reinforced metal corners and usually carried in a leather case. The cabinet is divided into three main compartments housing: (i) a handset, (ii) batteries and (iii) a generator, bell, induction coil and condenser.

TALPO.IT

The appearance of the instrument indicates that it is intended for hard use and need not be removed from its leather case for operation. The instrument provides normal local battery powered speaking, and both battery and magneto signalling facilities.

A translation of the "Instruction Plate" is as follows:—

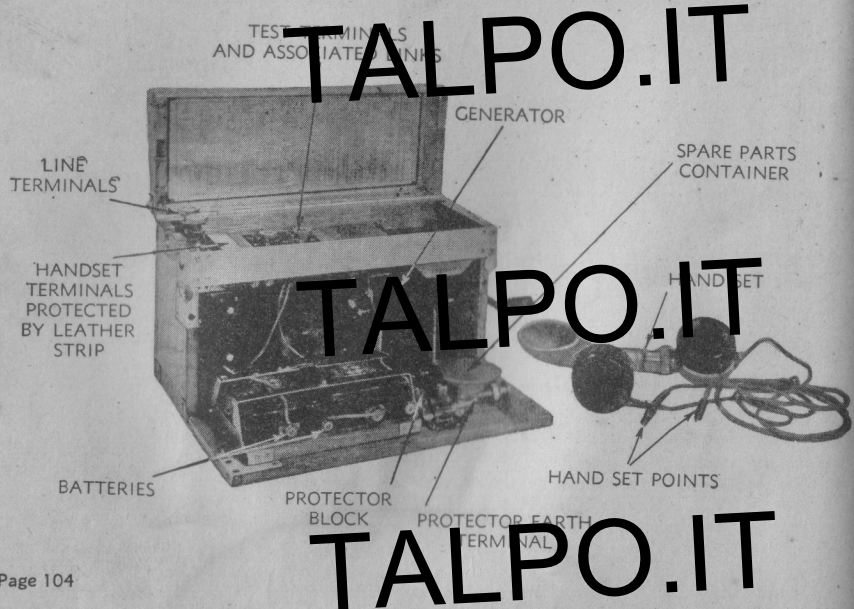
### METHOD OF USE

- (i) To install, connect line wires to line terminals.
- (ii) During speaking, press handset switch continuously.
- (iii) When connected to exchange, turn handle after conversation to transmit "finish" signal.
- (iv) In the event of poor transmission, test dry batteries by observing the intensity of test lamp (in lid of instrument).
- (v) When using the common battery system circuit, disconnect the link between terminals (above bell coils in No. 3 compartment).

NOTE: So long as the cord is coiled alongside the handset, discharge of the battery will not take place.

TALPO.IT

## MODEL 92 FIELD TELEPHONE



## MODEL 92 FIELD TELEPHONE

The complete set is contained in a varnished wooden cabinet with a sheet-metal lid and metal, reinforced corners. The metal fittings are plated with several thin alternate layers of nickel and copper.

### DIMENSIONS:

Length . . . . .	10 $\frac{3}{4}$ in.	Width . . . . .	6 $\frac{7}{8}$ in.
Depth . . . . .	4 $\frac{3}{4}$ in.	Weight . . . . .	10 $\frac{3}{4}$ lb.

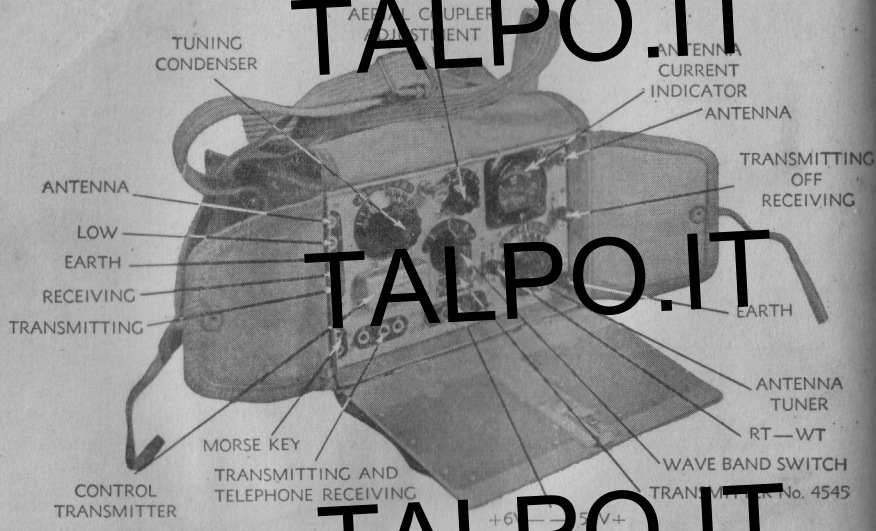
The appearance of the instrument would suggest that it is intended for use at HQ's or other sheltered locations. Whilst it is sturdily made, its finish would suffer if it was given the same treatment and exposure to the elements as the Model 2 Field Telephone. (see page 96).

Power for this set is combined within the cabinet and consists of two dry batteries.

Speech, magneto signalling and telegraph key transmission may be made by connecting wires to terminals provided for each specific type of transmission.

TALPO.IT

# TYPE 94 No. 5 MODEL 32 TRANSMITTER



# TYPE 94 No. 5 MODEL 32 TRANSMITTER

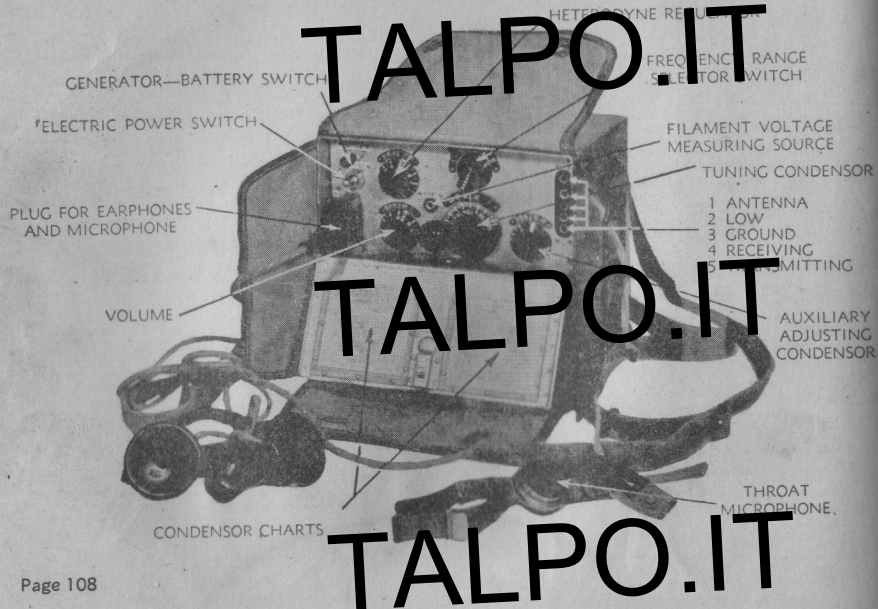
# TALPO.IT

Since no batteries are used with this set, it is somewhat smaller than the Receiving Set (see page 109). The power is supplied from a No. 19 Model F Hand Generator which is a separate unit. Either Continuous Wave or Radio Telegraphy may be used. The circuit employs only one valve which is a double triode. For CW, the two triodes are connected in parallel. When RT is used, one of the triodes becomes a speech amplifier, oscillating through a crystal. The transmitter will still operate even though the crystal is removed. On the set examined, signs of considerable wear and exposure to weather were noted. The dividing partitions have been forced out of alignment and some of the frame has been broken, due possibly to violent treatment. The set was still in working order.

It is evident that this set is constructed to withstand rough handling, and stringent weather conditions and still maintain its efficiency.

# TALPO.IT

# TYPE 94 No. 5 MODEL 32 RECEIVER



# TYPE 94 No. 5 MODEL 32 RECEIVER

This Wireless set is intended for reception of continuous wave telegraphy and modulated waves. It would be possible to use it whilst carried by the operator, but it is considered that its main use would be in a stationary position for two reasons:

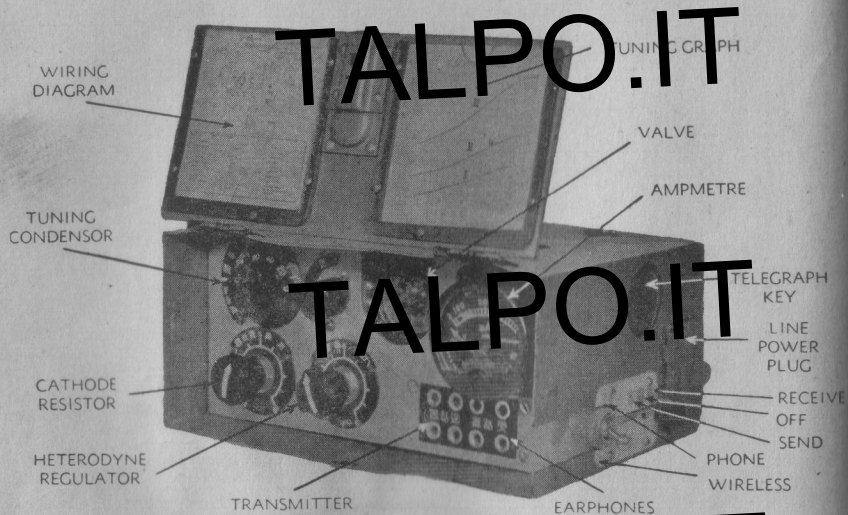
- (1) The aerial consists of lengths of flexible wire.
- (2) A trailing aerial would impede the progress of the party over rough terrain.

Power is obtained from batteries located beneath the set and within the carrying case. Mounted on the celluloid on the inside of the door, are two tuning graphs and a circuit diagram. There are four tuning ranges indicated as follows:—

- |     |        |           |
|-----|--------|-----------|
| (1) | 385 —  | 840 kc/s  |
| (2) | 740 —  | 1640 kc/s |
| (3) | 1465 — | 3325 kc/s |
| (4) | 1925 — | 7000 kc/s |

These correspond to the four positions of the frequency range selector switch.

# TYPE 94 MK 1 WALKIE-TALKIE WIRELESS



# TYPE 94 MK 1 WALKIE-TALKIE WIRELESS

# TALPO.IT

The equipment examined consisted of the unit as shown on opposite page and a leather carrying case.

The set was designed for transmitting and receiving over a distance of approximately two miles.

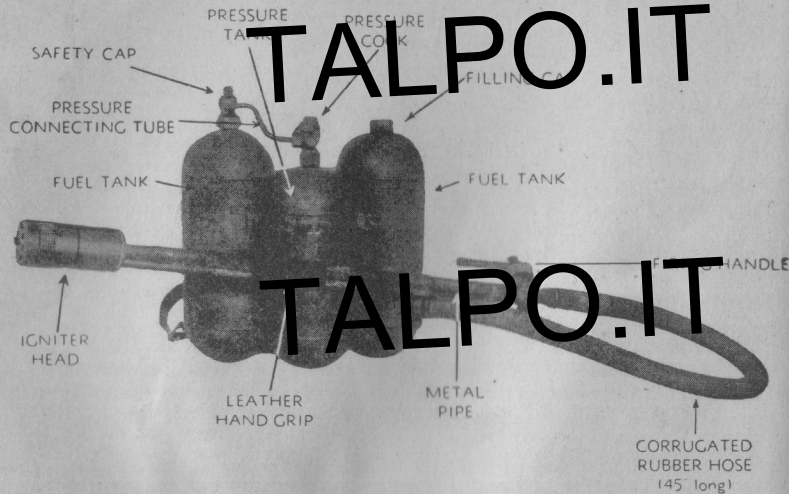
Power supply is from two batteries in a separate case. Cords and plugs provide power transfer. One battery is used for transmitting, the other for receiving. A hand generator may also be used as a source of power.

Either Continuous Wave or Radio Telegraphy may be used.

General construction is good. All condensers are enclosed in a good grade of bakelite. This set is probably a pre-war model. Construction is similar to sets used in USA and Britain in 1932.

# TALPO.IT

# TYPE 93 (1933) FLAME THROWER



# TYPE 93 (1933) FLAME THROWER

This equipment is carried and operated by one man, no special protective clothing being worn.

## CHARACTERISTICS:

Weight when charged	55 lb (approx)	Duration of flame	10/12 seconds
Fuel capacity	2½ gals (approx)	Range of flame	60/80 ft.
Type of fuel	50% Benzine/ Crude Oil		

**ACTION:** Pressure cock on head of pressure cylinder is used when pressure tank is disconnected from rest of equipment for re-charging. On charging tank being replaced and connected, cock is opened, allowing pressure to be taken against valve controlled by flexible connecting tank. Opening this valve allows pressure to pass into fuel tanks. By rotating firing handle in a clockwise direction, fuel is forced through the metal pipe. Simultaneously the igniter head is actuated, automatically firing the fuel stream. When not in use, firing handle must be kept in the forward position, otherwise fuel will escape.

**IGNITER HEAD:** Action is similar to that of an ordinary revolver. Magazine housed under knurled collar, contains ten blank ballistite cartridges. When firing lever is turned through 90° magazine is rotated, striker released and cartridge fired. Flash from the explosion ignites fuel stream. A safety catch is provided for locking the firing lever in a fixed safe position.

**OTHER TYPES:** The "Type 100" differs considerably as regards the firing tube, and is approximately 12 in. shorter than the Type 93.

## LATER MODEL TANKETTE



TALPO.IT

TALPO.IT

TALPO.IT

## LATER MODEL TANKETTE

This vehicle is believed to be the M2597 (1937).

### CHARACTERISTICS:

Weight .. ..	4 tons (approx)	Hull front ..	14 mm
Dimensions—		Hull sides ..	8 mm
Length .. ..	12 ft	Engine .. ..	55 HP
Width .. ..	6 ft	Performance—	
Height .. ..	5 ft 9 in	Trench .. ..	5 ft 3 in
Clearance ..	13 1/2 in	Step .. ..	2 ft 1 in
Crew .. ..	2 men (driver and	Climbing ..	2 ft 6 in
	gunner)	Gradient ..	34°
Armament ..	1 MG ball mounted	Max Speed ..	28 mph
	in turret	Range of Action	61 miles
Armour—		Intercom'cation	Flag
Turret .. ..	14 mm		

**SUSPENSION:** 4 bogie wheels coupled in pairs and sprung by coil springs. These springs are protected by armour, the assembly resembling a long cylinder mounted horizontally on the side of the hull. Instead of a rear idler, this tank has a large rear bogie wheel in addition to the 4 small ones. This wheel returns the track. There is a front sprocket, and two return rollers.

It is known that this model or a tankette of similar specifications also mounts a 37 mm gun in the turret in place of the MG.

## RECENT MODEL LIGHT TANK



## RECENT MODEL LIGHT TANK

This vehicle is believed to be the M2 1935 (1935).

### CHARACTERISTICS:

Weight . . . . .	Est. 9 tons laden	Armour—	
Dimensions—		Hull	Turret
Length . . . . .	14 ft 4½ in	Front . . . . .	12 mm
Width . . . . .	6 ft 9 in	Sides 10-12 mm	Front sides
Height . . . . .	7 ft 0½ in	Rear . . . . .	12 mm
Clearance . . . . .	15½ in	Top . . . . .	6-9 mm
Crew . . . . .	3 or 4 men	Top . . . . .	9 mm
Armament: 1-37 mm MG in rear of turret	1-7 mm MG in rear of turret	Top . . . . .	6 mm
	1-7 mm MG in left front of hull	Engine: 6 cylinder inline Diesel develops 200-250 bhp at 2,000 rpm	
Ammunition: 37 mm—130 rds (1HE to 1.35 APHE); SAA—2970 yds (approx.)		Performance—	
Intercommunication: Believed to be by flag.		Trench, 6 ft 0 in	Gradient 40°
		Step, 2 ft 8 in	Maximum speed
		Fording, 3 ft 3 in,	28 mph
		Range, 100 miles (approx)	

**SUSPENSION:** There are 4 bogie wheels mounted in pairs, each pair being free to rock about a sprung ball crank arm. These are sprung by horizontal compression coil springs which are enclosed in mm armour. There is a front sprocket, a rear idler and two return idlers. A prototype of this tank is lighter with a 115 HP engine. In some cases the suspension varies, the bogie wheel brackets being inverted.



NEW MODEL AMPHIBIOUS TANK



NEW MODEL AMPHIBIOUS TANK

TALPO.IT

Aerial photographs taken in November, 1943, south of RABAU, show twelve tanks of a hitherto unidentified model. The following specifications have been obtained from a preliminary report on a similar tank captured in the South Pacific Area.

CHARACTERISTICS:

Weight .. .. .	13 tons (approx)	Armour (maximum)	13.2 mm
Length .. .. .	15 ft 8 in	Crew .. .. .	4
Width .. .. .	9 ft 2 in	Suspension:	4 bogie wheels in two pairs, 1 large rear bogie return wheel, 1 front sprocket and 2 return rollers. The compression spring is mounted within the vehicle.
Height .. .. .	6 ft 6 in	Armament:	1-57 mm gun and 1-7.7 mm MG co-axially mounted in turret. 1-7.7 mm MG in left front hull.

TALPO.IT

Flotation is achieved by bow and stern pontoons which are attached by quick release clamps operated from within the vehicle. Twin propellers are permanently fitted to the rear of the vehicle. Twin rudders are fitted to the rear pontoon.

TALPO.IT

## DAIHATSU (ARMY) LARGE MLC

This barge is termed Type "A" Landing Craft (Army) in ONI 225-J; Large MLC (DAIHATSU) in AAF Intelligence Information Memorandum No. 15; Large MLC (DAIHATSU) by C-2 FMAC; and often referred to as Large Japanese MLC in SOAC reports. It is considered that as the name DAIHATSU is common to reports made by these formations, the official designation should be DAIHATSU (Army) Large MLC.



CHARACTERISTICS:	
Length .. .. .	40-50 ft
Beam .. .. .	12 ft (approx)
Height .. .. .	6-7 ft
Draught .. .. .	2-3 ft
Freeboard .. .. .	2-3 ft
Engine .. .. .	6 cyl diesel or gasoline
Speed .. .. .	9-12 knots
Capacity .. .. .	5-100 personnel
Crew .. .. .	7-10 personnel
Armour .. .. .	Engine, coxwain's shield
Armament: .. .. .	2 MGs in South Pacific. 1 hastily mounted 37 mm field piece in South West Pacific. Troops carried use SA in their possession.
Weight .. .. .	8 ton
Anchor .. .. .	Large stern anchor weighed by hand
Drive .. .. .	1 propeller, unbalanced rudder

## TOKU DAIHATSU SPECIAL LARGE MLC

This barge has been identified as a PV in the TOKU DAIHATSU and reported in CICSOPAC Information Bulletin. CICS Weekly Intelligence Summary No. 160 also reported on this craft as a 60 ft barge, type unknown. As information given in these reports bear out PW's statements, it is considered that the official designation should be TOKU DAIHATSU Special Large MLC.



CHARACTERISTICS.	
Length .. .. .	65 ft.
Beam .. .. .	17 ft
Height—bow to waterline .. .. .	6 ft (approx)
Centre and stern to waterline .. .. .	4 ft 6 in
Draught .. .. .	4 ft
Engine .. .. .	2 100 HP diesels
Speed .. .. .	5-10 knots
Capacity .. .. .	170-200 personnel eqpd or 20 ton.
Crew .. .. .	8-10
Armour .. .. .	Hull, welded steel.
Armament .. .. .	Unknown.
Weight .. .. .	15 ton
Anchor .. .. .	Vertical, winch-weighed anchor.
Drive .. .. .	2 Archimedes type propellers enclosed in steel guards. Twin rudders.

## YAMMASSEN (SAMPAN) CARGO TYPE BARGE

The straight, jutting prow observed in earlier types appears to have been abandoned in favour of a curved bow, apparently making the craft more seaworthy and better able to withstand beaching impact.

This craft has been reported in ONI 225-J as a Type "B" Landing Craft.

To avoid confusion in referring to these craft, it is considered that the official designation should be YAMMASSEN (Sampan) Cargo Type Barge.



### CHARACTERISTICS

Length .. .. .	52 ft	Capacity .. .. .	50 personnel (approx)
Beam .. .. .	13 ft 3 in	Armour .. .. .	Nil
Engine .. .. .	Gasoline	Armament .. .. .	Nil
Speed .. .. .	8 knots.	Construction .. .. .	Wood

## SHOHATSU (SMALL TYPE)

It is believed that this type of craft may be launched from the deck of a Landing Craft Carrier by crane or davit in 12 min. Its appearance resembles a merchant life-boat.

This barge is reported as Type "B" Landing Craft in ONI 225-J; Small MLC (SHOHATSU) in AAF Intelligence Information Memorandum No. 1; and Small Landing Barge (SHOHATSU) by C2-FMAC.

It is considered that as the name SHOHATSU is common to reports made by these formations, the official designation should be SHOHATSU (Small Type).



### CHARACTERISTICS

Length .. .. .	30-35 ft	Armour .. .. .	Poss. shield in bow
Beam .. .. .	6-9 ft	Armament .. .. .	1-7 mm MG in bow
Height .. .. .	5-6 ft	Capacity .. .. .	30 personnel or 3½ ton
Draught .. .. .	3 (approx)	Weight .. .. .	3-4 ton (approx)
Engine .. .. .	2-6 HP diesel/gasoline	Anchorage .. .. .	Stern anchor weighed by hand
Speed .. .. .	10 knots	Construction .. .. .	Wood with steel reinforcements
Crew .. .. .	5 (approx)		

## HYDROPLANE

The slim, relatively speedy craft is distinguished by the air screw propeller and motor mounted high on the stern.

Flat bottom construction and aircraft propulsion enables this craft to operate in shallow waters inaccessible to other barges. In view of these characteristics, it is considered that the official designation should be "HYDROPLANE".



### CHARACTERISTICS

Length .. ..	60 ft (approx)	Speed .. ..	10 knots
Beam .. ..	10 ft (approx)	Capacity .. ..	60 personnel (approx)
Height .. ..	3-5 ft	Armament .. ..	Shield in bow
Draught .. ..	1 ft (loaded)	Armament .. ..	1 or 2 MG's
Engine .. ..	Aircraft type (often not powered)	Construction .. ..	Wood

## TILLER TYPE

This craft is used extensively for unloading transports at WEWAK and HANSA BAY. Unarmed and unarmoured, it is highly vulnerable to attack.

Some of these craft have a clipper bow, while others have a sampan type. The stern and bow appear to be decked over.

These craft are often used lashed together in pairs to make a large lighter with a common deck capable of carrying large machines or equipment. The same barge, not powered has been reported to be towed by the DAIHATSU Special Large MLC.

It is considered, that owing to the unmistakable tiller at the rear, this craft should be for identification purposes, officially designated TILLER TYPE.



### CHARACTERISTICS

Length .. ..	38 ft 6 in	Armament .. ..	Nil
Beam .. ..	12 ft	Armament .. ..	Nil
Engine .. ..	Gasoline (hand powered)	Construction .. ..	Wood
Capacity .. ..	60 personnel (approx)	Steerage .. ..	Hand controlled tiller

## LIGHT TYPE RESPIRATOR



## LIGHT TYPE RESPIRATOR

# TALPO.IT

Generally similar to the "Standard Type" respirator except that:—

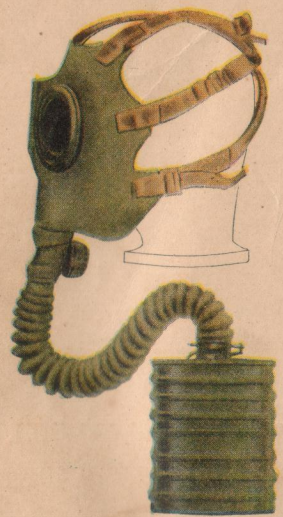
- (1) The whole respirator is coloured green.
- (2) The container is made of aluminium or brass, is smaller and lighter.
- (3) There is an inner auxiliary mask.

# TALPO.IT

**AUXILIARY MASK:** An auxiliary mask fits inside the main facepiece as shown on the opposite page. It has an all-rubber inlet valve in front of the nose and fits, by means of a rubber D section tube, into the main valve holder. Its function is to ensure a perfectly gas tight fit and to prevent the moisture in the exhaled air from dimming the eyepieces.

# TALPO.IT

# STANDARD TYPE RESPIRATOR



TALPO.IT

ANTIDISINFECTANT DISCS  
CLEANING CLOTH  
ANTI-FREEZE COMPOUND  
COTTON WOOL  
DECONTAMINATION POWDER



TALPO.IT

TALPO.IT

# STANDARD TYPE RESPIRATOR

TALPO.IT

GENERAL DESCRIPTION The "standard type" respirator consists of a facepiece, canister and connecting tube, carried in a haversack, which also contains various accessories shown on opposite page.

THE FACEPIECE is of rubber, covered on the inside with stockinette embedded in the rubber. Tissot channels are built in. Thickness 1.8 mm (0.07 in), Weight 507 gm (1 1/4 lbs)

TALPO.IT

THE CONNECTING TUBE is 292 mm (11 1/2 in) long and has 28 corrugations.

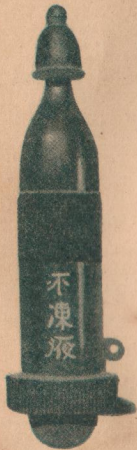
Maximum outside diameter, 38 mm (1 1/2 in), minimum outside diameter, 20 mm (13/16 in).

THE CONTAINER is oval in shape and is made of brass plate covered with green lacquer. Weight 59 gm (1 lb 1 oz)

TALPO.IT

## STANDARD TYPE RESPIRATOR ACCESSORIES

SYRINGE FOR  
ANTI-FREEZE  
LIQUID



Page 142

OPTICAL  
EYEPiece

TALPO.IT



ANTI-FREEZE  
COMPOUND

ANTI-DIM DISCS



TALPO.IT



TALPO.IT

## STANDARD TYPE RESPIRATOR ACCESSORIES

SYRINGE FOR ANTI-FREEZE LIQUID: A black, plastic tube with a nozzle at one end and a rubber squeeze-bulb at the other.

ANTI-DIM DISCS: Transparent celluloid discs  $2\frac{1}{8}$  in in diameter, coated on each side with a film of cellophane. Packed in a black, plastic box  $2\frac{1}{8} \times 2\frac{1}{8} \times \frac{1}{4}$  in.

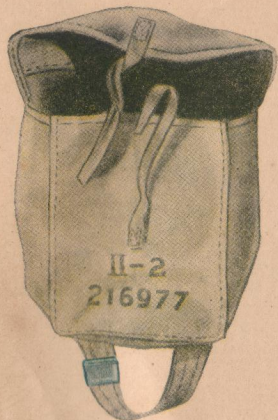
OPTICAL EYEPieces: When wearing a respirator, these optical eyepieces are fixed within the facepiece of the respirator for use with binoculars or a range finder. The optical eyepieces are in reality extensions to the lens of the optical instrument, excluding any extraneous light from passing through the respirator eyepiece to the eye.

ANTI-FREEZING COMPOUND is contained in a small green-lacquered, brass flask 63 mm ( $2\frac{1}{2}$  in) high, by 48 mm ( $1\frac{7}{8}$  in) wide, by 8 mm ( $5/16$  in) thick and approximately 1 oz in capacity. The flask is closed with a rubber stopper in which is fitted a short length of nickel-plated brass wire carrying a small swab.

TALPO.IT

Page 143

## TYPE 93 No. 2 RESPIRATOR



TALPO.IT

TALPO.IT

TALPO.IT



## TYPE 93 No. 2 RESPIRATOR

**FACEPIECE:** Is of rubber of total thickness 0.075 in. The layer next to the face is of white rubber and is covered externally with grey rubberized stockinette. Eyepieces are specially shaped and held in position by aluminium rims. The connecting tube is 21 in (534 mm) long and has a slip-on fitting to the container. Weight of facepiece and connecting tube 504 gms (1 lb 3 ozs).

**MAIN CONTAINER:** Is relatively large and of oval section. It is constructed of swaged tin plate painted grey.

**AN AUXILIARY CONTAINER:** Is provided to give protection against carbon monoxide (a gas formed by explosions, burning cordite in a confined space, etc.).

It is normally kept plugged, as it loses its efficiency by absorbing moisture. A "substitute plug" is provided for training. This is inserted in the inlet of the main container and offers the same resistance to breathing as does the auxiliary container.

**THE HAVERSACK:** Is designed to hold the facepiece without the container. It is made from cotton canvas and is 7 inches long, 8 inches deep and  $2\frac{3}{4}$  inches thick. There is a patch pocket 3 in square inside the haversack.

**THE WEBBING CARRIER:** Is designed to allow the container to be carried either on the back or on the chest.

**THE CASE:** The whole outfit is contained in a grey pressed fibre case with a metal frame  $13\frac{1}{2} \times 9\frac{1}{2} \times 4\frac{1}{2}$  in.



TYPE 99—SELF PROJECTING SMOKE GENERATOR



210 mm

TALPO.IT

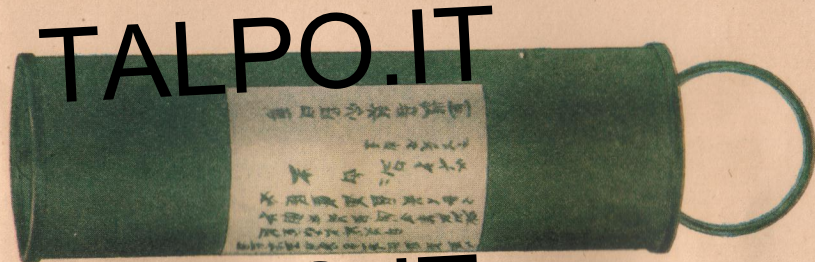
DIMENSIONS:

Length . . . 207 mm (8.14 in)      Weight . . . 1,238 grams (2.84 lbs)  
 Diameter . . . 53 mm (2.13 in)

Colour . . . . . Chocolate Brown  
 Colour Bands . . . None  
 Charging . . . . . HCE

TALPO.IT

TYPE 94A—SMOKE GENERATOR



6 mm

TALPO.IT

DIMENSIONS:

Length . . . 180 mm (7 in)      Weight . . . 986 grams (2 lb 3 oz)  
 Diameter . . . 53 mm (2.13 in)      Weight of smoke composition 851 grams (1 lb 14 oz)

Colour . . . . . Grass Green  
 Colour Bands . . . None  
 Charging . . . . . CTC

TALPO.IT

GLASS GRENADE (SMOKE)

TALPO.IT



TALPO.IT

TALPO.IT

GLASS GRENADE (SMOKE)

TALPO.IT

DIMENSIONS:

Height of Outer Container .. .. .	100 mm (3.9 in)
Diameter of Outer Container .. .. .	85 mm (3.34 in)
Height of Grenade .. .. .	89 mm (3.85 in)
Weight of Grenade .. .. .	354.8g (12.5 oz)

TALPO.IT

Colour .. .. .	Container chocolate brown
Colour Band .. .. .	None
Charging .. .. .	Mixture of titanium tetrachloride (FM) and silicon tetrachloride.

TALPO.IT

50 mm (1.97 in) MORTAR (Smoke or Incendiary) BOMB



TALPO.IT

50 mm (1.97 in) MORTAR (Smoke or Incendiary) BOMB

TALPO.IT

DIMENSIONS:

Length . . . . .	150 mm (5.9 in)	Diameter . . . . .	50 mm (1.97 in)
------------------	-----------------	--------------------	-----------------

Colour . . . . .	Unknown
Colour Bands . . . . .	Unknown
Charging . . . . .	HCE

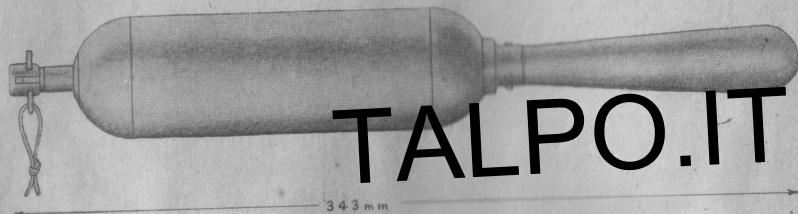
TALPO.IT

NOTE: This grenade may be fired from the Type 89 Grenade Discharger (see page 31 or the 10 year Type Flare Discharger (see page 33).

TALPO.IT

SMOKE OR INCENDIARY HAND GRENADE—Stick Type

TALPO.IT



TALPO.IT

TALPO.IT

SMOKE OR INCENDIARY HAND GRENADE—Stick Type

TALPO.IT

DIMENSIONS:

Length overall 343 mm (13.5 in)

Diameter .. 56 mm (2.2 in)

TALPO.IT

Colour .. Unknown

Colour Bands .. Unknown

Charging .. .. White phosphorus—perhaps also carbon bisulphide.

TALPO.IT