

**THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS**

**D. OF A. (INDIA)
JAPANESE AMMUNITION LEAFLETS**

**SECTION H
LEAFLET H 1**

INTRODUCTION.

This Section is intended to cover all types of Japanese Demolition Stores. The division of the Section into leaflets presents some difficulty due to the variety of stores which the section comprises and to the number of roles in which they may be employed; for instance many booby traps and improvised mines make use of standard demolition equipment. However, the following division has been tentatively arranged:—

- H. 1.—Introduction.
- H. 2.—Electrically Operated Gaine (already issued).
- H. 3.—Bangalore Torpedo (.. ..).
- H. 4.—Saboteur Stores (.. ..).
- H. 5.—Reserved.
- H. 6.—Reserved.
- H. 7.—Reserved.
- H. 8.—Demolition Clocks.

2. A tabulated Summary of all Japanese demolition charges, igniters, detonators and switches hitherto reported is attached at the end of this Leaflet. Unfortunately only a few samples of these stores have been received at Kirkee for examination and these items are marked "V" in the Summary; details of the other items have been based on various Australian and American reports.

If further samples are received here, it is hoped to issue detailed J. A. Ls. on individual items.

3. The variety of demolition charges used by the Japanese is almost endless. Any type of explosive, cased charges such as bombs, depth charges etc. may be used as the main charge. Initiators include artillery fuzes, mines, grenades or any of the switches detailed in

the Summary in addition to detonators and safety fuses and electric detonators. Barrels of oil or petrol are often placed with the explosive.

4. Although the Japanese use such a variety of demolition charges, their standard equipment is generally the same as that used by other nations. The tendency, however, is to use small standard demolition blocks, usually about 2-ins. x 2-ins. x 1-in. in size, which can be readily made up into larger charges; in this way large demolitions can be readily improvised. The blocks are usually each provided with a detonator recess, but, when a number of blocks are wrapped together to form one charge, then only one or two may be formed with a recess.

5. The high explosives normally used by the Japanese for demolition purposes are picric acid, TNT, RDX/TNT and a composition consisting mainly of ammonium perchlorate and RDX; of these picric acid is the most common and, since it is slightly soluble in water, great care is taken to protect it from moisture. Plastic explosives are also used, RDX/oil being the most common of these.

6. The Japanese have very few standard booby trap devices and, therefore, standard demolition stores as well as bombs and shell are frequently rigged up as booby traps and as improvised mines; this makes it difficult to make any hard and fast distinction between the two types of store. This Leaflet should therefore be read in conjunction with J.A.L. F 20 which outlines the methods adopted to rig booby traps and to improvise mines using ordinary Service stores.

ADDITIONAL INFORMATION

7. Details of further demolition stores are given below; they have not been included in the Chart as the data in most cases has been insufficient to provide reliable sketches.

GUN BURSTING CHARGE

8. This is made up from Japanese Magnetised Anti-Tank Mines (See J.A.L. F.4). The magnet and all but three blocks of picric acid are removed from the mine, and the canvas cover is wrapped round the remainder and tied with tape. The fuze with the safety pin removed is inserted in the normal manner. The charge so formed is small enough to load into a 25-pr. barrel.

ANTI-TANK DEMOLITION CHARGE

9. These were used by special raiding and infiltration units to combat allied tanks. It consists of a wooden box about 8" to 10" square filled with 10½ lbs. of picric acid and mounted on a wooden plank. It is slung by means of hip and shoulder straps to a Japanese soldier's back. The outer edge of the box is fringed with hooks by means of which the charge can be hung on the turret or any susceptible part of the tank. Using a Type '91 or Type '97 grenade as initiator, the charge is fuzed with the head of the grenade fuze projecting slightly from the hooked end of the box. After attaching the charge to the tank, the fuze head must be sharply tapped.

10. The charge appears to be in effect a suicide weapon, since neither type of grenade gives the firer sufficient time to escape to a safe distance. It is claimed by the Japanese that the charge, if skilfully placed, will immobilise a light, medium or amphibious tank.

PERCUSSION IGNITER

11. This consists of a tubular steel body flanged near the top. A brass cartridge similar in appearance to a .22 rifle cartridge is crimped into the top of the body. A length of safety fuse protrudes from the lower end and is bound to a large detonator on either side of which are lashed strips of bamboo.

12. The method of firing the device is not known.

PRESSURE IGNITER

13. This is used in the Japanese 40-Kg. Smoke generator but it could also be used as a pressure igniter for demolition purposes.

14. The body of the igniter is made of steel; a primer with a length of safety fuse screws into the base of body. To the lower end of the safety fuse is crimped a detonator. A plastic cap screws on to the top of the body.

15. The striker spindle with a plastic pressure button on the top passes through a hole in the cap and is held in place by a safety pin passing through the cap. A spring inside the body holds the striker away from the primer once the safety pin is removed. Pressure on the button (after removing the safety pin) functions the igniter.

INCENDIARY IGNITER

16. This has the appearance of a plastic cigar case of three cigar capacity. Its dimensions are $4 \frac{3}{8}$ -ins. x $1 \frac{7}{8}$ -ins. x $11/16$ -in. and it is mottled green and black in colour. It can be used either as a chemical delay igniter, as a trip wire booby trap or as a demolition device. The filling, it is reported, is a metallic salt similar to that used in flares (presumably Potassium Nitrate or Potassium Chlorate), but an explosion would probably result because of its confinement.

17. A vertical slot through the body accommodates a flat release bar which restrains a spring loaded striker. A piece of wood resembling a match stick fits in a slot in the body and holds the striker in the cocked position; this is a safety device and might be missing when the mechanism was found.

18. The following is the procedure reported for neutralising the device :—

- (i) Cut any trip wire being careful not to disturb the release bar or safety stick.
- (ii) Remove the igniter and immerse in water for 24 hours. Disassembly is not possible without cutting off the lid; this is an extremely dangerous procedure.

SAFETY FUSES

19. Details of two safety fuses are given below. They have not been included in the Plate due to lack of sufficient details.

Diameter	Colour	Core Filling	Rate of Burning	Packing
.216"	Tan with one white thread.	Not known	32 Secs. per foot	Coiled
.187"	Black.	Not known	32 Secs. per foot	Coiled

DEMOLITION CLOCKS

20. Five different demolition clocks have been reported; none of them has been received in Kirkee for examination and the brief details given below are based on various Australian and American Reports.

24-HOUR DEMOLITION CLOCK

21. The clock is spring driven and can be set to 24 hour delay in one hour intervals. The dial carries two contact arms and revolves clockwise; these arms close the circuit on completion of the set time.

7-DAY DEMOLITION CLOCK

22. The clock is cylindrical in shape about 3 1/2-ins. in diameter and 5 1/2-ins. high; it consists of a main body containing the mechanism and fitted with a lid covering the winding key and safety pin stop. It has an adjustable base with a graduated scale of hours at junction with base. A day indicator, moving in a reverse direction indicates the number of days and hours remaining for the clock to fire. In addition to firing electrically, this clock is also capable of mechanical firing.

7 1/2-DAY DEMOLITION CLOOK

23. The clock is a finely made jewelled mechanism, driven by a main spring. The clock and firing assembly are contained in a brass case 2 11/16-ins. X 2 3/8-ins. X 7/8-ins. The edges of one end of the case are bevelled making the case an irregular polygon. Both sides of the case are covered by thick celluloid plates and the winding key protrudes through the back cover plate.

24. The circular dial of the clock is graduated 0 to 7 1/2 days in one hour intervals. An index line for setting the delay is engraved on the case and on the celluloid face plate. After the elapse of the set time a spring loaded firing pin is released which fires the primer.

8-DAY DEMOLITION CLOCK (Type '92)

25. The clock is generally similar in appearance and construction to the 7-day demolition clock described above. It is 2 11/16-ins. in diameter and 3 3/4-ins. long and can function both electrically and mechanically. Mechanical firing is accomplished by a spring loaded firing pin being released by clock work to fire the igniter cap to which is attached a length of safety fuse. Electric firing is accomplished by the firing pin forcing the ignition switch down completing the firing circuit.

26. A small opening near the top of the clock shows the number of days and graduations around the base the number of hours set. These figures indicate the time for which the clock was set and not the time remaining for the clock to function. This clock may be set for any time up to 8 days.

10 1/2-DAY DEMOLITION CLOCK (Type '99 Long Delay Clock)

27. The clock is spring driven and electrically wound. Settings are possible up to 10 1/2 days in two hour increments. The clock work runs down about every 4 minutes 45 seconds closing a solenoid circuit which rewinds the spring. The dial, calibrated in days in two hour

increments, rotates clockwise. At the termination of the set run, the spring loaded bridging arm drops into a notch on the dial, thus closing the firing circuit. The dimensions of the battery compartment are 4 1/8-ins. X 1 1/2-ins. X 3 1/4-ins. Presumably a six volt battery is used.

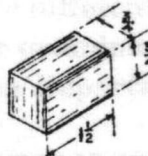
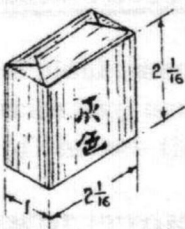
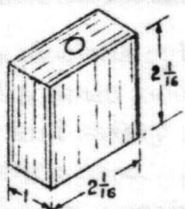
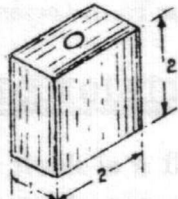
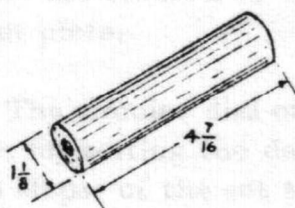
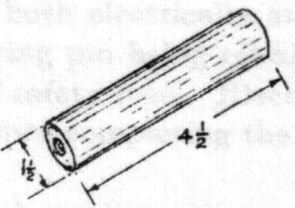
PACKING

28. As it is not possible to give details of packing of all demolition stores, only typical methods of packing for demolition charges are included in photographs at Plates O and P at the end of this leaflet.

HANDLING AND TRANSPORT

(Of captured ammunition by Ordnance)

29. Since these stores are comparable with British demolition equipment, they should be handled in the same way and stored under the same conditions as the corresponding British stores. The ordinary precautions taken with nitrophenolic explosives should be observed when dealing with picric acid charges. It should always be remembered that many Japanese booby traps are improvised from standard demolition equipment and therefore all prepared demolitions are potentially dangerous.

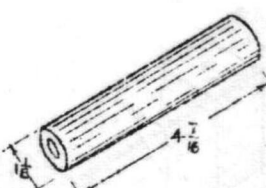
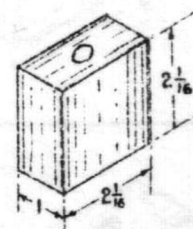
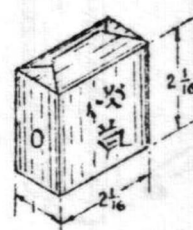
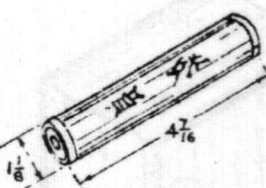
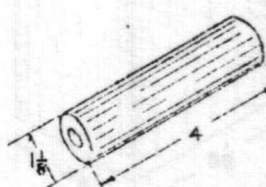

SERIAL NO	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS.
		NATURE	WEIGHT LBS. OZS.		
1		ALUMINIUM POWDER & R. D. X.		BLACK MIXTURE OF 1/2 ALUMINIUM POWDER & 3/8 R.D.X. REPORTED TO BE A VERY POWERFUL EXPLOSIVE. INDIVIDUAL BLOCKS WRAPPED IN WAXED PAPER.	NO DETAILS AVAILABLE.
2		AMMONIUM-NITRATE 66.5% R.D.X. 26.2% WAX 5.6% GRAPHITE 1.7%	0 3.3	PRESSED BLOCK, COVERED BY LIGHT GREEN PAPER WRAPPING, JAPANESE CHARACTERS FOR 'HAI SHOKU' STENCILLED IN BLACK INK ON PAPER WRAPPING. AN AMERICAN REPORT GIVES THE COMPOSITION OF 'HAI SHOKU YAKU' AS FOLLOWS:- AMMONIUM PERCHLORATE 76.9% R. D. X. 17.0% SILICON CARBIDE 1.3% PARAFFIN 4.8%	400 PIECES PER CAN.
3		T. N. T.	0 3.5	CAST BLOCK, WRAPPED IN TWO LAYERS OF PAPER, INNER LIGHT BROWN, OUTER WHITE INSIDE & CREAM OUTSIDE. LABELLED 'LIGHT YELLOW' (IN JAPANESE CHARACTERS)	10 BLOCKS WRAPPED IN TWO LAYERS OF PAPER MAKING A STRIP 21" LONG WITH A LABEL. JAPANESE CHARACTERS FOR TYPE 97 SQUARE LIGHT YELLOW POWDER, DATE OF MANUFACTURE & MAKERS NAME. DETONATOR HOLES ARE PROVIDED AS FOR PICRIC ACID BLOCKS. 40 STRIPS ARE PACKED IN SAME MANNER AS PICRIC ACID BLOCKS DESCRIBED IN SERIAL 8 EXCEPT THAT A CREAM BAND IS PAINTED ON THE BOX.
4		AMMONAL TYPE (EXACT COMPO. NOT KNOWN)	0 3.5	PRESSED GREY POWDER BLOCK WRAPPED IN TWO LAYERS OF PAPER INNER LIGHT BROWN, OUTER WHITE INSIDE AND GREY OUTSIDE, HAS JAPANESE CHARACTERS FOR 'GREY' STENCILLED ON WRAPPING.	10 BLOCKS, WRAPPED IN TWO LAYERS OF PAPER TO FORM STRIPS. THE STRIP HAS LABEL BEARING JAPANESE CHARACTERS FOR "TYPE 97 SQUARE, GREY POWDER & DATE OF MANUFACTURE. 10 STRIPS (100 BLOCKS) PACKED IN A METAL CAN AND FOUR CANS IN A LIGHT WOODEN BOX INSIDE ANOTHER STOUT WOODEN BOX HAVING A WHITE BAND PAINTED OUTSIDE.
5		AMMONIUM NITRATE } 66.5% R. D. X. 26.2% WAX 5.6% GRAPHITE 1.7%	0 3.5	PRESSED WRAPPED 'HAI SHOKU YAKU'	NO DETAILS AVAILABLE.
6		AMMONIUM NITRATE } 32.7% POT. NITRATE 33.7% R. D. X. 25.6% SILICON 1.6% GRAPHITE .8% WAX 5.6%	0 3.5	THIS CHARGE IS KNOWN TO THE JAPANESE AS "ASH COLOURED" (TRANSLATION OF THE MARKINGS) CONSISTS OF A GREY POWDER WRAPPED IN MOISTURE PROOF PAPER.	NO DETAILS AVAILABLE.

JAPANESE DEMOLITION STORES.

DEMOLITION CHARGES.

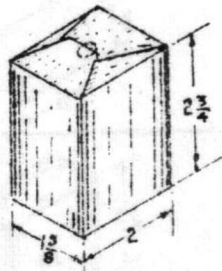
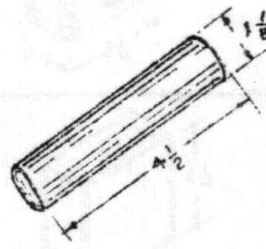
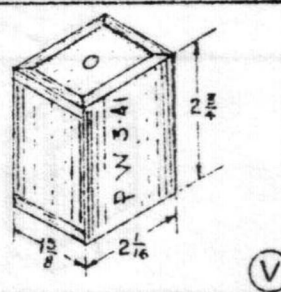
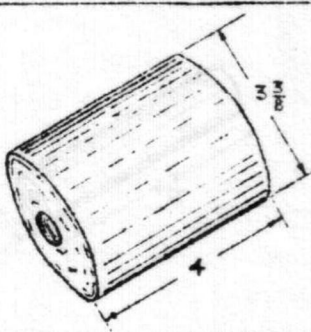
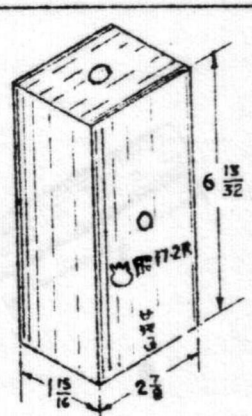
DIMENSIONS IN INCHES.

C. I. AMN S/1511
KIRKEE NOV. '45

SERIAL NO.	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS.
		NATURE	WEIGHT LBS. OZS.		
7		PICRIC ACID.	0 3-5	PRESSED OR CAST PICRIC ACID WRAPPED IN PAPER	250 STICKS IN 2 ROWS IN A WOODEN BOX.
8		PICRIC ACID.	0 3-6	PRESSED BLOCK COVERED BY YELLOW PAPER WRAPPING THE BLOCK IS - STENCILLED WITH JAPANESE CHARACTERS FOR 'I-YELLOW'. ON THE WRAPPING ARE STENCILLED JAPANESE CHARACTERS FOR 'TYPE 97 SQUARE YELLOW POWDER'. TWO BLOCKS SOMETIMES WRAPPED TOGETHER TO FORM A SINGLE BLOCK.	10 BLOCKS, WRAPPED IN TWO LAYERS OF PAPER TO FORM A STRIP 21" LONG ON WHICH ARE STENCILLED JAPANESE CHARACTERS FOR 'TYPE 97 SQUARE YELLOW POWDER', DATE OF MANUFACTURE AND MAKERS NAME. EVERY ALTERNATE BLOCK IN STRIP HAS A DETONATOR HOLE IN THE SIDE WHICH IS MARKED WITH A BLACK SPOT ON WRAPPING. 40 STRIPS (400 BLOCKS) IN A WOODEN BOX OR 20 STRIPS (200 BLOCKS) IN RUBBER BAG PACKED IN WOODEN BOX.
9		R.D.X. 52.3% T.N.T. 47.7%	0 3-7	PRESSED BLOCK SIMILAR TO SERIAL NOS 2 & 8. JAPANESE CHARACTERS FOR 'TANO' ARE STENCILLED IN BLACK INK ON PAPER WRAPPING.	10 BLOCKS WRAPPED TO FORM STRIP 21" LONG, 40 STRIPS PACKED IN A WOODEN BOX HAVING A CREAM BAND OUTSIDE
10		R.D.X. 60% T.N.T. 40%	0 3-8	CAST CYLINDRICAL BLOCK WRAPPED IN VARNISHED YELLOW PAPER. JAPANESE CHARACTERS FOR 'TANO' ARE STENCILLED IN BLACK INK ON THE PAPER WRAPPING.	400 CHARGES IN A WOODEN BOX. THE BOX HAS A WHITE BAND ROUND THE MIDDLE & JAPANESE CHARACTERS FOR "TYPE 97 ROUND COMPOSITE EXPLOSIVE YELLOW POWDER" PAINTED IN BLACK INK ON EACH SIDE.
11		R.D.X. 80% VEGETABLE OIL } 20%	0 4	PLASTIC IN NATURE & LIGHT BROWN IN COLOUR. INDIVIDUAL STICKS WRAPPED IN PARCHMENT PAPER. THREE CARTRIDGES CONTAINED IN A PAPER PACKAGE.	NO DETAILS AVAILABLE
12		N.G. } 50% D.N.G. } POTASSIUM NITRATE } 40% N.C. } 2% WOOD MEAL & STARCH } 8%	0 4	SOMEWHAT PLASTIC IN NATURE. EACH CHARGE ROLLED TO SIZE AND SHAPE & WRAPPED IN WHITE PAPER. THE MARKING ON THE PAPER WRAPPER CONSISTS OF A CHRYSANTHEMUM SURROUNDED BY JAPANESE CHARACTERS FOR "CHERRY TREE B DYNAMITE".	5 OF THESE CHARGES PACKED IN A PAPER PACKET. 4 PACKETS IN A PAPER WRAPPED CARTON AND TEN SUCH CARTONS IN A WOODEN BOX WITH LID SCREWED DOWN.

JAPANESE DEMOLITION STORES.

DEMOLITION CHARGES.

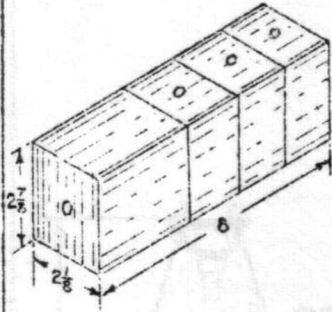
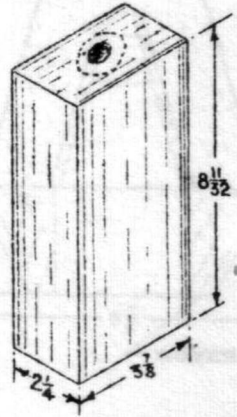
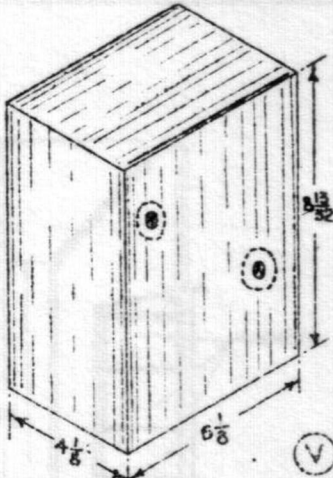
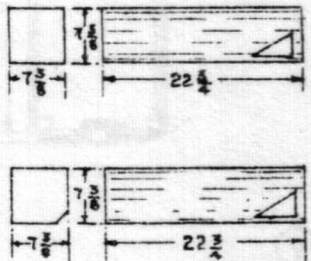
SERIAL No	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS.
		NATURE	WEIGHT LBS. OZS.		
13		PICRIC ACID OR T. N. T.	0 7	PRESSED WRAPPED GRANULAR PICRIC ACID OR PRESSED WRAPPED GRANULAR T. N. T.	154 BLOCKS PER BOX.
14		T. N. T. OR PICRIC ACID.	0 7	PRESSED GRANULAR T. N. T. . OR PICRIC ACID WRAPPED IN PAPER.	250 STICKS PER BOX
15		T. N. T.	0 8	THE BLOCK EXAMINED HERE WAS OF DUTCH MANUFACTURE CAST BLOCK, COVERED WITH YELLOWISH BROWN PAPER WRAPPING & FINALLY DIPPED IN WAX. SAMPLE EXAMINED HERE WAS STENCILLED IN BLACK INK P.W. 3-41	NO DETAILS AVAILABLE
16		AMMONIUM PERCHLORATE } 75% SILICON 12.9% OIL 2.3% FIBROUS } 6.4% MATERIAL } RESIDUE 2.5%	1 1.6	REPORTED AS EXPLOSIVE BLOCK TYPE 12. CYLINDRICAL BLOCK CONTAINED IN A LIGHT BROWN CARDBOARD CYLINDER. A CARDBOARD LINED CENTRAL HOLE RUNS RIGHT THROUGH	CONTAINER IS COVERED WITH LIGHT BROWN PAPER & HAS A THIN COATING OF SHELLAC. ATTACHED TO THE TOP & SIDE OF THE CARDBOARD CONTAINER ARE TWO PAIRS OF COTTON STRAPS.
17		PICRIC ACID.	(1 kg.) 2 3	CAST BLOCK CONTAINED IN WAXED YELLOW CARDBOARD CONTAINER. TWO DETONATOR RECESSES ARE FORMED IN THE BLOCK. THE CARDBOARD CONTAINER IS STENCILLED IN BLACK INK WITH JAPANESE CHARACTERS FOR 'O SHOKU' MEANING PICRIC ACID.	THE CHARGE IN ITS CARD- BOARD CONTAINER FITS IN A ZINC OUTER CONTAINER.

JAPANESE DEMOLITION STORES
DEMOLITION CHARGES.

DIMENSIONS IN INCHES

C.I. AMN 5/1913
KIRKEE NOV. 45

G.P.O. FORM 1945

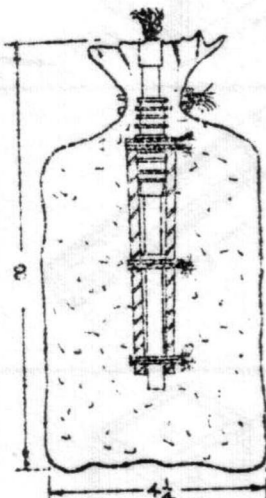

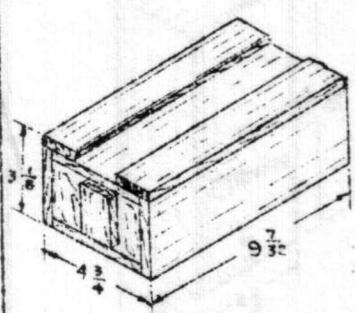
SERIAL N ^o	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS.
		NATURE	WEIGHT LBS. OZs.		
18		PICRIC ACID	2 5.75	CONSISTS OF FOUR BLOCKS OF CAST PICRIC ACID WRAPPED IN PAPER COATED WITH PARAFFIN WAX AND PACKED IN A LIGHT ZINC CONTAINER. TOP BLOCK IS TWICE THE SIZE OF THE OTHER THREE. THE ZINC CONTAINER IS PAINTED GREY-BROWN EXTERNALLY AND LABELLED "ONE KILOGRAM EXPLOSIVE CAN" (IN JAPANESE CHARACTERS)	21 CANS. WRAPPED IN PAPER AND PACKED IN WOODEN BOX.
19		R.D.X 83.8% OIL 16.2%	2 10	EXPLOSIVE CHARGE, PLASTIC IN NATURE AND WHITE IN COLOUR CONTAINED IN A GALVANISED STEEL CONTAINER WHICH IS PAINTED MAROON. ON ONE SIDE A BRASS ADAPTER IS SOLDERED ON TO THE CONTAINER TO TAKE THE DETONATOR ASSEMBLY.	NO DETAILS AVAILABLE.
20		PICRIC ACID	(5 Kg.) 11 0	CONSISTS OF A CAST PICRIC ACID BLOCK WEIGHING ABOUT 11 LBS. CONTAINED IN A YELLOW WAXED CARDBOARD CONTAINER. JAPANESE CHARACTERS FOR 5 Kg. ARE STENCILLED IN WHITE PAINT ON THE CONTAINER. THE CONTAINER IS PAINTED GREEN EXTERNALLY.	NO DETAILS AVAILABLE.
21		R.D.X. 50% T.N.T. 50%	(30 Kg.) 7 1/2 0	PRESSED BLOCK IN FOUR OR FIVE PIECES CONTAINED IN A BOX AND COATED WITH LIGHT YELLOW PAINT. PRESSED PICRIC ACID IS SOMETIMES USED AS A SUBSTITUTE. CHARGES ARE EITHER ROUND OR SQUARE.	NO DETAILS AVAILABLE

JAPANESE DEMOLITION STORES.

DEMOLITION CHARGES.

DIMENSIONS IN INCHES.

C.I. AMN 3/1314
KIRKEE NOV '45

SERIAL No	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS.
		NATURE	WEIGHT LBS. OZS.		
22		ANY H.E. CHARGE MAY BE USED	0 8	COLOURED (WHITE, PINK OR BLUE) CLOTH BAG CONTAINING EXPLOSIVE FILLING. IGNITER ASSEMBLY CONSISTING OF A PULL FRICTION IGNITER, A LENGTH OF SAFETY FUZE AND DETONATOR IS SECURED BY A WRAPPING OF TWINE AROUND MOUTH OF BAG. TWO STRIPS OF BAMBOO ARE PLACED ALONG THE IGNITER ASSEMBLY AND BOUND TO IT WITH TWINE TO ACT AS RE INFORCEMENT.	NO DETAILS AVAILABLE
23		PLASTIC EXPLOSIVE (BELIEVED SAME AS SERIAL 11)	1 12	CONSISTS OF A METAL CAN. CONTAINING SIX STICKS OF PLASTIC EXPLOSIVE. A WOODEN DISC CLOSES THE MOUTH OF THE CAN AND IS HELD IN PLACE BY TURNING OVER THE EDGES OF THE CAN. A LENGTH OF SAFETY FUZE PASSES THROUGH A HOLE IN THE WOODEN DISC AND IS FITTED TO A DETONATOR INSIDE.	NO DETAILS AVAILABLE.
24		T. N. T.	2 3	WOODEN BOX. CONTAINING A LOOSE FILLING OF T.N.T. ON ONE SIDE, THE BOX HAS AN 1/2" HOLE TO FIT A WOODEN DETONATOR HOLDER. THIS HOLE IS COVERED BY A SMALL WOODEN PIECE.	NO DETAILS AVAILABLE

JAPANESE DEMOLITION STORES.

DEMOLITION CHARGES.

SERIAL No	SKETCH.	EXPLOSIVE.		DESCRIPTION.	PACKING DETAILS
		NATURE	WEIGHT LBS. OZS.		
25		T.N.T	2 5	<p>A CAST IRON CONE LINES THE HOLLOW CHARGE CAVITY. THE WOODEN BLOCK AT THE BASE GIVES THE REQUIRED STAND OFF DISTANCE. THE CHARGE IS INITIATED BY A JAPANESE D. A. FUZE FOR NAVAL 25 M M RIMLESS CARTRIDGES (SEE J. A. L. B. 21) WHICH HAS HAD THE FOLLOWING PARTS REMOVED.</p> <ol style="list-style-type: none"> ① BRASS FUZE NOSE. ② STRIKER. ③ CENTRIFUGAL BOLT AND SPRING. ④ SHUTTER. 	NO DETAILS AVAILABLE.
26		R.D.X. 82.1% OIL 17.9%	5 10	<p>EXPLOSIVE SAME AS SERIAL 15 ABOVE, CONTAINED IN AN ALUMINIUM CONTAINER PAINTED DARK MAROON. THERE IS A WELL ON ONE SIDE TO ACCOMMODATE A MAGNET. TO THE BASE IS FITTED (PUSH FIT) AN ALUMINIUM ADAPTER TO TAKE THE IGNITER ASSEMBLY CONSISTING OF A PULL FRICTION IGNITER, DELAY TRAIN AND DETONATOR.</p> <p>SIGNIFICANCE OF THE PECULIAR DESIGN OF THIS CHARGE IS NOT UNDERSTOOD. THE POWERFUL MAGNET INCORPORATED TENDS TO SUGGEST THAT IT IS AN ANTI-TANK WEAPON. IT CAN BE USED FOR DEMOLITION OF MASSIVE IRON OR STEEL STRUCTURES.</p>	NO DETAILS AVAILABLE

JAPANESE DEMOLITION STORES.

DEMOLITION CHARGES.

DIMENSIONS IN INCHES.

C.I. AMN. S/1316
KIRKEE ROY. '45'

SERIAL NO.	NOMENCLATURE	SKETCH	REMARKS.
1	ELECTRIC (TYPE NOT KNOWN)		<p>INNER TUBE CONTAINS PLATINUM WIRE BRIDGE WHICH WHEN HEATED BY CURRENT IGNITES GUM COTTON. RESISTANCE OF BRIDGE .62 TO .68 OHMS AT 15° C. DURING IGNITION RESISTANCE APPROX. 1 OHM. INDIVIDUALLY PACKED IN CYLINDER.</p>
2	ELECTRIC TYPE '97		<p>CONSISTS OF BRASS OUTER CASE CONTAINING A BRASS INNER CASING FILLED WITH FULM. OF MERCURY PLUS DESENSITISING AGENT & P.E.T.N. PLASTIC PLUG CARRYING ELECTRIC IGNITER BRIDGE SLIPS IN TO BODY & IS HELD BY CRIMP.</p>
3	ELECTRIC TYPE '98		<p>CONSTRUCTION & APPEARANCE SIMILAR TO THE TYPE '97. IGNITION PELLET IS A MIXTURE OF LEAD RHODAMIDE & POTASSIUM CHLORATE. RESISTANCE OF PLATINUM BRIDGE IS APPROX. .65 OHMS.</p>
4	TYPE 1		<p>COPPER ENVELOPE HAVING CONE SHAPED DEPRESSION AT BASE TO PRODUCE SHAPED CHARGE EFFECT. TOTAL WT. 36 GRAINS.</p>
5	TYPE '2		<p>BRASS ENVELOPE. TOTAL WT. 63 GRAINS.</p>
6	TYPE 3		<p>BRASS ENVELOPE. FORTY DETONATORS TIGHTLY PACKED IN A CYLINDRICAL CARDBOARD BOX, WRAPPED IN HEAVILY WAXED PAPER & HOUSED IN METAL CONTAINER. TOTAL WT. 106 GRAINS (APPROX)</p>

JAPANESE DEMOLITION STORES
DETONATORS

DIMENSIONS IN INCHES.

C.I.-AMN-S/1347
KIRKEE DEC 45.

SERIAL NO.	NOMENCLATURE	SKETCH	REMARKS.
1	ELECTRIC TYPE '96 (V)	<p>TIN FOIL DISC. PERFORATED G.P. PELLET. ELECTRIC BRIDGE. BODY (BRASS). ELECTRIC LEADS 2.17 .25 PLASTIC HOLDER. POTASSIUM CHLORATE & LEAD SALT. PLASTIC PLUG</p>	<p>THE BRIDGE WHEN COLD HAS A RESISTANCE OF .92 OHMS & FUZES WITH A CURRENT OF ABOUT .9 TO 1 AMPS. A CURRENT OF .8 AMPS MAINTAINED FOR 4 SECONDS DID NOT FUZE THE BRIDGE.</p>
2	PULL FRICTION TYPE '96 (V)	<p>TIN FOIL DISC. G.P. FRICTION WIRE (JAGGED ENDS WITH EXTENSION LOCKED TO EDGE OF WALL OF FRICTION MECHANISM HOLDER). GUIDE PLUG. 2.17 .25 BODY (BRASS). FRICTION MECHANISM HOLDER. FRICTION COMPOSITION.</p>	<p>FRICTION COMPOSITION CONSISTS OF SULPHUR, POTASSIUM CHLORATE AND ANTIMONY SULPHIDE. SAFETY IS EFFECTED IN CASE OF A LIGHT PULL BY LOCKING THE INNER END OF THE FRICTION WIRE ROUND THE MOUTH OF THE FRICTION MECHANISM HOLDER.</p>
3	SCRATCH FRICTION TYPE '93	<p>FRICTION IGNITION PELLET. BODY (BRASS). SAFETY FUZE. 1 5/16 1/4</p>	<p>INITIATED BY RUBBING THE SCRATCH BLOCK ON THE IGNITION PELLET. 4 SCRATCH BLOCKS ARE PROVIDED PER 100 IGNITERS.</p>
4	PULL FRICTION (RED TYPE)	<p>SCREW CAP. MATCH COMPOSITION IN PAPER CYLINDER. SAFETY FUZE. 2 3/4 13/32 5/16 BODY (BRASS). RED PLASTIC SLEEVE</p>	<p>PULL STRING HAS SANDED END AND PROJECTS THROUGH MATCH COMPOSITION. SCREW CAP FITTED WITH EYE FOR ATTACHMENT OF FIRING LANYARD. IGNITERS ISSUED WITH OPEN END COVERED WITH TIN FOIL.</p>
5	PULL FRICTION (BLACK TYPE)	<p>CAP SIDE FIT. BLACK SERRATED PLASTIC SLEEVE. IGNITER BODY. 3 3/4 7/16 5/16</p>	<p>SLIGHTLY LARGER THAN RED TYPE. HAS BLACK SERRATED OUTER SLEEVE WHICH PROVIDES BETTER GRIP. CAP IS PUSH FIT.</p>
6	PULL FRICTION TYPE '99 (V)	<p>RED PHOSPHORUS. PERFORATED G.P. PELLETS. P.E.T.N./WAX. 4 1/2 .29 FRICTION COMPOSITION. DELAY COMPOSITION. TIN FOIL. F.O.F.M.</p>	<p>SEE J.A.L.H.3. TWO OF THESE IGNITERS ARE USED IN THE IGNITER ASSEMBLY OF BANGALORE TORPEDO. CONSISTS OF PULL IGNITER, DELAY TRAIN & DETONATOR.</p>

JAPANESE DEMOLITION STORES.

IGNITERS

DIMENSIONS IN INCHES

C.I.A.M.N. S/1348
MIRKEE DEC.45

G.P.E.P. PONA. 1345

RESTRICTED.

PLATE J

SERIAL NO	NOMENCLATURE	SKETCH	REMARKS
7	PULL FRICTION	<p>Safety fuze BRASS IGNITER TUBE FRICITION MECHANISM HOLDER COPPER FRICTION WIRE FRICITION COMPOSITION FRICITION WIRE LOOP</p>	THIS IS USED IN GROUND FLARE (SIGNAL). SAFETY IS EFFECTED IN THE SAME WAY AS IN SERIAL NO2
8	PULL FRICTION	<p>DELAY TRAIN WAD PAPER CASING PULL WIRE POWDERED GLASS IN RED CEMENT. FRICITION COMPOSITION.</p>	VERY SIMPLE IN CONSTRUCTION & IS USED WIDELY BY JAPANESE.
9	PULL FRICTION	<p>BRASS PLUG. FRICITION COMPOSITION. LOOP OF WIRE</p>	BODY IS MADE OF BRASS AND IS THREADED TO SCREW IN TO SUITABLE ADAPTER. PULL ON LOOP OF WIRE FUNCTIONS IGNITER.

JAPANESE DEMOLITION STORES

IGNITERS

C.I. AMN. S/1349
KIRKEE, DEC. 45
C. P. E. P. POWAN, 1945

SERIAL NO.	NOMENCLATURE	SKETCH	REMARKS.
1	PULL PERCUSSION		<p>HEMP CORD OR FINE WIRE STRETCHED FROM SAFETY PIN & TIED TO SOME HOLDFAST. WHEN TRIPPED THE SAFETY PIN IS PULLED OUT RELEASING THE STRIKER WHICH FIRES CAP.</p>
2	PERCUSSION DELAY (CHEMICAL)		<p>ON BREAKING GLASS PHIAL ACID COMES IN CONTACT WITH COPPER WIRE CORRODES IT & ULTIMATELY WIRE BREAKS RELEASING STRIKER.</p>
3	PRESSURE PERCUSSION		<p>WHEN PRESSURE ACTS ON CUTTER, IT SHEARS THROUGH STRIKER WHICH IS THINNER AT THIS POINT. SPRING WHICH IS HELD IN COMPRESSION FORCES STRIKER ON TO CAP.</p>
4	PULL PERCUSSION		<p>AFTER REMOVING SAFETY PIN TRIP WIRE IS STRETCHED FROM RING & TIED TO SOME DISTANT OBJECT. A PULL ON TRIP WIRE REMOVES PIN RELEASING SPRING LOADED STRIKER.</p>
5	PERCUSSION (TRIGGER TYPE)		<p>PULL ON STRING COCKS STRIKER WHICH IS HELD UP BY SEAR. SAFETY RING KEEPS LEVER IN THIS SAFE POSITION. TO SET MECHANISM SAFETY RING IS ROTATED UNTIL SLOT ON IT COMES UNDER TRIGGER. WHEN TRIGGER IS DEPRESSED SEAR MOVES OUT AND RELEASES STRIKER.</p>
6	PULL PERCUSSION		<p>SIMILAR TO SERIAL NO 4. THIS DEVICE IS DESIGNED TO SCREW IN TO NOSE FUZE POCKET OF CAPTURED BRITISH BOMBS.</p>

JAPANESE DEMOLITION STORES.

SWITCHES

C.I.A.M.N. S/1350
KIRKEE, DEC. 45

SERIAL #	NOMENCLATURE	SKETCH	REMARKS.
7	PULL PERCUSSION		<p>STRAIN ON PIN PULLS STRIKER AND PIN OUT OF IGNITER UNTIL STRIKER JAW SHEARS. STRIKER IS THEN DRIVEN ON TO CAP BY ITS SPRING.</p>
8	DELAY (CHEMICAL) MK. I		<p>TWO TYPES OF THE SAME IGNITER HAVE BEEN REPORTED. ONE HAS BROWN OPAQUE PLASTIC BODY & FIRING PIN RETAINING WIRE .035" IN DIAMETER. OTHER HAS TRANSPARENT PLASTIC BODY WITH FIRING PIN RETAINING WIRE .042" IN DIAMETER. LATTER IS REPORTED TO HAVE DELAY OF 45 TO 65 MINUTES. FORMER WOULD OBVIOUSLY GIVE SHORTER DELAY.</p> <p>TO FUNCTION IGNITER SAFETY SLEEVE IS REMOVED BY OPENING THE BOTTOM CLOSING PLUG. TOP CLOSING PLUG IS REMOVED AND COPRIC CHLORIDE SOLUTION IS Poured INTO TANK & TOP IS CLOSED. SOLUTION CORRODES STRIKER RETAINING WIRE UNTIL IT BREAKS RELEASING STRIKER.</p> <p>THE BOTTLE CONTAINING COPRIC CHLORIDE IS PACKED IN SEPARATE CARDBOARD CONTAINER.</p>
9	DELAY (CHEMICAL)		<p>THE SAFETY FORK IS REMOVED & PLUNGER IS PUSHED DOWN. SPIKE ON PLUNGER PIERCE SOLVENT TANK. PLUNGER IS LOCKED IN THIS POSITION BY SPRING LOADED DETENT & HENCE THE STRIKER SPRING IS KEPT COMPRESSED. SOLVENT SOFTENS PLASTIC PLUG & FREES STRIKER. DELAY IS BELIEVED TO BE 17 TO 24 HOURS.</p> <p>BODY IS BLACK OVERALL AND IS MADE OF BAKELITE.</p>

JAPANESE DEMOLITION STORES.
SWITCHES

SERIAL NO.	NOMENCLATURE	SKETCH	DIAMETER	COLOUR	CORE FILLING	RATE OF BURNING	REMARKS
1	FUSE SAFETY WHITE (V)	<p>2 WHITE COTTON THREADS WITH G.P. GRAINS. 10 HEMP THREADS 10 COTTON THREADS WATERPROOF COMPOUND. 6 HEMP THREADS. COTTON TAPE IMPREGNATED WITH TARRY MATTER.</p>	.294	WHITE	G.P.	33.5 SECS. PER FOOT	WEIGHS 92.75 GRs. PER FOOT
2	FUSE SAFETY GREY (V)	<p>10 COTTON THREADS CONTAINING MEAL G.P. HEAVILY SIZED WITH TARRY MATTER. 7 COTTON THREADS. WATERPROOF COMPOUND. 7 COTTON THREADS COVERED WITH PAPER & HIGHLY SIZED WITH TARRY MATTER</p>	.21	GREY	G.P.	NOT KNOWN	WEIGHS 110 GRs. PER FOOT. FUSE COATED WITH THICK RESINOUS MATTER CONTAINING SHELLAC.
3	FUSE DETONATING SHINING GREY (V)	<p>COTTON THREAD 10 JUTE THREADS. TUBE OF CELLOPHANE LIKE MATERIAL. 7 COTTON THREADS.</p>	.19	SHINING GREY	P.E.T.N.	6000 METRES PER SEC.	IDENTICAL TO SERVICE CORDTEX. PROBABLY CAPTURED & USED BY THE JAPANESE. WEIGHS 103.8 GRs. PER FOOT.
4	FUSE DETONATING GREEN (V)	<p>PAPER TUBE H.E. FILLED. 10 HEMP THREADS GREEN SILK THREAD PASSING CENTRALLY. GREEN, RUBBER LIKE ELASTIC MATERIAL.</p>	.196	GREEN	P.E.T.N. 99.5% WAX 0.5%	NOT KNOWN	WEIGHS 120.4 GRs. PER FOOT.
5	FUSE DETONATING TYPE '97	<p>THREAD CORE. WATERPROOF PAPER. 9 HEMP THREADS. 13 SILK THREADS. WATERPROOF PAPER 12 SILK THREADS.</p>	.276	TAN	P.E.T.N.	6000 METRES PER SEC.	WEIGHS 201 GRs. PER FOOT.

— JAPANESE DEMOLITION STORES —
— FUSES SAFETY AND DETONATING —

SERIAL No	NOMENCLATURE	SKETCH	DIAMETER	COLOUR	CORE FILLING	RATE OF BURNING	REMARKS.
6	FUSE DETONATING LIGHT TAN		.268"	LIGHT TAN	P.E.T.N.	6000 METRES PER SEC.	WEIGHS 163 GRs. PER FOOT.
7	FUSE SAFETY TYPE 1		.256"	WHITE	G.P.	32 SECS. PER FOOT	33 FT. COILS & 14 SUCH COILS PACKED IN A WOODEN BOX.
8	FUSE SAFETY		.21"	NOT KNOWN	G.P.	32 SECS. PER FOOT	FUSE IS COATED WITH LINSEED OIL AND GUTTAPERCHA. TALC ALSO USED TO PREVENT STICKINESS.
9	FUSE SAFETY		.21"	WHITE	G.P.	NOT KNOWN	FUSE HAS WHITE COATING CONSISTING MAINLY OF SILICA.
10	FUSE DETONATING		.227"	LEAD	T.N.T.	7500 METRES PER SEC.	33 FEET COILED IN A WOODEN REEL AND PACKED IN LACQUERED GALVANISED IRON CYLINDER.

JAPANESE DEMOLITION STORES
FUSES, SAFETY AND DETONATING

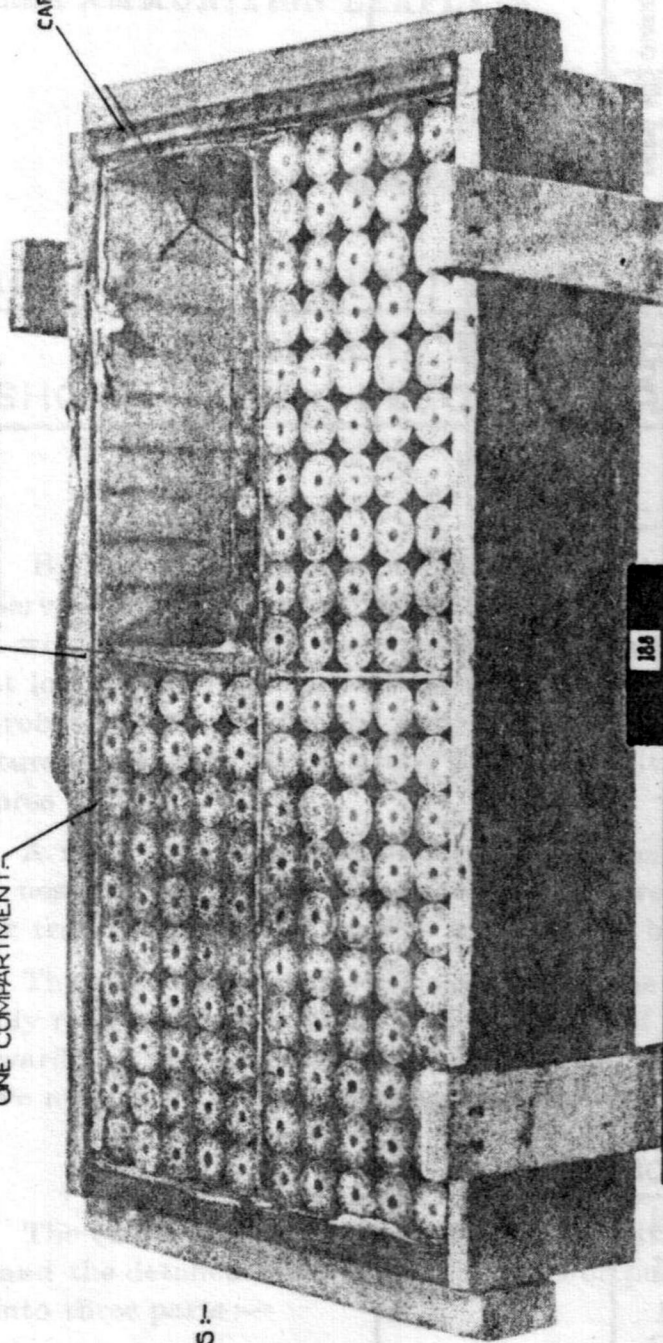
RESTRICTED.

STORAGE DIMENSIONS --
LENGTH - 29 3/4"
BREADTH - 16"
HEIGHT - 7 3/4"

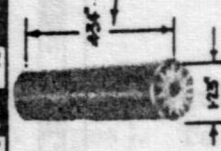
50 CARTRIDGES IN
ONE COMPARTMENT.

CARDBOARD PARTITION.

CARDBOARD PACKING PIECES.



BOTTOM PELLET.



TOP PELLET.

DETONATOR HOLE

WT. OF CYLINDER. - 4.54 ozs.
WT. OF 2 PELLETS (T.N.T.) - 4.4 ozs.
THESE PELLETS ARE WRAPPED IN THIN RED
- PAPER (3 LAYERS) WAXED FROM OUTSIDE.

WT. OF BOX (FILLED) - 90 LBS.
WT. OF BOX (EMPTY) - 33 LBS.

JAPANESE
DEMOLITION CHARGES (CARTRIDGES).
METHOD OF PACKING.

RESTRICTED.

SPACE FOR PACKING ANCILLARY STORES
(EMPTY WHEN RECEIVED AT KIRKEE)

4 NAILS IN BROWN PAPER.

WOODEN BLOCK WITH
A DETONATOR HOLE, FIXED
TO THE LID BY 4 NAILS.

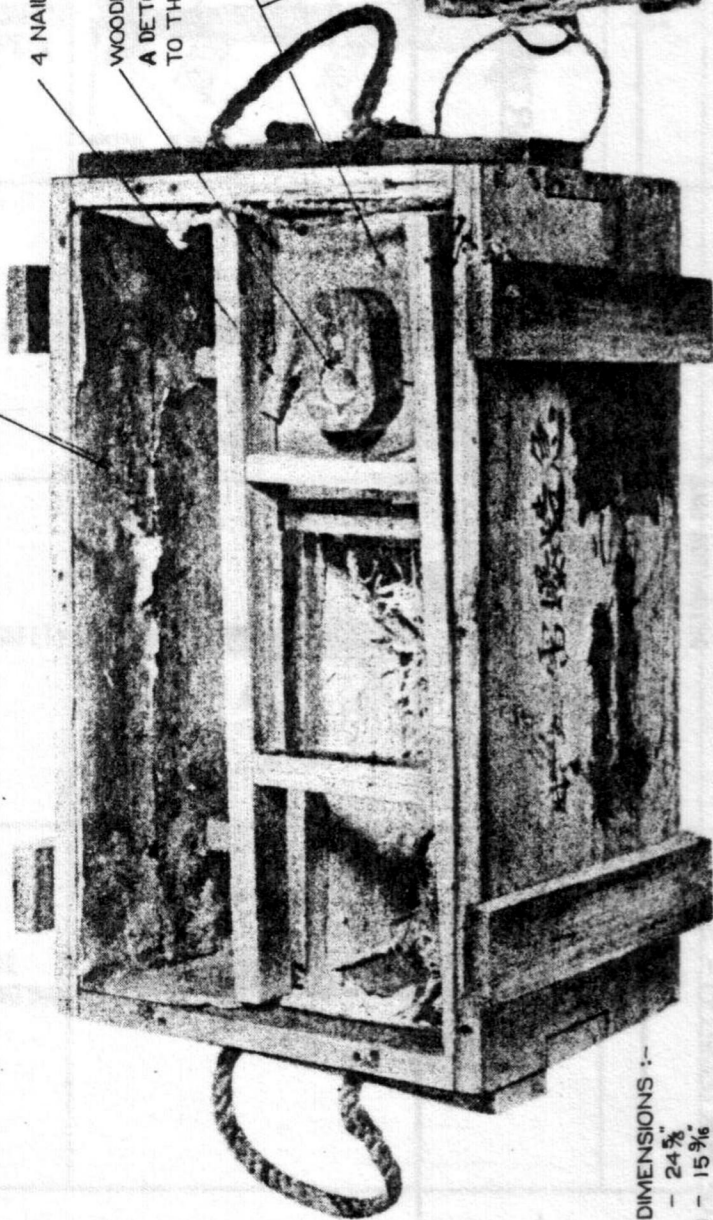
16 H.E. UNITS IN 3 LAYERS
(6 IN EACH LAYER)
3 BLOCKS OF PICRIC ACID
IN EACH UNIT.

7.5 Kg CHARGE

DETONATOR
HOLES.

LENGTH - $7\frac{3}{4}$ "
BREADTH - $7\frac{1}{8}$ "
HEIGHT - $7\frac{1}{4}$ "

H.E. UNIT WRAPPED
IN YELLOW PAPER.
9T TYPE SQUARE
PICRIC ACID CHARGE.
BLOCK OF
PICRIC ACID
(WT. ABOUT $3\frac{1}{2}$ ozs)



STOWAGE DIMENSIONS :-

LENGTH - $24\frac{3}{4}$ "

BREADTH - $15\frac{9}{16}$ "

HEIGHT - $12\frac{3}{4}$ "



WT. OF BOX (FILLED) :- 57 LBS.

WT. OF BOX (EMPTY) :- 24 LBS.

JAPANESE 7.5 Kg PREPARED DEMOLITION CHARGE.

METHOD OF PACKING.

THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS

D. OF A. (INDIA)
JAPANESE AMMUNITION LEAFLETS

SECTION H.
LEAFLET H 2.

**JAPANESE ELECTRIC PRIMER
FITTED WITH
JAPANESE GAINÉ USED IN NAVAL SHELL,
AND
ADAPTED TO FIT 1.375-IN. STANDARD FUZE HOLE
(British A. C. Bomb, Standard Fuze Hole.)
SHORT TITLE:—ELECTRICALLY OPERATED GAINÉ.**

GENERAL.

By means of a bakelite adapter this electrically operated gainé can be screwed into British Service aircraft bombs (250-lb. and 500-lb. G. P. types). To fit the unit into these bombs it would be necessary to remove the top exploder pellets and it is thought that a somewhat low order of detonation only can be expected from bombs initiated in this way. This is probably adequate for the purposes intended by the Japanese who presumably have manufactured this unit only to utilise stocks of British A. C. bombs captured during the past two or three years.

2. A report received indicates that in one instance the bombs were placed in a vertical position, nose up and 9 ins. below ground level, were connected in parallel by cable running in shallow trenches, and fired by a 45 volt dry cell battery.

3. The electrically operated gainé which was received at Kirkee for examination was presumably removed from a bomb and no details of packing or instructions regarding its use were forwarded. The Japanese name for it is not at present known, and the above fully descriptive nomenclature has been used to facilitate identification.

DESCRIPTION

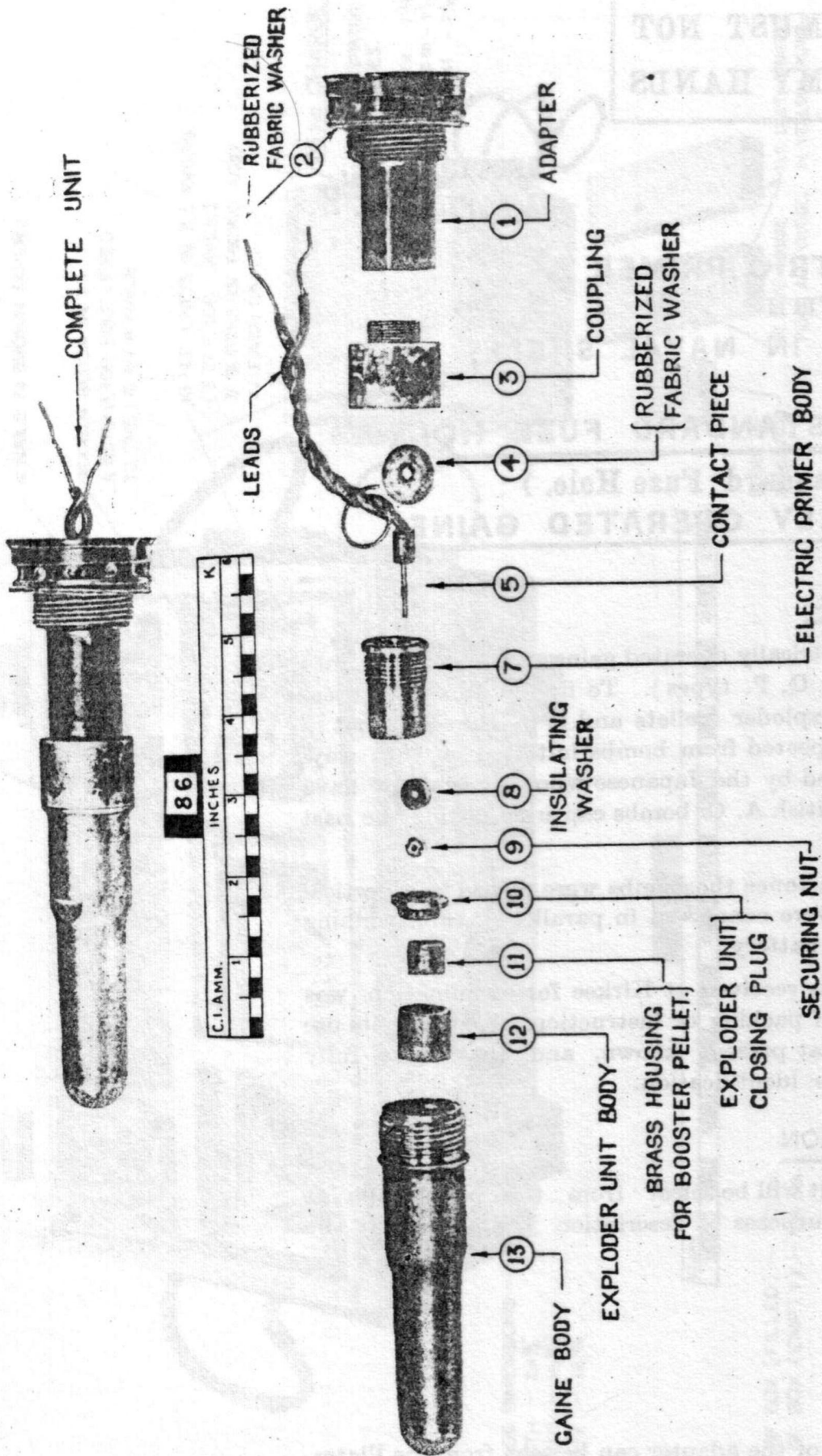
4. The construction and assembly of the unit will be clear from the photograph at Plate A and the detailed drawing at Plate B. For purposes of description the unit may be divided into three parts:—

- (i) Plastic (bakelite type) adapter (1).
- (ii) Naval type electric primer (7).
- (iii) Naval type H. E. shell gainé (13).

Adapter.

5. The construction and general appearance of the adapter can be seen from the Plates. It is screw-threaded externally to screw into British Service G.P. type bombs and internally to take a light alloy coupling (3). It is centrally drilled to make a passage for the electric leads. This channel and the enlarged recess in the top of the adapter is filled with pitch, poured in to hold the leads securely against any movement and to waterproof the exploder unit.

RESTRICTED.



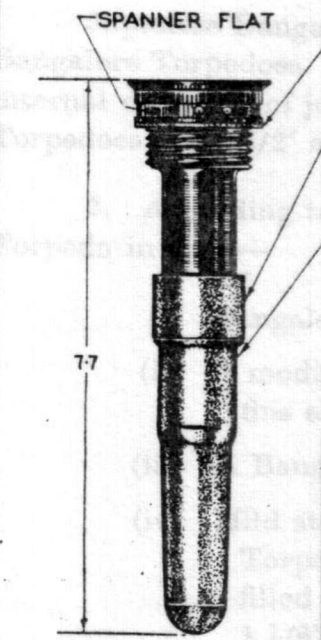
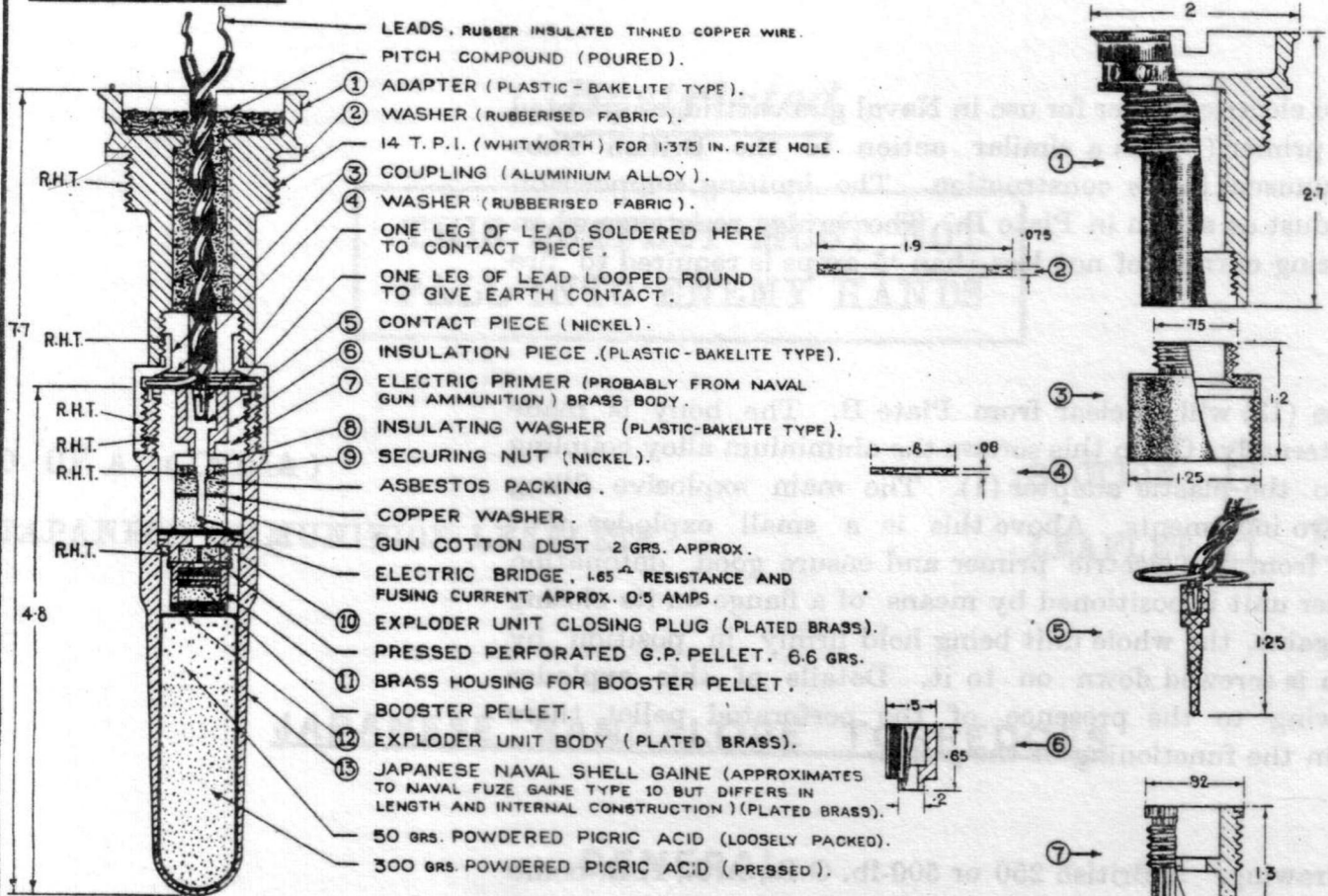
JAPANESE ELECTRIC PRIMER

FITTED WITH JAPANESE NAVAL SHELL GAINE & ADAPTER TO FIT

1.375 INCH FUZE HOLE (BRITISH A.C. BOMB STANDARD FUZE HOLE)

EXTERNAL APPEARANCE & ASSEMBLY SEQUENCE.

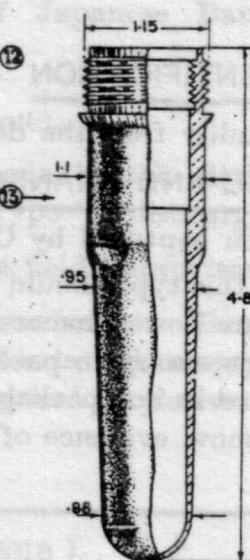
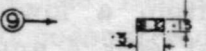
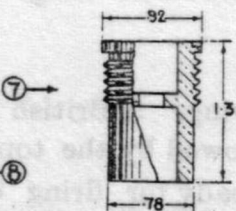
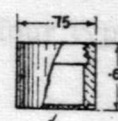
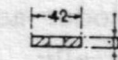
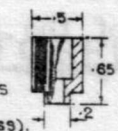
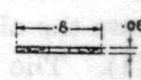
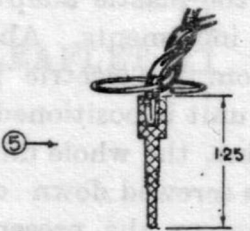
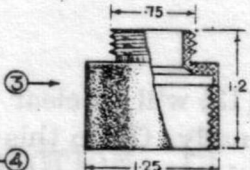
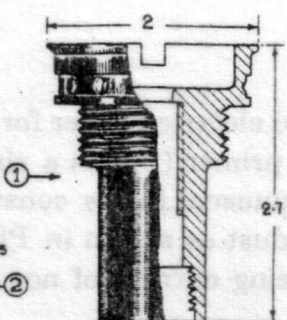
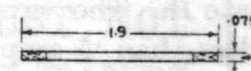
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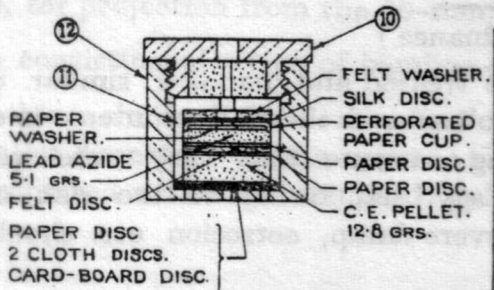
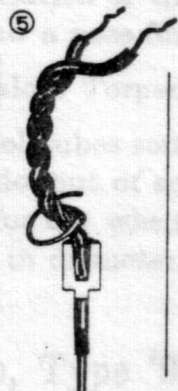
- ② WASHER (RUBBERISED FABRIC)
- COUPLING LACQUERED EXTERNALLY.

6 60 47

FILLED WT. OF PRIMER... 12.5 OZS.
 FILLED WT. OF GAINE ... 8.03 OZS.



ENLARGED DETAILS.



EXPLODER UNIT

JAPANESE ELECTRIC PRIMER

FITTED WITH JAPANESE NAVAL SHELL GAINE & ADAPTER TO FIT 1.375 INS. FUZE HOLE (BRITISH A.C. BOMB STANDARD FUZE HOLE)

GENERAL ASSEMBLY & COMPONENT DETAILS.

DIMENSIONS IN INCHES.

C.I. AMM 5/402
 NIKKEL MAR. 45

COZ.F. POONA 584

Electric Primer.

6. This appears to be a standard electric primer for use in Naval gun cartridges adapted to initiate the gaine electrically. The primer (7) has a similar action to the British Tube Vent Electric 4-in. There is nothing unusual in its construction. The igniting composition round the electric bridge is guncotton dust as shown in Plate B. The bridge resistance when measured cold was 1.65 ohms and a fuzing current of not less than .5 amps is required to fire the unit.

Gaine.

7. The construction of the gaine (13) will be clear from Plate B. The body is made of nickel-plated brass and threaded externally. On to this screws the aluminium alloy coupling (3), by means of which it is secured to the plastic adapter (1). The main explosive filling of the gaine is picric acid pressed in two increments. Above this is a small exploder unit (12) which is used to step up the flash from the electric primer and ensure good detonation of the gaine main filling. This exploder unit is positioned by means of a flange on its closing plug (10) resting on a shoulder in the gaine, the whole unit being held firmly in position by means of the electric primer (7) which is screwed down on to it. Details of this exploder unit are shown clearly in Plate B. Owing to the presence of the perforated pellet there would be, it is thought, a slight delay in the functioning of the gaine.

Action.

8. This will be clear from the drawing. A British 250 or 500-lb. G.P., A.C., H.E. bomb has its transit plug or pistol removed, followed by the top exploder assembly and the gaine inserted in its place. The bomb is then ready for firing electrically. The electric primer is of the low tension type and will function from a low voltage. The bridge resistance as mentioned is approximately 1.65 ohms and at least .5 amp. is necessary as a firing current. It is desirable to use one amp. where possible.

PACKING

9. Nothing is known at present.

IDENTIFICATION

10. The gaine will be identified readily from the details given above.

HANDLING AND TRANSPORT

(Of ammunition captured by Ordnance)

11. Electrically operated gaines of this type should be treated and handled similar to electric detonators (No. 33 etc). They are however more robust and the H.E. content is of course much greater. Care is therefore necessary in packing to ensure that they were well separated and a small number only packed in one package, say, six, owing to the risk of sympathetic detonation. Gaines which show evidence of severe damp, corrosion etc. should be carefully destroyed.

<u>EXPLOSION / FIRE RISK</u>	.. 8.6 ozs. Per 10 gaines.
<u>GROUP CLASSIFICATION</u>	.. X category Z.
<u>CLASSIFICATION FOR SEA TRANSPORT</u>	.. M. S. D.

THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS

D. OF A. (INDIA)

JAPANESE AMMUNITION LEAFLETS

SECTION H.

LEAFLET H. 3.

JAPANESE BANGALORE TORPEDOES

GENERAL.

Japanese Bangalore Torpedoes fulfil generally the same role as the British Service Bangalore Torpedoes. The standard Japanese Bangalore Torpedo so far encountered has an internal diameter of just less than 1 13/64" (30-mm.) while the standard British Service Torpedoes are 1 1/2" and 2" in diameter.

2. According to information available, there are four types of Japanese Bangalore Torpedo in use :—

- (i) Bangalore Torpedo Type '99 (Steel-30-mm. Standard Issue).
- (ii) A modification of the standard Type '99 Bangalore Torpedo, by the fitting of fins and a nose fuze, for projection from the 50-mm. Type '98 discharger.
- (iii) A Bangalore Torpedo consisting of strips of bamboo,—a field improvisation.
- (iv) Mild steel tubes something similar to the standard issue of the Bangalore Torpedo, but of smaller diameter. These appear to be issued empty and filled for use when required with the standard cylindrical explosive block 1 1/8" in diameter.

Bangalore Torpedo, Type '99 (Steel 30-mm. Standard Issue).

DESCRIPTION.

3. The construction of the Type '99 Bangalore Torpedo can be seen clearly from the drawing in Plate B while its general appearance and the assembly sequence of the igniter set assembly will be seen from the photograph at Plate A. The torpedo consists of filled lengths of steel tubing suitable for transport and storage, fitted with a nose transit cap at one end and a tail transit plug at the other. The overall length of each section is approximately 47". The internal diameter of the tube is just under 1 13/64" (30-mm.).

Over one end of the tube is fitted an adapter secured to the tube by welding. This adapter is screw-threaded internally with a right-handed thread (38-mm. thread hole) and takes the tail transit plug (6) or igniter set assembly (5). The other end has a circular flange welded on to act as a stop for the pointed nose cover (1). This flange also secures in position a thin screw-threaded collar which fits over the nose of the tube and on to which the pointed nose cover (1) is secured (right-handed thread 38-mm. hole).

It will be seen that a number of tubes can be connected together to form a Bangalore Torpedo of any length required. To ensure continuity of the explosive filling between lengths the explosive at the externally threaded end of the tube is filled flush with the mouth. At the other end (internally threaded) it will be seen from the drawing that a cylindrical cavity lined with a rolled paper container has been formed in the filling to take the twin detonators of the igniter set assembly (5).

Filling.

4. The filling found in samples examined at Kirkee was poured picric acid and the weight of explosive in each length was 3-lb. 2-oz. A filling of R.D.X./T.N.T. is also known to be used.

It will be seen that no boosting primer is used at the end of the filling in the tube, the lack of which is presumably compensated by the comparatively sensitive filling of picric acid used.

5. There is no special exploder arrangement at the nose end of the tube to take the twin detonators of the igniter set assembly. The filling had only a cylindrical recess lined with a rolled paper container, in which the two detonators extend. In some lengths examined there was a small quantity of plastic explosive (analysed as similar to gelignite) and it is thought that this may be used as a field expedient to boost up the impulse from the detonators.

6. The general make-up of the igniter set and the assembly sequence of components is shown in the photograph at Plate A. Full details of construction etc. are given in Plate B. For convenience of description it can be divided into :—

- (a) Firing lanyard attached by means of an eye-bolt to double friction cords. A safety pin (4) passes through this eye-bolt and protruding flange of igniter set body (8) to prevent accidental functioning.
- (b) Screwed locking collar, light alloy (7).
- (c) Body, light alloy (8).
- (d) Twin delay tubes (9B), attached at one end by crimping to friction igniter tubes (9A) and at the other end to the detonators (10). The mechanism of the friction igniter follows normal Japanese practice which will be clear from the details in Plate B.
- (e) Twin detonators (10).

Note that the small brass cap is a spring push fit in the top of the igniter set body (8) and, by the application of a suitable waterproof varnish, hermetically seals the igniter set.

7. The igniter set assembly, complete (5), is carried in the pointed nose cover (1) during storage and transport. The pointed nose cover (1) together with the igniter set assembly (5) is packed in a metal container (11) painted olive drab. Details of this container can be seen in Plate A. It follows normal practice in having a mild steel sheet body with a

“ push on ” lid, the joint being waterproofed by a piece of adhesive tape or varnished paper strip. A paper label is attached to the cylinder giving details in Japanese characters of the type of igniter and the date of manufacture.

Action.

8. The igniter set assembly (5) is removed from the pointed nose cover (1) and the latter is screwed on to one end of the tube after removing the nose transit cap. One or more lengths are then assembled together and the igniter set assembly (5) screwed into the tail end of the last length, after removing the tail transit plug (6). The safety pin (4) is then withdrawn and the firing lanyard pulled from a safe distance to fire the igniter. The delay in the igniter set is of the order of 7 seconds.

9. Note that in pulling the firing lanyard (3) the pull is probably in two parts. Firstly a slow pull to withdraw the push fit brass cap, and secondly a quick jerk to fire the friction igniter. The length of the slack cord after the brass cap is withdrawn is about $5\frac{1}{2}$ ". A long quick jerk on the lanyard will of course also fire the igniter but perhaps not so positively. Failures occurred in small trials at Kirkee when the lanyard was not pulled with a quick jerk. The igniters were old however and may have been somewhat insensitive owing to damp.

PACKING

10. The lengths are packed six in a wooden box, three in the top layer and three in the bottom. Three igniter assemblies (with pointed nose covers (1)) in their tin plated cylinders fit in a compartment at one end of the box. The box is marked on two sides in Japanese characters. Stowage dimensions of the box are as follows :—

Length	.. .	60 inches.
Breadth	..	6 7/8 „
Height	..	5 3/8 „

IDENTIFICATION

11. This presents no difficulty.

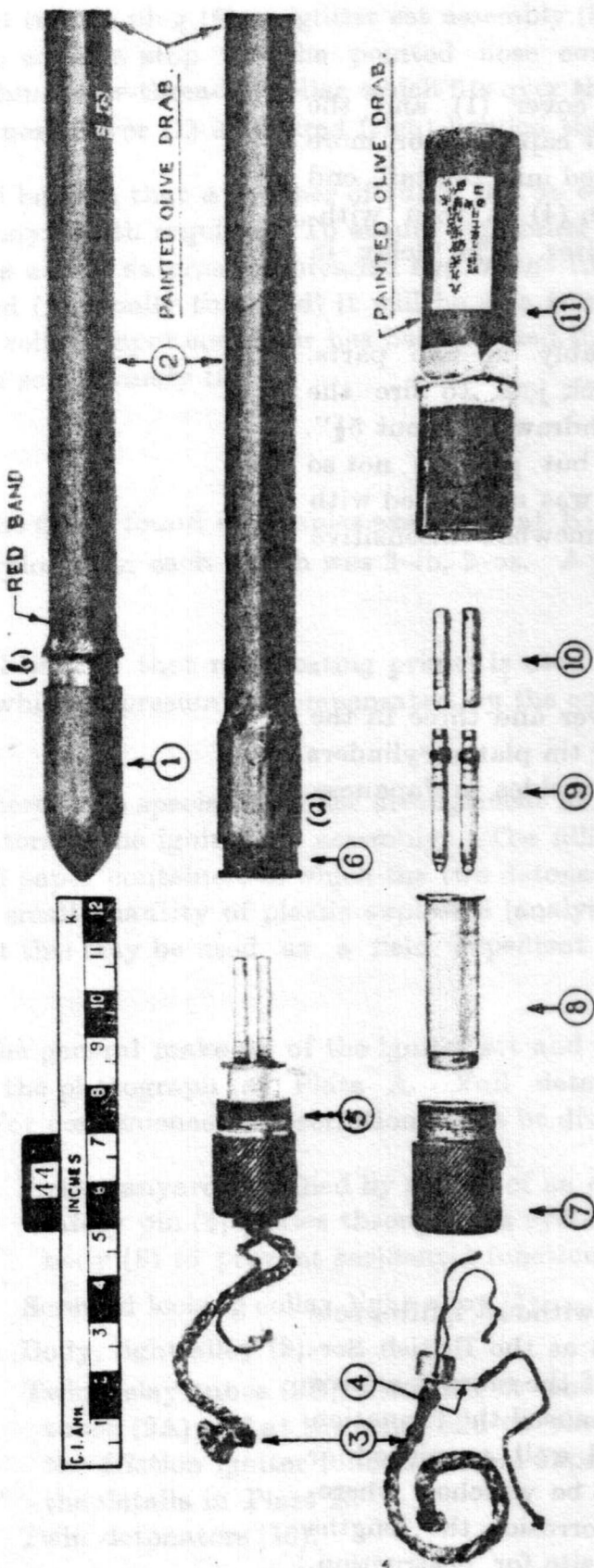
HANDLING AND TRANSPORT

(Of captured ammunition by Ordnance)

12. Japanese Bangalore Torpedoes are stored and transported without igniter sets being fitted and may, therefore, be dealt with generally on the same lines as the British Service Bangalore Torpedoes. Greater care, however, is necessary in view of the more sensitive filling used and the fact that, if the filling is picric acid, damp may have caused the formation of picrates. The Japanese are apparently well aware of this danger and well varnished or lead-free components are usually employed. Nevertheless, this point must be watched wherever picric acid filling is suspected. If there is any evidence of damp or corrosion the lengths should be destroyed if possible or moved very carefully to a suitable site for destruction. Where the presence of picrates is suspected and movement cannot be avoided it would lessen risk if the lengths were well swabbed with water where the corrosion appears, but they must be destroyed afterwards without delay.

If any lengths are found primed no attempt should be made to remove the igniter sets; complete lengths should be destroyed as they are.

RESTRICTED.

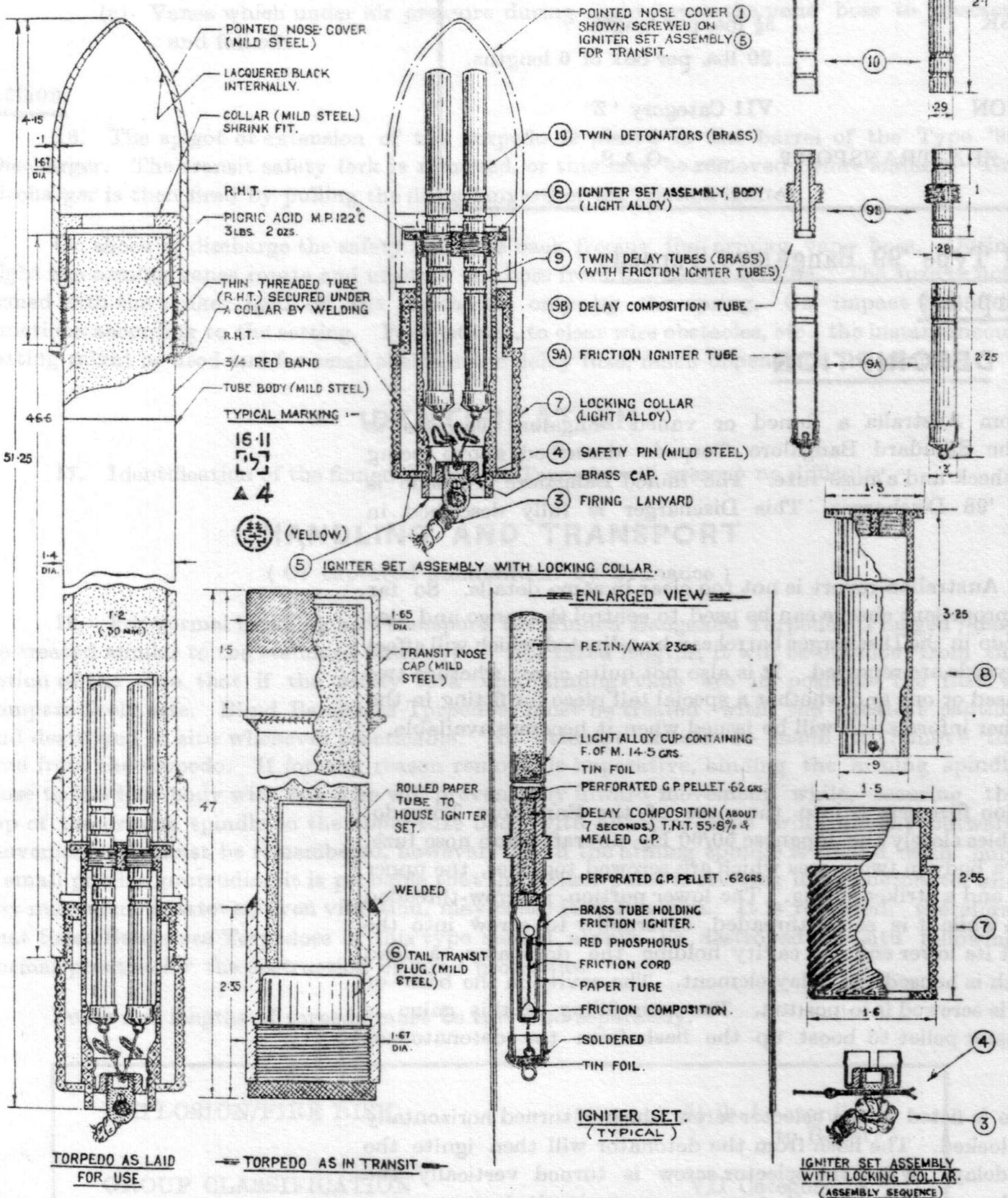


- ① POINTED NOSE COVER, THREADED INTERNALLY.
- ② BODY, THREADED INTERNALLY AT ONE END (a) AND EXTERNALLY AT THE OTHER END (b).
- ③ FIRING LANYARD, WITH DOUBLE FRICTION CORD.
- ④ SAFETY PIN.
- ⑤ IGNITER SET ASSEMBLY WITH LOCKING COLLAR, THREADED EXTERNALLY.
- ⑥ TAIL TRANSIT PLUG, THREADED EXTERNALLY.
- ⑦ IGNITER SET ASSEMBLY, LOCKING COLLAR.
- ⑧ IGNITER SET, BODY.
- ⑨ IGNITER SET, TWIN DELAY TUBES.
- ⑩ IGNITER SET, TWIN DETONATORS.
- ⑪ METAL CONTAINER FOR IGNITER SET ASSEMBLY, COMPLETE WITH POINTED NOSE COVER.

JAPANESE BANGALORE TORPEDO TYPE '99
(STEEL, 30 M.M., STANDARD ISSUE.)

RESTRICTED

TORPEDO PAINTED OLIVE DRAB EXTERNALLY
WEIGHT WITH IGNITER SET (5) AND NOSE COVER (1) 10 LBS.



JAPANESE BANGALORE TORPEDO TYPE '99

STEEL, 30 MM STANDARD ISSUE

GENERAL ARRANGEMENT & ASSEMBLY SEQUENCE.

DIMENSIONS IN INCHES

CL. AMB. 5/1029
KIRKEE, MARCH 95

BRZ R POONA 1845

EXPLOSION/FIRE RISK

3¼ lbs. per length

20 lbs. per box of 6 lengths.

GROUP CLASSIFICATION

VII Category 'Z

CLASSIFICATION FOR SEA TRANSPORT

— O.A.S.

Modification of the Standard Type '99 Bangalore Torpedo (Finned Bangalore Torpedo)

DESCRIPTION

13. According to reports from Australia a finned or vaned Bangalore Torpedo is formed by one or two lengths of the Standard Bangalore Torpedo described above being fitted with stabilizing vanes, a gas check and a nose fuze. The finned Bangalore Torpedo is projected from the 50-mm. Type '98 Discharger. This Discharger is fully described in J. A. L. D. 6.

The information given in the Australian report is not too clear in some details. So far as can be seen different weights of propellant charge can be used to control the range and also the position of the Bangalore Torpedo in the Discharger barrel can be adjusted which will affect the range. Ranges from 98 to 300 yards are reported. It is also not quite clear whether two lengths of Bangalore Torpedo are used or one and whether a special tail piece for fitting in the Discharger may not be used. Further information will be issued when it becomes available.

Fuze.

14. A direct action percussive fuze screws into the nose of the Bangalore Torpedo. From the details received this resembles closely the Japanese 50/60 Kg. aircraft bomb nose fuze, Type A 2 (a). This fuze consists of a body in two pieces which are screwed together, the upper portion containing a striker spindle and a striker spring. The lower portion is screw-threaded internally to take the upper portion while it is screw-threaded externally to screw into the nose of the Bangalore Torpedo. At its lower end is a cavity holding the detonator, a lead washer and brass container in which is housed the delay element. The cavity in the base of the fuze is closed by a gaine which is screwed into position. The main filling of this gaine is probably C.E. above which is a booster pellet to boost up the flash from the detonator or delay train.

The delay element in the fuze is fitted with a selector screw which, if turned horizontally will cause the open channel to be blocked. The flash from the detonator will then ignite the delay pellet to give a short time of delay. When the selector screw is turned vertically the flash passes unobstructed through the open channel to give a comparatively instantaneous effect.

Safety devices.

15. According to the report three safety devices are fitted in this fuze:—

- (a) Safety fork which prevents the vane boss and vanes from rotating during storage and transport

- (b) A safety bolt or detent which on firing of the discharger sets back to disengage the vane boss. Details of this are not very clear.
- (c) Vanes which under air pressure during flight cause the vane boss to unscrew and fall off.

Action.

16. The spigot or extension of the torpedo is placed in the barrel of the Type '98 Discharger. The transit safety fork is removed, or this may be removed before loading. The discharger is then fired by pulling the firing lanyard of the friction igniter.

On shock of discharge the safety bolt sets back freeing the arming vane boss. During flight the arming vanes rotate and unscrew the boss from the striker spindle. The fuze is now armed with the striker held off the detonator, only by the spring. On impact the fuze functions according to the setting. For instance, to clear wire obstacles, etc., the instantaneous setting might be used and for small shelters the delay fuze; much depends on the ground.

IDENTIFICATION

17. Identification of the finned Bangalore Torpedo will present no difficulty.

HANDLING AND TRANSPORT

(Of captured ammunition by Ordnance)

18. For normal handling and transport the Finned Bangalore Torpedo (Plugged) may be treated similar to the standard issue type. For fuzed lengths, it will be obvious from the action of the fuze that if the safety fork and arming vane are in position the fuze is comparatively safe. Blind Bangalore Torpedoes must be treated with the greatest caution and destroyed in situ whenever practicable. No attempt should be made to remove the fuze from the torpedo. If for any reason removal is imperative, binding the arming spindle close to the fuze body with fine wire will prevent any inward movement while, securing the top of the arming spindle to the upper fuze body with adhesive tape will prevent outward movement. It must be remembered, however, that if the arming spindle is found with only a small portion protruding it is probable that the striker point is sticking in the detonator and any movement whatever, even vibration, may cause it to function. It is repeated, therefore, that fuzed Bangalore Torpedoes of this type should always be destroyed in situ following normal practice for the destruction of blind projectiles.

Fuzes and lengths of torpedo must be travelled separately.

EXPLOSION/FIRE RISK	5¼ lb. (According to Report)
GROUP CLASSIFICATION	VII Category 'Z'
CLASSIFICATION FOR SEA TRANSPORT	O.A.S.

Bamboo Type Bangalore Torpedo

19. Reports state that the bamboo version consists of six 8 ft. strips of bamboo lashed together to form a cylindrical tube approximately 4-in. in diameter. Five individual

explosive charges are spaced evenly within the cylinder through which runs a length of primacord or equivalent detonating fuze. The primacord is then ignited in the usual way, either electrically or with a safety fuze and detonator.

This is obviously a field improvisation and its general construction will vary according to explosive and materials available in the field.

Empty Lengths of Mild Steel Tube

20. Empty lengths of mild steel tubes something similar to the standard issue of the Bangalore Torpedo but of a smaller diameter were found in 1944 in the Imphal area. These tubes appear to be issued and transported empty and filled for use when required with the standard cylindrical explosive blocks 1 1/8" in diameter.

21. The tube has an external diameter of 1 13/32" and internal diameter of 1 3/16" making the cylindrical explosive blocks a good sliding fit. The tube is closed at one end by a screwed plug which screws direct into the body of the tube. At the other end is an adapter screwed and pinned to the tube. This adapter is screw-threaded externally to take a nose cap. Two or more lengths of the tube can be screwed together similar to the Type '99 standard issue torpedo described above. Nothing is known of the igniter and possibly the ordinary friction or electric detonator is used, or a detonator with a length of fuze. The tube is painted olive drab.

**THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS**

D. OF A. (INDIA)

SECTION H

JAPANESE AMMUNITION LEAFLETS

LEAFLET H4

JAPANESE SABOTEUR STORES

SUMMARY OF DATA

GENERAL

Some items of Japanese Saboteur equipment which are of interest are described below as illustrating the methods used to transport explosives without raising suspicion. The details and general appearance of these stores are shown in Plates A, B and C.

DESCRIPTION

TIN OF STRAWBERRIES

2. This consists of a trade pattern type of fruit tin which resembles externally an ordinary harmless tin of Libby's Strawberries. An illustrated paper wrapping pasted round the tin covers the detonator recess. There was nothing on the tin to suggest that its contents were other than those stated in the label. The screwed plug, safety fuze and detonator were packed separately. The general details of the detonator, safety fuze, etc. can be seen from the drawing. The oil containers were filled with heavy mineral oil probably to prolong the fire effect of the plastic R. D. X. filling and to cause confusion by the smoke produced. The method of use and the reasons for packing the High Explosive in this manner will be obvious.

TUBE OF TOOTHPASTE

3. This follows the general lines above. In appearance it is a harmless tube of tooth-paste, but is actually filled with an R. D. X. plastic mixture as shown on the drawing. When required, the igniter-detonator assembly is inserted, and ignited by a flame or by rubbing a match box across the friction igniter, similar to the igniter on the tin of strawberries. Like the tin of strawberries its method of use and the reasons for packing the explosive in this manner will be obvious.

INCENDIARY BRICK

4. Externally this resembles a standard brick being 8.25" x 3.8" x 2" and coloured red on the outside. It weighs 4-lbs. 3 ozs. It is in fact a block of an unusual type incendiary mixture, black in colour and consisting essentially of iron, iron oxide, barium nitrate and wax with a little magnesium. The samples examined had a definite smell of camphor and could be further distinguished from real bricks by the fineness of their grain. It is relatively difficult to ignite, burns with a rather fierce, spluttering flame and is extinguished by water. It would ignite wood but it will not burn through iron or steel.

The brick is wrapped in brown paper and packed with cardboard packing pieces into a black plastic container which is closed with a black galvanised iron lid.

INCENDIARY SOAP

5. This is a "cake" approximately 4.2" x 2.7" x 1.5" and weighing about 14½ ozs. It is painted white externally. On one side is a shallow depression in which the brand "IVORY" is embossed; on the other, the maker's name "PROCTOR AND GAMBLE" is similarly embossed. In the centre of one of the longer sides is the primer recess which is about 0.3" dia. x 1.6" deep. Like the "Brick", the bar is made of an unusual incendiary composition consisting essentially of aluminium, magnesium, iron oxide, barium nitrate and wax. Again this is difficult to ignite and is extinguished by water. The type of priming used with this is not known, but it must be a violent one.

EXPLOSIVE "COAL"

6. This is a rough, irregularly shaped object painted black externally to resemble a piece of coal. It consists of an outer shell of baked clay filled by means of a small hole with a plastic explosive (R. D. X./oil, 85/15). A detonator is also pushed in through this hole which is closed with a gunpowder plug. The detonator is filled in 3 increments. At the bottom is a pressing of C. E., above which is a small cap filled with mercury fulminate; the upper increment is gunpowder. This gunpowder and that forming the igniter are both of poor quality, consisting largely of charcoal with only small quantities of sulphur and potassium nitrate.

If put into a fire the powder igniter will burn, setting off the detonator which will initiate the main filling. Even if the poor quality powder fails to ignite, the heat will fire the detonator directly.

SABOTEUR EQUIPMENT

7. Two complete saboteur equipments have been received and a report on one is reproduced* below.

The outer waterproof container is of thick crepe rubber with all joints sealed and waterproofed with strips of thin rubber tape and with 4 loops for carrying. Inside this is a normal ghee tin which contains 2 ordinary kerosene tins and two smaller tins. The former holds four packets of T. N. T. each and a pocket beneath the bung filled with ghee, presumably for deception purposes. The smaller tins contain insulated wire, files, wire-cutters, testing bulbs, watches, time switches, safety fuze igniters, detonators, safety fuze and insulating tape, all of which are well waterproofed. This equipment represents a complete demolition outfit and has some interesting features:—

(i) The lack of batteries where electric detonators are provided. These would probably be obtained locally from cars etc.

(ii) The extraordinary care taken to waterproof the contents, especially detonators, indicating that the equipment may have to be buried for some time.

(iii) The variety of countries of manufacture of the components; the detonators, fuze igniters and fuze wire were British, the watches American, the explosive Dutch and the electric detonators Japanese. This indicates that the equipment is not a standard Army issue, but is made up for special purposes.

PACKING

8. The method of packing these stores in bulk is not known, except for the Saboteur Equipment which is shown at Plate D.

IDENTIFICATION

9. These items can be readily identified from the details shown in the Plate.

SUMMARY OF DATA

Store.	Length.	Width or Diam.	Height (thickness).	Weight.	Weight of Filling.
Strawberries ...	4.5"	3.45"	...	1 lb. 13 ozs.	1 lb. 6 $\frac{3}{4}$ ozs.
Toothpaste ...	6.6"	1.9" (Max.)	...	4 $\frac{3}{4}$ ozs.	4 $\frac{1}{4}$ ozs.
Brick (container) ...	8.56"	4.125" (at lid)	2.65" (base)	4 lbs. 14 ozs. (+ container)	4 lbs. 3 ozs.
Soap ...	4.2"	2.7"	1.4"	14 $\frac{3}{4}$ ozs.	14 $\frac{3}{4}$ ozs.
Coal ...	3.13" (Max.)	2" (Max.)	1.375" (Max.)	3 to 5 ozs.	1 to 3 ozs.
Saboteur Equipment.	15"	11"	11"	49 $\frac{1}{2}$ lbs.	...

* Condensed from General Headquarters (India), Military Intelligence Directorate Periodical Technical Summary No. 38 of May 1945.

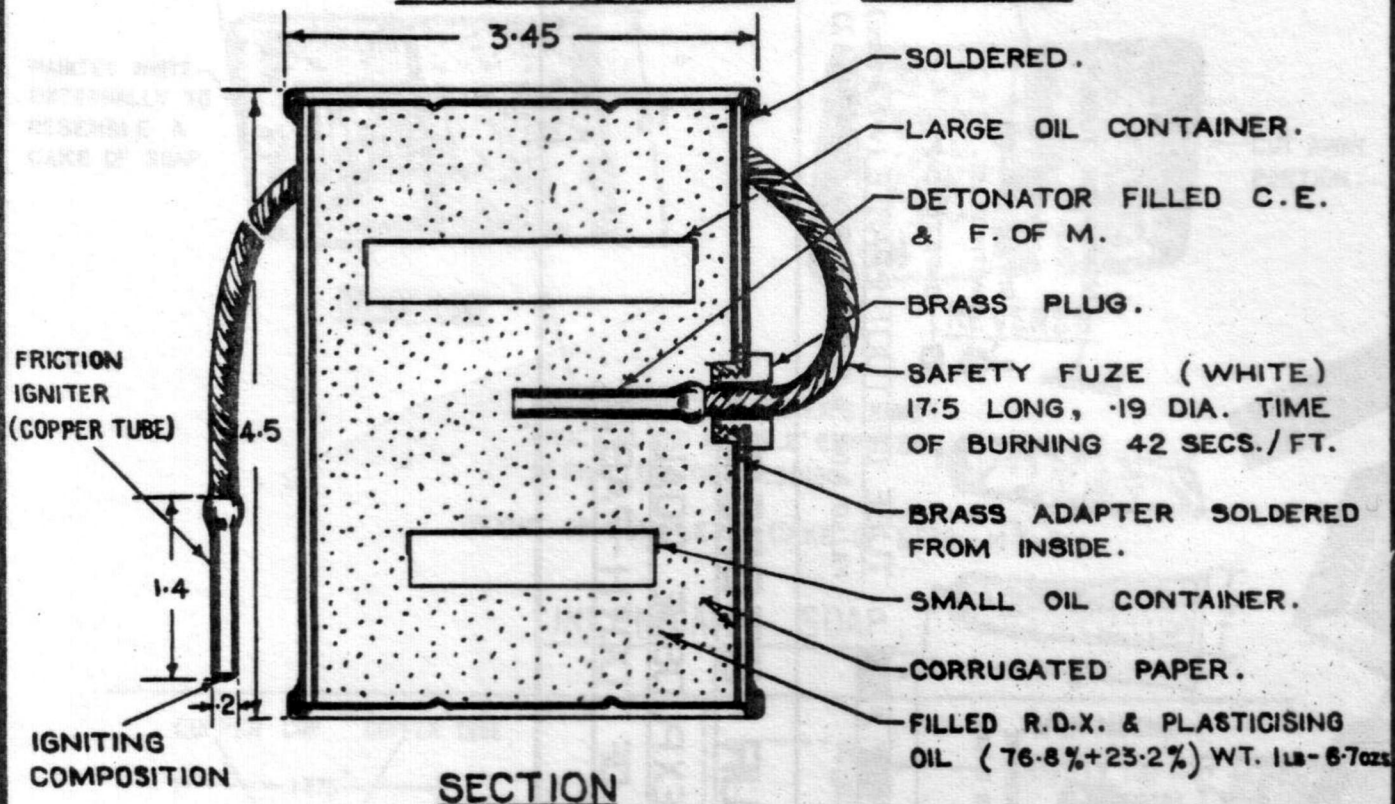
HANDLING AND TRANSPORT

(Of captured ammunition by Ordnance)

10. These stores can be handled in the same way as British demolition charges. If the charge has been already prepared, the igniter/detonator should be removed before transporting. Rather special care should be taken with the explosive "coal" as this has its means of ignition permanently assembled.

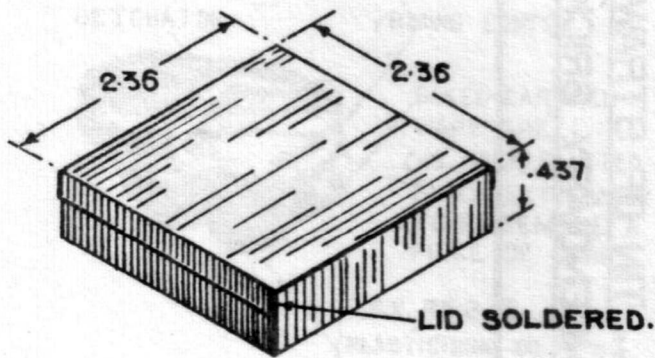
Store.	Explosion/Fire Risk	Group Classification.	Classification for Sea transport.
Strawberries ...	1 lb. 7 ozs.	VII Category Z	OAS
Toothpaste ...	4 ozs.	Do.	Do.
Brick ...	4 lbs. 3 ozs.	XI Category W	Do.
Soap ...	14½ ozs.	Do.	Do.
Coal ...	2 ozs.	X Category Z	MSD
Saboteur equipment ...	24 lbs.	VII Category Z	OAS

WT. OF FILLED TIN :- 1 LB - 13 ozs.



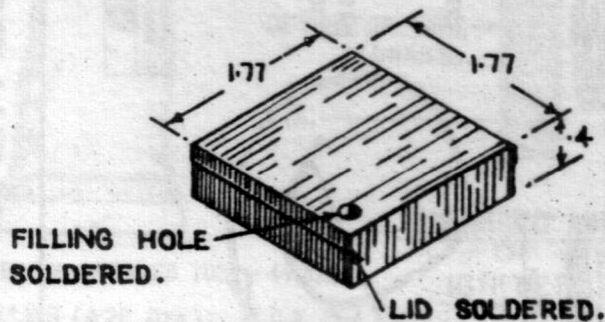
TIN OF STRAWBERRIES.

WT. (FILLED) :- 1.37 ozs.



TINNED PLATE OIL CONTAINER.
(LARGE)

WT. (FILLED) :- .75 oz.



TINNED PLATE OIL CONTAINER.
(SMALL)

JAPANESE
TIN OF STRAWBERRIES.

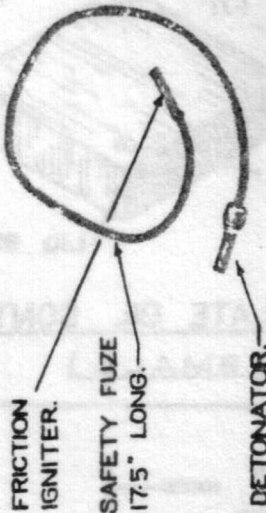
DIMENSIONS IN INCHES.

C.I.A.M.S/1170
KIRKEE, SEPT. '45

RESTRICTED.

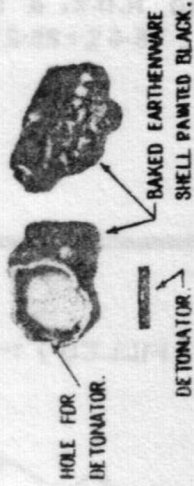
TIN OF STRAWBERRIES (WT. 11.5 - 13 ozs.)
FILLED R.D.X. + PLASTICISING OIL (76.8/23.2%)
& 2 OIL CONTAINERS

BRASS ADAPTER
SOLDERED FROM INSIDE.



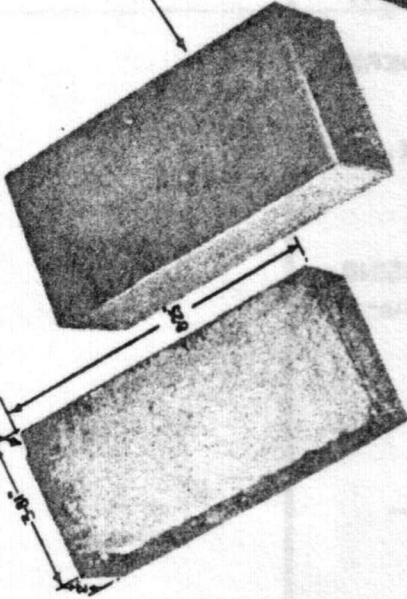
EXPLOSIVE GOAL

FILLED R.D.X. & PLASTICISING OIL (85.2/14.8%)



INCENDIARY BRICK (WT. 4 LBS.-3.875.)

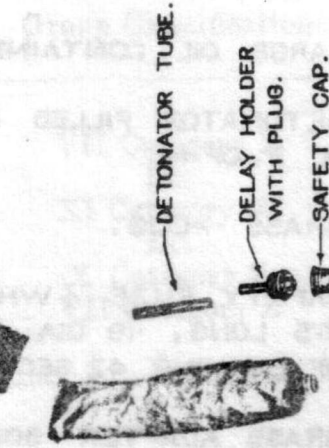
INCENDIARY COMPOSITION
PAINTED BRICK-RED.



PLASTIC CONTAINER FOR
INCENDIARY BRICK.

BODY.

LID.

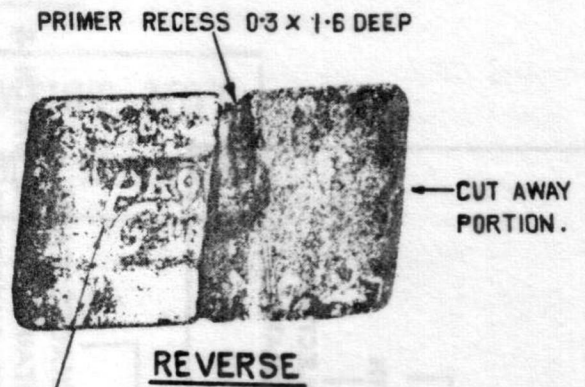
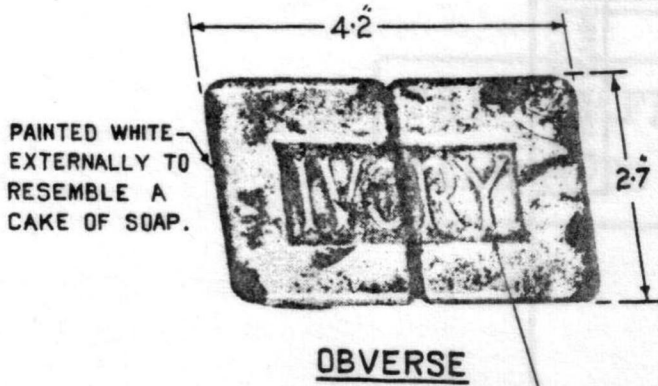


DELAY HOLDER
WITH PLUG.

SAFETY CAP.

TUBE OF TOOTH-PASTE (WT. 4-7 ozs.)
FILLED R.D.X. & PLASTICISING OIL (81.4/18.6%)

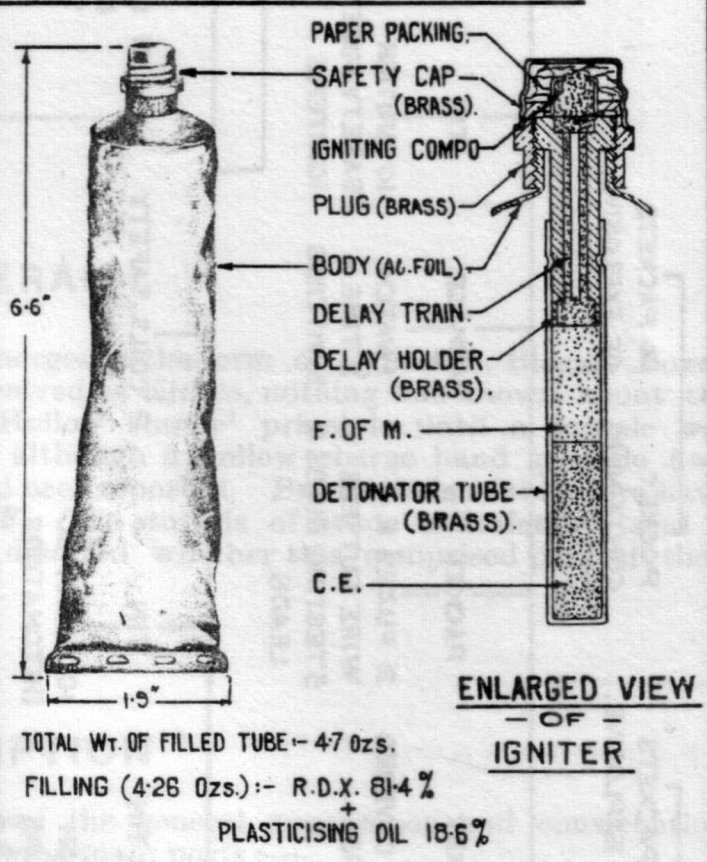
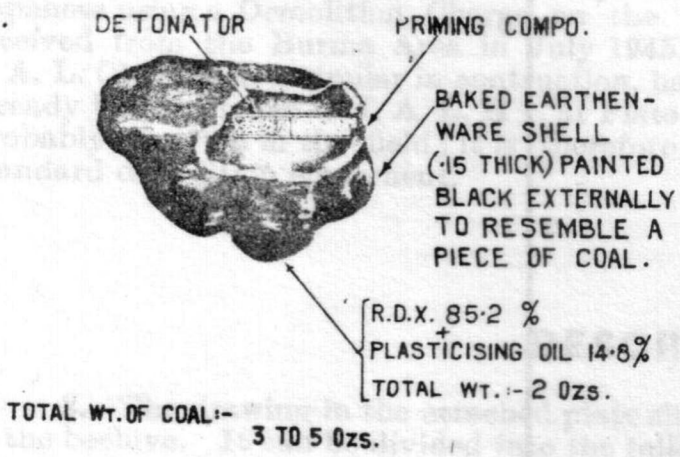
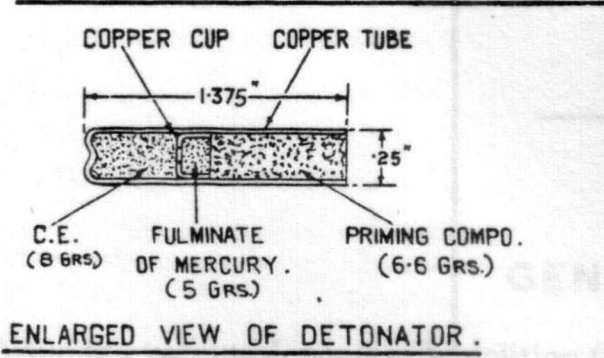
JAPANESE SABOTEUR STORES
TIN OF STRAWBERRIES ; EXPLOSIVE GOAL ;
INCENDIARY BRICK ; TUBE OF TOOTH-PASTE .



BRAND 'IVORY' AND MAKER'S NAME 'PROCTOR AND GAMBLE' EMBOSSED IN SHALLOW DEPRESSION.

WEIGHT OF COMPLETE CAKE OF SOAP:- 14 ³/₄ Ozs.

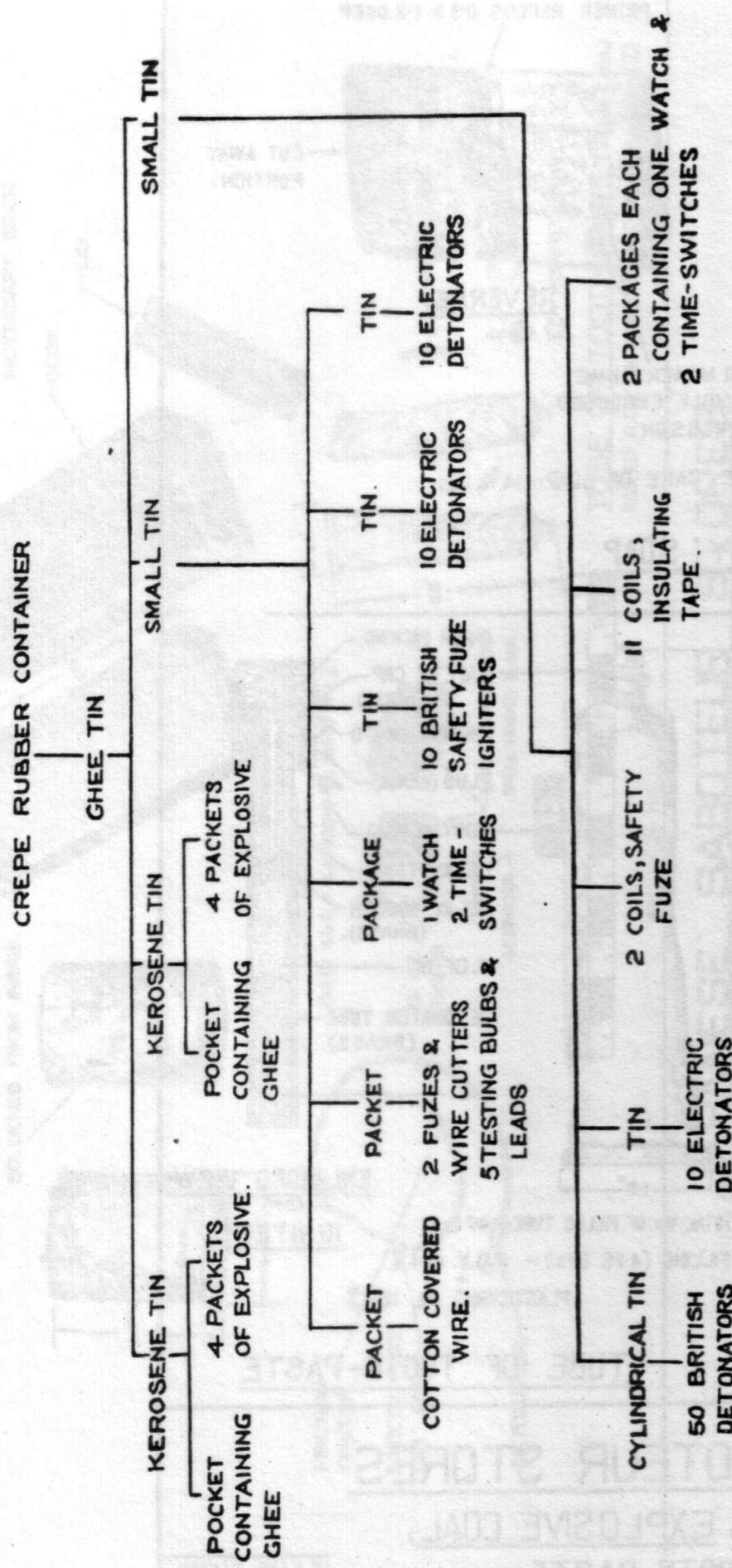
INCENDIARY SOAP.



TUBE OF TOOTH-PASTE

JAPANESE SABOTEUR STORES
INCENDIARY SOAP, EXPLOSIVE COAL,
TUBE OF TOOTH-PASTE.

SABOTEUR EQUIPMENT.
CHART SHOWING ITEMS PACKED
IN RUBBER CONTAINER.



C.I. AMN. S/1186
KIRKEE. AUG. '45

G.P.O. FORM 1745

Restricted

THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS

D. OF A. (INDIA)

JAPANESE AMMUNITION LEAFLETS

SECTION H
LEAFLET H 5

CHARGE, DEMOLITION, 2 Kg., BEEHIVE.

GENERAL

Although various Japanese Demolition Charges in the form of Cylinders, Blocks, Boxed Charges, Improvised Charges etc. have been received at Kirkee, nothing was known about the Japanese using a Demolition Charge on the 'Hollow charge' principle until a sample was received from the Burma Area in July 1945, although a hollow charge hand grenade (see J. A. L. C1), which is similar in construction, had been reported. Brief details of this store have already been included in J. A. L. H 1, at Plate F. The store is of crude manufacture and is probably made up in the field; it is therefore doubted whether this comprised part of their standard demolition equipment.

DESCRIPTION

2. The drawing in the attached plate shows the general appearance and construction of the beehive. It can be divided into the following main parts:—

- (i) Body, Cone and Filling.
- (ii) Wooden Base.
- (iii) Fuze (used as an exploder).

BODY, CONE AND FILLING.

3. The body is of tinned plate and is shaped into the form of a cone; it is fitted to the wooden base by four nails which are fixed at 90 degrees intervals. The top is turned in and has a hole in the centre to allow the fuze to be housed in a recess in the filling. A copper ring is soldered at the top of the body to take a wire which retains the fuze in position.

The cone is made of cast iron, .2 inches thick, and has a 32 degree angle.

The filling consisted of 2 lbs. 5 ozs. of T. N. T. The cavity formed in the top filling of the cast T. N. T. accepted the fuze. Details of method of filling will be clear from the drawing. The filling, shown as 'Loose T. N. T.' in the drawing, consisted of powdered, as well as small pieces, of T. N. T., it would seem that crushed cast T. N. T. recovered from other ammunition had been used.

WOODEN BASE.

4. This is an ordinary wooden block with a 2.7 inch diameter hole in the centre and is used to give the required stand off distance.

FUZE.

5. This is the Japanese D. A. fuze used in Naval 25 mm. Rimless cartridges described fully in J. A. L. B 21 at paragraph 8, but it had the following parts missing when received:—

- (i) Brass nose.
- (ii) Striker.
- (iii) Centrifugal bolt and detent.
- (iv) Shutter.

ACTION.

6. The modified 25 mm. fuze is presumably used as an exploder but it is not clear how it is itself initiated, unless some other attachment to take a detonator and fuze is also used.

PACKING

7. The method of packing of this store is not known.

IDENTIFICATION

8. There were no markings of any type either on the base or the body. The fuze body was however stamped: 7 A N D.

SUMMARY OF DATA.

Length overall	..	..	..	9.4 ins.
Max. dia.	..	..	..	5.88 ins.
Weight complete, with fuze	..	..	..	4 lbs. 7 ozs.
Weight of H.E. filling	..	..	..	2 lbs. 5 ozs.
Weight of fuze	..	..	..	1.2 ozs.
Weight of cone	..	..	..	1 lb. 1 oz.
Weight of wooden base	..	..	..	13½ ozs.
Weight of tinned plate body	..	..	..	2 ozs.

HANDLING AND TRANSPORT

(Of captured ammunition by Ordnance)

9. This store should be treated for handling and transport in the same way as the corresponding British beehives, however, as it is not so robust as the British counterparts, rough handling should be avoided.

EXPLOSION/FIRE RISK	.. 2½ lbs.
GROUP CLASSIFICATION	.. VII, Z.
CLASSIFICATION FOR SEA TRANSPORT	.. O. A. S.

**THIS LEAFLET MUST NOT
FALL INTO ENEMY HANDS**

D. OF A. (INDIA)
JAPANESE AMMUNITION LEAFLETS

SECTION H
LEAFLET H 8

DEMOLITION CLOCKS

GENERAL

Although various reports indicate the use by the Japanese of at least five different types of demolition clocks none has been received at Kirkee for examination; they have probably not been encountered in the Burma theatre. Consequently the information given in this Leaflet is based solely on various data collected from Australian and American sources.

2. The five known types of clock are :—

- (i) The 24 hour demolition clock.
- (ii) The 7 day " "
- (iii) The 7½ day " "
- (iv) The 8 day " "
- (v) The 10½ day " "

In addition to the above a 24 Hour Time Firing Mechanism has been reported and this may be considered to be a variation of the 24 Hour Demolition Clock.

DESCRIPTION

THE 24 HOUR DEMOLITION CLOCK

3. Plate A shows the top view of the clock. The clock is graduated up to 24 hours in one-hour intervals. It is spring-driven and its dial revolves clockwise. The dial carries two bridging contact arms which close a circuit on completion of the set run. Dimensions and other details of the mechanism are not available.

THE 24 HOUR TIME FIRING MECHANISM

4. Plate B shows: (a) an external view of the mechanism, and (b) the principal parts of the mechanism together with a view of the box in which it is carried. It is constructed of plated steel and is $4\frac{3}{4}$ " long, $4\frac{1}{2}$ " wide and $2\frac{3}{4}$ " thick.

5. The principal parts of the mechanism are the clock-work, the striker, the retainer arm, the release arm, the safety arm and the time-setting disc. The striker is cocked by turning the cocking gear which engages in teeth on the striker. One end of the retainer arm engages the striker and holds it in the cocked position while the other end bears against the time-setting disc. The release arm prevents the clock-work from operating until the safety arm is released.

6. The desired time is set and the clock-work started by disengaging the release arm from the safety arm. After the set time has elapsed the slot of the time-setting disc comes opposite the retainer arm, allowing this arm to pivot inward thus releasing the striker.

7. The delay can be varied up to 24 hours on a time-setting scale on the face of the mechanism. A key is provided for setting the time and cocking the striker. The mechanism and the key are issued packed in a wooden box $6\frac{1}{2}$ " long, $5\frac{3}{4}$ " wide and $2\frac{3}{8}$ " high.

The clock-work can be stopped by engaging the release arm under the safety arm.

THE 7 DAY DEMOLITION CLOCK

8. The Japanese designation of this clock is "the Demolition Clock, Type '92, Large" and the external appearance and some details are given at Plate C. The clock is cylindrical in shape, about $4\frac{1}{2}$ " to $5\frac{1}{2}$ " high and $2\frac{1}{2}$ " to $3\frac{1}{2}$ " in diameter. It consists of a main body containing the mechanism with a lid fitted on top and an adjustable base at the bottom. The main body has an opening showing the scale of days from 0 to 7, and two setting arrows, one horizontal and one vertical. There is a graduated scale of hours at the junction of the base. The figures indicate the number of days and hours remaining for the clock to function.

Diagram A in Plate C shows the view of the mechanism from above with the lid removed. Diagram B shows the base of the clock. On the base are two terminals for electrical connection and a cap connection with a safety fuze groove for mechanical firing.

9. The details available are insufficient to allow a description of the mode of action nor of the method of use, but it is considered that the information given is sufficient to allow identification.

To make safe remove the cap and release the safety pin stop by pushing it towards the centre. Turn the revolving disc anticlockwise until the safety pin block is engaged by the recess in the disc. The clock is now safe even though it may continue to tick. Do not turn the upper part of body relative to the lower part as would be done in setting the clock.

THE 7½ DAY DEMOLITION CLOCK

10. Plate D gives a view of this clock which is housed with the igniter assembly in a brass case 2 11/16" long, 2 3/8" wide and 7/8" thick. The edges of one end of the case are bevelled and both sides of the case are covered by thick celluloid plates.

11. The clock is a well made, 8-day, jewelled mechanism driven by a main-spring and has a winding stem protruding through the back cover plate. The face of the clock is a disc graduated from 0 to 7 days 12 hours in one hour intervals. The figures 1 to 7 and, after each figure, the Japanese character for day are engraved on the disc. An index line for setting the delay is engraved on the case and on the celluloid face. The edge of the disc has a continuous raised lip in which a slot is cut. The setting arm engages a knurled shoulder on the disc, which can therefore be rotated in order to set the clock.

12. The igniter assembly consists of striker, striker retainer, retainer arm and release arm. The striker has a groove around the rear end and the striker retainer has a slot which engages this groove. The retainer arm rests against the release arm which has a small pin protruding from the lower side. This pin bears against the lip of the disc. When the set time has elapsed the slot in the lip of the disc allows the pin to pass through. The release arm moves out freeing the retainer arm. The striker retainer turns freeing the striker, and the striker is driven, under pressure of its spring, against the detonator (not shown).

THE 8 DAY DEMOLITION CLOCK

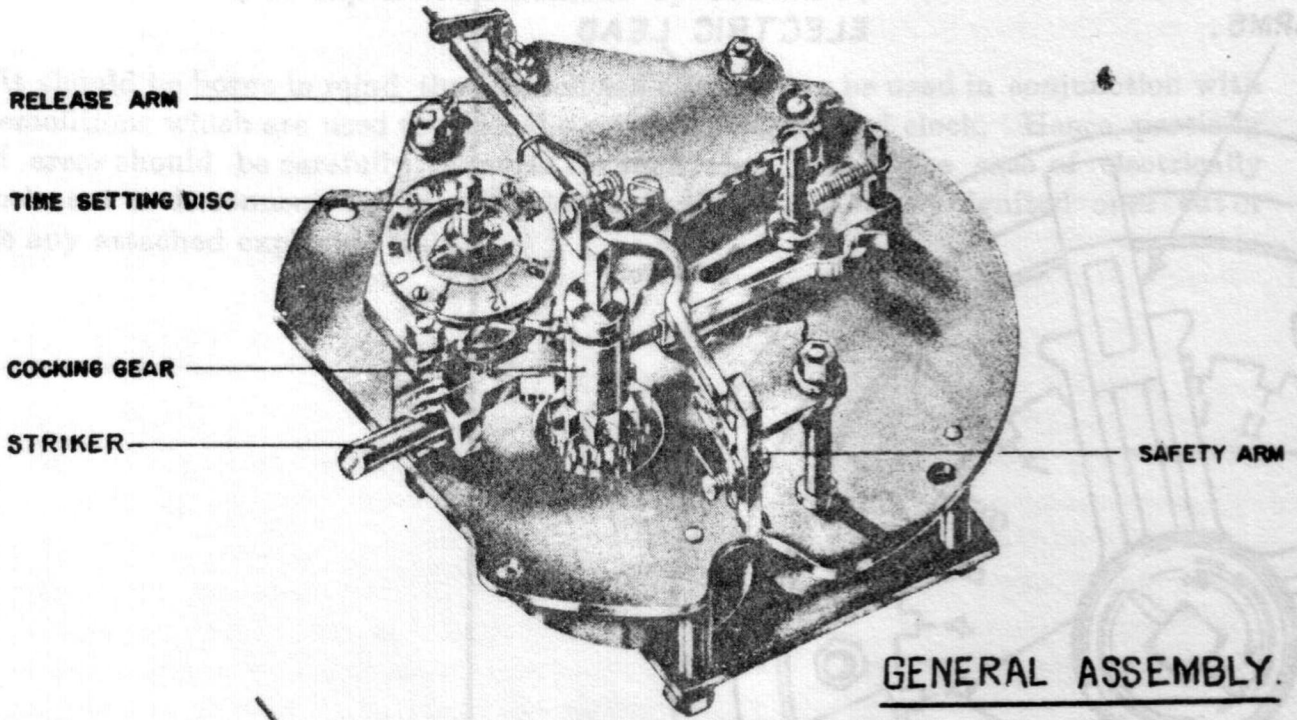
13. The Japanese designation of this clock is "Demolition Clock, Type '92". This is similar in construction and all other details to the 7 day clock (Type '92, Large) described above; see Plate C. The only difference between the two types of clocks seems to be in the overall dimensions, the 8 day clock being 3 1/4" long and 2 11/16" in diameter. Again, unlike in the 7 Day Clock, the figures denoting the number of days and hours indicate the time for which the clock was set and not the time remaining for the clock to function.

Like the 7 Day Clock this can be set for electrical or mechanical ignition. The clock may be set to any time up to eight days.

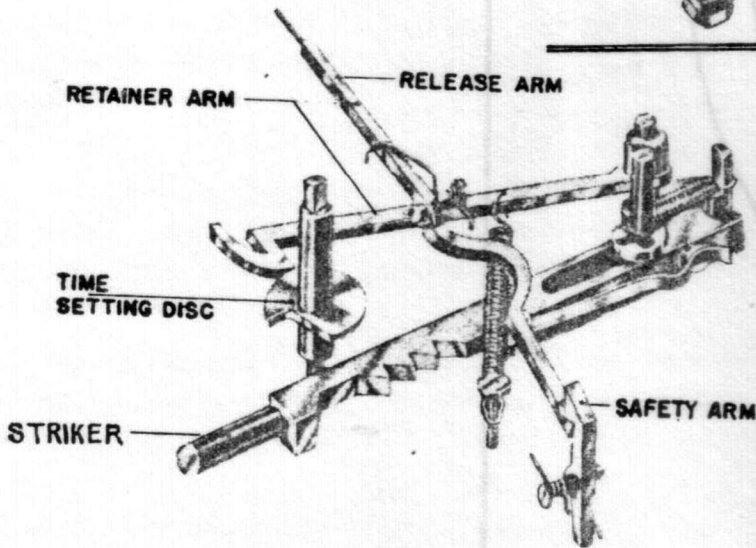
THE 10½ DAY DEMOLITION CLOCK

14. The Japanese designation is "Type '99 Long Delay Clock". Full details of the clock are not available, consequently it has not been possible to include a sketch. It is electrically wound and spring-driven. The clock-work runs off approximately every 4 minutes 45 seconds closing a solenoid circuit which rewinds the spring. The dial is graduated from 0 to 10 days 12 hours. Setting is possible up to 10½ days in two hour intervals. Though no battery was recovered along with the clock it is presumed that a six volt battery is used. The dimensions of the battery compartment are 4 1/8" x 1 1/2" x 3 1/4".

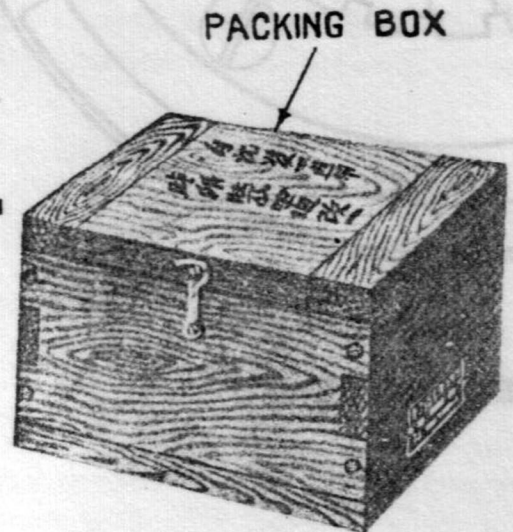
HANDLING AND TRANSPORT
(Of captured equipment by Unit)



GENERAL ASSEMBLY.



PRINCIPAL PARTS



JAPANESE
24 HOUR TIME FIRING MECHANISM.

C.I. AMN.S/1466
KIRKEE, MAY '46

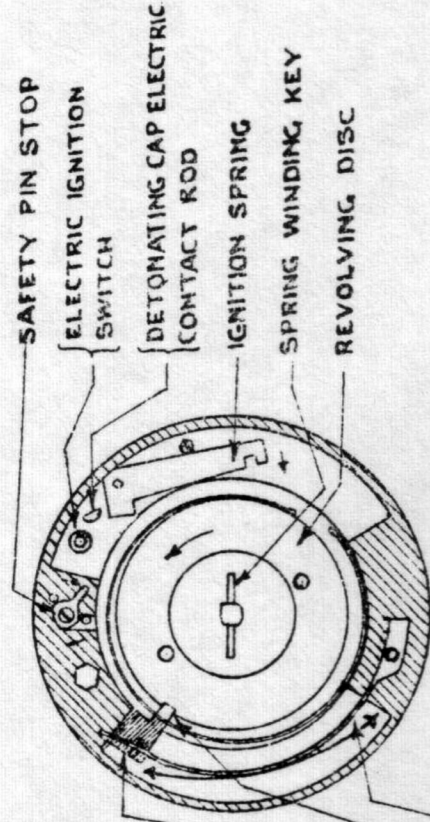


DIAGRAM "A"
PLAN FROM ABOVE
(WITH LID REMOVED)

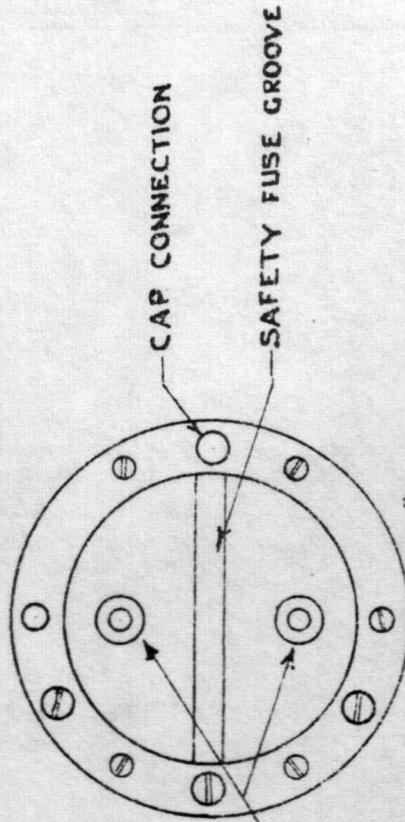
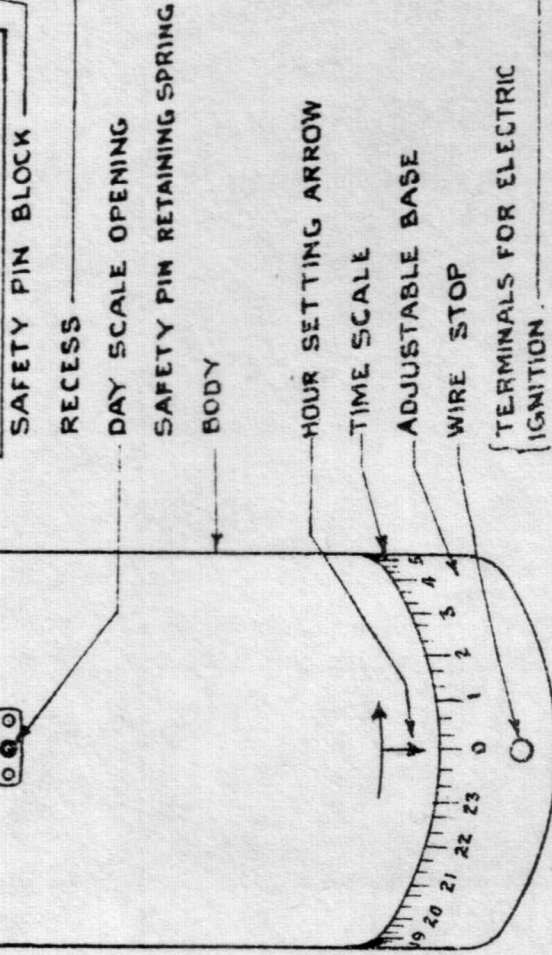


DIAGRAM "B"
BASE OF CLOCK.

LABEL ON LID:-
 丸 = IC
 大 時 辰 火 太 太
 8110 1473 B 77
 * I 金
 906



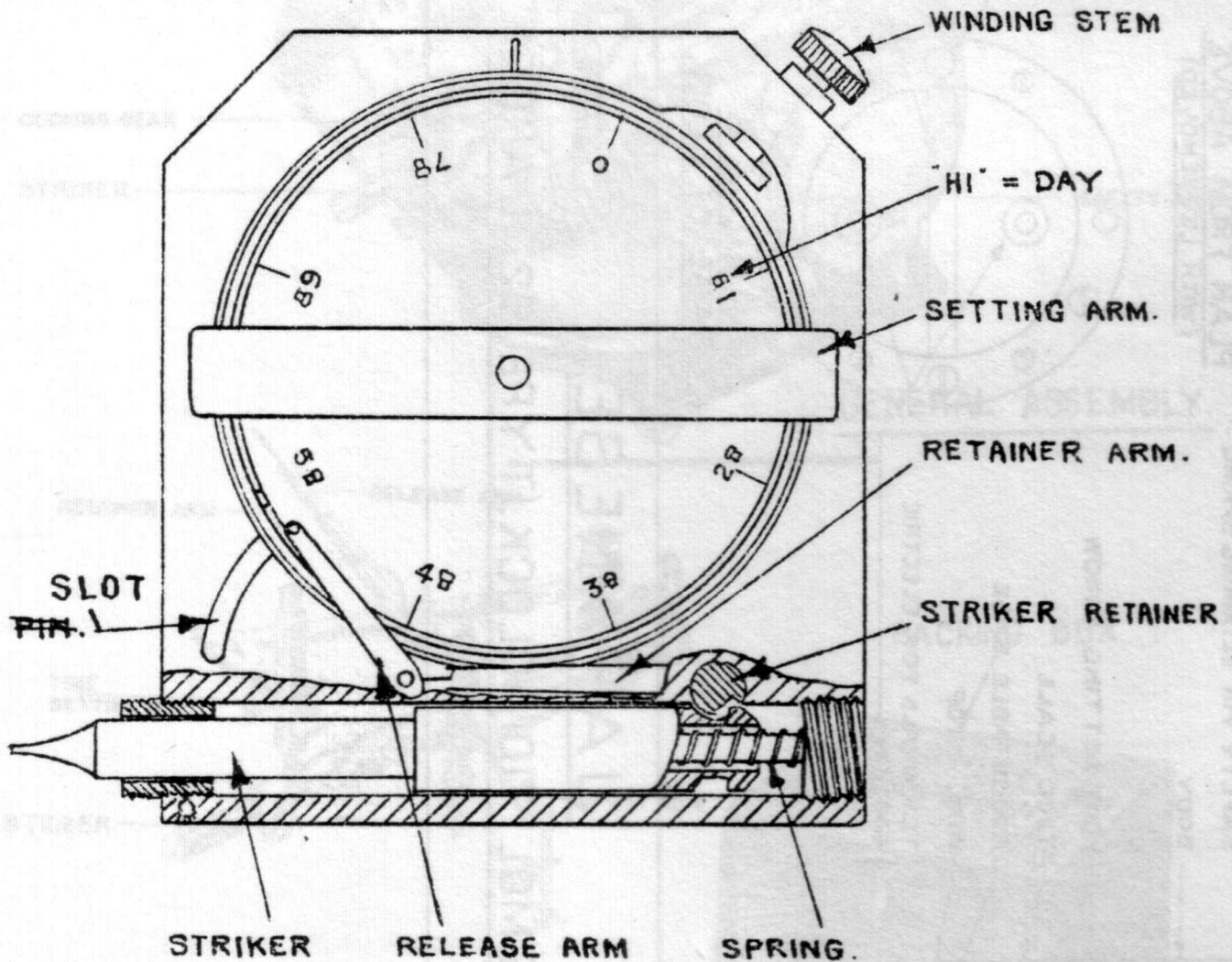
GENERAL VIEW.

JAPANESE

7 DAY DEMOLITION CLOCK, (TYPE '92, LARGE).

C.I. AMN S/1437
KIRKEE, MARCH 46.

DIMENSIONS :- $2\frac{11}{16}$ x $2\frac{3}{8}$ x $7\frac{7}{8}$



JAPANESE
7 1/2 DAY DEMOLITION CLOCK.

C.I. AMN. S/1462
KIRKEE, MAY '46