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JAPANESE AMMUNITION

C.I. AMN. TECHNICAL REPORT

SUPPLEMENT "B"

TO

TECHNICAL REPORT No. 29

AMMUNITION

FOR

75 M.M. TYPE '88 FIELD/A. A. GUN.

- (a) PACKING
 - (b) A.P./H.E. SHELL
 - (c) AIR-BURST PRACTICE SHELL
 - (d) ADDITIONAL DETAILS OF GAINES
 - (e) AMENDMENTS.
-

NOTE—This Supplement should be inserted in Binder behind Supplement A.

SUPPLEMENT "B" OF AUGUST 1945
TO
C.I. AMN. TECHNICAL REPORT NO.29

(This Supplement should be inserted behind Supplement "A")

AMMUNITION
FOR
75-mm. TYPE '88 FIELD/A.A. GUN

- (a) METHOD OF PACKING
- (b) A.P./H.E. SHELL
- (c) AIR-BURST PRACTICE SHELL
- (d) ADDITIONAL DETAILS OF GAIJIN UNDER TYPE '89 TIME FUZE
- (e) AMENDMENTS

(a) METHOD OF PACKING

Since issuing Technical Report No.29 of January 1945, packing details for ammunition used in the 75-mm. Type '88 Field/A.A. Gun have become available. Two rounds plugged with two fuzes in tinned plate containers, are packed in a roughly made packing case of soft white wood. All details of the method of packing, stencilling on the box etc. are given in Plate A. Details of packing of the fuze will be clear from Plate H of Technical Report No.29.

2. Internal Dimensions

Length	...	34 3/4-ins.
Breadth	...	10 5/8-ins.
Height	...	4 3/4-ins.

Stowage Dimensions

Length	...	36 1/2-ins.
Breadth	...	12-ins.
Height	...	6 1/4-ins.
Weight of box filled	...	69-lbs. 11-ozs.
Weight of box empty	...	30-lbs.

(b) A.P./H.E. SHELL

3. In para. 1 of Technical Report No.29 it was stated that since the muzzle velocity of the Type '88 Gun was 2360-f.s. it should have a very effective role against armour. Although no A.P./H.E. rounds have so far been received at Kirkee, a report has been received of the use of A.P./H.E. rounds in this gun in the Rangoon area. This report, which was issued by the Director of Military Intelligence, General Headquarters (India), is repeated below:-

"The cartridge is identical with that for the H.E./A.A. round. In the specimen examined the propellant was of the N.C. strip type 13 3/8-ins. x 5/8-in. x 1/16-in. and weighed 3-lbs. 2-ozs.

"From an external examination, both shell and fuze are identical with that used with the Type '94 Mountain Gun.

"It is of interest to note that while the H.E./A.A. shell has two driving bands, this A.P./H.E. shell has a single driving band 1-cm. in width, which appears inadequate for a gun of some 2360-f.s.m.v. On the other hand the A.P./H.E. shell for the Type '90 Field Gun with a slightly lower muzzle velocity has two driving bands each approximately 1-cm. in width. It is believed that this round has been made up at a Japanese Ordnance Depot in Burma to meet operational needs. This belief is further supported by the following facts:-

(a) The junction of shell and cartridge case lacked the finish of the H.E./A.A. round. The crimping tended towards unevenness. Some shell were slightly loose but not sufficiently so as to be detached by hand. Some were not properly seated, there being a gap of approximately 1/16-in. between the driving band and cartridge case mouth.

(b) In the case of Q.F. fixed cartridge the date of filling refers to the date of filling with propellant and attachment of the shell. The filling dates on the cartridge in question were either January 1941 or March 1943 whereas the filling date of the shell was October 1943.

(c) The boxes in which the rounds were packed appeared to be designed for the H.E./A.A. round plugged. They were fitted with loose packing pieces at either end to secure the A.P./H.E. rounds. Markings on the side read "88 7 Anti-aircraft 90 Pointed" meaning Type '88 7-cm. Anti-aircraft Gun Type '90 pointed shell, the Type '90 shell being, of course, the H.E. shell."

4. NOTE BY C.I. AMN. In the absence of a properly designed A.P. round for this gun, or in the event of such rounds being in short supply, it is to be expected that A.P. rounds would be made up locally. A.P./H.E. shell can readily be obtained from other 75-mm. equipments, e.g. Type '94 Mountain Gun, Type Meiji 38 Series of Field Guns, etc. Breakdown presents little difficulty and reconing is not essential although desirable for rapid fire.

(c) AIR-BURST PRACTICE SHELL

GENERAL

5. A few type of round for the 75-mm. Type '88 Field/A.A. Gun which was captured recently in Burma was received here in July for critical examination. This shell has 16 holes in the body near the nose, see Plate B and as it appears to be intended to give an air-burst for practice or ranging purposes it has been given the nomenclature "Air-Burst Practice Shell" in this Report.

6. This is the first instance of this type of shell for any equipment being found in Burma and so far as is known, none has been found in other theatres.

DESCRIPTION

7. The round is practically identical with the normal H.E./A.A. round except for the following:-

- (a) Method of filling of the shell,
- (b) Slight difference in the method of positioning the propellant charge in the cartridge case.

The latter is thought to be a small manufacturing deviation and has nothing to do with the functioning of the round. Details of the filling are given in Plate C. It will be seen that the normal H.E. shell is used and filled for about half of its length with an inert filling on top of which is a tinned plate container containing about 4-ozs. of gunpowder. A small perforation in the lid of the container is covered by a piece of tinfoil. Holding the container in position in the shell is a perforated steel disc on top of which is fitted the normal Time fuze, Type '89 (4 time rings).

8. The rounds recovered were plugged with plastic plugs and one shell was not fitted with a centring band. In one instance the case was stencilled in purple ink with Japanese characters indicating "88 Type 7-cm. Anti-aircraft Special". The fuze hole is designed to take the usual Type '89 Time fuze (four time rings).

ACTION

9. The fuze is set and the round fired in the usual way. At the end of the set time the flash from the fuze magazine ignites the gunpowder in the burster container to cause a flash and a puff of smoke. This is facilitated by the 16 holes in the nose of the shell.

CHEMICAL ANALYSIS

(Chief Inspector of Military Explosives, Kirkee)

10. Shell only

Inert filling

... Sand, iron oxide and wax.

Tinned Plate Burster Container

Filling

... Gunpowder, size G20

Composition:-

Sulphur	.. 11%
Potassium	
nitrate	.. 73.1%
Charcoal	.. 15.9%

SUMMARY OF DATA

11. Shell only

Length (to mouth of shell)	... 10.1-ins.
Diameter over body	... 2.9-ins.
Diameter over centring band	... 2.93-ins.
Diameter over driving band	... 3.03-ins.
Weight of inert filling	... 15-ozs.

Weight of shell fuze	... 14-lbs.
Weight of filled tinned plate burster container	... 5.24-ozs.
Weight of filling in tinned plate burster container	... 3.87-ozs.
Length of tinned plate burster container	... 3.25-ins.
Maximum diameter of burster container	... 1.68-ins.

(d) ADDITIONAL DETAILS OF GAIN UNDER TYPE '89 TIME FUZE.

12. Trials have been carried out to determine what weight is required to cause the set-back ferrule to ride over the retaining ferrule and lock itself to the latter. Three ferrules were tested and it was found that the average dead weight required was 88-lbs. to 99-lbs. Average weight of set-back ferrule is .79-oz.

In a number of gaines examined it was found that C.E. is also used as a stemming in the magazine holder (10) of the gain - see Plate F of the Parent Report.

(e) A M E N D M E N T S

13. Reference Technical Report No.29. The following correction should be made:-

Page 7, under Propellant, against "In cartridge in Plate D"
and

Page 9, sub-heading Propellant, under "Plate D"

For Size 13 3/8" x 5/8" x 3/16"

Read Size 13 3/8" x 5/8" x 3/64"

CHIEF INSPECTORATE OF AMMUNITION,
KIRKEE, INDIA.

FIRST ISSUE,
15th AUGUST 1945.

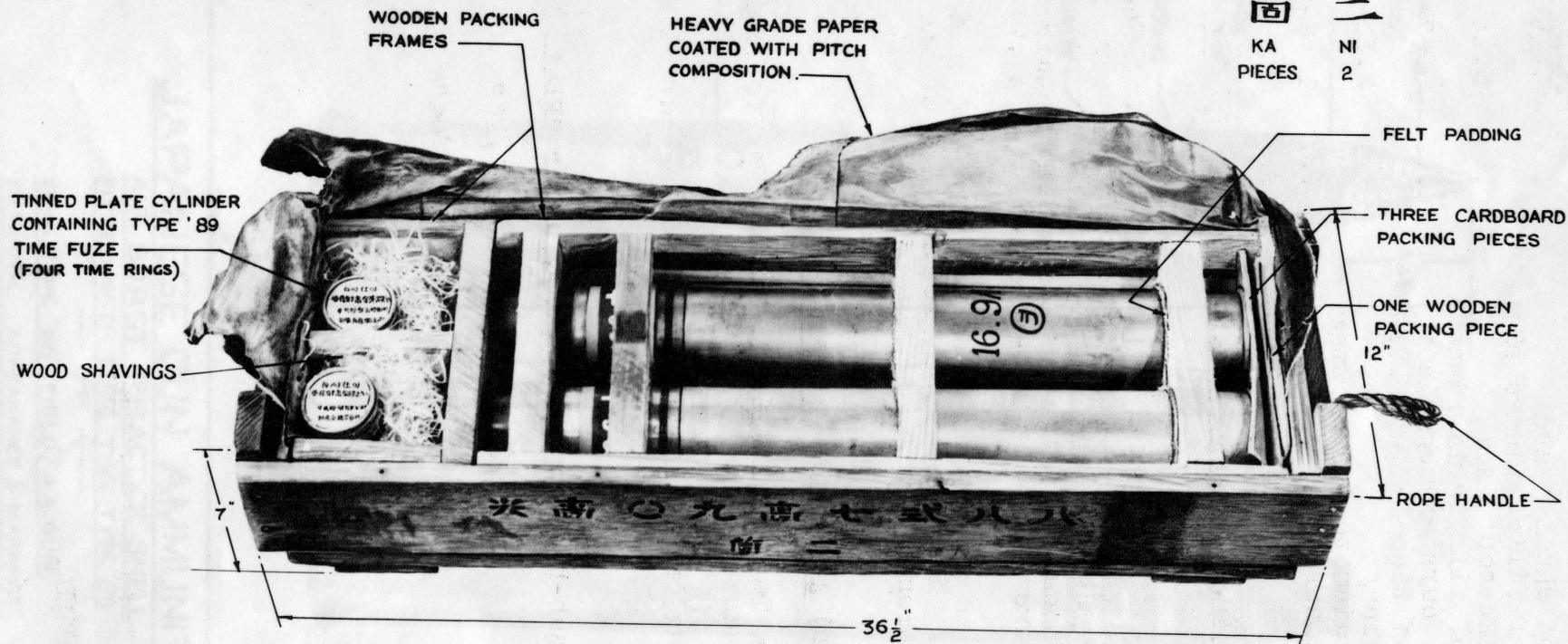
RESTRICTED.

STENCILLED MARKINGS ON BOX:-

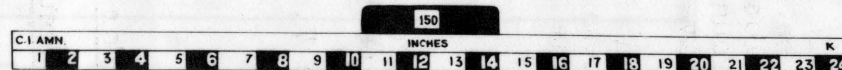
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 (SHELL) AIRCRAFT AIRCRAFT (CM.)

固 二

KA NI
 PIECES 2



WEIGHT OF FILLED
 BOX :- 70 LBS. (APPROX.)



CARTRIDGE, Q.F., 75 MM., WITH H.E. A.A. SHELL OR AIRBURST PRACTICE SHELL

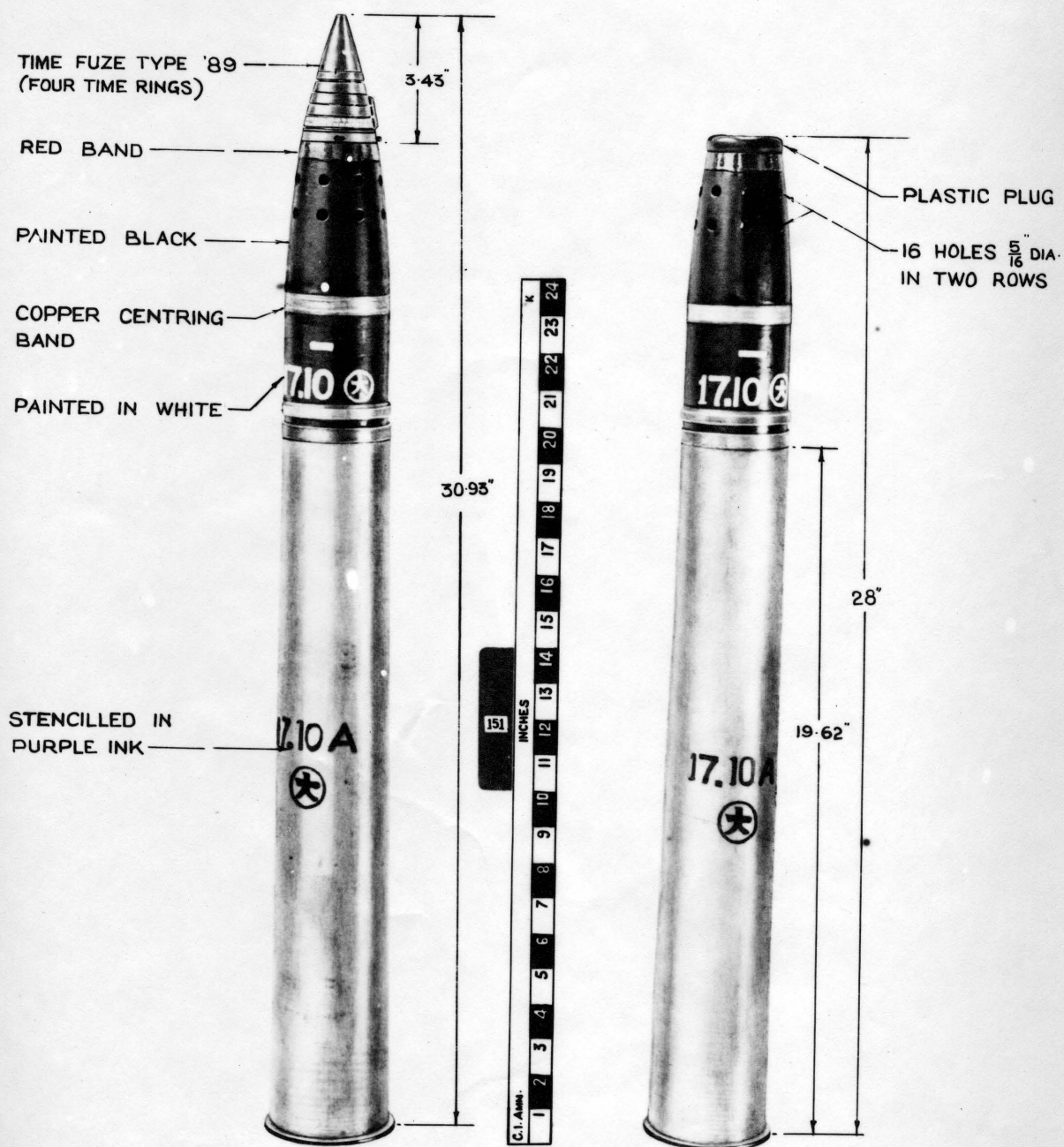
for

75 MM. TYPE '88 FIELD/ A.A. GUN.

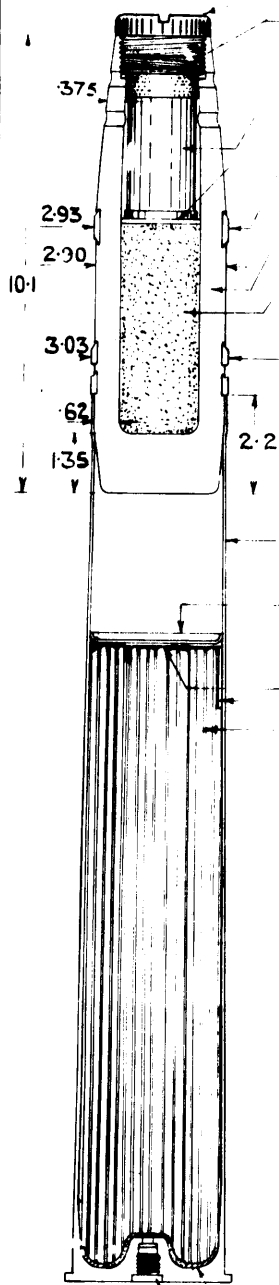
METHOD OF PACKING FOR TRANSPORT.

C.I. AMN S/1166
 KIRKEE, JULY '45

PLATE A

RESTRICTED.**JAPANESE GUN AMMUNITION****AIR BURST PRACTICE SHELL****FITTED WITH FUZE, TIME, TYPE '89****— for —****75MM. TYPE '88 FIELD/A.A. GUN.****EXTERNAL APPEARANCE & MARKINGS**

RESTRICTED



- ① PLASTIC PLUG
- ② PERFORATED STEEL DISC R.H.T.
- ③ TINNED PLATE BURSTER CONTAINER.
- ④ WAX LAYER 1/8 THICK
- ⑤ COPPER, CENTRING BAND.
16 HOLES 5/16 DIA. IN 2 ROWS.
- ⑥ BODY, PAINTED BLACK.

SAND, IRON OXIDE & WAX. 15 ozs.

PAINTED MARKINGS IN WHITE

17. 10. (X)
OCT. 42. OSAKA ARSENAL.

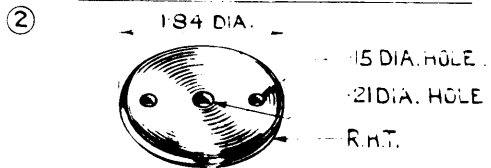
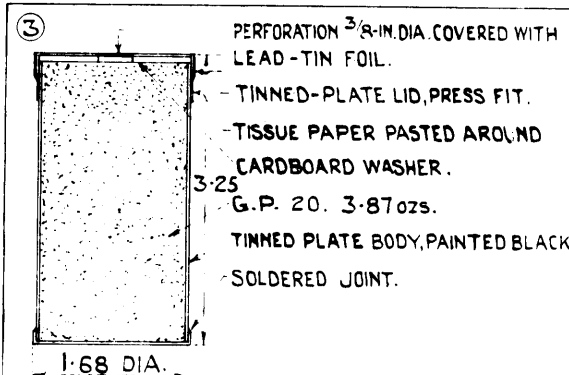
STAMPED ON REVERSE.

乃度 上 X 9 七 + 88
OSAKA INSPECTION MARK INSPECTION MARK SEPT 7. 10 SHOWA,
ARSENAL AT HIROSHIMA ARMY AT OSAKA ARSENAL 42.

- ⑦ COPPER, DRIVING BAND.
- ⑧ BRASS, CARTRIDGE CASE.
- ⑨ CARDBOARD, CLOSING CUP.
- ⑩ DECOPPERING STRIP (LEAD-TIN FOIL)
- ⑪ RECTANGULAR CARDBOARD PIECE.
- ⑫ N.C. GREENISH YELLOW STRIPS. 31.85 - 2 ozs.

STAMPED IN PURPLE INK

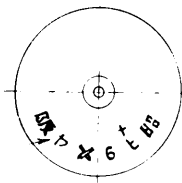
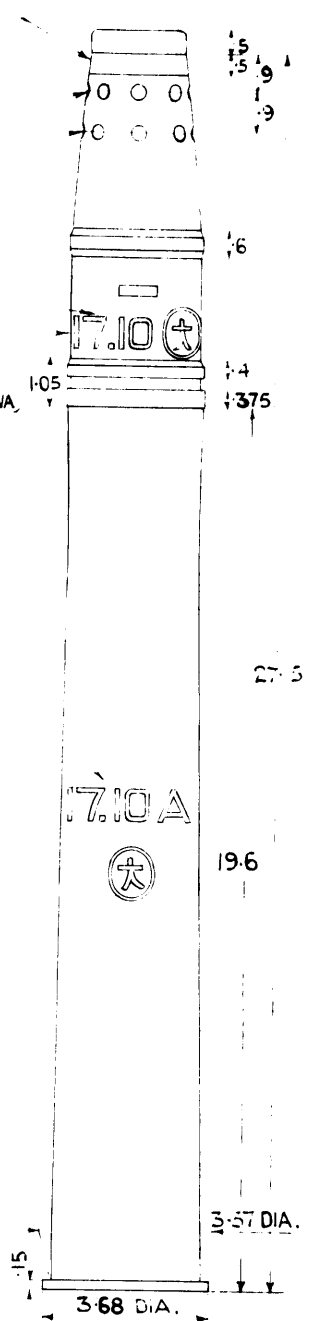
17. 10. A. (X)
OCT. 42. TYPE OF CHARGE. OSAKA ARSENAL



ENLARGED DETAILS.

STAMPED ON BASE.

乃度 上 X 6 七 + 10 88
OSAKA SECRET INSPECTION MARK JUNE 42 SHOWA,
ARSENAL AT OSAKA



PRIMER TYPE "B"
SILK IGNITER BAG, STITCHED TO
CARDBOARD CUP FILLED WITH 1/2 OZ. CR.

CARTRIDGE Q.F. 75 MM. WITH AIR-BURST PRACTICE SHELL
FOR
75 MM. TYPE '88 FIELD/A.A. GUN.

DIMENSIONS IN INCHES

C.I.A.M.N. 3/ 1165
KIRKEE JULY. 45.