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JAPANESE AMMUNITION

C.I. AMN. TECHNICAL REPORT

No. 22 (SECOND ISSUE)

(This Supersedes the *First Issue* which should now be destroyed).

PISTOL AND MACHINE CARBINE AMMUNITION.

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AUGUST 1945

JAPANESE PISTOL AND MACHINE CARBINE AMMUNITION.

G E N E R A L

Although reports have mentioned calibres of 7-mm., 7.62-mm. etc. for pistols and machine carbines only two calibres of ammunition are believed to be standard and in general use in Japanese revolvers, S.L. pistols and machine carbines. Both these cartridges have been examined at Kirkee and this report is intended to give a detailed description of them. They are :-

- (a) A semi-rimless 8-mm. Cartridge for use in S.L. (semi-automatic) pistols and machine carbines.
- (b) A 9-mm. rimmed cartridge for use in pistol revolvers.

2. Before describing these cartridges it will be useful to mention briefly the various weapons in which they are used.

3. The 8-mm. (Nambu) semi-rimless cartridge is used in:-

- (a) 8-mm. S.L. (semi-automatic) pistol, Nambu Type:-

This is named after its designer, Colonel Kijiro Nambu. Although it resembles the German Luger pistol it is of Japanese origin and the mechanism is different. This was formerly the standard pistol of the Japanese Army but was superseded by the 14th Year Type (Taisho 14) (1926). The Nambu pistol weighs about 2-lbs. and has an eight round box magazine in butt grip. The muzzle velocity is of the order of 950 f.s.

- (b) 8-mm. S.L. (semi-automatic) Pistol Type Taisho 14, (1926):-

This weapon supersedes the Nambu type pistol and although in appearance it resembles the German Luger its mechanism follows the lines of the German Mauser and the Italian Glisenti military semi-automatic pistols. It weighs about 2.2-lbs. and has an eight round box magazine in the butt grip. The muzzle velocity is the same as for the Nambu type pistol.

(c) 8-mm. S.L. (semi-automatic) Pistol, Type '94 (1934):-

This is a latest design of Japanese pistol and is much lighter than previous designs weighing only 23 3/4-ozs. with the magazine empty, and 26-ozs. with the magazine filled. The barrel is slightly shorter and for this reason the Muzzle Velocity is slightly less, of the order of 900 f.s. The box type magazine in the butt grip holds six rounds.

(d) 8-mm. Machine Carbine Type '00 or 100 (1940):-

This is a light blow back air-cooled automatic carbine, which appears to be issued in two types. One type has a one piece stock and fore-end while the other has a folding stock for use by paratroops. The latter is provided with a light bipod similar to that used on the Finnish Suomi carbine. The muzzle velocity is reported to be of the order of 1100 f.s.

4. The 9-mm. cartridge is a very old type and so far as is known is used only in the 9-mm. pistol revolver Type Meiji 26 (1893). This weapon is a copy of the old American .45 Schofield Smith & Wesson revolver and in appearance is very much like the British Service (Webley revolver) having the same type of top breakdown frame, extraction, ejection, and double action trigger mechanism. The weapon is, however, very crude compared to the British Service No.1 or No.2 pistols, and in pistols examined here there was no positive method of aligning or locking cylinder at time of firing. The weight of the revolver is 2 1/4-lbs. and the cylinder accommodates 6 rounds. The muzzle velocity is reported to be of the order of 520 f.s. but see Para 11 below.

D E S C R I P T I O N

8-mm. (Nambu) Semi-rimless Cartridge:-

5. This cartridge with its bottle-necked semi-rimless case of an unusual design is not used by any other country. It resembles generally the 7.65-mm. (.30-in.) Luger cartridge, but is considerably larger with a slightly heavier bullet. The general appearance of this cartridge and the details of construction are given in the Plate. The round follows orthodox practice, the case being made of solid drawn cartridge brass with a semi-rimless base. At the mouth the case is necked down more than is usual with cartridges of this nature, thus giving it a bottle neck appearance. The percussion cap is of brass and is a Berdan type secured in the case by pressing in. No base or other markings are used.

The bullet is full jacketed with a lead alloy core and a cupronickel envelope, the weight being 100 grains. The propellant charge consists of about 4.6 grains of small pillow-shaped N.C. grains which fill the case to capacity. These are of two distinct colours, one being ash coloured and the other pale yellow. Details of this propellant are given under Chemical Analysis below. The velocity of this cartridge is of the order of 1000 f.s. in a short barrelled pistol and up to nearly 1100 in the longer barrelled machine carbine.

9-mm. Rimmed Cartridge:-

6. This cartridge is very similar to the .38-in. Smith & Wessen revolver cartridge, but the case is approximately .1-in. longer. Its manufacture follows orthodox practice, a solid drawn case with a Berdan type percussion cap made of brass, which is secured in the case by pressing in. It has a solid lead unjacketed bullet weighing 150 grs. with a propellant charge of about 3 grains of a smaller greenish grey pillow-shaped N.C. powder, which fills the case up to about one-third capacity. The bullet is seated in the case over a mill-board cup shaped wad. The general construction of this cartridge will be clear from the Plate. No base or other markings are used.

A P P R E C I A T I O N

(Economic, manufacture and development aspects)

7. The 8-mm. cartridge is a comparatively old cartridge and the design has been based most likely on the 7.65-mm. Luger cartridge. The fat case enables a large propellant charge to be used although the weight of the bullet is only about 4 grains more than the bullet of the 7.65-mm. Luger cartridge. The velocity is, therefore, greater and the Nambu pistol was originally designed to take a shoulder stock and sighted up to about 600 yards (500 metres).

The continued use of an unjacketed pistol revolver bullet by the Japanese in this war is worthy of attention in view of the strong objections raised by the Germans and Italians to our use of unjacketed bullets in .455-in. or .380-in. cartridges.

8. It is interesting to note that this cartridge is peculiar to the Japanese and so far as is known is not used by any other Power.

rimmed

9. The 9-mm. cartridge is a very old cartridge, very similar to the .38-in. Smith & Wessen revolver cartridge, and it is thought the design is based on that cartridge. The case of the 9-mm. cartridge is, however, approximately .1-in. longer than the .38-in. S. & W. cartridge and will, therefore, not load in .38-in. S. & W. and Colt pistols which have stepped chambers for the S. & W. .38-in. cartridge. The 9-mm. cartridge will, however, load and fire in pistols chambered for the .38-in. revolver S. & W. special and the .38-in. long Colt cartridge; these cartridges being considerably longer than the 9-mm. cartridge.

Functioning and Performance.

10. Only a few 8-mm. cartridges have been received and it has not been possible, therefore, to carry out any trials to determine muzzle velocity, accuracy and functioning performance of the ammunition.

11. The 9-mm. cartridge fits the .380-in. British Service (Webley) No.2 revolver, and functioning in this weapon is normal. In this revolver the cartridge gave a mean observed velocity at 30 ft. of 517 f.s. Using the Type Meiji 26

revolver a mean observed velocity at 30 ft. of 580 f.s. was obtained. Small firing trials were carried out but with the few rounds available it was found that the Type 26 revolver throws about one foot high at 50 yards and two feet high at 20 yards. The reason for this is not clear as the sighting did not appear to have been interfered with.

CHEMICAL ANALYSIS

(Chief Inspector of Military Explosives, Kirkee)

12. Propellant Charge.

8-mm.

- | | | |
|----------------|---|--|
| Size and shape | - | Flakes coalesced at the edges and bulged at the centre, 0.05" X 0.05" X 0.04". |
| Colour | - | Two different colours noticeable:-
(i) ash coloured.
(ii) Pale yellow. |
| Composition | - | N.C. + volatile matter 95.2%
Diphenylamine 4.8% |

9-mm.

- | | | |
|----------------|---|--|
| Size and shape | - | Approximately rhombic pellets bulged out in the centre (pillow-shaped), 0.07" X 0.07" X 0.03". |
| Colour | - | Greenish grey. |
| Composition | - | N.C. + volatile matter 96%
Ether soluble mostly) 4%
Diphenylamine.) |

13. Cap Composition.

- | | | |
|-------|---|--|
| 8-mm. | - | Mercury fulminate 28.0%
Antimony sulphide 21.8%
Potassium chlorate 50.2% |
| 9-mm. | - | Mercury fulminate 29.4%
Antimony sulphide 22.0%
Potassium chlorate 48.6% |

P A C K I N G

14. 8-mm.:- No details of packing are available at present.

15. 9-mm.:- 50 rounds are packed in a cardboard carton measuring 4" X 2" X 1 1/4". A white paper label printed in black is pasted on the carton to indicate the type of revolver, nature and quantity of contents. The inspection mark is in the centre of the label. Details of this carton are shown in the Plate.

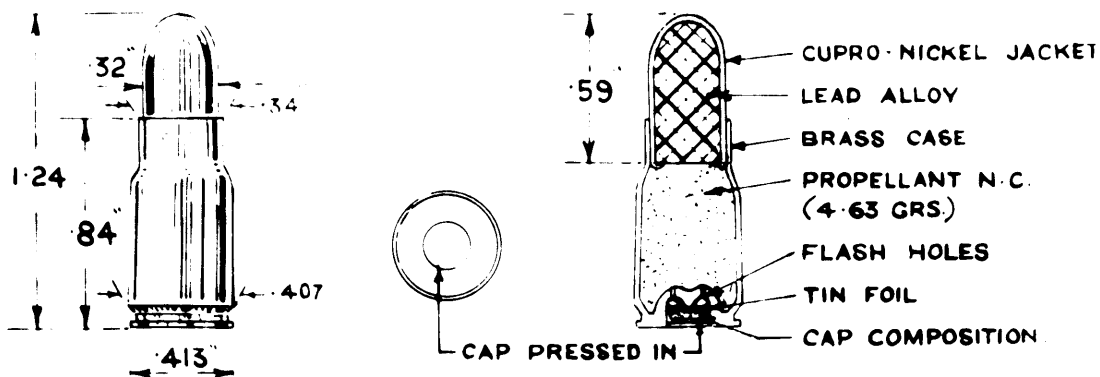
SUMMARY OF DATA

	<u>8-mm.</u>	<u>9-mm.</u>
<u>16. Complete round.</u>		
Length overall	1.24-in.	1.19-in.
Weight	159 grains.	203 grains.
<u>Bullet.</u>		
Type	Jacketed ball; lead alloy core in cupronickel, envelope.	Unjacketed ball; lead alloy bullet.
Length	0.59-ins.	0.632-ins.
Diameter	0.32-ins.	0.354-ins.
Weight	100 grains	150 grains.
<u>Cartridge Case.</u>		
Type	Semi-rimless.	Rimmed.
Material	Solid drawn brass.	Solid drawn brass.
Length	0.84-ins.	0.85-ins.
Diameter over rim.	0.413-ins.	0.43-ins.
Weight	52 grains.	50 grains.
<u>Propellant.</u>		
Charge	N.C. 4.63 grs.	N.C. 2.9 grs.
<u>Percussion Cap.</u>		
Type	Berdan.	Berdan.
Material	Brass.	Brass.
Diameter	0.179-ins.	0.19-ins.
Weight		
cap filled.	1.69-grs.	1.67-grs.
Weight of cap composi- tion.	0.12-grs.	0.5-grs.

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WT. OF COMPLETE ROUND 159 GRs.

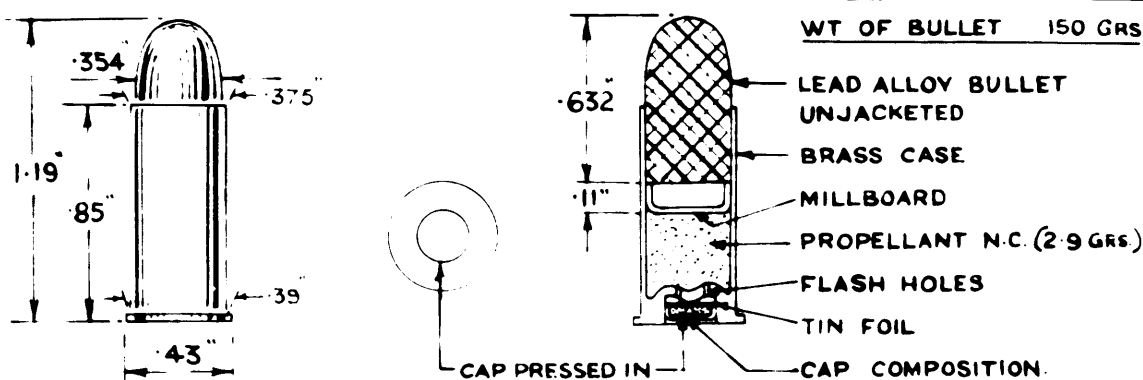
WT OF BULLET 100 GRs.



CARTRIDGE, S. A., BALL 8 MM. NAMBU SEMI-RIMLESS.

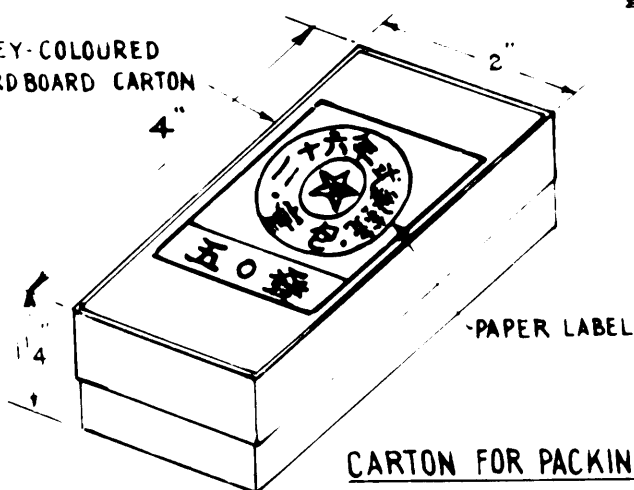
WT. OF COMPLETE ROUND 203 GRs.

WT OF BULLET 150 GRs.



CARTRIDGE, S. A., BALL, (S & W. TYPE) 9 MM. RIMMED.

GREY-COLOURED
CARDBOARD CARTON



三十九年式拳銃

26 YEAR TYPE PISTOL

實包

BALL AMMUNITION

五〇發

50 ROUNDS



INSPECTION MARK, TOKYO ARSENAL

CARTON FOR PACKING 50 ROUNDS, 9 MM. BALL CARTRIDGES.

PISTOL & MACHINE CARBINE AMMUNITION.

C.I. AMM. S/1224
KIRKEE, AUG. 45