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SECURITY

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AMMUNITION BULLETIN Nº 8.

FOR INSPECTING ORDNANCE OFFICERS.

(MARCH 1940).

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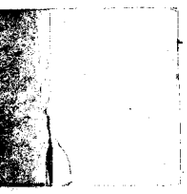


SECURITY.

AMMUNITION BULLETIN NO. 8.

for Inspecting Ordnance Officers.

Issued: March, 1940.

Issued by :-
Chief Inspector of Armaments,
Woolwich.

Contents:

DETAILS OF (F. & G.P.) WITH

DESIGNATION.	MAXIMUM DIMENSIONS IN INCHES.		SERIAL N° AND MARK OF BOX.	CONTENTS OF BOX.	BOX STORAGE DIMENSIONS OR OVERALL LENGTH WHEN TRANSIT BASE IS FITTED.		
	LENGTH	DIAMETER			LENGTH	BREADTH	DEPTH
BOMB H.E. AIRCRAFT. F.							
20, LB, MK. I	21·8	3·95	–	–	–	–	–
" MK. II	"	"	B.271.MK.I	4 BOMBS AND ONE RELEASE BAR.	25·875	11·875	13·125
" MK. III	"	"	–		–	–	–
BOMB H.E. AIRCRAFT. G.P.							
40 LB. MK. I	27·25	5·01	–	–	–	–	–
" MK. II	"	5·05	B.272.MK.I	2 BOMBS AND ONE RELEASE BAR.	31·375	14·0	9·5
" MK. III	"	"	–		–	–	–
50 LB. MK. I	30·74	5·94	B.219. MK. I	1 BOMB. TAIL UNASSEMBLED IN BOX.	30·75	10·75	11·5
120 LB. MK. I	42·35	8·1	B.220 MKS. I & II	1 BOMB. TAIL UNASSEMBLED IN BOX.	39·25	14·25	14·25
250 LB. MK. I	54·11	10·28	B. 221 MKS. I & II	1 BOMB. TAIL UNASSEMBLED IN BOX	48·25	16·0	16·25
" MK. II	"	"	"	"	"	"	"
" MK. III	"	"	–	–	–	–	–
BODY.	42·21	"	–	–	43·621	–	–
" MK. IV	53·76	10·32	–	–	–	–	–
BODY.	27·62	"	–	–	32·725	–	–
500 LB MK. I	68·72	13·0	B. 222 MKS. I & II	1 BOMB TAIL UNASSEMBLED IN BOX	61·25	19·25	20·25
" MK. II	"	"	"		"	"	"
" MK. III	"	"	–	–	–	–	–
BODY	53·88	"	–	–	55·355	–	–
" MK. IV	68·36	13·05	–	–	–	–	–
BODY	36·42	"	–	–	41·55	–	–
1000 LB. MK. I	83·35	16·3	–	–	–	–	–
BODY	52·5		–	–	57·175	–	–

NATURE OF FILLING INDICATES AS FOLLOWS :- △ FILLED T.N.T.
⊠ " R.D.X/T.N.T.
+ " AMATOL.

AIRCRAFT BOMBS
PACKAGES ETC.

TRANSIT BASE	TAIL PACKING & STOWAGE.	MEAN WEIGHT OF BOMB EMPTY LBS:	APPROX: WEIGHT OF BOMB FILLED LBS.	APPROX: WEIGHT OF BOX WITH EMPTY BOMB LBS	APPROX: WEIGHT OF BOX WITH FILLED BOMB LBS	* EXPLOSIVE QUANTITY LBS	MARKING ON BOX.	MARKING ON BOMB
–	–	14 1/2	Δ 18 3/4 ☐ 19	98	115 116	2·75 3·0	LETTER "F" STENCILLED ON HANDLE CLEAT IN 2 INCH LETTER	PAINTED YELLOW. RED RING AROUND NOSE. GREEN BAND AROUND BODY, WITH T.N.T. OR R.D.X./T.N.T. ON BAND WHEN SO FILLED. WITH R.D.X./T.N.T. FILLING THE FRACTION 60/40 IS STENCILLED ON THE BODY.
–	–	15 1/4	Δ 19 1/2	103	118	2·5	GENERAL INFORMATION OTHERWISE	
–	–	15 1/4	☐ 19 5/8	"	118 1/2	2·63		
–	–	30 1/4	Δ 38	101 1/2	117	6·0	NO SPECIAL MARKING	WHEN FILLED T.N.T., MARKING IS SAME AS FOR T.N.T. FILLING ABOVE. MK. I IS FILLED AMATOL AND THE LETTERS T.N.T. ARE THERFORE OMITTED
–	–	29 1/4	Δ 37 1/2	99 1/2	116	6·5	GENERAL INFORMATION ONLY	
–	–	29 1/4	+ 37	"	115	6·0		
–	–	36	Δ 51 + 50	75 1/2	90 1/2 89 1/2	11·75 10·75	AS ABOVE	FILLED T.N.T. OR AMATOL. MARKING AS FOR 40 LB. G.P. BOMB.
–	–	88	Δ 123 + 120	166	201 198	32 29	AS ABOVE	AS FOR 50 LB. G.P. BOMB.
–	–	180	Δ 254 + 249 1/2	260	334 330	67 62 1/2	GENERAL INFORMATION, WHEN THE BOMB HAS GREEN STRIPES SIMILAR STRIPE BETWEEN CENTRE AND RIGHT BATTEN, WITH EXPLODER MARKING BELOW.	AS FOR 50 LB. G.P. BOMB.
–	–	"	"	"	"	"		MKS I, II & III BOMBS WHEN FITTED WITH CENTRAL TUBE EXPLODERS HAVE GREEN STRIPES AT THE NOSE AND TAIL DIAMETRICALLY OPPOSITE WITH THE SCHEME OF EXPLODERING eg. "EXPLD A" STENCILLED BETWEEN THE STRIPES.
Nº1 (WOOD)	CRATE B.274 HOLDS 2. 29·0 X 12·6 SQ.	"	"	–	–	"		
–		171	Δ 245 + 240 1/2	–	–	"		
–	CONTAINER B.270	160	Δ 234 + 229 1/2	–	–	67 62		
Nº5 (WOOD) Nº8 (STEEL)	HOLDS 1. 28·11 X 11·17 DIA	151	Δ 225 + 220 1/2	–	–	"		
–	–	366	Δ 514 + 484	538	626 656	142 112		
–	CRATE B.277	"	"	"	"	"	AS FOR 250 LB. BOMB.	AS FOR 250 LB. G.P. BOMB.
Nº2 (WOOD)	HOLDS 2. 36·27 X 15·64 SQ.	"	"	–	–	"		
–	–	350	Δ 498 + 468	–	–	–		
–	CONTAINER B.269.	329	Δ 493 + 463	–	–	143 133		
Nº6 (WOOD) Nº7 (STEEL)	HOLDS 1. 33·86 X 13·87 DIA	312	Δ 476 + 466	–	–	"		
–	BOX, B.321 HOLDS 1. 39·0 X 20·25 X 20·25	662 1/2	+1036 1/2	–	–	333		FILLED AMATOL ONLY, FOR MARKING SEE G.P. 40 LB. MkI BOMB.
Nº24 (STEEL)		626 1/2	+1000 1/2	–	–	"		

* CALCULATED IN ACCORDANCE WITH PARA. 23. MAGAZINE REGULATIONS PART I 1934.

(73) Ammunition for 40 mm. gun - Reduction of charge.

In order to increase the life of the 40 mm. gun from 500 to approximately 1,000 rounds, it has been decided to reduce the charge to give a M.V. of 850 metres per second in place of the present M.V. of 900 metres per second.

The operation consists of removing seven strips of Bofors Cordite through the primer hole of the cartridge case, thereby reducing the charge from 320 grammes to 10-oz. 7-drs.

The reduced cartridge will be marked with the letter "R" stencilled on the side of the case in silver nitrate, and boxes containing this reduced ammunition will have a similar letter stencilled on the outside of the box.

(74) Special marking of M.D. and R.D.B. cartridges.

A proportion of the bulk propellant War Reserve consists of Cordite M.D. and Cordite R.D.B. manufactured in 1918 or thereabouts. In accordance with the approved standards, these Cordites are now approaching the end of their official "life". On this point being reached, they would normally be placed under surveillance. The official "life" allocated to Cordite Lots embodies a substantial safety factor.

These Cordites are now being used for making up charges and will reach the Expeditionary Force in due course, where the application of the Surveillance Test will be impracticable.

It is clearly desirable to dispose of such charges in priority to those of the more recently made Cordites and Ordnance Officers should endeavour to get them to units in the Line as soon as possible.

In order to be in a position to trace isolated parcels of M.D. and R.D.B. at any time, it has been decided to mark their packages with a large red disc, followed by two figures also in red, thus◯ 41. The figures indicate the year in which the Cordite reaches the end of its official "life". As Q.F. cartridges may be removed from their packages some time before loading, a black disc and two-figure numeral is also marked on the cartridge case.

Certain lots have been issued before the approval of this special marking. They are, therefore, unmarked. Any charges of M.D. or R.D.B. Cordite found with the Expeditionary Force can, however, be taken as being within this age category. The official "life" of such unmarked Lots can be ascertained by reference to higher authority.

No question of the destruction of charges arises; the marking is adopted simply to facilitate ready identification of the packages should the need arise. Any necessary instructions with regard to the packages will be issued in due course, through the usual channels.

Ammunition of this kind should be issued to B.E.F., France only and to nowhere else overseas.

(75) "Official" life of Cordite, Mark I, M.D. or R.D.B.

Lots of Cordite of the above nature, manufactured between August 1914 and December 1927 have an "official" life which is fixed by the War Office. This official life is based on several factors, i.e. maker of cordite, date of manufacture and temperature of storage and may, or may not, exceed the sentences, based on heat tests as laid down in R.A.O.S. Part II, Pamphlet No.7.

Particulars/

Particulars of Cordite Lots whose official life expires during the ensuing twelve months are included in War Office letters approving I.O.O's sentences shown on A.F.G.900.

Bulk cordite, B.L. Cartridges and Charges of the above nature will, on the expiration of the "official" life, be subjected to the 100% Surveillance test. In the case of Q.F. cartridges the test is not applied but, on receipt of the necessary instructions from the War Office, the rounds affected are broken down and the propellant destroyed at the end of its "official" life.

Full instructions for carrying out the surveillance test have been issued by the War Office to all concerned.

(76) No. 199 fuzes with jammed time rings.

With reference to Bulletin No.7, item 71, cases have been reported where the slot for the fuze key in the bottom time ring has become burred owing to gun numbers attempting to set the fuze at "safe" by force and, consequently, the fuze key will not grip the time ring. In such cases, it is pointed out that the fuze may be set "safe" by continuing the movement of the ring in a clockwise direction and not backwards, and further, that Fuze Key, No.120, Mk.II is more suitable for dealing with faulty fuzes of this type that the Fuze Key, No.120, Mk.I.

(77) Method of identification of 9.2" Howr. 315-lb. shell, cartridges and packages.

The following method of identification of the 315-lb. 9.2-inch howitzer shell, cartridges for use with same and cartridge packages, has been adopted :-

(a) Shell. The weight to be included in the nomenclature and in the stencilling on the head of the shell.

(b) Cartridge. A red band, 1-inch wide, to be stencilled round the centre of the wall of the head, i.e. the under portion of charge 1.
For identification by night a loop will be sewn on the end of the stalk portion of charge 1.

(c) Packages for cartridges. The package will be stencilled "For 315-lb. shell only" and, in addition, the ends of the package will be painted white.

(78) Chemical weapons.

British Forces will in no circumstances use gas, except in retaliation for its use by an enemy, and then only on the direct authority of His Majesty's Government.

Certain chemical weapons have been designed and the following notes are for the guidance of those called upon to handle them in transport or store. They comprise installations, bombs, shell, drums and mines. In all cases, except installations, a small opening charge of explosive is incorporated. This may be H.E. or Gunpowder, but as the quantity is small the explosive problem of storage is secondary to the chemical. The explosive charge for certain bombs is not assembled until the bomb is fuzed.

The /

The main concern with these weapons is leakage, the effects of which may be serious. Care and maintenance should be concentrated on the problem of leakage, with its consequentials of decontamination and/or disposal. It is not possible to go into this matter in detail here but the personnel employed in connection with the storage or transport of chemical weapons should be fully qualified and equipped to deal with leakage, decontamination and disposal of faulty weapons. Special attention is drawn to the importance of a complete supply of anti-gas clothing and decontamination equipment. This clothing and equipment must be kept apart from the weapons. The Service Gas Manual should be referred to for full details.

The stacking of chemical weapons should not exceed 5-feet in height and, whenever possible, they should be unboxed, full access being provided to all points where leakage is likely to take place. Inspection of the weapons should be regular and frequent, during which respirators must be worn at the 'alert'. Detection of leakage may be by odour, by visual leakage, by detector paint or detector papers. Storage should be arranged to provide the maximum degree of ventilation and, also, in the case of yellow gases of an ample supply of water. Sunlight should be kept off the weapons or their packages.

On Service, the best storage arrangement is by trenches, about 6-feet deep, wide enough to take a single stack of weapons, with a 2-ft. clearance at each side of the stack for the passage of a man in anti-gas clothing. The sides of the trench should be perpendicular, being reveted where necessary and the top camouflaged. Duck boards are necessary. In wet areas, the trench should have 6 to 12 inches of stone or gravel below the duck-boards to form a sump. Trenches should not be more than 75-feet long, they should be at least 30 yards apart and suitably staggered. Where weapons exceed 200-lbs. a lifting apparatus should be installed at one end of the trench, individual weapons being carried there by a pole and slings, Chinese fashion, by two men, one on each side of the stack. Where the ground is not suitable for trenches, above ground stacks may be adopted, but these should be traversed and the quantity in each stack kept as low as possible. The stacks should be protected from rain and sun, and be camouflaged.

Special examination of weapons must be carried out after aircraft attacks or shelling, and any leakages dealt with at once.

Weapons may be divided into Light Case, such as bombs, and Heavy Case, such as shells; the former are more likely to give trouble in store and transport than the latter, as the degree of protection offered by the casing is so different, besides which, the quantity of chemical in a unit of the latter is much less than in the former.

For transport by road, rail or sea, a conductor must be provided for Heavy Case consignments and a Conducting Party for Light Case consignments. Complete protective clothing for the conductor or party, in addition to decontamination equipment, must be provided by the consignor. The scale will be published shortly. Rail transport should be in open trucks, well sheeted. Road transport should be confined to movements between railhead and operational areas, as this form of traffic requires very careful supervision, particularly when Light Case weapons are being handled.

The weapons are painted grey and have the usual red filling ring when explosives are present. In addition a coloured band is painted round the body of the weapon and the centre of the package to indicate the generic type of chemical used, thus :-

Yellow Band	indicates	Mustard.
Green Band	"	Arsenical.
Black Band	"	Tear.

In/

In addition, as there are different compositions used in each type, these are indicated by a letter Y, G or B as above, followed by a number e.g. Y1, Y2, Y3, etc. which is painted below the band in the same colour. There are one or two cases where a white band is also painted below the Yellow or Green band, but the latter colour determines the type.

The different coloured weapons must not be stored in the same building or placed in the same vehicles as the action on leakage differs between types.

The most sensible arrangement is to ensure that only personnel trained fully in decontamination procedure should be employed in connection with the storage and transport of chemical weapons.

The letters U.V. may be found on the coloured band to indicate that the interior of the weapon is unvarnished. The later procedure is to varnish the interior whenever this is practicable as it gives a longer life to the chemical.

Regulations for the storage and transport of these weapons are now in course of preparation.

(79) <u>German 7.92 mm. Ammunition.</u>

Five types have so far been encountered, all being streamlined except (e).

<u>Characteristics common to all types.</u>

Steel envelope coated gilding metal.

Charge of N.C. flake.

Rimless brass case and cap.

Symbols "S^{K}" and "P" on base, the P being followed sometimes by a number and having a number opposite it.

A number opposite S^{K}, presumed to be the last two figures of the date of manufacture.

<u>Characteristics found in each type.</u>

		<u>Marking.</u>	<u>Bullet core.</u>
(a)	Ball	Green annulus	Lead.
(b)	A.P.	Red annulus	Steel in lead sleeve.
(c)	A.P. Tracer ...	Red annulus - black bullet tip.	Steel forward and tube of tracer composition behind.
(d)	A.P.Incendiary ...	Red annulus.	Pear shaped steel with phosphorus around.
		or Red band across base or Black annulus.	
(e)	A.P.	Red cap	Tungsten carbide in lead sleeve.

(It is thought that very few of (e) are made).

It should be noted that the characteristics are "as found", and any deductions made must be subject to modification with further experience.

German/

(80) German 1 K.g. Incendiary bomb, captured from German HEINKEL III shot down in Scotland. (Fig. 12).

This type consists of a thick-walled tube 9-inches long and two inches in diameter, made of an alloy of magnesium with a small proportion of aluminium. One end of the tube is fitted with a tail 5 inches long. The tube is filled with a priming composition of the thermit type. The bomb is fitted with an igniter which may be situated either in the nose or rear end of the tube.

The bomb weighs about 2-lb. 2-oz. and, with the exception of a few ounces in the tail and igniter, there is no dead weight, the whole being incendiary material. The bomb functions on impact, a needle in the igniter being driven into a small percussion cap which ignites the priming composition. The bomb does not explode.

It should be noted that, although this bomb is often called a thermit bomb or a thermit electron bomb, the main incendiary agent is not the thermit composition but the magnesium tube, which is not in itself readily inflammable. The priming composition burns for 40-50 seconds at a temperature of about 2500°C. and its great heat serves to melt and ignite the magnesium tube. The molten magnesium burns for 10 to 15 minutes at a temperature of about 1300°C. It may remain active for as long as 20 minutes, and will set fire to anything inflammable within a few feet.

During the first 50 seconds or so, while the priming composition is still burning, the bomb looks very violent. Jets of flame are emitted from vent holes, and pieces of molten magnesium may be thrown as far even as 50-feet. After the first minute the bomb becomes less active because the magnesium tube melts and the pressure within is released.

The thermit composition contains its own oxygen and so cannot be extinguished by smothering, but the magnesium must gets its oxygen from the air or surrounding materials in order to burn.

(81) 3.7 m/m. Bofors Gun Ammunition.

The ammunition for this equipment is of the fixed type and comprises an A.P. Shell, filled T.N.T. with base fuze, a propellant charge of cordite Bofors (see Item 14, No.2 Bulletin) and a percussion primer (Fig. 13).

A certain number of practice rounds have also been issued. These differ from the Service round in the bursting charge being omitted, the shell plugged and brought up to weight by means of an inert filling.

The markings on the shell of the Service round may be either -

(a) Clear varnish only.

(b) " with red ring around nose.

(c) Painted H.E. colour " " "

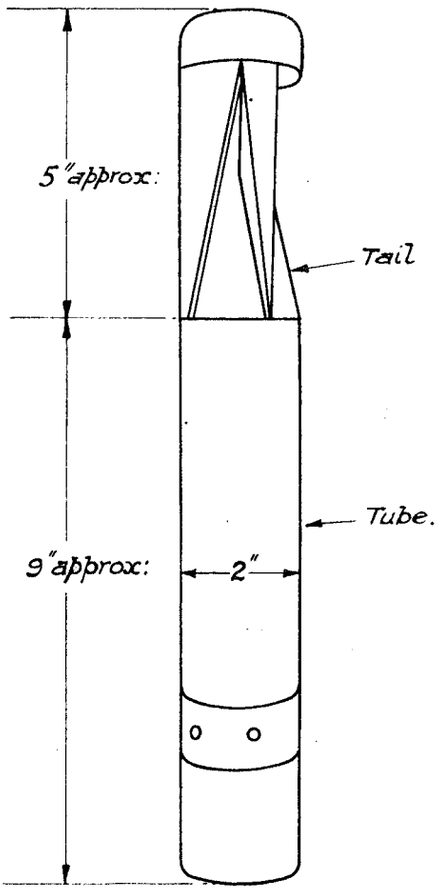
Practice ammunition is distinguished by the shell having a green band immediately above the driving band.

For further details of this ammunition, see the Provisional Handbook for this equipment.

This ammunition is packed singly in rolled paper containers in tinned lined boxes, painted Service colour, containing 30 rounds. Dimensions of box :-

Length - 29"; breadth - 18½"; depth - 10";
Weight - filled - 143-lbs; empty - 48-lbs.

FIG. 12.



MARKINGS ON BOMB.

R | 51

RW / 151 G 156 Bi IV

M | 44

117 Rh S / 149 G

O O

FIG. 13.