AMMUNITION BULLETIN Nº 4.

FOR INSPECTING ORDNANCE OFFICERS.

(OCTOBER. 1939).

CHIEF INSPECTOR OF ARMAMENTS,
WOOLWICH, S.E.18.

KL.511.

SECURITY.

AMMUNITION BULLETIN No.4

for Inspecting Ordnance Officers

October 1939

(No Bulletin was issued for August and September)

Issued by:-

The Chief Inspector of Armaments,
Woolwich.

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DETAILS OF

CALIBRE	APPROX: WEIGHT OF COMPLETE CARTRIDGE.		APPROX: WEIGHT OF BOMB.				APPROX: LENGTH IN INCHES.		APPROX: DIA: OF BOMB.
				LB.	OZ.	DR.	PLUGGED	FUZED	
3 INCH MORTAR	PRIMARY WITH STRIKER CLIP	503 GRNS.							
	AUGMENTING (CAMBRIC)	107 GRNS.							
	(CELLULOID)	110 "							
			H.E.	10	-	-	14·9	17·0	3·17
			SMOKE	"	"	"	"	"	"
2" MORTAR	CARTRIDGE	226 GRNS							
			H.E.	1	14	13	9·62		
			SMOKE						

MORTAR AMMUNITION

ESTIMATED WEIGHT & NATURE OF BURSTING CHARGE				PROPELLANT NATURE AND WEIGHT.			FUZE	EXPLOSIVE QUANTITY.	REMARKS
NATURE	LB.	OZ.	DR.	NATURE	GRNS.			LB.	
				(PRIMARY) BALLISTITE	95			·1	
				SECONDARY N.C.(Y)	100				
H.E.	1	2	4				150 152 138	1·25	
SMOKE	-	-	-				"	-	
H.E.		5	11	CARTGES: BALLISTITE				·01	
SMOKE	-	-	-		47		151	·3	

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DETAILS OF

CALIBRE	No. OF PACKAGE	MATERIAL & TYPE		STOWAGE DIMENSIONS		
		MATERIAL	TYPE	LENGTH	BREADTH	DEPTH
3" MORTAR	B.162	WOOD	BOX	21·1	10·75	14·8
		ROLLED PAPER	CARRIER	17·625	3·85	12·5
	B.166	STEEL	BOX	19·8	9·1	13·0
2" MORTAR	B.167	STEEL	BOX	21·8	9·5	9·35
		ROLLED PAPER	CARRIER	20·0	2·6	8·375

MORTAR PACKAGES

ESTIMATED WEIGHT		CONTENTS.
EMPTY	FILLED	
21 LB.	96 LB.	6 BOMBS IN 2 CARRIERS No.1
6 ½ LB.	37 ½ LB.	3 BOMBS.
15 LB.	90 LB.	6 BOMBS IN 2 CARRIERS No.1
19 LB.	70 LB.	H.E. } 18 BOMBS COMPLETE IN 3 CARRIERS.
	60 ¾ LB.	SMOKE }
3 ½ LB.	17 LB.	H.E. } 6 BOMBS.
	11 ½ LB.	SMOKE }

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DETAILS OF

CALIBRE	APPROX: WEIGHT OF COMPLETE CARTRIDGE		APPROX: WEIGHT OF BOMB. LB	OZ	DR	APPROX: LENGTH IN INCHES.	APPROX: DIA: OF BOMB.
S.A.A. ·303" BALL	MK. VII	386·3 GRS				3·05	
"	" VII Z	390·8 "				"	
"	" VIII Z	387·3 "				"	O
A.P. 303" "W"	" I	386·8 "				"	
"	" I Z	392·8 "				"	
TRACER 303" "G"	" I	369·8 "				"	
"	" II	364·8 "				"	
OBSERVING 303" "O"	" I	386·3 "				"	

·303 INCH AMMUNITION

ESTIMATED WEIGHT & NATURE OF BURSTING CHARGE.				PROPELLANT NATURE AND APPROX: WEIGHT.			FUZE	EXPLOSIVE QUANTITY.	REMARKS.
NATURE	LB.	OZ.	DR.	NATURE	GRS.			LB.	
				CORDITE M.D.T. 5-2	36·5			SEE PARA: 26 MAGAZINE REGULATIONS PART 1.	
				N.C.Z. 3	41				
				NEONITE	36·5				
				CORDITE M.D.T. 5-2	37				
				N.C.Z. 3	43				
				CORDITE M.D.T. 5-2	36				
				"	35				
				"	36·5				

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DETAILS OF

CALIBRE	No. OF PACKAGE	MATERIAL & TYPE		STOWAGE DIMENSIONS		
		MATERIAL	TYPE	LENGTH	BREADTH	DEPTH
S.A.A. ·303 INCH (BALL)	H.1	WOOD WITH TINNED-PLATE LINING	BOX	17·0	8·5	10·85
	H.19	"	"	17·25	10·35	8·95
·303 INCH (BALL) A.P. TRACER & OBSERVING OR	H.13	"	"	"	"	"
" "	"	"	"	"	"	"
·303 INCH (BALL)	H.15	WOOD WITH 2 TINNED-PLATE BOXES	"	16·875	8·8	7·125
" BALL TRACER	H.20	WOOD WITH TINNED-PLATE LINING	"	17·25	10·35	8·95
·303 INCH (BALL) MK. VII	H.26	WOOD WITH 2 TINNED-PLATE BOXES	"	19·5	9·5	6·6
MK. VIII Z	H.29		"	16·9	10·75	9·25
·303 INCH (BALL) MK. VIII Z	H.26	"	"	19·5	9·5	6·6
TRACER "G" MK II	H.29	"	"	16·9	9·5	9·25

·303 INCH PACKAGES

ESTIMATED WEIGHT.		CONTENTS.
EMPTY	FILLED	
13.LB	75 LB.	1000 ROUNDS (20 BANDOLIERS EACH HOLDING 50 ROUNDS IN 10 CHARGERS)
	75½ "	
13½ LB	76 "	1000 ROUNDS (50 CASES CHARGERS EACH HOLDING 20 ROUNDS IN 4 CHARGERS)
	77 "	
"	84 "	1248 ROUNDS (26 CARTONS EACH HOLDING 48 ROUNDS)
"	52 "	900 ROUNDS (45 TINNED-PLATE BOXES EACH HOLDING 20 ROUNDS)
13 LB	40 "	500 ROUNDS (A STRIPLESS BELT OF 250 ROUNDS IN EACH TINNED-PLATE BOX.)
13½ "	87½ "	1300 ROUNDS (26 CARTONS EACH HOLDING 50 ROUNDS)
13 "	42½ "	500 ROUNDS (A STRIPLESS BELT OF 250 ROUNDS IN EACH TINNED-PLATE BOX.)
17½ "	48½ "	
13 "	42½ "	500 ROUNDS (A STRIPLESS BELT OF 250 ROUNDS OF 200 BALL & 50 TRACER IN EACH TINNED-PLATE BOX)
17½ "	48½ "	

29 SMALL ARM AMMUNITION

CALIBRE	APPROX: WEIGHT OF COMPLETE CARTRIDGE.		APPROX: WEIGHT OF BOMB. LB. OZ. DR	APPROX: LENGTH IN INCHES.	APPROX: DIA: OF BOMB.
S.A.A. BALL ·5	MK. II	1290 GRS.		4·38	
"	MK. II Z	1277·5 "		"	
A.P. ·5 "W"	MK. I	1290 "		"	
" "	MK. I Z	1277·5 "		"	
S.A. BALL ·55	MK. I	2007·5 "		5·31	
A.P. ·55 "W"	MK. I	"		"	
"	MK. II	1838·5 "		"	
BALL REVOLVER ·380"	MK. I	266 "		1·245	
"	MK. I Z	264 "		"	
"	MK. II	244 "		"	
·455	MK. II	344·9 "		1·26	
BALL 7·92 MM.	MK. I Z			3·165	
TRACER 7·92 M.M. "G"	MK. I Z			"	
TRACER ·55 "G"	MK. I	2007·5.		5·36	

OTHER THAN ·303 INCH

ESTIMATED WEIGHT & NATURE OF BURSTING CHARGE				PROPELLANT NATURE AND WEIGHT.			FUZE	EXPLOSIVE QUANTITY.	REMARKS
NATURE	LB.	OZ.	DR	NATURE	GRS.			LB.	
				CORDITE M.D.T. 7-2	142·5			SEE PARA: 26 MAGAZINE REGULATIONS PART 1.	
				N.C.	130				
				CORDITE M.D.T. 7-2	142·5				
				N.C.	130				
				CORDITE M.D.T. 7-2	186				
				"	"				
				"	212				
				CORDITE 1/·05	4				
				N.C.	2·5				
				CORDITE 1/·05	4				
				CORDITE 1/·05	5·5				
				N.C.	45				
				"	"				
				CORDITE M.D.T. 7-2	186				

30 PACKAGES FOR SMALL ARM

CALIBRE	No. OF PACKAGE	MATERIAL & TYPE		STOWAGE DIMENSIONS.		
		MATERIAL	TYPE	LENGTH	BREADTH	DEPTH
S.A.A. ·5 INCH BALL OR A.P.	H. 20	WOOD WITH TINNED - PLATE LINING	BOX	17·25	10·35	8·95
	H. 13	"	"	17·0	8·5	10·85
·55 INCH BALL OR A.P.	H. 27	"	"	20·35	8·4	8·625
·55 INCH BALL A.P. OR TRACER.	H. 28	"	"	"	"	"
·455 BALL REVOLVER	H. 9	"	"	8·9	6·7	4·8
·380 "	H. 9	"	"	"	"	"
" "	H. 25	"	"	6·6	5·75	4·35
7·92 M.M. BALL MK. I Z	H. 29	WOOD WITH 2 TINNED PLATE BOXES.	"	16·9	10·75	9·25
BALL MK. I Z TRACER "G" MK. I Z	"	"	"	"	"	"

AMMUNITION OTHER THAN ·303 INCH

ESTIMATED WEIGHT.		CONTENTS
EMPTY	FILLED	
13 ½ LB.	84 LB.	360 ROUNDS (36 CARTONS EACH HOLDING 10 ROUNDS)
13 LB.	85 ½ LB.	370 ROUNDS (37 CARTONS EACH HOLDING 10 ROUNDS)
13 ½ LB.	63 ¼ LB.	160 ROUNDS (16 BANDOLIERS EACH HOLDING 2 CLIPS OF 5 ROUNDS OR 1 MAGAZINE)
13 ½ LB.	60 LB.	170 ROUNDS (17 CARTONS EACH HOLDING 10 ROUNDS.)
3 ½ LB.	15 ½ LB.	240 ROUNDS (20 CARTONS EACH HOLDING 12 ROUNDS.)
"	13 LB.	
2 LB.	9 ½ LB.	180 ROUNDS (15 CARTONS EACH HOLDING 12 ROUNDS.)
17 ½ LB.	53 ½ LB.	450 ROUNDS (2 LINKED BELTS OF 225 ROUNDS IN 2 TINNED PLATE BOXES.)
"	"	" (2 LINKED BELTS OF 225 ROUNDS CONSISTING OF 180 ROUNDS. BALL AND 45 TRACER (1 BELT IN EACH BOX.)

31. Unexploded projectiles. (The term projectile is here taken to include shell, bombs, grenades, etc.)

R.A.O.S. Part II, Pamphlet No.4, deals with the disposal of unexploded projectiles under normal conditions but circumstances will probably arise during hostilities where the best method of procedure is not too clear.

At the moment very little information is available of the details of enemy ammunition so that it is not possible to give any precise directions as to how particular problems of this kind should be tackled.

The following general considerations may be of assistance until more experience is gained, and more detailed information comes to hand.

(i) If the unexploded projectile or bomb is in open ground and its destruction will not affect persons or property, it should be disposed of in situ in the usual way. The minimum safety area required will depend upon the size and nature of the projectile and may be taken as from 300 yards for a 500 lb bomb down to 50 yards with a 2 pr. shell.

(ii) Should condition (i) not be obtainable the problem is more complicated and its solution will depend upon whether British, Allied or enemy projectiles are concerned.

(iii) In the case of British projectiles, information is available in the official Handbooks regarding the details of the fuze, the shell filling, etc. With this data an experienced officer should have little difficulty in deciding whether the projectile can be moved, under precautions, for disposal elsewhere, or whether it must be dealt with, in situ. Details of Allied ammunition can usually be obtained from the nearest Allied formation.

(iv) Should it be considered dangerous to move the projectile it may still be possible, when there is little risk of the undisturbed projectile exploding, where it lies, to defer actual destruction to a later date, particularly where destruction in situ involves serious damage to valuable property.

(v) In the case of enemy projectiles some circumspection is necessary until more precise details of fuzing become available. There is a possibility that some of the projectiles may be fitted with fuzes designed not to function the projectile on impact, but only after a long delay, or when the projectile is disturbed. The latter design will hardly be used with gun ammunition but may be used with bombs. Obviously, therefore, some discrimination is necessary in dealing with enemy ammunition until more detailed information can be circulated to enable those concerned to identify the type in use.

(vi) Generally speaking, it will be best to dispose of all such projectiles in situ and to make no attempt to move them. Whether destruction should be carried out at once or whether this action can be delayed until data on identification comes to hand will depend upon the particular circumstances and the consequences likely to follow destruction in situ.

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32. Allied and Enemy Ammunition.

To facilitate the work of Ordnance Officers generally in handling ammunition it is important that all items of information concerning allied and enemy ammunition which may be gleaned should be transmitted to a central place for general dissemination to all concerned.

Early information of this kind is invaluable.

Regarding enemy ammunition, information regarding functioning, design of fuzes, filling of projectiles, markings, etc. are all needed. Every effort should be made by I.O.Os. and their staff, working under the usual safety precautions, to glean data of this kind and pass it back quickly to C.I.A. for circulation to all concerned.

33. Explosives Category for Safety Distances.

It has been decided to delete Appendix II of Magazine Regulations and to indicate by a Code letter against each explosive in the Classification List contained in para. 178 of the Regulations the safety distance Category of the explosive.

The present paras. 43 (a), (b) and (c) and 47 (a), (b) and (c) provide for three categories but it is sometimes difficult for those concerned to determine which of these sub-paras. is to be applied to particular cases. Accordingly, the Code letters, X, Y and Z have been adopted to indicate the safety distance category of explosives on the following bases -

Category X.	Explosives carrying a fire risk with a local effect only.
Category Y.	Explosives having a general fire risk or with an explosive risk but not with a risk of explosion en masse.
Category Z.	Explosives having a risk of explosion en masse.

Amendments to the Regulations will be made in due course. Category X is substantially equivalent to the present Appendix IIB and Category Y to Appendix IIA.

34. Steel Ammunition Boxes.

The transport and stacking of ammunition contained in steel boxes requires a good deal more care than when in wood boxes in order to prevent the entry of rain, damp or other forms of moisture. Water may enter at the securing nuts or at the junction of lid and body. Should the box be damaged the entry of water or moisture is facilitated. A cause of trouble in steel boxes, as distinct from wood boxes, is that the ammunition is often supported on steel struts or packing pieces in the former in contrast to the wood supports of the latter. Consequently rusting or corrosion is liable to occur at the points where the shell or cartridge touches the steel supports. Rust may possibly render the ammunition unserviceable or cause difficulty in loading. Every precaution must be taken to avoid this situation arising.

The following points, therefore, require to be brought to the notice of all concerned with the transport or storage of ammunition in steel boxes -

(i) Special care must be taken to avoid the corner of one box piercing the side of another. The boxes should be handled

with extra care, and, where damage of this kind occurs, the box concerned should be set aside for repacking. Only sound boxes should be allowed to travel on. If the damage occurs at the gun position the ammunition should be set aside for first use, meanwhile taking special care to store it in as dry a position as possible.

(ii) Loading or unloading should be carried out under dry conditions. Overhead cover should, if necessary, be improvised for this purpose.

(iii) Vehicles loaded with steel boxes should preferably be of the covered type but where this is not possible the load should be well sheeted.

(iv) When the work of moving has necessarily to go on in wet weather without suitable overhead cover, the ammunition boxes should be handled with the base uppermost.

(v) The top layers of all loads in transit and of stacks where the conditions are not of the "bone dry" type should be base uppermost.

35. Treatment of Q.F. Ammunition affected by Rust.

Whenever Q.F. ammunition develops rust on shell or corrosion on the cartridge case, the matter should be reported to the Inspecting Ordnance Officer who should deal with the affected parts in the following manner -

Shell - Slight rusting would not affect the loading and would have no serious affect from the danger point of view. The rust can be removed by means of an 0 Emery paper or Scratch Card, care being taken to preserve all markings. The part should then be painted or oiled in accordance with the instructions contained in R.A.C.S. Part II.

Case - Heavy corrosion of the case may prevent its being loaded. Such cartridges should be returned to Ordnance Store for special treatment.

Slight corrosion may be removed from the body of the case by means of "0" Emery paper. Emery paper must not be used on the base of the cartridge cases. Stains on or discolouration of the case need not be considered as these are not likely to be of any consequence.

Primers - If the cap is corroded or if the primer near the cap is corroded, the primer should be removed, under the I.O.O's supervision, and a new one inserted.

36. Waterproofing of Fuzes.

Time and T. and P. fuzes of the combustion type, e.g. 199, are issued with all openings protected by fuze waterproofing composition and this suffices to maintain the fuze in a serviceable condition so long as the waterproof seal thus formed remains unbroken.

Should this seal be broken, and not restored immediately, deterioration sets in, particularly in a moist atmosphere, and the fuze may rapidly become unserviceable.

The seal is broken by any movement of the time ring or by a loss of tension. The ring may be moved deliberately, as in the advance setting of fuzes with certain A.A. equipments, or it may be moved accidentally, i.e. twisting a loose fuze cover. Loss of tension arises when the temperature of storage is high, this makes it possible for the loosened time rings to move through vibration in travelling or by the

twisting motion of a loose fuze cover.

So long as the fuze cover remains on the shell there is no means of learning whether the time ring has moved or not, consequently if the cover is in position it must be assumed the fuze is serviceable.

When the cover is removed for any reason and the fuze is found not to be set at safety it should be set at Safety and a rubber cover or waterproofing composition applied immediately, the round being earmarked for early use. This action does not repair a damp fuze, in fact, it may accelerate deterioration, but it does ensure that a dry fuze remains serviceable. The precentage of defects of this kind is not likely to be great but they should invariably be looked for. If possible, the fuze should be removed and replaced by one in a more serviceable condition.

As fuzes of these types have frequently to be set in advance of use it is imperative to have the waterproof seal restored immediately the setting of each fuze has been completed. Do not set a number of fuzes and then waterproof them. Each fuze must be set and then waterproofed before passing on to the next. The fuzes should not, except in great emergency, be set in advance unless some means of waterproofing is available.

The procedure to restore the waterproof seal is as follows:-

(a) When rubber waterproof covers are available:- Slip the cover over the fuze and see that it fits snugly in position.

(b) When rubber waterproof covers are not available:- Fuze waterproofing composition or R.D. Composition 1154 should be worked by hand into the groove above and below the movable time ring. Surplus composition must then be scraped off with a small chisel-shaped wooden or non-ferrous tool. No composition should be left in the setting slots, the surface of the fuze must be clean and the graduations clearly visible. There should not be a heavy deposit on the escape hole discs of time rings. To facilitate the task the composition can be slightly warmed.

In emergency, if neither composition is available, unthinned Luting may be used. This Luting must be of the Lead free type. Shellac must not be used for this purpose.

This procedure of waterproofing must be followed every time the fuze ring is moved in order to keep the fuze in a serviceable condition.

37. Batching

(i) The word BATCH in front of the Batch particulars, is being omitted in future from the ends and sides of ammunition packages, as it is now considered unnecessary. The batch particulars can always be recognised by the batch letter, number and sub-batch letter where applicable.

(ii) The Proof pool of fuzes will be discontinued and the proof pools now in existence at home stations are being assembled into 3.7" A.A. rounds. Those whose parent lots were assembled into 3 ins. 20 cwt. rounds are being batched by F.F.Cs., i.e. although batches of this kind will contain portions of several lots of fuzes, they will all have the same F.F.C. Those whose parent lots were assembled into 3.7 in. A.A. are being batched under the original batch numbers.

(iii) Batch record sheets will not be issued during the emergency to C.O.Os, Commands or Units. Should a record of any batch be found necessary a copy may be obtained on application to the Chief Inspector of Armaments.

38. 25 m.m. Hotchkiss gun.

This ammunition comprises an A.P. bullet, with or without tracer composition, a propellant charge of 138 grams of flashless nitro-cellulose, a brass case and a percussion primer with 1,2 grammes of gunpowder, the whole assembly being as shown on Fig. 1.

Markings. The A.P. cartridge has the point of the bullet blackened for about 1 inch.

The A.P. tracer cartridge has the point of the bullet tinted green for about 1 inch.

The Mk.I Practice cartridge is uncoloured.

The Mk.II Practice has a truncated bullet.

The Blank has no bullet.

Nomenclature. Letters before or after the Mark signify -

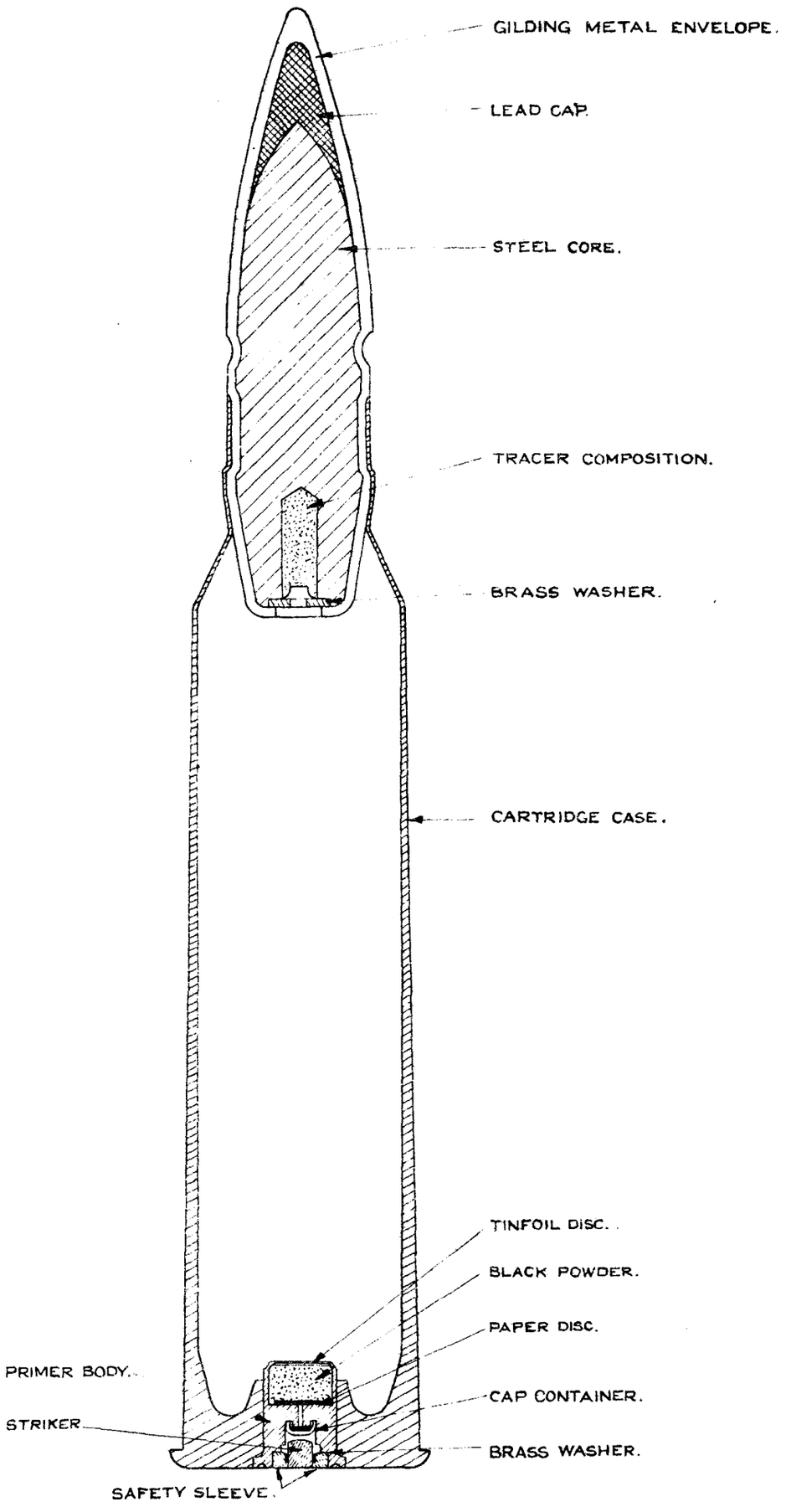
G. Tracer.
W. Armour Piercing.
P. Practice.
L. Blank.
U. Dummy.
Z Nitro-cellulose Powder.

Packages. 40 Cartridges, each in a corrugated paper tube, are packed in a zinc lined wood box the dimensions being 27" x 15" x 11" and the weight 117 lb.

Certain markings, in French, indicate the contents. It is intended, in future, to place a label on each box giving this information in English.

FIG. 1

CARTRIDGE, S.A., 25 mm., HOTCHKISS.



ARMOUR PIERCING, WITH TRACER.