

B.R. 206/1940.

DRILL
FOR
3-INCH Q.F. GUNS
ON
HIGH ANGLE MOUNTINGS

1940



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INTRODUCTION.

Preliminary Gun Drill.

Part I	Drill before firing.
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24th March, 1940.

G. 9381/39

B.R. 206/1940, Drill for 3-inch Q.F. Guns on High Angle mountings, having been approved by Their Lords Commissioners of the Admiralty, is hereby promulgated for information and guidance.

B.R. 206/1933 is now obsolete and copies should be disposed of in accordance with the instructions in B.R.I.—B.R. Catalogue.

By Command of Their Lordships.

R. H. Carter

To Flag Officers and Commanding Officers of
H.M. Ships and Vessels concerned.

Amendment No.	Date of insertion in this copy.	Initials.

INTRODUCTION.

The object of this book is to give all instructions regarding the operation of the gun.

Detailed information beyond that given in this book will be found in the following publications :—

O.U. 5459—The Officer of Quarters Pocket Book.

O.U. 5408—Naval Magazine and Explosives Regulations.

B.R. 219—Notes on Gunnery for D.E.M.S.

NOTES ON 3-INCH Q.F. GUNS ON H.A. MOUNTINGS.

Mk. I gun is fitted with Semi-Automatic Breech and Safety Lever.

Mk. II gun is fitted with Q.F. Breech, but no safety arrangement.

Mk. III and IV Q.F. gun is fitted with swinging breech and Safety Striker.

The drill is written to cover the Mark II gun. Wherever the drill for other Marks of gun differs from that for the Mark II, the difference is stated.

PRELIMINARY GUN DRILL.

For the purpose of teaching "Gun Drill," a certain procedure is carried out which is omitted when drilling a gun's crew in quick time. This procedure is common to all guns and is given below.

Fall the class in, number from right to left, detail requisite numbers to form gun's crew, move spare numbers clear and stand them at ease.

Note.—During the early stages of drill, instructors should use the "names" of the crew, *i.e.*, gunlayer, breech worker, etc., instead of their "numbers," whenever possible.

DUTIES AT THE GUN.

As each man's number is called, he will spring to attention, be detailed for his duty, and when the next man's number is called, will stand at ease.

One—Gunlayer; lay the gun, fire the gun in Gunlayers and Quarters firing; for drill purposes Captain of the Gun.

Two—Breechworker; and so on, as laid down in the drill.

CLOSING UP IN SLOW TIME.

At the order "Close up," 1 only, moving at the double, will place himself at the elevating wheel.

"Close up."

The order, "Close up" having been given, the remainder will close up as detailed, *i.e.* :—

On the right in line with the breech, facing the
muzzle Two
and so on as laid down in the drill.

FALLING OUT IN SLOW TIME.

At the order "Fall out," 1 only, moving at the double, will place himself in rear of the gun, leaving sufficient room on his left for the remainder of the gun's crew to "fall in."

"Fall out."

The order "Fall out" having been given, the remainder will fall out as detailed, *i.e.* :—

On the left of 1 Two
On the left of 2 Three
and so on.

Whenever the gun's crew are fallen out, the C.G. taking charge will dress the gun's crew by the right. Whoever fell the gun's crew out will stand them at ease.

CLOSING UP IN QUICK TIME.

At the order "**Close up**," all numbers, moving together, will close up as already detailed.

"Close up."

NUMBERING.

At the order "**Number**," each man in succession will call his number sufficiently loud for the remainder of the gun's crew to hear.

CHANGING ROUNDS.

At the order "**Change rounds**," each man adds one to his number and closes up in his new position, the highest number becoming G.L. When there are spare numbers the highest spare number becomes G.L., the highest number at the gun becoming lowest spare number.

"Change rounds."

FALLING OUT IN QUICK TIME.

At the order "**Fall out**," all numbers, moving together, will fall out as already detailed.

"Fall out."

STILL AND REST.

The order "**Still**" is given to prevent an accident. At that order, 3 puts safety lever (where fitted) to safe and all numbers will remain perfectly still. Nothing cancels the order "**Still**," except the order "**Carry on**," when the last order given is carried out. (Anybody can give the order "**Still**.") At all guns, whatever the method of firing in use, the interceptor is at once to be opened on the order "**Still**."

To stop the drill for instructional purposes the order "**Rest**" is used. At that order, all numbers will turn to face the Instructor, those carrying weights placing them on the deck, and the whole standing at ease.

The Instructor gives the order "**Rest**" to point out mistakes or give fresh detail.

Nothing cancels the order "**Rest**," except the order "**Carry on**," when the last order given is carried out.

Note.—For demonstration purposes the Instructor may require all the gun's crew round one position of the gun. To do this, he will give the order "**Round the breech, Carry on**," or "**Round the elevating gear, Carry on**." At that order, the gun's crew and spare numbers will gather round the part named, so that all can see. When finished, the Instructor will order "**Gun's crew close up**,"

PART I. DRILL BEFORE FIRING.

DUTIES AT THE GUN.

One	..	..	..	Gunlayer.
Two	..	..	..	Breechworker.
Three	..	..	..	Loader.
Four	..	..	..	Trainer.
Five	..	..	..	Ammunition Supply to gun.
Six	..	..	..	Fuze Sightsetter.
Seven	..	..	..	Deflection Sightsetter.
				Repeats all orders.
Eight	..	..	..	} Fuze setters.
Nine	..	..	..
Ten	..	..	..	Fuze reader.
Eleven	..	..	..	Deflection calculator worker.

Note.—The Captain of the Gun is the senior substantive rating at the gun; in the absence of the O.O.Q., he is responsible for everything at the gun.

When the C.G. is not one of the loading numbers, the senior of the latter is responsible (under the C.G.) that the loading, etc., is properly carried out.

CLOSING UP.

Positions of the gun's crew when closed up :—

At the elevating wheel, facing the muzzle ..	ONE.
On the right in line with the breech, clear of the recoil, facing the muzzle ..	TWO.
On the left of the breech, clear of recoil, facing the muzzle ..	THREE.
At the training wheel, facing the muzzle ..	FOUR.
In rear of three, facing the muzzle ..	FIVE.
At the Fuze Sight dial and facing it ..	SIX.
At the deflection dials, and facing them ..	SEVEN.
At the Fuze setting position ..	EIGHT, NINE.
At the S.G.U. fuze plate, facing it ..	TEN.
In the rear of the gun, well clear, facing the muzzle ..	ELEVEN.

Falling Out.

As detailed in preliminary drill.

ACTION.

At the order "**Action**," all numbers clear away all obstructions in the way of working the gun.

Trainer raises the housing stop.

5 removes securing chains where fitted.

2 provides spare striker, semi-automatic wrench, and wrench No. 96 (for adjusting tension on the return spring), opens the breech and provides lanyard.

(Mk. I only—2 provides spare striker, semi-automatic wrench and wrench No. 96, sees the clutch lever to "**HAND**" and opens the breech).

3 removes tampion reporting to C.G. "**Tampion out.**"

G.L. and trainer move the gun through the full limits of elevation and training to see that everything is clear. Trainer will provide two telescopes, moving at the "**Quick**," handing one to the G.L. G.L. and Trainer ship, focus, and adjust power of their telescopes.

3, 5, 8 and 9 clear away Ammunition Supply, provide ammunition and remove clips from cartridges. Three rounds will be kept at the fuze setting position.

6 and 7 test through communications with the control.

6 and 7 move their sights through their full limits, returning the fuze curve sight to fuze 110 and Lateral and Vertical deflection to zero. Where a cosine sight is fitted, 6 sees bar set to "**AIR FUZES**."

8 and 9 provide fuze keys and test through communications with Control.

C.G. looks through the bore and reports to O.O.Q. "**No. . . . H.A. gun, Cleared Away, Bore Clear.**"

Notes:—

(i) This is the "**CLEARED AWAY**" position. Should the gun's crew leave the gun, ammunition is first to be returned. On returning to the gun, C.G. orders "**Provide Ammunition**," and sees and reports "**No. . . . H.A. gun's crew closed up (and state of bore)**" to O.O.Q.

(ii) Where the armament is so disposed that it is possible to fire on bearings which may cause injury to other guns or gun's crews, the O.O.Q., G.L. and Trainer are to make themselves acquainted with the limits of safe training of the gun.

When the Safety Stops have been removed, they must not allow their gun to be trained on dangerous bearings until the guns' crews affected have been withdrawn or the guns in the line of fire have been trained clear.

REPORT RECEIVERS.

Sightsetters and fuzesetters check the position of their fuze and deflection receivers as shown on the check cards, and 6 reports to the control "**Receivers Correct**" (or not).

TEST BREECH MECHANISM, HAND AND FIRING GEAR.

Mk. I GUN.

3 provides and inserts a drill cartridge, pressing well home to release the extractors. The breech block should rise slightly to act as a cartridge retainer.

2 closes the breech. 3 sees safety lever to "**FIRE**."

G.L. presses the trigger allowing striker to go forward.

2 removes cover plate, striker cover, main spring and striker, examines and replaces them.

2 reports "**Striker Correct.**"

On hearing this report, 3 recocks and places the Safety Lever to "**SAFE**," reporting "**Lever to Safe.**"

G.L. attempts to release the striker and then orders "**Lever to Fire.**"

3 places the lever to "**FIRE**" and reports "**Ready.**"

G.L. presses the trigger.

3, on hearing the striker go forward, recocks to confirm and reports "**Striker gone forward.**"

Mk. II GUN.

3 provides and inserts a drill cartridge. The breech block should rise slightly so as to act as a cartridge retainer.

2 closes the breech.

2 removes the striker, examines and replaces it, reporting "**Striker correct.**"

G.L. presses the trigger.

3, on hearing the striker go forward, recocks to confirm, and reports "**Striker gone forward.**" 2 opens the breech.

Mk. III AND IV GUNS.

As for Mk. II, but 2 leaves safety striker to "**SAFE**."

ALL GUNS.

G.L. reports "No. . . . GUN—Breech and Firing Mechanism correct."

Note.—At drill, the striker is never to be snapped with the gun empty, as this is liable to cause the striker to fracture. Except when testing firing gear immediately before firing or when releasing the striker on completion of drill or firing, the G.L. should go through the motions only of pressing the trigger.

TEST SEMI-AUTOMATIC GEAR (MARK I ONLY.)

2 orders "SEMI-AUTO" and places lever to "S.A."

3 places the clutch lever to "S.A." 2 then applies the wrench to the actuating lever and, forcing it down smartly, opens the breech and ejects the cartridge.

3 loads the drill cartridge as before. The breech should now close automatically. If it does not, the breech spring should be given more tension.

2 reports "Semi-Automatic Gear Correct" and opens the breech with the wrench.

2 unships the wrench and 3 returns the drill cartridge.

G.L. reports, "No. . . . Gun, Breech and Firing Mechanism Correct."

PART II.

DRILL WHEN USING THE STANDARD TEMPORARY SYSTEM OF H.A. CONTROL.

LOOK OUT BEARING.

Trainer trains to the bearing ordered.

AIRCRAFT IN SIGHT, BEARING AND ANGLE OF SIGHT.

G.L. and Trainer lay and train gun on the object named.

G.L. reports "Target" as soon as he is "ON."

Mk. I GUN :—

3 sees safety lever to "FIRE."

Mk. III AND IV GUNS :—

2 puts striker to "FIRE."

ALARM SIGNAL.

On receiving the order "AIRCRAFT IN SIGHT", the control will give several short rings on the fire gong, by hand.

DEFLECTION.

Deflection sightsetter sets lateral and vertical deflection as ordered, or showing on his deflection receivers.

Note.—Deflections are passed in degrees, half-degrees or quarter-degrees, *e.g.* :—

Two and a half right.

One and a quarter down.

FUZE.

6 sets the sight to the fuze ordered.

Fuzesetters set the fuze ordered on one round only, which is not to leave the fuzesetting position till the order "Commence."

This first round will be reset to any new fuzes which may be passed, up to the order "Commence."

Note.—Fuze lengths are passed in three figures. Thus 7.2 is called Oh seven two, and 11.9 double one nine.

COMMENCE.

The gun is only to be loaded if the target is in the field of view of the G.L.'s telescope, the G.L. calling "OFF" or "ON," as necessary. Should a fuze become "obsolete" while the G.L. is picking up the target or through any delay, it will be returned to the fuze setting position and replaced by the next fuze setting.

5 provides the round for the fuzesetters, reports "**Fuze . . .**" and hands it to 3, who loads it into the gun.

2 closes the breech (unless in Semi-auto) and reports "**Ready.**"

6 will set his sight to the fuze called by 5.

8 and 9 alternately set the next fuze and pass on one round each time a new fuze is ordered by control.

The gunlayer will fire the gun during the four seconds continuous ringing of the fire-gong. If a round is loaded as the gong stops it is to be fired by G.L. with the next salvo, whether he is "ON" or not, provided the gun is on a safe bearing.

The gun is reloaded in the usual manner each time.

At loading drill.—Where no devices are fitted to indicate that the remainder of the broadside has fired and that the gun itself has recoiled, the instructor, after satisfying himself that 2 is watching the gun, is to call "**Broadside Fired,**" this being followed by "**Gun Recoiled**" unless a missfire is being exercised.

STOP LOADING.

2 reports "**Gun Loaded**" or "**Gun empty.**"

If the gun is empty, it is left empty, breech open.

If the gun is loaded, C.G. will order "**Clear gun**" and G.L. fires to clear the gun.

Notes:—

(i) If it is required to re-open fire on the same target, the bearing and object will again be passed and the order "Commence," given as before. The same drill as for opening fire will then be carried out.

(ii) A round about to be loaded will be returned to the fuze-setting position and kept re-set with the latest fuze passed on the indicator.

(iii) Cartridges which have been dropped a distance of ten feet or more should be considered unserviceable until fitted with a new primer. Such ammunition should be set aside and returned to a N.A. Depot at the first opportunity.

ALTERNATIVE METHODS OF FIRING.**QUICK FIRING.**

(Mk. I Guns only.)

2 orders "Q.F." and places lever to "HAND."

3 places the clutch lever to "HAND." (This puts breech to Q.F., and when the gun recoils, 2 works the breech in hand).

SEMI-AUTO.

(Mk. I Guns only.)

2 orders "SEMI-AUTO" and places lever to "S.A."

3 places clutch lever to "S.A." and then as before.

MISSFIRES.

Notes:—

(i) If a gun, at the "READY," fails to fire at the first attempt, it is a missfired gun, until pronounced safe by the Officer of Quarters.

(ii) Every effort must be made to get the gun into action again, but on no account is the breech of a missfired Q.F. gun, using fixed ammunition, to be opened for at least 30 minutes. When this time has elapsed, the breech may be opened by order of the Officer of Quarters only.

(iii) After a missfire, the breechworker or other number is, as far as possible, to keep clear of the recoil of the gun. The gun is to be kept pointing in a safe direction.

(iv) Should any number notice an obvious cause of the missfire, he is at once to report it and, when remedied, the gun is brought to the "Ready" again as quickly as possible.

(v) If a gun missfires, the missfire drill is to be carried out and the gun fired the next time the fire gong rings.

MISSFIRE DRILL.

Should the gun fail to fire:—

G.L. removes his hand from the trigger, and orders "Still," reports "**Missfire,**" and orders "**Carry on.**"

2 sees breech closed and gun out.

(Mk. I gun—3 sees safety lever to "FIRE.")

Mks. III and IV guns—2 sees safety striker to "FIRE").

No report is made unless examination shows the cause of the missfire.

If no report is made, O.O.Q. or C.G. gives the necessary order as laid down in Col. 4 of the Missfire Drill Table. The gun's crew carry out the drill given in Col. 5 of the Table.

On all occasions after a missfire when "Ready" is reported, the G.L. is to fire the gun the next time the fire gong rings. Thus the round will be fired with a "stale" fuze.

PART III.

DRILL WHEN USING THE SINGLE GUN UNIT.

ENEMY IN SIGHT.

O.O.Q. controls the fire, ordering:—

"Aircraft in sight ; bearing ; Angle of Sight"

G.L. and T. train on the target. G.L. reports **"Target"** as soon as he has picked it up in his field of view.

**"Height (or Range at low angle of sight).
Target approaching (or going away)."**

10 sets the horizontal bar on the fuze plate. As soon as he hears the G.L. report **"Target,"** he will read off the next whole number fuze length ahead and order **"Fuze"** and continue calling the fuzes as they alter.

(When **"Range"** is ordered, he will read off the fuze against the range bar for that range.)

6 sets the fuze curve sight accordingly.

8 and 9 set the fuzes ordered, keeping 3 rounds fuzed to the latest fuze called by 10.

"Hour Angle ; Speed"

11 sets the Deflection Calculator accordingly and reads off vertical and lateral deflection, reporting **"..... up (or down) ; (left or right)."**

7 sets the deflection sights to the deflection called, reporting **"Deflection Set."**

OPENING FIRE.

O.O.Q. orders:—

"Open Fire."

10 calls the first fuze to be fired, and orders:—

"Fuze ; Commence."

5 takes the fuzed round from the fuze-setting position and hands it to 3, who loads it into the gun.

When 10 judges that the fuze ordered will be cut by the index wire in the next four or five seconds, he orders **"Fire."**

(At low angles of sight, when **"Range"** has been ordered, he will order **"Fire"** as soon as the gun is loaded.)

G.L. fires the gun. A second and third round are loaded by 3 and fired as rapidly as possible, all three with the same fuze, 2 reporting **"Ready Two"** and **"Ready Three."**

5 provides three more rounds at the fuze-setting position.

The Control Officer watches for bursts and if at low angle of sight, re-estimates range, which 10 uses to read fuzes during time of flight. C.O. re-estimates Hour Angle and Speed, and orders **"Commence."**

The fuze reader orders **"Fuze Commence"** and same procedure is carried out as before.

Note.—It is essential that the G.L. should be **"On"** at the moment 10 is predicting a fuze, and for this reason, G.L. should report **"On"** as often as possible whilst waiting to open fire and between the bursts of 3 rounds.

STOP LOADING.

10 is to continue to predict fuzes which are to be left set on 3 rounds, the sights, and the telescopes.

MISSFIRES.

See page 16.

MISSILES AT 3-INCH Q.F. H.A. GUNS, MARKS I (S.A.) II, III and IV.

1. 2. 3. 4. 5.

Means of Firing	Firing Position	Details of Missfire	Orders by O.O.Q. or C.G.	Detail and Remarks
Local	G.L. Firing Lever	First Missfire	"Re-cock"	Mark I gun—3 re-cocks by re-cocking lever Mark II, III and IV guns—2 re-cocks by hooking on and pulling re-cocking lanyard. 2 reports "Striker gone forward" or "Striker not gone forward." In the case of the Mk. I gun, 3 must judge by the effort required to re-cock and by the position of the roller on the re-cocking lever. In the case of the Mk. II, III and IV guns, 2 judges by position of the striker which projects from the breech. 2 reports "Ready." G.L. fires with the next salvo.
"	"	Second Missfire :— Case 1. Striker gone forward.	"Shift Striker"	2 reports on striker as above. (Mk. I gun—3 reports on striker). In the case of Mk. I, III and IV guns, G.L. orders: "Stand Clear" and presses the trigger, as the striker must be forward before it can be shifted. 2 moves striker and case complete, inserts spare and reports "Ready." G.L. fires with the next salvo.
"	"	Case 2. Striker not gone forward	"Fire by Lanyard" (except Mk. I gun). Mk. I gun only :— "Examine firing mechanism"	In the case of the Mk. II, III and IV guns, 2 hooks on firing lanyard and reports "Ready." G.L. orders "Fire." The Mk. I gun is not fitted for lanyard firing, and the firing mechanism of this gun would have to be examined.

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Local	G.L. Firing Lever	Third Missfire :— Case 1. Striker gone forward Case 2. Striker not gone forward	— "Examine firing mechanism" (except Mk. I gun).	2 reports on striker as above. (Mk. I gun—3 reports on striker.) Gun is a "missfired gun" and an interval of 30 minutes must be waited before breech is carefully opened.
"	"	"	"	

Note :—

- (a) If, in shifting lock, the firing pin is found broken, the broken piece should be removed, if possible, before shipping the new lock, otherwise a jam may occur.
- (b) With a "missfired gun," after waiting the proper interval, when 3 removes the round, he reports "Cap struck" or "Cap not struck." If cap has been struck, round is thrown overboard immediately.
- (c) During the time of waiting 30 minutes with a missfired gun, two sentries are to be posted, one to see that the mounting is kept trained on a safe bearing, and the other to prevent interferences with the breech mechanism.

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PART IV.

DRILL WHEN USING BARRAGE FIRE.

ENEMY IN SIGHT.

O.O.Q. controls the fire, ordering:—

"Aircraft in sight; bearing.....; angle of sight....."

G.L. and Trainer pick up the target using their forward area sights and report "Target" when they are on.

8 and 9 set the fuzes on the ammunition provided to the fixed barrage fuze ordered or check that ready use ammunition has its fuzes correctly set.

6 sets the barrage fuze setting on his sight.

7 sets Vertical and Lateral Deflection to Zero.

"COMMENCE."

G.L. reports "ON" if the target is in his field of view.

3 hearing this report, loads the gun with a round set to the barrage fuze length.

2 closes the breech (unless in semi-auto) and reports "Ready."

5 provides another round from 8 and 9.

G.L. will fire as soon as he hears 2 report "Ready"; and will continue to fire in "Independent," so long as his sights are on, unless he is ordered to "Stop loading" or "Cease Fire."

PART V.

DRILL FOR STAR SHELL FIRE.

In Star Shell firing the G.L. lays his gun to the fixed elevation for the Long or Short Fuze ordered, by spirit level on the elevating arc.

Training may be by Director or by Evershed. Stars are marked on either side of the black pointer of the training receiver and T. follows the red pointer with the star ordered. On the Evershed indicator at the gun two marks are engraved, one on either side of the centre line, which are used in the same way as the stars on the training receiver.

Firing is by G.L. and may be ordered from the Star shell Control Officer (S.S.C.O.) by means of a fire gong. If no fire gong is fitted for star shell firing, the G.L. controls and fires the first three rounds as rapidly as possible. He then continues to fire at the rate of about 8 rounds per minute.

ACTION.

The gun is cleared away as before detailed with the following additions:—

2 orders "Q.F." and puts lever to "HAND."

3 puts clutch lever to "HAND."

5, 8 and 9 provide two batches of star shell, fuzed already to LONG and SHORT fuze lengths respectively.

S.S. tests communication with S.S.C.O.

Note.—The Star shell charge is a reduced one; consequently the gun will not recoil far enough to eject the empty cylinder. For this reason the pawl lever is always put to Hand and the breech opened by 2.

LOOK-OUT BEARING. STAR SHELL LONG (OR SHORT) FUZE.

T. trains as previously detailed.

5 hands a round, fuzed Long (or Short), to 3, who prepares to load.

G.L. lays his gun to the fixed elevation for the fuze ordered.

STAR SHELL LOAD.

- 3 loads the gun.
- 2 sees the Safety lever to **SAFE** and reports, "**Half-cock.**"
- 5 provides another round.

OPENING FIRE.

S.S.C.O. orders :—

"**Alarm Starboard (or Port), bearing.....**"

G.L. and T. lay and train as ordered.

T. reports "**Trainer on.**"

2, having heard this report, puts Safety lever to "**FIRE,**" and reports "**Ready.**"

S.S. reports to S.S.C.O. "**Star Shell Ready**" upon receipt of instructions from G.L.

"STAR SHELL COMMENCE."

G.L. fires the gun.

2, seeing the gun recoil, opens the breech.

The gun is reloaded and fired again as previously described.

"STAR SHELL CHECK, CHECK, CHECK."

2 orders "**Half Cock.**"

3 puts safety lever to "**SAFE**" and reports "**Half Cock.**"
(Except with Mark II gun.)

If the gun is empty, it will be re-loaded and brought to the "**HALF COCK**" position.

PART VI.

DRILL AFTER FIRING.

CEASE FIRING.

G.L. removes his hand from firing lever and discontinues firing.

2 puts lever or striker to "**SAFE**" and reports "**Gun loaded**" or "**Gun empty.**"

(Mk. 1 gun—3 puts safety lever to "**SAFE.**"

2 reports "**Gun loaded**" or "**Gun Empty.**")

If the gun is empty, it is left empty and breech closed.

If gun is loaded, G.L. orders "**Out Cartridge.**"

3 puts clutch lever to "**HAND**" (Mk. I only), and 2 opens the breech carefully.

3 receives the cartridge and hands it to 5.

5 returns cartridge to Fuze Setting position, where the fuze is set to "**SAFE.**"

2 closes breech.

G.L. releases the striker (Mk. II, III and IV) : 2, holding the re-cocking toggle, eases the striker forward.

Notes :—

(i) Ammunition removed from its proper stowage should be dealt with in accordance with the table on page 24.

(ii) During a lull after prolonged or rapid firing, the gun should be allowed to cool by training it into the wind, with the breech open. Cooling by means of a hose or the application of a stream of water should never be employed.

Opportunity should also be taken during any lull to re-lubricate the threads of the breech block and breech opening.

SECURE.

G.L. and T. lay and train to the securing position.

T. lowers housing stop.

5 puts on securing chains, where fitted.

G.L. and T. unship telescopes, T. returning them to their boxes, moving at the "**QUICK.**"

3 replaces tampion.

6 and 7 return sights to fuze 040 and deflection to Zero.

5, 8 and 9 replace clips on cartridges. See fuzes to "SAFE."

All numbers replace gear they cleared away.

When C.G. is satisfied that everything is secured, he will report to O.O.Q. and control "No.....H.A. gun secured," and will then fall the gun's crew out.

Notes:—

(i) Sights should never be run hard down on their stops as this is likely to cause distortion.

(ii) No round that has had the fuze re-set to "SAFE" is to be returned to the magazine until unfuzed and clip replaced on the cartridge. No fuzed round is to be returned to the magazine until it has been inspected by the O.O.Q., to see that the fuze is set to "SAFE," and the clip is on the cartridge.

DISPOSAL OF AMMUNITION.

(i) The disposal of ammunition is dealt with fully in the Naval Magazine and Explosives Regulations.

(ii) The following table shows in brief the disposal of ammunition removed from its proper stowage in so far as the action required concerns the Officer of Quarters. All such ammunition is to be inspected by him or his deputy, who will see that all time fuzes, except those for the barrage ready use lockers, have been set to safe and then disposed of as shown in the following table:—

I.—AMMUNITION OTHER THAN MISSFIRED AMMUNITION.

Q.F. cartridges (fixed).—

- | | |
|---|---|
| 1. Removed from hot gun and heated | Fire the round if it cannot be used the same day. If this is not possible, throw overboard in deep water. |
| 2. Removed from cold gun or not heated. | Wipe clean, replace protecting clip, return to box and use at next opportunity. |
| 3. Not damaged nor wet | Wipe clean, replace protecting clip and return to box. |
| 4. Wet | If drenched, throw overboard in deep water. If not drenched, wipe dry, replace protecting clip and return to box for use at first opportunity or return to depot. |

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| 5. Damaged .. | Wipe clean, replace protecting clip, retain in separate box for return to depot. |
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6. Shell separated from cartridge:

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| (a) Round from hot gun and heated | Remove charge, break up and throw overboard. Fire primer and remove it. Eject and retain shell for return to Depot. |
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| (b) Round from cold gun or not heated | Wipe cartridge case clean, replace the protecting clip, retain in separate box for return to depot. Eject shell and retain it. |
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| 7. Fitted with tracer and been roughly used. | Throw overboard complete. |
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Fuzes—

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| 8. Time fuzes | Set to safe, unless required for R.U. barrage locker, and unfuze with precautions. |
| 9. D.A. fuzes | Replace cap and pin if they have been removed. |

II.—MISSFIRED AMMUNITION.

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| Cap struck | Throw overboard complete at once. |
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The two photos below are not part of the manual but have been included to show what the 3-inch Q.F. H.A. gun looks like. These photos were taken on HMS Royal Oak circa 1918. The source of these photos was the Imperial War Museum website.



