

NOT TO BE PUBLISHED.

The information given in this document is not to be communicated, either directly or indirectly, to the press or to any person not holding an official position in His Majesty's Service.

# THE CHARLTON SELF-LOADING RIFLE

(N.Z.).

1942.

E. V. PAUL, Government Printer, Wellington.

Army Headquarters, N.Z. Military Forces,  
General Staff Branch, 23rd May, 1942.

This pamphlet "The Charlton Self-loading Rifle," has been approved by the General Officer Commanding, N.Z. Military Forces, for issue to all concerned.

J. I. BROOKE, Lt.-Col., General Staff.

# THE CHARLTON SELF-LOADING RIFLE.

## GENERAL DESCRIPTION.

*Stores required: Rifle, magazine, dummies.*

1. **Name of Weapon:** The .303 in. Charlton Self-loading Rifle.
2. **Weight of Weapon:** Approximately 16½ lb. (with filled magazine).
3. **Rate of Fire:** (a) Repetition, approximately 30 aimed shots per minute.  
(b) Automatic, approximately 700 rounds per minute.
4. **Forces which Work the Rifle:** The rifle is worked by two forces—
  - (a) By gases which drive the working-parts to the rear; and
  - (b) By the return spring which drives the working-parts forward.
5. **Groups:** The weapon is divided into two main groups:—
  - (A) *The Barrel Group:* On the muzzle of the barrel are fitted the compensator and the blade type foresight with protectors; halfway along the barrel is fitted the folding bipod with adjustable telescopic legs, and the bipod stop; behind the bipod bracket is fitted the gas-port, and behind this the radiator to which is fitted the leaf and slide type backsight. Underneath the barrel is the fore grip and behind this the shield.  
On the right of the barrel and fitted to the gas-port are the gas-cylinder and return-spring tube.
  - (B) *The Body Group:* The body group consists of:—
    - (a) The piston, connected to the return-spring rod, and to which is fitted the bolt-operating arm with cam slot and cocking-handle; the piston guide and stop, which guides and supports the piston during its backward and forward movement and limits its backward travel.
    - (b) The modified rifle bolt with its actuating stud and the projection for automatic firing.

(c) The bracket to which is fitted the operating-arm catch, the rear cross-piece with bolt and cocking-piece stops, and the rear cross-piece-keeper screw.

(d) The modified rifle-body with ejector.

(e) The left and right trigger mechanism covers with their magazine guides. On the left cover is fitted the change lever which may be set at either "safety," "repetition," or "automatic."

(f) The magazine catch, trigger, trigger stop, and trigger guard, behind which is fitted the pistol grip.

(g) The butt.

6. **Feed:** The rifle is fed by a magazine holding ten rounds.

## STRIPPING AND ASSEMBLING.

*Stores required: Rifle and spanners.*

1. **To remove the Bolt:** Remove the keeper screw and raise the rear cross-piece. Push the operating-arm catch to the left, pull the cocking-handle about a quarter of an inch to the rear, and raise the operating-arm over to the right. Pull the bolt to the rear, raise the bolt head, and withdraw the bolt.

2. **To replace the Bolt:** Set the change lever at R. Ensure that the cocking-piece is in line with the resisting-lug and that the bolt head is screwed home.

Place the bolt in the body and push forward until the head is clear of the resisting shoulder, turn the bolt head over to the right, push the bolt forward, and lock it to the right.

Engage the actuating stud in the cam slot in the operating-arm and fasten the operating-arm. Lower the rear cross-piece and secure it. Pull the cocking-handle back two or three times to ensure the moving parts are working correctly. Press the trigger and set the change lever at "safe."

3. **To remove the Piston:** After raising the guide pawl, unscrew the piston-rod guide. Pull the piston to the rear until it clears the gas-cylinder; turn to the right and ease forward.

4. **To replace the Piston:** Reverse the order for removing.

**NOTE.**—Always ensure that the guide pawl engages in a recess in the piston-rod guide after replacing it.

5. **To remove the Return-spring Assembly:** Remove the nut on the front end of the gas-cylinder. Separate the return-spring tube at the front. Depress the return spring and sleeve on the rod; remove the ring clip. Allow the spring and sleeve to go forward. The piston rod, return-spring rod, and bolt-operating arm may then be removed by drawing them to rear.

6. To replace the Return-spring Assembly: Reverse the order of removing.

NOTES.--(1) Do not remove any nuts, bolts, screws, or parts of the rifle other than those mentioned above. All parts of the rifle other than those stated above will only be removed by an armourer.

(2) Paras. 5 and 6 for armourers only.

Care must be taken to ensure that the correct sized spanners are used when stripping and assembling.

Remember: Only strip the parts of the rifle mentioned above when necessary. After firing strip only the piston and bolt.

Ensure that all nuts, &c., are securely tightened after assembling.

Do not use excessive force and damage nuts and threads.

#### MECHANISM.

1. Backward Movement: Suppose the weapon to have just fired a round.

The gasses following the bullet up the barrel, pass through the gas-port into the gas-cylinder, where they strike the piston and force it to move to the rear.

The cam slot in the operating-arm, bearing against the actuating stud on the bolt, turns the bolt to the left, unlocks it and forces it to the rear. The piston has travelled about one inch to the rear before the bolt is unlocked.

As in the service rifle, as the bolt is turned to the left, primary extraction occurs, and the striker is withdrawn from the cap and the empty case is eased slightly from the chamber.

When the actuating stud has reached a vertical position on account of the bolt turning, the bolt is unlocked and free to travel to the rear, and the extractor claw, gripping the rim of the cartridge case, extracts the case from the chamber.

As the bolt travels to the rear the base of the cartridge case comes up against the ejector which forces the case off the face of the bolt and throws it clear of the weapon.

The piston and bolt then travel fully to the rear until they come up against their respective stops.

The return spring is compressed during this backward movement.

2. Forward Movement: The piston and bolt having reached the backward position, the piston is forced forward by the return spring and brings with it the bolt. During this movement the face of the bolt engages behind a round in the magazine and forces the round into the chamber.

As the operating-arm drives the bolt forward the cam slot is endeavouring to turn the bolt to the right and lock it. This locking occurs when the rear end of the rib of the bolt has reached and cleared the front end of the resisting shoulder, when the bolt is turned to the right and locked.

During the forward movement of the bolt the sear engages the bent of the cocking-piece and holds it in the cocked position until the bolt is locked and the sear depressed.

3. Firing Mechanism: With the change lever set at S the safety-catch prevents the trigger from being pressed.

With the change lever set at R, on pressing the trigger the sear is depressed and the cocking-piece is allowed to go forward. As the cocking-piece moves forward the bent strikes the trip lever and moves it forward, thus disengaging the sear from the trigger and allowing the sear to rise again ready to engage with the bent of the cocking-piece, when the bolt moves forward again. With the change-lever set at R the trigger must be pressed and this action repeated before the next round can be fired.

With the change lever set at A. With the bolt fully locked and the action cocked, the sear plunger is disengaged from, and the trigger engaged with, the sear. On pressing the trigger the sear will be depressed and the cocking-piece will be allowed to go forward. After depressing the sear, the trigger will disengage from it and will remain disengaged for such time as the trigger is kept pressed.

On the bolt turning to the left after firing a round, the sear-plunger and sear will be allowed to rise as soon as the cocking-piece has moved sufficiently far enough to the rear to allow this to happen. The sear will then engage with the bent of the cocking-piece as the bolt moves forward again. When the bolt is turning to the right after moving forward, the projection on the bolt will depress the sear-plunger, which will in turn depress the sear and allow the cocking-piece and striker to move forward and fire the round.

On releasing the trigger it will engage with the sear, and the sear-plunger will be lowered to a position where the projection on the bolt cannot strike it. The sear will therefore not be depressed and the rifle will stop with the action cocked.

### CARE AND CLEANING.

**Cleaning-materials :** Only materials approved for use with the service rifle will be used to clean this weapon.

**Daily Cleaning :** Normal cleaning as for the service rifle, but including the working portions.

**Before Firing :** Remove the bolt and piston. Thoroughly clean these parts and the remainder of the weapon. Leaving the face of the bolt, the piston, and the bore dry, oil the weapon and assemble it.

**After Firing :** Clean and oil as for the service rifle. Remove the bolt and piston and clean them. Do not scrape the carbon deposit off the head of the piston. All that is required is to oil it.

**Care of the Weapon :** Pay attention to all parts of the weapon and ensure that all nuts, bolts, and screws are tight. At the first sign of undue wear or damage, report the fact immediately in order that steps may be taken to remedy the defect.

Remember that by always taking care of your weapons, you will most likely be taking care of yourself when in a tight corner.

### IMMEDIATE ACTION.

As in all automatic and semi-automatic weapons, breakages are likely to occur with this rifle, and when this happens the parts affected will have to be repaired or replaced. However, there will be occasions when this rifle will stop owing to a fault which may be remedied by the firer on the spot.

Immediate action necessary to overcome temporary stoppages are as follows :—

(a) **Rifle Stops with the Bolt fully Home :** Pull back cocking-handle and let it go. If no round or empty case is ejected, change magazines, reload, aim, and fire.

If a live round is ejected and the rifle still will not fire, check to see if the action is cocked. If cocked, check position of the change-lever.

If the action is not cocked, pull back slowly and examine the round to see if the cap has been struck. If not struck the bolt will have to be changed.

(b) **Rifle Stops with the Bolt not fully Home :** Pull back cocking-handle and let it go, aim, and fire.

If the bolt will not go fully home, examine the bolt way for an obstruction. If a round is jammed by the bolt, pull cocking-handle back and remove round. Reload, aim, and fire.

If an empty case is found in the bolt way, pull back cocking-handle, remove empty case, let cocking-handle go, aim, and fire.

If a succession of these stoppages occur the rifle will have to be checked at the first opportunity, cleaned; and, if possible, tension taken off the return spring.

**NOTE.**—A small amount of tension may be taken off the return spring by shifting the sleeve on the return-spring rod to its forward position.

This adjustment will be carried out by armourers only.

### TO LOAD, TO FIRE, TO CHARGE MAGAZINES, TO UNLOAD.

(a) **To Load :** Set the change-lever at "Safe." Place a filled magazine in the rifle, pull back cocking-handle and let it go. The rifle is now loaded.

(b) **To Fire :** Set the change-lever at R or A, aim and press the trigger.

(c) **To Charge Magazines :—**

(i) Rifle unloaded; set change lever at S; place filled magazine in the rifle.

(ii) Rifle loaded, pull cocking-handle back slowly, depress rounds into the magazine, let bolt go forward over rounds, press trigger and set change lever at S.

(d) **To Unload :** Remove the magazine, clear the rifle, press the trigger, and set change lever at S.

### HANDLING.

**Firing positions :** The rifle can be fired from :—

- (a) The bipod.
- (b) The waist.
- (c) The shoulder.

(a) **From the Bipod :** Holding the butt with the right hand, place the bipod on the ground, change the grip of the butt to the left hand. Lie down directly behind the rifle, at the same time lowering the butt to the ground. Hold the rifle for firing the same as for the Bren and Lewis guns.

(b) **From the Waist :** Hold the rifle and adopt a position the same as for the Thompson sub-machine gun. The left

hand should hold the left leg of the bipod which should be gripped firmly and pulled slightly to the left to give a firm control of the rifle.

Greater control of the rifle will be obtained this way than if the fore grip was held.

(c) **From the Shoulder:** The rifle can be fired for short periods from the shoulder. From the waist position, raise the rifle to the shoulder, at the same time transfer the grip of the left hand to the fore grip. Bend the left knee slightly and lean into the rifle.

**NOTE.**—When firing automatic from the waist or the shoulder the rifle will throw the shots to one side. If fired from the right shoulder or side the shots will throw to the right. It will not be practicable to fire from the left shoulder or side owing to the firer being liable to be struck by the empty cases. Firm control of the weapon will overcome this tendency to throw the shots to one side.

#### EMPLOYMENT.

This weapon should be employed as a self-loading rifle capable of firing thirty or more aimed shots per minute, and also, in emergency, of firing automatic and thus providing a reserve of fire power within the unit.







