

**THE BROWNING  
HEAVY  
MACHINE GUN**  
**Mechanism Made Easy**

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*.300 calibre model 1917*

(WATER COOLED)

A L D E R S H O T  
GALE & POLDEN LIMITED

*One Shilling and Sixpence (net)*

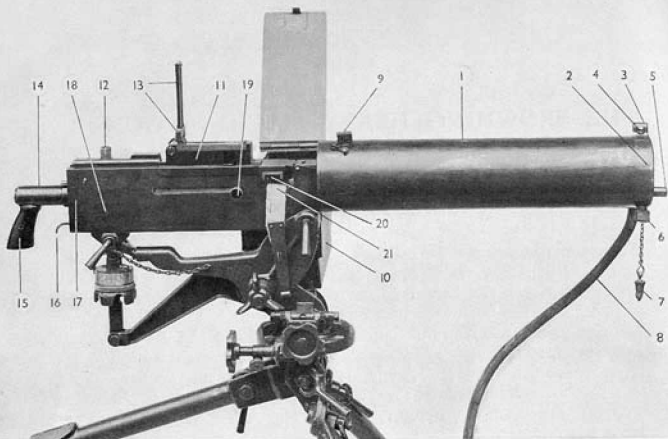
*(By Post, 1/8)*



***The Browning Heavy Machine Gun  
Mechanism Made Easy***

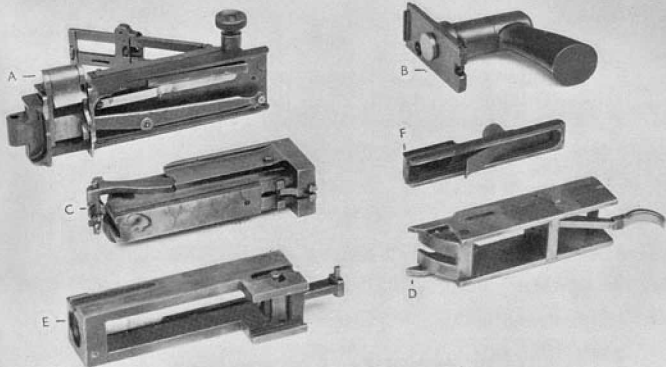
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## PLATE I

- |    |  |    |                           |
|----|--|----|---------------------------|
| 1  | Water jacket.  | 11 | Cover.                    |
| 2  | Water jacket end cap.                                | 12 | Cover latch.              |
| 3  | Foresight protector.                                 | 13 | Rearsight.                |
| 4  | Foresight.   | 14 | Shock absorber mechanism. |
| 5  | Barrel (muzzle end protruding through muzzle gland). | 15 | Pistol grip.              |
| 6  | Drain plug.  | 16 | Trigger.                  |
| 7  | Cork plug stem and chain.                            | 17 | Receiver.                 |
| 8  | Steam hose affixed to steam vent.                    | 18 | Trigger pin recess hole.  |
| 9  | Filler plug.   | 19 | Bolt handle.              |
| 10 | Ammunition box.                                      | 20 | Feedway.                  |
|    |  | 21 | Ammunition belt.          |



## PLATE 2

### *Illustrations of Assembled Groups*

- |                           |                             |
|---------------------------|-----------------------------|
| (A) Cover group.          | (D) Lock frame group.       |
| (B) Shock absorber group. | (E) Barrel extension group. |
| (C) Bolt group.           | (F) Cover latch.            |

## FIELD STRIPPING

This should be done in the following sequence :

- (1) Draw back cover latch, raise cover.
- (2) Pull back bolt handle to the rearmost position, hold in this position by placing left wrist firmly on top of receiver and holding bolt handle with fingers of the left hand. Insert rim of cartridge or screw-driver into the slit of the driving spring rod, which will be found protruding from rear of back plate. Push driving rod in as far as it will go, rotate in clockwise direction until slit is vertical ; this locks the driving rod and retains driving spring fully compressed in bolt.

- (3) Push bolt handle forward a few inches.
- (4) Push cover latch forward with left hand. Back plate of pistol grip may now be lifted up and out of receiver with right hand.
- (5) Pull bolt handle to rearmost position and withdraw bolt handle from bolt.
- (6) Grasp driving spring rod with right hand, withdraw bolt and support same with left hand. Turn extractor upwards and remove.
- (7) With nose of bullet, push in trigger pin (located in hole on the right side of receiver). Grasp lock frame spacer with left thumb and pull rearwards until lower projection of barrel extension drops down behind bottom plate of receiver.
- (8) Grasp lock frame and push forward on tips of accelerator ; this will separate lock frame from barrel extension.
- (9) Draw barrel extension and barrel to rear out of receiver.
- (10) Unscrew barrel extension from barrel.

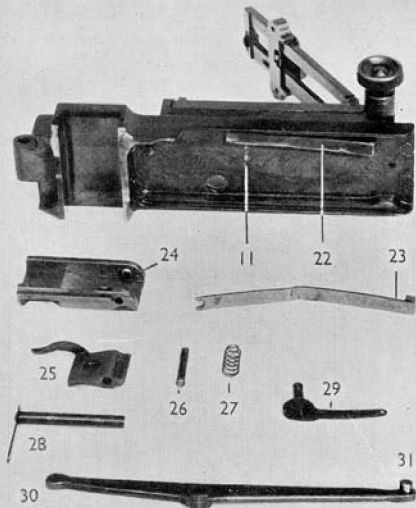
*NOTE: The above stripping 1-10 is what is normally needed under field conditions for a temporary stoppage necessitating a change of parts, etc. (see pp. 29-30, Stoppages).*

## **DETAIL STRIPPING OF GROUPS**

(PLATES 3, 4, 5, 6, 7)

### **COVER**

- (1) With point of bullet turn cover pin spring upwards, withdraw pin, remove cover.
- (2) With point of bullet turn feed lever pivot pin spring outwards, remove pivot pin, remove feed lever, remove belt feed slide.
- (3) Push out feed pawl pin. Remove feed pawl and feed pawl spring.
- (4) With point of bullet inserted between extractor cam and extractor spring, prise extractor spring away from extractor cam, remove extractor spring.



## PLATE 3

### *Cover Group Stripped*

- |    |                         |    |                                       |
|----|-------------------------|----|---------------------------------------|
| 11 | Cover.                  | 27 | Belt feed pawl spring.                |
| 22 | Cover extractor cam.    | 28 | Cover pin and spring.                 |
| 23 | Cover extractor spring. | 29 | Belt feed lever pivot pin and spring. |
| 24 | Belt feed slide.        | 30 | Belt feed lever.                      |
| 25 | Belt feed pawl.         | 31 | Belt feed lever actuating stud.       |
| 26 | Belt feed pawl pin.     |    |                                       |

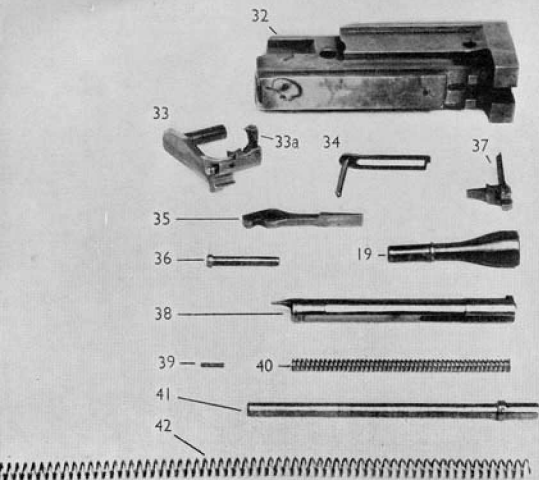


PLATE 4

*Bolt Group Stripped*

- |                          |                                  |
|--------------------------|----------------------------------|
| 19 Bolt handle.          | 37 Sear.                         |
| 32 Bolt.                 | 38 Striker.                      |
| 33 Extractor.            | 39 Striker spring retaining pin. |
| 33 <sup>a</sup> Ejector. | 40 Striker spring.               |
| 34 Sear spring and pin.  | 41 Driving spring rod.           |
| 35 Cocking lever.        | 42 Driving spring.               |
| 36 Cocking lever pin.    |                                  |

## SHOCK ABSORBER GROUP

(Stripping of this group is rarely needed except in case of repair)

- (1) Unscrew adjusting screw.
- (2) Remove adjusting screw plunger and the adjusting screw plunger spring.
- (3) Remove buffer discs (there are 16 of these), buffer plug, buffer ring and buffer plate.

## BOLT

- (1) Remove extractor.
- (2) With cocking lever in rearmost position insert point of bullet into trigger notch of sear. Press sear downwards, releasing striker.
- (3) Push out cocking lever pin.
- (4) Remove cocking lever.
- (5) With point of bullet push sear spring to left side of bolt.
- (6) Remove sear downwards. Replace sear spring in original position, sear spring and sear spring pin can now be removed upwards.
- (7) Tilt bolt upwards and striker and spring assembly will fall out.
- (8) To remove striker spring, push out striker spring retaining pin, taking care not to allow spring to fly out.
- (9) Remove driving rod and driving spring by turning driving rod notch to horizontal position and withdrawing spring and rod under control. (The driving spring is long, and care should be taken not to kink it. A quick withdrawal of driving rod will prevent this.)

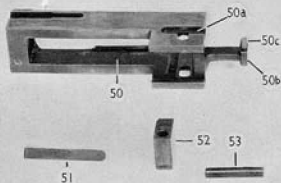


PLATE 6 (above)  
*Barrel Extension Group*

- 50 Barrel extension.
- 50a Lock frame projection grooves.
- 50b T-lug extension.
- 50c Barrel plunger stud.
- 51 Barrel lock spring.
- 52 Breech lock.
- 53 Breech lock pin.

PLATE 7 (below)  
*Cover Latch*

- 12 Cover latch.
- 54 Cover latch spring.

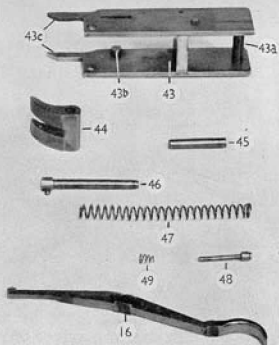


PLATE 5  
*Lock Frame Group*

- 16 Trigger.
- 43 Lock frame.
- 43a Lock frame spacer.
- 43b Accelerator stop.
- 43c Lock frame projections.
- 44 Accelerator.
- 45 Accelerator pin.
- 46 Barrel plunger.
- 47 Barrel plunger spring.
- 48 Trigger pin.
- 49 Trigger pin spring.

## **LOCK FRAME**

- (1) Push out trigger pin and remove trigger pin spring.
- (2) Remove trigger.
- (3) Push out accelerator pin, remove accelerator.
- (4) Push out barrel plunger head pin from slit in left side plate of lock frame. (Take care to keep spring under control whilst doing this.) Barrel plunger and barrel plunger spring may now be withdrawn.

## **BARREL EXTENSION**

- (1) Push out breech lock pin and remove breech lock.
- (2) Insert nose of bullet under forward shoulder of barrel lock spring and prise it forwards and remove it.

## **COVER LATCH**

Pull latch smartly to rear, removing it from its seat, remove cover latch spring.

## **TO REASSEMBLE GROUPS**

Each group should be reassembled in detail in the reverse order in which it has been stripped.

## **HEAD SPACE ADJUSTMENT**

This must be done before reassembly. By the term "head space" is meant the distance between the face of the bolt and the base of the barrel. When correctly adjusted the face of the bolt should firmly support the base of the cartridge in position in the chamber when the gun is fired.

### **TOO MUCH HEAD SPACE** (*i.e., adjustment is too loose*)

The base of the cartridge will not be firmly supported by the bolt face and when cartridge is discharged a separated case or a bulged case may result, causing difficult extraction.

### **TOO LITTLE HEAD SPACE** (*i.e., adjustment is too tight*)

(This can sometimes be detected by ear when the gun is being fired, as the bolt on its return to its forward position will give a dead sound effect.)

Binding of certain moving parts and slow rate of fire may result. It may not be possible for the mechanism to go fully home to the firing position, when the gun cannot be fired. Breakage of the barrel extension can result from firing the gun with head space too tight.

### **THE CORRECT HEAD SPACE ADJUSTMENT**

- (A) Partly screw barrel into barrel extension.
- (B) Remove extractor from bolt. With barrel and barrel extension in a horizontal position, place the bolt in its full forward home position in the barrel extension.
- (C) Lock bolt to barrel extension by lifting breech lock up into its seat ; hold it firmly in this position.
- (D) Continue screwing barrel into barrel extension until resistance is felt (other than that of the barrel lock spring).
- (E) Release breech lock which should now fall of its own weight, if the head space adjustment is correct.
- (F) Remove the bolt.
- (G) Note position of barrel lock spring ; if this is in between two barrel notches, screw barrel up to second notch. If barrel lock spring is seated in a barrel notch, screw barrel up to next notch.

It is advisable to mark barrel with this correct head space adjustment so that quick head space adjustment can always be made on subsequent stripping and reassembling.

### **REASSEMBLY OF GROUPS INTO GUN**

Screw barrel into barrel extension. Insert the barrel and the barrel extension (head space adjustment having been made) into receiver from the rear. Slide the barrel forward carefully with the left hand until the lower projection of the barrel extension butts against bottom plate of receiver. Grasp lock frame and place accelerator claws between rear face of barrel extension and forward faces of T lug extension, inserting at the same time the forward projections of the lock frame into their corresponding grooves in the barrel extension. Push forward on the lock frame, which will tip back accelerator claws and will compress barrel plunger spring, thus locking lock frame to barrel extension. (During this operation the trigger bar must pass between the two accelerator claws, otherwise it will interfere with the

accelerator tips and prevent them proceeding rearwards.) Ensure the lock frame is securely locked to the barrel extension ; raise and push forward into the receiver the assembled barrel, barrel extension and lock frame ; push in trigger pin, when the whole assembly can be pushed fully forward home, making sure of this by seeing trigger pin reseats itself in its recess in the right side of receiver. Test that everything is home by pulling on the lock frame spacer rearwards. Insert bolt, making sure extractor is in position, and that cocking lever is in fully forward position.

Insert bolt handle. Push forward cover latch, replace pistol grip and back plate. Pull cover latch to rear, locking back plate in position. Pull bolt handle to rearmost position and, with it so held, insert screw-driver or base of bullet into slit of driving rod, push in and turn anti-clockwise to horizontal position, thus releasing driving spring. Allow bolt to return to forward position.

## FINAL TEST OF HEAD SPACE ADJUSTMENT

Finally, test that the head space adjustment is correct as follows :—

Raise cover.

Raise extractor.

With mechanism in its fully forward position, take hold of bolt handle and withdraw it to rear  $\frac{1}{4}$  inch ; there should be no independent movement of bolt rearwards from base of barrel—*i.e.*, barrel and bolt should move together to the rear.

If there is any such movement of bolt independent of barrel, head space adjustment is too loose.

To rectify, insert combination tool or point of bullet between right side of receiver and barrel notches, and screw up barrel one notch.

To test for too tight head space adjustment, work cocking mechanism backwards and forwards by means of bolt handle. If head space is too tight moving parts will not work smoothly ; the breech will bind as it is locked. The mechanism may not go fully home, when the trigger cannot be pulled to release striker.

To rectify too tight head space adjustment, insert combination tool or point of bullet between left side of receiver and barrel notches and unscrew barrel one notch.

Any such head space adjustment carried out must be tested.

