

BLR FIELD SERVICE MANUAL



BROWNING FIELD SERVICE MANUAL

BLR

This manual is written to assist trained gunsmiths in the repair and servicing of Browning products. It should never be used by an untrained person to repair any firearm. Read the entire manual carefully and pay special attention to the portions dealing with safety.

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IMPORTANT SAFETY WARNINGS

Before performing any instructions given throughout this manual, be certain to read the **NOTES** and **CAUTION** notes given in regard to those instructions. Generally, these precautionary notes follow the related instructions.



Failure to obey a Safety Warning **CAUTION** - may result in injuries to you or to others.

Failure to obey a **NOTE** regarding the repair process may result in incorrect procedure which could cause malfunctions and/or damage to the firearm.



CAUTIONS:

1. Be certain the firearm is unloaded before proceeding with any service work.
2. Appropriate safety glasses should be worn by service personnel and bystanders when removing or reinstalling any springs or spring-loaded components.
3. As noted in the attached parts list on pages 2-3, some of the Browning supplied spare parts must be fitted by Browning Service Dept. in Arnold, Missouri, or qualified gunsmiths. No other persons should attempt to fit these specific parts.
4. If for any reason it becomes necessary to load and discharge this firearm, reference should be made to the Owners Manual for proper loading, handling and safety procedures. These Owners Manuals are supplied with each new rifle and extra copies may be obtained by contacting Browning, Route # 1, Morgan, Utah , 84050.
5. Read all of the instructions, cautions and notes on any step involving assembly or disassembly before proceeding with that step.
6. Section VI provides lists of special tools which may be required and the recommended points of lubrication.

SECTION I

GENERAL DESCRIPTION & FUNCTIONAL OPERATION

The BLR was first manufactured in Belgium by F.N. in 1971. Early in 1974 production was switched to Miroku of Japan. It was manufactured in two styles. The later, B-81, can be recognized by a flat Receiver and flush Magazine. See the Parts Schematic,

Section II, for parts interchangeability.

The BLR has a lever system unlike most lever actions. It contains a rotary bolt and works on a rack and pinion principal.

Bringing the Hammer back to the full cocked position compresses the Mainspring and allows the Sear to engage the full cock notch. When the Trigger is pulled, the Sear Link is brought into contact with the Sear. Continued pressure on the Trigger causes the Sear to be rotated by the Sear Link and disengaged from the Hammer. The Mainspring then drives the Hammer forward to strike the Firing Pin.

Inertia of the Firing Pin compresses the Firing Pin Spring and strikes and ignites the primer of the chambered round. The Firing Pin Spring then returns the Firing Pin to rest against the fallen Hammer. Upon releasing the Trigger, it along with the Sear Link are returned to the unfired position.

Lowering the Cocking Lever disengages the Cocking Lever Latch and rotates the Cocking Gear (rack and pinion). In turn, the Cocking Gear, meshed with the rack teeth of the Breech Bolt Slide, causes it to start moving to the rear.

In moving to the rear, the Breech Bolt Pins, engaged in the spiral slot of the Breech Bolt Lock, causes the Breech Bolt Lock to rotate and disengage from the locking lugs of the Receiver.

In moving further to the rear, the Breech Bolt Slide overrides and cocks the Hammer and the empty cartridge is extracted from the Chamber. Ejection occurs when the empty cartridge clears the forward end of the Ejection Port through action of the Ejector and compressed Ejector Spring located on the left side of the Bolt face. Full rearward travel of the Bolt is accomplished when the forward end of the Cocking Lever contacts the Cocking Lever Stop.

In closing the Action, the face of the Breech Bolt Lock is brought into contact with the base of the next round to be chambered. This causes the round to be fed from the Magazine into the Chamber. As the bolt nears its fully closed position, the Extractor is brought into contact with the chambered round and snaps over its rim. The Breech Bolt Pins, bearing upon the camming surfaces of the Breech Bolt Lock, rotates the Breech Bolt Lock into the locked position with the Receiver. The Cocking Lever Latch engages the Hammer Pin to hold the Cocking Lever into the closed position.

SECTION II

PARTS SCHEMATIC BLR & MODEL '81 BLR

BLR Lever Action Rifle—Grade I—Six Popular Calibers

PART NO.	PART NAME
†* PO75023	Barrel with Receiver 7mm-08, Model 81
†* PO75019	Barrel with Receiver .257 Roberts, Model 81
†* PO75016	Barrel with Receiver 243 Win-20"
†* PO75021	Barrel with Receiver 308 Win-20"
†* PO75025	Barrel with Receiver 358 Win-20"
†* PO75015	Barrel w/Receiver, 22-250, Model 81
†* PO75017	Barrel w/Receiver, 243 Win., Model 81
†* PO75020	Barrel w/Receiver, 308 Win., Model 81
†* PO75024	Barrel w/Receiver, 358 Win., Model 81
* PO75037	Bolt Assembly - Includes Breech Bolt Slide, Breech Bolt Pins (2), Breech Bolt Lock, Ejector, Ejector Spring, Ejector Pin, Extractor, Extractor Spring, Extractor Spring Follower, Firing Pin and Firing Pin Spring
* PO75038	Bolt Assembly, Model 81
* PO75041	Breech Bolt Slide
* PO75042	Breech Bolt Slide, Model 81
PO75043	Breech Bolt Pins (2) Each
* PO75046	Breech Bolt Lock
* PO75048	Breech Bolt Guide
* PO75060	Cocking Gear
PO75062	Cocking Gear Pin
PO75063	Cocking Gear Pin, Model 81
* PO75064	Cocking Lever
PO75065	Cocking Lever Latch
PO75066	Cocking Lever Latch Pin
PO75067	Cocking Lever Latch Spring
PO75068	Cocking Lever Pin
PO75069	Cocking Lever Pin, Model 81
* PO75070	Cocking Lever Stop
PO75080	Ejector
PO75087	Ejector Spring
PO75088	Ejector Pin
PO75095	Extractor
PO75097	Extractor Spring
PO75099	Extractor Spring Follower
* PO75110	Firing Pin, Model 81
* PO75112	Firing Pin
PO75113	Firing Pin Retaining Pin
PO75116	Firing Pin Retaining Pin, Inner & Outer, Model 81
PO75115	Firing Pin Spring

* Indicates part must be fitted by Browning Service Department or qualified gunsmith.

†* Part may be purchased only by holders of current valid Federal Firearms Licenses.

NOTE: Unless otherwise indicated, part is interchangeable between gauges/calibers.

PART NO.	PART NAME
* PO75120	Forearm
* PO75122	Forearm, Lacquer Finish
* PO75123	Forearm, Model 81
PO75124	Forearm Band
PO75125	Forearm Pin
PO75128	Forearm Bolt
PO75130	Forearm Bolt Spacer - Inner
PO75132	Forearm Bolt Spacer - Outer
PO75134	Forearm Tube
PO75135	Forearm Tube Pin
* PO75137	Hammer
* PO75133	Hammer, Model 81
PO75138	Hammer Pin
PO75136	Hammer Pin, Model 81
* PO75139	Hammer Stop
PO75142	Magazine Complete 22/250
PO75144	Magazine Complete .243, .308, .358, 7mm-08
PO75146	Magazine Complete .257 Roberts
PO75148	Magazine Base, Model 81
PO75150	Magazine Body
PO75152	Magazine Body, Model 81
PO75154	Magazine Spring
PO75155	Magazine Spring, Model 81
PO75156	Magazine Follower
PO75157	Magazine Follower, 22-250 Model 81
PO75158	Magazine Follower, 243, 308, Model 81
PO75160	Magazine Follower Rivet
PO75162	Magazine Follower Rivet, Model 81
PO75200	Magazine Latch
PO75202	Magazine Latch, Model 81
PO75208	Magazine Latch Spring
PO75210	Magazine Latch Pin
PO75212	Magazine Latch Pin, Model 81
* PO75220	Mainspring
* PO75221	Mainspring, Model 81
PO75224	Mainspring Follower
PO75226	Mainspring Guide
PO75228	Mainspring Guide, Model 81
PO75230	Mainspring Tube
PO75232	Mainspring Tube, Model 81

* Indicates part must be fitted by Browning Service Department or qualified gunsmith.

†* Part may be purchased only by holders of current valid Federal Firearms Licenses.

NOTE: Unless otherwise indicated, part is interchangeable between gauges/calibers.

PART NO.	PART NAME
* PO75260	Sear
* PO75258	Sear, Model 81
* PO75262	Sear Spring
* PO75264	Sear Spring, Model 81
PO75266	Sear Pin
* PO75267	Sear Pin, Model 81
* PO75270	Sear Link
* PO75271	Sear Link, Model 81
PO75272	Sear Link Spring
PO75276	Sear Link Pin
PO75277	Sear Link Stop Pin
PO75280	Sight Assembly, Rear-Includes Sight Base, Sight Base Mounting Screw, Sight Aperture, Sight Adjusting Screw-Windage, Sight Adjusting Nut- Windage, and Sight Adjusting Screw-Elevation
PO75284	Sight Base - Rear
PO75286	Sight Base Mounting Screw - Rear
PO75290	Sight Aperture - Rear
PO75294	Sight Adjusting Screw - Rear Windage (2) Each
PO75298	Sight Adjusting Screw - Rear Elevation
PO75300	Sight - Front
PO75304	Sight Ramp - Front
PO75308	Sight Hood - Front
PO75312	Sling Eyelet - Front
PO75314	Sling Eyelet - Rear
* PO75330	Stock-Straight Grip with Fitted Recoil Pad
* PO75332	Stock-Straight Grip-Lacquer Finish with Fitted Recoil Pad
* PO75333	Stock, Model 81
PO75334	Stock Bolt
PO75336	Stock Bolt Washer
PO75339	Stock Bolt Lock Washer
PO75348	Telescope Mount Filler Screw (4) Each
* PO75350	Trigger
* PO75352	Trigger - Gold Plated
PO75354	Trigger Spring
* PO75358	Trigger Adjusting Screw
* PO75360	Trigger Pin

* Indicates part must be fitted by Browning Service Department or qualified gunsmith.

†* Part may be purchased only by holders of current valid Federal Firearms Licenses.

NOTE: Unless otherwise indicated, part is interchangeable between gauges/calibers.

SECTION III

INSPECTION AND DISASSEMBLY INTO SUB-ASSEMBLIES



CAUTION: Make certain the rifle is unloaded before any inspection or disassembly operations are performed.

1. PRE-DISASSEMBLY INSPECTION

A. FUNCTION

Check to see the Hammer has a full and half cock position and the rifle will dry fire from full cock and not from the half cock position. If improper, adjustment to the Sear Link or Trigger Adjusting Screw is required, which will be covered in Section VI.

NOTE: It is possible to manipulate the Hammer into a false half cock condition and the Hammer will fall from there if the Trigger is pulled. See CAUTION below.



CAUTION: This manipulation constitutes an unstable configuration of the Hammer and Sear and should never be practiced.

B. TRIGGER PULL

Check the Trigger pull for a let-off force of 4.5 to 6.5 lbs. If lighter, necessary parts must be replaced to correct. See NOTE below.

C. REGAIN

With the Hammer in the fully cocked position, partially disengage the Sear by slightly pulling the Trigger. Slowly release the Trigger and feel the searing surfaces re-engage fully. If they do not re-engage fully, necessary parts must be replaced to correct. See NOTE below.

NOTE: Almost always, the Hammer and Sear can be replaced and the criteria in Paragraphs B and C above will be met. Never alter the searing surfaces of the Hammer or Sear. Trigger pull can be increased, generally, by replacement of the Sear Spring.

2. DISASSEMBLY INTO SUB-ASSEMBLIES

NOTE: During disassembly all pins should be driven out from left to right.

Depress the Magazine Latch and remove the Magazine.

A. COCKING LEVER ASSEMBLY

Lay the rifle on its right side on a work surface.

It is suggested the rifle be supported off the bench with two pieces of cork approximately 1" x 2½" x 4".

Using a 3/16" punch, concaved on the end to fit the rounded pins, drive out the Cocking Lever Pin and Cocking Gear Pin as shown in Figure #1.



NOTE: These two pins are the two most forward of the three large pins in the Receiver.

After removal of the pins, remove the Cocking Lever Assembly along with the Cocking Gear and Cocking Lever Stop. (Reference Figure #7.)

B. STOCK

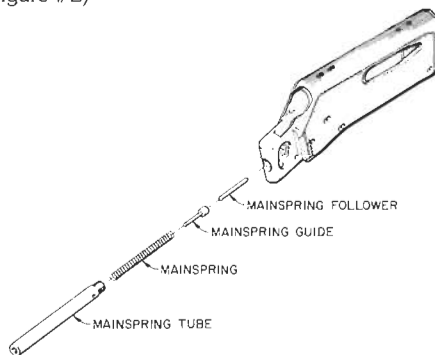
After removing the Recoil Pad, remove the Stock Bolt using the special screwdriver pictured in Section VI, Para. 2.

NOTE: A regular blade screwdriver can be accidentally positioned along side the Stock Bolt and when turned could burst out the side of the Stock.

After removal of the Stock Bolt, withdraw the Stock from the Receiver.

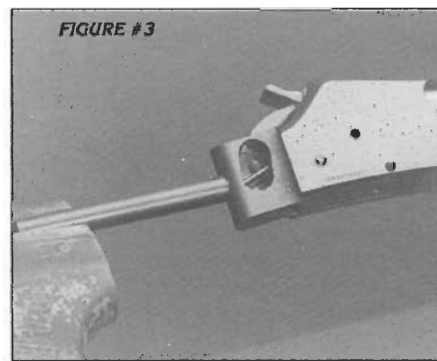
C. MAINSPRING TUBE ASSEMBLY (Figure #2)

FIGURE #2



Grip the Mainspring Tube in a smooth jawed vise as shown in Figure #3.

Grasp the Receiver and Forearm and unscrew the Mainspring Tube Assembly from the Receiver.



CAUTION: Make sure the Hammer is in the fired or half cock position.

After removal of the Mainspring Tube Assembly (tube, spring and guide) remove the Mainspring Follower.

D. BOLT ASSEMBLY

Place the Hammer in the full cock position and pull the Bolt Assembly to the rear and out of the Receiver.

E. HAMMER

Drive out the Hammer Pin from left to right with the concaved end punch and remove the Hammer.

F. SEAR

Remove the Sear Pin with a 3/32" punch and remove the Sear and Sear Spring.

NOTE: Further disassembly should not be required except for rebluing. If required, the procedure for disassembly and reassembly of the following parts is simple and requires no instruction.

1. Forearm Band, Forearm and Pin.
2. Forearm Bolt and Spacer.

3. Front Sight (drive out from left to right). Rear Sight - remove screw.
4. Magazine Latch Assembly.
5. Hammer Stop (pry up and lift

out). (If removed, replace with new part.)

6. Telescope Mount Filler Screws should be left in and removed after rebluing and rinsed. If these parts are to be removed, reassemble them before proceeding.

SECTION IV

DISASSEMBLY OF SUB-ASSEMBLIES INTO COMPONENT PARTS, INSPECTION & REASSEMBLY OF SUB-ASSEMBLIES

1. INSPECTION OF THE BARREL AND RECEIVER ASSEMBLY

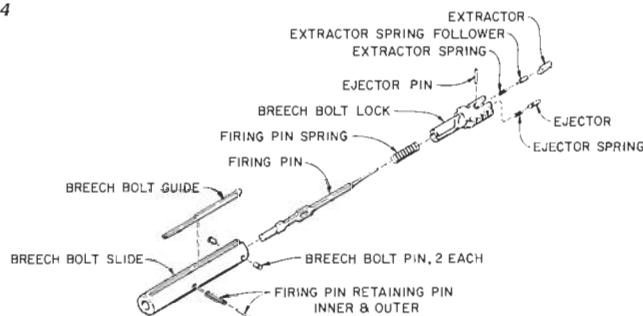
Inspect the Breech Bolt Guide in the top of the Receiver for tightness. It is staked to the Receiver in (6) places, (3) on each side of the forward end.

Sometimes looseness of the Breech Bolt Guide is caused by scope mount screws which are too long, extending down and interfering with the guide.

If found loose, the Breech Bolt Guide can be re-staked at the (6) stake points.

2. DISASSEMBLY OF THE BOLT ASSEMBLY (Figure #4)

FIGURE #4



A. BREECH BOLT LOCK

Rotate the Breech Bolt Lock approximately 90° clockwise and withdraw from the Breech Bolt Slide.

B. FIRING PIN SPRING

Invert the Breech Bolt Slide and let the Firing Pin Spring drop out.

C. FIRING PIN

The Firing Pin may be removed by removing the Firing Pin Retaining Pin with a 3/32" punch.

D. EJECTOR AND SPRING

Grip the Breech Bolt Lock by the neck in a smooth jawed vise and move the Ejector Pin from left to right approximately 5/32" with a 1/16" punch.

NOTE: Do not completely remove the Ejector Pin from the lock.

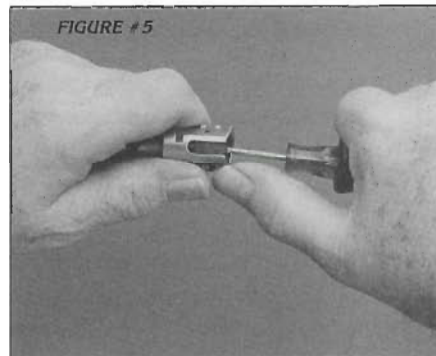


CAUTION: Do not let the Ejector and Ejector Spring fly out upon removal of the punch.

Remove the Ejector and spring.

E. EXTRACTOR, SPRING AND PLUNGER

The Extractor may be removed by prying it outward from the lock as shown in Figure #5. Retain the Extractor with the thumb also shown in Figure #5.



CAUTION: Do not let the Extractor Spring and Follower fly out of the Breech Bolt Lock.

Remove the Extractor Spring and Follower.

3. INSPECTION OF THE BOLT ASSEMBLY COMPONENTS

A. BREECH BOLT SLIDE

Inspect for tightness of the Breech Bolt Pins. If loose, replace with new pins. If still loose, it is recommended the Breech Bolt Slide be replaced with factory installed Breech Bolt Pins.

Inspect the gear teeth and replace the Slide if badly burred.

B. BREECH BOLT LOCK

NOTE: If for some reason the Breech Bolt Lock must be replaced, it is recommended the

rifle be returned to the Arnold Service Center. This is due to the difficulty in the selection of a Breech Bolt Lock that is compatible with the rifle being repaired.

If for some reason the Breech Bolt Slide was replaced, check for a free fit between the Breech Bolt Lock and the slide. (If they bind, do not attempt to free them.) Instead, select another new slide that will work freely with the lock.

Check the camming surfaces in the spiral slot of the neck. If burred, it's a contributing factor to a hard opening Action and the Breech Bolt Lock must be replaced.

Inspect the Ejector hole for burrs and accumulated dirt. Clean and polish as needed.

Inspect the face of the Lock for signs of rubbing where it interferes with the Barrel. Relieve in steps of .002" until the interference is eliminated.

NOTE: This will not affect head-space which is controlled by the Locking Lugs of the Lock and Receiver.

If the rifle was received to correct a complaint of hard opening, the recessed face of the Breech Bolt Lock may be opened to a maximum inside diameter of .490". However, this may or may not solve the problem.

C. FIRING PIN

Inspect the Firing Pin for a length of 5.195" ±.005". Misfires may occur on some rifles if the length of the Firing Pin is on the low end of the specification.

Inspect the forward end of the Firing Pin for pitting and replace if required.

D. EJECTOR AND SPRING

Inspect the Ejector to be sure it is free of burrs and polish if necessary.

Inspect the free length of the Ejector Spring and replace if shorter than .700".

E. EXTRACTOR AND SPRING

Inspect the Extractor to be sure it is sharp and free of burrs and replace if required.

Inspect the free length of the Extractor Spring and replace if shorter than .225".

4. REASSEMBLY OF THE BOLT ASSEMBLY

A. EJECTOR

Install the Ejector and spring in the Breech Bolt Lock and re-seat the Retaining Pin.

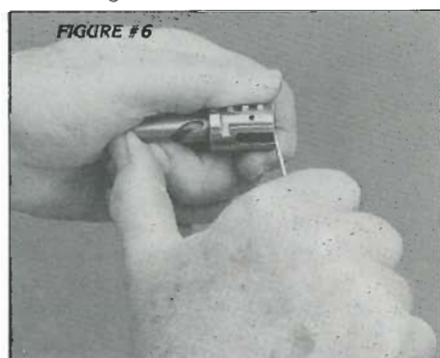


CAUTION: Use care not to let the Ejector and spring fly out of the Lock.

Depress and release the Ejector to see that it has free and unrestricted movement.

B. EXTRACTOR

Position the Extractor Spring and plunger in its hole in the Lock. Position the Extractor for installation and hold in position with the index finger of one hand as shown in Figure #6.



With the aid of a punch in the other hand, push the Extractor down into its locked position also shown in Figure #6.



CAUTION: Use care not to let the Extractor Spring and Follower fly out.

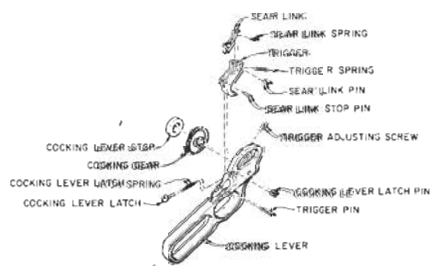
C. FIRING PIN AND BREECH BOLT LOCK ASSEMBLY

Position the Firing Pin for installation aligning the hole in the Firing Pin with that in the Breech Bolt Slide and install the Firing Pin Retaining Pin.

Position the Firing Pin Spring on the Firing Pin.

Install the Breech Bolt Lock Assembly in the Breech Bolt Slide posi-

FIGURE #7



tioning the Extractor on the right side of the slide as assembled in the rifle.

5. DISASSEMBLY OF THE COCKING LEVER ASSEMBLY (Figure #7)

A. TRIGGER ASSEMBLY

Remove the Trigger Pin from left to right with a 3/32" punch and remove the Trigger Assembly and Trigger Spring

NOTE: Further disassembly of the Trigger Assembly should not be required.

B. COCKING LEVER LATCH

Remove the Cocking Lever Latch Pin with a 3/32" punch and remove the Cocking Lever Latch and spring.



CAUTION: Use care not to let the spring-loaded components fly out upon removal of the punch.

C. TRIGGER ADJUSTING SCREW

NOTE: The Trigger Adjusting Screw is secured with Loctite at the factory and should not be adjusted or removed, even for rebluing. If adjustment is required, refer to Section VI.

6. INSPECTION OF COMPONENTS & REASSEMBLY OF THE COCKING LEVER ASSEMBLY

A. COCKING LEVER, COCKING GEAR AND STOP

Inspect the Cocking Lever for signs of deformity or damage and replace if required.

Inspect the Cocking Lever Stop and replace if found cracked or deformed.

Inspect the Cocking Gear to see that the small gear is secure in the large gear. If loose, replace with a new part. Also, check all gears for burred or missing teeth.

B. COCKING LEVER LATCH

Install the Cocking Lever Latch, spring and Retaining Pin in the Cocking Lever.

Check for free movement.

C. TRIGGER ASSEMBLY

Inspect the Sear Link for signs of alteration and replace if required. Refer to Section VI for adjustment procedure if replaced.

Check to see the Sear Link has free movement in the Trigger and does not bind.

Install the Trigger Assembly, Trigger Spring and Trigger Pin in the Cocking Lever.

7. FINAL ASSEMBLY

A. BARREL & RECEIVER ASSEMBLY

Place the Barrel and Receiver Assembly in a padded vise and grip in the inverted position.

B. SEAR

To aid in installation, place a small amount of petroleum jelly in the Sear Spring hole. Position the Sear in the Receiver with the spring towards the rear and the Hammer engaging notch towards the top of the Receiver. Install the Sear Pin from right to left.

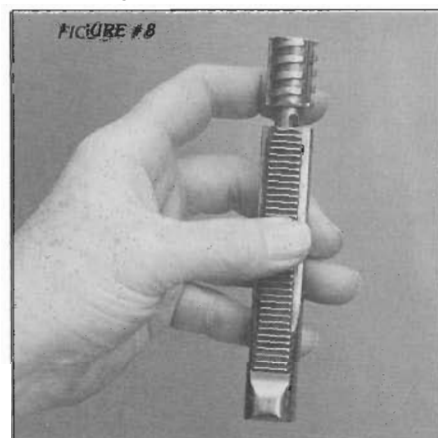
NOTE: Make sure the rear end of the Sear Spring is positioned square with the rear inside surface of the Receiver.

C. HAMMER

Install the Hammer and Hammer Pin and place the Hammer in the full cock position.

D. BOLT ASSEMBLY

With the Breech Bolt Lock partially extended from the slide as shown in Figure #8, insert the Bolt Assembly fully into the Receiver.



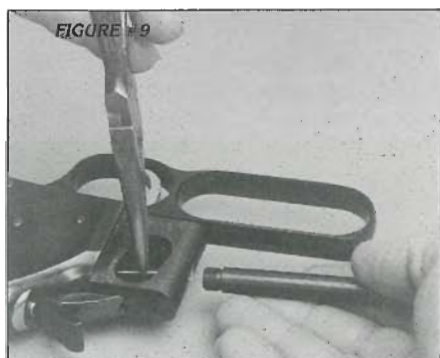
Trip the Sear with the aid of a small screwdriver and place the Hammer in the fired position.

E. MAINSPRING TUBE ASSEMBLY AND MAINSPRING FOLLOWER

Rotate the rifle in the vise and position the right side of the Receiver upwards.

With the aid of needlenose pliers, align the Mainspring Follower with the Hammer and install the Mainspring Tube, spring and guide as shown in Figure #9.

NOTE: Never let the Hammer fall with the Mainsprings installed without the Bolt Assembly in the Receiver or damage will result.

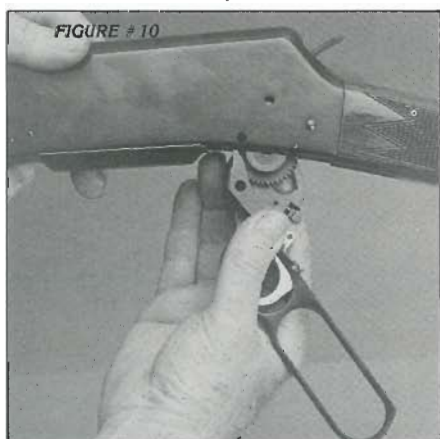


NOTE: Apply Loctite to the threads of the Mainspring Tube and tighten securely.

F. COCKING LEVER ASSEMBLY

Make sure the Hammer is in the fired position.

With the Cocking Gear and Cocking Lever Stop positioned at the forward end of the gear rack as shown in Figure # 10, position the Cocking Lever Assembly in the Receiver.



Install the Cocking Lever Pin from right to left and close the Cocking Lever.

Reach inside the Cocking Gear Pin hole with a 3/32" punch and position the Cocking Gear to allow insertion of the Cocking Gear Pin.

Install the Cocking Gear Pin from right to left and seat it with finger pressure only.

G. TIMING OF ACTION

With the Cocking Lever Pin partially seated, bring the Hammer back to the half cock position.

When the Action is properly timed, cocking the Hammer will allow the Breech Bolt Slide to move to the rear a maximum of .015" due to the

action of the Firing Pin Spring. Timing is acceptable if slide movement falls within .001" to .015".

This dimension may be measured with a feeler gage positioned between the forward end of the Breech Bolt Slide and the head of the Breech Bolt Lock.



CAUTION: If no clearance exists, the gearing of the Action may be damaged upon firing of the rifle. If the clearance is too great, the Breech Bolt Lock will not be properly locked.

Adjustment can only be made through trial and error. To adjust, remove the Cocking Gear Pin. With the Hammer in the fired position, reach through the Cocking Gear Pin hole with a small punch and change the relationship of the Cocking Gear by rotating it to a different position. To aid in this adjustment, simultaneously manipulate the Cocking Lever open and closed.

After proper timing has been achieved, drive all pins flush with the Receiver using a 3/16" punch with a concave end.

H. STOCK, RECOIL PAD AND MAGAZINE

Install the Stock, via the Stock Bolt and washers, using a special screwdriver such as pictured in Section VI.

Install the Recoil Pad and Magazine.

8. FINAL INSPECTION

Cycle the Action to ascertain proper assembly and function.

Perform inspection procedures given in Section III, Para. 1.A through 1.C, "PRE-DISASSEMBLY INSPECTION".

SECTION V

TROUBLESHOOTING/POSSIBLE CAUSES



CAUTION: Make certain the rifle is unloaded before performing any troubleshooting.

1. MISFIRE

- A. Firing Pin too short or damaged.
- B. Improper headspace.
- C. Weak Mainspring.

2. FEEDING PROBLEMS

- A. Fails to feed - open Magazine feed lips slightly.

- B. Feeds two or more cartridges at once - close feed lips slightly.

- C. Adjust front or rear Magazine feed lips as necessary to prevent the bullet from hitting the top or bottom chamber edge.

3. EJECTION PROBLEMS

- A. Check the Ejector for free movement without binding.
- B. Check the free length of the Ejector Spring and replace if shorter than .700".
- C. Check the Extractor for burrs and proper spring tension.
- D. Check to see the cartridges in the Magazine are not positioned too high so as to interfere with the empty case.

4. BOLT STICKING TO THE REAR

- A. Inspect the Breech Bolt Pins for protrusion above the surface of the Breech Bolt Slide. If loose, replace the pins or the slide.
- B. Check to see the Cocking Gear and Cocking Lever Stop are not binding due to burrs or dirt.
- C. The Bolt may be retracting too far to the rear and running off the Cocking Gear. Bend the forward end of the Cocking Lever that contacts the Cocking Lever Stop toward the stop.

5. HAMMER FALLS TO HALF COCK OR WILL FALL FROM HALF COCK WHEN TRIGGER IS PULLED

See Section VI for Trigger Adjusting Screw and Sear Link Adjustment Procedure.

6. MAGAZINE FALLS OUT OF RECEIVER

- A. Weak Magazine Latch Spring.
- B. Check the Magazine Latch notch on the Magazine.

7. HARD EXTRACTION

- A. Check the face of the Breech Bolt Lock for rub marks from interference with the Breech face. Relieve and polish if required.
- B. Check the spiral cut in the Breech Bolt Lock (camming surfaces) for burrs. Deburr and polish if necessary. If badly burred, return the rifle to the Arnold Service Center for replacement of the Breech Bolt Lock.

C. The recess in the face of the Breech Bolt Lock may be opened to .490" diameter if signs of interference with brass is apparent.

D. Inspect empty brass for signs of a rough chamber.

If rough, polish the chamber with 400 grit emery cloth. Do not over polish and open the dimensions of the Chamber.

E. Check for sharp Extractor corners digging into the cartridge rim. If sharp, round the lower corner.

8. TRIGGER DISPLAYS A TWO NOTCH EFFECT

Refer to Section VI, "TRIGGER ADJUSTING SCREW AND SEAR LINK ADJUSTING PROCEDURE".

SECTION VI

SPECIAL INSTRUCTIONS & ADJUSTMENT PROCEDURES

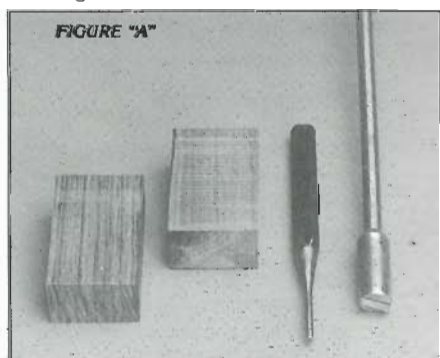
1. RECOMMENDED POINTS OF LUBRICATION DURING REASSEMBLY

The use of Browning Gun Oil is recommended in the following areas. Always use oil sparingly.

- A. Breech Bolt Lock.
- B. Breech Bolt Slide.
- C. Cocking Lever Pin.
- D. Cocking Gear Pin.
- E. Cocking Lever Latch.
- F. Sear Link Pin.
- G. Gear Teeth.

2. SPECIAL TOOLS

The following special tools shown in Figure "A" are recommended in servicing the BLR.



From left to right:

- A. Two cork blocks, 4" x 2 1/2" x 1".

B. 3/16" punch with a concave end.

C. Stock Bolt Screwdriver.

3. TRIGGER ADJUSTING SCREW & SEAR LINK ADJUSTING PROCEDURE

For the purpose of this procedure, we will assume the following:

- A. The Sear Link has been replaced with a new one.
- B. The Trigger Adjusting Screw is out of adjustment.
- C. The rifle is completely assembled except for the Cocking Lever Assembly.

Proceed as follows:

- A. Check to see the new Sear Link has free movement in the Trigger and is not restricted.

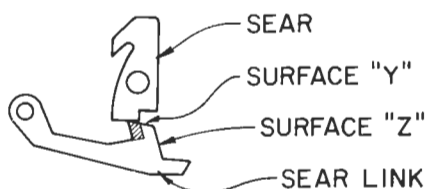
NOTE: The purpose of the Trigger Adjusting Screw is to remove excessive pre-travel movement in the Trigger. However, due to design, a relatively large amount of pre-travel is necessary.

- B. Turn the Trigger Adjusting Screw until the new Sear Link just contacts the bottom of the Sear with the Cocking Lever closed and the Trigger relaxed.

NOTE: In this adjustment procedure, the Cocking Gear and Cocking Lever Stop need not be installed.

When the Trigger Adjusting Screw is adjusted properly, the Sear and the Sear Link just touching without depressing the Sear Link, the relationship would appear as shown in Figure "B".

FIGURE "B"



- C. The crosshatched area of the Sear Link, shown in Figure "B" must now be filed out so contact can be made with the notch in the bottom of the Sear when the Trigger is pulled.



CAUTION: The filing of the Sear Link is very critical. The aft end of the cut must not be made any further aft than necessary for the contact of the two notches.

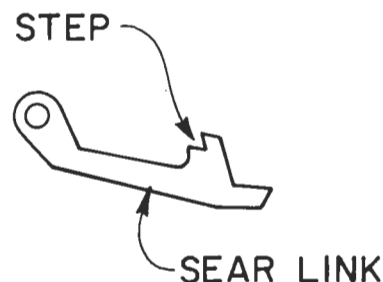
The aft end of the cut should also be made parallel to the Sear Link Surface "Z" also shown in Figure "B".



CAUTION: Do not remove any material from surface "Y" in Figure "B".

Make sure the cut-out in the Sear Link is made deep enough so surface "Y" will contact the Sear when the Trigger is pulled. Do not leave a step in the cut-out as shown in Figure "C" because malfunctions such as a "two step Trigger" may result.

FIGURE "C"



- 4. If the notch has been filed properly, the Trigger when pulled will cause the Hammer to fall from the full cock position. The Hammer will not fall if the notch in the Sear Link has been improperly filed too far one way or the other. If the Hammer does fall and is caught in the half cock notch, the cut-out in the Sear Link has been filed too far aft.
- 5. After the Sear Link has been adjusted properly and the Hammer has been dry fired from the full cock position, place the Hammer in the half cock position. See that the Hammer does not fall from the half cock position when the Trigger is pulled.

If the Hammer falls from the half cock position, remove the Cocking Lever Assembly and turn the Trigger Adjusting Screw counter-clockwise in increments of 1/4 turn until it does not.