

**B-80
FIELD
SERVICE
MANUAL**

 **BROWNING**

BROWNING FIELD SERVICE MANUAL B-80

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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BROWNING FIELD SERVICE MANUAL

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 at all times during service procedures.
3. As noted in the attached parts list on Page 3, some of the Browning supplied spare parts must be fitted by Browning Service Dept. in Arnold, Missouri or trained 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, it is recommended that reference be made to the Owners Manual for proper loading, handling and safety procedures. These Owners Manuals are supplied with each new firearm and extra copies may be obtained by contacting Browning, Route # 1, Morgan, Utah, 84050.
5. Read all of the instructions and cautions on any step involving assembly or disassembly before proceeding with that step.
6. Section VI gives special instructions, provides for recommended points of lubrication during reassembly, provides procedures for changing the drop of the stock and gives information with respect to special tools.

SECTION I

B-80 12 and 20 GA.

DESCRIPTION AND FUNCTIONAL OPERATION

The B-80 is a 4 shot semi-automatic gas operated shotgun containing chrome lined

barrels. Magnum 3" shells or 2 3/4" shells may be used by changing to barrels appropriately chambered. With the 3 shot adapter removed, magazine capacity is three 2 3/4" or 3" shells. The lightest of 2 3/4" shells will function in the gun with the installation of the Recoil Adapter.

The Recoil Adapter permits rearward movement of the Breech Bolt Assembly and Barrel by the action of recoil before the gas system acts to move the Breech Bolt Assembly. This initial rearward movement acts as a boost to the gas system. The Recoil Adapter is a thin shim located at the forward end of the Receiver and is held in place by the two Forearm Guide Screws.

For the purpose of functional operation explanation, assume the gun is loaded with shells in the Chamber and Magazine and the Carrier is retained in the partially lifted position by the Carrier Release. Shells are retained in the Magazine by the depressed Cartridge Stop Button. The Cartridge Stop Button is held in the depressed position by the partially lifted Carrier through contact with the Carrier Latch.

When the Trigger is pulled, it rotates about the Trigger Pin and its searing surfaces disengage the Hammer.

The compressed Mainspring then rotates the Hammer forward through connection with the left and right Hammer Bars.

In rotating, a notch on the bottom of the Hammer contacts a notch in the Carrier Release forcing it back into the Trigger Guard compressing the Carrier Release Spring and releasing the Carrier. The Carrier Spring then forces the Carrier downward a fraction of an inch.

In moving downward, the Carrier releases the Carrier Latch allowing it to rotate about its pin. In rotating, the Carrier Latch permits a shell to be released from the Magazine. The shell is forced to the rear by the Magazine Spring.

In moving to the rear, the shell comes in contact with the rear end of the Carrier Latch rotating the Cartridge Stop Button inward to retain the second shell in the Magazine. The first shell comes to rest against and above the Carrier.

When the Hammer strikes the Firing Pin, the Firing Pin Spring is compressed and the chambered round is ignited.

As the shot and wad column travel down the Barrel and pass the Barrel Gas Orifices, gas pressure is bled through the orifices into the Gas Cylinder forcing the Gas Piston to the rear. The piston, abutted to the Action Bar and Sleeve, imparts its rearward motion to the bar and sleeve. The Action Bar, in turn, being connected to the Bolt Slide, starts the Bolt Slide moving rearward.

In moving rearward, the Bolt Slide cams the Locking Block down and out of its locking

notch in the Barrel Extension to unlock the Action. After the Action is unlocked, the Bolt Slide makes positive contact with the Breech Bolt to start its rearward movement.

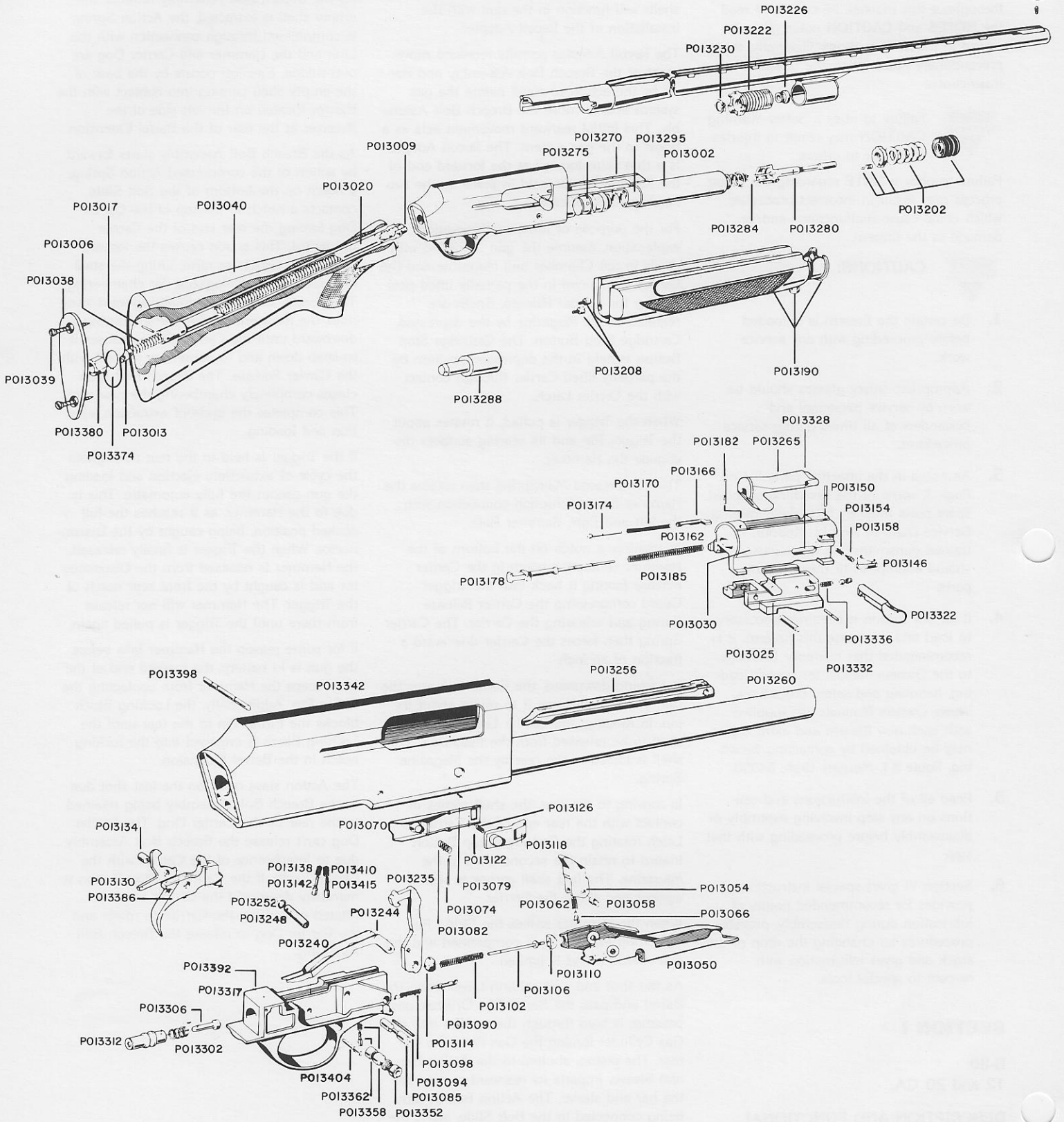
As the Breech Bolt Assembly retracts, the empty shell is extracted, the Action Spring is compressed through connection with the Link and the Hammer and Carrier Dog are over-ridden. Ejection occurs by the base of the empty shell coming into contact with the Ejector located on the left side of the Receiver at the rear of the Barrel Extension.

As the Breech Bolt Assembly starts forward by action of the compressed Action Spring, a notch on the bottom of the Bolt Slide contacts a notch in the top of the Carrier Dog forcing the rear end of the Carrier downward. This action causes the forward end of the Carrier to raise, lifting the shell released from the Magazine for chambering. The Breech Bolt, in continuing forward, overrides the front end of the Carrier moving it downward until the Carrier Spring causes it to snap down and to come into contact with the Carrier Release. The Breech Bolt then closes completely chambering the new shell. This completes the cycle of extraction, ejection and loading.

If the Trigger is held to the rear throughout the cycle of extraction, ejection and loading, the gun cannot fire fully automatic. This is due to the Hammer, as it reaches the full cocked position, being caught by the Disconnector. When the Trigger is finally released, the Hammer is released from the Disconnector and is caught by the front sear notch of the Trigger. The Hammer will not release from there until the Trigger is pulled again.

If for some reason the Hammer falls before the gun is in battery, the forward end of the Link keeps the Hammer from contacting the Firing Pin. Additionally, the Locking Block blocks the Firing Pin to the rear until the Locking Block is engaged into the locking notch in the Barrel Extension.

The Action stays open on the last shot due to the Breech Bolt Assembly being retained to the rear by the Carrier Dog. The Carrier Dog can't release the Breech Bolt Assembly due to interference of the Carrier with the Carrier Latch. If the Cartridge Stop Button is manually depressed the Carrier Latch is rotated permitting the Carrier to rotate and the Carrier Dog to release the Breech Bolt Assembly.



SECTION II

PARTS SCHEMATIC

B-80 Gas Operated Semi-Automatic Shotgun 12 & 20 Gauge

| PART NO. | PART NAME | PART NO. | PART NAME |
|-----------|--|------------|--|
| PO13002 | Action Bar & Sleeve 12 Ga. | PO13185 | Firing Pin Spring 12 & 20 Ga. |
| PO13004 | Action Bar & Sleeve 20 Ga. | PO13190 | Forearm Field 12 Ga. |
| PO13006 | Action Spring 12 & 20 Ga. | PO13192 | Forearm Superlight 12 Ga. |
| PO13009 | Action Spring Follower 12 & 20 Ga. | PO13196 | Forearm Field 20 Ga. |
| PO13013 | Action Spring Plug 12 & 20 Ga. | PO13200 | Forearm Cap Assembly 12 & 20 Ga. (Assembled) |
| PO13017 | Action Spring Plug Pin 12 & 20 Ga. | PO13202 | Forearm Cap Assembly with eyelet 12 & 20 Ga. |
| PO13020 | Action Tube 12 & 20 Ga. | PO13208 | Forearm Guide Screws 12 & 20 Ga. (2 Per Gun) |
| * PO13025 | Bolt Slide 12 Ga. | PO13222 | Gas Piston 12 Ga. |
| * PO13027 | Bolt Slide 20 Ga. | PO13224 | Gas Piston 20 Ga. |
| PO13030 | Breech Bolt 12 Ga. | PO13226 | Gas Piston Seal 12 & 20 Ga. |
| PO13035 | Breech Bolt 20 Ga. | PO13230 | Gas Piston Seal Retaining Ring 12 & 20 Ga. |
| * PO13038 | Butt Plate, 12 Ga. Superlight | * PO13235 | Hammer 12 Ga. |
| PO13039 | Butt Plate Screw | * PO13237 | Hammer 20 Ga. |
| * PO13040 | Butt Stock 12 Ga. Field | * PO13240 | Hammer Bar Right 12 & 20 Ga. |
| * PO13045 | Butt Stock 20 Ga. Field | * PO13244 | Hammer Bar Left 12 & 20 Ga. |
| * PO13043 | Butt Stock, 12 Ga. Superlight | PO13248 | Hammer Pin 12 Ga. |
| * PO13050 | Carrier 12 Ga. | PO13250 | Hammer Pin 20 Ga. |
| * PO13052 | Carrier 20 Ga. | PO13252 | Hammer Pin Circlip 12 & 20 Ga. |
| * PO13054 | Carrier Dog 12 & 20 Ga. | PO13256 | Link 12 Ga. |
| PO13058 | Carrier Dog Pin 12 & 20 Ga. | PO13258 | Link 20 Ga. |
| PO13062 | Carrier Dog Spring 12 & 20 Ga. | PO13260 | Link Pin 12 Ga. |
| PO13066 | Carrier Dog Spring Follower 12 & 20 Ga. | PO13262 | Link Pin 20 Ga. |
| PO13070 | Carrier Latch 12 & 20 Ga. | PO13265 | Locking Block 12 Ga. |
| PO13074 | Carrier Latch Pin 12 & 20 Ga. | PO13267 | Locking Block 20 Ga. |
| PO13078 | Carrier Latch Lock Pin 12 & 20 Ga. | PO13270 | Magazine Spring 12 Ga. |
| PO13079 | Carrier Latch Lock Pin, 12 Ga. Superlight | PO13272 | Magazine Spring 20 Ga. |
| PO13082 | Carrier Latch Spring 12 & 20 Ga. | PO13275 | Magazine Spring Follower 12 Ga. |
| PO13085 | Carrier Pin 12 Ga. | PO13277 | Magazine Spring Follower 20 Ga. |
| PO13087 | Carrier Pin 20 Ga. | PO13280 | Magazine Spring Retainer & Forearm Cap Stud 12 Ga. |
| PO13090 | Carrier Release 12 Ga. | PO13282 | Magazine Spring Retainer & Forearm Cap Stud 20 Ga. |
| PO13092 | Carrier Release 20 Ga. | PO13284 | Magazine Spring Retainer Lock Spring |
| PO13094 | Carrier Release Pin 12 & 20 Ga. | PO13288 | Magazine Three Shot Adaptor 12 Ga. |
| PO13098 | Carrier Release Spring 12 Ga. | PO13290 | Magazine Three Shot Adaptor 20 Ga. |
| PO13100 | Carrier Release Spring 20 Ga. | PO13295 | Magazine Tube 12 Ga. |
| PO13102 | Carrier Spring 12 & 20 Ga. | PO13298 | Magazine Tube 20 Ga. |
| PO13106 | Carrier Spring Guide 12 & 20 Ga. | PO13302 | Mainspring 12 & 20 Ga. |
| PO13110 | Carrier Spring Guide Pivot Front 12 & 20 Ga. | PO13306 | Mainspring Guide 12 & 20 Ga. |
| PO13114 | Carrier Spring Guide Pivot Rear 12 & 20 Ga. | PO13312 | Mainspring Support 12 & 20 Ga. |
| PO13118 | Cartridge Stop Button 12 & 20 Ga. | PO13317 | Mainspring Support Pin 12 & 20 Ga. |
| PO13122 | Cartridge Stop Pin 12 & 20 Ga. | PO13322 | Operating Handle 12 Ga. |
| PO13126 | Cartridge Stop Spring 12 & 20 Ga. | PO13324 | Operating Handle 20 Ga. |
| * PO13130 | Disconnecter 12 & 20 Ga. | PO13328 | Operating Handle Retainer 12 & 20 Ga. |
| PO13134 | Disconnecter Pin 12 & 20 Ga. | PO13332 | Operating Handle Retainer Pin 12 Ga. |
| PO13138 | Disconnecter Spring 12 & 20 Ga. | PO13334 | Operating Handle Retainer Pin 20 Ga. |
| PO13142 | Disconnecter Spring Guide 12 & 20 Ga. | PO13336 | Operating Handle Retainer Spring 12 & 20 Ga. |
| PO13146 | Extractor 12 Ga. | †* PO13340 | Receiver 12 Ga. |
| PO13148 | Extractor 20 Ga. | †* PO13346 | Receiver 20 Ga. |
| PO13150 | Extractor Pin 12 & 20 Ga. | †* PO13342 | Receiver, 12 Ga. Superlight |
| PO13154 | Extractor Spring 12 & 20 Ga. | PO13350 | Recoil Adaptor Standard 12 Ga. Only |
| PO13158 | Extractor Spring Plunger 12 & 20 Ga. | PO13351 | Recoil Adaptor, Alloy, 12 Ga. |
| PO13162 | Ejector 12 & 20 Ga. | PO13353 | Recoil Adaptor, 20 Ga. |
| PO13166 | Ejector Pin 12 & 20 Ga. | * PO13352 | Safety 12 & 20 Ga. |
| PO13168 | Ejector Pin, 12 Ga. Superlight | * PO13354 | Safety, Left Hand, 12 & 20 Ga. |
| PO13170 | Ejector Spring 12 & 20 Ga. | PO13358 | Safety Spring 12 & 20 Ga. |
| PO13174 | Ejector Spring Follower 12 & 20 Ga. | PO13362 | Safety Spring Follower 12 & 20 Ga. |
| PO13178 | Firing Pin 12 Ga. | PO13368 | Sight Bead Front 12 & 20 Ga. |
| PO13180 | Firing Pin 20 Ga. | PO13374 | Stock Retaining Plate 12 & 20 Ga. |
| PO13182 | Firing Pin Retaining Pin 12 Ga. | PO13380 | Stock Nut 12 & 20 Ga. |
| PO13184 | Firing Pin Retainin Pin 20 Ga. | | |

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

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

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

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

| PART NO. | PART NAME |
|-----------|------------------------------------|
| * POI3386 | Trigger 12 & 20 Ga. |
| POI3392 | Trigger Guard 12 Ga. |
| POI3395 | Trigger Guard 20 Ga. |
| POI3398 | Trigger Guard Retaining Pin 12 Ga. |
| POI3401 | Trigger Guard Retaining Pin 20 Ga. |
| POI3404 | Trigger Pin 12 & 20 Ga. |
| POI3410 | Trigger Spring 12 & 20 Ga. |
| POI3415 | Trigger Spring Plunger 12 & 20 Ga. |

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 †* Part may be purchased only by holders of current, valid Federal Firearms License.
 NOTE: Unless otherwise indicated, part is interchangeable between gauges/calibers.

SECTION III

INSPECTION AND DISASSEMBLY INTO SUB-ASSEMBLIES



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

1. PRE-DISASSEMBLY INSPECTION

- A. With the Action cocked and the Safety in the "OFF SAFE" position, check the Trigger pull to a let-off force of 4 to 5 lbs. for target guns and 5 to 6 lbs. for field guns.
- B. With the Action cocked and the Safety in the "OFF SAFE" position, only partially disengage the searing surfaces by slightly pulling the Trigger. Slowly release the Trigger and feel the searing surfaces regain to full engagement.
- C. With the Action cocked and the Safety in the "ON SAFE" position, pull the Trigger with the index finger of both hands simultaneously as hard as possible and make sure the Hammer does not fall.
- D. Make sure that the Hammer is not caused to fall by pushing the Safety to the "OFF SAFE" position.
- E. Work the Safety to the "ON SAFE" and "OFF SAFE" positions. It should work freely and detent positively into those positions.



CAUTION: If the gun fails any of the foregoing inspection sequences, necessary repairs must be accomplished to correct those discrepancies. If necessary, the gun should be sent to Browning Arms Company's service facility at Arnold, Missouri for such repairs.

2. DISASSEMBLY INTO SUB-ASSEMBLIES

A. FOREARM, BARREL AND GAS PISTON

Cock the Action and place the Safety to the "ON SAFE" position. With the Action closed, remove the Magazine Cap Assembly and lift the Forearm, Barrel and Gas Piston off the Receiver Assembly.

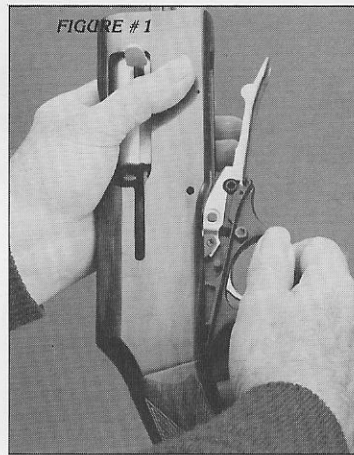
NOTE: Use care not to drop the Gas Piston.

B. TRIGGER GUARD ASSEMBLY

Lower the Carrier completely by pushing the Carrier Release to the rear with the index finger.

Remove the Trigger Guard Retaining Pin with a 1/8" punch.

Depress and hold the Cartridge Stop Button flush with the Receiver and lift the Trigger Guard Assembly forward, up and out of the Receiver as shown in Figure #1.



C. BREECH BOLT ASSEMBLY AND ACTION BAR AND SLEEVE

Grasp the Operating Handle and pull straight out of the Breech Bolt.

Grasp the Stock grip in one hand, the Action Sleeve in the other and pull the Breech Bolt Assembly and Action Bar and Sleeve out of the Receiver and off the Magazine Tube.

NOTE: Use care not to drop the Breech Bolt Assembly.

SECTION IV

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

NOTE: During the disassembly and reassembly process, inspect all parts for burrs, excessive wear, breakage or alteration and make repairs or replacements as necessary.

1. DISASSEMBLY OF THE TRIGGER GUARD ASSEMBLY

NOTE: If disassembly of the Trigger Guard Assembly is necessary, proceed as follows:

A. CARRIER ASSEMBLY, CARRIER PIN, SPRING, GUIDE AND PIVOTS (Figure #2)

Place the Hammer in the fired position by pulling the Trigger with one hand and slowly letting the Hammer down with the other.

While preventing forward movement of the Carrier by the Carrier Spring, remove the Carrier Pin with a 1/8" punch as shown in Figure #3.

FIGURE #2

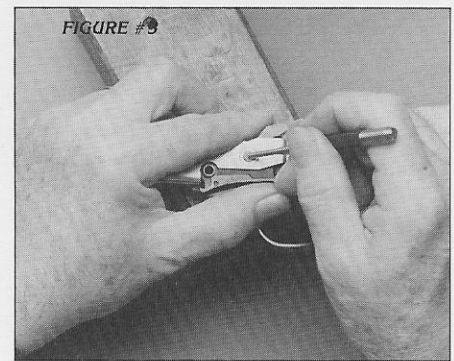
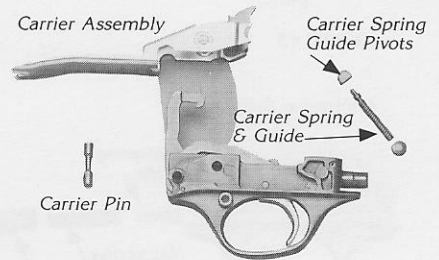


FIGURE #3



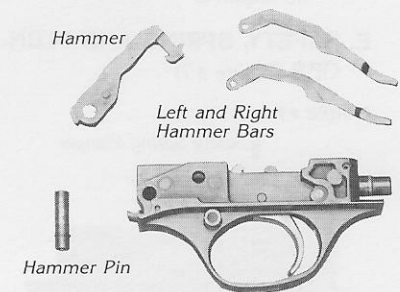
CAUTION: Use care not to let the Carrier Spring and guide fly out of the Assembly.

Remove the Carrier Assembly, Carrier Spring, guide and pivots.

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

B. HAMMER PIN, HAMMER AND HAMMER BARS (Figure #4)

FIGURE #4



With the Hammer in the fired position, remove the Hammer Pin along with its circlip attached.

Remove the Hammer and the left and right Hammer Bars.

C. MAINSPRING, SUPPORT PIN, SUPPORT AND MAINSPRING GUIDE (Figure #5)

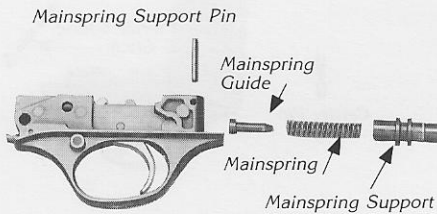
Remove the Mainspring Support Pin

with a 3/32" punch.



CAUTION: Use care not to let the spring-loaded components fly out of the Trigger Guard Assembly upon withdrawal of the punch.

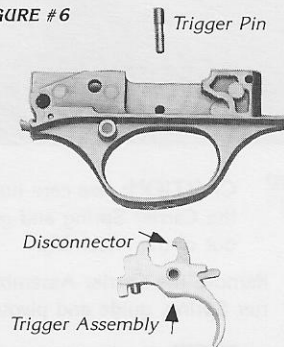
FIGURE #5



Remove the Mainspring Support, spring and guide.

D. TRIGGER ASSEMBLY (Figure #6)

FIGURE #6

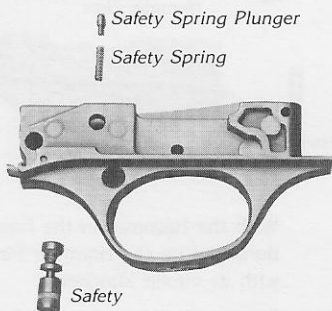


Remove the Trigger Pin from left to right and remove the Trigger Assembly.

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

E. SAFETY, SPRING AND PLUNGER (Figure #7)

FIGURE #7



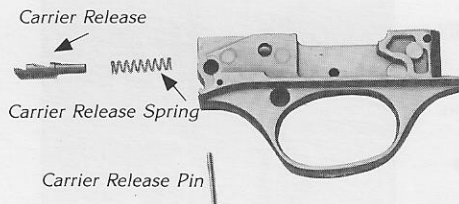
Using a pointed scribe, compress the Safety Spring and plunger located on the right side of the Trigger Guard and remove the Safety.

NOTE: Both left and right hand

Safeties are available for the B-80.

F. CARRIER RELEASE, SPRING AND PIN (Figure #8)

FIGURE #8



Remove the Carrier Release Pin with a 1/16" punch and remove the Carrier Release and spring.

2. INSPECTION AND REASSEMBLY OF THE TRIGGER GUARD ASSEMBLY

A. CARRIER RELEASE (Figure #8)

Install the Carrier Release, spring and pin and make sure that it works freely when depressed and released.

B. SAFETY (Figure #7)



CAUTION: Both left and right hand Safeties are available for the B-80. When a right hand Safety is installed properly and when the gun is held with the Trigger down and the Muzzle pointed away from the shooter, the red band is visible on the left side of the Trigger Guard with the Safety pushed to the "OFF SAFE" position or to the left of the Trigger Guard. When a left hand Safety is installed properly, the red band is visible on the right side of the Trigger Guard with the Safety pushed to the "OFF SAFE" position or to the right of the Trigger Guard.

Install the Safety by compressing the Safety Spring and plunger in their hole with a small blade screwdriver and installing the Safety according to the foregoing CAUTION note.

Move the Safety to the "ON SAFE" and "OFF SAFE" positions. It should work freely and detent positively into those positions.



CAUTION: A minimum force of 3 lbs. should be required to change its position. If necessary, replace the Safety components as required to correct.

C. TRIGGER ASSEMBLY (Figure #6)

Inspect the Trigger and Disconnecter searing surfaces and replace if those components have been altered.

The Disconnecter should work freely when its tail is depressed and released.

Place the Safety to "OFF SAFE" and position the Trigger Assembly for installation by pushing downward on the front portion of the Trigger to compress the Trigger Spring.

Align the holes of the Trigger and Trigger Guard and install the Trigger Pin from right to left.

The Trigger should work freely and return when pulled and released.

D. MAINSPRING, GUIDE, SUPPORT AND PIN (Figure #5)

Position the Mainspring, guide and support for installation with orientation as shown in Figure #5.

Compress the Mainspring and align the retaining groove of the Mainspring Support with the hole of the Trigger Guard. Maintain alignment with a 3/32" punch through the Mainspring Support Pin hole.

Drive out the punch with the Mainspring Support Pin.

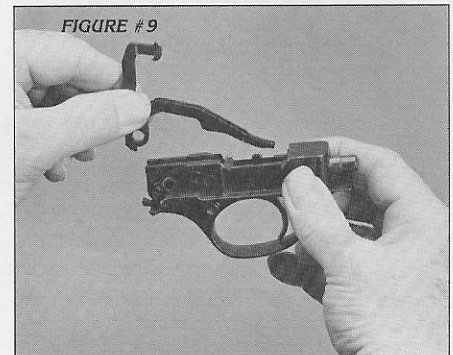


CAUTION: Use care not to let the spring-loaded components fly out of the Trigger Guard.

E. HAMMER AND HAMMER BARS (Figure #4)

Inspect the Hammer's searing notch and Disconnecter catch and replace the Hammer if found altered, worn or chipped.

Position the Hammer Bars on the Hammer with orientation as shown in Figure #9.



Position the rear end of the Hammer Bars against the Mainspring Guide. Align the Hammer Pin hole with the hole in the Trigger Guard and install the Hammer Pin with the clip from right to left.

F. TRIGGER INSTALLATION INSPECTION PROCEDURE

1. With the Safety in the "OFF SAFE" position, pull the Trigger fully to the rear and retain it there.
2. Cock the Hammer. It should be retained there by the Disconnect.
3. Release the Trigger. The Hammer should be caught by the Trigger's searing notch.

G. CARRIER ASSEMBLY, SPRING, SPRING GUIDE AND PIN

(Figure #2)

Lay the Trigger Guard Assembly on its right side on a work surface.

Position the rear pivot, Carrier Spring Guide, Carrier Spring and front guide pivot on the Trigger Guard Assembly.

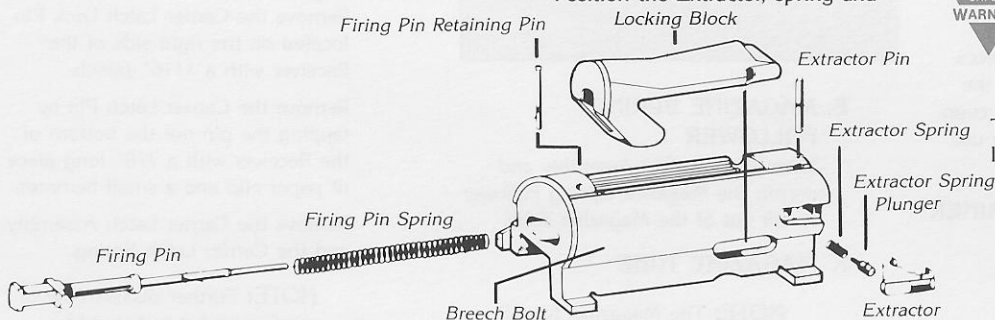
With the left hand, engage the notch of the Carrier Assembly into the front guide pivot and push rearward to position the Carrier Assembly. Install the Carrier Pin.



CAUTION: Use care not to let the spring-loaded components fly out of the Trigger Guard Assembly.

3. DISASSEMBLY OF THE BREECH BOLT ASSEMBLY (Figure #10)

FIGURE #10



If it has been determined disassembly of the Breech Bolt Assembly is required, proceed as follows:

A. FIRING PIN, SPRING AND LOCKING BLOCK (Figure #10)

Separate the Bolt Slide and Breech Bolt Assemblies by lifting apart.

Remove the Firing Pin Retaining Pin from the bottom to the top of the Breech Bolt with a 3/32" punch.



CAUTION: Use care not to let the Firing Pin fly out of the Breech Bolt upon withdrawal of the punch.

Remove the Firing Pin and Firing Pin Spring.

Remove the Locking Block by lifting out.

B. EXTRACTOR, SPRING AND PLUNGER (Figure #10)

Remove the Extractor Pin with a 1/16" punch from the bottom to the top of the Breech Bolt.



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

Remove the Extractor, spring and plunger.

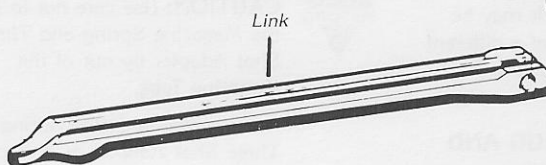


FIGURE #11

5. BOLT SLIDE ASSEMBLY (Figure #11)

Disassembly of the Bolt Slide Assembly should not be required. However, if it is

required, disassembly and reassembly is straight forward.

Remove the Link by removal of the Link Pin with a 1/8" punch.

Use a 1/16" punch to drive the Operating Handle Retaining Pin out of the Bolt Slide.



CAUTION: Use care not to let the Operating Handle Retainer and spring fly out of the Bolt Slide.

To reassemble the Bolt Slide, the following procedure should be followed:

Insert the Operating Handle Retainer and spring into the Bolt Slide through the hole in the forward surface of the Bolt Slide as shown in Figure #11.

Apply pressure on the Operating Handle Retainer through the hole in the forward surface of the Bolt Slide using a 1/8" punch.

Install the Operating Handle Retaining Pin.

Orient the Link as shown in Figure #11 and install the Link Pin.

plunger for installation.

Flatten the top end of the Extractor Pin slightly, align the Extractor with the hole of the Breech Bolt and install the Extractor Pin.

The Extractor Pin should fit snugly and should be reliably secured by the flattened end.

B. LOCKING BLOCK, FIRING PIN, SPRING AND PIN (Figure #10)

Inspect the Locking Block for fractures or excessive wear and replace if required.

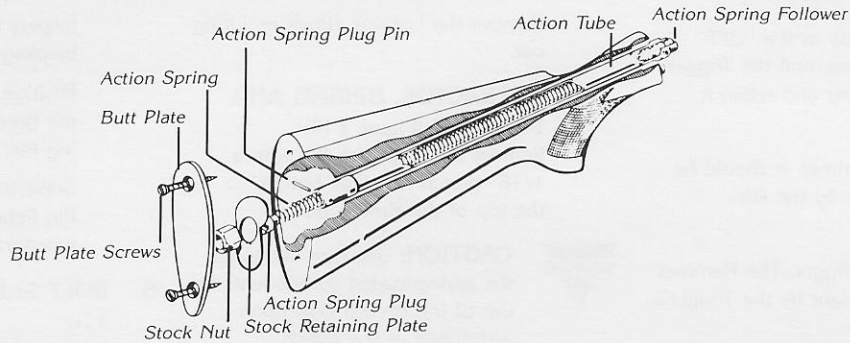
Position the Locking Block in the

6. DISASSEMBLY OF THE RECEIVER ASSEMBLY

NOTE: If it has been determined disassembly of the Receiver Assembly is necessary, proceed as follows:

A. STOCK (Figure # 12)

FIGURE # 12



Remove the Butt Plate Screws with a slender, round blade screwdriver.

Remove the Stock Nut with a 19mm socket wrench, and withdraw the Stock along with the Stock Retaining Plate from the Action Tube.

NOTE: Drop of Stock may be changed by the use of a different Stock Retaining Plate. See Section VI.

B. ACTION SPRING, PLUG AND FOLLOWER (Figure # 12)

With one hand, retain the Action Spring Plug and remove the Action Spring Plug Pin with the other.



CAUTION: Use care not to let the Action Spring and plug fly out of the Receiver.

Remove the Action Spring, plug and follower.

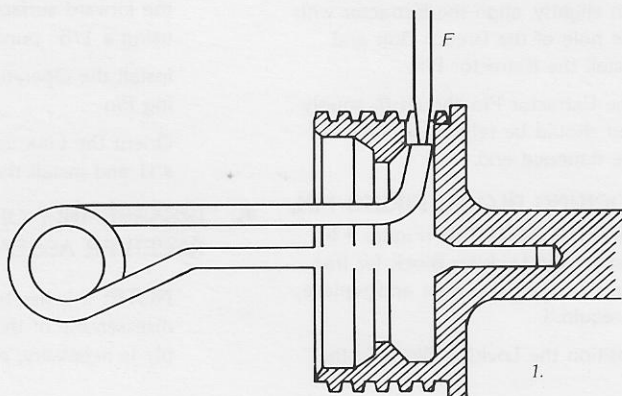
C. ACTION TUBE (Figure # 12)

If the Action Tube has been damaged and its removal is necessary, it may be removed from the Receiver by unscrewing it in a counterclockwise direction with the use of vise grips.

D. MAGAZINE SPRING RETAINER & FOREARM CAP STUD, MAGAZINE SPRING AND THREE SHOT ADAPTER

Using a 1/16" diameter punch, depress the Magazine Spring Lock. Using a screwdriver,

FIGURE # 13



turn the slotted head of the Magazine Spring Retainer and Forearm

Cap Stud counterclockwise 1/4th turn, or enough to bypass the lock spring's function as shown in Figure # 13.

Remove the punch and completely remove the stud.



CAUTION: Use care not to let the Magazine Spring and Three Shot Adapter fly out of the Magazine Tube.

Remove the Magazine Spring and Three Shot Adapter as shown in Figure # 14.

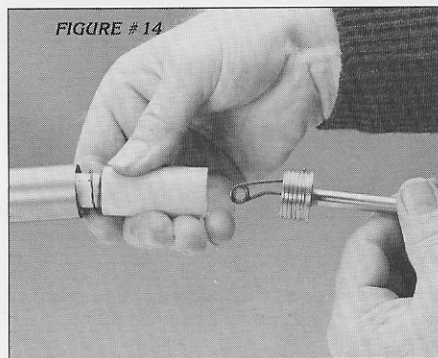


FIGURE # 14

E. MAGAZINE SPRING FOLLOWER

Invert the Receiver Assembly and permit the Magazine Spring Follower to fall out of the Magazine Tube.

F. MAGAZINE TUBE

NOTE: The Magazine Tube is aluminum and must be removed if the steel Receiver is to be salt

blued, or the alloy Receiver is to be re-anodized.

To remove, a support block must be employed to grip the tube in a vise as shown in Figure # 15.

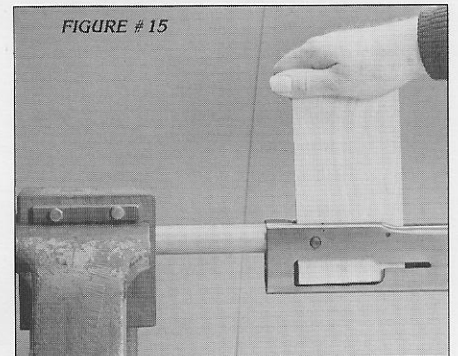


FIGURE # 15

Insert a block of wood into the Receiver cavity to unscrew the Receiver from the tube.

NOTE: Use care not to deform the Receiver.

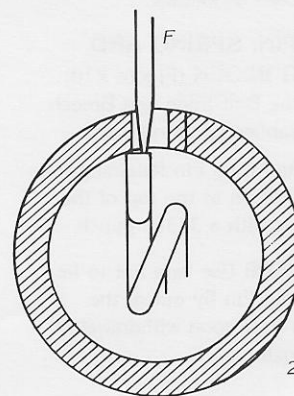
G. CARRIER LATCH ASSEMBLY (Figure # 16)

Remove the Carrier Latch Lock Pin located on the right side of the Receiver with a 1/16" punch.

Remove the Carrier Latch Pin by tapping the pin out the bottom of the Receiver with a 7/8" long piece of paper clip and a small hammer.

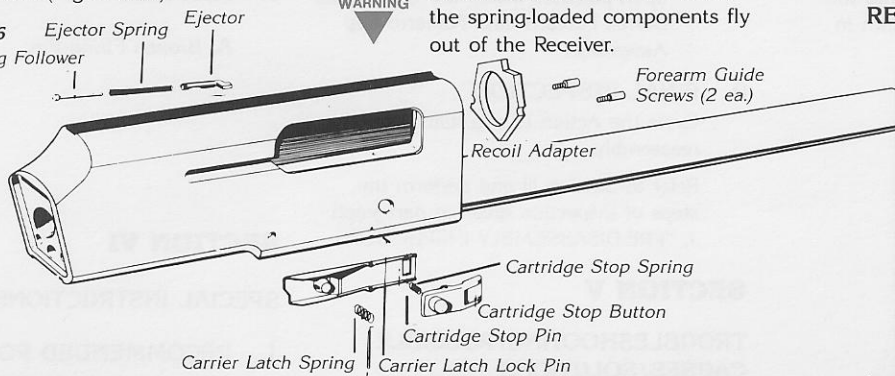
Remove the Carrier Latch Assembly and the Carrier Latch Spring.

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



H. EJECTOR (Figure # 16)

FIGURE # 16



If necessary to remove the Ejector, remove the Ejector Pin with a 1/16" punch.

SAFETY WARNING

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

E. FOREARM GUIDE SCREWS & RECOIL ADAPTER (Figure # 16)

Install the Recoil Adapter only if the gun is to be used with light target loads and install the guide screws.

SAFETY WARNING

CAUTION: Use extreme care upon withdrawal of the punch not to let the Ejector fly out of the Receiver.

I. FOREARM GUIDE SCREWS AND RECOIL ADAPTER (Figure # 16)

The Recoil Adapter, a spacer held in place by the Forearm Guide Screws, is optional and should be removed along with the guide screws if the steel Receiver is to be reblued, or the alloy Receiver is to be re-anodized or replaced if reanodizing facilities and procedures are not available.

7. INSPECTION AND REASSEMBLY OF THE RECEIVER ASSEMBLY

A. EJECTOR AND EJECTOR SPRING (Figure # 16)

Start the Ejector Pin in its hole from the outside of the Receiver.

Place the Receiver with its bottom side up in a vise and grip by the Action Tube.

Position the Ejector Spring and Ejector for installation. Compress the Ejector and spring with a wooden dowel as shown in Figure # 17 and tap the Ejector Pin into position with a rawhide mallet.

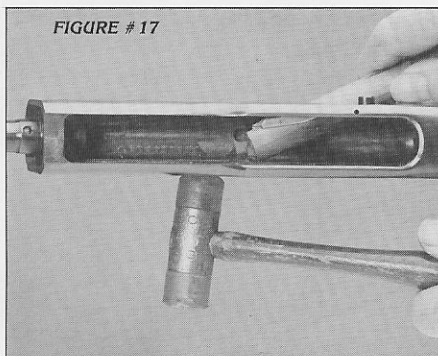


FIGURE # 17

B. CARRIER LATCH ASSEMBLY (Figure # 16)

Position the Carrier Latch Assembly and Carrier Latch Spring for installation and install the Carrier Latch Pin and Carrier Latch Stop Pin.

NOTE: The Carrier Latch should work freely when the Cartridge Stop Button is depressed and released.

C. ACTION SPRING, FOLLOWER, PLUG AND PIN (Figure # 12)

Place the Action Spring Follower in the Action Tube being sure the seat for the Link is positioned forward.

With the aid of a steel rod or dowel, compress and install the Action Spring, plug and pin.

SAFETY WARNING

CAUTION: Use care not to let the spring-loaded components fly out of the Action Tube.

D. MAGAZINE SPRING, FOLLOWER, RETAINER & THREE SHOT ADAPTER (Figure # 14)

Insert the Magazine Spring Follower, spring and Three Shot Adapter for installation in the Magazine Tube.

SAFETY WARNING

CAUTION: Use care not to let the spring-loaded components fly out of the Magazine Tube.

Screw the retainer into the Magazine Tube and depress the Magazine Spring Retainer Lock Spring with a 1/16" punch when it prevents the final turns of the retainer. See Figure # 18.

NOTE: A special tool may also be constructed for this operation. See Section VI, paragraph 3.

Ascertain that the end of the Lock Spring is locked into its hole in the Magazine Tube when the reassembly is complete.

8. FINAL ASSEMBLY

A. STOCK (Figure # 12)

NOTE: Make sure the Action Spring Plug Pin is perfectly centered with the Action Tube or else damage will result upon installation of the Stock Nut.

Position the Stock and the Stock Retaining Plate on the Action Tube.

Install the Stock Nut, using care not to cross thread it, and tighten with a 19mm socket wrench.

Install the Butt Plate and screws.

B. BREECH BOLT, SLIDE AND ACTION BAR ASSEMBLIES

Position the Breech Bolt, slide and Action Bar and Sleeve Assemblies together as shown in Figure # 19.

FIGURE # 18

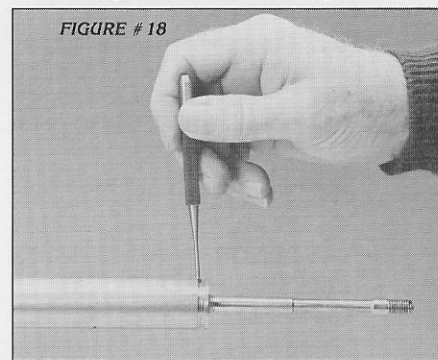
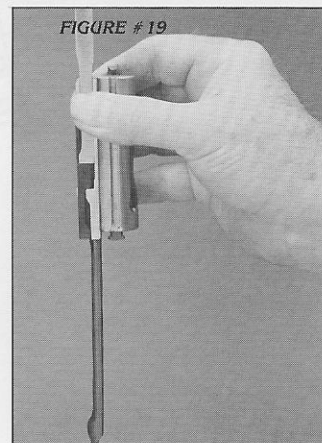
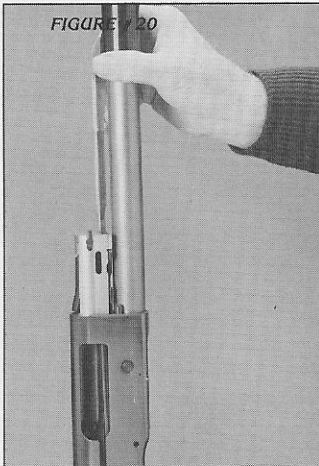


FIGURE # 19



Place these assemblies onto the Receiver Assembly as shown in Figure #20.



Guide the Breech Bolt and slide into the rails of the Receiver and the rear end of the Link into its seat in the Action Spring Follower.

When in position, grip the Action Sleeve and pull it backward to see that the assemblies do not bind in the Receiver.

Slowly let the Action Sleeve go forward and install the Operating Handle in the Breech Bolt and slide assemblies.

C. TRIGGER GUARD ASSEMBLY

Place the Carrier in the most downward position by depressing the Carrier Release.

Engage the rear end of the Trigger Guard Assembly in the Receiver, depress the Cartridge Stop Button and rotate the Trigger Guard Assembly into position.

Install the Trigger Guard Retaining Pin.

D. GAS PISTON, BARREL, FOREARM AND FOREARM CAP ASSEMBLY

Pull the Action back to the locked

open position. Install the Gas Piston, Barrel, Forearm and Forearm Cap Assembly.

9. FINAL INSPECTION

Cycle the Action to ascertain proper reassembly.

Refer to Section III and perform the steps of inspection given in paragraph 1, "PRE-DISASSEMBLY INSPECTION".

SECTION V

TROUBLESHOOTING/POSSIBLE CAUSES/SOLUTIONS



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

1. BARREL LOOSE

A. The Barrel will float forward and rearward approximately .040" if the Recoil Adapter is installed. This is a normal condition with the Recoil Adapter.

2. EXCESSIVE FRICTION IN THE ACTION

A. Firing Pin Retaining Pin loose.
B. Extractor Pin loose.

3. EXTRACTION OR EJECTION PROBLEMS

A. Broken or binding Extractor.
B. Broken Ejector or jammed Ejector.

4. INSUFFICIENT RECOIL OF ACTION

A. Dirty Gas Piston and cylinder.
B. Gas Cylinder and piston fitted too tightly - hone out the Gas Cylinder.
C. Plugged Gas Cylinder Gas Orifices - See Section VI.
D. Ammunition too light - install Recoil Adapter.

5. MISFIRES

A. Broken Firing Pin.

SECTION VI

SPECIAL INSTRUCTIONS

1. RECOMMENDED POINTS OF LUBRICATION DURING REASSEMBLY

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

- A. Receiver Slide Rails.
- B. Bolt Slide.
- C. Breech Bolt.
- D. Locking Block.
- E. Exterior surfaces.

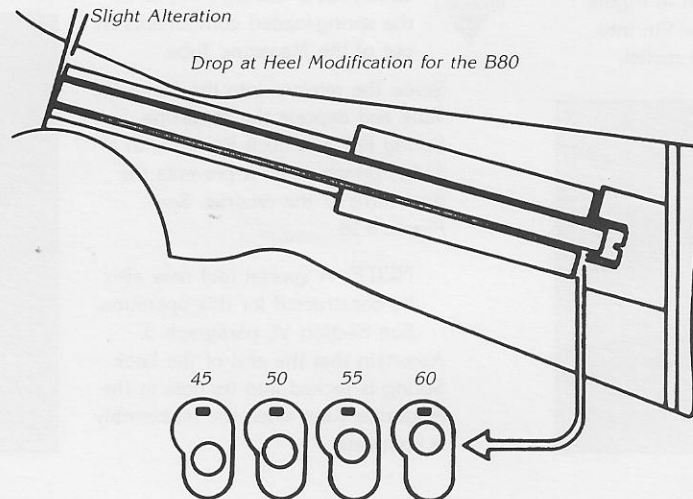
NOTE: We recommend not to use lubricant for:

- A. Gas Piston and Cylinder.
- B. Magazine Spring Retainer.
- C. Magazine Tube and Action Sleeve.

2. PROCEDURE FOR CHANGING DROP OF STOCK

Alternate Stock Retaining Plates may be obtained to raise or lower the Stock. These plates are interchangeable for both 12 and 20 gauges. A slight alteration to the Stock is necessary as shown in Figure #21.

FIGURE #21

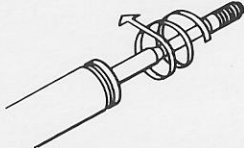
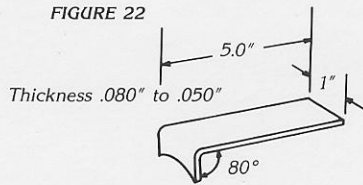


3. SPECIAL TOOLS

A. TOOL TO INSTALL THE MAGAZINE SPRING RETAINER AND FOREARM CAP STUD

The tool shown in Figure #22 may be fashioned from mild steel or aluminum.

FIGURE 22



4. SIZES OF GAS CYLINDER GAS ORIFICES

| | | | |
|--------|--------|---|--------------|
| 12 GA. | 2 3/4" | - | .110 ± .002" |
| | 3" | - | .077 ± .002" |
| 20 GA. | 2 3/4" | - | .096 ± .002" |
| | 3" | - | .079 ± .002" |