SABRE DEFENCE

TECHNICAL REPAIR MANUAL

RIFLE 5.56 MM

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont)

LIST OF FIGURES

LIST OF FIGURES (Cont)

CHAPTER 1

INTRODUCTION

1. This manual details the disassembly, assembly, inspection and repair and procedures to be followed when carrying out inspection, maintenance or repair of the Rifle 5.56 mm by the Unit Armourer.

2. This manual contains the following:

a. Part 1 - Introduction;

b. Part 2 - Apparatus and Tools; and

c. Part 3 - Repair Techniques.

3. Any observations, comments or criticisms which would assist in increasing the value of this maual should be addressed to:

Sabre Defence
FAO: Technical Publications

PART 2

TOOLS AND GAUGES

GENERAL

1. Tools and gauges listed in Figure 2-1 are required by the Armourer to perform various stages of stripping, assembling, replacement of broken or damaged parts, testing and adjusting of the L119A1 rifle.

2. For a more complete identification of these special tools and gauges, for these weapons, see AESP 1005-L-220-711 Illustrated Parts Catalogue - Rifle, 5.56 mm, Assault L119A1.

ITEM No.	NSN	Mfr No.	Description	Qty
1	5120-21-896-7523	CF62420	Wrench - receiver extension nut spanner hook.	1
2	4933-21-897-2238	CF62696	Wrench - Combination.	1
3	5120-21-896-7514	CF62680	Punch - bolt catch pin drive pin.	1
4	4933-21-897-3782	CF62693	Tool - Barrel nut alignment.	1
5	5120-21-897-3786	09079C-1	Caps - Vice jaw.	1
6	1005-01-148-6501	CF62698	Tool - Detent pivot pin.	1
7	5120-21-897-3784	8490126	Tool - Front sight adjustment.	1
8	5315-21-897-8406	8490128	Pin - Trigger mechanism assembly slave.	1
9	4933-21-897-2239	CF62715	Tool - Swaging rivet.	1
10	5120-21-896-7539	CF62697	Punch - Drive pin 1.9 millimetres (0.075 inch) dia.	1
11	5120-21-896-7520	CF62692	Punch - Setter with flat.	1
12	4933-21-897-3781	CF62694	Reflector - Gun barrel.	1
13	5220-21-897-9124	CF62679	Gauge - Firing pin protrusion.	1
14	4933-21-902-8230	8790190	Gauge - bore erosion.	1
15	5220-21-900-3911	8576410	Gauge - bore straightness.	1
16	5220-21-043-9473	12006472	NOT-GO, hammer and trigger pin holes.	1
17	5220-21-897-9675	08062C-1	Gauge - Headspace minimum 37.10 millimetres	1
18	5220-21-897-9674	08061C-1	Gauge - Headspace maximum 37.42 millimetres	1
19	4933-21-913-3928	09078C-1	Extractor, Ruptured Cartridge	1

Figure 1 Tools and Gauges

CHAPTER 3

REPAIR TECHNIQUES

PART 1

REPAIR INFORMATION

GENERAL

1. Armourers will not attempt to disassemble or repair those parts of the Rifle 5.56mm that are not specifically detailed in this instruction.

2. Unless otherwise specified all pins are normally removed from left to right and reassembled in the reverse direction. Items or assemblies secured by spring tension pins should only be disassembled to repair or replace non-serviceable components. Spring tension and roll pins should be replaced after removal.

LUBRICATION

3. Refer to XXXXXXXXX for general lubrication information.

REFINISHING

4. Inspect finished metal surfaces of the weapons for areas of wear. If more than thirty per cent of the finish is worn off, backload the weapon for refinishing. Touch up minor wear on steel surfaces with gun blue, or other approved steel touch-up material. Touch up minor wear on non-ferrous metal surfaces with a suitable solid film lubricant.

CLEANING

5. The Rifle 5.56mm shall be cleaned in accordance with Users Handbook Cleaning Procedures.

CARE AND SERVICING

6. Refer to local Preservation, Storage and Reactivation Instructions for information relating to the care and servicing of the Rifle 5.56mm during periods of non-use.

INSPECTION

7. Inspection detail contained in Part 2 is only to be used when that assembly or component is removed or stripped for repair or replacement.

PART 2

REPAIR PROCEDURES

INTRODUCTION

1. The repair procedures detailed in this instruction apply to the Rifle 5.56 mm.

2. The disassembly, inspection, repair and assembly procedures are detailed under the following headings:

Part 3 Complete Rifle

Part 4 Barrel and Upper Receiver Assemblies

Part 5 Bolt Carrier Group

Part 6 Lower Receiver and Butt Group

Part 7 Buffer Assembly

Part 8 Magazine

Part 9 Assembled Weapon Serviceability Inspection

NORMAL SAFETY PRECAUTIONS

3. Normal Safety Precautions (NSPs) as detailed in the Users Handbook shall be carried out prior to handling any weapon. Prove the weapon safe by the following procedure:

a. With the weapon pointed in a safe direction, remove the magazine by pressing the magazine release button and pulling the magazine down out of the bottom of the weapon. See Figure 3-2-1;

b. See Figure 3-2-2. Pull the cocking handle (1) rearward and look into the ejection opening (2), ensure that the chamber area and interior of the receiver (3) are clear;

c. Allow the bolt carrier group to go forward under control; and

d. Fire the action and close the ejection port cover.

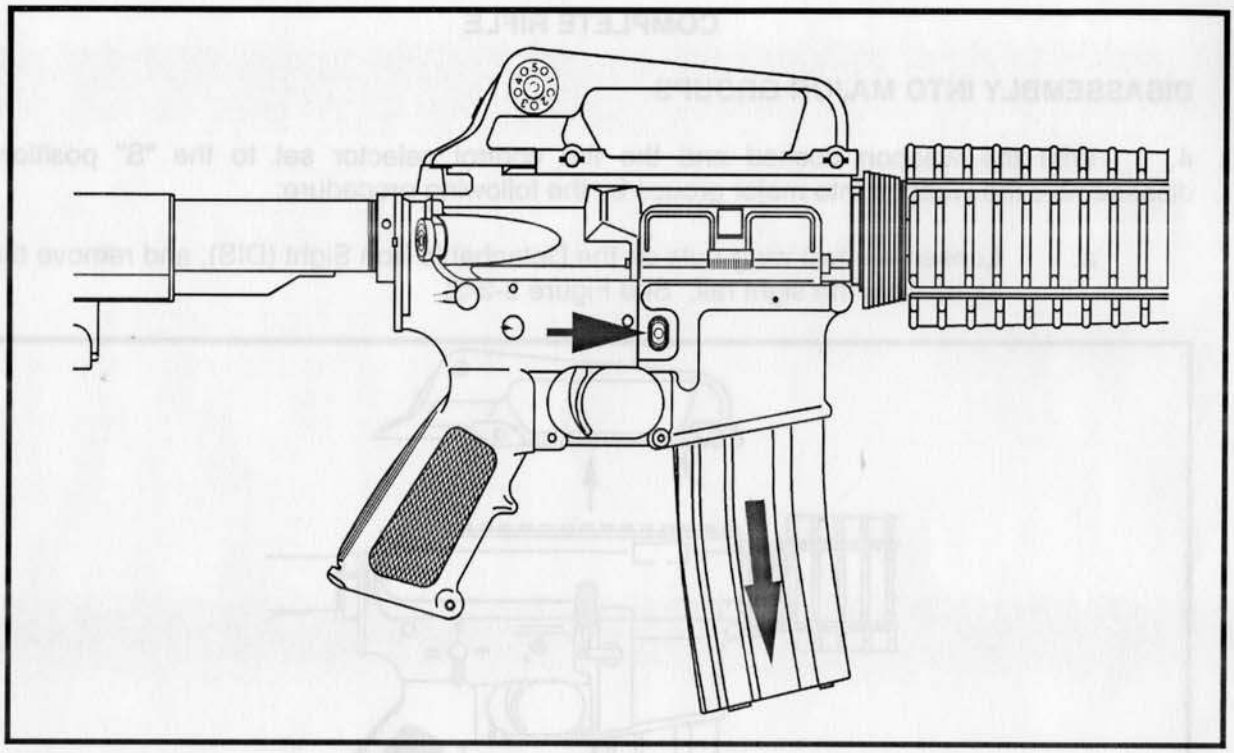


Figure 3-2-1 Magazine Removal

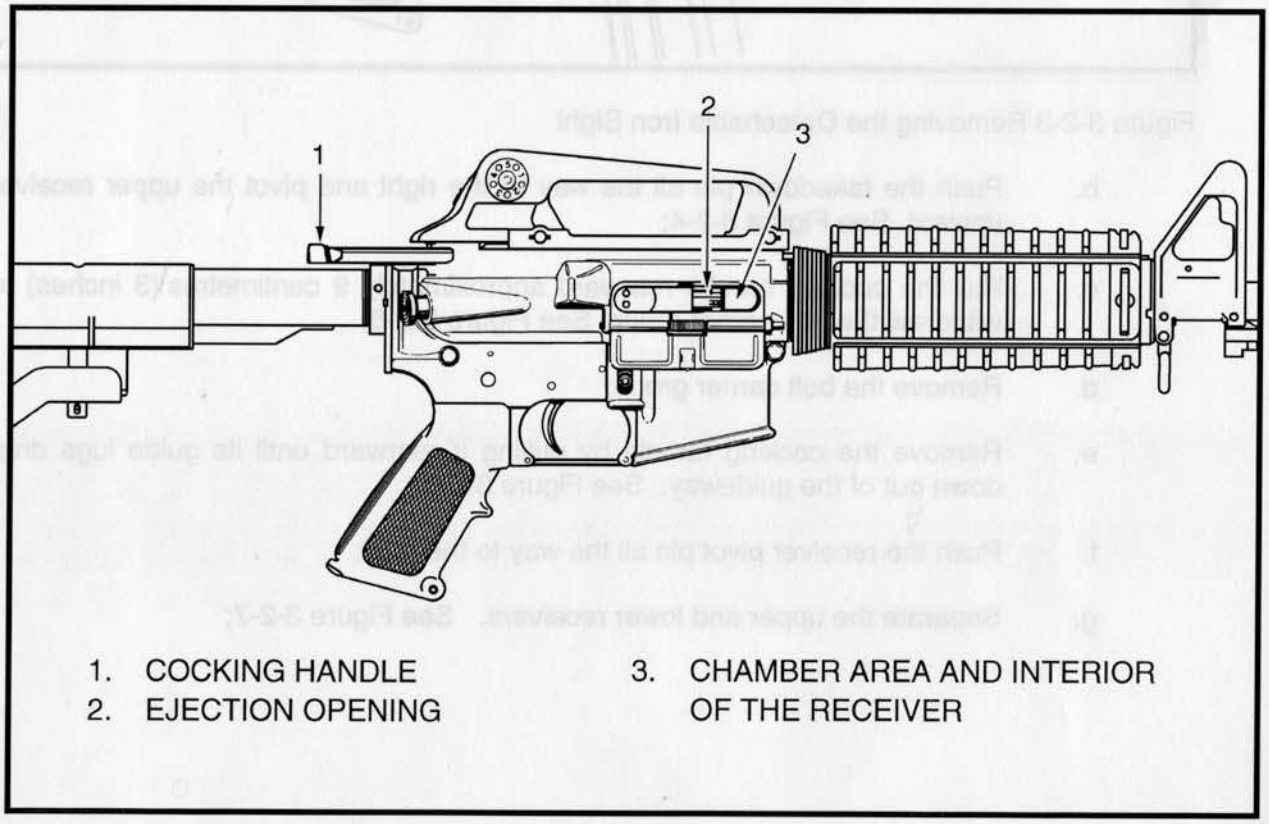


Figure 3-2-2 Proving the Weapon

COMPLETE RIFLE

DISASSEMBLY INTO MAJOR GROUPS

4. With the weapon cocked and the fire control selector set to the "S" position, disassemble the weapon into major groups by the following procedure:

a. Loosen the two wing-nuts on the Detachable Iron Sight (DIS), and remove the sight, from the sight rail. See Figure 3-2-3;

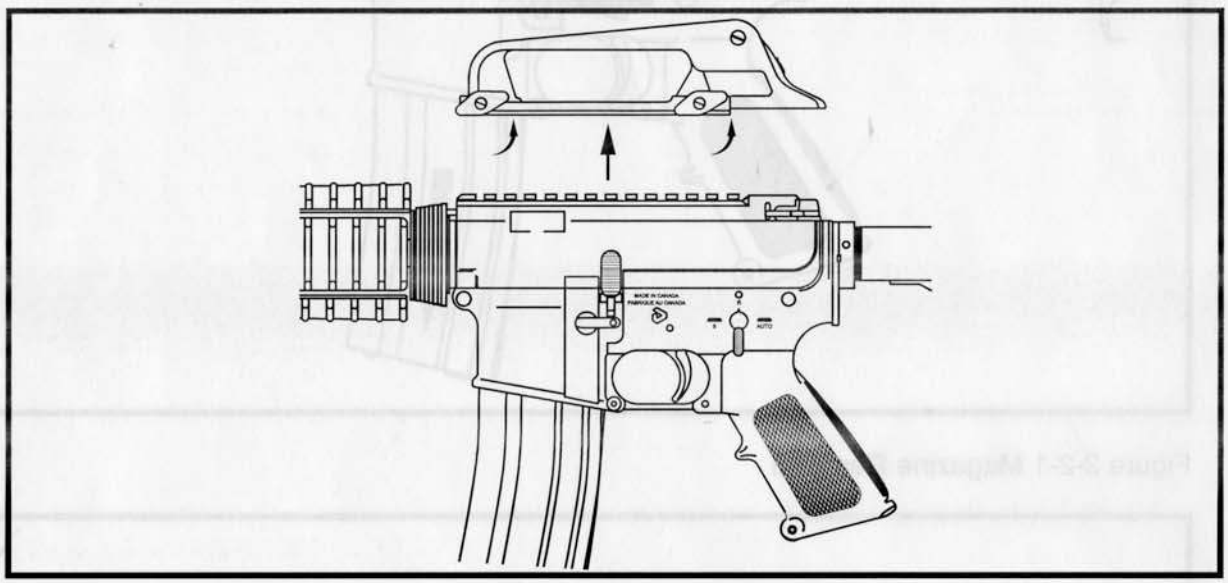


Figure 3-2-3 Removing the Detachable Iron Sight

b. Push the takedown pin all the way to the right and pivot the upper receiver upward. See Figure 3-2-4;

c. Pull the cocking handle rearward approximately 9 centimetres (3 inches) to withdraw the bolt carrier group. See Figure 3-2-5;

d. Remove the bolt carrier group;

e. Remove the cocking handle by pulling it rearward until its guide lugs drop down out of the guideway. See Figure 3-2-6;

f. Push the receiver pivot pin all the way to the right;

g. Separate the upper and lower receivers. See Figure 3-2-7;

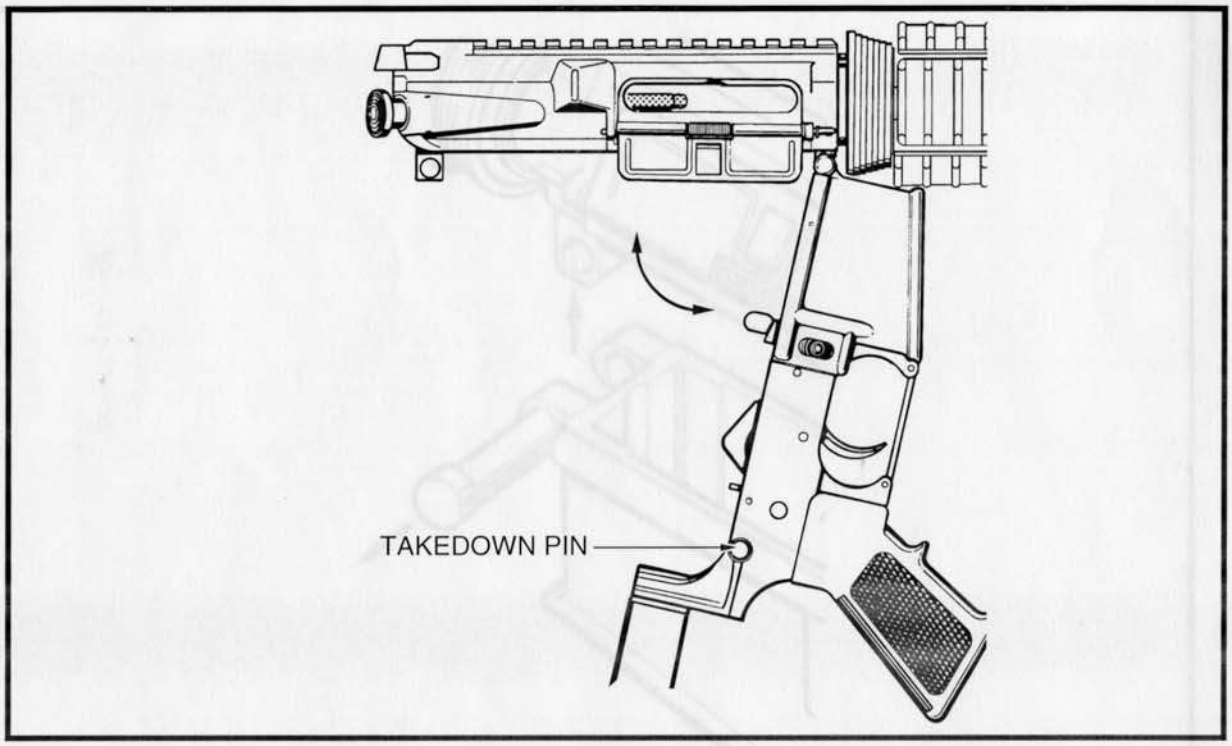


Figure 3-2-4 Opening the Receiver

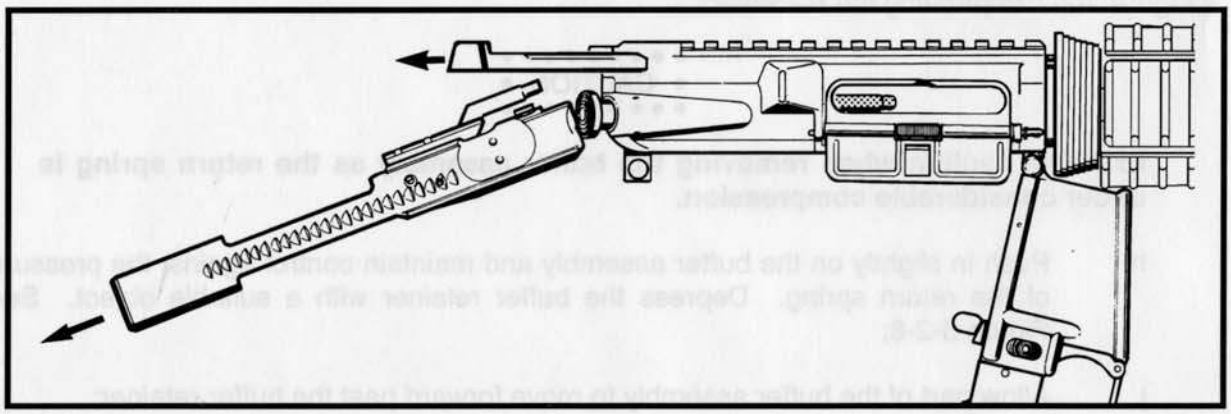


Figure 3-2-5 Removing the Bolt Carrier Group

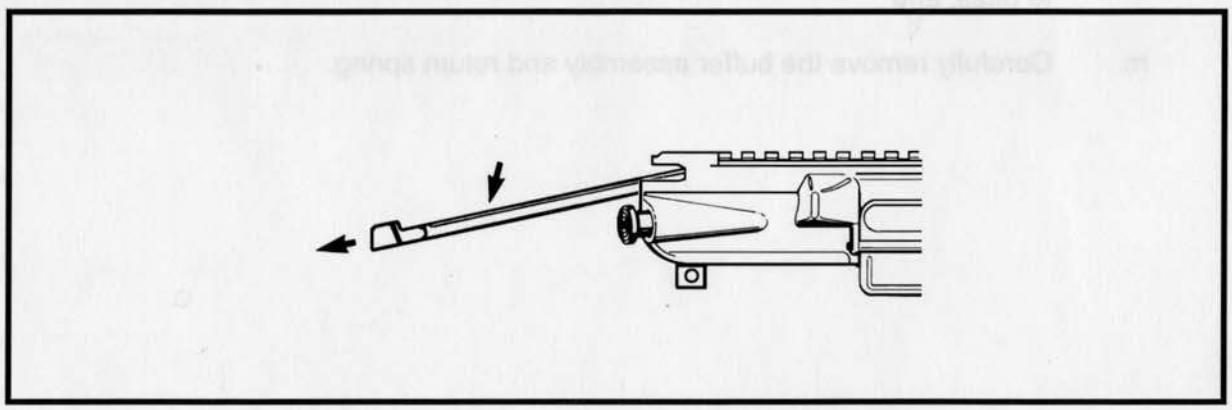


Figure 3-2-6 Removing the Cocking Handle

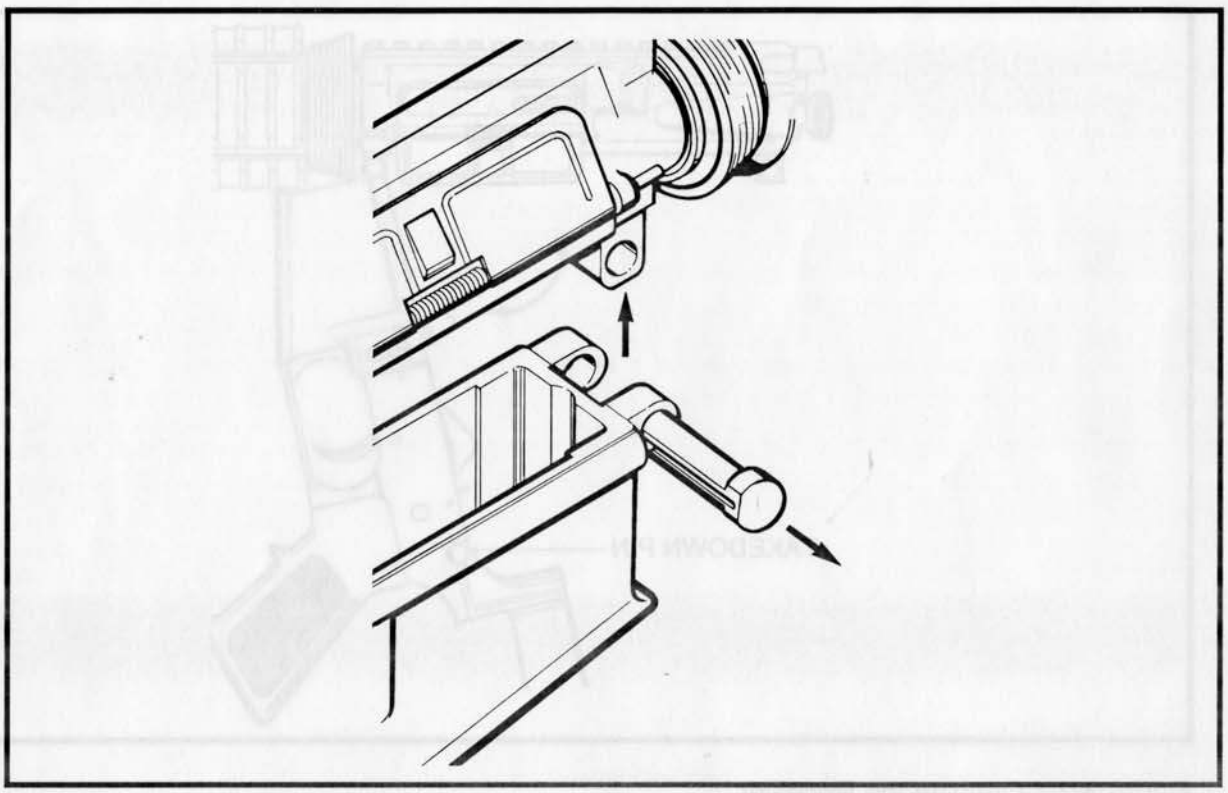


Figure 3-2-7 Separating the Receivers

CAUTION

Exercise caution when removing the buffer assembly as the return spring is under considerable compression.

h. Push in slightly on the buffer assembly and maintain control against the pressure of the return spring. Depress the buffer retainer with a suitable object. See Figure 3-2-8;

j. Allow part of the buffer assembly to move forward past the buffer retainer;

k. Depress the hammer slightly to create sufficient clearance for the buffer assembly to pass; and

m. Carefully remove the buffer assembly and return spring.

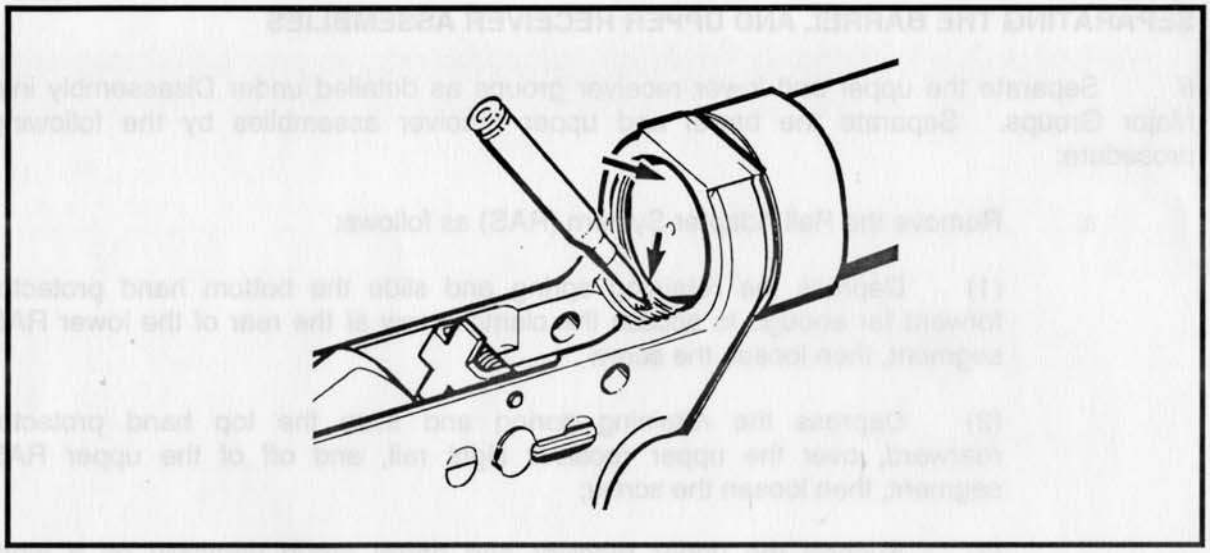


Figure 3-2-8 Releasing the Buffer Assembly

REASSEMBLY OF MAJOR GROUPS

5. With the hammer cocked and fire control selector set to the "S" position, reassemble the major groups of the weapon as follows:

CAUTION

DO NOT attempt to close the receivers with the fire control selector in the "AUTO" position as damage to the automatic sear may occur when contact is made with the bolt carrier.

a. Insert the buffer assembly and return spring into the receiver extension;

b. Depress the hammer slightly to allow passage of the buffer assembly;

c. Push the buffer rearward until it passes over the buffer retainer and the buffer retainer snaps up into position;

d. Place the cocking handle into the upper receiver and position its lugs in the guideway at the top of the receiver;

e. Push the cocking handle forward leaving approximately 8 cm (3 in.) protruding rearward from the upper receiver;

f. Pull the bolt fully forward in the bolt carrier and position the bolt carrier group below the cocking handle with the bolt carrier key in the cocking handle slot;

g. Push the bolt carrier group and cocking handle forward until the cocking handle latches on the upper receiver;

h. Align the receiver pivot pin holes in the upper and lower receiver and push the pivot pin fully to the left; and

j. Carefully close the receivers and push the takedown pin fully to the left.

BARREL AND UPPER RECEIVER ASSEMBLIES

SEPARATING THE BARREL AND UPPER RECEIVER ASSEMBLIES

6. Separate the upper and lower receiver groups as detailed under Disassembly into Major Groups. Separate the barrel and upper receiver assemblies by the following procedure:

a. Remove the Rail Adapter System (RAS) as follows:

(1) Depress the retaining spring and slide the bottom hand protector forward far enough to access the clamp screw at the rear of the lower RAS segment, then loosen the screw;

(2) Depress the retaining spring and slide the top hand protector rearward, over the upper receiver sight rail, and off of the upper RAS segment, then loosen the screw;

(3) Support the upper receiver and barrel group vertically on a work bench with the compensator pointing upward; and

(4) Pull downward on the handguard slip ring and pull the rear end of the RAS segmants outward and down to disengage each one in turn from the handguard cap. See Figure 3-2-9.

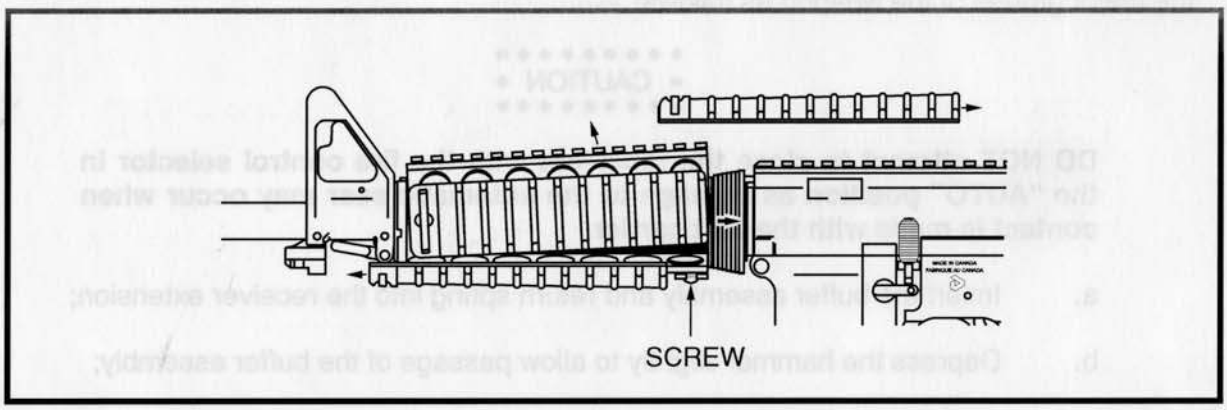


Figure 3-2-9 Removing the Rail Adapter System (RAS)

b. Remove the gas tube as follows:

(1) With the front sight bracket adequately supported, carefully drive out the gas tube pin using a suitable punch. See Figure 3-2-10; and

NOTE

Removal of the gas tube may be difficult due to the buildup of carbon between the tube and front sight bracket or upper receiver. To remove, grip the gas tube lightly with a pair of suitable grips, being careful not to damage or restrict the tube, and tap it lightly to the rear with a small hammer.

(2) See Figure 3-2-11. Slide the gas tube rearward into the receiver (1); rotate it slightly and raise the front end (2); and pull forward to remove it (3).

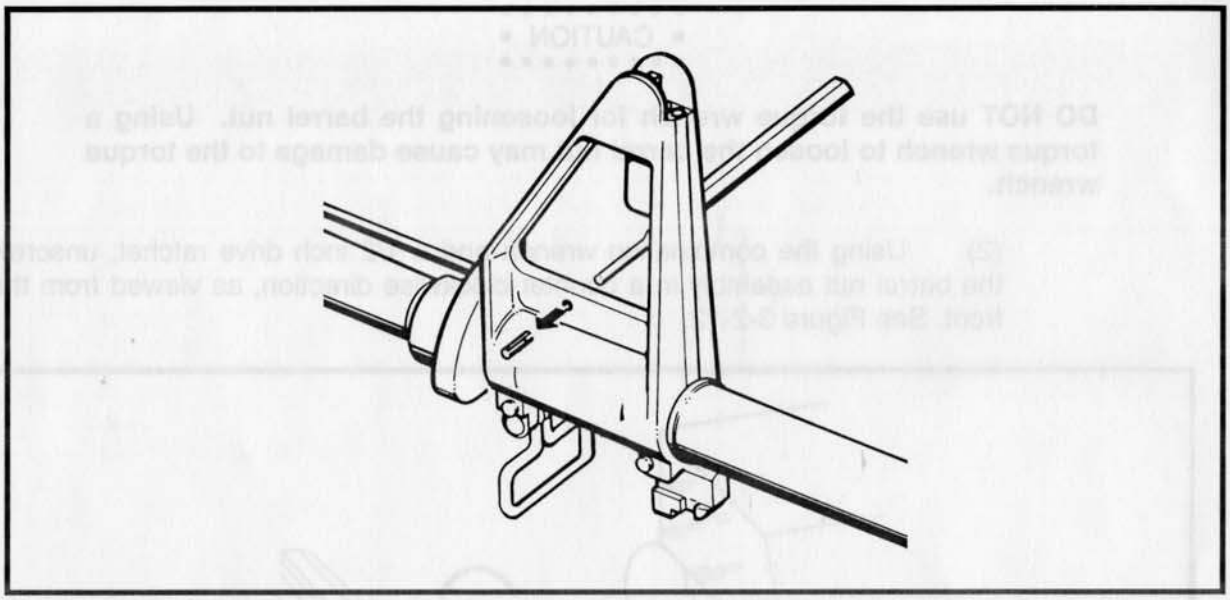


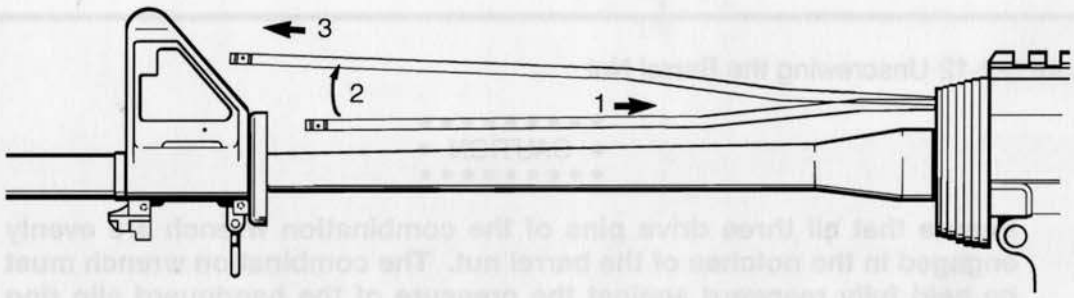
Figure 3-2-10 Removing the Gas Tube Pin

c. Unscrew the barrel nut assembly as follows:

• CAUTION •

DO NOT clamp the front sight bracket or upper receiver assembly at any point during removal or disassembly of the barrel assembly, as damage or misalignment of these components may result.

(1) Clamp the barrel in a vice equipped with vice jaw caps to ensure an adequate grip without damage to the barrel; and



1. SLIDE THE GAS TUBE REARWARD INTO THE RECEIVER
2. ROTATE IT SLIGHTLY AND RAISE THE FRONT END
3. PULL FORWARD TO REMOVE IT

Figure 3-2-11 Removing the Gas Tube

CAUTION

DO NOT use the torque wrench for loosening the barrel nut. Using a torque wrench to loosen the barrel nut may cause damage to the torque wrench.

(2) Using the combination wrench and a 1/2 inch drive ratchet, unscrew the barrel nut assembly in a counter-clockwise direction, as viewed from the front. See Figure 3-2-12.

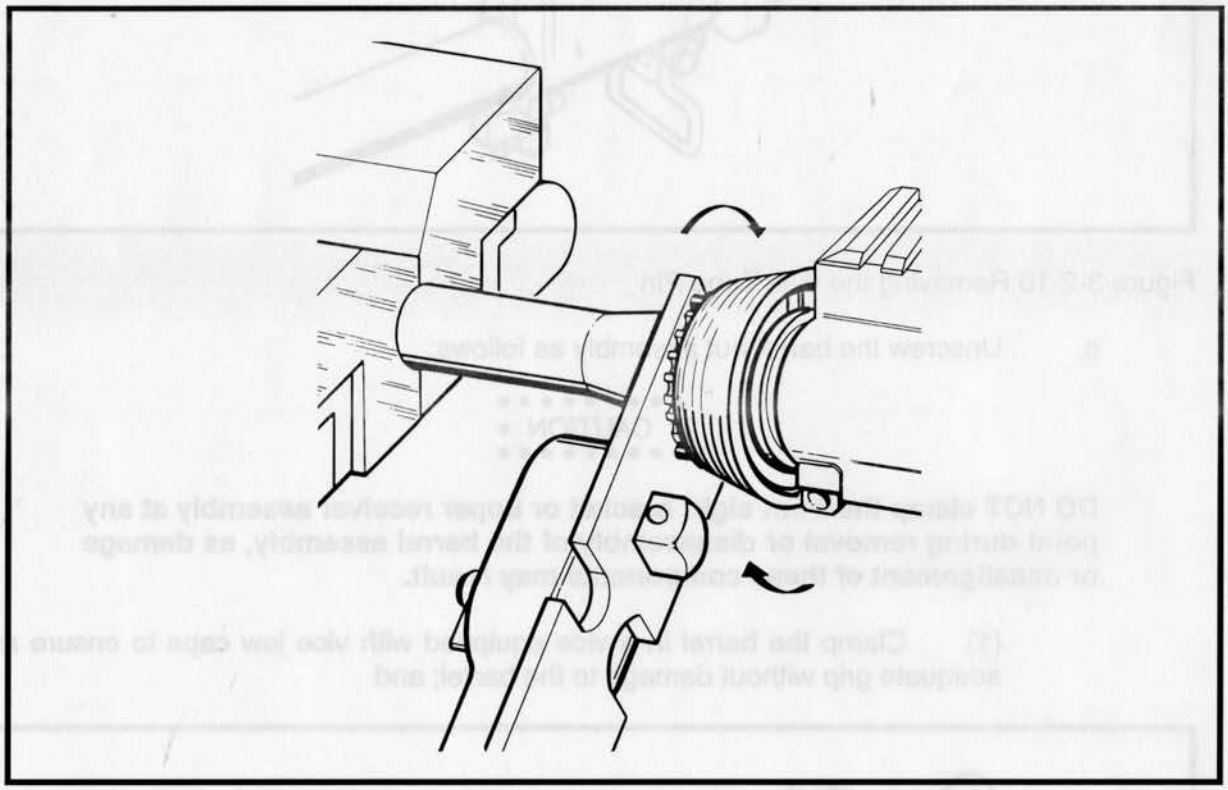


Figure 3-2-12 Unscrewing the Barrel Nut

CAUTION

Ensure that all three drive pins of the combination wrench are evenly engaged in the notches of the barrel nut. The combination wrench must be held fully rearward against the pressure of the handguard slip ring spring. Failure to keep pressure against the combination wrench may allow the drive pins to slip out of the notches causing damage to the barrel nut.

d. Separate the barrel assembly and upper receiver by pulling rearward on the upper receiver. See Figure 3-2-13.

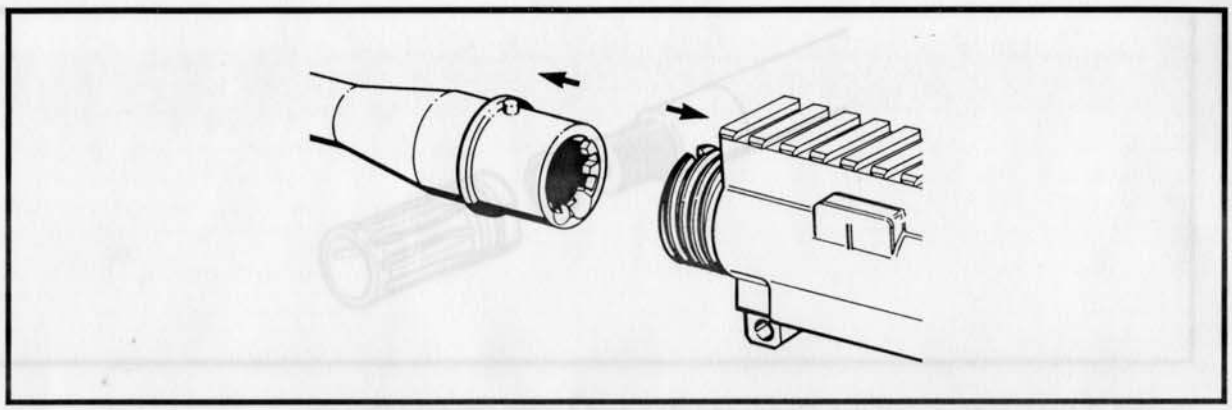


Figure 3-2-13 Separating the Barrel and Upper Receiver Assemblies

DISASSEMBLING THE BARREL ASSEMBLY

7. With the barrel assembly and upper receiver assembly separated, the barrel assembly may be further disassembled by the following procedures:

a. Remove the compensator as follows:

(1) Clamp the barrel in a vice, equipped with vice jaw caps to ensure an adequate grip without damage to the barrel;

(2) Using the combination wrench and 1/2 inch drive ratchet, unscrew the compensator in a counter-clockwise direction, as viewed from the front. See Figure 3-2-14; and

(3) Remove the compensator and compensator spacer. See Figure 3-2-15.

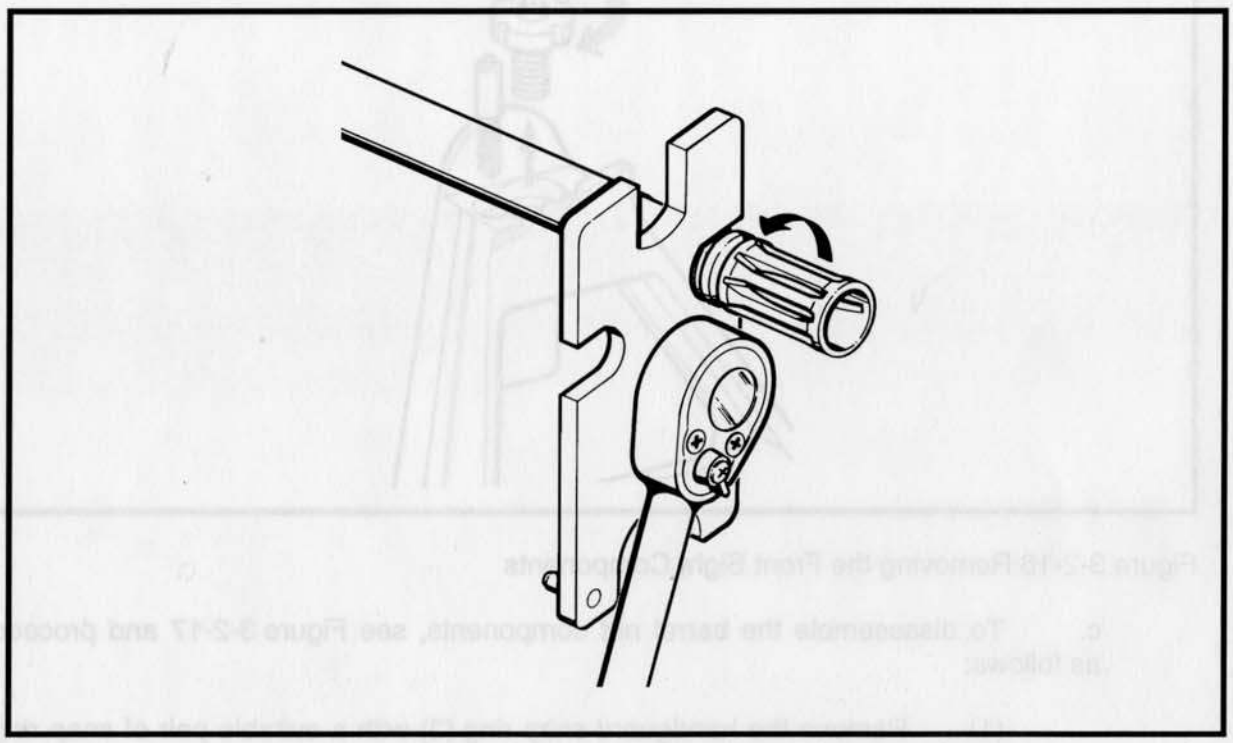


Figure 3-2-14 Unscrewing the Compensator

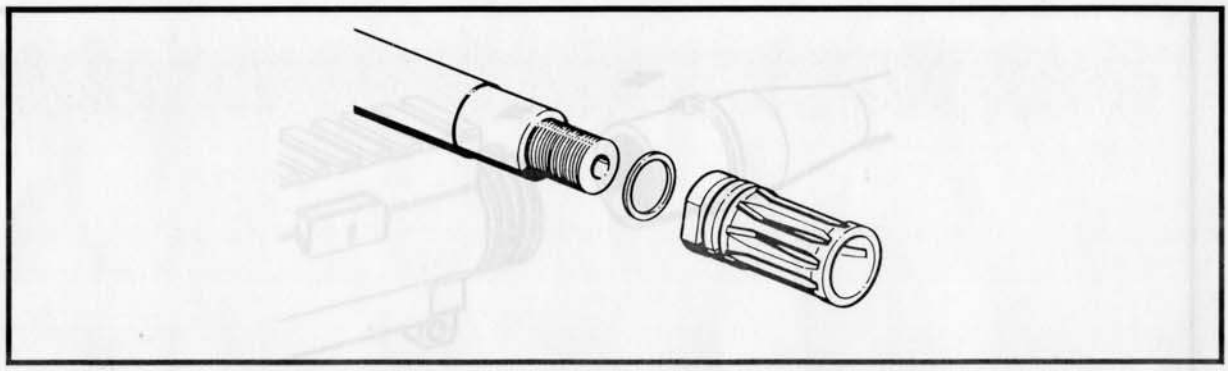


Figure 3-2-15 Removing the Compensator and Compensator Spacer

b. Remove the front sight post as follows:

(1) Position the front sight post adjusting tool over the post and press down to depress the detent;

(2) Unscrew the front sight post in a counter-clockwise direction, as viewed from above; and

(3) Remove the post, detent and spring. See Figure 3-2-16.

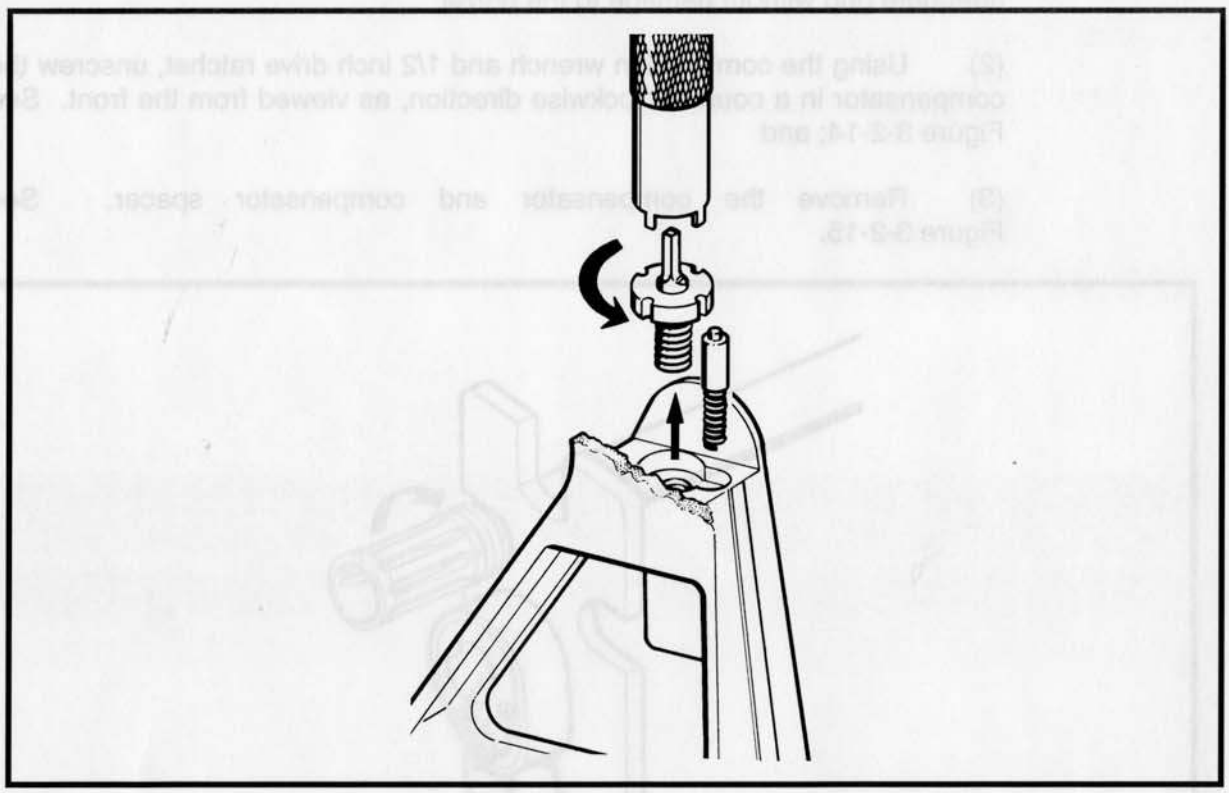


Figure 3-2-16 Removing the Front Sight Components

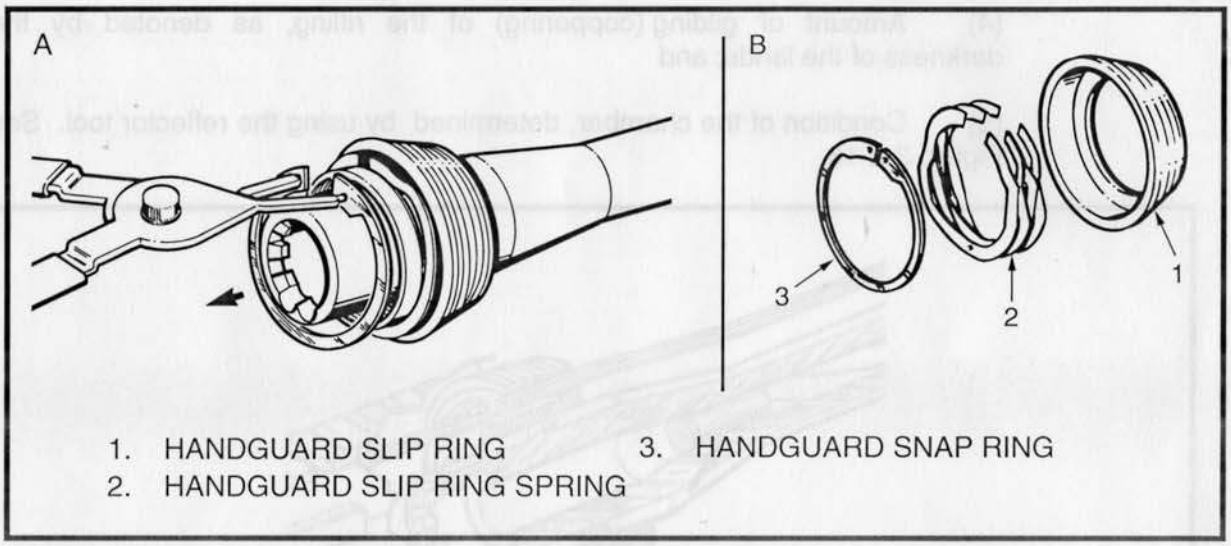
c. To disassemble the barrel nut components, see Figure 3-2-17 and proceed as follows:

(1) Remove the handguard snap ring (3) with a suitable pair of snap ring pliers; and

(2) Remove the handguard slip ring spring (2) and the handguard slip ring (1) from the barrel nut.

NOTE

DO NOT attempt to disassemble the barrel nut from the barrel assembly.



1. HANDGUARD SLIP RING
2. HANDGUARD SLIP RING SPRING
3. HANDGUARD SNAP RING

Figure 3-2-17 Disassembly of the Barrel Nut Assembly

INSPECTING THE BARREL ASSEMBLY

8. Inspect the barrel assembly components as follows:

a. **Handguards**. Ensure that the handguards are not cracked or deformed. Check the fit of the handguard liners, ensuring that they are correctly formed with no broken retaining tabs;

b. **Gas Tube**. Ensure that the gas tube is free of deformation, cracks and carbon deposits;

c. **Compensator**. The compensator shall be free of burrs, cracks or dents. Check the compensator spacer to ensure that the laminations are uniform with no protruding sharp edges which could present an injury hazard;

d. **Front Sight**. Ensure that the front sight post is not burred or distorted. Check the spring to ensure that it is not kinked or corroded. Check the detent for correct form and function;

e. **Barrel Nut Assembly Components**. Ensure that the slip ring is not cracked, burred or distorted and that it effectively secures the handguard. Check the slip ring spring to ensure that it is not kinked or broken and that it holds the slip ring forward under uniform pressure. Check the condition of the snap ring; ensure that it retains the slip ring spring effectively. Ensure that the barrel nut is not cracked, burred or distorted and that its threads are not damaged; and

f. **Barrel Assembly**. Inspect the barrel assembly for the following:

(1) Security and correct form of the front sight bracket;

(2) Security and correct form of the barrel indexing pin in the barrel extension;

(3) Cracks, rust, bulges or pitting in the bore;

(4) Amount of gilding (coppering) of the rifling, as denoted by the darkness of the lands; and

(5) Condition of the chamber, determined by using the reflector tool. See Figure 3-2-18.

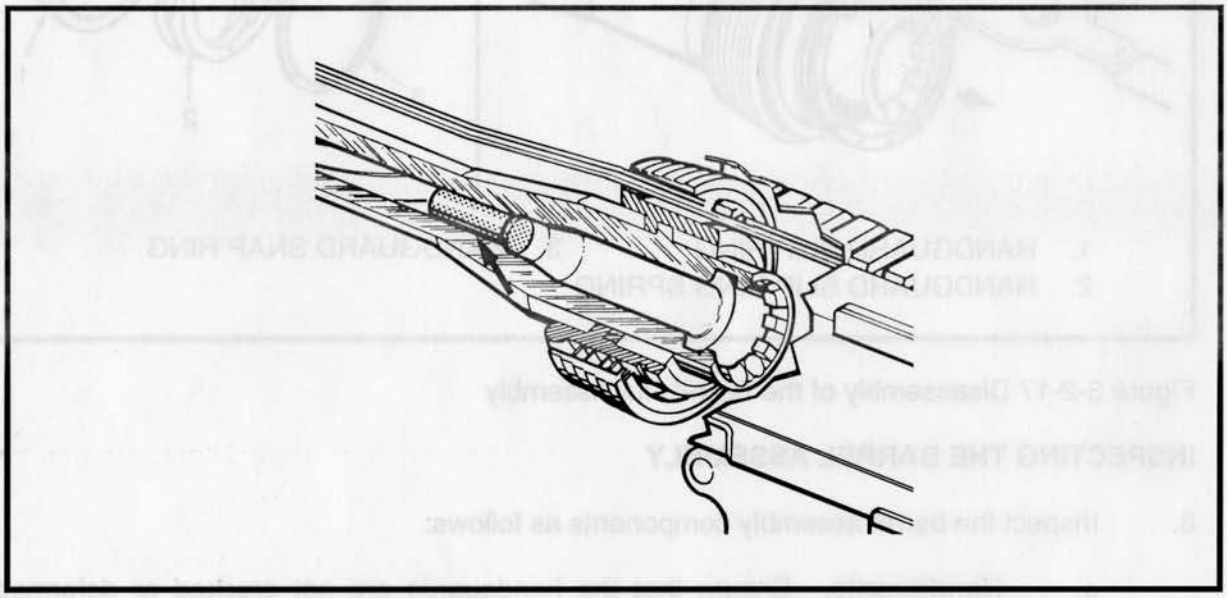


Figure 3-2-18 Inspecting the Chamber

NOTE

If doubt exists as to the serviceability or accuracy of the barrel, it shall be tested as detailed in AESP 1005-L-220-532 - Inspection Procedures - Rifle, 5.56mm, Assault, L119A1.

REPAIRING THE BARREL ASSEMBLY

9. Repair the barrel assembly components by the following procedures:

a. **Handguard Assemblies**. Replace defective handguard assemblies;

b. **Gas Tube Assembly**. Remove carbon from the exterior of the gas tube as required to facilitate reassembly. Replace gas tube assemblies that are restricted with carbon or otherwise defective;

c. **Compensator**. Remove nicks or burrs by stoning; touch up affected areas with gun blue. Replace defective compensators;

d. **Front Sight**. Replace defective components as required;

e. **Barrel Nut Assembly Components**. Replace defective handguard slip rings, slip ring springs or handguard snap rings as required. Backload the weapon for replacement of a defective barrel nut;

f. **Front Sling Swivel**. Replace defective sling swivels as follows:

(1) Using a file or drill, remove sufficient material from the rivet head to allow removal of the rivet;

(2) Support the front sight bracket and drive out the sling swivel rivet with a suitable punch;

(3) Replace the non-serviceable front sling swivel and replace the new rivet from right to left;

(4) Support the head of the rivet and swage the other end with the rivet swaging tool NSN 4933-21-897-2239; and

(5) Ensure that the swivel moves freely after the riveting procedure is complete.

g. **Barrel Assembly**. Repair the barrel assembly as follows:

(1) Remove burrs or nicks by stoning. Do not alter original critical dimensions;

(2) Touch-up the finish of affected areas as detailed in Part 3, Section 1 of this instruction; and

(3) Repair bent front sight protectors by the following procedure:

(a) Carefully, clamp the barrel at the front sight bracket in a vice equipped with protected vice jaws;

(b) Remove the front sight post, detent and spring;

• • • • • • • • •
• CAUTION •
• • • • • • • • •

Avoid prolonged or excessive application of heat to the front sight bracket as it is a heat treated forging.

(c) Apply heat lightly to the area immediately surrounding the deformation;

(d) Reform the bent front sight protector with slip joint pliers. See Figure 3-2-19;

(e) Roughen the heated area with crocus cloth and clean with a suitable evaporative solvent; and

(f) Touch-up the damaged surface finish as detailed in Part 3 Section 1 of this instruction.

(4) Remove carbon from the gas tube hole of the front sight bracket using a 5.56 mm bore brush; and

(5) Backload weapons with defective barrels and those weapons with a loose or missing barrel indexing pin.

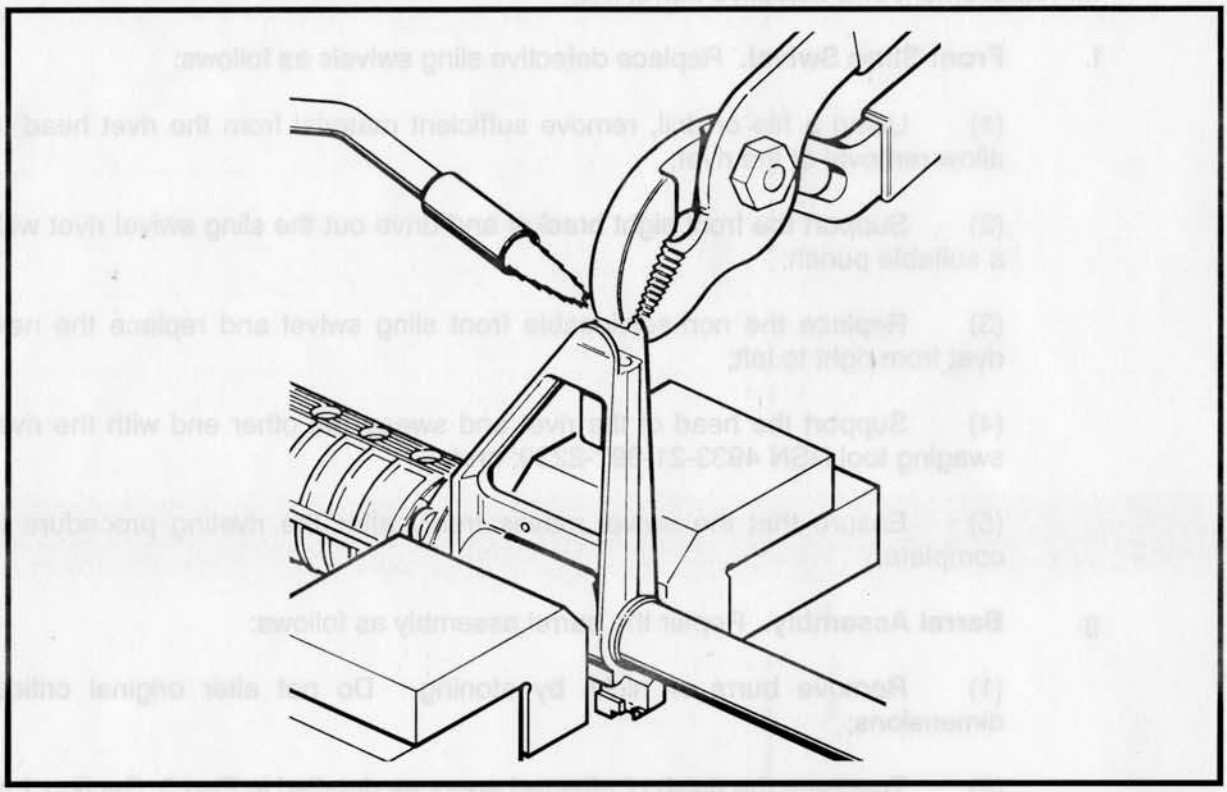


Figure 3-2-19 Reforming the Front Sight Protector

REPLACING THE BARREL AND FRONT SIGHT ASSEMBLY

10. Coppering in the bore shall not be sufficient cause to replace the barrel. Excessive fouling shall be removed in accordance with General Small Arms Cleaning Procedures.

11. Remove the barrel and front sight assembly, and replace it with the new components as follows:

NOTE

Replacement barrel and front sight assemblies consist of a barrel assembly, front sight assembly, barrel nut, and handguard cap.

a. Further disassemble the nonserviceable barrel and front sight assembly by removing the compensator spacer, washer and serviceable sight components; and

b. Install the replacement barrel and front sight assembly with the compensator spacer and compensator.

12. Test fire the weapon and ensure that zeroing, dispersion and accuracy meet the requirements detailed in AESP 1005-L-220-532 - Inspection Procedures.

REASSEMBLING THE BARREL ASSEMBLY

13. The barrel nut assembly components, front sight assembly and compensator will be assembled to the barrel assembly prior to reassembly of the barrel and upper receiver assemblies. To assemble these components proceed in reverse order to the disassembly procedure with the following notes:

a. Assemble the barrel nut assembly as follows:

(1) Slide the barrel nut as far rearward on the barrel as possible;

(2) Slide the handguard slip ring forward over the nut;

(3) Insert the slip ring spring into the recess at the rear of the slip ring; and

(4) Using a pair of retaining ring pliers, compress the slip ring spring and release the snap ring into the groove at the rear of the barrel nut.

b. Replace the front sight detent spring, front sight detent and front sight post.

c. Replace the compensator as follows:

(1) Install the compensator spacer on the barrel with the laminations facing the compensator;

(2) Screw the compensator on hand tight; and

(3) Use the combination wrench and a 1/2 inch drive torque wrench to tighten the compensator to a torque of between 62.4 and 69.1 N.m (46 and 51 ft-lbs).

NOTE

If upon installation and torquing the middle slot of the compensator is not uppermost and aligned with the front sight, remove the compensator and reduce the thickness of the compensator spacer by removing sufficient laminations to facilitate correct alignment after torquing is carried out.

14. Reassemble the barrel assembly to the upper receiver assembly as follows:

a. Clamp the barrel in a vice equipped with vice jaw caps to ensure an adequate grip without damage to the barrel, ensuring that the barrel indexing pin faces upward. See Figure 3-2-20;

b. Install the upper receiver over the barrel extension, checking to see that there is very little or no rotational movement between the barrel and upper receiver assemblies;

c. Wipe the threads of the upper receiver clean and ensure that there are no burrs;

d. Apply molybdenum disulfide grease MIL-G-21164 to the threads of both the barrel nut and upper receiver;

e. Screw the barrel nut onto the threads of the upper receiver hand tight;

f. Using the combination wrench and a 1/2 inch drive torque wrench, torque the barrel nut assembly to between 40.7 and 108.5 N.m (30 and 80 ft-lb) by the following procedure:

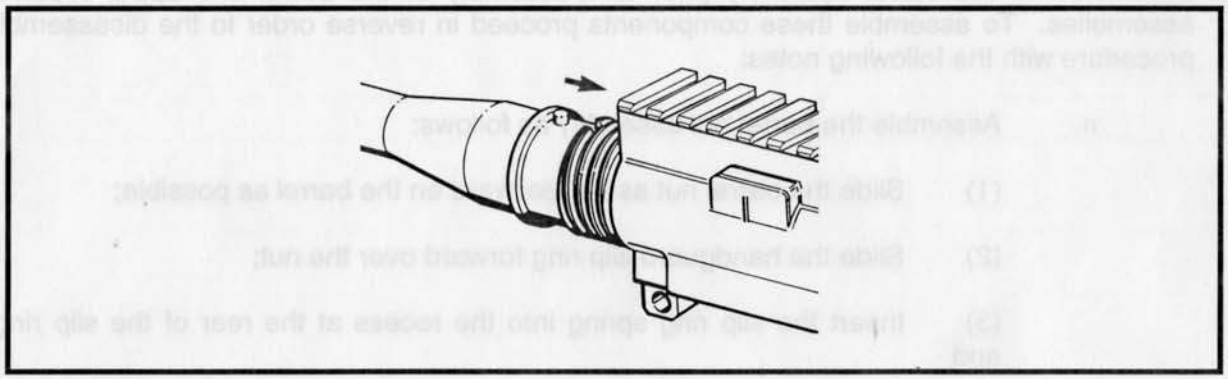


Figure 3-2-20 Installing the Barrel Assembly

NOTE

DO NOT use the torque wrench for loosening the barrel nut.

(1) Tighten the barrel nut, ensuring that all three drive pins of the combination wrench are evenly engaged in the barrel nut;

(2) Loosen the nut; and

(3) Repeat the above, tightening the nut a total of three times.

NOTE

The multiple torquing procedure provides for a better thread fit and ensures that the barrel nut will not work loose.

g. Check the alignment of the barrel nut with the upper receiver as follows:

(1) Insert the alignment tool in the bolt carrier key and insert the bolt carrier into the upper receiver from the rear. See Figure 3-2-21;

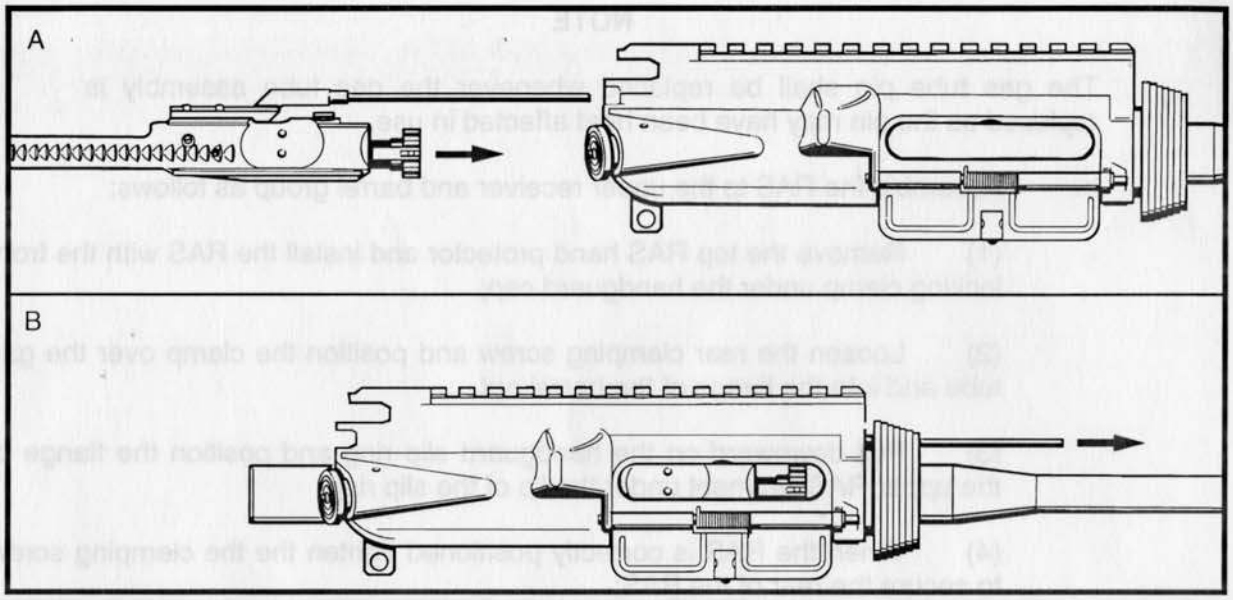


Figure 3-2-21 Using the Barrel Nut Alignment Tool

CAUTION

DO NOT exceed 108.5 N.m (80 ft-lb) torque when tightening the barrel nut, as damage to the upper receiver threads will result.

(2) Tighten the barrel nut until the barrel alignment tool passes freely; and

(3) The barrel nut is correctly installed and aligned when the alignment tool passes freely through the assembly and is centred over the barrel.

15. Finish reassembly of the upper receiver and barrel group by installing the gas tube and handguard assemblies by the following procedures:

a. Remove the assembled upper receiver and barrel from the vice and install the gas tube assembly as follows:

(1) Insert the rear of the gas tube assembly through the barrel nut assembly into the upper receiver;

(2) Rotate the gas tube assembly to align it with the hole in the front sight bracket;

NOTE

The gas port in the gas tube assembly will be on the bottom when the gas tube is assembled correctly.

(3) Insert the front end of the gas tube assembly into the front sight bracket;

(4) Align the retaining pin holes in the tube and front sight bracket; and

(5) Secure the gas tube assembly with a new gas tube pin.

NOTE

The gas tube pin shall be replaced whenever the gas tube assembly is replaced as the pin may have been heat affected in use.

b. Assemble the RAS to the upper receiver and barrel group as follows:

(1) Remove the top RAS hand protector and install the RAS with the front locking clamp under the handguard cap;

(2) Loosen the rear clamping screw and position the clamp over the gas tube and into the flange of the barrel nut.

(3) Pull downward on the handguard slip ring and position the flange of the upper RAS segment under the lip of the slip ring.

(4) When the RAS is correctly positioned tighten the the clamping screw to secure the rear of the RAS;

(5) Slide the top hand protector back onto the RAS, and

(6) Repeat for the lower RAS segment.

DISASSEMBLING THE UPPER RECEIVER ASSEMBLY

16. With the barrel assembly and upper receiver assembly separated the upper receiver assembly may be further disassembled for inspection and repair by sub-assemblies.

FORWARD ASSIST ASSEMBLY

17. **Removal**. Remove the forward assist assembly from the upper receiver by the following procedure:

a. Drive out the forward assist assembly pin using a suitable punch. See Figure 3-2-22;

b. Maintaining forward pressure on the forward assist plunger cap, remove the punch; and

c. Carefully release the pressure on the forward assist plunger cap and remove the forward assist assembly and forward assist plunger spring from the upper receiver.

18. **Disassembly**. To disassemble the forward assist see Figure 3-2-23 and proceed as follows:

a. Drive out the forward assist pawl pin (4) with a suitable punch;

b. Take control of the forward assist pawl (1) and remove the punch from the forward assist plunger assembly (5); and

c. Remove the forward assist detent (2) and forward assist detent spring (3) from the plunger assembly.

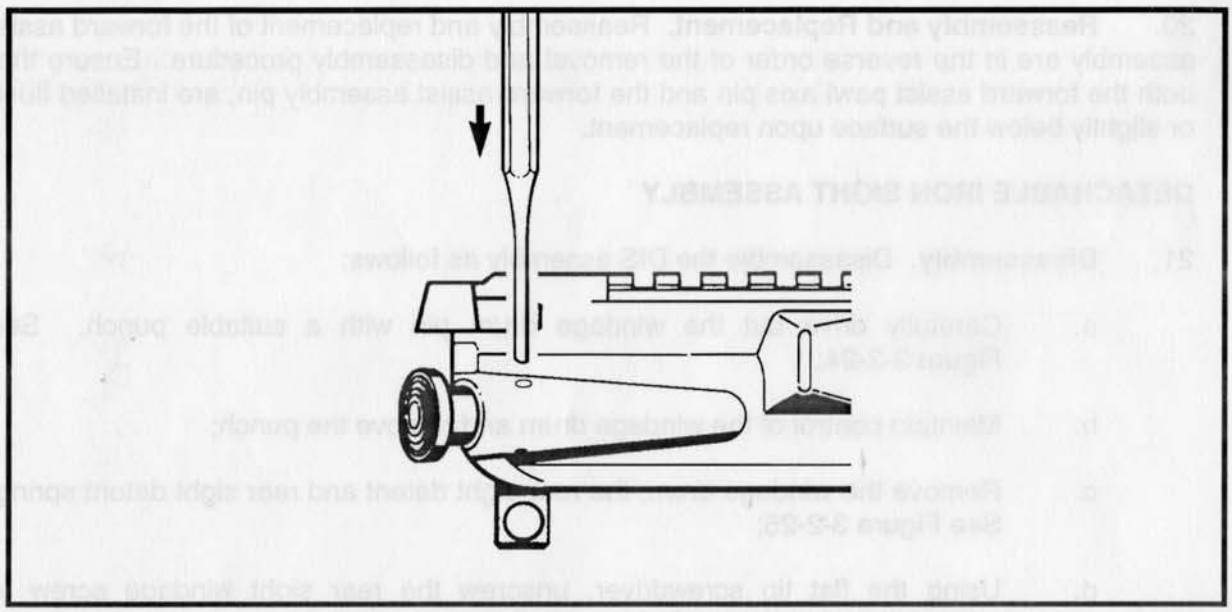
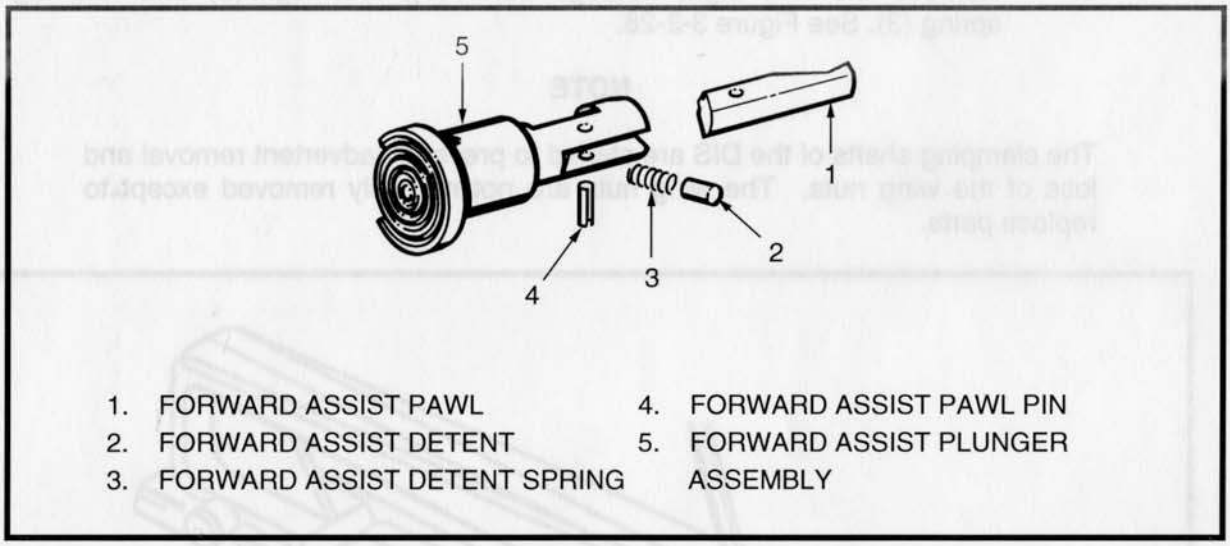


Figure 3-2-22 Removing the Forward Assist Assembly



1. FORWARD ASSIST PAWL
2. FORWARD ASSIST DETENT
3. FORWARD ASSIST DETENT SPRING
4. FORWARD ASSIST PAWL PIN
5. FORWARD ASSIST PLUNGER ASSEMBLY

Figure 3-2-23 Disassembling the Forward Assist Assembly

19. **Inspection and Repair**. To inspect and repair the forward assist assembly proceed as follows:

a. Inspect the forward assist pawl, forward assist pawl detent and plunger cap for wear, burrs, chips and breaks;

b. Minor burrs may be removed with a smooth file or fine stone, taking care not to alter the original dimensions or contours;

c. Check the forward assist spring for kinks, broken coils and wear;

d. Replace defective forward assist springs as required; and

e. Replace defective parts as required.

20. **Reassembly and Replacement**. Reassembly and replacement of the forward assist assembly are in the reverse order of the removal and disassembly procedure. Ensure that both the forward assist pawl axis pin and the forward assist assembly pin, are installed flush or slightly below the surface upon replacement.

DETACHABLE IRON SIGHT ASSEMBLY

21. **Disassembly**. Disassemble the DIS assembly as follows:

a. Carefully drive out the windage drum pin with a suitable punch. See Figure 3-2-24;

b. Maintain control of the windage drum and remove the punch;

c. Remove the windage drum, the rear sight detent and rear sight detent spring. See Figure 3-2-25;

d. Using the flat tip screwdriver, unscrew the rear sight windage screw to release the rear sight and spring; and

e. Remove the rear sight windage screw (1), rear sight (2) and rear sight spring (3). See Figure 3-2-26.

NOTE

The clamping shafts of the DIS are staked to prevent inadvertent removal and loss of the wing nuts. The wing nuts are not normally removed except to replace parts.

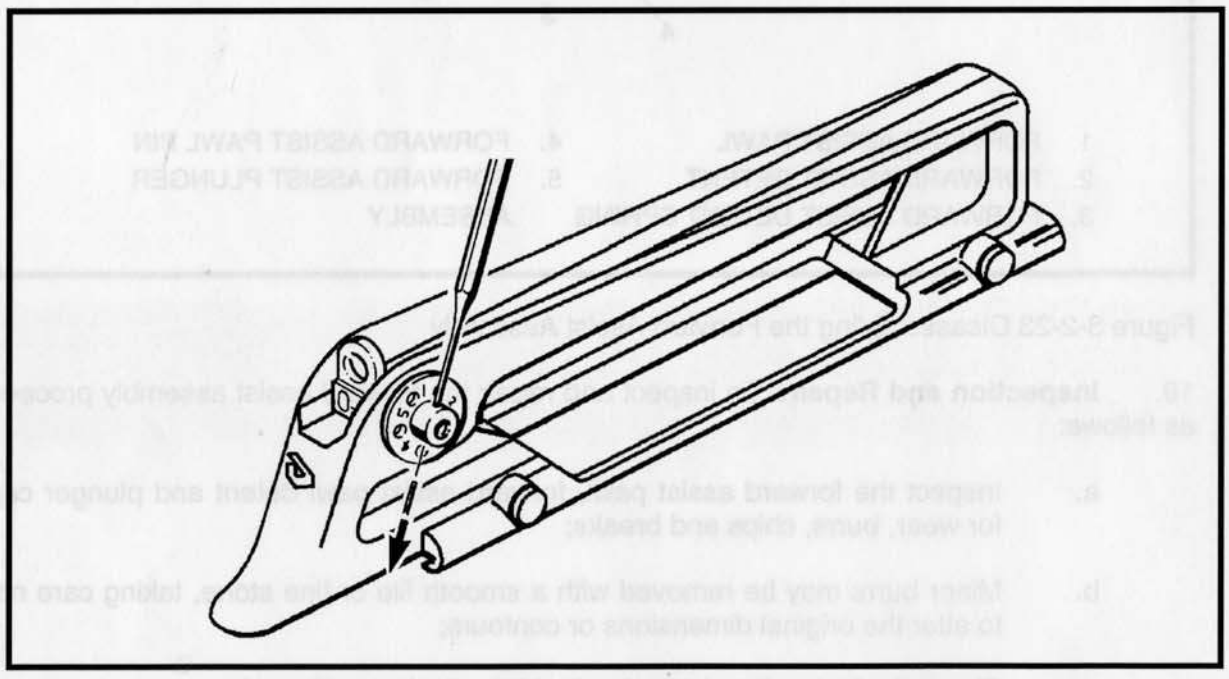


Figure 3-2-24 Removing the Windage Drum Pin

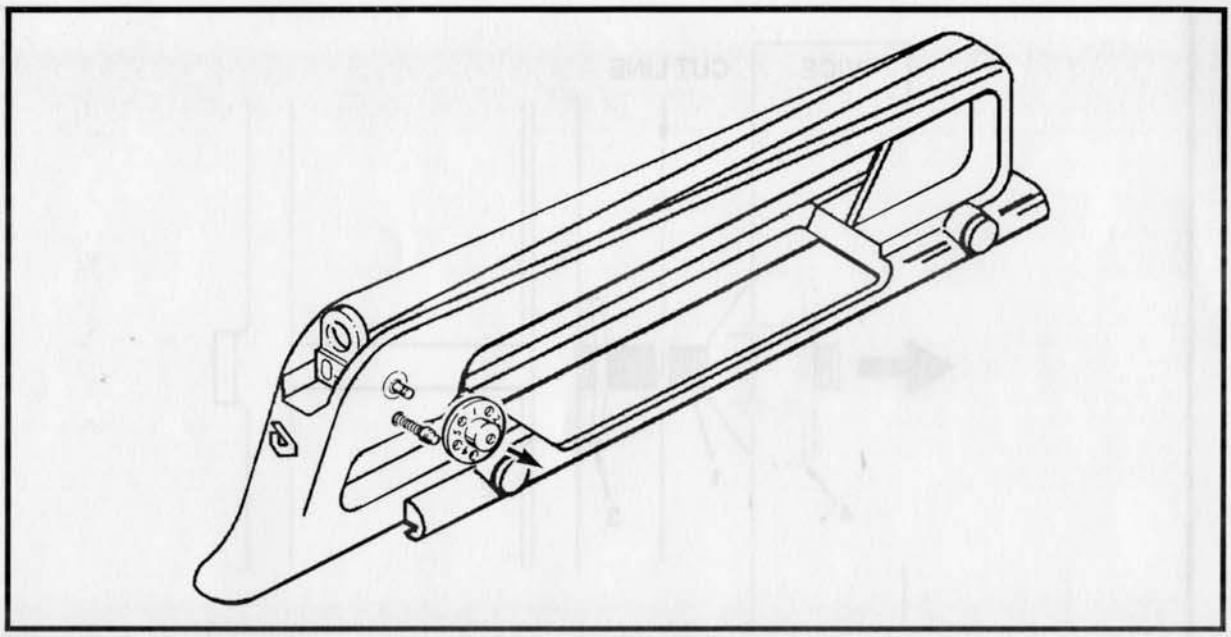


Figure 3-2-25 Removing the Windage Drum

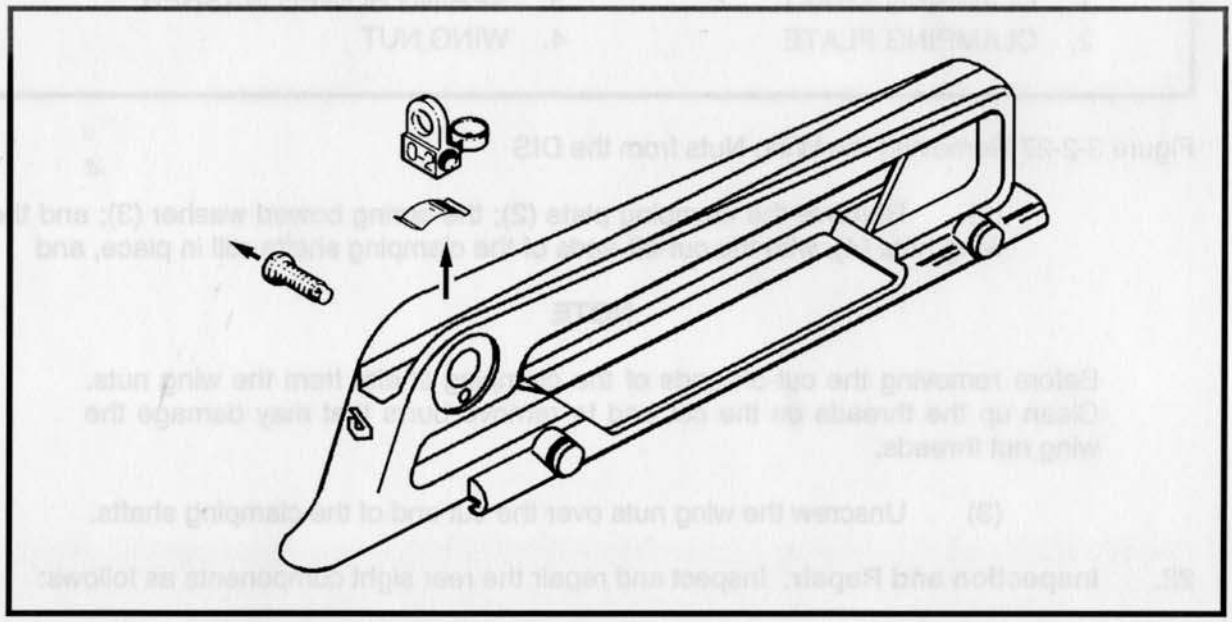


Figure 3-2-26 Removing the Rear Sight

f. To remove the wing nuts, refer to Figure 3-2-27 and proceed as follows:

(1) Secure the DIS in a vice and cut the clamping shafts (1), through the threaded section, with a hacksaw.

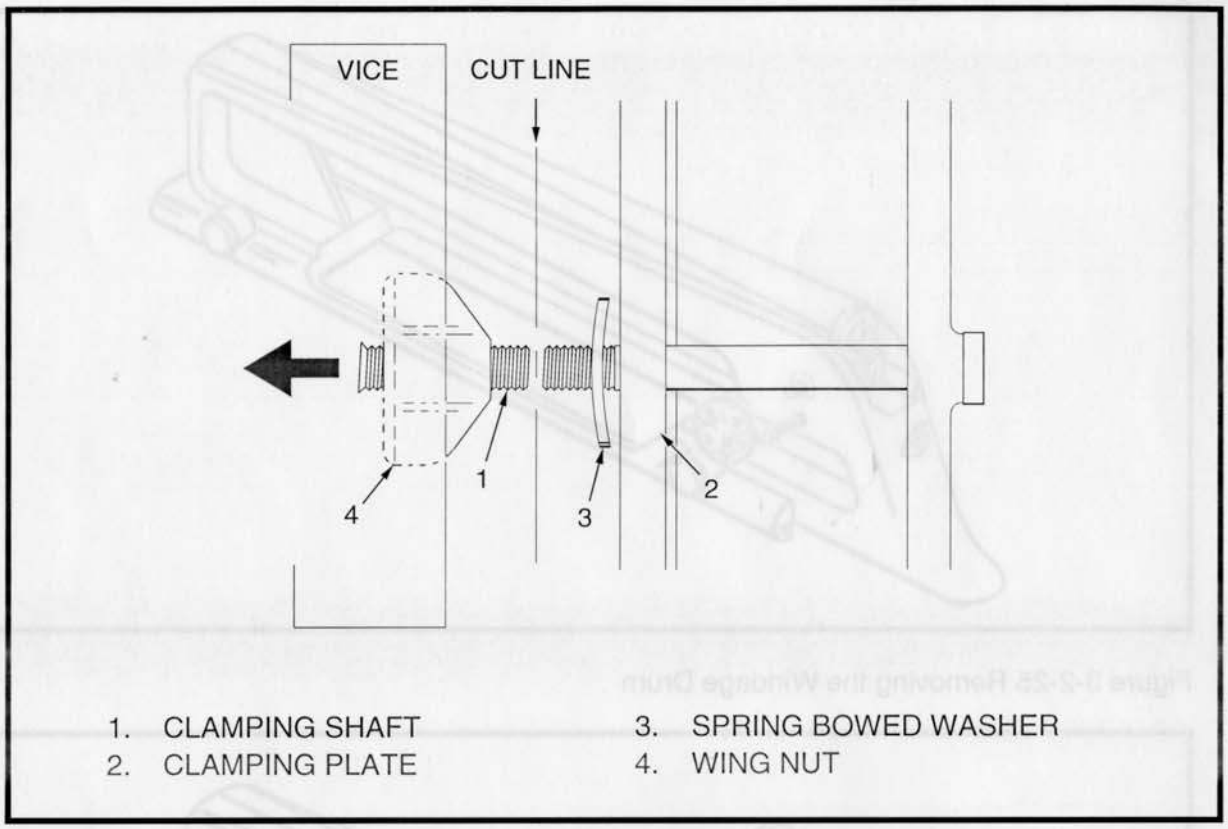


Figure 3-2-27 Removing the Wing Nuts from the DIS

(2) Remove the clamping plate (2); the spring bowed washer (3); and the wing nuts (4), with the cut-off ends of the clamping shafts still in place, and

NOTE

Before removing the cut-off ends of the clamping shafts from the wing nuts. Clean up the threads on the cut end to remove burrs that may damage the wing nut threads.

(3) Unscrew the wing nuts over the cut end of the clamping shafts.

22. **Inspection and Repair**. Inspect and repair the rear sight components as follows:

a. Check the sight components for burrs, cracks and distortion;

b. Check the threads of the windage screw and rear sight to ensure that they are free of damage, and that they do not bind on assembly;

c. Remove nicks and burrs with a smooth file or fine stone, taking care not to alter original critical dimensions; and

d. Replace non-serviceable parts as required.

23. **Reassembly**. Reassemble the DIS in the reverse order to the disassembly procedure. Stake the clamping shafts to secure the wing nuts as follows:

a. Screw the wing nuts onto the clamping shaft until 1/8 in thread is exposed in the recess of the wing nut;

b. Support the head of the clamping shaft and carefully cross stake the end of the clamping shaft with a narrow straight chisel;

c. Screw the wing nut in and out against the staking to ensure free movement and retention; and

d. Repeat as necessary.

EJECTION PORT COVER

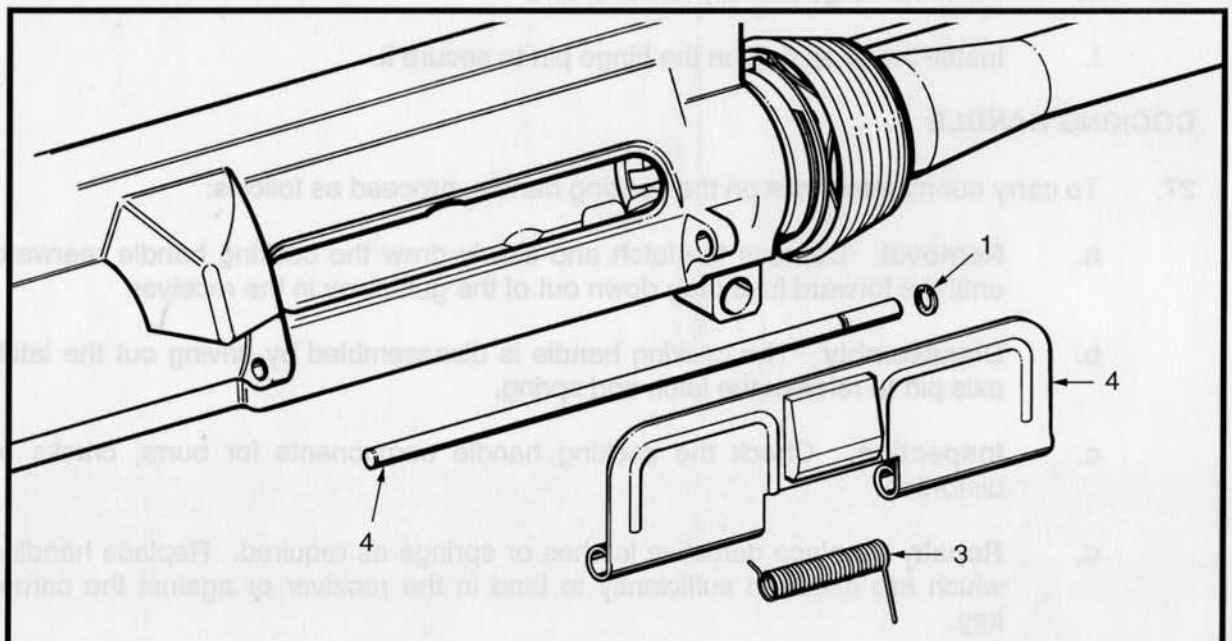
24. **Disassembly**. To disassemble the ejection port cover from the upper receiver, see Figure 3-2-28 and proceed as follows:

a. Using the tips of two small punches or flat tip screwdrivers remove the ejection port cover hinge pin snap ring (1) from the ejection port cover hinge pin (2);

b. Take control of the ejection port cover (4) and ejection port cover spring (3) to prevent their loss;

c. Remove the ejection port cover hinge pin to the rear; and

d. Remove the ejection port cover and the ejection port cover spring.



1. EJECTION PORT COVER HINGE PIN SNAP RING
2. EJECTION PORT COVER HINGE PIN
3. EJECTION PORT COVER SPRING
4. EJECTION PORT COVER

Figure 3-2-28 Removing the Ejection Port Cover

25. **Inspection and Repair**. Inspect and repair the ejection port cover assembly as follows:

a. Inspect all components of the ejection port cover assembly for serviceability, security, and function; and

b. Replace all non-functional, damaged or defective components.

26. **Reassembly**. Install the ejection port cover and apply tension to the cover spring by the following procedure:

a. Position the cover and spring on the upper receiver, with the short spring leg against the upper receiver, at the rear of the spring housing and pointing upward;

b. Insert the hinge pin through the rear axis lug on the receiver, through the rear hinge section of the ejection port cover, and midway into the spring;

c. Grasp the long leg of the spring and pre-tension the spring by rotating the leg clockwise, when viewed from the front;

d. Hook the leg behind the ejection port cover;

e. Push the hinge pin fully forward; and

f. Install the snap ring on the hinge pin to secure it.

COCKING HANDLE

27. To carry out maintenance on the cocking handle, proceed as follows:

a. **Removal**. Depress the latch and slowly draw the cocking handle rearward until the forward lugs drop down out of the guideway in the receiver.

b. **Disassembly**. The cocking handle is disassembled by driving out the latch axis pin to release the latch and spring.

c. **Inspection**. Check the cocking handle components for burrs, cracks or distortion.

d. **Repair**. Replace defective latches or springs as required. Replace handles which are distorted sufficiently to bind in the receiver or against the carrier key.

e. **Reassembly and Replacement**. Reassemble and replace the cocking handle in reverse order, ensuring that the latch axis pin does not protrude from the handle upon assembly.

UPPER RECEIVER

28. **Inspection**. Inspect the upper receiver for dents, cracks, gouges, corrosion or distortion. Small dents which do not effect the operation of the weapon shall not be cause for rejection. However, upper receivers containing cracks or holes shall be condemned. When inspecting the L119A1 upper receiver ensure that the optical sight grooves are correctly formed.

29. **Repair**. Backload weapons with non-serviceable upper receivers. Repair minor damage to the upper receiver by the following procedures:

a. Remove nicks and gouges with a smooth file or fine stone, taking care not to alter any original critical dimensions;

b. Touch up the affected areas as detailed in Part 3, Section 1 of this instruction.

REASSEMBLY

30. Reassemble the component sub-assemblies in reverse order to the disassembly procedures. Reassemble the barrel assembly to the upper receiver assembly if previously disassembled.

BOLT CARRIER GROUP

DISASSEMBLY

• • • • • • • • •
• CAUTION •
• • • • • • • • •

The Bolt Assembly for the the M16 and L119A1 are NOT interchangable as an assembly. The extract spring, extractor spring insert, and ejection spring are all different than their M16 counterparts and can not be interchanged. Use of these M16 components in the L119A1 may cause malfunctions.

31. With the bolt carrier group removed from the weapon, proceed with disassembly by the following procedure:

a. Using a suitable punch, push the firing pin retaining pin out of the bolt carrier. See Figure 3-2-29;

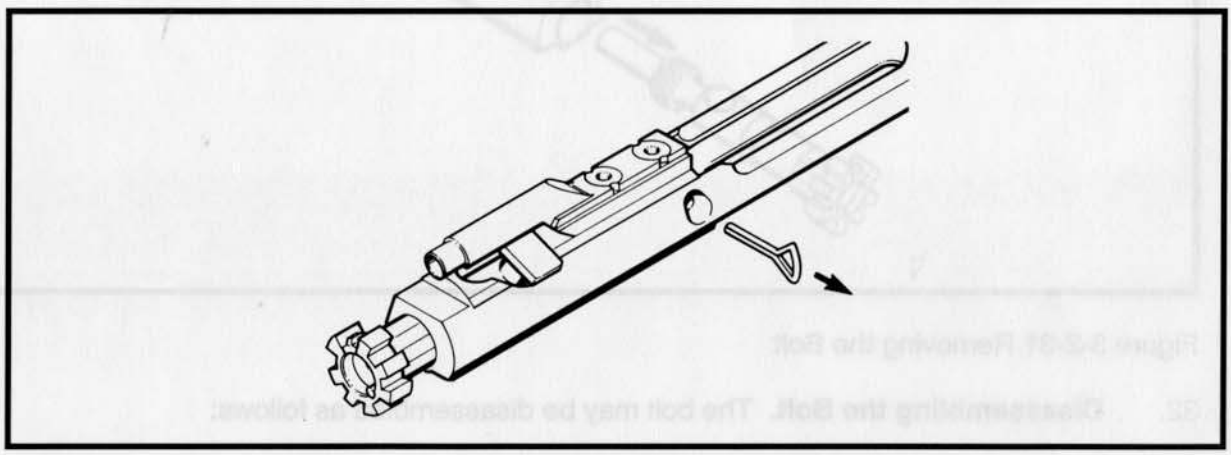


Figure 3-2-29 Removing the Firing Pin Retaining Pin

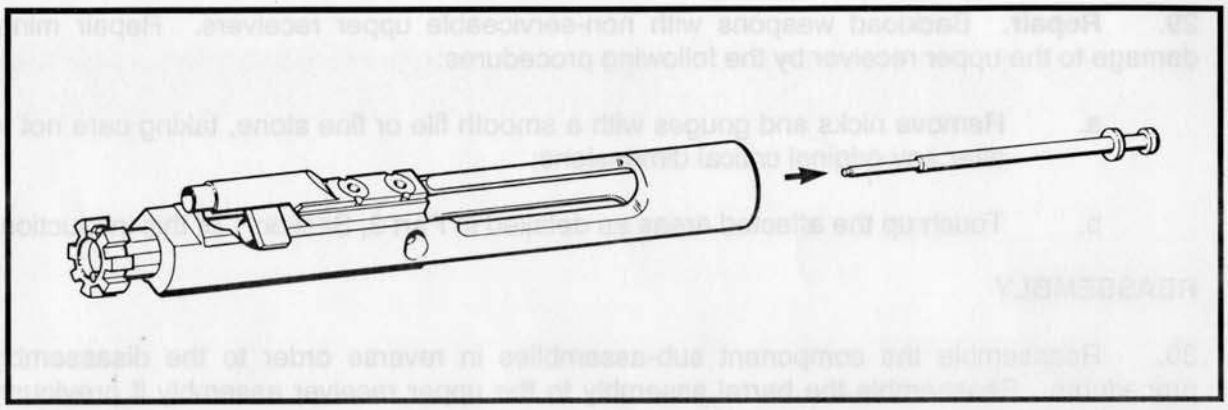


Figure 3-2-30 Removing the Firing Pin

b. Remove the firing pin from the rear of the bolt carrier. See Figure 3-2-30;

c. Push the bolt rearward;

d. Rotate the cam pin 1/4 turn; and

e. Withdraw the cam pin from the bolt carrier group and pull the bolt out of the bolt carrier. See Figure 3-2-31.

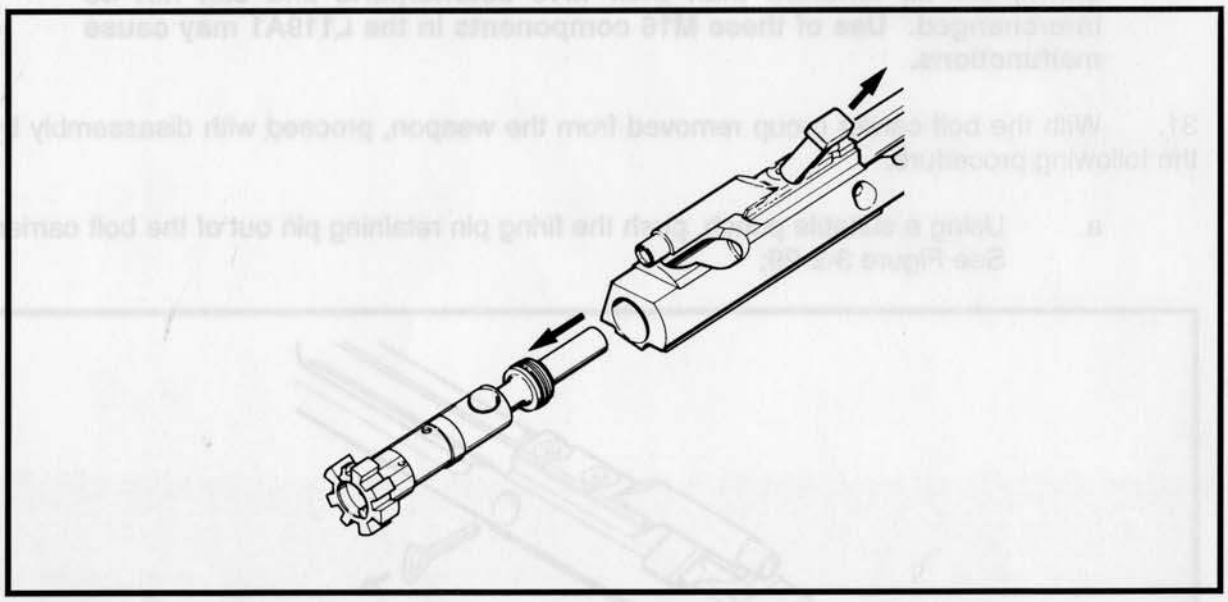


Figure 3-2-31 Removing the Bolt

32. **Disassembling the Bolt**. The bolt may be disassembled as follows:

a. Using a suitable punch, push out the extractor pin and remove the extractor. See Figure 3-2-32;

CAUTION

DO NOT attempt to remove the extractor spring and spring insert from the extractor. The extractor spring assembly is removed only for replacement. The spring is captive and could be damaged upon

removal. DO NOT substitute M16 extractor spring or extractor spring insert for L119A1 components.

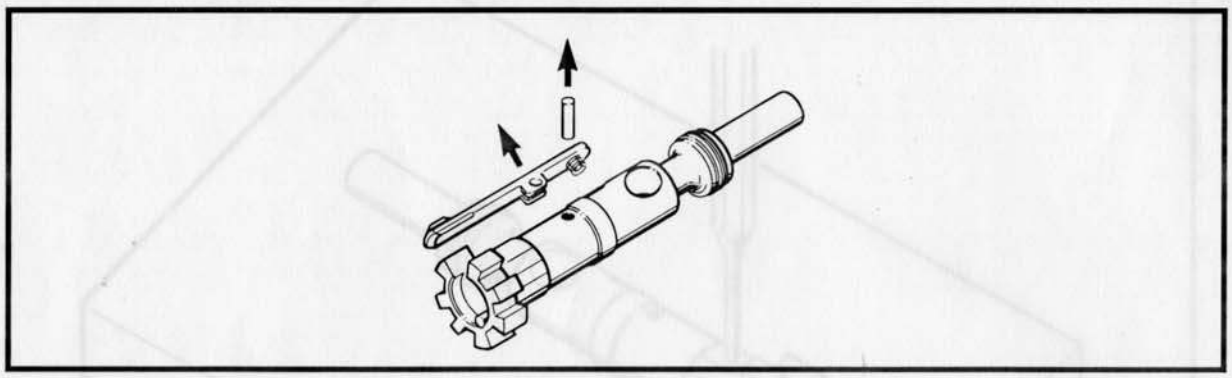


Figure 3-2-32 Removing the Extractor

b. The ejector and ejector spring are not removed except to replace defective or damaged components. Should disassembly be necessary, proceed as follows:

(1) Support the bolt on a hardwood block and drive out the roll pin securing the ejector. See Figure 3-2-33; and

(2) Carefully remove the punch; remove the ejector spring and ejector from the bolt.

CAUTION

DO NOT substitute M16 ejector spring for L119A1 ejector spring.

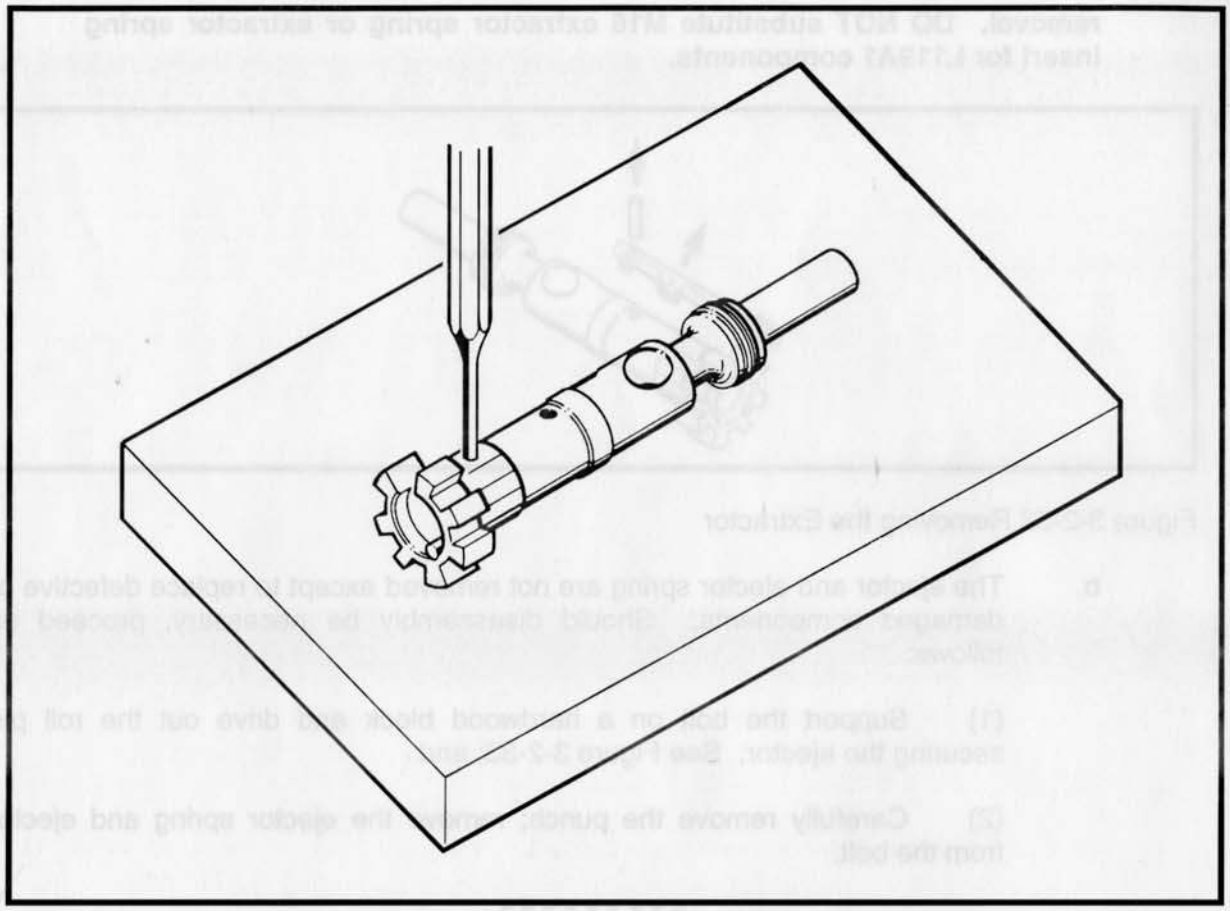


Figure 3-2-33 Removing the Ejector Pin

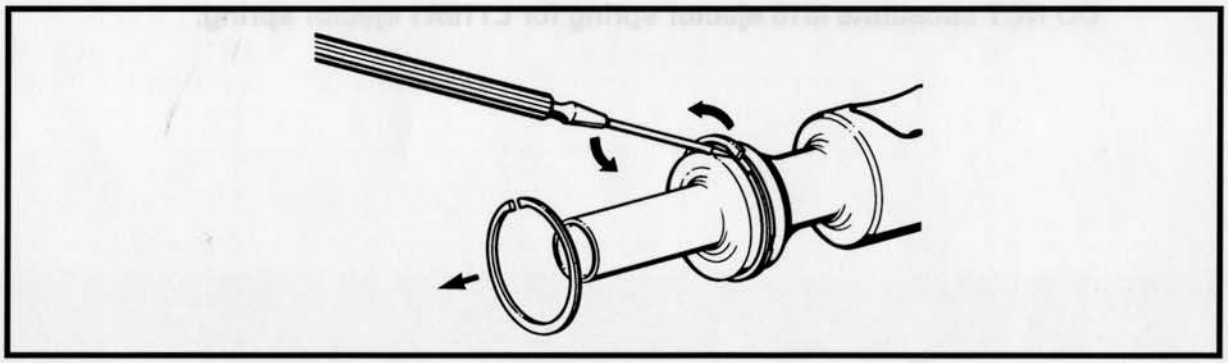


Figure 3-2-34 Removing the Bolt Rings

c. The bolt rings are not removed except for replacement. Replace all three rings if damage or defects exist. In the event that replacement is required, the rings are removed with the tip of the jeweller's screwdriver. See Figure 3-2-34.

33. **Disassembling the Bolt Carrier**. The bolt carrier is not normally disassembled, except for the replacement of defective or damaged components, since the carrier key is sealed to the carrier and the securing screws are heavily staked in position. However, should disassembly be required, unscrew the two socket head screws with a hexagonal bit socket on a socket wrench and separate the carrier key from the carrier. See Figure 3-2-35.

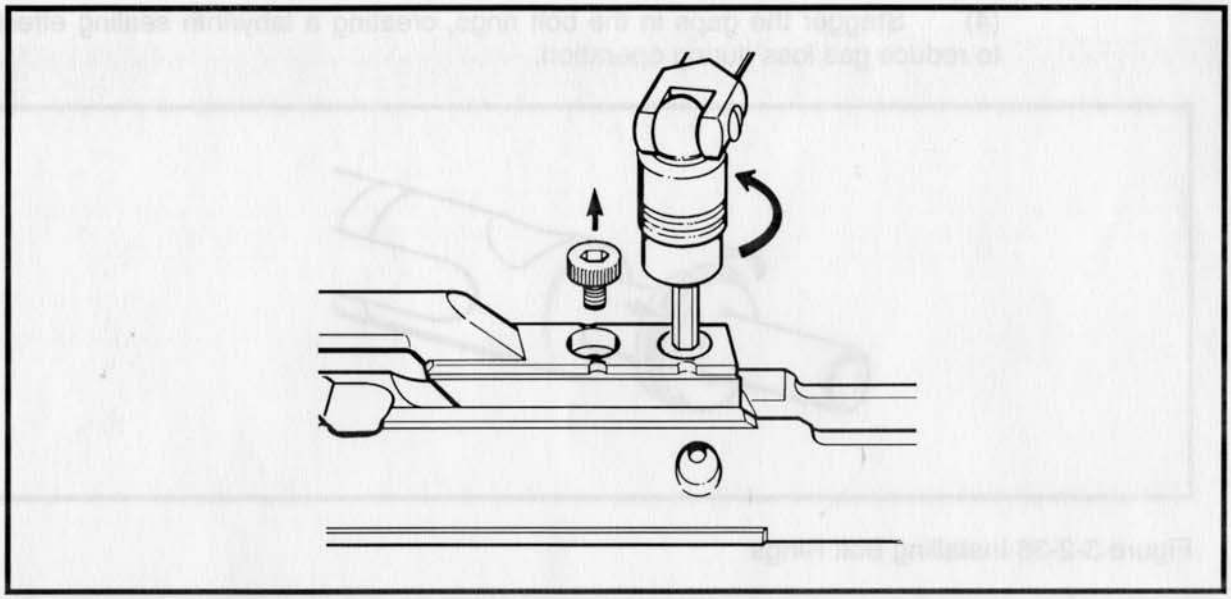


Figure 3-2-35 Removing the Bolt Carrier Key

INSPECTION AND REPAIR

34. Inspect and repair the bolt carrier group as follows:

a. Inspect all bolt carrier components for cracks, bends, burrs or other forms of damage. Springs are to be checked for bends, kinks or distortion;

b. Visually inspect the bolt rings for bends, kinks or breaks. If one or more of the rings are damaged, replace all three rings;

c. Visually inspect the bolt carrier key screws for looseness and security of the staking. If the bolt carrier key screws are found to be loose, retorque them to 5.54 to 5.88 Newton-metres (49 to 52 inch-pounds) and restake; and

NOTE

DO NOT attempt to retorque if there is no loosening of the screws indicated at the staking marks.

d. Replace non-serviceable components as required.

REASSEMBLY

35. Reassemble the bolt assembly as follows:

a. Install the bolt rings onto the bolt taking care not to distort the new rings. To install the bolt rings, see Figure 3-2-36 and proceed as follows:

(1) Carefully position one end of the bolt ring in the bolt groove and hold in place;

(2) Gently guide the circumference of the bolt ring into the groove until it snaps into position;

(3) Repeat for the other two bolt rings; and

(4) Stagger the gaps in the bolt rings, creating a labyrinth sealing effect, to reduce gas loss during operation.

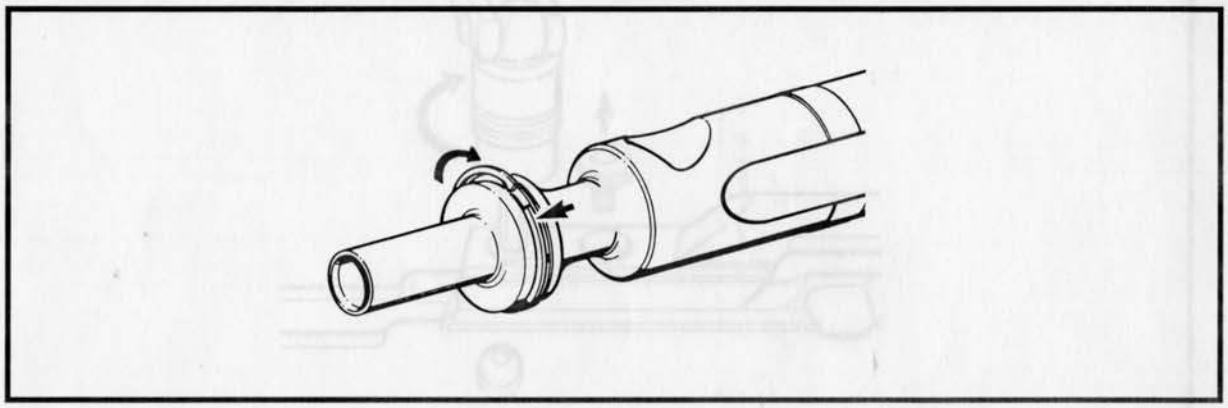


Figure 3-2-36 Installing Bolt Rings

b. Install the ejector as follows:

CAUTION

The L119A1 extractor spring assembly is heavier than other M16 type extractor springs. The insert is colour coded black for identification. Installation of the incorrect assembly will cause malfunctions.

(1) Ensure that the extractor spring is properly seated in the extractor.

(2) Start the ejector retaining pin into its hole, being careful to leave clearance for installing the ejector;

(3) Position the ejector spring and ejector in the bolt;

(4) Depress the ejector to compress the ejector spring; and

(5) Secure it with the ejector pin, ensuring that the ends of the pin are flush or below the outer surface of the bolt body.

c. To install the extractor, hold the extractor and spring in position, see Figure 3-2-37 and insert the extractor pin.

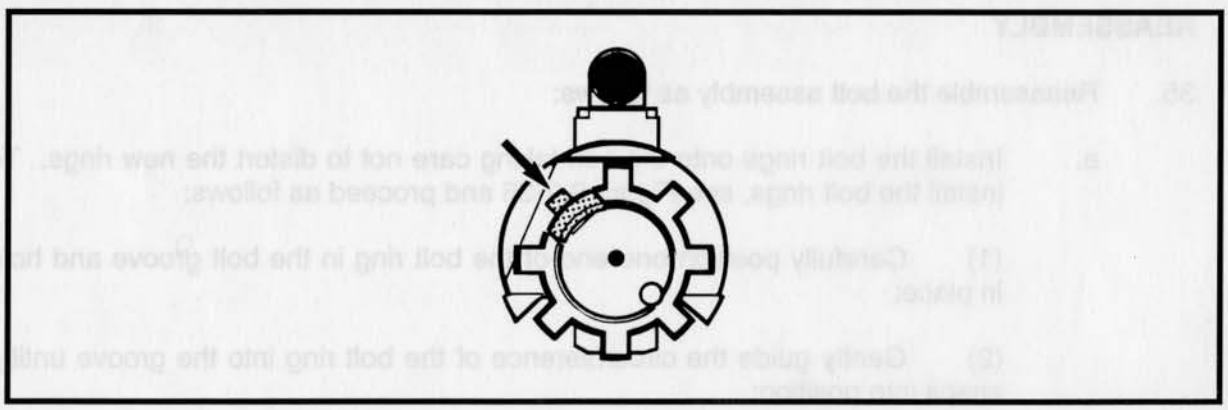


Figure 3-2-37 Assembling the Extractor

36. Reassemble the key to the bolt carrier as follows:

a. Clean the mating surfaces of the bolt carrier key and bolt carrier, thoroughly;

b. Apply a light layer of sealing compound NSN 8030-21-904-3021, to the undersurface of the bolt carrier key around the gas port, to form a seal;

• • • • • • • • •
• CAUTION •
• • • • • • • • •

Apply the sealing compound sparingly and only to the area immediately surrounding the gas porthole. DO NOT allow it to enter the gas port or screw holes. Ensure that the gas port is not plugged.

c. Position the key on the bolt carrier;

NOTE

DO NOT re-use the old bolt carrier key securing screws.

d. Tighten the two carrier key screws to a torque of 5.54 to 5.88 Newton-metres (49 to 52 inch-pounds);

e. Secure both screws by staking the top of the key against each screw head at three positions; and

f. Check the key after installation to ensure that it is parallel to the rails machined on the top of the bolt carrier, and that the key slides freely onto the end of the gas tube at assembly.

NOTE

Allow the sealing compound to cure for at least 24 hours before exposing it to any solvents or firing the weapon.

37. Reassemble the bolt and bolt carrier into one group as follows:

NOTE

Before assembling the bolt to the bolt carrier ensure that the bolt ring gaps are staggered to reduce gas loss.

a. Insert the bolt into the carrier with a rotating motion, to prevent damage to the bolt rings and push it fully to the rear;

b. Rotate the bolt to position the extractor on the right and insert the cam pin into the bolt;

NOTE

The cam pin hole in the bolt is swaged so that the cam pin can only be inserted from one direction. This is to prevent the bolt from being assembled with the extractor in the wrong position.

c. Rotate the cam pin 1/4 turn either way;

d. Pull the bolt forward;

e. Insert the firing pin into the bolt and push it fully forward; and

f. Insert the firing pin retaining pin into the bolt carrier from the left, to secure the firing pin.

LOWER RECEIVER AND BUTT GROUP

REMOVING THE SLIDING BUTTSTOCK ASSEMBLY

38. Separate the upper receiver and barrel group from the weapon.

39. To remove the sliding buttstock, refer to Figure 3-2-38, and proceed as follows:

a. Depress the butt release lever (1) and slide the butt fully rearward;

b. Pull down fully on the front end of the release lever (2); and

c. Remove the sliding buttstock rearward from the receiver extension (3).

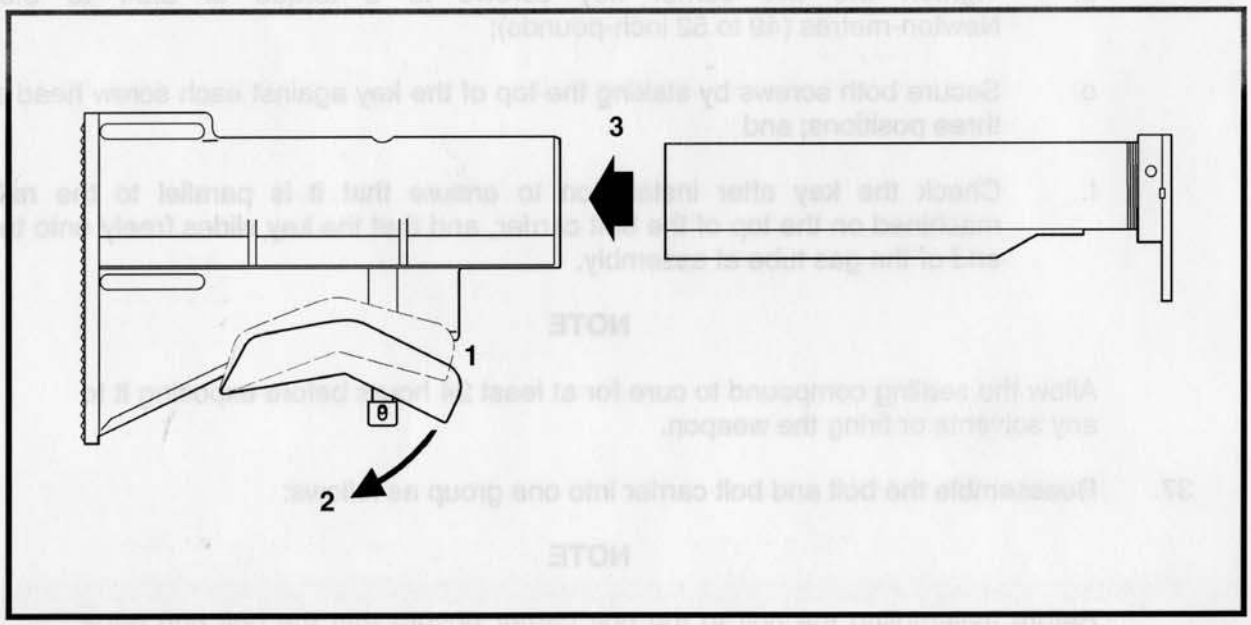


Figure 3-2-38 Removing the Sliding Buttstock Assembly

LOWER RECEIVER ASSEMBLY

40. Proceed with the disassembly, inspection, repair and reassembly by subassembly.

PISTOL GRIP

41. **Removal**. To remove the pistol grip, open the pistol grip cover, see Figure 3-2-39 and proceed as follows:

a. Using a suitable screwdriver, remove the pistol grip screw (1) and lockwasher (2);

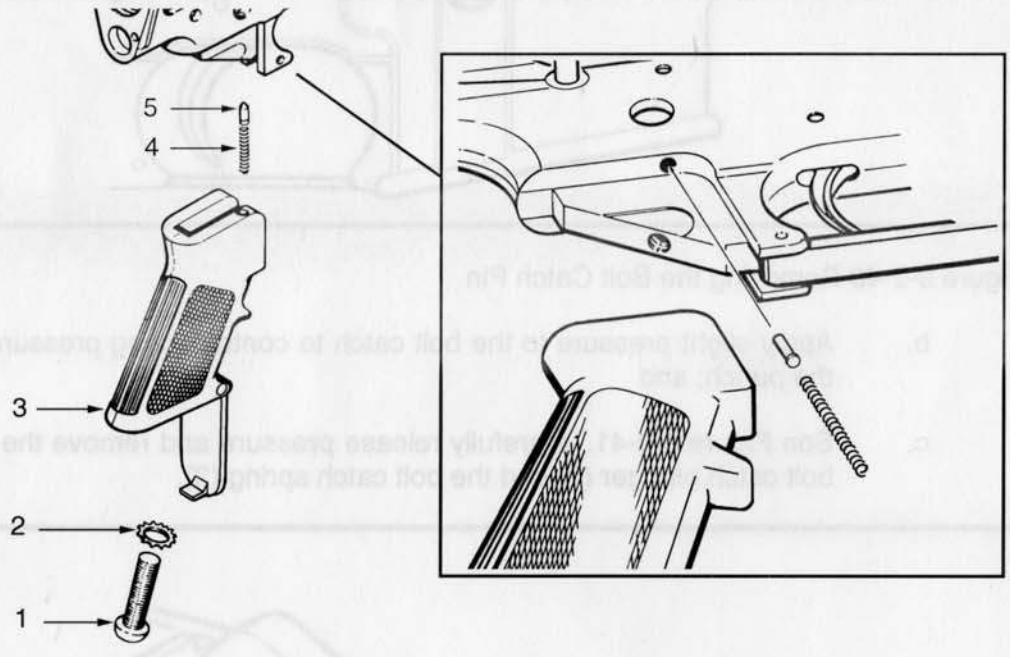
b. Carefully withdraw the pistol grip (3) and take control of the selector detent spring (4);

NOTE

The selector detent spring is under moderate compression. Remove the pistol grip carefully to prevent loss of the spring.

c. Remove the pistol grip, selector detent spring and selector detent (5); and

d. Remove the fire control selector.



1. PISTOL GRIP SCREW
2. LOCKWASHER
3. PISTOL GRIP
4. SELECTOR DETENT SPRING
5. SELECTOR DETENT

Figure 3-2-39 Removing the Pistol Grip

42. **Inspection and Repair**. Inspect and repair the pistol grip and fire control selector components as follows:

a. Ensure that the grip is free of cracks, distortions and deformation;

b. Ensure that the fire control selector, selector detent and spring are in good form; and

c. Replace non-serviceable components as required.

43. **Reassembly**. Reassemble the pistol grip components in reverse order to the disassembly procedure. Ensure that the detent is properly installed, with the pointed end facing the selector. Also ensure that the selector detent spring is installed without kinking and that it is properly contained in the lower receiver by the pistol grip.

BOLT CATCH

44. **Removal**. Remove the bolt catch as follows:

a. Remove the bolt catch pin with punch NSN 5120-21-896-7514. See Figure 3-2-40;

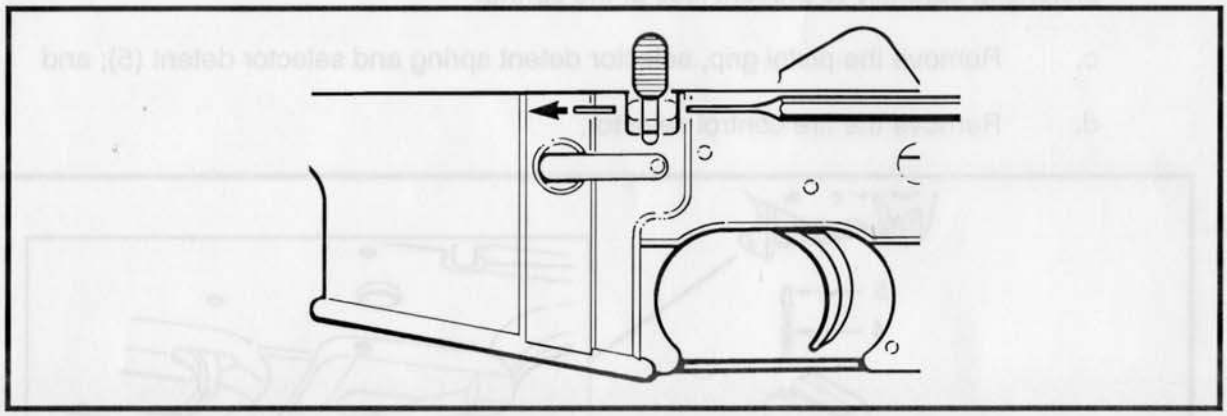
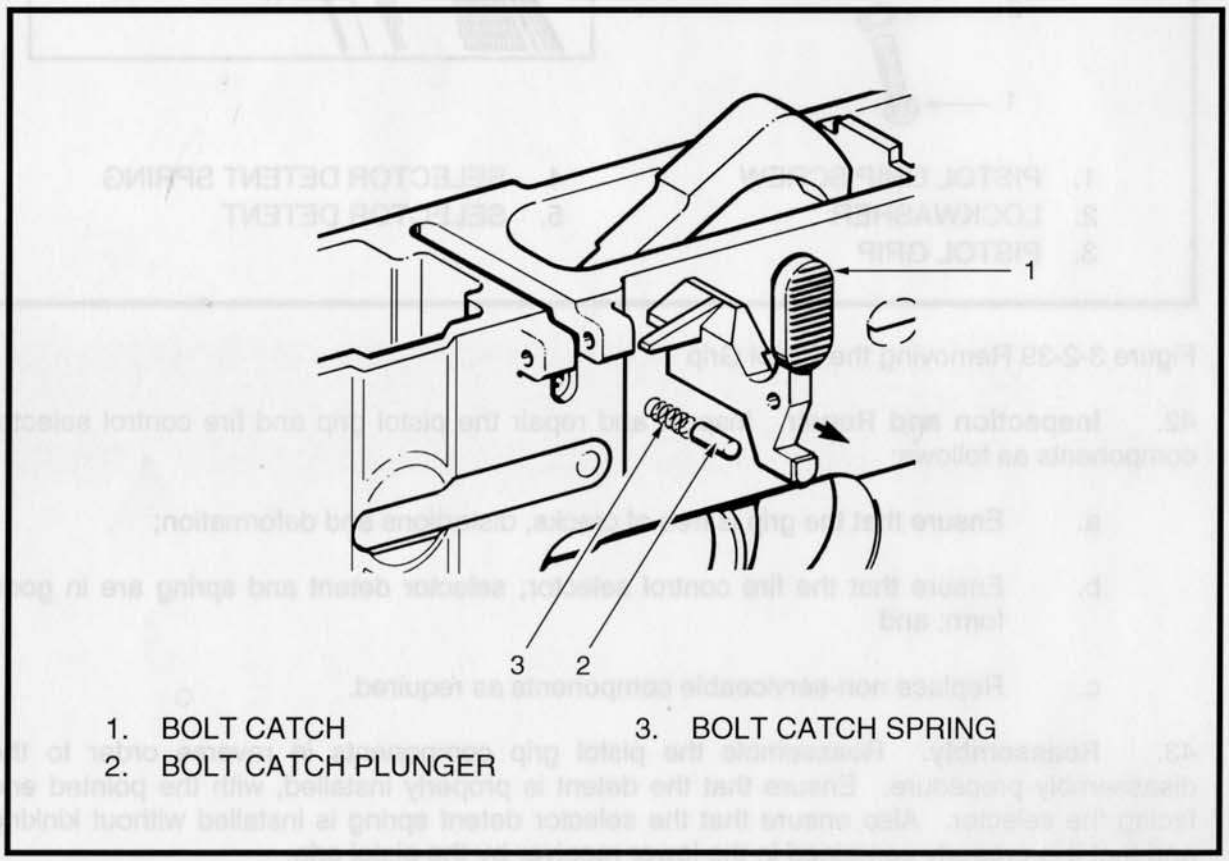


Figure 3-2-40 Removing the Bolt Catch Pin

b. Apply slight pressure to the bolt catch to control spring pressure and remove the punch; and

c. See Figure 3-2-41. Carefully release pressure and remove the bolt catch (1) bolt catch plunger (2) and the bolt catch spring (3).



1. BOLT CATCH
2. BOLT CATCH PLUNGER
3. BOLT CATCH SPRING

Figure 3-2-41 Removing the Bolt Catch Components

45. **Inspection and Repair**. Inspect and repair the bolt catch as follows:

a. Ensure that the bolt catch spring and plunger are free of wear, cracks or distortion;

b. Ensure that the finger serrations and the bolt contact point of the bolt catch are clearly defined; and

c. Replace non-serviceable components as required.

46. **Reassembly**. Reassemble the bolt catch components in reverse order to the disassembly.

MAGAZINE CATCH

47. **Removal**. Remove the magazine catch as follows:

a. Push the magazine release button fully into the receiver and unscrew the magazine catch. See Figure 3-2-42;

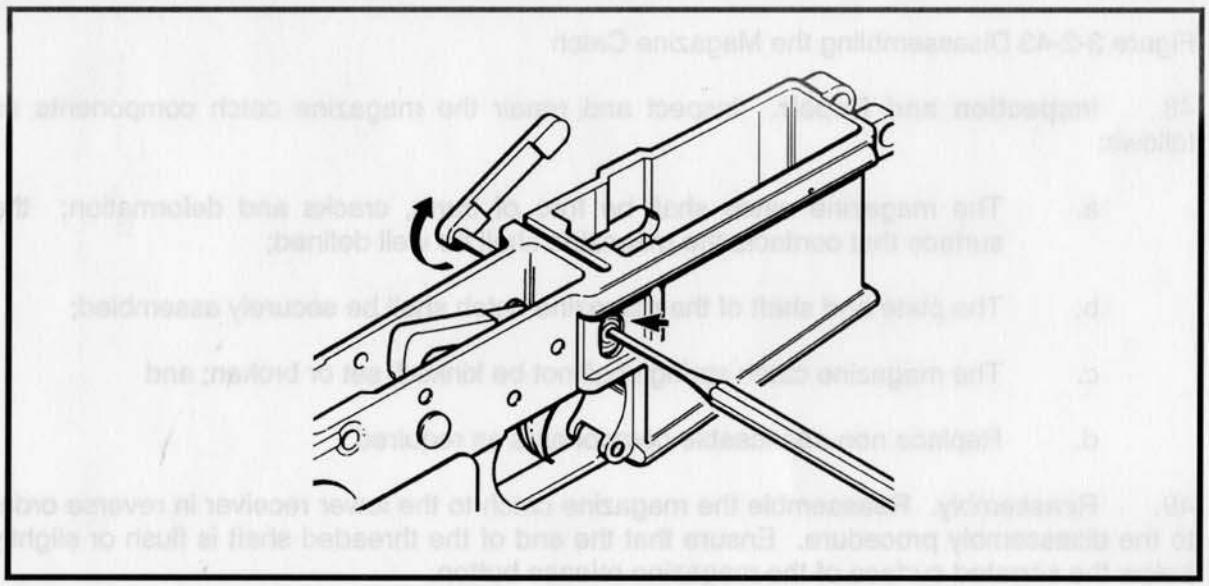
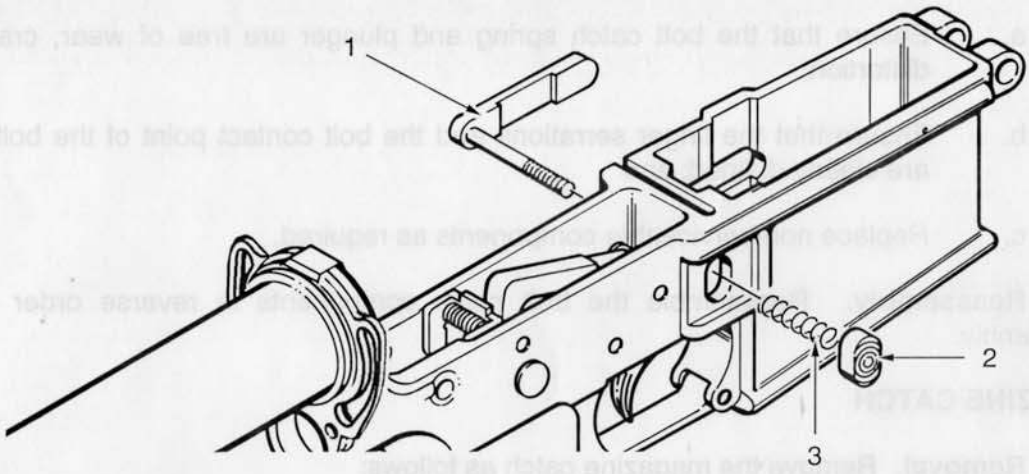


Figure 3-2-42 Unscrewing the Magazine Catch

b. Slowly release pressure on the magazine release button, taking control of the magazine catch spring as it is exposed; and

c. See Figure 3-2-43. Remove the magazine catch (1), magazine release button (2) and magazine catch spring (3).



1. MAGAZINE CATCH
2. MAGAZINE RELEASE BUTTON
3. MAGAZINE CATCH SPRING

Figure 3-2-43 Disassembling the Magazine Catch

48. **Inspection and Repair**. Inspect and repair the magazine catch components as follows:

a. The magazine catch shall be free of burrs, cracks and deformation; the surface that contacts the magazine shall be well defined;

b. The plate and shaft of the magazine catch shall be securely assembled;

c. The magazine catch spring shall not be kinked, set or broken; and

d. Replace non-serviceable components as required.

49. Reassembly. Reassemble the magazine catch to the lower receiver in reverse order to the disassembly procedure. Ensure that the end of the threaded shaft is flush or slightly below the serrated surface of the magazine release button.

TRIGGER GUARD

50. **Removal and Disassembly**. Remove and disassemble the trigger guard by the following procedure:

CAUTION

Extreme care must be taken to properly support the lower receiver in the area around the trigger guard pivot pin hole when driving out the trigger guard pivot pin. Failure to do so may result in a broken or cracked lower receiver.

a. Drive out the trigger guard pivot pin with a suitable punch. See Figure 3-2-44;

b. Depress the plunger located at the front of the trigger guard and remove the trigger guard;

c. Drive out the trigger guard plunger pin with suitable punch;

d. Cover the end of the hole in the trigger guard as the punch is removed, to control the release of the spring; and

e. Remove the trigger guard plunger and the trigger guard plunger spring.

51. **Inspection and Repair**. Inspect and repair as follows:

a. The trigger guard shall be free of bends, burrs or distortion;

b. The trigger guard plunger shall depress without binding, and operate positively against spring pressure;

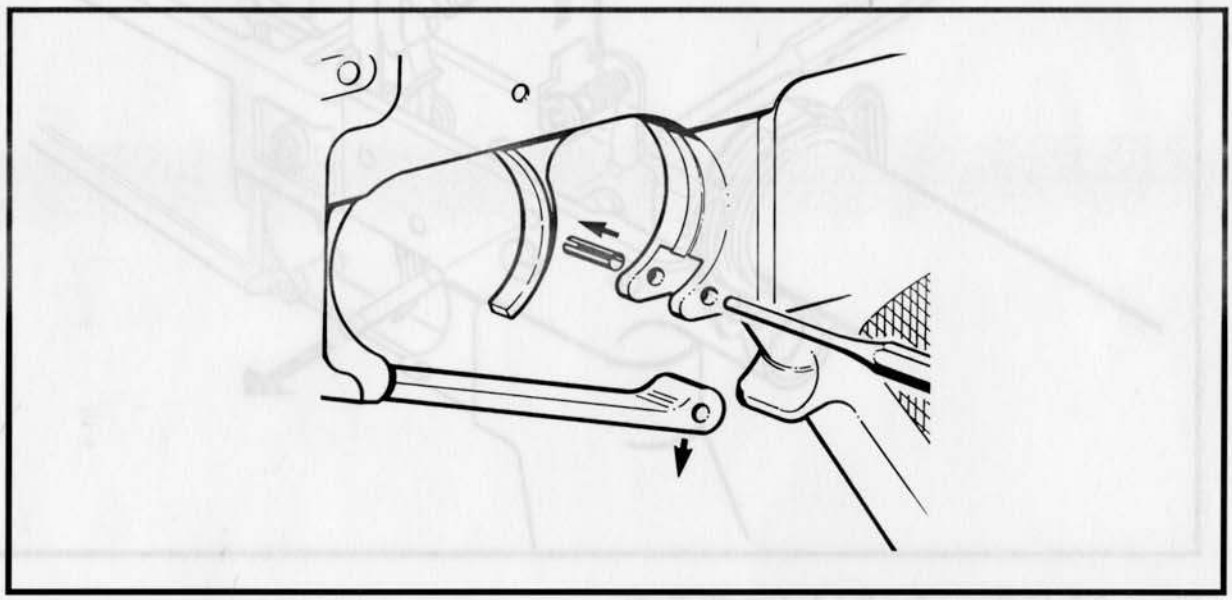


Figure 3-2-44 Removing the Trigger Guard Pivot Pin

c. The trigger guard plunger spring shall be free of kinks, cracks, or broken coils; and

d. Replace non-serviceable components as required.

52. **Reassembly and Replacement**. Reassemble the trigger guard and replace in reverse order to the disassembly procedure. Ensure that the area around the trigger pivot hole of the lower receiver is properly supported when reinstalling the trigger guard pivot pin.

TRIGGER MECHANISM

53. **Disassembly**. The trigger mechanism shall only be disassembled if there is excessive side play or if the mechanism malfunctions. Disassemble the faulty mechanism only to the extent required to make repairs. Should disassembly be required, allow the hammer to be released under control and proceed as follows:

a. **Automatic Sear**. See Figure 3-2-45 and remove the automatic sear as follows:

(1) Move the fire control selector to the "Auto" position;

(2) Press out the automatic sear pin, from the left side, with a suitable punch;

(3) Take control of the automatic sear and automatic sear spring while removing the punch; and

(4) Remove the assembled automatic sear.

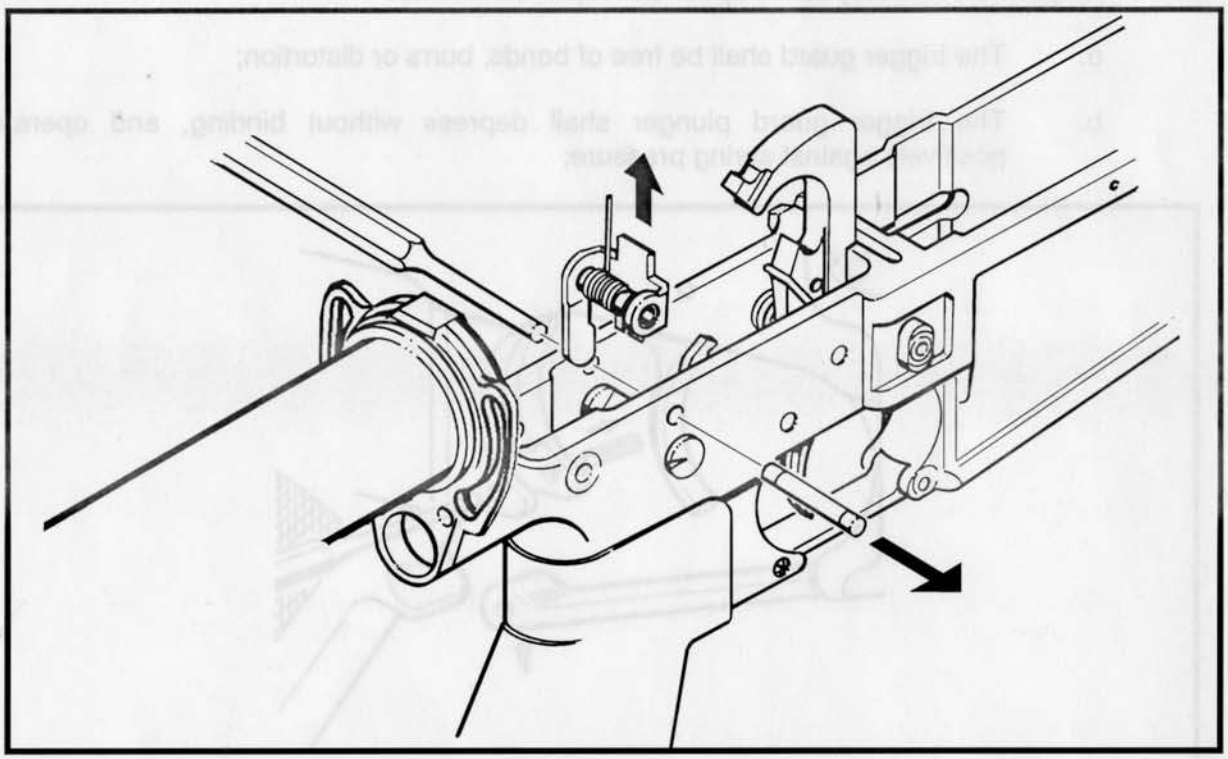


Figure 3-2-45 Removing the Automatic Sear

b. **Fire Control Selector**. With the pistol grip, selector detent and selector detent spring removed from the receiver, remove the fire control selector from the receiver.

c. **Hammer**. Remove the hammer assembly as follows:

(1) Push out the hammer pin, from the left side, with a suitable punch. See Figure 3-2-46;

(2) Take control of the hammer and remove the punch;

(3) Remove the hammer assembly; and

(4) Carefully remove the hammer spring from the hammer by spreading out one side at a time to prevent distortion of the spring.

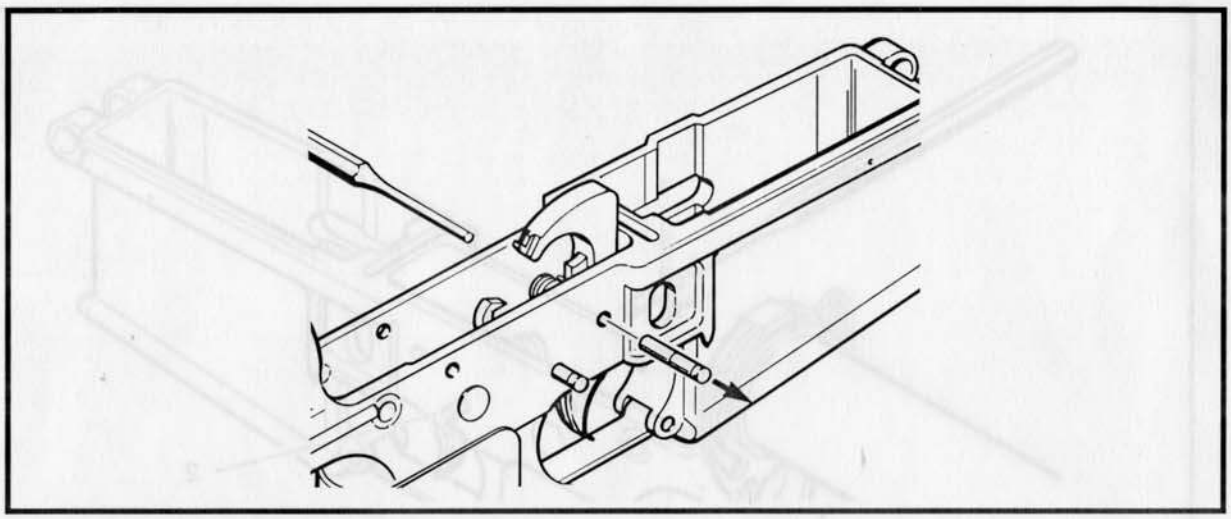


Figure 3-2-46 Removing the Hammer Pin

d. **Trigger Assembly**. To remove the trigger assembly proceed as follows:

(1) See Figure 3-2-47. Insert a slave pin (1), from the left, to displace the trigger pin (2);

NOTE

Slave pins shall be locally manufactured. The dimensions are, 16.74 millimetres (0.660 inch) long by 3.91 millimetres (0.154 inch) in diameter.

(2) Remove the trigger assembly, which is now held together by the slave pin, from the lower receiver; and

(3) To disassemble the trigger assembly, see Figure 3-2-48 and proceed as follows:

(a) Apply downward pressure on the disconnector (1) and remove the slave pin (2);

(b) Take control of the disconnector spring (3) and release the pressure on the disconnector;

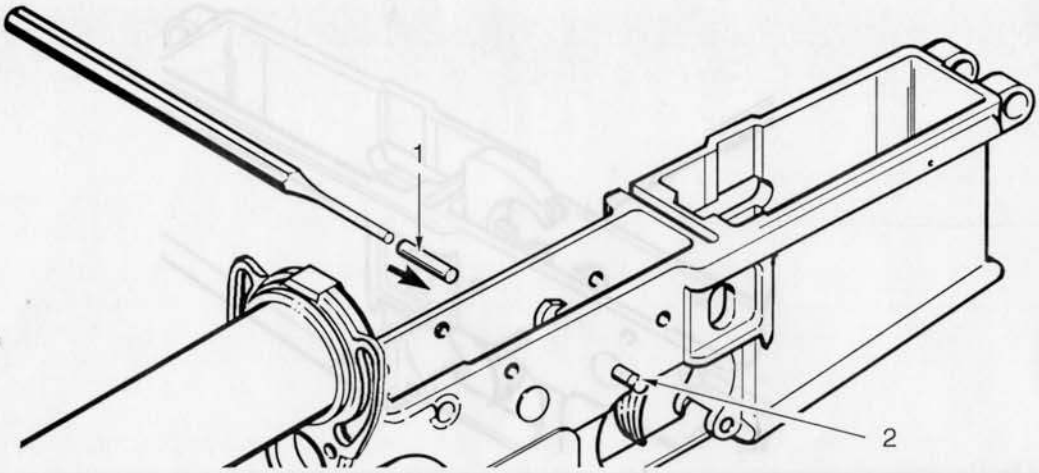
(c) Remove the disconnector and disconnector spring; and

(d) Carefully remove the trigger spring (4) from the trigger (5).

54. **Inspection and Repair**. Inspect and repair the trigger mechanism as follows:

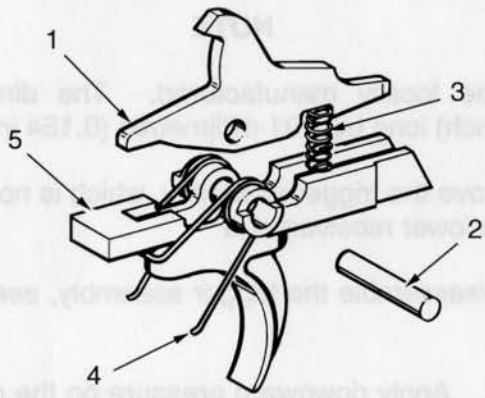
a. Inspect all trigger mechanism components for cracks, corrosion, and damage that would effect mechanism function;

b. Ensure that the three hammer bent surfaces of the trigger, disconnector, and automatic sear are sharp, well defined and that the original contours have not been altered;



1. SLAVE PIN
2. TRIGGER PIN

Figure 3-2-47 Removing the Trigger Assembly



1. DISCONNECTOR
2. SLAVE PIN
3. DISCONNECTOR SPRING
4. TRIGGER SPRING
5. TIGGER

Figure 3-2-48 Disassembling the Trigger Mechanism

• • • • • • • • •
• CAUTION •
• • • • • • • • •

The trigger assembly for the L119A1 is assembled with a different disconnector spring than other M16 rifles. The spring used in the L119A1 is colour coded black for identification.

c. Check the springs both helical and torsion, for kinks, cracks or distortion;

d. Check for sticking or drag between the hammer and disconnector. Polish the mating surfaces to correct the problem;

e. Ensure that the trigger mechanism passes all safety, function and trigger pull criteria detailed in AESP 1005-L-220-532 - Inspection Procedures - Rifle, 5.56mm, Assault, L119A1; and

f. Replace non-serviceable parts as required.

55. **Reassembly and Replacement**. Reassemble the trigger mechanism and replace it in the receiver as follows:

a. Clean all parts prior to reassembly;

b. Reassemble the trigger mechanism using the slave pin to hold the mechanism together prior to installation;

c. Position the trigger mechanism in the receiver and insert the trigger pin from the right, with the grooved end leading;

d. Install the hammer assembly by the following procedure:

(1) Position the assembled hammer and hammer spring with the torsion legs resting on top of the trigger pin. See Figure 3-2-49;

(2) Align the hammer pin holes; and

(3) Insert the hammer pin from the left with the ungrooved end leading.

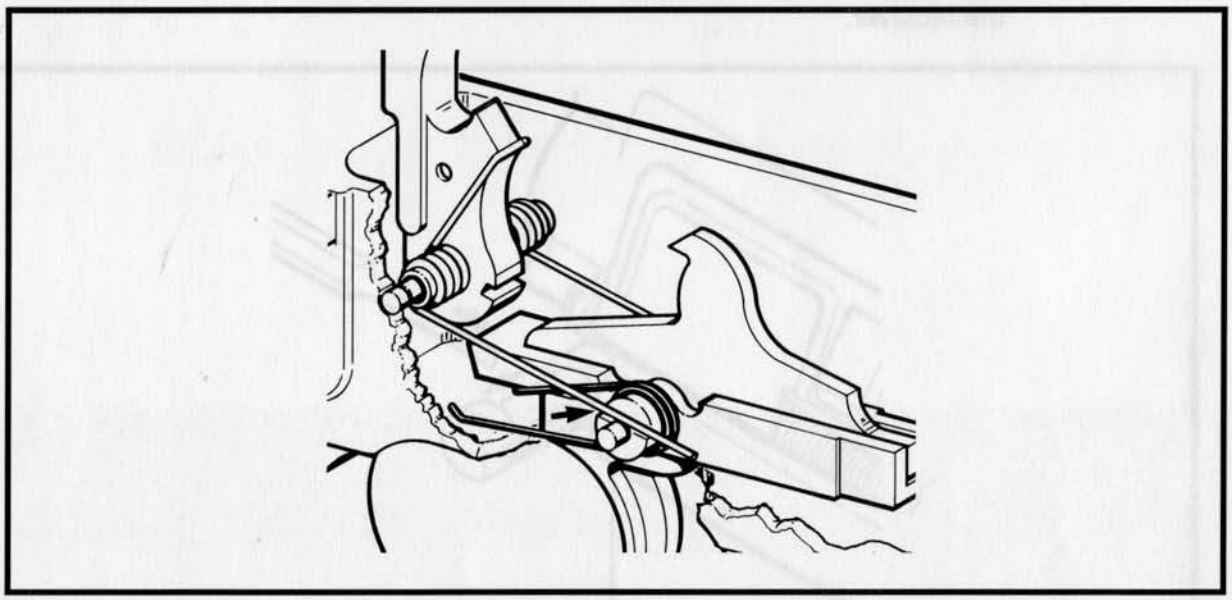


Figure 3-2-49 Position of the Hammer Spring

e. Manually cock the hammer; install the fire control selector and position it in the "Auto" position;

f. Install the pistol grip, selector detent and selector detent spring to retain the fire control selector;

g. Install the automatic sear as follows:

(1) Position the automatic sear with the long leg of the spring positioned in front of the fire control selector;

(2) Align the automatic sear pin holes; and

(3) Install the automatic sear pin from the right.

RECEIVER PIVOT PIN

56. **Removal**. Remove the receiver pivot pin by the following procedure:

a. Insert the end of a suitable punch into the hole in the pivot pin, to depress the detent. See Figure 3-2-50;

b. Rotate the pivot pin 90 degrees;

CAUTION

The receiver pivot pin detent is under considerable spring tension. Before removing the pin, cover the front of the receiver, with a cloth, to prevent loss of the detent or spring.

c. Slowly remove the receiver pivot pin; and

d. Remove the receiver pivot pin detent and receiver pivot pin detent spring from the receiver.

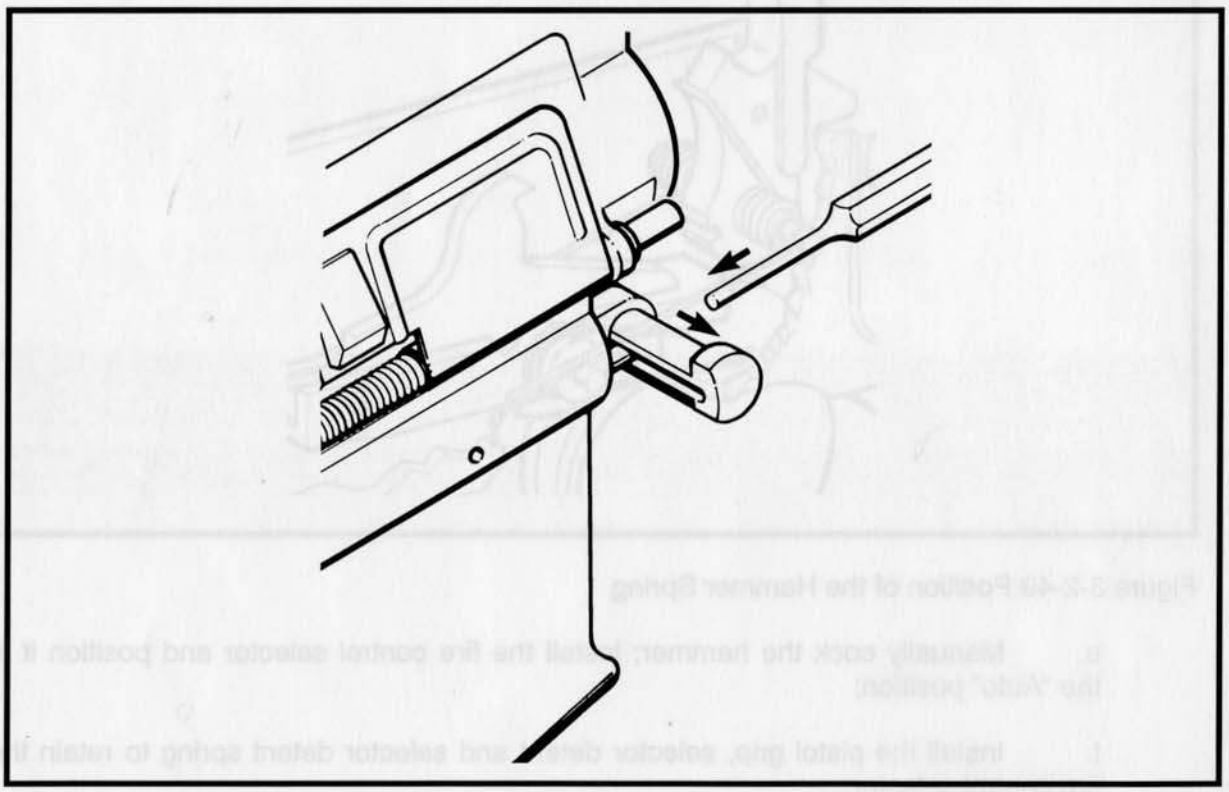


Figure 3-2-50 Removing the Receiver Pivot Pin

57. **Inspection and Repair**. Inspect and repair the receiver pivot pin components as follows:

a. Ensure that the receiver pivot pin is free of burrs, cracks and distortion;

b. Ensure that the receiver pivot pin detent is in correct form;

c. Check the receiver pivot pin detent spring for cracks, kinks or broken coils;

d. Remove burrs with a smooth file or fine stone, and touch up affected areas; and

e. Replace defective components as required.

58. **Reassembly**. To reassemble the receiver pivot pin to the lower receiver, see Figure 3-2-51 and proceed as follows:

a. Insert the receiver pivot pin installation tool (NSN 1005-01-148-6501) through the hinge of the lower receiver. See Figure 3-2-51A;

b. Align the hole in the installation tool with the cavity provided for the pivot pin spring and detent;

c. Insert the spring and detent through the tool, into the cavity;

d. Using a suitable punch, depress the receiver pivot pin detent only sufficiently to allow rotation of the tool. See inset in Figure 3-2-51A;

e. Rotate the tool and punch 90 degrees. See Figure 3-2-51A;

f. Hold the pivot pin, with the groove outward, firmly against the end of the assembly tool;

g. Push the pivot pin into the right receiver lug. See Figure 3-2-51B; and

h. Rotate the pin 180 degrees to align the groove with the pivot pin.

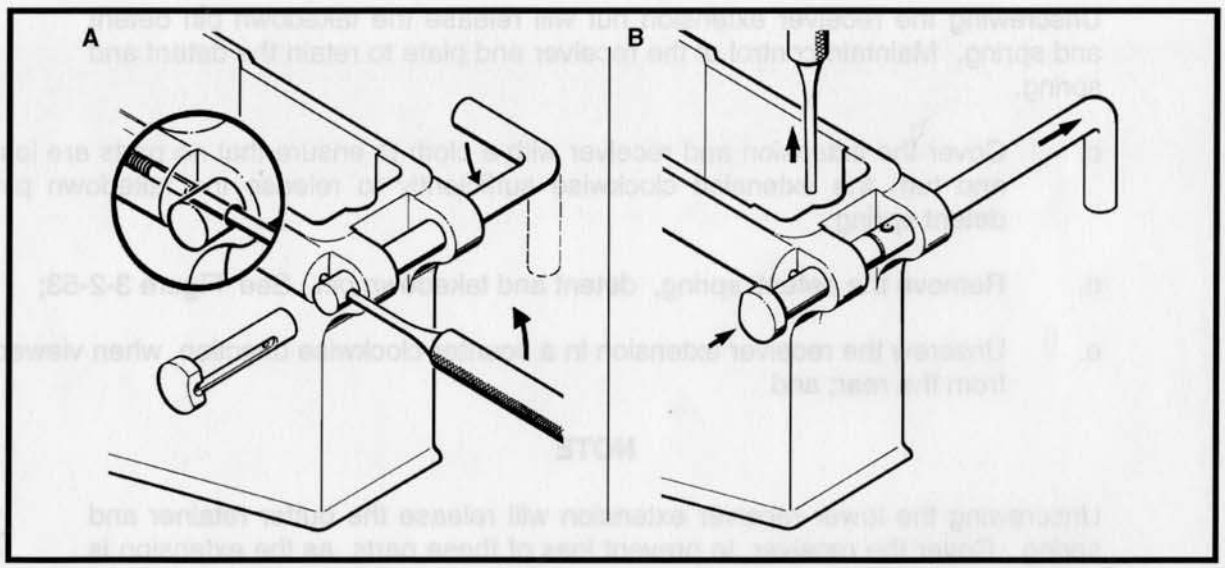


Figure 3-2-51 Replacing the Receiver Pivot Pin

RECEIVER EXTENSION

59. **Removal and Disassembly**. Remove the receiver extension from the lower receiver, by the following procedure:

a. Clamp the lower receiver in a vice equipped with protected jaws;

NOTE

When clamping the lower receiver in a vice, ensure that the vice is closed over a solid portion of the receiver body. Tighten the vice only sufficiently to provide a firm grip on the receiver.

b. Unscrew the receiver extension nut, in a clockwise direction, with the hook-spanner wrench (NSN 5120-21-896-7523) and a 1/2 inch drive ratchet. See Figure 3-2-52;

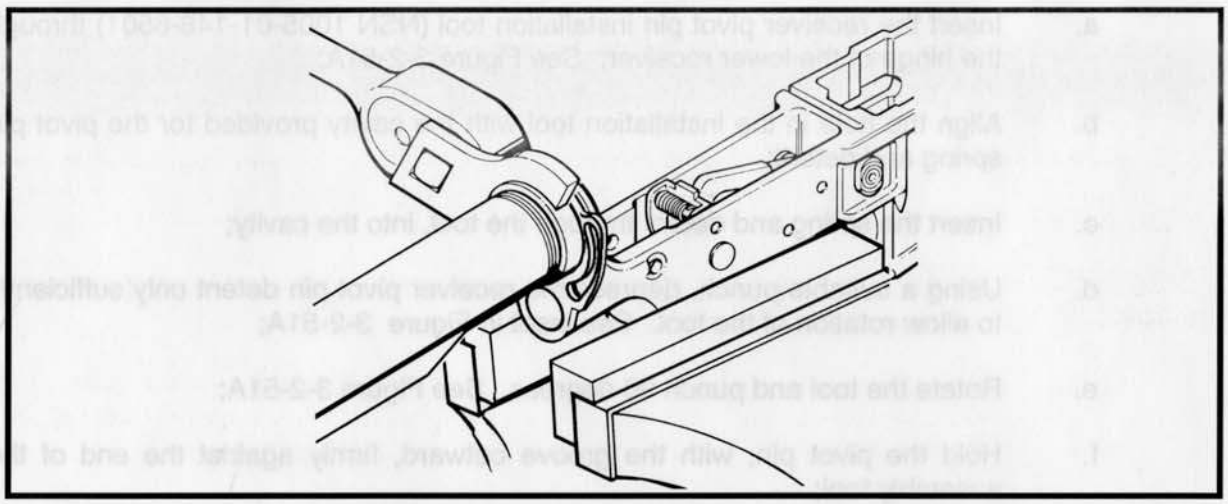


Figure 3-2-52 Unscrewing the Receiver Extension Nut

NOTE

Unscrewing the receiver extension nut will release the takedown pin detent and spring. Maintain control of the receiver end plate to retain the detent and spring.

c. Cover the extension and receiver with a cloth to ensure that no parts are lost and turn the extension clockwise sufficiently to release the takedown pin detent spring;

d. Remove the detent spring, detent and takedown pin. See Figure 3-2-53;

e. Unscrew the receiver extension in a counter-clockwise direction, when viewed from the rear; and

NOTE

Unscrewing the lower receiver extension will release the buffer retainer and spring. Cover the receiver, to prevent loss of these parts, as the extension is disassembled.

f. Remove the extension, buffer retainer and retainer spring from the lower receiver.

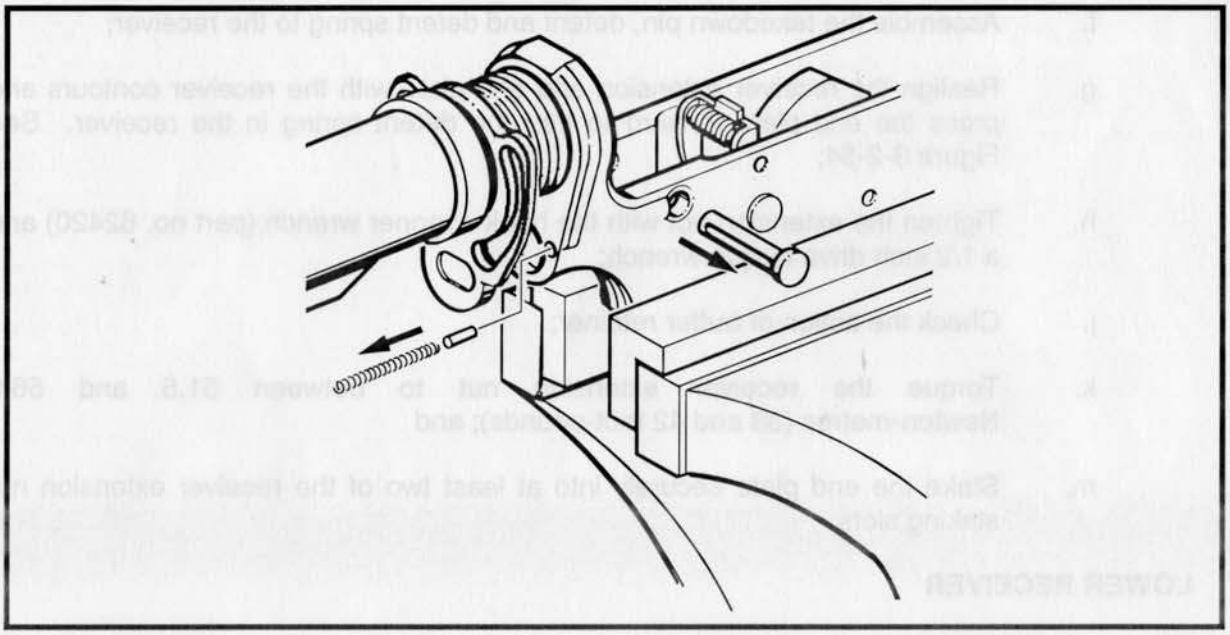


Figure 3-2-53 Removing the Takedown Pin, Detent and Spring

60. **Inspection and Repair**. Inspect and repair the receiver extension components as follows:

a. Inspect the receiver extension for dents, cracks and other deformation that would impede the action of the sliding butt, buffer assembly, or return spring. Replace a defective extension;

b. Ensure that the receiver extension vent hole is clear;

c. Check the receiver end plate and receiver extension nut for cracks or deformation that would affect security of the receiver extension or takedown pin detent;

d. Remove nicks and burrs with a smooth file or fine stone, taking care not to alter original critical dimensions. Touch up affected areas as detailed in Part 3, Section 1 of this instruction; and

e. Replace defective components as required.

61. **Reassembly and Replacement**. Replace the receiver extension as follows:

a. Assemble the receiver extension nut and receiver end plate to the receiver extension with staking slots of the nut facing the end plate;

b. Screw the receiver extension into the lower receiver until it is flush with the rear edge of the buffer retainer hole;

c. Insert the buffer retainer spring and the retainer into the hole in the receiver;

d. Screw the receiver extension forward far enough to trap the buffer retainer leaving sufficient clearance to allow correct function of the retainer;

e. Rotate the receiver extension to allow insertion of the takedown pin detent and spring into the receiver;

f. Assemble the takedown pin, detent and detent spring to the receiver;

g. Realign the receiver extension and end plate with the receiver contours and press the end plate forward to trap the detent spring in the receiver. See Figure 3-2-54;

h. Tighten the extension nut with the hook-spanner wrench (part no. 62420) and a 1/2 inch drive torque wrench;

j. Check the action of buffer retainer;

k. Torque the receiver extension nut to between 51.5 and 56.9 Newton-metres (38 and 42 foot-pounds); and

m. Stake the end plate securely into at least two of the receiver extension nut staking slots.

LOWER RECEIVER

62. **Inspection**. Inspect the lower receiver assembly as follows:

a. Inspect the lower receiver for burrs, dents, cracks and shiny surfaces;

b. Inspect the lower receiver axis holes of the hinge pin and takedown pin for corrosion;

c. Gauge the hammer and trigger mechanism axis pin holes as detailed in Part 3 of Instruction AESP 1005-L-220-532; and

d. Check the action of the pivot and takedown pin detents to ensure that they operate effectively under positive spring tension.

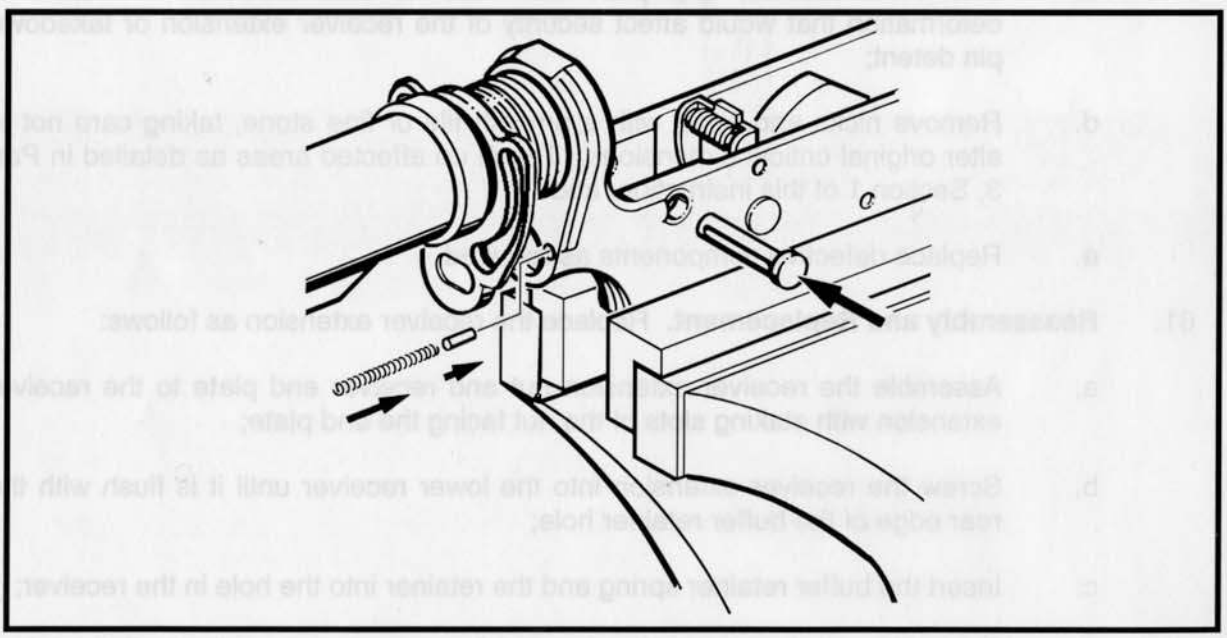


Figure 3-2-54 Reassembling the Receiver Extension

63. **Repair**. Repair the lower receiver as follows:

a. Remove burrs with a smooth file or fine stone, taking care not to alter original critical dimensions;

b. Touch-up shiny or reworked areas as detailed in Part 3, Section 1 of this instruction;

c. Replace defective receiver pivot pin or takedown pin components as required;

d. Disregard dents of a minor nature that do not affect operation of the weapon; and

e. Backload the weapon if the receiver is severely dented or damaged, or if the hammer or trigger pin holes gauge beyond tolerance limits.

SLIDING BUTTSTOCK ASSEMBLY

64. **Disassembly**. With the sliding buttstock assembly removed from the lower receiver assembly disassemble the buttstock by the following procedure:

a. Drive out the release, lever nut pin. See Figure 3-2-55;

b. Insert a suitable punch through the hole on top of the sliding butt, to control the release lever lock pin spring and unscrew the release lever lock pin from the lock pin nut. See Figure 3-2-56;

c. See Figure 3-2-57. Remove the lock pin nut (1), release lever (2), release lever lock pin (3) and release lever lock pin spring (4) from the sliding buttstock (5).

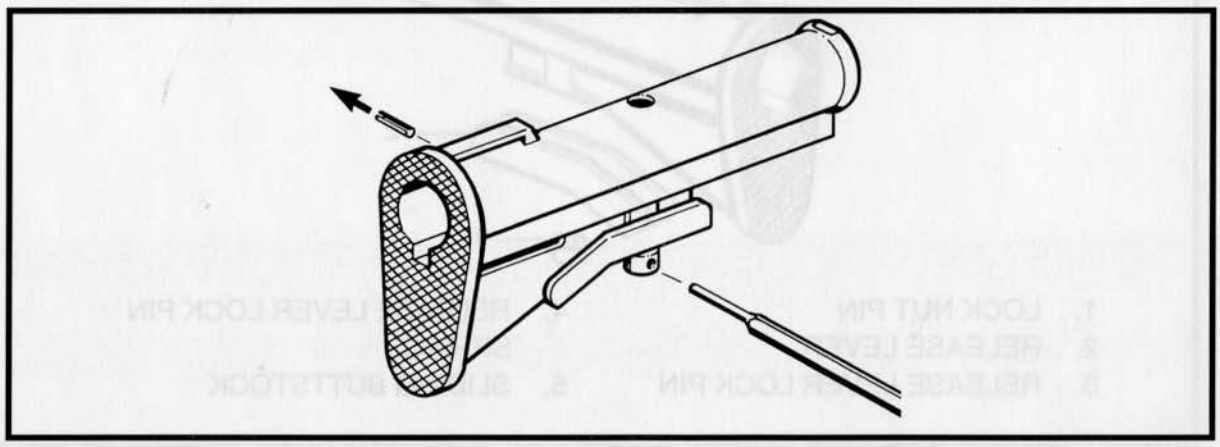


Figure 3-2-55 Removing the Release Lever Nut Pin

65. **Reassembly and Replacement**. Reassemble and replace the sliding buttstock assembly in reverse order to the disassembly procedure noting the following:

a. Ensure that the release lever lock pin height is adjusted to allow free movement of the sliding butt when the release lever is depressed;

b. Ensure that the release lever nut pin is installed flush with the outside surfaces of the nut; and

c. Replace the sliding butt assembly in reverse order to the removal procedure.

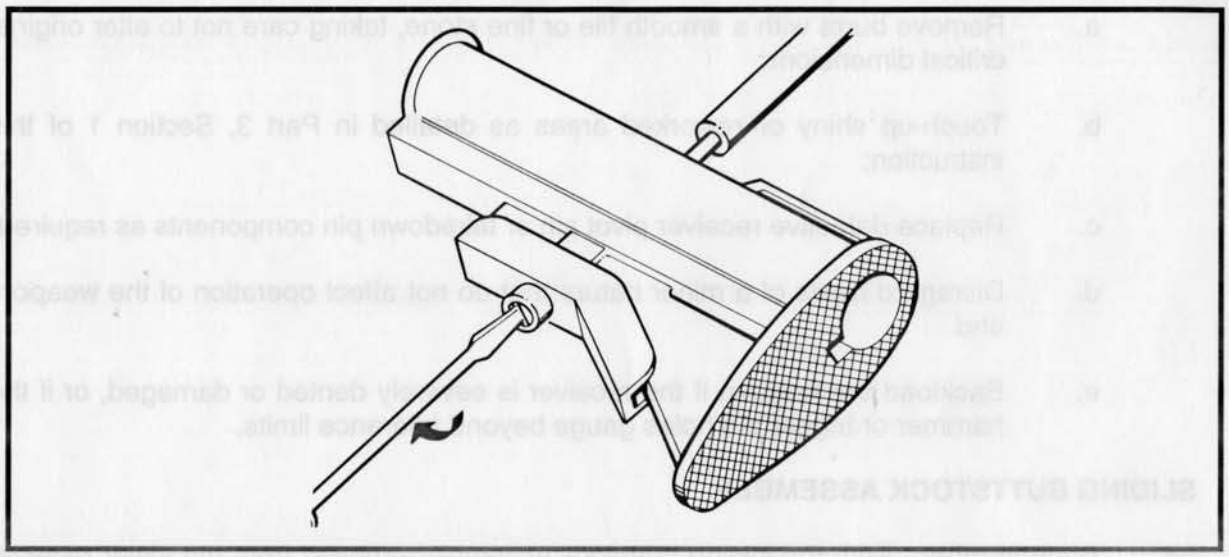
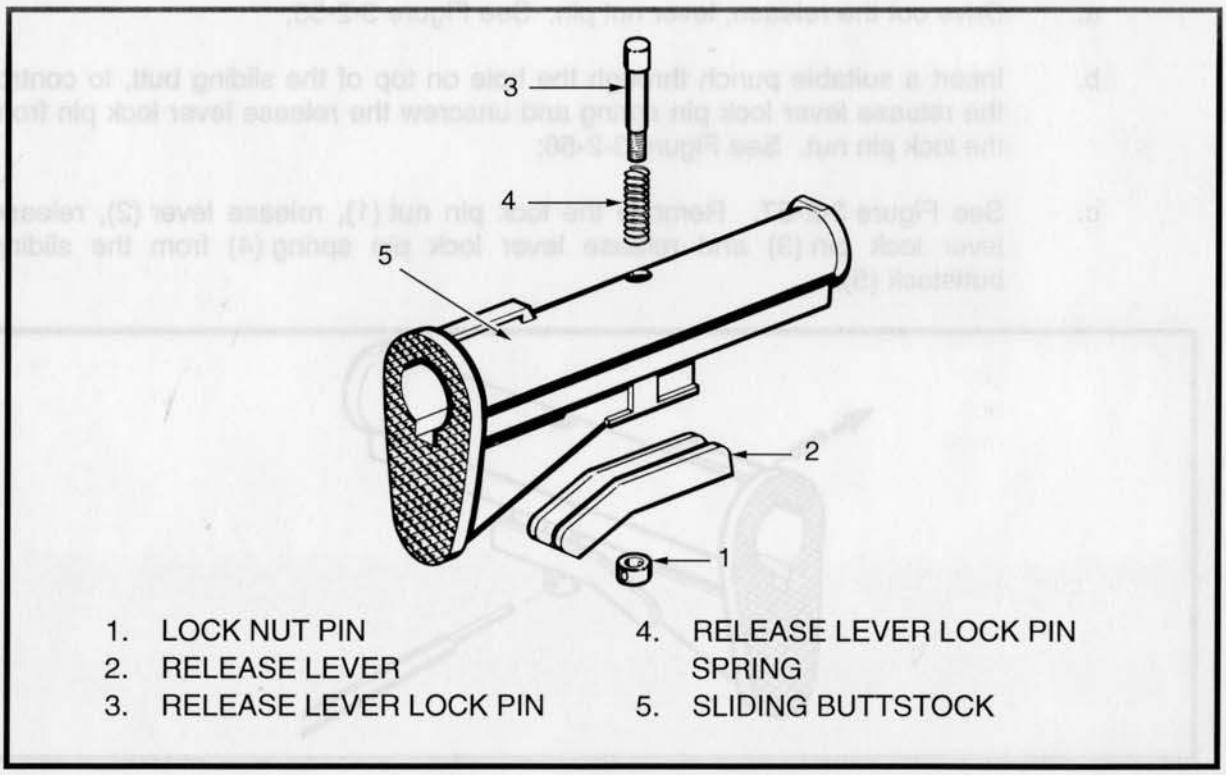


Figure 3-2-56 Unscrewing the Release Lever Lock Pin



1. LOCK NUT PIN
2. RELEASE LEVER
3. RELEASE LEVER LOCK PIN
4. RELEASE LEVER LOCK PIN SPRING
5. SLIDING BUTTSTOCK

Figure 3-2-57 Disassembling the Sliding Butt Assembly

BUFFER ASSEMBLY

INSPECTION

66. Inspect the buffer assembly as follows:

a. Ensure that the buffer is free from burrs, dents and deformation;

b. Shake the buffer body to check for perceptible movement of the internal weights; and

c. Ensure that the return spring is free of kinks, cracks or distortion. The approximate free length of the spring is 21 cm (10.7 in.).

• • • • • • • • •
• CAUTION •
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The buffer assemblies for the L119A1 is stamped 'HH' on the face for identification purposes. Use of the incorrect buffer assembly will cause malfunctions during burst firing.

REPAIR

67. Repair the buffer assembly as follows:

a. Remove nicks and burrs from the buffer body with a smooth file or fine stone taking care not to alter any original critical dimensions; and

b. Replace buffer assemblies that exhibit restriction of the interior weights and those that bind in the receiver extension.

MAGAZINE

DISASSEMBLY

68. Disassemble the magazine as follows:

a. Insert a suitable punch into the hole in the magazine bottom plate and lift the end until the lugs clear the magazine body. See Figure 3-2-58; and

b. See Figure 3-2-59. Control the magazine spring (2); remove the magazine bottom plate (1), magazine spring (2) and magazine follower (3) from the magazine box (4).

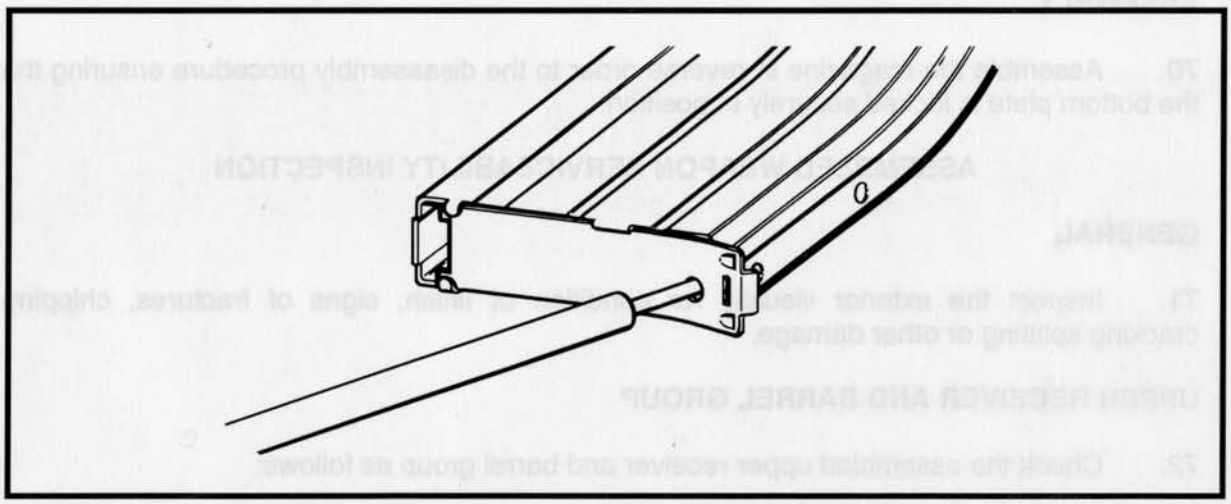

Figure 3-2-58 Lifting the Magazine Bottom Plate

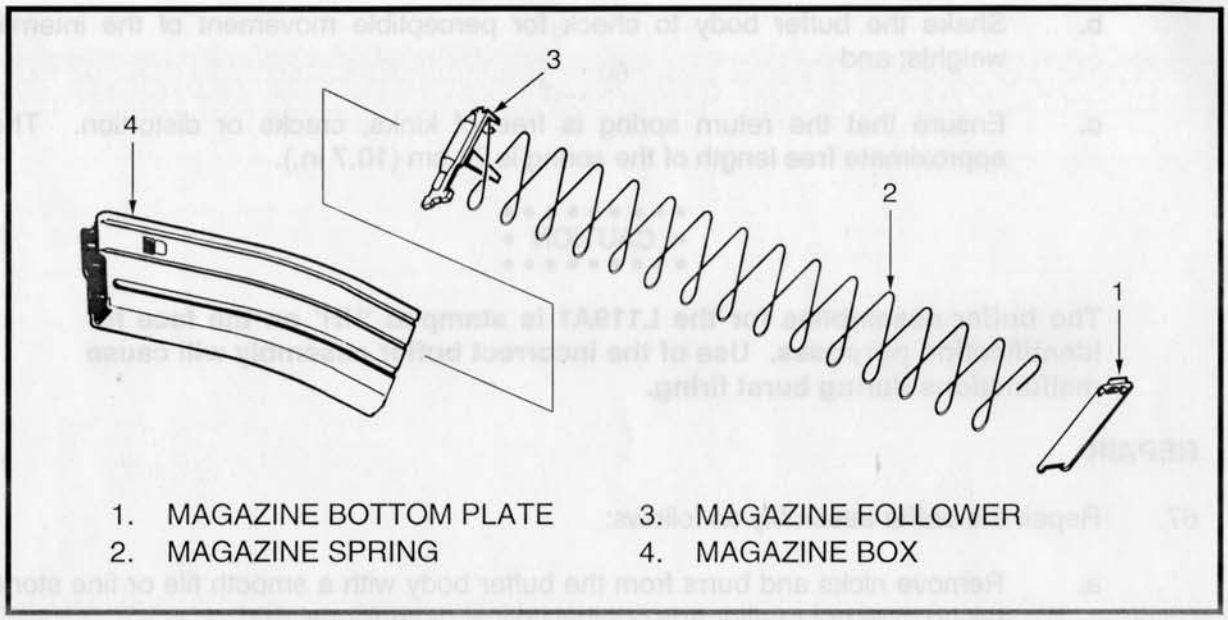

Figure 3-2-59 Disassembling the Magazine

INSPECTION AND REPAIR

69. Inspect and repair the magazine as follows:

a. The magazine components shall be free from nicks, burrs, cracks, gouges and distortion;

b. The lips and locking surfaces of the magazine box shall be in correct form and undamaged;

c. The spot welds of the magazine box shall be intact; and

d. Backload non-serviceable magazines.

ASSEMBLY

70. Assemble the magazine in reverse order to the disassembly procedure ensuring that the bottom plate is locked securely in position.

ASSEMBLED WEAPON SERVICEABILITY INSPECTION

GENERAL

71. Inspect the exterior visually for condition of finish, signs of fractures, chipping, cracking splitting or other damage.

UPPER RECEIVER AND BARREL GROUP

72. Check the assembled upper receiver and barrel group as follows:

a. Ensure that the compensator is not loose or bent;

b. Ensure that the front sight protectors are not bent or cracked, and that the front sight post is secure;

c. Inspect the barrel to ensure that it is straight, free from fouling or other obstruction, and meets gauging requirements. Rifles which show evidence of erosion at the commencement of rifling (C of R) should be range tested for accuracy and incidents of keyholing;

d. Ensure that the chamber is free of roughness or burrs, and that the chromium plating is intact;

e. Inspect all parts of the gas system to ensure that carbon deposits are removed and vent holes are clear, and that the gas tube aligns with the carrier key.

f. Inspect the handguards for cracks or chips, and ensure that the two half sections fit together properly. Check also for gaps or sharp edges which could cause injury to the hands;

g. Ensure that the positive retention of the back sight in each position;

h. Ensure that the back sight protectors are not bent or cracked; and

j. Ensure that the ejection port cover is held closed by its latch.

BOLT CARRIER GROUP

73. Check the bolt carrier group serviceability as follows:

a. Inspect the extractor for wear or chipping;

b. Inspect the bolt carrier for fractures or burrs; and

c. Ensure that bolt carrier key screws are tight and properly staked.

BLANK FIRING ATTACHMENT

74. The blank firing attachment shall be maintained in serviceable condition so that it may be securely fastened to the compensator. The blank firing attachment with the exception of the threads, shall be painted with a heat resisting enamel.