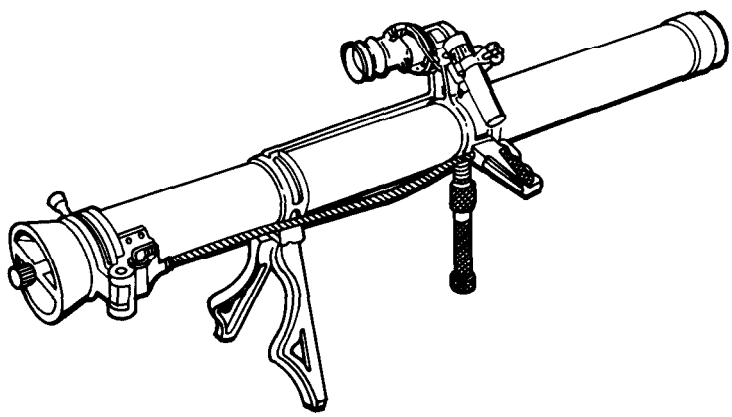
TM 9-1015-223-30

DIRECT SUPPORT MAINTENANCE MANUAL

FOR

90-MM RECOILLESS RIFLE: M67 W/E

(1015-00-657-7534)



HEADQUARTERS, DEPARTMENT OF THE ARMY OCTOBER 1985

WARNING

Observe standard safety procedures.

Paint thinners are flammable. Do not use near an open flame or in a smoking area. Use in a well ventilated area.

For first aid information see FM 21-11.

TM 9-1015-223-30
C1

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 15 August 1986

Direct Support Maintenance Manual

For

90-MM RECOILLESS RIFLE: M67 W/E

(1015-00-657-7534)

TM 9-1015-223-30, 16 October 1985, is changed as follows:

1. Remove old pages and insert new pages as indicated below.

2. New or changed material is indicated by a vertical bar in the margin of the page.

REMOVE PAGES	INSERT PAGES
2-29 and 2-30	2-29 and 2-30

3. File this change sheet in the back of the publication for reference purposes.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-40, Direct and General Support maintenance requirements for Rifle, Recoilless, 106-MM, M40A2, M40A4.

TECHNICAL MANUAL
NO. 9-1015-223-30

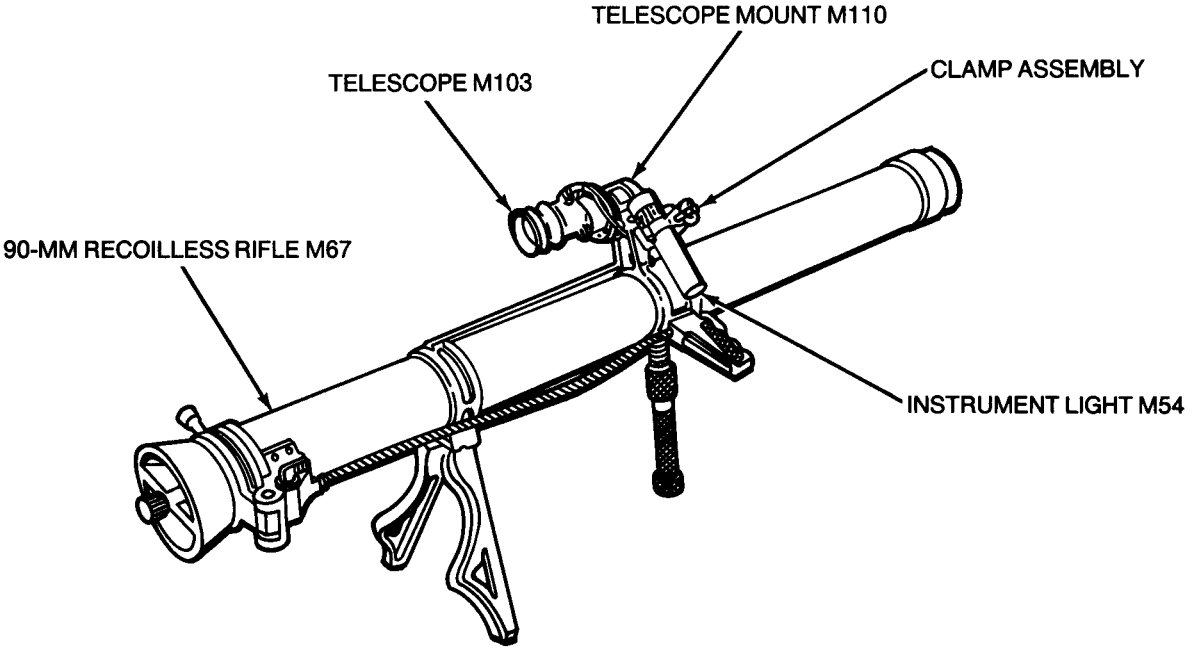
HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC
16 October 1985

Direct Support Maintenance Manual for 90-MM RECOILLESS RIFLE: M67 W/E (1015-00-657-7534)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished to you.

*This manual supersedes TM 9-1015-223-34 dated 2 February 1962.



90-MM RECOILLESS RIFLE M67 W/E

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

a. *Type of Manual.* Direct Support Maintenance.

b. *Model Number and Equipment Name.* 90-mm Recoilless Rifle M67.

c. *Purpose of Equipment.* Provides antitank and antipersonnel fire to ground troops.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-3. DESCRIPTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Procedures and materials used for the destruction of the rifle to prevent enemy use will be found in TM 750-244-7.

1-4. PREPARATION FOR STORAGE OR SHIPMENT. Requirements for administrative and intermediate storage are listed in TM 740-90-1 and on page 2-31.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your rifle needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on the SF 368 (Quality Deficiency Report). Mail it to us at Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAD, Rock Island, IL 61299-6000. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. *Characteristics.*

(1) Provides infantry with direct fire artillery capability.

(2) Designed for antitank and antipersonnel missions.

b. *Capabilities and Features.*

(1) Designed to be fired from the ground or from the shoulder.

(2) Lightweight and air-cooled.

(3) Single-shot weapon using fixed ammunition.

(4) Highly portable.

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

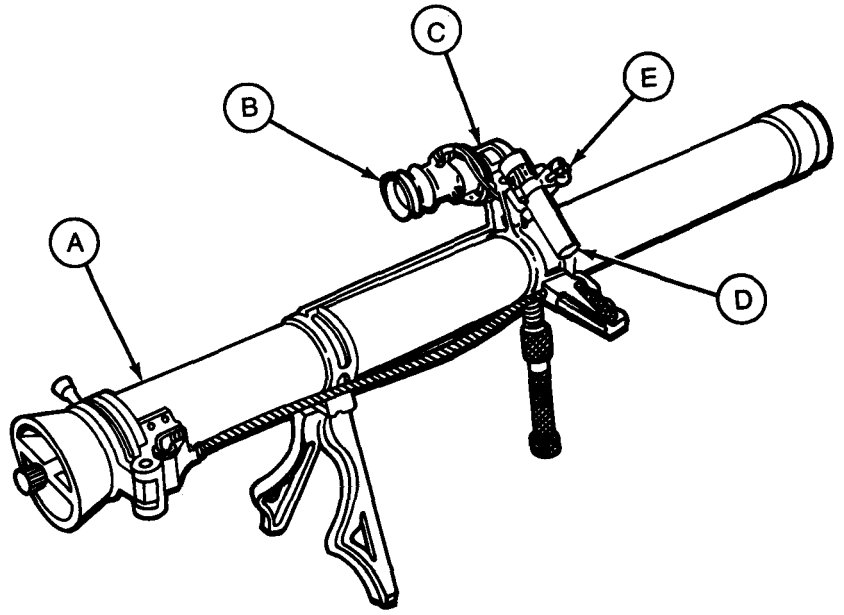
(A) 90-MM RECOILLESS RIFLE M67. Fires the 90-mm round.

(B) TELESCOPE M103. Provides optical line of sight for aiming rifle for direct fire.

(C) TELESCOPE MOUNT M110. HoIds telescope and provides adjustment for boresighting of the telescope.

(D) INSTRUMENT LIGHT M54. Illuminates telescope reticle for night operation.

(E) CLAMP ASSEMBLY. Used to hold the instrument light.



1-8. EQUIPMENT DATA. For listing of equipment data see TM 9-1015-223-12.

CHAPTER 2
DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

2-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organizational and Equipment (MTOE) applicable to your unit.

2-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Special tools needed to maintain the recoilless rifle are listed and illustrated in TM 9-1015-223-23P.

2-3. REPAIR PARTS. Repair parts are listed and illustrated in TM 9-1015-223-23P.

Section II. SERVICE UPON RECEIPT

2-4. GENERAL. Normally, it is not necessary to open the shipping container at the direct support level if the weapon is new or depot overhauled. The instructions for service upon receipt of material are found in TM 9-1015-223-12.

Section III. TROUBLESHOOTING

2-5. GENERAL.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the 90-mm Recoilless Rifle M67. Each malfunction for an individual component, unit, or system is followed by a list of tests/inspections which will help you to determine the corrective actions to take. You should perform the test/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all test/inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor. See individual repair section for maintenance instructions on each major assembly.

2-6. TROUBLESHOOTING PROCEDURES. Refer to troubleshooting table for malfunctions, tests or inspections, and corrective actions. The symptom index is provided for a quick reference of symptoms covered in the table.

SYMPTOM INDEX

TROUBLESHOOTING

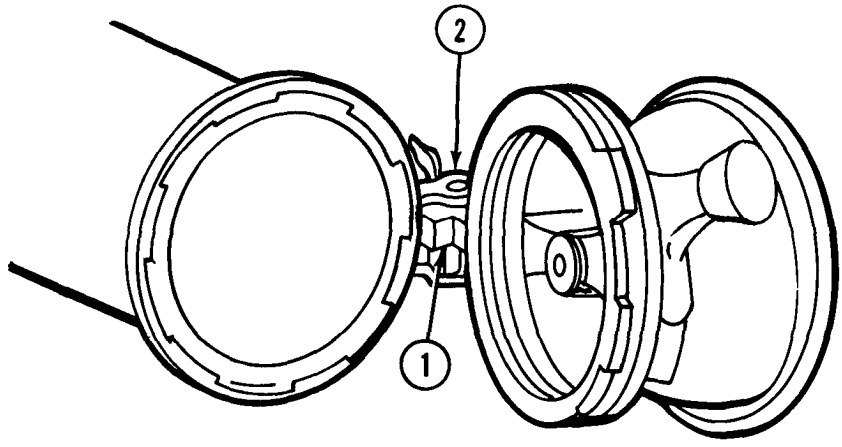
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

RIFLE

1. FAILURE TO COCK.

Check for burred or broken tooth (1) on hinge portion (2) of breechblock.

Replace breech block (p 2-7).



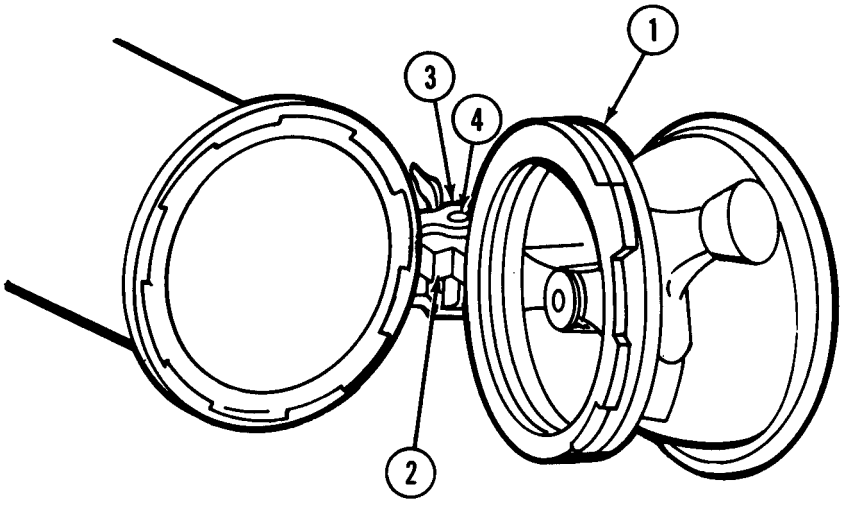
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

2. FAILURE OF BREECHBLOCK TO LOCK OR UNLOCK.

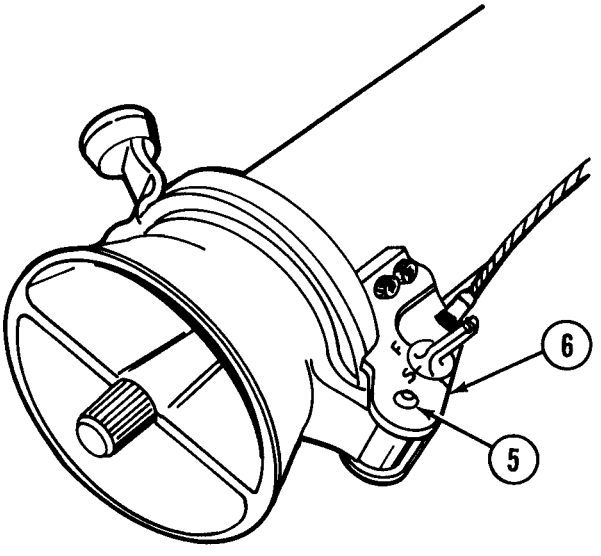
Step 1. Inspect for stripped, chipped, or burred threads on breechblock (1).
Replace breechblock (p 2-7).

Step 2. Check broken or burred tooth (2) on hinge portion (3) of breechblock.
Replace breechblock (p 2-7).

Step 3. Check that breechblock hinge pin holes (4) are not out of round.
Replace breechblock (p 2-7).



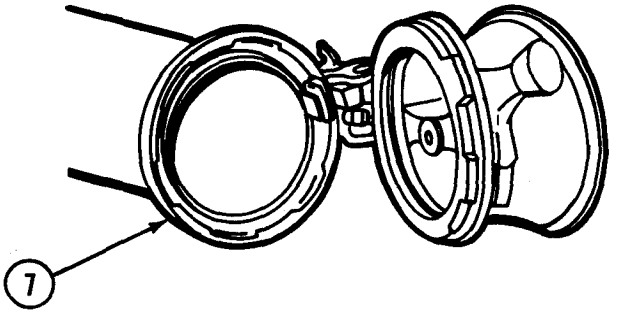
Step 4. Check for worn hinge pin holes (5) in hinge block (6).
Replace hinge block (p 2-7).



TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 5. Check for stripped, chipped, burred, or interrupted threads on breech end of cannon tube (7). Condemn weapon.



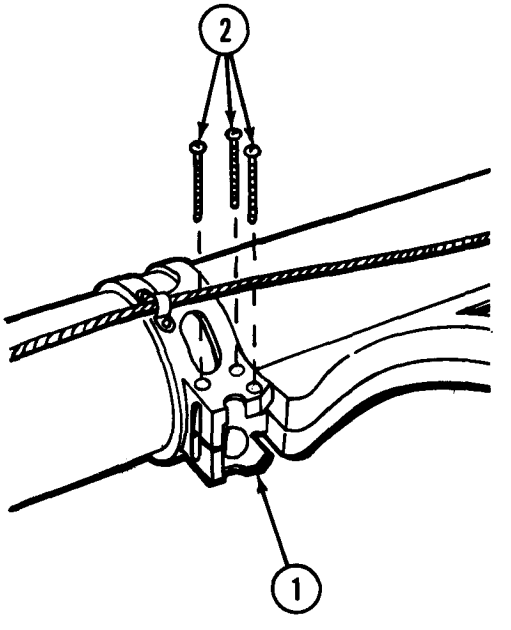
BIPOD

3. BIPOD LEGS WILL NOT FOLD OR UNFOLD.

Step 1. Check for defective rear bracket assembly (1).
Replace rear bracket assembly (p 2-7).

Step 2. Check for loose screws (2).
Tighten screws.

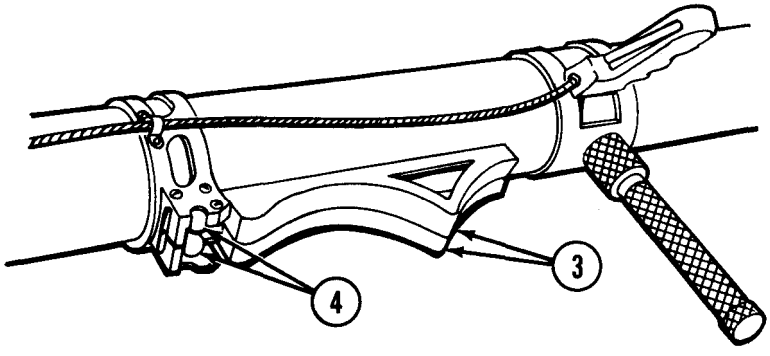
Step 3. Check for stripped threads on screws (2).
Replace screws (p 2-7).



MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION

Step 4. Check bipod legs (3) for cracks or deformities and ballpoints (4) for flat spots.

Replace legs (p 2-7).



MONOPOD ASSEMBLY

4. FAILURE OF MONOPOD ASSEMBLY TO EXTEND OR RETRACT.

Step 1. Check for loose screw (1).

Replace lock washer (2) and tighten screw (1).

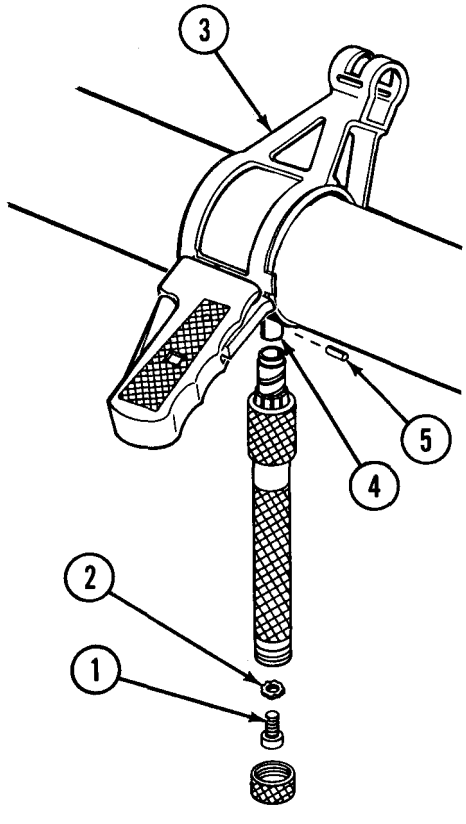
Replace screw (1) if threads are stripped.

Step 2. Check front bracket assembly (3) for stripped threads on inside of boss (4).

Replace front bracket assembly (3) (p 2-7).

Step 3. Check for defective spring pin (5).

Replace spring pin (p 2-28).



TROUBLESHOOTING (CONT)

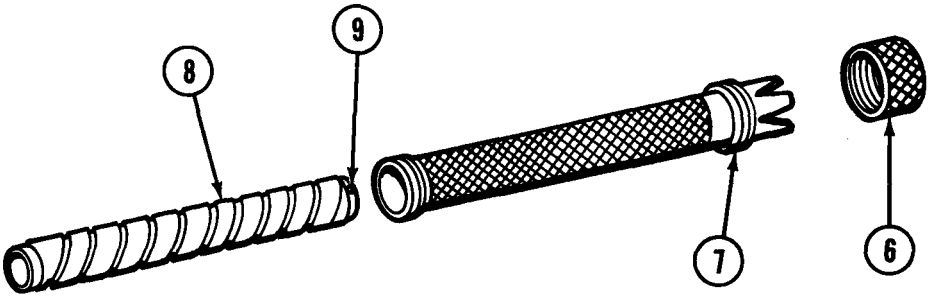
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION

Step 4. Inspect sleeve (6), locking tube (7), and center tube assembly (8) for stripped threads.

Replace monopod assembly (p 2-7).

Step 5. Inspect center tube assembly (8) for worn notch (9).

Replace monopod assembly (p 2-7).



FRONT BRACKET ASSEMBLY

5. FAILURE OF RIFLE TO RETAIN BORESIGHTING.

Check for free play in the front bracket assembly (p 2-13).

Repair (p 2-28) or replace the front bracket assembly (p 2-7).

Section IV. MAINTENANCE PROCEDURES

2-7. GENERAL.

a. Before beginning maintenance operations, check to see that the following manuals are available in the maintenance shop:

(1) TM 9-1015-223-12
(2) TM 9-1015-223-23P

b. Disassemble the rifle only to remove bad parts or components.

WARNING

Paint thinners are flammable. Do not use near an open flame or in a smoking area. Use in a well ventilated area.

CAUTION

Do not weld objects until you know the physical characteristics of the metal.

c. Refer to TM 9-237 when welding is necessary.

2-8. INITIAL SETUP.

a. *Took and Special Tools* lists tools needed for the procedures.

b. *Materials/Parts* refers to expendable materials and 100% replaceable parts.

c. *Personnel Required* is listed only if the task requires more than one person. If Personnel Required is not listed, it means one person can do the job.

d. *References* lists other publications containing necessary information.

e. *Equipment Condition* lists conditions to be met before starting the procedure.

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67.

This task covers:

a. Dissassembly/Preliminary Inspection
b. Cleaning/Inspection/Repair
c. Lubrication
d. Reassembly
e. Adjustment of Cable Assembly

INITIAL SETUP

Tools and Special Tools
Gage, fillet and radius 5210-00-467-8801
Accessory Outfit for Pullover Gages 4933-00-348-8652 (SC 4933-95-CL-E09)
Borescope M2 6650-00-587-0986 or M3 6650-01-068-9035 (SC 6650-95-CL-E01)
Small Arms Shop Set (SC 4933-95-CL-A11)

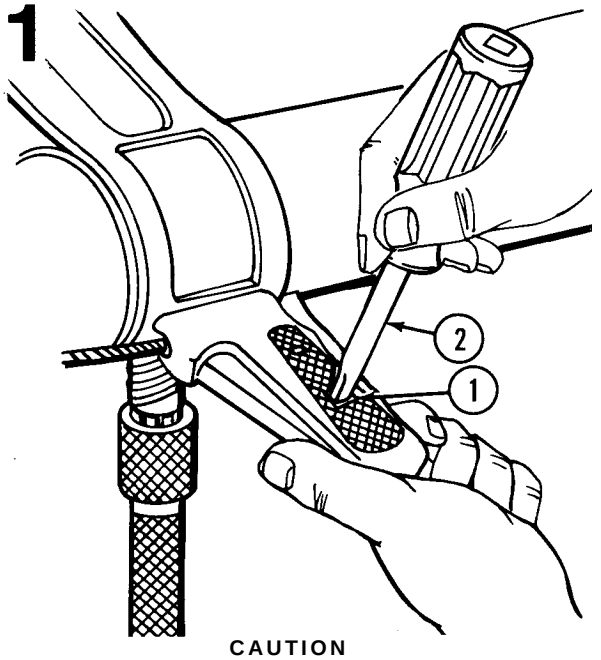
Materials/Parts
Cleaner, lubricant and preservative (CLP) (item 6, app B)
Wiping rag (item 12, app B)

References
TM 9-1000-202-14
TM 9-1015-223-12 and TM 9-1015-223-23P
TM 9-6650-235-13&P

Equipment Condition
Telescope and telescope mount removed (TM 9-1015-223-12).

DISASSEMBLY/PRELIMINARY INSPECTION

1

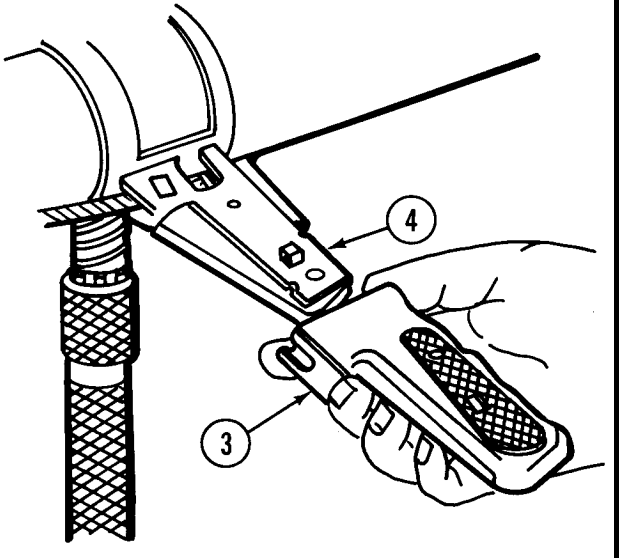


CAUTION

Release firing pin spring pressure by firing weapon before starting disassembly.

Depress spring tension clip (1), using screwdriver (2).

2

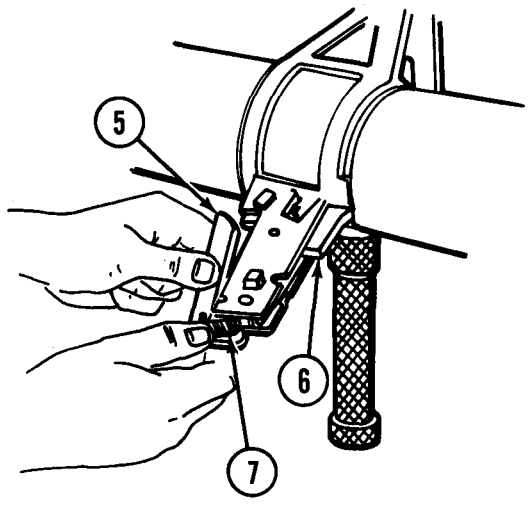


Remove rifle grip (3) from front bracket assembly (4).

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

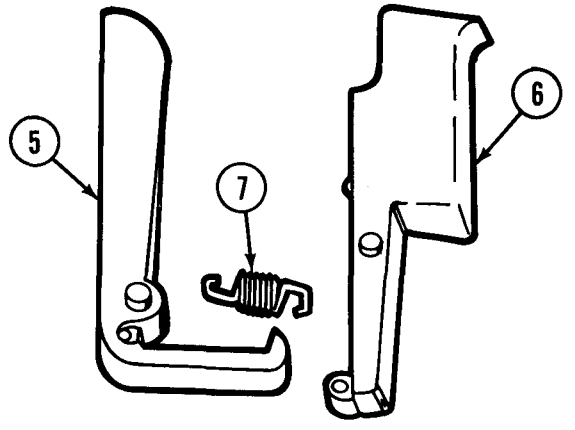
DISASSEMBLY (CONT)

3



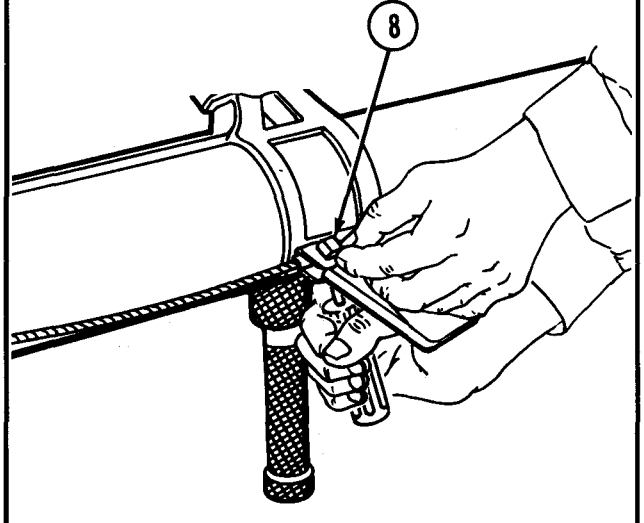
Pull gun grip safety (5) out and down. Remove with trigger (6) and spring (7) attached.

4



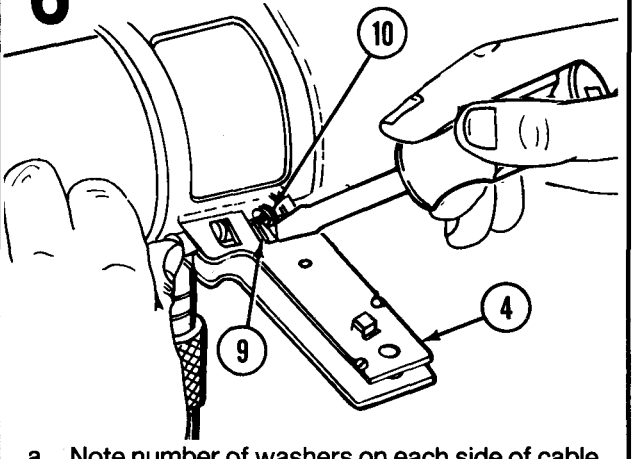
Disengage gun grip safety (5) and trigger (6) from spring (7).

5



Push up and remove cable actuating lock (8).

6

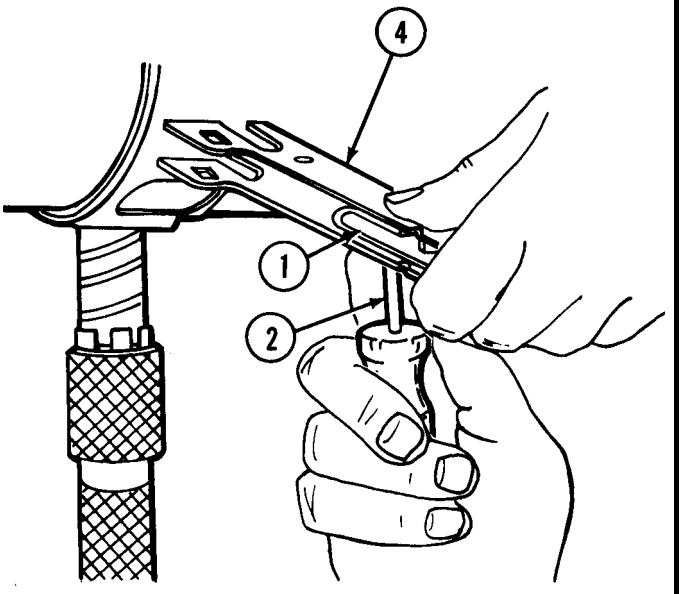


a. Note number of washers on each side of cable actuating lever (9) for installation purposes.

b. Press cable actuating lever (9) down and rearward to disengage cable assembly (10) from cable actuating lever (9). Remove cable assembly (10) from front bracket assembly (4).

7

Push upon position lugs of spring tension clip (1) in front bracket assembly (4) using screwdriver (2). At the same time, press down grip-retaining portion of spring tension clip (1) in opposite side of front bracket assembly (4).



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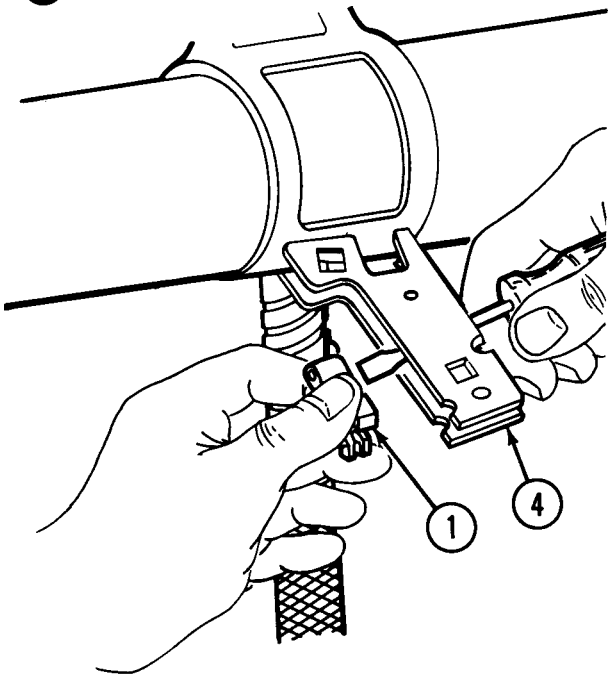
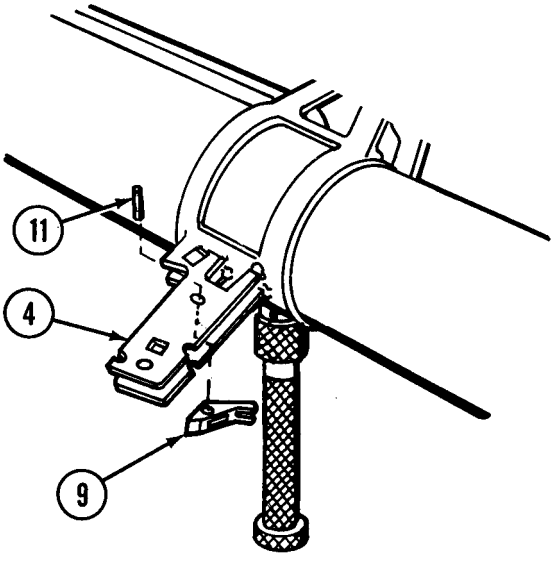


Remove spring tension clip (1) from front bracket assembly (4).

9



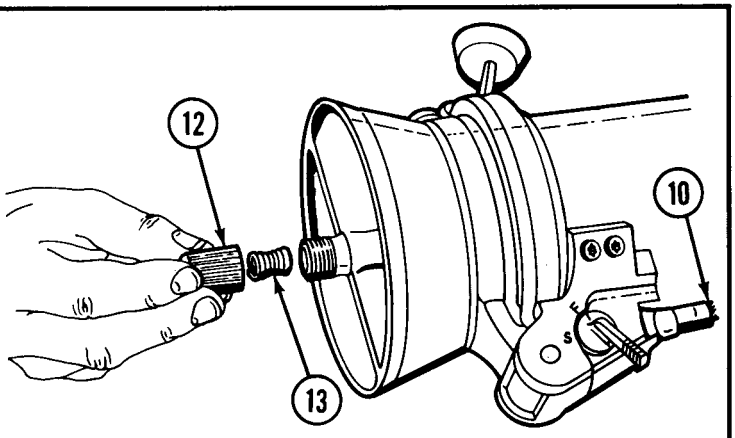
Remove spring pin (11). Slide cable actuating lever (9) out of front bracket assembly (4).

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

DISASSEMBLY (CONT)

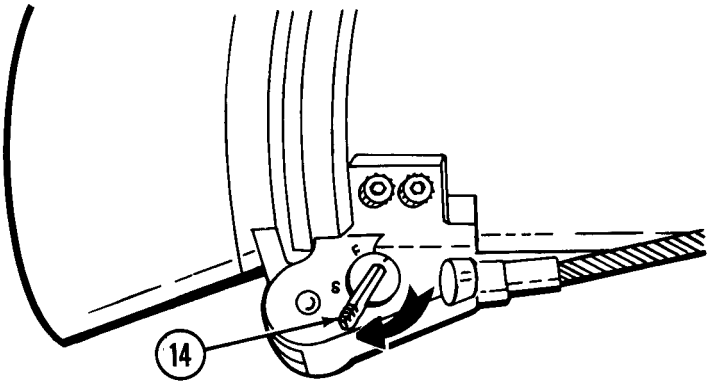
10

Close and lock breechblock. Release firing pin pressure by pulling cable assembly (10). Unscrew firing pin spring cap (12). Remove cap (12) and spring (13).

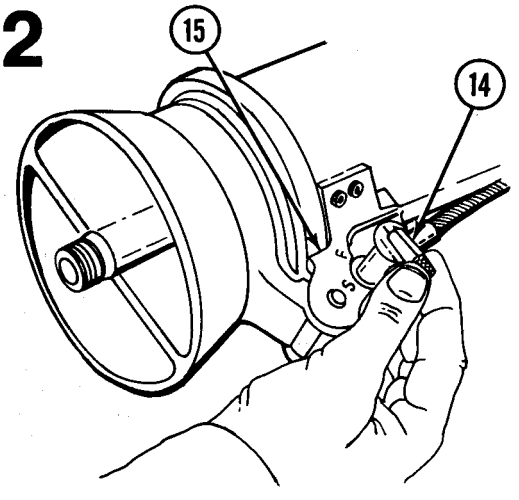


11

Rotate safety assembly (14) clockwise from the fire (F) position until spring pin alines with keyway.

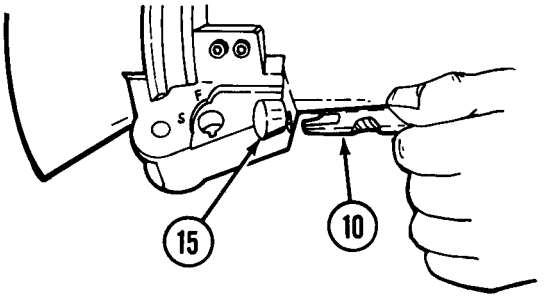


12



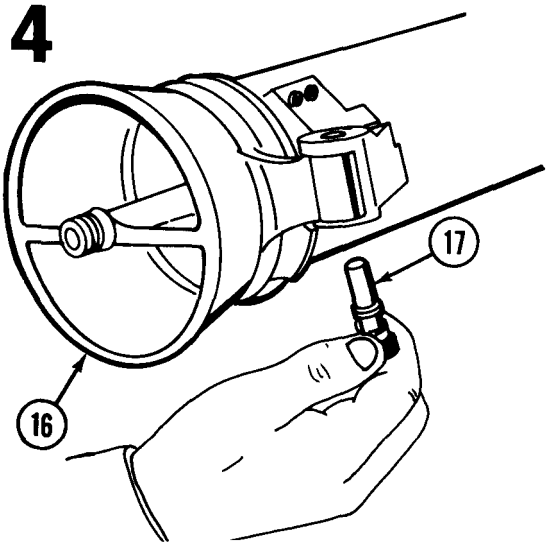
Pull up and remove safety assembly (14) from hinge block (15).

13



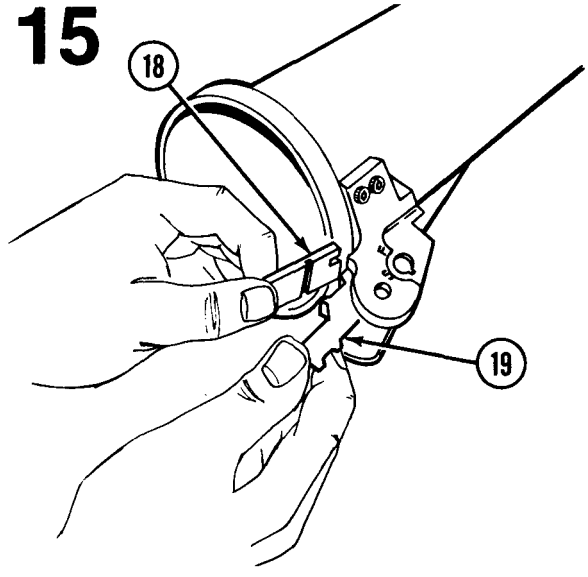
Pull hinge block end of cable assembly (10) forward and remove from hinge block (15) and from clip on rear bracket assembly.

14



Unlock and open breechblock (16). Pushdown on and remove hinge pin (17). Remove breechblock (16).

15

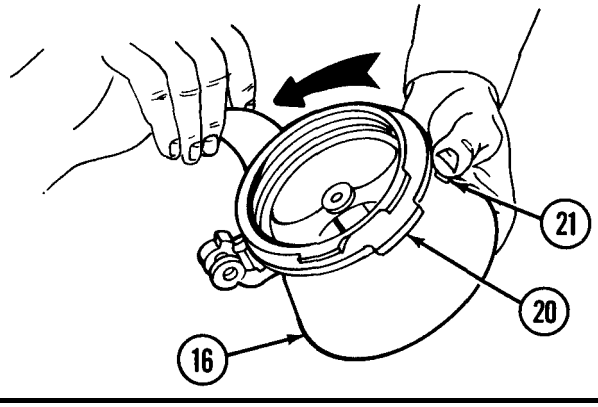


Remove cartridge extractor (18) and extractor link (19).

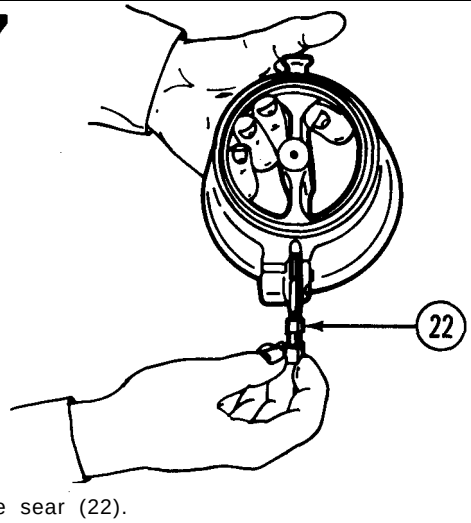
16

a. Hold breechblock (16) with hinge portion up. This will prevent the sear (which is free to move) from dropping down and blocking the lock ring assembly (20).

b. Depress detent plunger (21). Rotate lock ring assembly (20) counterclockwise and remove.

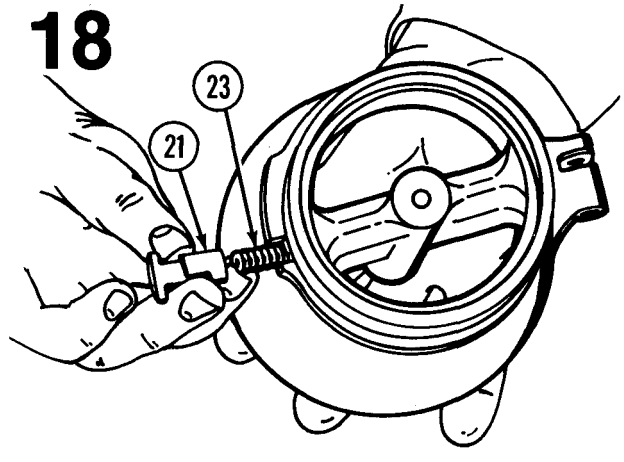


17



Remove sear (22).

18

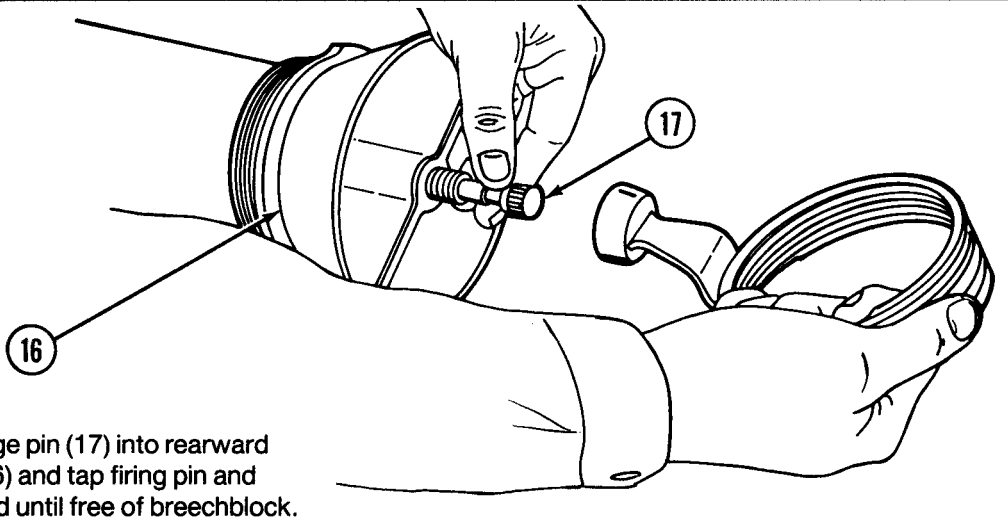


Remove and separate detent plunger (21) and detent spring (23).

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

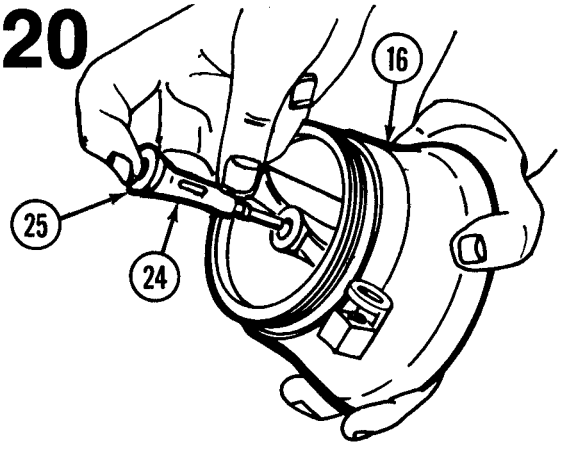
DISASSEMBLY (CONT)

19



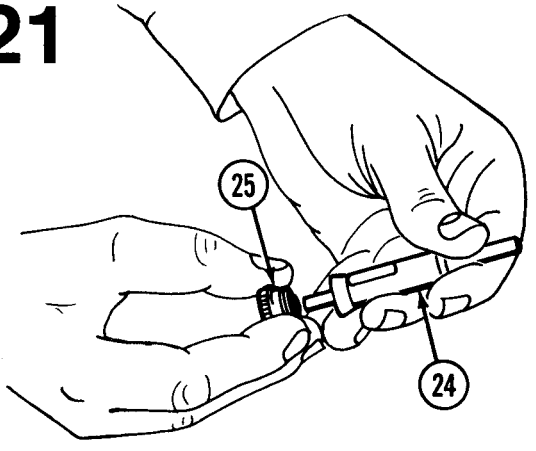
Insert small end of hinge pin (17) into rearward end of breechblock (16) and tap firing pin and sleeve bushing forward until free of breechblock.

20



Remove firing pin (24) and sleeve bushing (25) from front of breechblock (16).

21



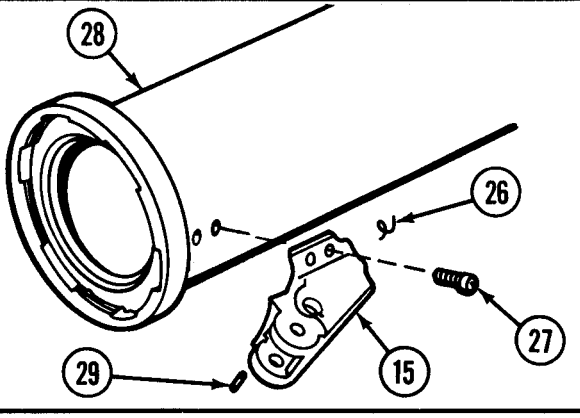
Separate sleeve bushing (25) from firing pin (24).

22

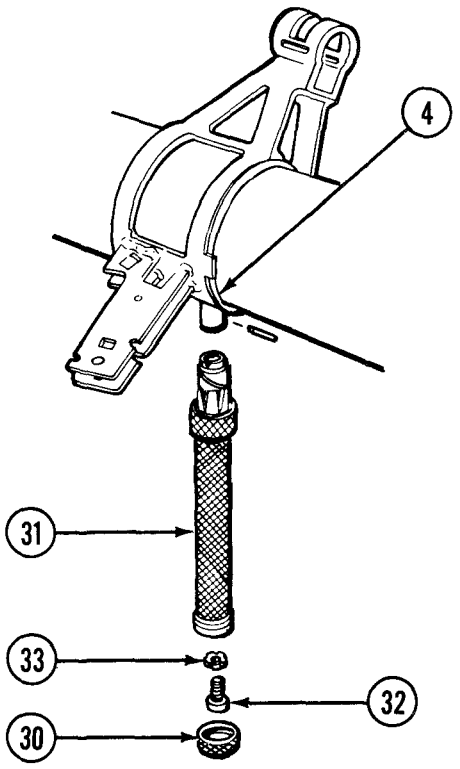
a. Remove lock wire (26) and four bolts (27).

b. Remove hinge block (15) from cannon tube (28).

c. Remove spring pin (29) from hinge block (15).



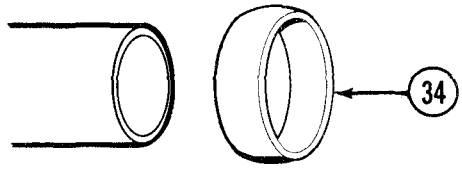
23



a. Unscrew and remove tube cap (30).

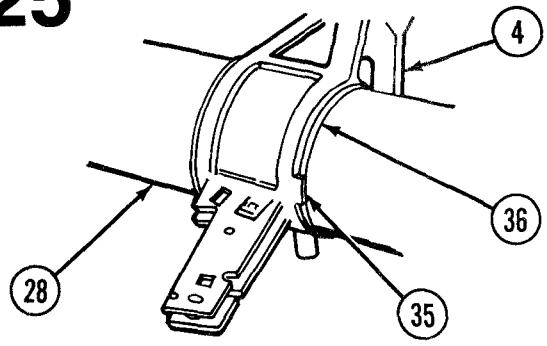
b. Insert a long-blade screwdriver insert into lower end of monopod assembly (31). Remove screw (32) and lock washer (33). Remove monopod assembly (31) from front bracket assembly (4).

24



Remove sound suppressor ring (34).

25

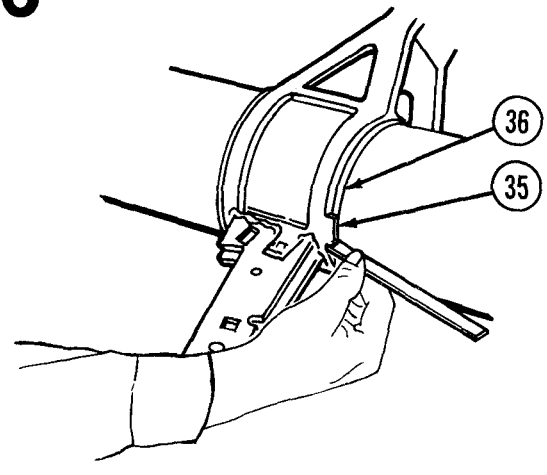


a. Check free play before removing the front bracket assembly.

b. Manually attempt to rotate the front bracket assembly (4) on the rifle tube (28). Check for possible free play between front bracket assembly locating key (35) and recess in tube positioning ring (36).

c. If free play exists, refer to the following PRELIMINARY INSPECTION.

26



PRELIMINARY INSPECTION

a. Measure free play with a 0.010-inch feeler gage. Any free play, as measured with a feeler gage, shall not exceed 0.010-inch clearance between either side of the locating key (35) and positioning ring (36) recess.

b. If free play is greater than 0.010 of an inch, measure the amount by using thicker feeler gage blades.

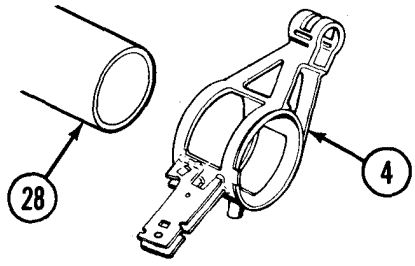
c. Record the feeler gage thickness for use during repair.

d. Remove front bracket assembly. See step 27.

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

DISASSEMBLY (CONT)

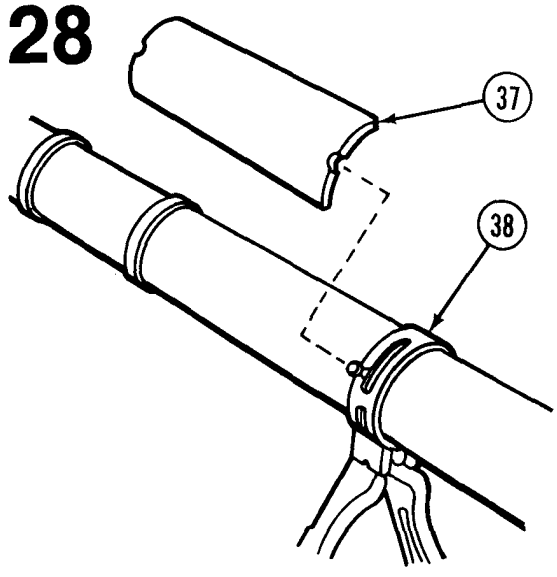
27



CAUTION
Make sure that shield assembly does not fail off when removing front bracket assembly.

Spread front bracket assembly (4). Slide front bracket assembly (4) over forward positioning ring and off muzzle end of cannon tube (28).

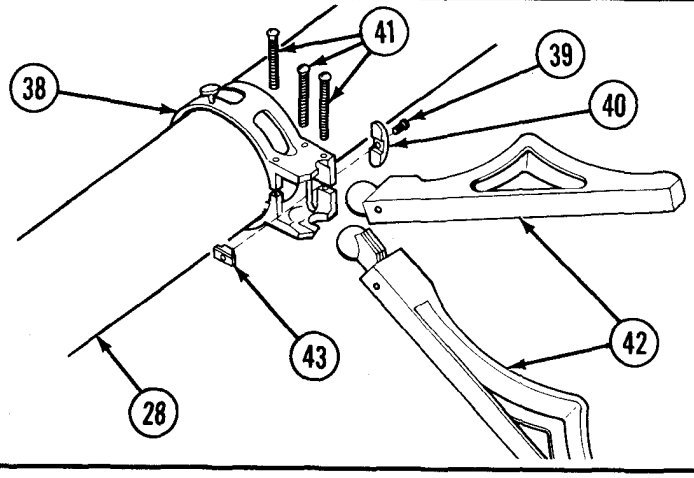
28



Slide shield assembly (37) straight forward and remove from rear bracket assembly (38).

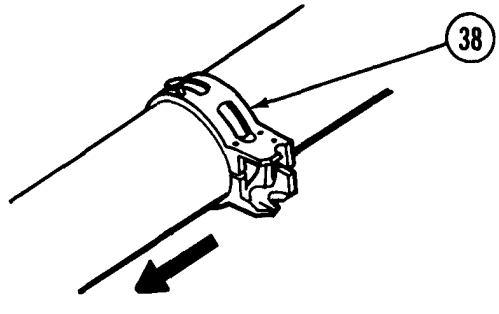
29

Remove the self-locking screw (39) and remove bipod retaining plate (40). Remove the three screws (41) holding rear bracket assembly (38) to the tube (28). Remove the bipod legs (42) which will allow the bipod retaining nut (43) to be removed.



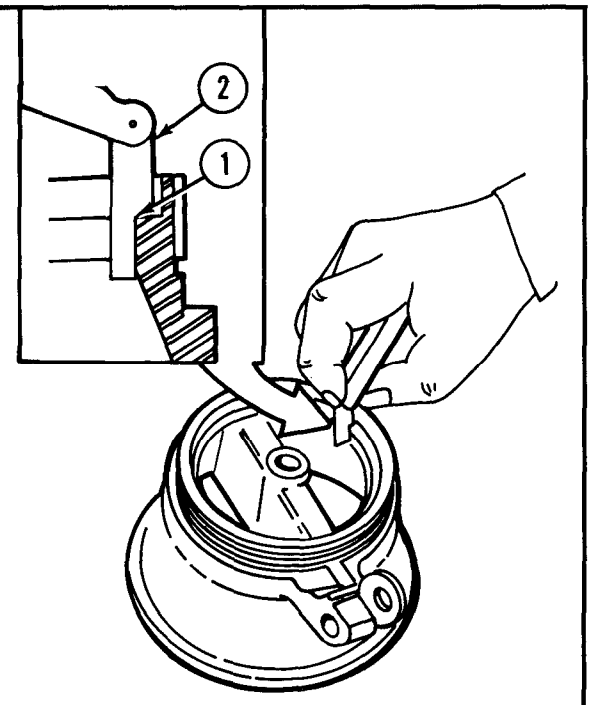
30

Spread rear bracket assembly (38). Slide rear bracket assembly forward over forward positioning rings and off muzzle end of cannon tube.



CLEANING/INSPECTION/REPAIR

1



BREECHBLOCK

a. Remove dirt, oil, and rust or corrosion with CLP and wipe dry.

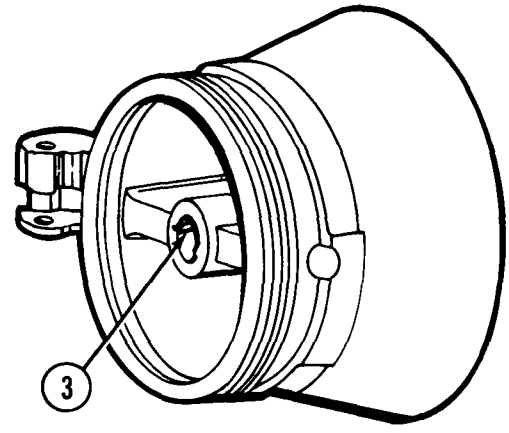
b. Inspect for stripped or chipped threads in the lock ring assembly mating area and for wear on tooth on inner hinge portion of breechblock.

NOTE

Edges should be sharp, not beveled or rounded, at points where tooth engages extractor link.

c. Inspect for erosion in the throat area (1) (erosion gaging zone) with the fillet and radius gage (2) according to TM 9-1000-202-14.

2



a. Inspect for cracking in the hammer bushing hole (3). Cracking must not extend more than 1/4 inch into the hammer bushing hole.

b. A breechblock with cracking extending 1/4 inch or less into the hammer bushing hole is usable in this condition if, within specified tube life, the original hammer bushing remains in place, or a replacement can be found that will be retained by the breechblock.

c. A breechblock with cracking extending more than 1/4 inch into the hammer bushing hole is unserviceable and must be replaced.

d. Inspect for enlarged hammer bushing hole.

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

CLEANING/INSPECTION/REPAIR (CONT)

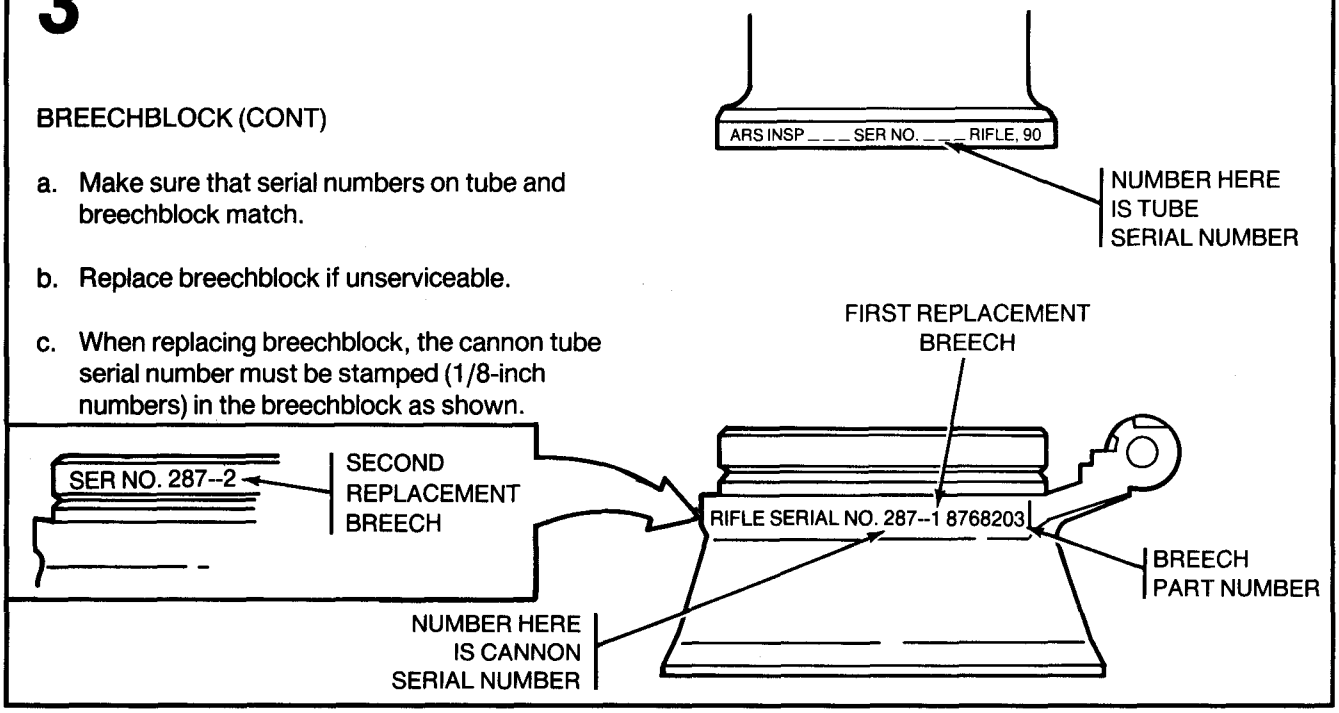
3

BREECHBLOCK (CONT)

a. Make sure that serial numbers on tube and breechblock match.

b. Replace breechblock if unserviceable.

c. When replacing breechblock, the cannon tube serial number must be stamped (1/8-inch numbers) in the breechblock as shown.



4

a. For first breechblock replacement, stamp tube serial number on breechblock and add "-1-," for second replacement add "-2-," etc.

b. Record all breechblock replacements in the remarks column of DA Form 2408-4.

5

ALL OTHER AUTHORIZED PARTS.

a. Remove dirt, oil and rust or corrosion with CLP and wipe dry.

b. Inspect for cracks, wear, breaks, or distortion.

c. Borescope and pullover gage cannon tube according to instructions in TM 9-1000-202-14. See TM 9-6650-235-13&P for operation of the M3 Borescope.

d. Replace parts that are unserviceable or missing See TM 9-1015-223-23P.

LUBRICATION

a. BREECHBLOCK. Lubricate tooth on inner hinge with CLP.

b. LOCK RING ASSEMBLY. Lubricate all threads with CLP.

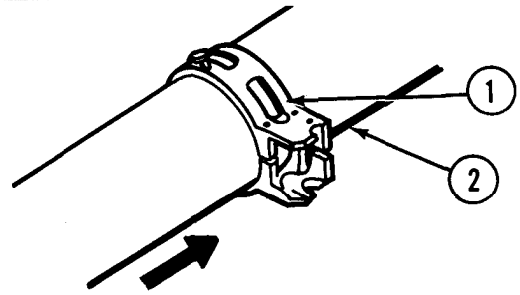
c. ALL REMAINING PARTS. Lubricate with CLP before assembly.

REASSEMBLY

1 Spread and slide rear bracket assembly (1) over muzzle end of tube (2) and forward positioning rings. Position rear bracket assembly (1) between rear positioning rings on cannon tube (2).

NOTE

Tang on rear bracket assembly must mate with recess in the rear positioning ring nearest the muzzle.



2

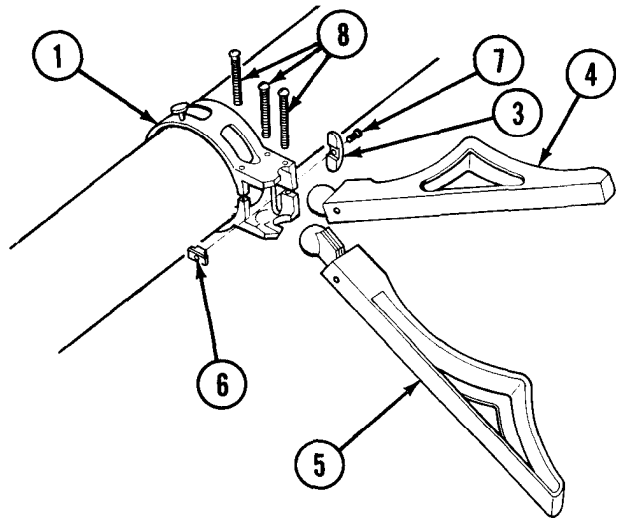
a. Position bipod retaining plate (3) in rear bracket assembly (1).

b. Position bipod legs (4 and 5) in rear bracket assembly (1).

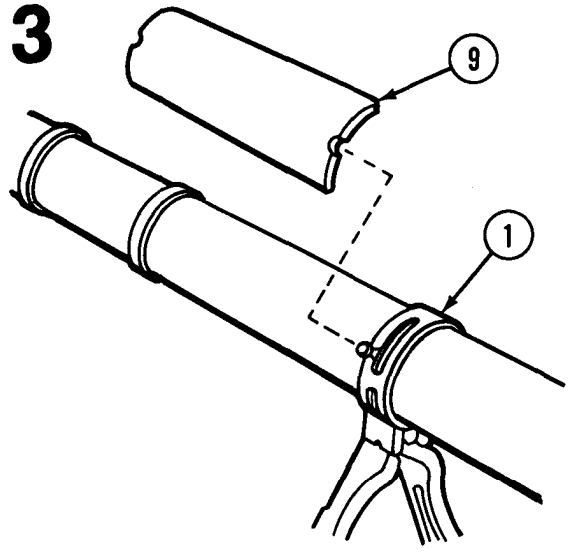
c. Place bipod retaining nut (6) in bipod retaining plate (3) from the inside.

d. Install self-locking screw (7) in bipod retaining nut (6).

e. Install and tighten three screws (8) securely.

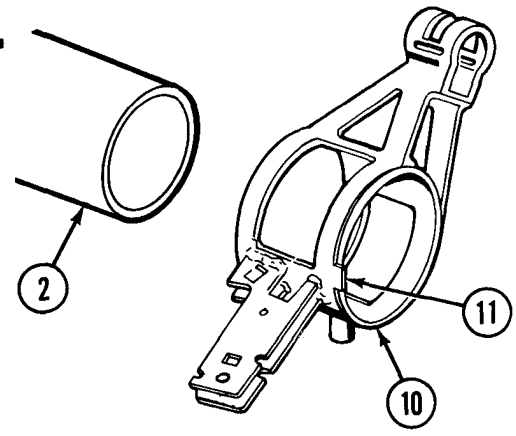


3



Engage recess in shield assembly (9) with metal button on rear bracket assembly (1).

4



a. Face front bracket assembly (10) with locating key (11) forward.

b. Spread front bracket assembly (10) and slide it over cannon tube (2) muzzle. Slide front bracket assembly (10) rearward.

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

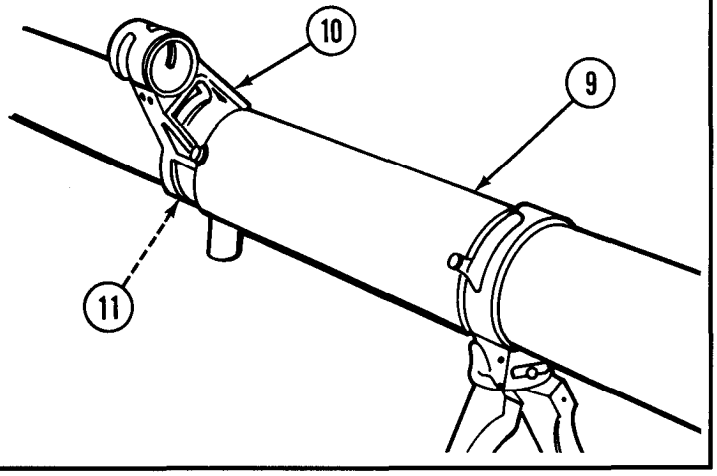
REASSEMBLY (CONT)

5

a. Place front bracket assembly (10) between forward positioning rings.

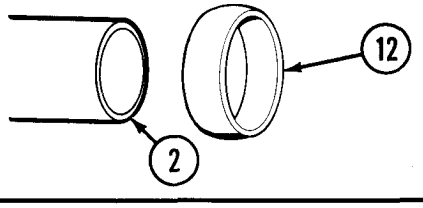
b. Engage front bracket assembly (10) locating key (11) with recess in positioning ring.

c. Engage metal button on front bracket assembly with recess in shield assembly (9).



6

Install sound suppressor ring (12) about two inches from end of cannon tube (2).



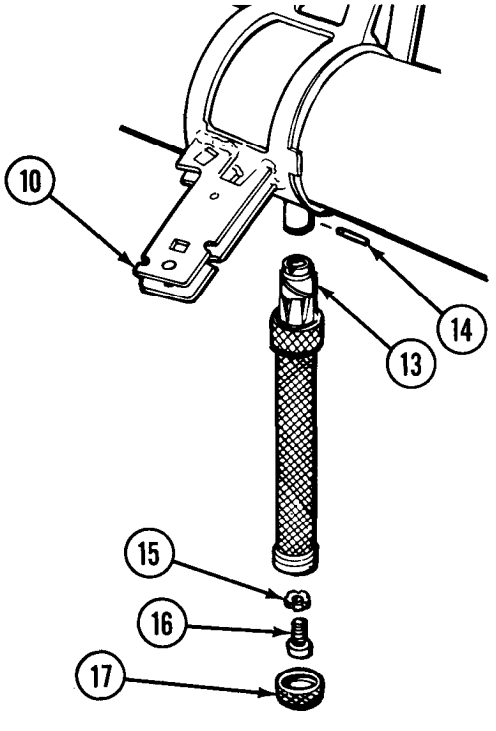
7

a. Slide notched end of monopod assembly (13) over boss on front bracket assembly (10).

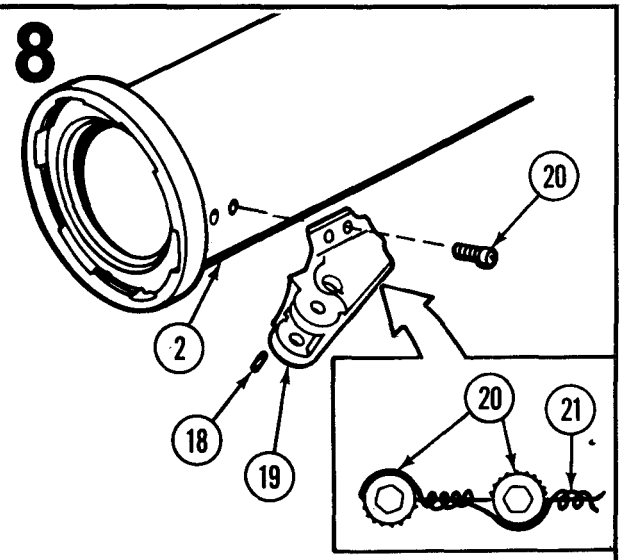
b. Recess in center tube must mate with spring pin (14).

c. Secure monopod assembly (13) to front bracket assembly (10) with lock washer (15) and screw (16). Tighten securely.

d. Screw tube cap (17) onto lower end of locking tube. Tighten securely.



8

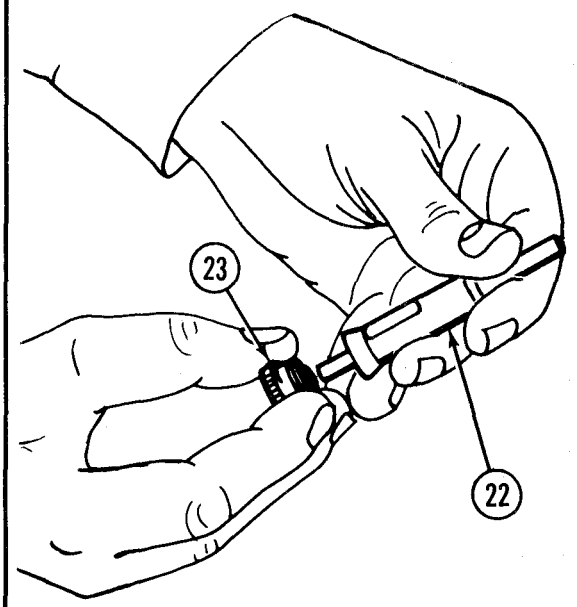


a. Install spring pin (18) in hinge block (19). Position hinge block on cannon tube (2).

b. Secure hinge block to cannon tube with four bolts (20).

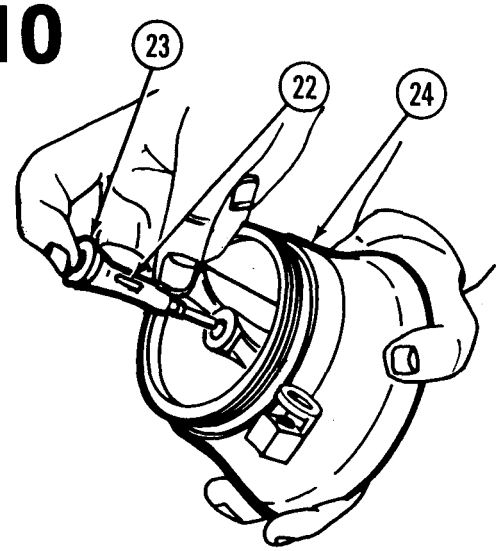
c. Install lock wire (21) to four bolts (20) as illustrated.

9



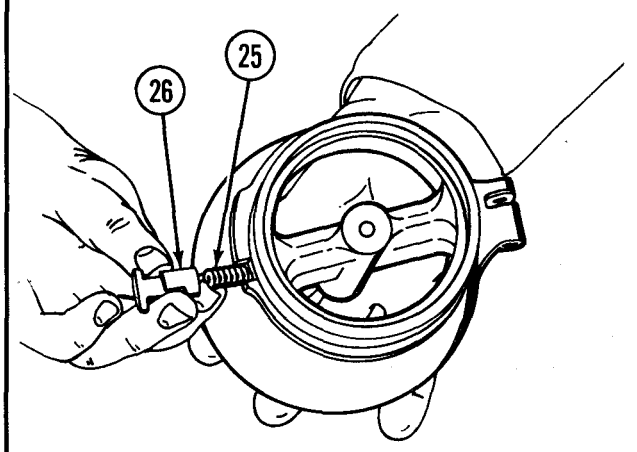
Assemble firing pin (22) to sleeve bushing (23).

10



Holding breechblock (24) with hinge portion up, install firing pin (22) and sleeve bushing (23) in forward end of breechblock. Ensure that the large opening in firing pin is facing toward hinge portion. Using hammer, lightly tap sleeve bushing (23) until flush against breechblock (24).

11

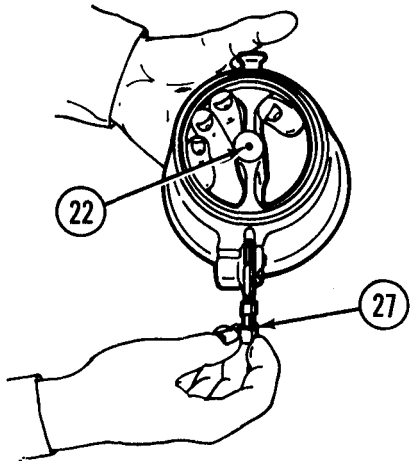


Install detent spring (25) and detent plunger (26).

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

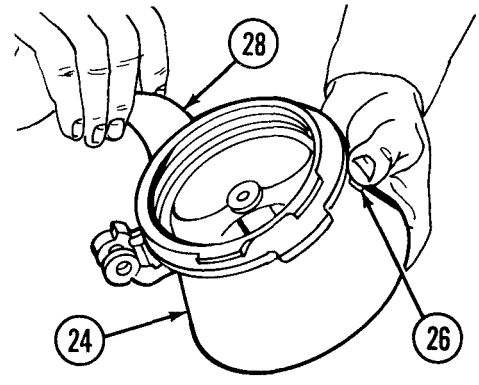
REASSEMBLY (CONT)

12



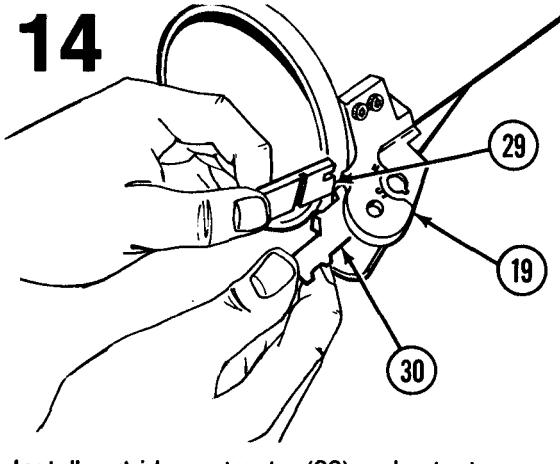
Aline large opening in firing pin (22) with sear channel and install sear (27).

13



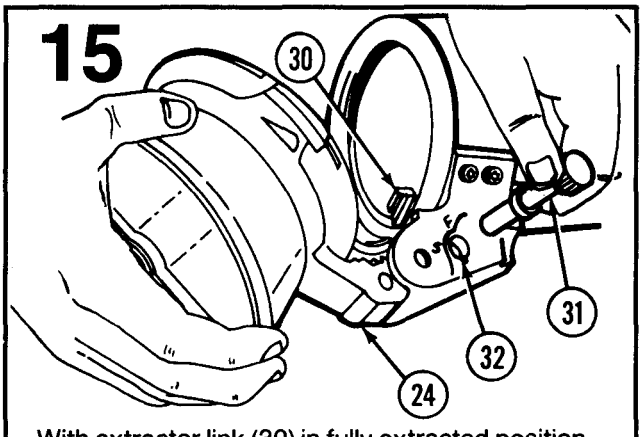
While still holding breechblock (24) with hinge portion up, depress detent plunger (26) and install lock ring assembly (28). Give it 1/4 turn counterclockwise to aline the threads; then turn clockwise until tight. Release detent plunger and turn back (counterclockwise) two clicks (approximately 1/3 turn).

14



Install cartridge extractor (29) and extactor link (30) into hinge block (19).

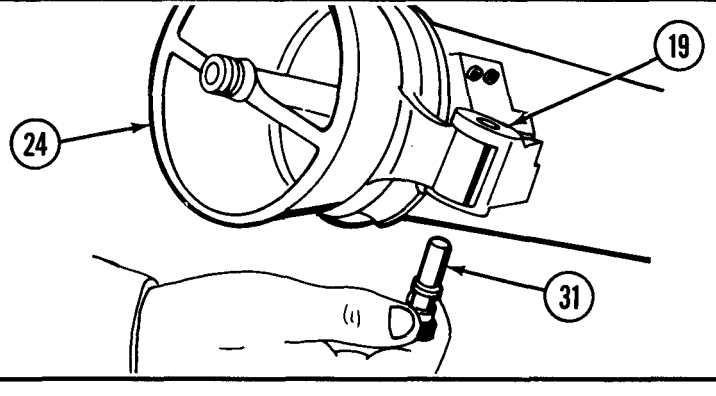
15



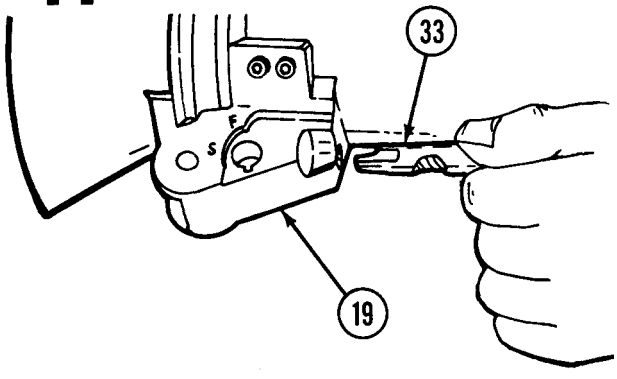
With extractor link (30) in fully extracted position, install hinge pin (31) in safety shaft hole (32) to hold extractor link (30) in place. Then install breechblock (24).

16

Aline hinge pin holes in breechblock (24) and hinge block (19). Remove hinge pin (31) from safety shaft hole and install it in alined hinge pin holes.

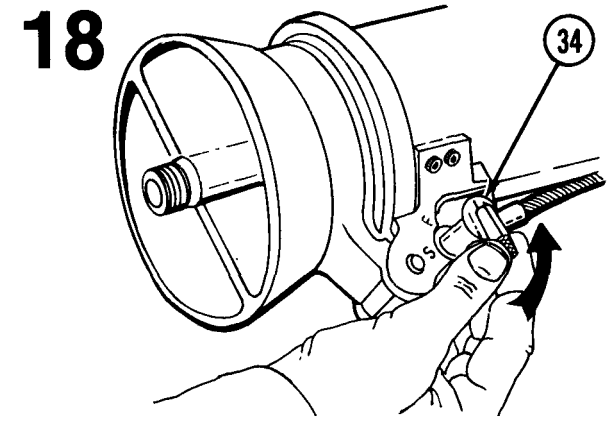


17



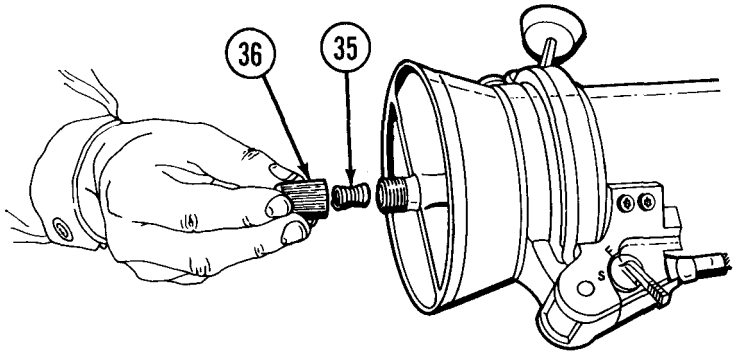
Install cable assembly (33) in hinge block (19) with the notched portion that will mate with safety assembly facing away from cannon tube.

18



Position safety assembly (34) 45 degrees clockwise from the fire (F) position. Push downward and rotate counterclockwise to the fire (F) position to install.

19

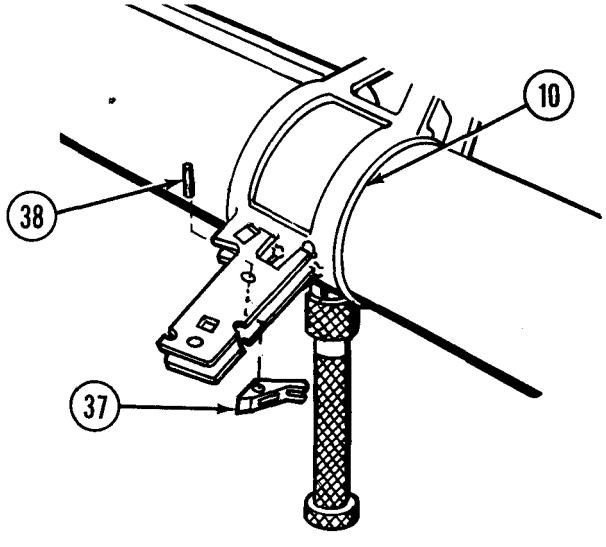


Install spring (35) and firing pin spring cap (36).

20

a. Position cable actuating lever (37) in the front bracket assembly (10).

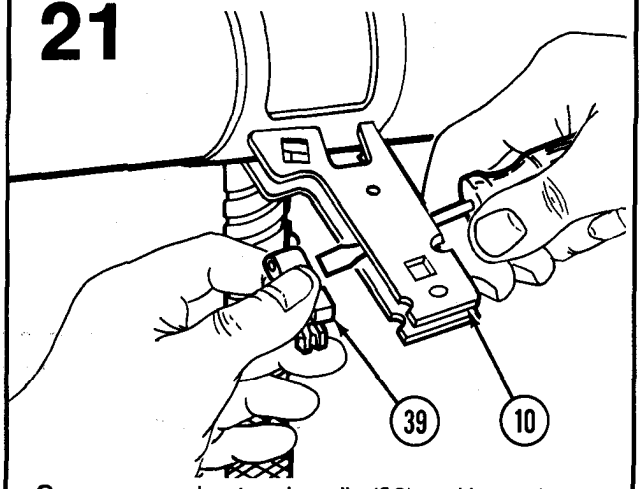
b. Aline spring pin hole in cable actuating lever (37) with hole in front bracket assembly (10) and install spring pin (38).



2-9. IREPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

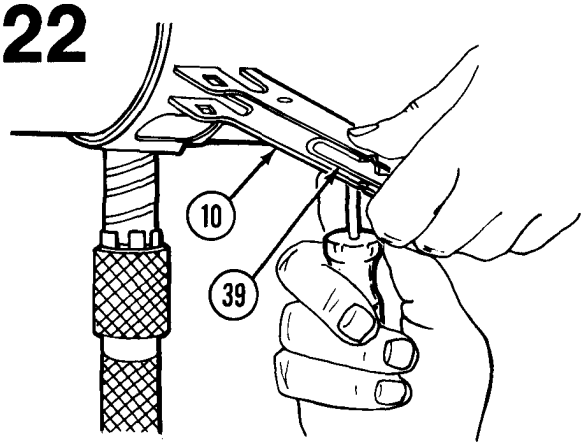
REASSEMBLY (CONT)

21



Compress spring tension clip (39) and insert in front bracket assembly (10).

22



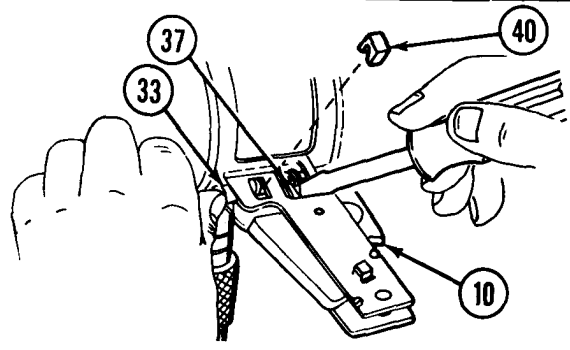
Move spring tension clip (39) with screwdriver blade until lugs are positioned in mating holes in front bracket assembly (10) and grip retainer portion of clip protrudes through square hole in front bracket assembly (10).

23

a. Slide cable assembly (33) though clip on rear bracket assembly.

b. Depress cable actuating lever (37) rearward and down using screwdriver blade.

c. Insert forward end of cable assembly (33) into front bracket assembly (10) housing over depressed cable actuating lever (37).



d. Using screwdriver blade, push up on cable actuating lever (37) to position notched end on cable assembly (33).

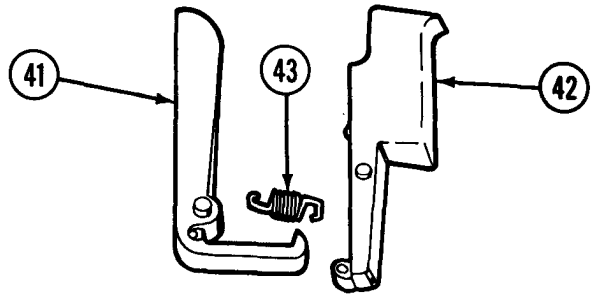
e. Position the same number of washers ahead and behind cable actuating lever (37) as noted before disassembly.

f. Install cable actuating lock (40) to secure cable assembly in the front bracket assembly.

g. Top of cable actuating lock (40) must be flush or below front bracket assembly outer surface.

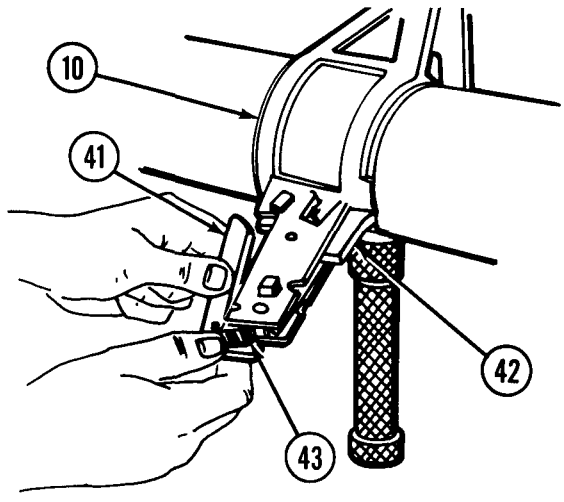
24

Assemble gun grip safety (41) and trigger (42) to spring (43).



25

Position trigger (42) in recess. Stretch spring (43) below base of front bracket assembly (10) and press gun grip safety (41) into the recess.

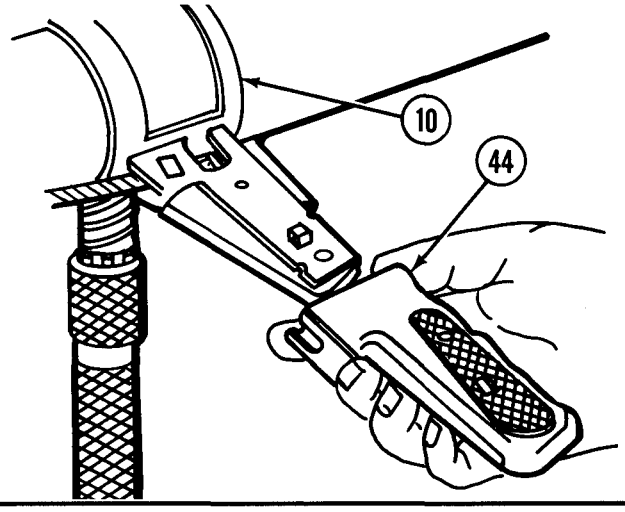


26

Install rifle grip (44) on front bracket assembly (10).

NOTE

Check cable assembly adjustment by function testing rifle (refer to TM 9-1015-223-12).



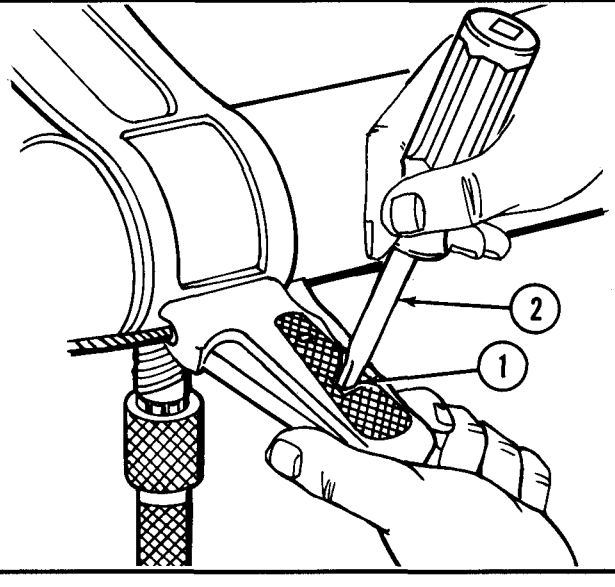
ADJUSTMENT OF CABLE ASSEMBLY

1

NOTE

Trigger pull, specified by poundage, is not provided for the 90-mm rifle M67. The method below provides the correct adjustment for trigger pull and assures proper functioning of the gun grip safety and trigger.

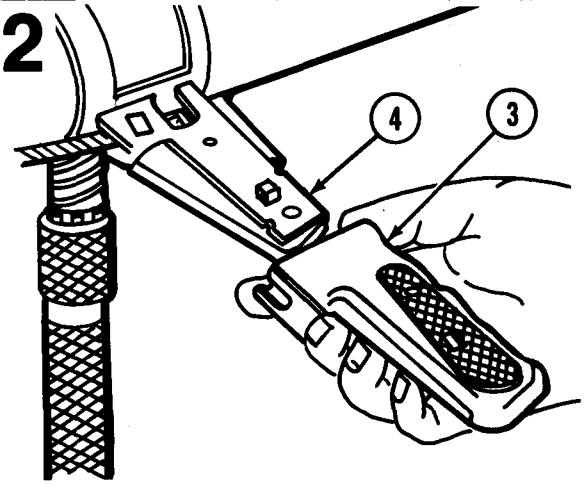
Depress spring tension clip (1), using screwdriver (2).



2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

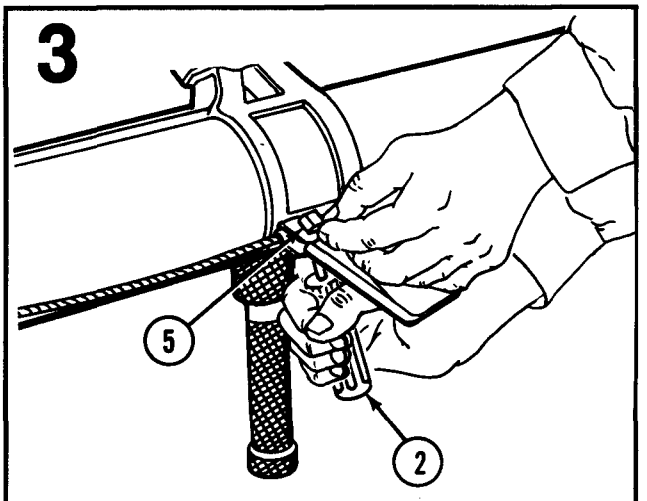
ADJUSTMENT OF CABLE ASSEMBLY (CONT)

2



Remove rifle grip (3) from front bracket assembly (4).

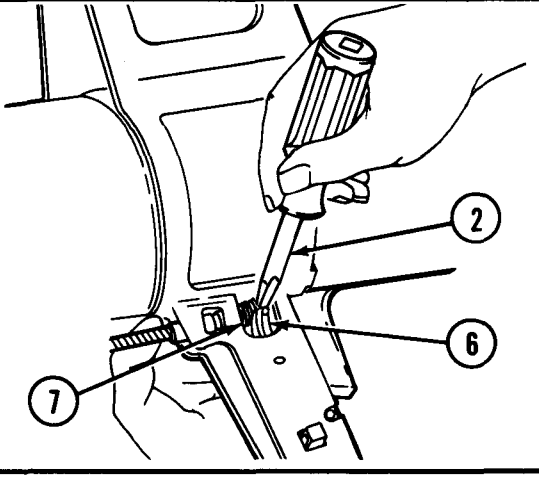
3



Push up and remove cable actuating lock (5), using screwdriver (2).

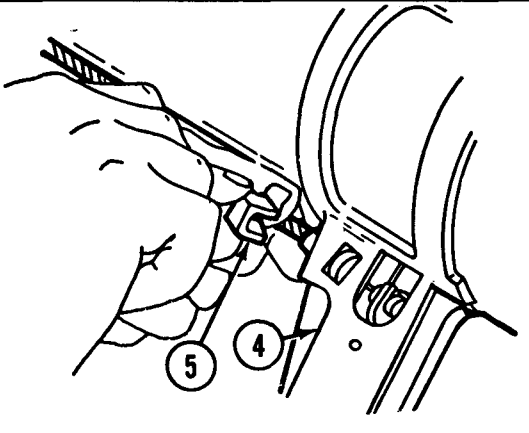
4

Press cable actuating lever (6) down and rearward, using screwdriver (2). Position all washers (7) behind cable actuating lever (6) on the breech side.

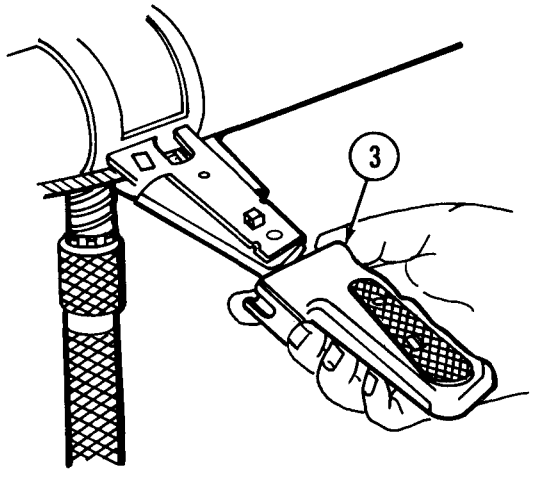


5

Install cable actuating lock (5). Top of cable actuating lock must be flush or below front bracket assembly (4) outer surface.

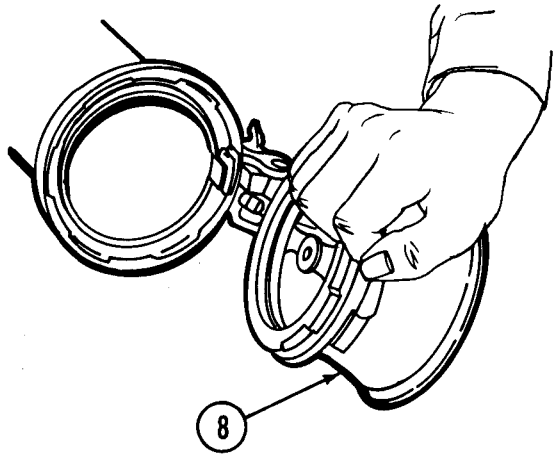


6



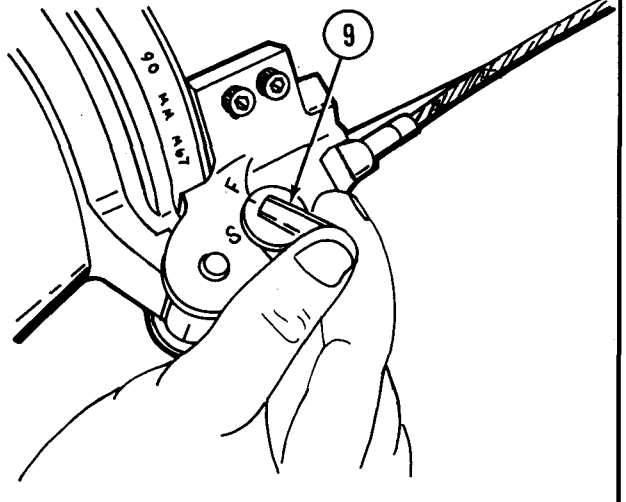
Install rifle grip (3).

7



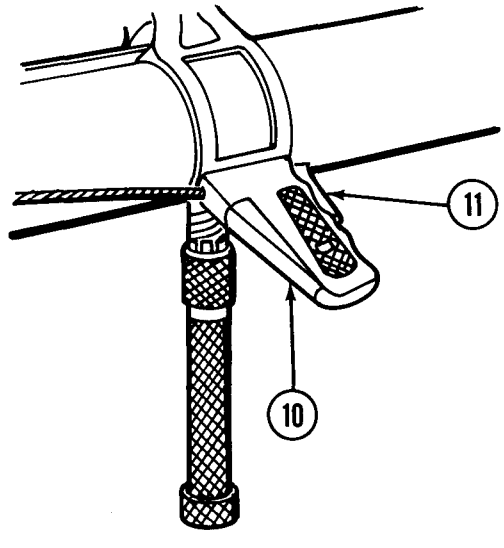
Cock the weapon by opening and closing the breechblock (8).

8



Switch rifle safety (9) from safe (S) to fire (F) position.

9

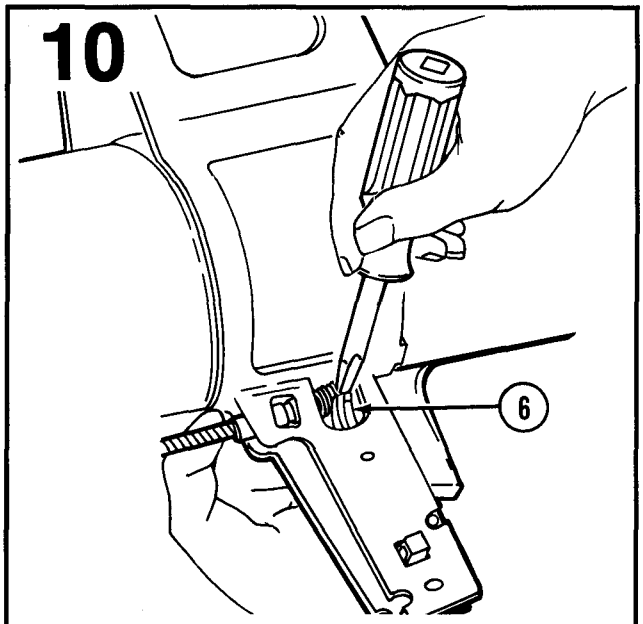


Attempt to fire weapon by depressing gun grip safety (10) and trigger (11). Rifle should not fire.

2-9. REPAIR OF 90-MM RECOILLESS RIFLE M67 (CONT).

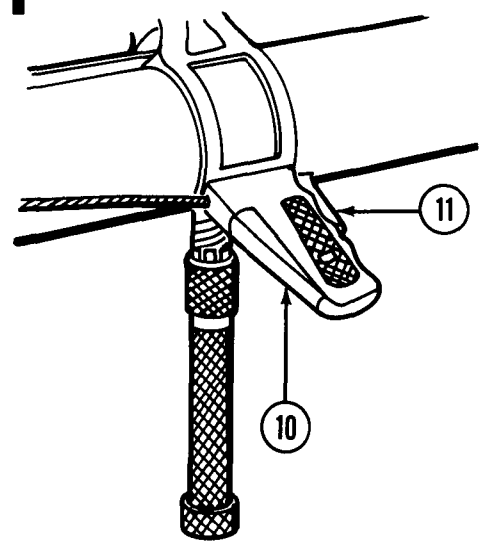
ADJUSTMENT OF CABLE ASSEMBLY (CONT)

10



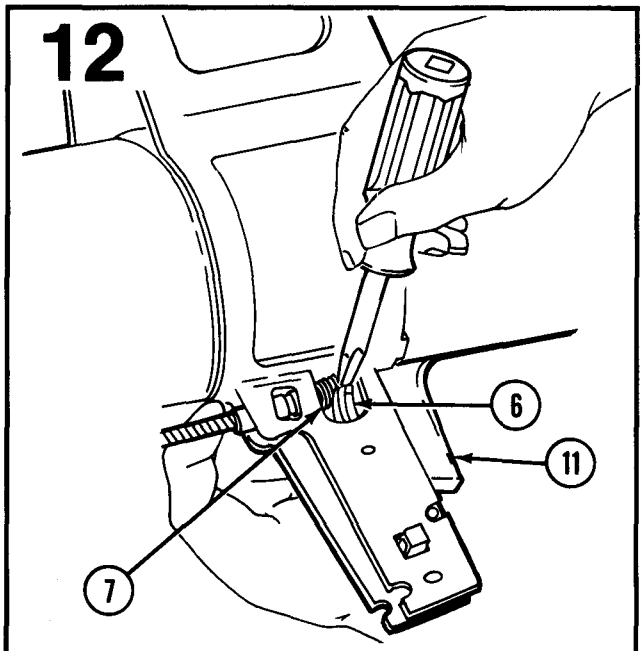
Repeat steps 1 through 9, except in step 4 move one washer (7) at a time to the muzzle side of the cable actuating lever (6).

11



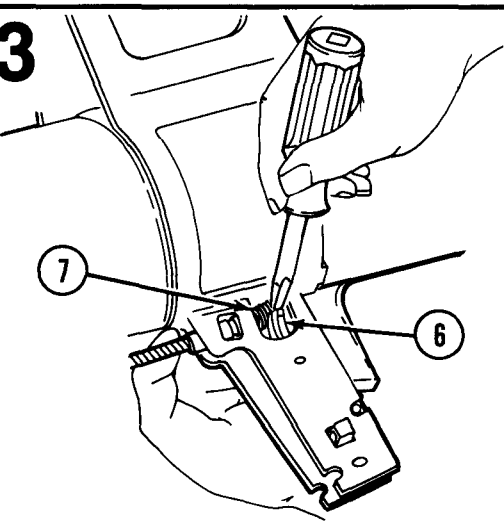
Repeat step 10 until weapon fires when gun grip safety (10) and trigger (11) are depressed.

12



Counting each washer, continue moving washers, one at a time, to the muzzle side of the cable actuating lever (6) until the weapon fires when only the trigger (11) is depressed.

13



a. Return half of the counted washers (7) to the breech side of the cable actuating lever (6).

b. If the counted washers are odd numbered, put the extra washer on the breech side of the cable actuating lever.

c. The cable assembly is now properly adjusted.

2-10. REPAIR OF MONOPOD ASSEMBLY.

This task covers:

a. Disassembly
b. Cleaning/Inspection/Repair
c. Lubrication
d. Reassembly

INITIAL SETUP

Tools and Special Tools
Small Arms Tool Kit (SC 5180-95-CL-A07)

Materials/Parts
Cleaner, lubricant and preservative (CLP) (item 6, app B)
Wiping rag (item 12, app B)

References
TM 9-1015-223-23P

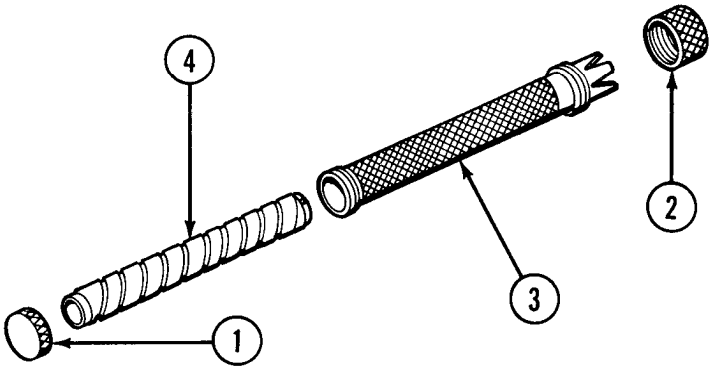
Equipment Condition
Monopod assembly removed from rifle (p 2-7).

DISASSEMBLY

NOTE
Tube cap (1) was removed during disassembly of rifle.

a. Unscrew and remove sleeve (2) from locking tube (3).

b. Unscrew and remove center tube assembly (4) from locking tube (3).



CLEANING/INSPECTION/REPAIR

a. Remove dirt, old oil, and rust with CLP and wipe dry.

b. Inspect for bent, worn, cracked, or broken parts.

c. Replace unserviceable parts. See TM 9-1015-223-23P.

d. Replace tube cap if unserviceable or missing.

e. Replace monopod assembly if any other parts are unserviceable or missing.

LUBRICATION

Apply a light film of CLP to the center tube assembly.

2-10. REPAIR OF MONOPOD ASSEMBLY (CONT).

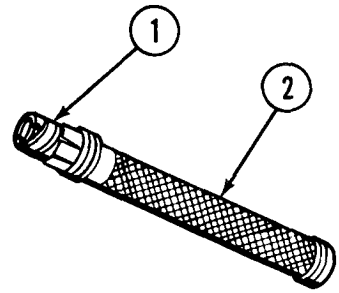
REASSEMBLY

1

Insert and screw center tube assembly (1) into cap end of locking tube (2).

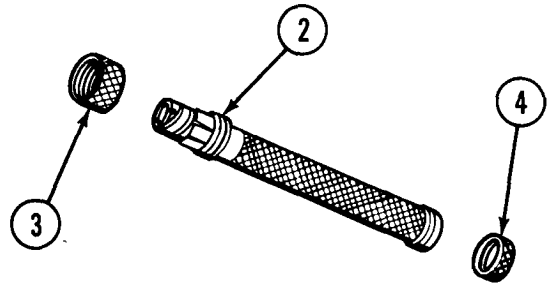
NOTE

Center tube should extend approximately 2 inches beyond the end of locking tube.



2

Screw sleeve (3) onto locking tube (2) and tighten. Temporarily install tube cap (4) so it will not be lost.



2-11. REPAIR OF FRONT BRACKET ASSEMBLY.

This task covers:

a. Disassembly
b. Cleaning/Inspection/Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Small Arms Tool Kit (SC 5180-95-CL-A07)

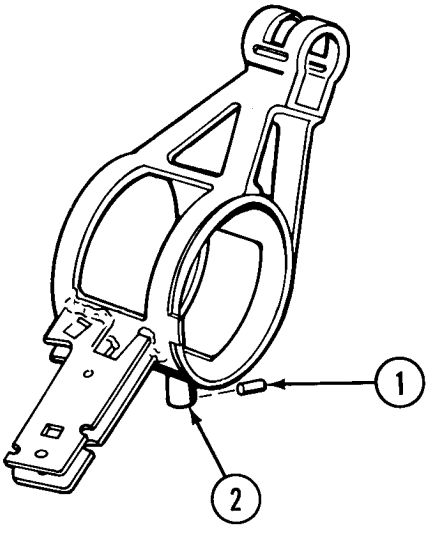
Materials/Parts
Cleaner, lubricant, and preservative (CLP) (item 6, app B)
Paint, black (item 9, app B)
Paint brush (item 5, app B)
Thinner, paint (item 17, app B)
Wiping rag (item 12, app B)

References
TM 9-237
TM 9-1015-223-23P

Equipment Condition
Front bracket assembly removed (p 2-7).

DISASSEMBLY

If damaged, remove spring pin (1) from front bracket assembly (2).



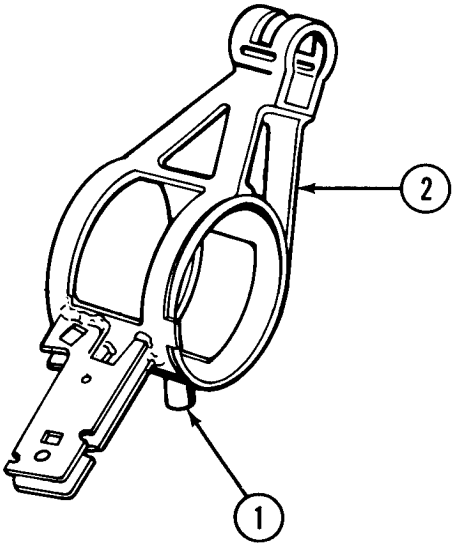
CLEANING/INSPECTION/REPAIR

1

a. Remove dirt, old oil, and rust with CLP and wipe dry.

b. Inspect inside of boss (1) on front bracket assembly (2) for stripped threads. Replace front bracket assembly if threads are unserviceable. See TM 9-1015-223-23P.

c. Replace spring pin if damaged.



2-11. REPAIR OF FRONT BRACKET ASSEMBLY (CONT).

CLEANING/INSPECTION/REPAIR (CONT)

2

a. Measure width of front bracket assembly locating key.

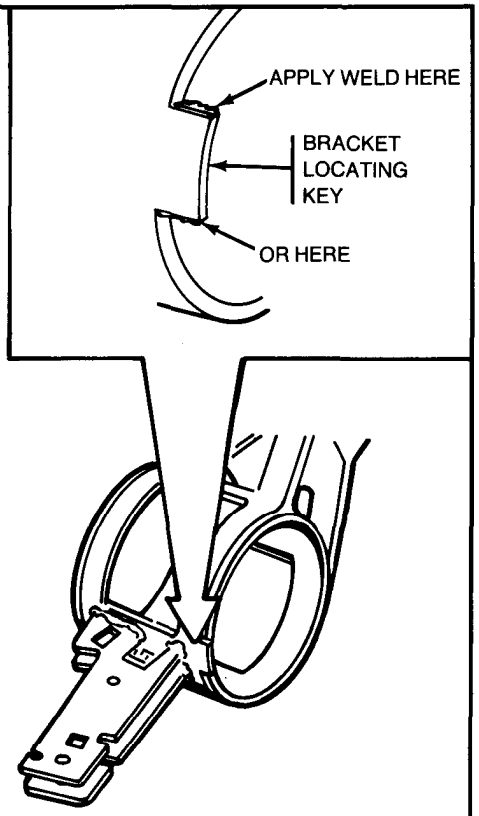
b. Determine the width desired to prevent radial movement of the front bracket assembly by adding the measurement obtained during preliminary inspection (p 2-13).

CAUTION

Do not weld objects until you know the physical characteristics of the metal.

c. If required, build up the front bracket assembly locating key width by the use of TIG welding using Linde No. 71 or ARCOS No. 517, 1/16 diameter bare wire or rod, or arc weld using P.H. 4130, 3/32 diameter stick electrode (covered rod-shielded). Refer to TM 9-237. This arc weld is harder than a low carbon steel weld and will not peen over as readily, giving the repair a longer life.

d. Remove excess weld with a file until the desired front bracket assembly locating key width is obtained. A square corner is required on the front bracket assembly locating key to assure satisfactory performance (refer to TM 9-237).



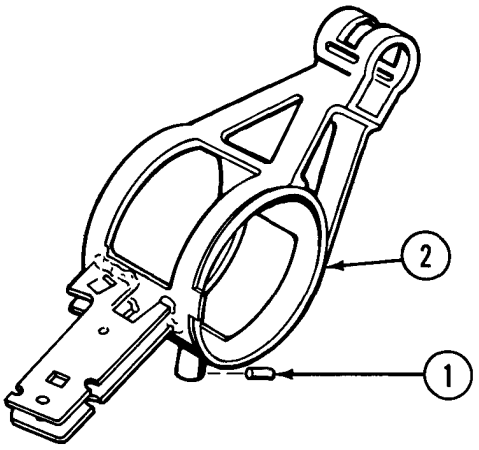
WARNING

Paint thinners are flammable. Do not use near an open flame or in a smoking area. Use in a well ventilated area.

e. Apply a protective film of lusterless black paint to the affected areas of the front bracket assembly.

REASSEMBLY

If removed, install spring pin (1) in front bracket assembly (2). Allow 1/16-inch protrusion.



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*U.S. GOVERNMENT PRINTING OFFICE: 1986-641-048:20215

2-12. REPAIR OF LOCK RING ASSEMBLY.

This task covers:

a. Disassembly
b. Cleaning/Inspection/Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Small Arms Tool Kit (SC 5180-95-CL-A07)

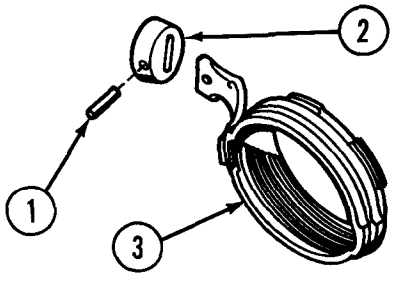
Material/Parts
Cleaner, lubricant and preservative (CLP) (item 6, app B)
Wiping rag (item 12, app B)

References
TM 9-1015-223-23P

Equipment Condition
Lock ring assembly removed (p 2-11).

DISASSEMBLY

If damaged, remove spring pin (1) and knob (2) from breech lock ring (3).

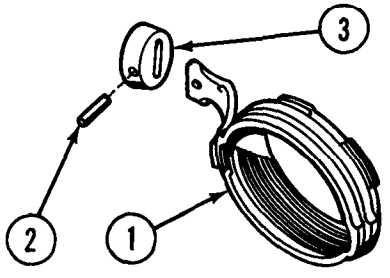


CLEANING/INSPECTION/REPAIR

a. Remove dirt, oil, and rust or corrosion with CLP and wipe parts dry.

b. Inspect for stripped or chipped threads in breech lock ring (1), bent pin (2) or worn knob (3).

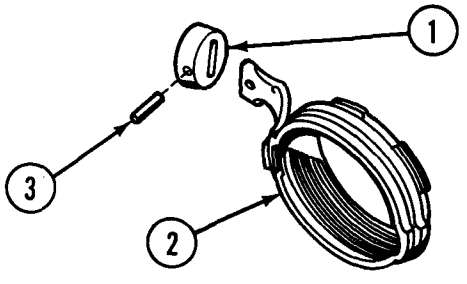
c. Replace breech lock ring (1) if threads are unserviceable. Replace any unserviceable part. See TM 9-1015-223-23P.



REASSEMBLY

a. Install knob (1) on breech lock ring (2).

b. Secure knob with spring pin (3).



Section V. PREPARATION FOR STORAGE OR SHIPMENT

2-13. PREPARATION FOR STORAGE OR SHIPMENT. Clean, preserve, package, pack, and mark M67 recoilless rifle as follows:

a. *Packing.* Disassemble, clean, dry, preserve and package the recoilless rifle as follows:

(1) Clean weapon and barrel with CLP (item 6, app B) and dry both items with clean wiping rags (item 12, app B).

(2) Preserve the barrel and weapon including monopod assembly with CLP (item 6, app B).

(3) Roll volatile paper (item 11, app B) into a tube with the treated side out and insert into the rifle bore.

(4) Retract the monopod assembly and fold the legs.

(5) Wrap barrel and weapon with volatile paper (item 11, app B) with treated side touching the metal surfaces.

(6) Secure paper with pressure sensitive tape (item 14, app B).

(7) Tape end of tube with pressure sensitive tape (item 15, app B).

(8) Cushion end of monopod assembly with cushioning material (item 7, app B) and secure with pressure sensitive tape (item 13, app B).

(9) Insert rifle in plastic bag, 38" X 65" (item 1, app B) and heat seal the bag.

NOTE

Do not puncture the bag.

(10) Apply the following marking on each rifle (bag):

NATIONAL STOCK NUMBER
FEDERAL ITEM NAME
1 EACH AND DATE (MONTH, YEAR)
WEIGHT: CUBE:

(11) Clean remaining components of the M67 recoilless rifle using CLP (item 6, app B) and dry with clean wiping rags (item 12, app B).

(12) Wrap components with volatile paper (item 11, app B) with treated side touching the metal surfaces.

(13) Secure paper with pressure sensitive tape (item 14, app B).

(14) Wrap items in cushioning material (item 7, app B) and secure with pressure sensitive tape (item 14, app B).

(15) Insert items in a plastic bag, 20" X 24" (item 1, app B) and heat seal the bag.

(16) Place items in fiberboard box, 9" X 6½" X 6" (item 3, app B).

(17) Fill remaining space with cushioning material (item 7, app B) to prevent components from moving in the box.

(18) Close and seal box with pressure sensitive tape (item 16, app B).

(19) Clean Bll items (if required) using CLP (item 6, app B) and dry with clean wiping rags (item 12, app B).

(20) Preserve (if required) using CLP (item 6, app B).

(21) Wrap items with volatile paper (item 11, app B) with treated side touching the items.

(22) Secure paper with pressure sensitive tape (item 14, app B).

(23) Wrap fragile items in cushioning material (item 7, app B) and secure with pressure sensitive tape (item 14, app B).

(24) Place items in fiberboard box, 12" X 10" X 8" (item 3, app B).

(25) Fill remaining space with cushioning material (item 7, app B) to prevent components from moving in the box.

(26) Close and seal box with pressure sensitive tape (item 16, app B).

(27) Apply a double layer of greaseproof barrier (item 2, app B) to all interior surfaces and blocking of shipping box (item 4, app B).

(28) Position the rifle in the shipping box with blocking to support the rifle and prevent movement.

(29) Place the two fiberboard boxes containing COEI and Bll in the shipping box and block to prevent movement.

(30) Use cushioning material (item 7, app B) to fill the box and prevent movement.

(31) Secure top of container using nails (item 8, app B) and strapping (item 13, app B).

b. *Exterior Marking.*

(1) All markings identifying the contents shall be omitted from the outside of shipping box.

(2) The only marking on the outside of the shipping box is:

ADDRESS OF DESTINATION
WEIGHT AND CUBE

Section VI. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT

2-14. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT.

a. *General.* This inspection is conducted on materiel in alerted units scheduled for overseas duty to be sure that such materiel will not become unserviceable in a relatively short time. It prescribes a higher percentage of remaining usable life in serviceable materiel to meet a specific need beyond minimum serviceability.

b. Preinspection Points.

WARNING

Before starting an inspection, clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the bore and chamber to be sure they are empty and free from obstructions.

(1) Before inspection, the materiel must be thoroughly cleaned of all grease, dirt, or other foreign matter that might interfere with its proper function or the use of gages and tools during inspection.

(2) Materiel must be free of burrs, rust, or corrosion on functional surfaces.

(3) Parts must not be cracked, bent, distorted, or damaged and must be free of excessive wear or looseness.

(4) Minor defects in metal components do not normally affect their acceptability. For example, scratches and tool marks are ordinarily of no importance.

(5) Inspect finish of metal surface. Satisfactory metal surfaces for weapons range from black to light gray. A shiny metal surface is objectionable only when it is capable of reflecting light. No weapon will be rejected unless exterior parts have a shine.

c. *Inspection Points.*

(1) Springs. Springs must be free of distortion and broken coils. Springs must have sufficient tension to perform their intended function.

(2) Barrels.

(a) Barrels must be clean and free of rust and corrosion caused by moisture and/or powder fouling.

(b) Barrels must not bulge.

(c) Barrels may have small amounts of flaking or small cracks in the chrome plating in the chamber and bore.

(d) Pits in the chamber are allowable if they do not cause extraction difficulties.

(e) Scattered or uniformly fine pits or fine pits in a densely pitted area are allowable.

(f) Tool marks are acceptable, regardless of length. They may appear as lines running along the grooves or around the tops of lands.

(g) Lands that appear dark, due to coating of gliding metal from projectiles, will not be rejected.

(h) Tube must not have fired more than 1000 EFC rounds.

(3) Functional surfaces. Slight wear on functional surfaces shall be acceptable, providing the minimum trigger pull requirements are met.

(4) Firing pins. Firing pins with chips, flat spots, or bent strike points will be rejected.

(5) Extractors. The cartridge engaging surfaces on extractors must not be chipped or deformed.

(6) Safety. Safety must positively position in both the “S and “F position. When in the “S or safe position, the weapon must not fire when the trigger is squeezed; when in the “F or fire position, the weapon must fire when the trigger is squeezed.

(7) Weapon. Each weapon must be hand functioned to check for unusual binding, positive cocking action, and general operation. Dummy ammunition may be used to be sure of positive cambering, extraction, and ejection action.

(8) Markings. All markings must be legible.

CHAPTER 3
MAINTENANCE OF AUXILIARY EQUIPMENT

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

NOTE

The auxiliary equipment for the 90-mm recoilless rifle consists of the 7.62-mm subcaliber gun and its components.

3-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

3-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Special tools are listed and illustrated in TM 9-1015-223-23P.

3-3. REPAIR PARTS. Repair parts are listed and illustrated in TM 9-1015-223-23P.

Section II. SERVICE UPON RECEIPT

3-4. GENERAL. Normally, it is not necessary to open the shipping container at the direct support level if the subcaliber gun is new or depot overhauled. The instructions for service upon receipt of materiel are found in TM 9-1015-223-12.

Section III. TROUBLESHOOTING

3-5. GENERAL.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the 7.62-mm subcaliber gun M149A1. Each malfunction for an individual component, unit, or system is followed by a list of tests/inspections which will help you to determine the corrective actions to take. You should perform the test/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all test/inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

3-6. TROUBLESHOOTING PROCEDURES. Refer to troubleshooting table for malfunctions, test/inspections, and corrective actions.

TROUBLESHOOTING

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION

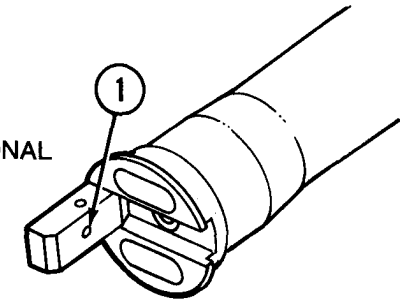
1. FAILURE TO FIRE.

Step 1. Check for broken firing pin (1).

Replace firing pin (1) (p 3-3).

Step 2. Check for defective firing mechanism of major weapon.

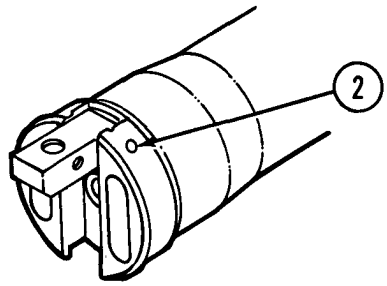
Replace firing mechanism (p 2-7). Refer to FUNCTIONAL CHECK OF RIFLE in TM 9-1015- 223-12.



2. BREECH HINGE BINDS.

Check for bent straight pin (2).

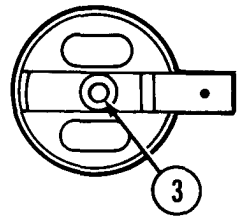
Replace straight pin (2) (p 3-3).



3. CARTRIDGE DIFFICULT TO EXTRACT.

Check for dirty or worn chamber (3).

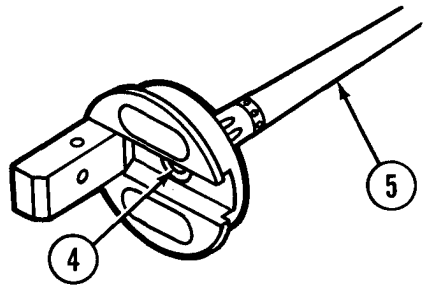
Clean chamber. Replace barrel if breech bore gage indicates worn conditions (p 3- 8).



4. BULLET VISIBLY WOBBLES.

Check for worn bore (4).

Replace barrel (5) (p 3-3).



Section IV. MAINTENANCE PROCEDURES

3-7. REPAIR OF 7.62-MM SUBCALIBER GUN M149A1.

This task covers:

a. Disassembly
b. Cleaning/Inspection/Repair/Lubrication
c. Reassembly
d. Adjustment
e. Reassembly
f. Final inspection

INITIAL SETUP

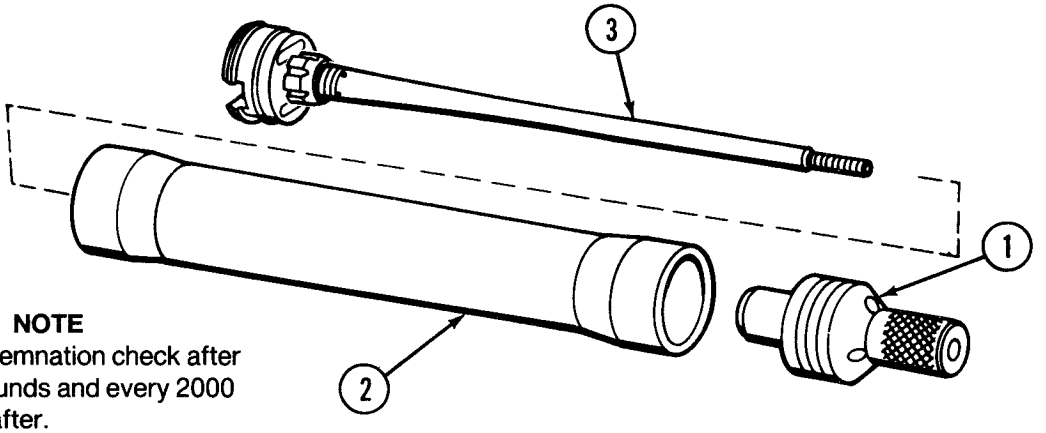
Tools and Special Tools
Feeler gage
Breech bore gage M14 7274761
Rifle headspace gauge 11577756
Subcaliber wrench 11578009
Micrometer depth gage GGG-C-105
Small Arms Shop Set SC 4933-95-CL-A11

Materials/Parts
Cleaner, lubricant and preservative (CLP) (item 6, app B)
Wiping rag (item 12, app B)

Reference
TM 9-1015-223-23P

DISASSEMBLY

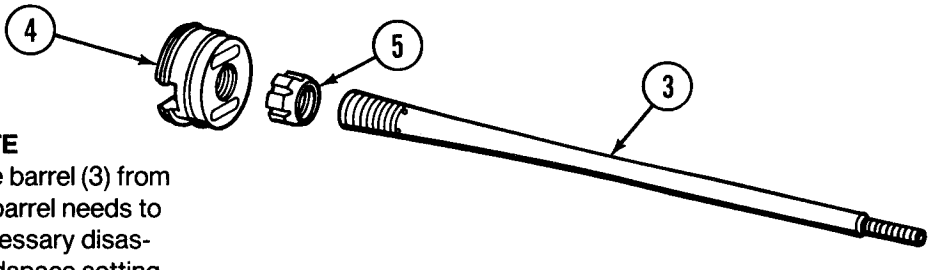
1



NOTE
Perform condemnation check after firing 4000 rounds and every 2000 rounds thereafter.

Unscrew and remove housing (1) and sleeve (2) from barrel (3) and attached parts.

2



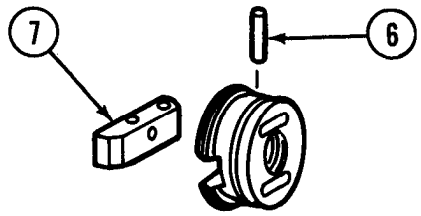
NOTE
Do not disassemble barrel (3) from bushing (4) unless barrel needs to be replaced. Unnecessary disassembly upsets headspace setting.

Loosen locknut (5) with a wrench. Unscrew barrel (3) from bushing (4). Unscrew nut (5) from barrel (3).

3-7. REPAIR OF 7.62-MM SUBCALIBER GUN M149A1 (CONT).

DISASSEMBLY (CONT)

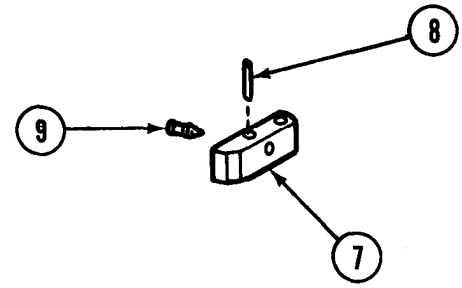
3



a. Remove straight pin (6).

b. Remove breech hinge (7).

4



a. Remove spring pin (8).

b. Remove firing pin (9) from breech hinge (7).

CLEANING/INSPECTION/REPAIR/LUBRICATION

a. Clean parts with CLP and wipe dry.

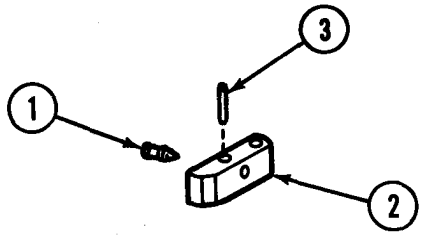
b. Inspect all parts for rust or corrosion and bent, cracked, or broken parts.

c. Replace unserviceable parts. See TM 9-1015-223-23P.

d. Lightly lubricate parts with CLP before reassembly.

REASSEMBLY

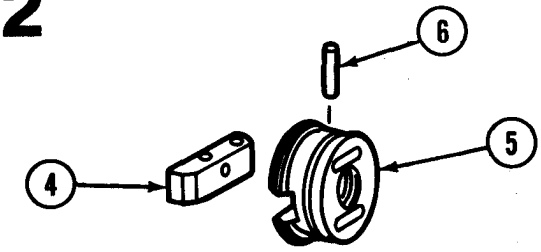
1



a. Insert firing pin (1) in breech hinge (2).

b. Drive in spring pin (3).

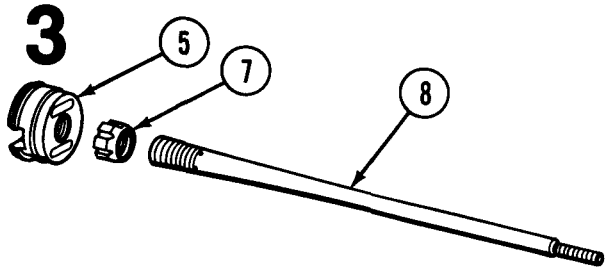
2



a. Position assembled breech hinge (4) in bushing (5). Aline holes for straight pin (6).

b. Install straight pin (6).

3



a. Screw locknut (7) on barrel (8).

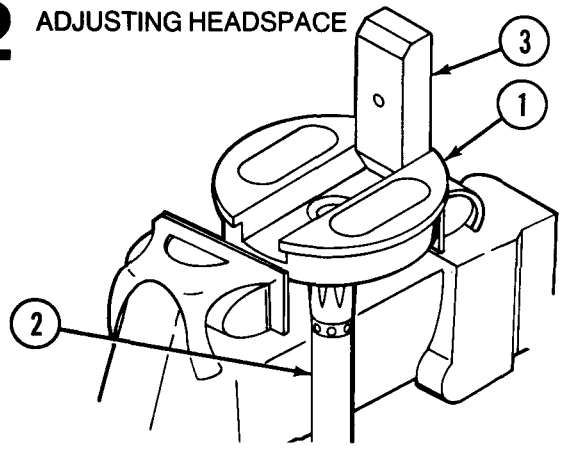
b. Screw barrel (8) into bushing (5).

ADJUSTMENT

1

Make the following headspace checks and needed adjustments after the first 4000 rounds and then headspace checks approximately every 2000 rounds thereafter or after the barrel and bushing have been taken apart and reassembled.

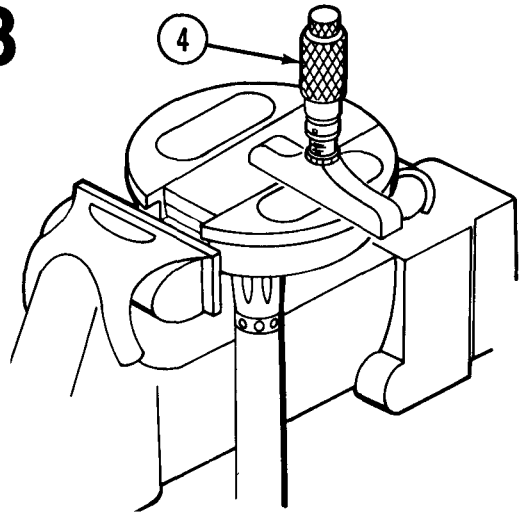
2 ADJUSTING HEADSPACE



a. Position bushing (1) in a padded vise with muzzle end of barrel (2) pointed down.

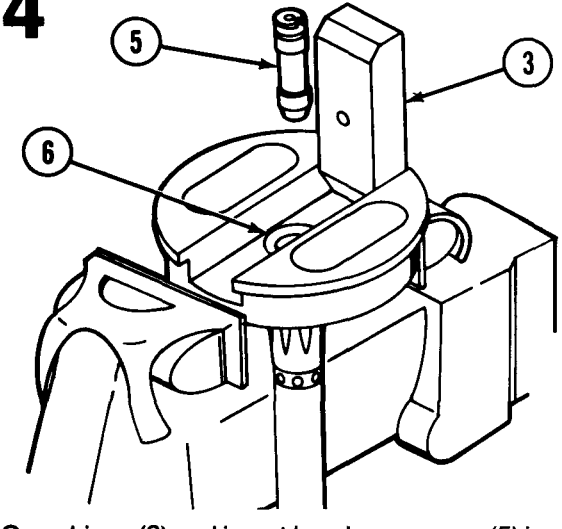
b. Close hinge (3) against bushing (1).

3



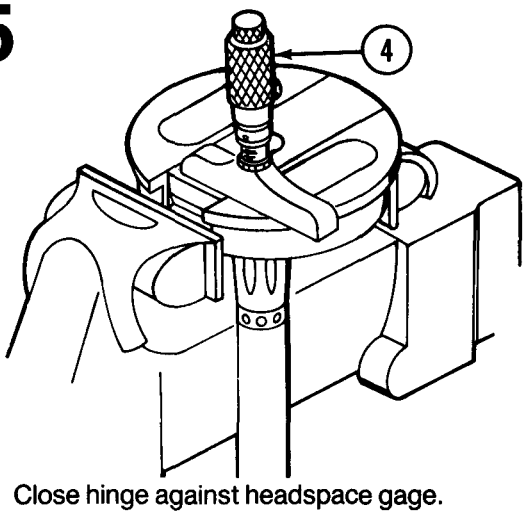
Obtain a zero (0) reading on the hinge with a micrometer depth gage (4).

4



Open hinge (3) and insert headspace gage (5) in chamber (6).

5



a. Close hinge against headspace gage.

b. Take a reading with a micrometer depth gage (4).

3-7. REPAIR OF 7.62-MM SUBCALIBER GUN M149A1 (CONT).

ADJUSTMENT (CONT)

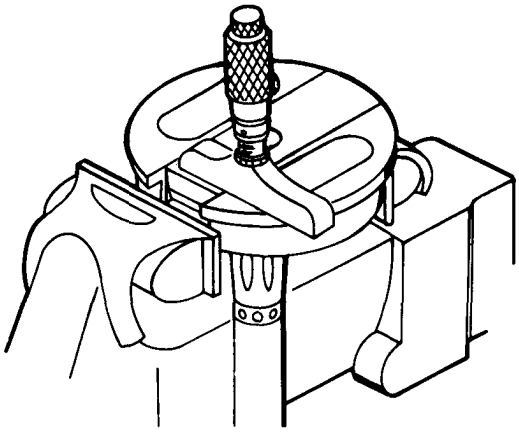
6

NOTE
A micrometer depth gage reading between + 0.002 and + 0.004 of an inch indicates correct headspace.

a. If headspace reading is incorrect, turn barrel in bushing until correct reading is obtained.

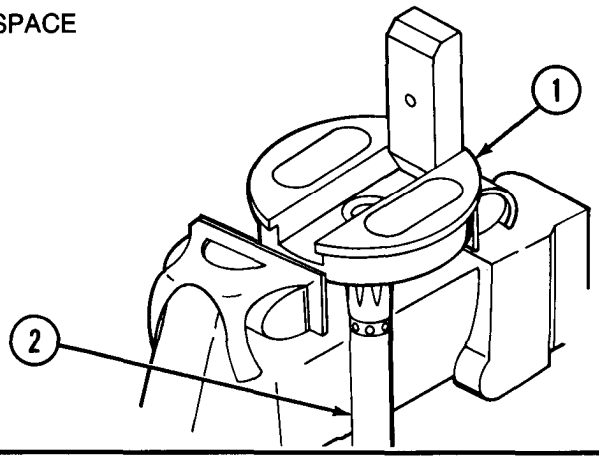
b. Tighten locknut. Torque to 50 ± 5 ft lb.

c. Repeat steps 2 through 6 to make sure headspace has not changed.



7 ALTERNATE METHOD OF ADJUSTING HEADSPACE

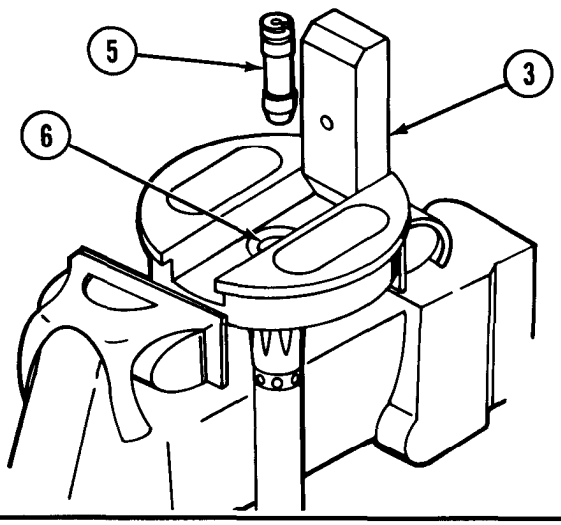
Position bushing (1) in a padded vise with muzzle end of barrel (2) pointed down.



8

a. Insert headspace gage (5) in chamber (6).

b. Close hinge (3) against headspace gage (5).

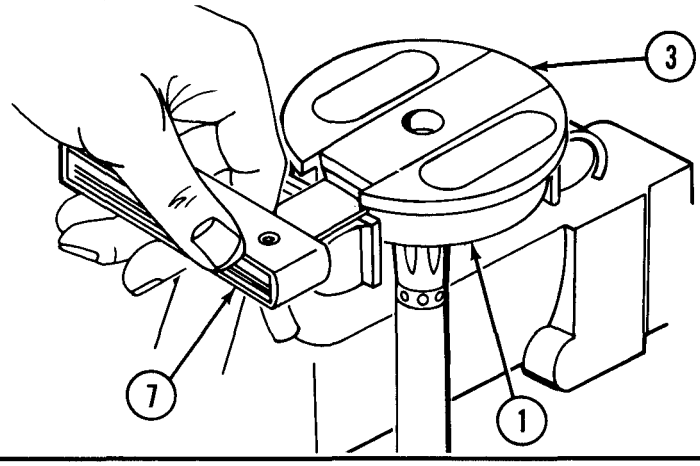


9

a. Place a 0.004-inch feeler gage (7) between hinge (3) and bushing (1). Feeler gage must not be on the headspace gage.

b. Apply pressure on the hinge (3) and move the feeler gage (7).

c. A slight drag on the feeler gage indicates correct headspace.



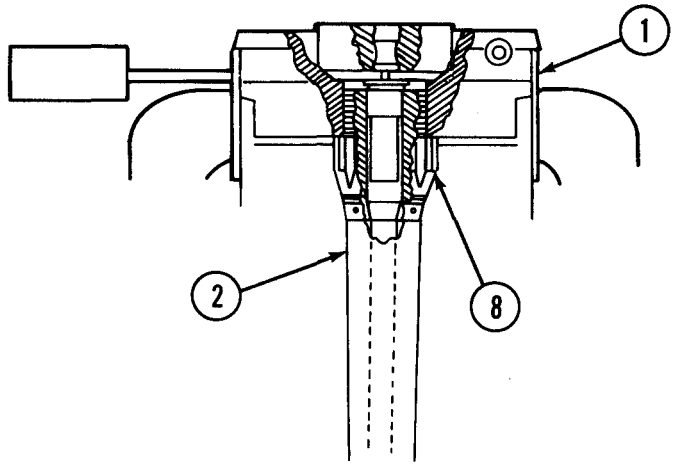
10

a. If headspace is incorrect, turn barrel (2) in bushing (1) until correct headspace is obtained.

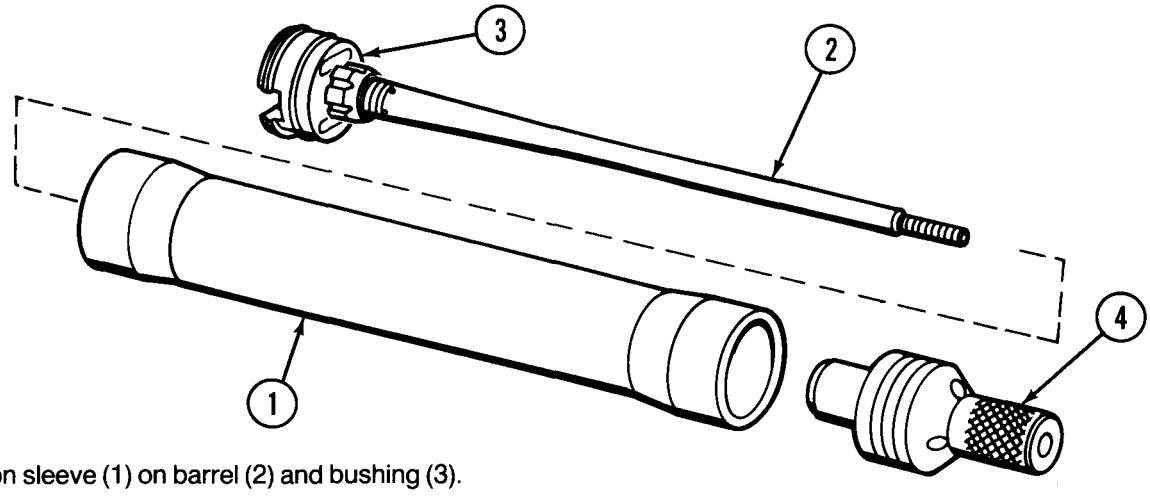
b. Tighten locknut (8).

c. Make sure headspace has not changed by repeating procedures 7 through 10.

d. Torque locknut (8) to 50 ± 5 ft lb.



REASSEMBLY



a. Position sleeve (1) on barrel (2) and bushing (3).

b. Install housing (4) onto muzzle end of barrel (2) and tighten handtight.

3-7. REPAIR OF 7.62-MM SUBCALIBER GUN M149A1 (CONT).

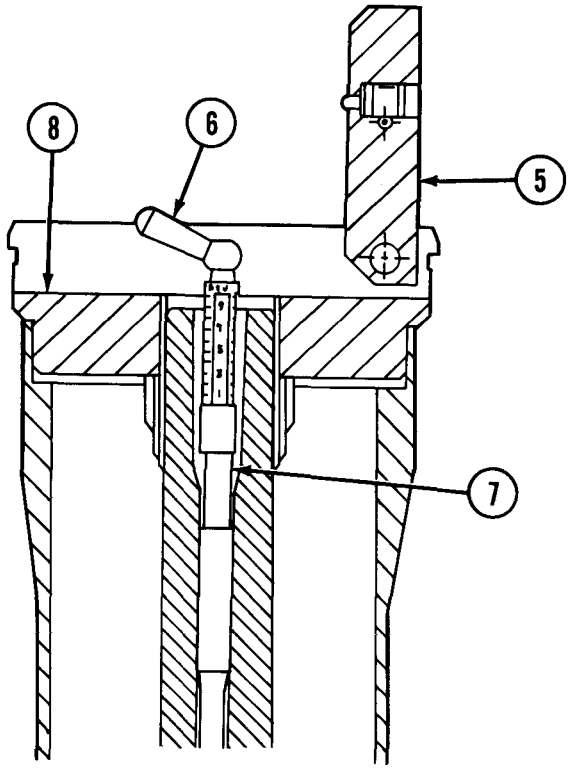
FINAL INSPECTION

BARREL CONDEMNATION CHECK

a. Perform condemnation check after the first 4000 rounds and every 2000 rounds thereafter.

b. Open breech hinge (5) and insert breech bore gage M14 (6) in chamber (7).

c. Condemn barrel when breech bore gage reads REJ at the bushing hinge seat surface (8).



APPENDIX A
REFERENCES

A-1. SCOPE. This appendix lists all technical publications referenced in this manual.

A-2. TECHNICAL MANUALS.

TM 9-237 . . . . . Operator's Manual: Welding Theory and Application (TO 34W4-1-5)

TM 9-1000-202-14 . . . . . Evaluation of Cannon Tubes

TM 9-1015-223-12 . . . . . Operator and Organizational Maintenance Manual: for 90-mm Recoilless Rifle: M67 (1015-00-657-7534)

TM 9-1015-223-23P . . . . . Organizational and Direct Support Maintenance Repair Parts and Special Tools List for 90-MM Recoilless Rifle: M67 (1015-00-657-7534)

TM 9-6665-235-13&P . . . . . Operator's, Organizational and Direct Support Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List) for Borescope, M3 (6650-01-063-0035)

TM 740-90-1 . . . . . Administrative Storage of Equipment

TM 750-244-7 . . . . . Procedures for Destruction of Equipment in Federal Supply Classifications 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1055, 1090, and 1095 to Prevent Enemy Use

A-3. FIELD MANUAL.

FM 21-11 . . . . . First Aid for Soldiers

A-4. MISCELLANEOUS PUBLICATIONS.

DA PAM 738-750 . . . . . The Army Maintenance Management System (TAMMS)

APPENDIX B
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

B-1. SCOPE. This appendix lists expendable/durable supplies and materials you will need to operate and maintain the 90-mm recoilless rifle. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

B-2. EXPLANATION OF COLUMNS.

a. *Column (1) - Item Number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use greaseproof barrier material, item 2, app B").

b. *Column (2) - Level.* This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational Maintenance
F - Direct Support Maintenance

c. *Column (3) - National Stock Number.* This is the National stock number assigned to the item; use it to request or requisition the item.

d. *Column (4) - Description.* Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicate the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. *Column (5) - Unit of Measure (U/M).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	F		BAG, PLASTIC: (81348) PP-B-26	
		8105-00-299-8532	10 ea pkg 20″ × 24″	EA
		8105-00-759-0794	50 ea pkg 38″ × 65″	EA
2	F		BARRIER MATERIAL, GREASEPROOF-WATERPROOF: (81348) MIL-B-121	
		8135-00-222-4027	100 yd roll	YD
3	F		BOX, FIBERBOARD: (81348) PPP-B-636	
		8115-00-117-9524	25 ea bdl 9″ × 6 × 6″	EA
		8115-00-179-0575	25 ea bdl 12″ × 10″ × 8″	EA
4	F	8115-00-935-6528	BOX, SHIPPING: (81348) MIL-B-43666	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
5	F	8020-00-205-6511	BRUSH, PAINT: 1 in. size (81348) H-B-491	EA
6			CLEANER, LUBRICANT AND PRESERVATIVE: grade 2 MIL-L-63460	
	C	9150-01-079-6124	(81349) CLP-4 4 oz bottle	OZ
	O	9150-01-054-6453	(81349) CLP-5 1 pint bottle	PT
	O	9150-01-053-6688	(27412) CLP-7 1 gal bottle	GL
7	F		CUSHIONING MATERIAL: (81348) PP-C-843	
		8135-00-664695	60 ft roll	FT
8	F		NAIL: common, 6D, 2 in. (96906) MS-901713-5	
		5315-00-010-4657	50 lb box	LB
9	F		PAINT, FLAT BLACK 37038 (81348) A-A-665	
		8010-00-582-5382	pint can	PT
10	C		PAPER, LENS: (81348) NNN-P-40	RM
		6640-00-436-5000	7 1/2″ × 11″ 500 sheet pkg	
11	F		PAPER, VOLATILE, PACKAGING: (81349) MIL-P-3420	
		8135-00-985-7242	36 in. wide, 100 ft roll	
12	C		RAG, WIPING: (58536) A-A-531	
		7920-00-205-1711	50 lb bale	LB
13	F		STRAPPING: steel flat, 3/4″ w (81348) QQ-S-781	
		8135-00-285-4748	100 lb coil	LB
14	C		TAPE, PRESSURE SENSITIVE: (81348) PPP-T-42	
		7510-00-266-6712	1 in. wide, 60 yd roll	YD
15	F		TAPE, PRESSURE SENSITIVE: (81348) PPP-T-60	
		8135-00-269-8088	2 in. wide, 60 yd roll	YD
16	F		TAPE, PRESSURE SENSITIVIE, PAPERBACK, WATER RESISTANT: (81348) PPP-T-76	
		7510-00-297-6655	2 in. wide, 120 yd roll	YD
17	F		THINNER, PAINT, MINERAL SPIRITS (81348) TT-T-291	
		8010-00-242-2089	1 gal can	GL

ALPHABETICAL INDEX

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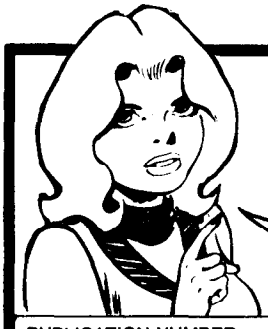

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