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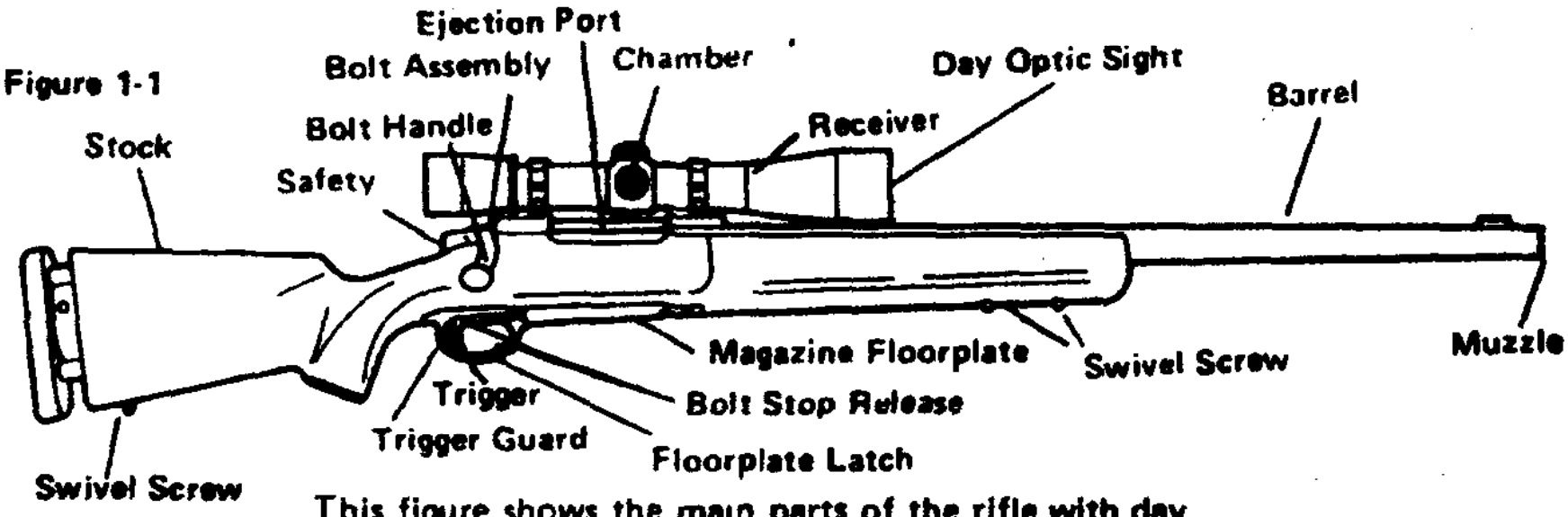
INTRODUCTION

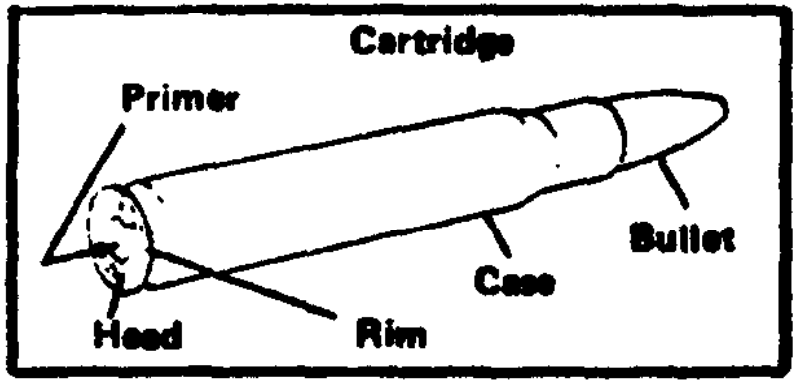
SECTION I: GENERAL INFORMATION

Figure 1-1



This figure shows the main parts of the rifle with day optic sight that you will need to understand the instructions in this book.

Figure 1-2
AMMUNITION



This figure shows the parts of the ammunition.

1-1. SCOPE

This manual contains instructions for the operation and maintenance of the M24 Sniper Weapon System.

This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this equipment is issued.

All maintenance for the M24 Sniper Weapon System (SWS) is operator level. Any deficiences that occur which the operator cannot correct will require the weapon and day optic sight be turned in to the proper maintenance/supply channel for return to the contractor. (See Chapter 3, Section IV, Preparation for Shipment).

1-2. MAINTENANCE FORMS AND RECORDS

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. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

If your Sniper Weapon System 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 or performance. Army users put it on an SF 368 (Quality Deficiency Report). Mail it to us at Commander, U.S. Army Armament, Munitions and Chemical Command ATTN: AMSMC-QAG, Rock Island, IL 61299-6000. We will send you a reply.

1-4. NOMENCLATURE CROSS REFERENCE LIST

The nomenclatures are to be considered interchangable wherever used throughout the manual.

Common	Official
Day Optic Sight	Scope
Day Optic Sight Dust Cover, Front	Dust Cover, Front
Day Optic Sight Dust Cover, Rear	Dust Cover, Rear
Soft Rifle Carrying Case	Case, Carrying, Weapon

1-5. DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE.

Only your commanding officer can give the order to destroy materiel to prevent enemy use. Refer to TM 750-244-7.

1-6. NUCLEAR, BIOLOGICAL AND CHEMICAL (NBC) DECONTAMINATION

General procedures can be found in FM 3-87 and FM 3-5.

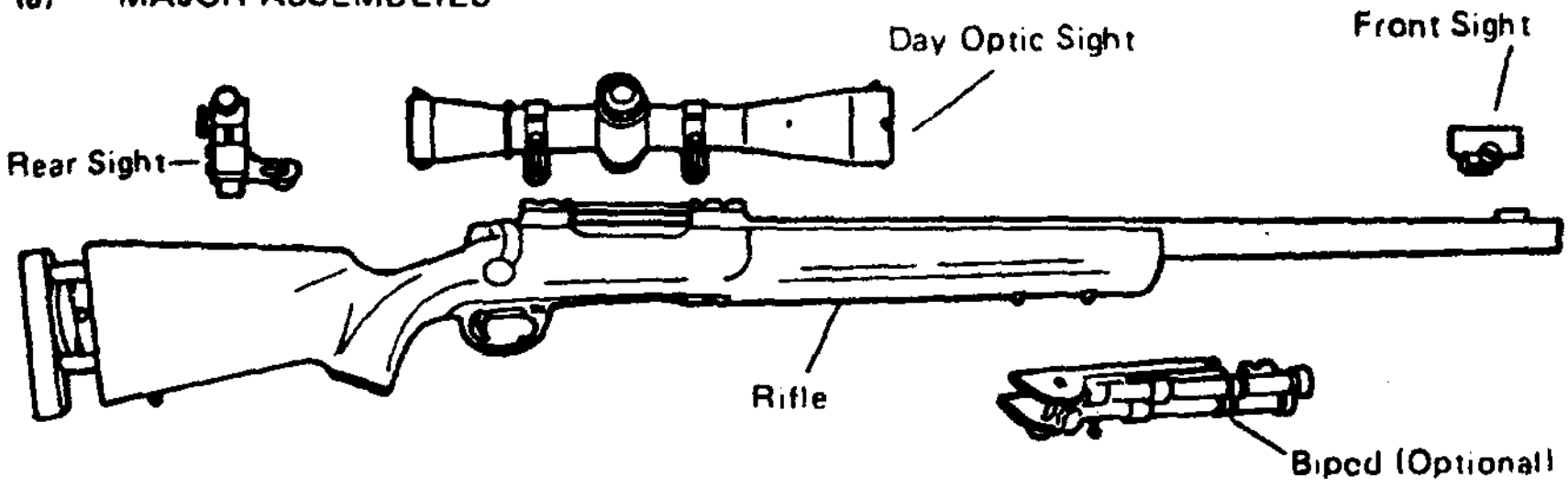
SECTION II: EQUIPMENT DESCRIPTION

1-7. TECHNICAL SPECIFICATIONS:

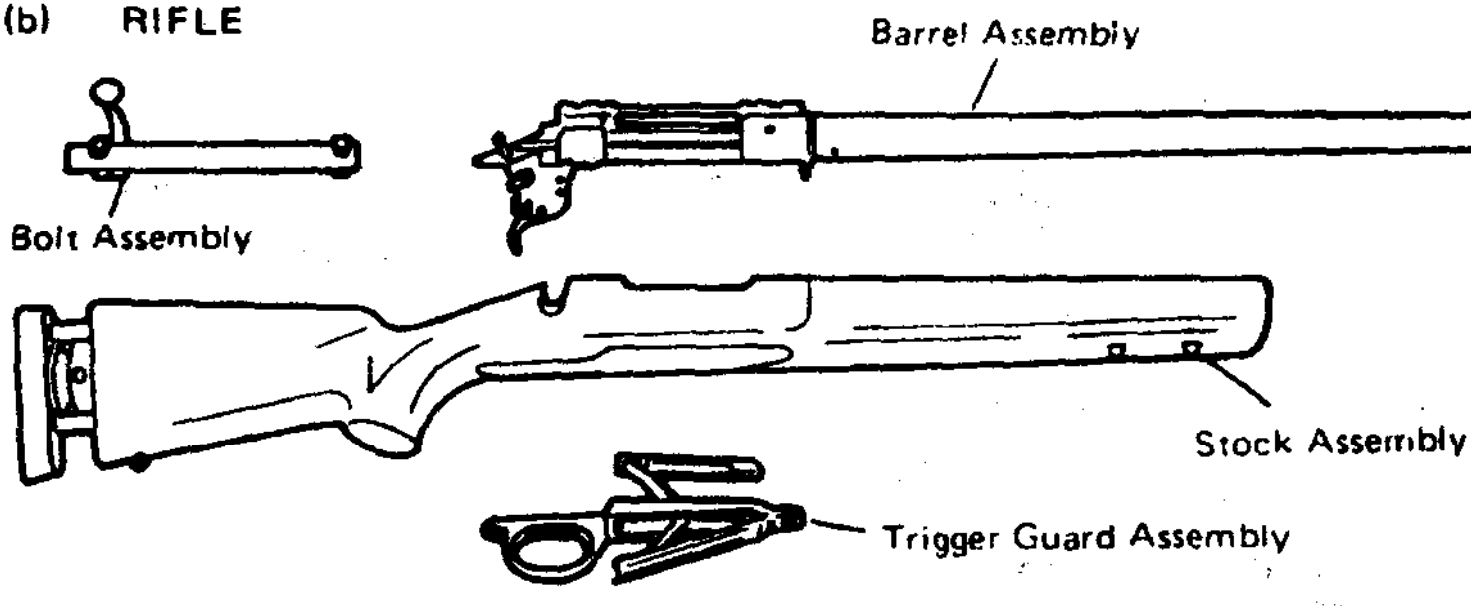
Ammunition - 7.62mm, 308 Win., M118 Special Ball
Barrel rifling - 5 radial with 1 turn in 11.2 inches
Muzzle velocity - Approx. 2,600 feet per second
Maximum effective range - 800 meters
Overall length (butt to muzzle) - 43 inches
Magazine capacity - 5 rounds in 7.62mm
Rifle weight with sling - 12.1 lbs. nominal
Day optic sight magnification - 10 power with adjustable focus
Day optic sight weight with rings - 1.75 lbs. nominal
Day optic sight with case (including metallic (iron) sights):
  Weight - 4.5 lbs.
  Dimensions - 18" x 7" x 4 3/4"
Combat weight (rifle with sling, day optic sight, and full magazine) - 14.25 lbs.
Deployment kit with case:
  Weight - 3.5 lbs.
  Dimensions - 8 1/2" x 7" x 3 1/4"
Sniper Weapon System:
  Total Weight - 64 lbs.
  Dimensions - 51" x 18" x 13 3/4"
Bipod (optional) weight - .7 lbs. nominal

1-8. RIFLE AND SIGHTING COMPONENTS

(a) MAJOR ASSEMBLIES



(b) RIFLE



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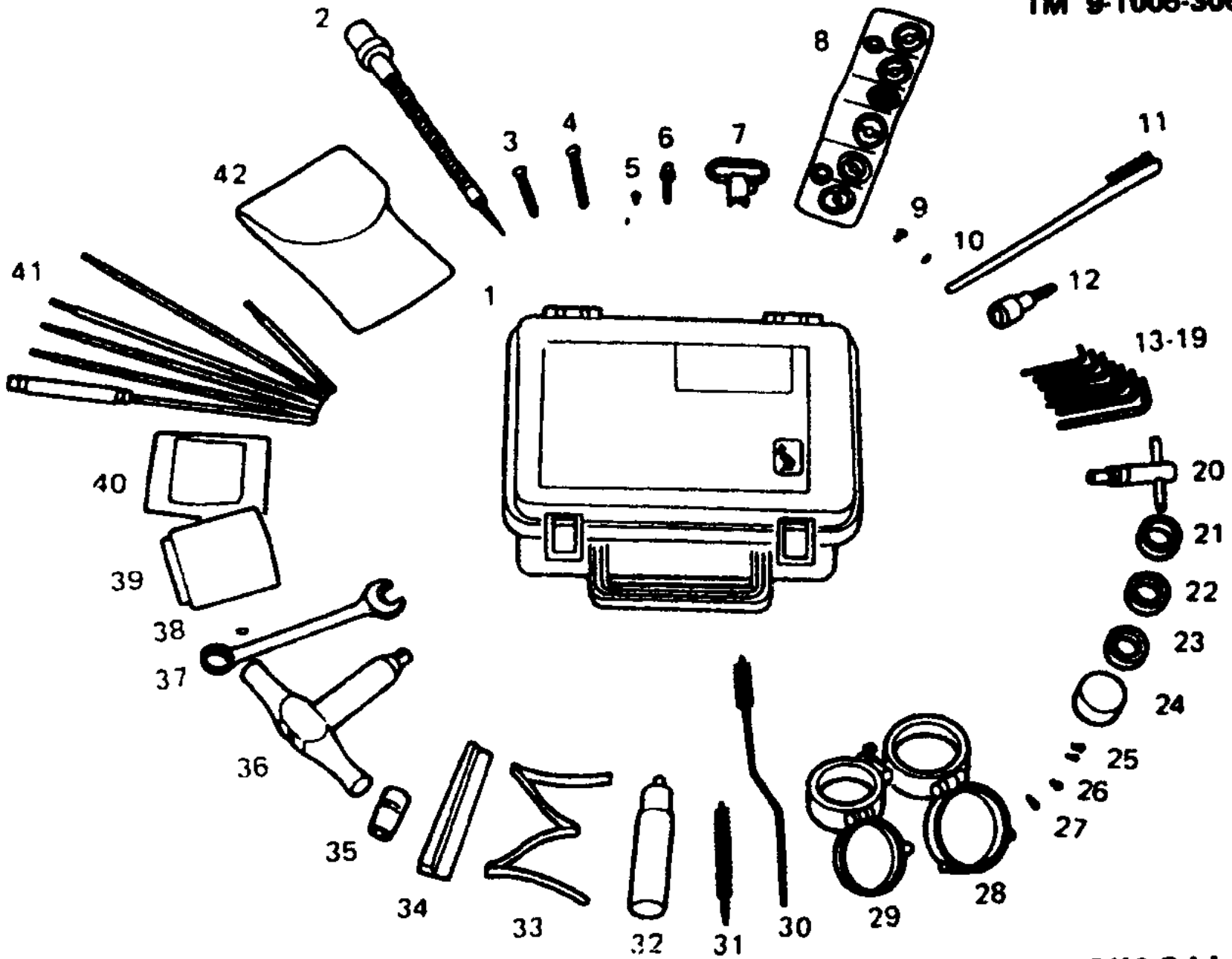
(c) DEPLOYMENT KIT

1 Deployment Case
2 Firing Pin Assembly
3 Front Guard Screw
4 Rear Guard Screw
5 Front Sight Base Screw
6 Swivel Screw
7 Swivel, Sling
8 Front Sight Insert Kit
9 Rear Sight Base Screw
10 Trigger Pull Adj. Screw
11 Brush, Cleaning Small
12 Socket Wrench Attachment 3/8" Drive Hex Bit 5/32"
13 .050" Key, Socket Head Screw
14 1/16" Key, Socket Head Screw
15 5/64" Key, Socket Head Screw
16 3/32" Key, Socket Head Screw
17 7/64" Key, Socket Head Screw
18 1/8" Key, Socket Head Screw
19 5/32" Key, Socket Head Screw
20 T-handle Combo Wrench
21 Day Optic Sight Windage Dial w/ Screws
22 Day Optic Sight Elevation Dial w/Screws
23 Day Optic Sight Focus Dial w/ Screws
24 Day Optic Sight Adj. Dial Dust Cover
25 Day Optic Sight Ring Screws
26 Day Optic Sight Base Screw Front
27 Day Optic Sight Base Screw Rear
28 Day Optic Sight Dust Cover, Front
29 Day Optic Sight Dust Cover Rear
30 Brush, Chamber
31 Brush, Bore
32 Oil Bottle
33 Magazine Spring
34 Magazine Follower
35 Socket, Socket Wrench 1/2"
36 T-Handle Torque Wrench
37 Wrench, Box and Open 1/2"
38 Rear Sight Base Plug Screw
39 Day Optic Sight Sunshade
40 Swabs, Cleaning, Small Arms
41 Cleaning Rod Kit
42 Lens Cleaning Kit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CHAPTER 2
OPERATING INSTRUCTIONS

SECTION I. DESCRIPTION

2-1. DESCRIPTION:

The M24 Sniper Weapon System rifle is a 7.62mm bolt action 6-shot repeating rifle.

2-2. THE SYSTEM. The system consists of the rifle, day optic sight, metallic (iron) sights, bipod (optional), deployment kit, cleaning kit (rifle and optic), soft rifle carrying case, optic case, system case, and operators manual.

2-3. OPERATING FLEXIBILITIES - This is a bolt action 6-shot repeating rifle. The day optic sight can be removed and replaced easily, and with less than 1/2 minute of Angle (MOA) change in zero. However it is recommended that the day optic sight be left on the rifle. Metallic (iron) sights are provided for a back-up sighting system and can be quickly installed. The stock has an adjustable butt plate to accommodate length of pull.

14 SECTION II: SERVICE UPON RECEIPT OF MATERIEL

WARNING

Before starting an inspection, and/or performing any maintenance procedures, be sure to clear the rifle. Do not squeeze the trigger until the rifle has been cleared. Inspect the chamber to be sure that it is empty. Check to see that there are no obstructions in the barrel. Do not keep live ammunition near work/maintenance area.

2-4 SERVICE UPON RECEIPT

a. Check system case for damage. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancy (ROD).

b. Inspect contents of system case against Sniper Weapon system parts list (see Appendix C). Report all discrepencies in accordance with the instructions of DA PAM 738-750.

c. Field strip rifle and ensure there are no missing parts (see para 3-4 and 1-8).

d. Clean rifle. After cleaning, inspect bore to ensure that there are no obstructions; i.e., cleaning tips, cleaning patches remaining in the bore (see para 2-11 and 3-5).

e. Adjust stock as per instructions (see para 2-12).

f. Attach day optic sight to rifle and perform safety/function checks (see para 2-13 and 3-7).

g. Check zero of rifle with day optic sight (see para 2-22).

h. Clean weapon (see para 3-5).

i. Weapon is ready for service.

j. If any deficiencies are found, Army users submit an SF 368 (Quality Deficiency Report) to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAG, Rock Island IL. 61299-6000.

SECTION III: OPERATIONS AND CHARACTERISTICS

2-5 THE SAFETY

a. The safety is located on the right rear side of the receiver and provides protection against accidental or unintentional discharge under normal usage when properly engaged.

b. To engage the safety, put the safety in the "S" position (see Figure 2-1).

c. Always put the safety in the "S" position before handling, loading, or unloading the rifle.

WARNING

The rifle will fire when the trigger is pulled and the safety is in the "F" position.

d. When you are ready to fire the rifle and the sights are on target, put the safety in the "F" position (see Figure 2-2).

2-6 THE BOLT ASSEMBLY

The bolt assembly locks the cartridge into the chamber.

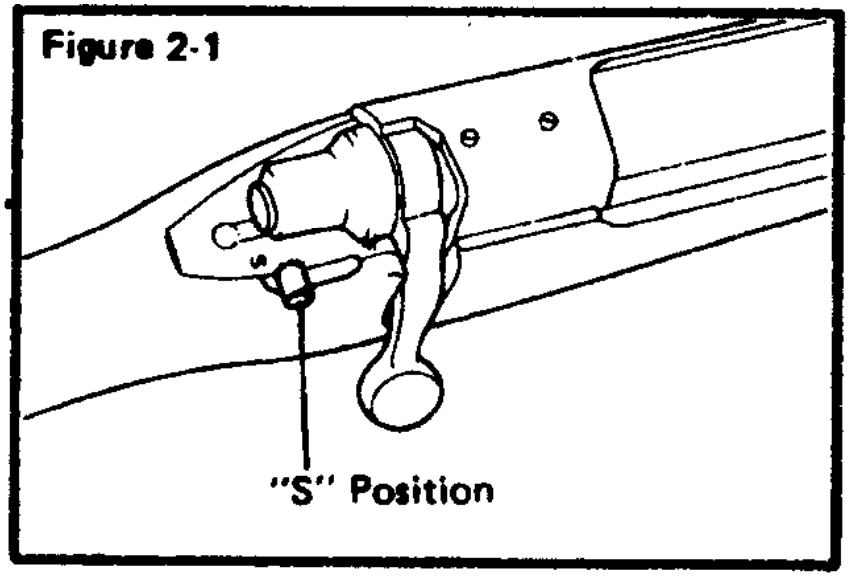


Figure 2-1

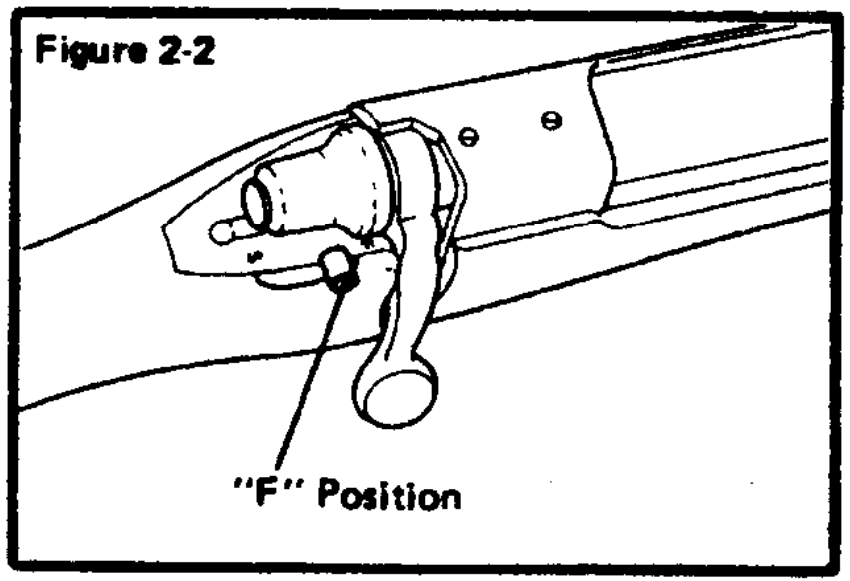


Figure 2-2

2-7 CLEARING PROCEDURES

a. Place weapon on safe ("S").

> **WARNING**
>
> If weapon does not go on safe ("S") perform the following steps with extra caution.

b. Lift bolt handle fully and pull to the rear; (Place weapon on safe if unable to in Step a.)

c. Inspect chamber for round.

d. Inspect magazine for a round.(If a round is in the magazine, then press floorplate latch and drop round out of magazine see figure 2-3).

e. Close floorplate, weapon is clear.

2-8 TO REMOVE BOLT ASSEMBLY

a. Perform the clearing procedures.

b. Push the bolt stop release up (see Figure 2-3).

c. As you push the bolt stop release, slide the bolt assembly from the rifle.

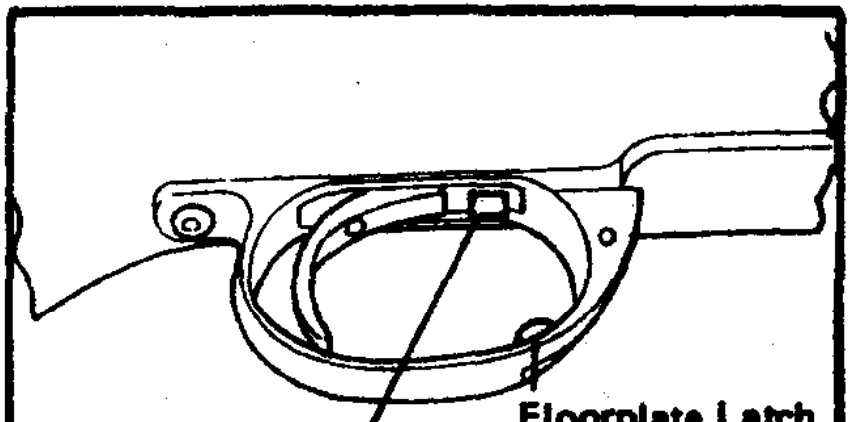


Figure 2-3

2-9 TO INSTALL THE BOLT ASSEMBLY

a. Point the rifle in a safe direction.

b. Put the safety in the "S" position.

NOTE

Bolt must be cocked to be installed.
See instructions para 3-6.

c. Align the lugs on the bolt assembly with the receiver (see Figure 2-4).

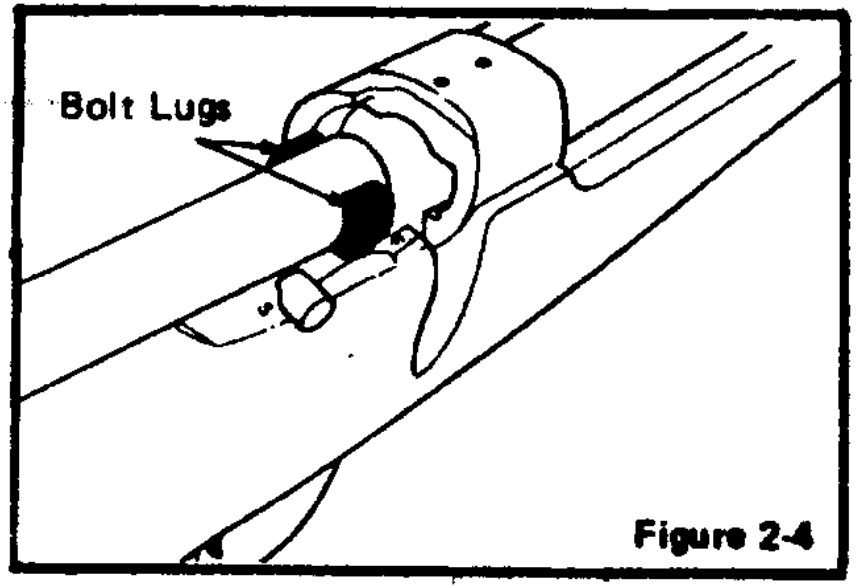


Figure 2-4

d. Slide the bolt assembly into the receiver and push all the way in.

e. To lock the bolt assembly into position, push the bolt handle down so that locking lugs on the bolt are locked into the receiver.

2-10 THE TRIGGER ASSEMBLY

a. Pulling the trigger fires the rifle when the safety is in the "F" position.

b. The trigger is adjusted at the factory for a 2.5 lbs. nominal trigger pull force.

c. The operator may increase the trigger pull force up to a maximum force of 8 lbs. with the 1/16" Key, Socket Head Screw provided in the deployment kit. To increase the trigger pull, turn the adjusting screw clockwise (see Figure 2-5). Turning the *adjusting screw counterclockwise* will decrease the trigger pull to a minimum of 2 lbs.

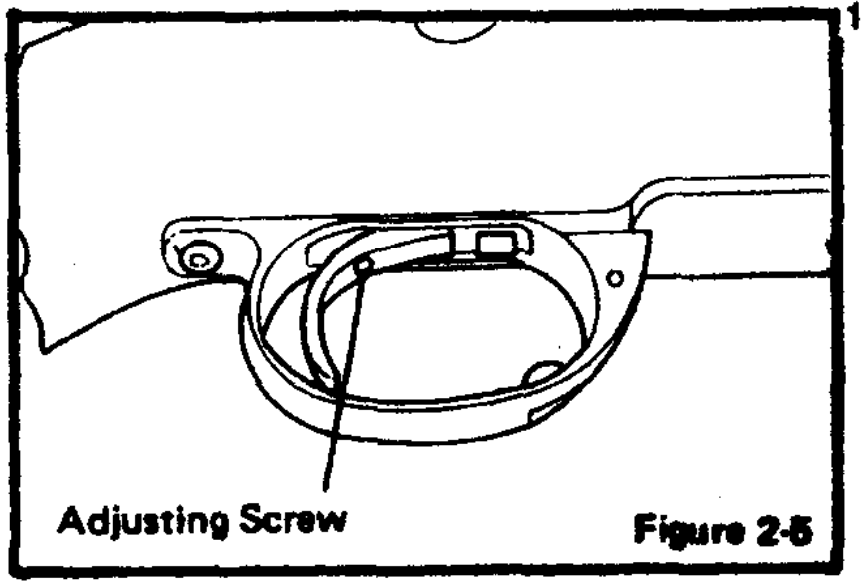


Figure 2-5

WARNING

Never remove the trigger mechanism, or make adjustments to the trigger assembly, except the trigger pull force adjustment described above.

2-11 THE BARREL

a. To check the inside of the barrel:

(1) Perform the clearing procedures (see para 2-7).
(2) Remove the bolt assembly (instructions on para 2-8).
(3) *Look through the inside of the barrel from the chamber end to the muzzle.*

b. To remove an object from inside the barrel: (dirt, residue from cleaning patch, etc.)

(1) Use the cleaning rod.

(2) Push the cleaning rod from the chamber end all the way through the barrel until the rod comes out the muzzle.

(3) Clean the barrel (following instructions para 3-5).

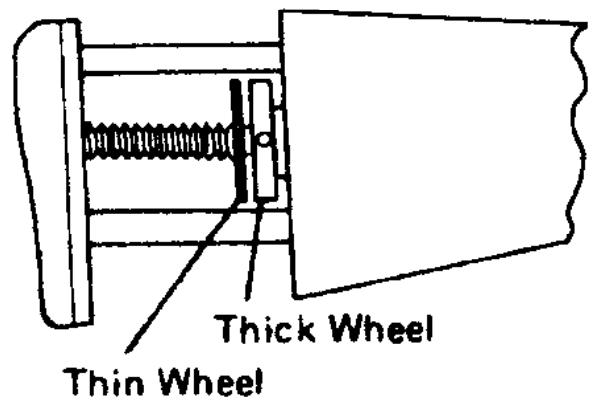
2-12 STOCK ADJUSTMENT

a. Thick wheel is for adjusting shoulder stock. Thin wheel is for locking shoulder stock (see Figure 2-6).

b. Turn thick wheel clockwise to lengthen stock.

c. Turn thick wheel counterclockwise to shorten stock.

Figure 2-6



d. To lock position of shoulder stock, turn thin wheel clockwise against thick wheel.

e. To unlock position of shoulder stock, turn thin wheel counterclockwise away from thick wheel.

2-13 HOW TO MOUNT THE DAY OPTIC SIGHT

WARNING

Be sure the mounting base is fastened securely to the rifle. Loose mounting may cause the day optic sight and base mount assembly to come off the rifle when firing, possibly injuring the shooter.

a. Before mounting the day optic sight, lubricate the threads of each mounting nut.

b. Insure smooth movement of each mounting nut and mount claw.

c. Inspect for burrs and foreign matter between each mounting ring nut and mount claw. Burrs or foreign matter must be removed prior to mounting.

d. Mount the day optic sight and rings to the base (see Figures 2-7 and 2-8).

NOTE

There are two (2) sets of mounting slots. Select the set of slots which provide the proper eye relief. Once a set of slots is chosen, the same set should always be used in order for the system to retain zero.

Ensure mounting surface of base is free of dirt, oil or grease.

e. Set each ring bolt spline in the selected slot (see Figure 2-7).

f. Slide the rear mount claw against the base. Finger tighten the mounting ring nut.

g. Slide the front mount claw against the base. Finger tighten the mounting ring nut.

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CAUTION

Steps h. and i. should be performed only when the day optic sight is attached/reattached over an extended period (more than 50 cycles) and rezeroing of the system cannot be accomplished through live firing. Otherwise use the T-handle torque wrench as described in steps j. through l.

h. Utilizing the 1/2" combination wrench, tighten the rear mounting ring nut 1/4 turn (i. e. rotate 90 degrees).

i. Utilizing the 1/2" combination wrench, tighten the front mounting ring nut 1/4 turn (i. e. rotate 90 degrees).

CAUTION

Be sure that T-handle torque wrench, has been certified/calibrated in accordance with TB 43-0196.

j. Using the T-handle torque wrench, which is preset to 65 in. lb., tighten the rear mounting ring nut.

k. Using the T-handle torque wrench, tighten the front mounting ring.

Figure 2-7

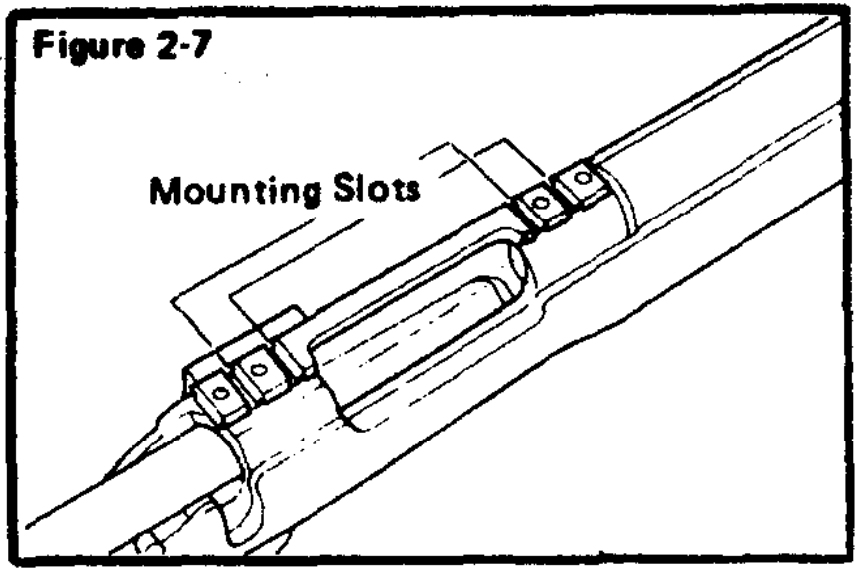
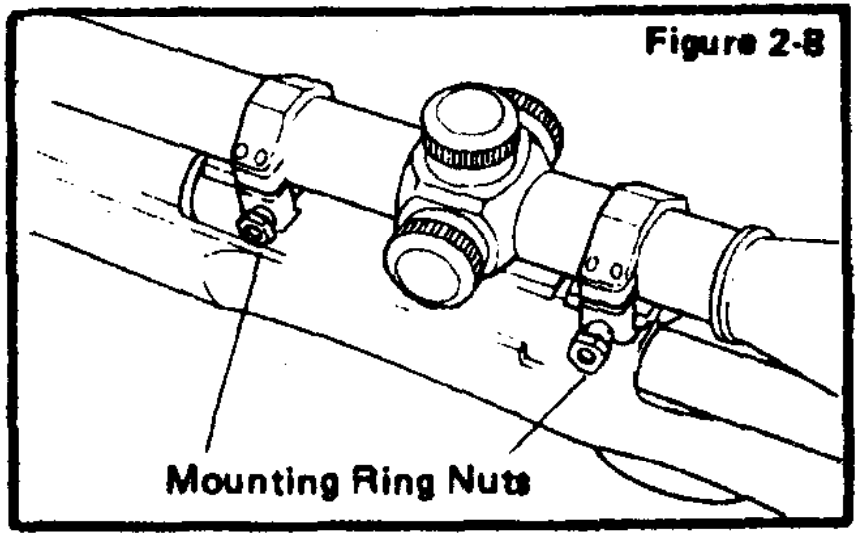


Figure 2-8



l. After initial 10 rounds have been fired, retorque the rear then the front mounting ring nut.

2-14 DISASSEMBLY

a. Utilizing the 1/2" combination wrench, loosen the front mounting ring nut (rotate counterclockwise).

b. Utilizing the 1/2" combination wrench, loosen the rear mounting ring nut (rotate counterclockwise).

c. Rotate the day optic sight towards nuts.

d. Remove day optic sight.

SECTION IV. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-15 GENERAL

WARNING

Before starting an inspection procedure clear the weapon. Inspect the chamber and magazine to ensure that they are empty. Do not keep live ammuntion near work/maintenance area.

If Your Equipment Fails to Operate. Refer to troubleshooting in Chapter 3. Report any deficiencies using the proper forms (see DA PAM 738-750).

2-16 PMCS PROCEDURES

The PMCS lists those required checks and services to be performed by personnel who operated the M24 Sniper Weapon System before and after use.

a. **Before Operation.** Perform your before (B) PMCS. This is a brief service to ensure the M24 SWS is ready for operation.

b. **During Operation.** Not Applicable.

c. **After Operation.** Perform your after (A) PMCS. This service should correct, where possible, all operational deficiencies so the M24 SWS will be ready to operate when needed.

d. **Not Ready/Available If Column.** The PMCS table also lists those deficiencies which make the M24 SWS not ready/available. If these deficiencies are not correctable such deficiencies will require that the complete weapon system be turned in to the proper maintenance/supply channel for return to the contractor. (see Chapter 3, Section IV, Preparation For Shipment).

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) TABLE

B=Before Operation **D=During Operation** **A=After Operation**

Item No.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
1	●		●	**EQUIPMENT.** Check the Sniper Weapon System Parts List for completeness and serviceability (See Appendix C).	
2	●		●	**RIFLE.** Visually inspect the entire rifle for damaged or missing rifle components (see Figure 1-1).	There are damaged or missing rifle components.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) TABLE

B=Before Operation D=During Operation A=After Operation

Item No.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
3			●	**CLEAN** the rifle and day optic sight as per cleaning instructions (See para 3-5).	
4	●		●	**ACTUATE SAFETY.** (Weapon must be cocked, see instructions in para 3-6).	
				a. Place safety in safe position ("S"), pull trigger. Firing pin head should not fall forward.	
					Firing pin head falls forward. ←
				b. Place safety in the fire position ("F"), pull trigger. Firing pin head should fall forward. (A click should be heard).	
					Firing pin head does not fall forward. ←

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) TABLE

B=Before Operation D=During Operation A=After Operation

Item No.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
5	●		●	**BOLT OPERATION.** Grasp bolt handle, lift upward and slide bolt to the rear. Operation should be smooth.	If operation is not smooth.
6			●	**MAGAZINE FLOORPLATE.** Push the floorplate latch to release the floorplate. Open floorplate fully. Magazine spring and follower should release from the magazine (See para 2-18).	If magazine spring and follower do not release.
7	●		●	**DAY OPTIC SIGHT SYSTEM.** Sight through the day optic sight; inspect for visual obstruction of target image, dust, dirt, pits or moisture on optical surfaces, loose or broken optical elements.	These conditions are present and cannot be corrected through cleaning procedures.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) TABLE

B=Before Operation D=During Operation A=After Operation

Item No.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
8	●		●	**DAY OPTIC SIGHT W/MOUNT.** (See para 2-13).	
				a. Check for damaged, loose or missing parts.	
				b. Check to ensure that day optic sight is securely mounted to mating split rings, and reticle is vertical.	
					Day optic sight is loose or reticle is not vertical. ←
				c. Ensure that day optic sight dust covers are installed.	
				d. Dust and clean exposed optical surfaces, (See para 3-5).	
9	●		●	**SAFETY/FUNCTION CHECK.** Perform safety/function check as shown in para 3-7.	
					The rifle fails safety/function checks. ←

2-17 INSPECTION

NOTE

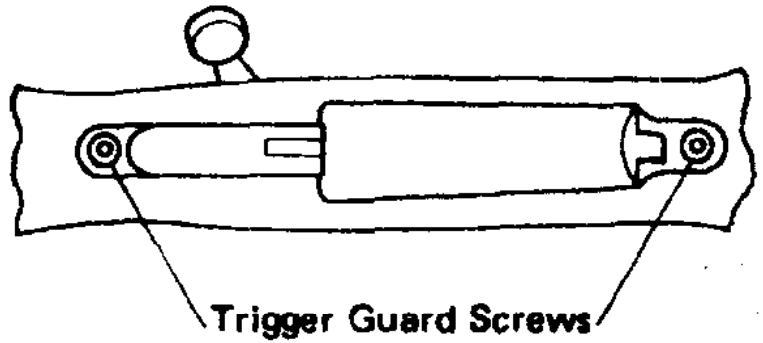
This rifle should be inspected before and after firing by the operator.

a. Check to ensure the bore and chamber are clean and free of dirt or other objects (see para 2-11 and 3-5).

b. Check guard screws for proper torque of 65 in. lbs. using T-handle torque wrench (see Figure 2-9).

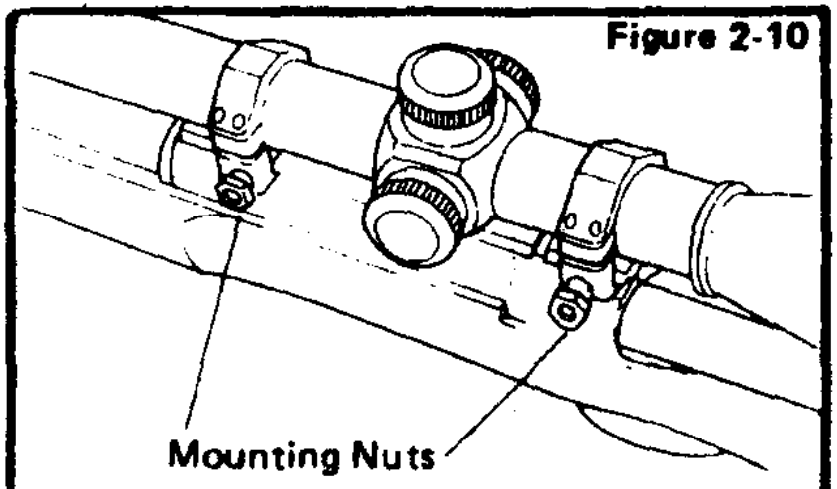
c. Check day optic sight mounting nuts for proper torque of 65 in. lbs. (see Figure 2-10).

Figure 2-9



Proper Torque 65 in. lbs.

Figure 2-10



Proper Torque 65 in. lbs.

2-18 TO REMOVE MAGAZINE SPRING AND MAGAZINE FOLLOWER

a. Push the floorplate latch to release the floorplate (see Figure 2-16).

b. Open the floorplate fully.

c. Insert cleaning rod slotted tip between spring leaf attached to floorplate. Lift and pull magazine spring and follower assembly toward rear of floorplate (see Figure 2-11).

d. Separate magazine spring from magazine follower.

2-19 TO ASSEMBLE MAGAZINE SPRING AND MAGAZINE FOLLOWER

a. Compress magazine spring to determine longest magazine spring leg (see Figure 2-12).

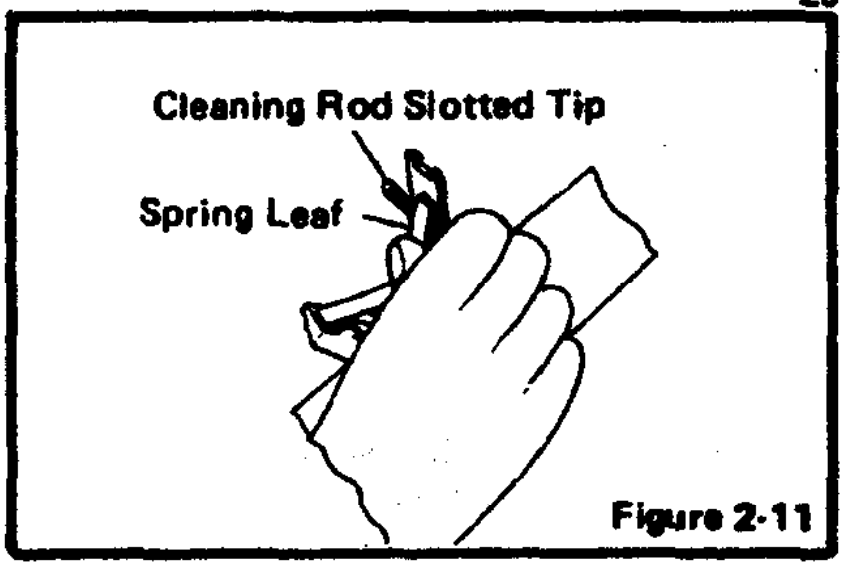


Figure 2-11

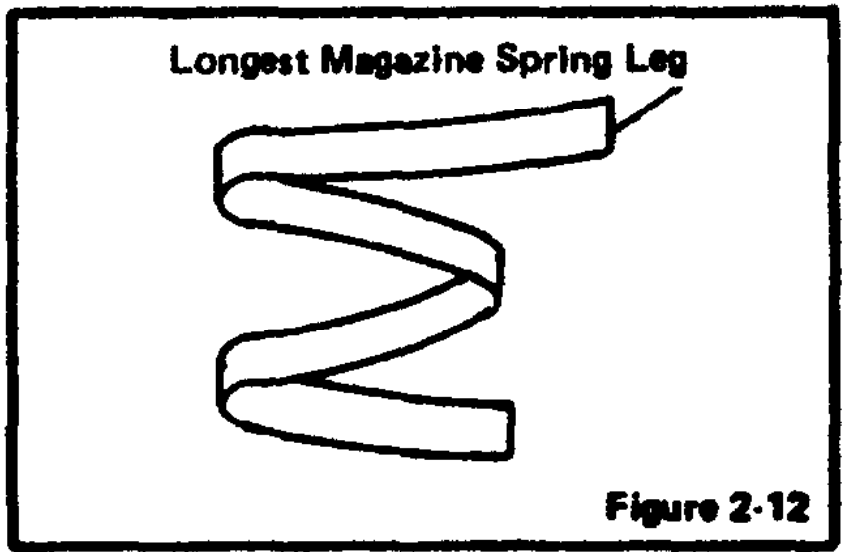


Figure 2-12

b. Insert longest magazine spring leg under tabs on magazine follower and slide forward until leg snaps into position. Ensure leg is seated under the magazine follower tabs (see Figure 2-13).

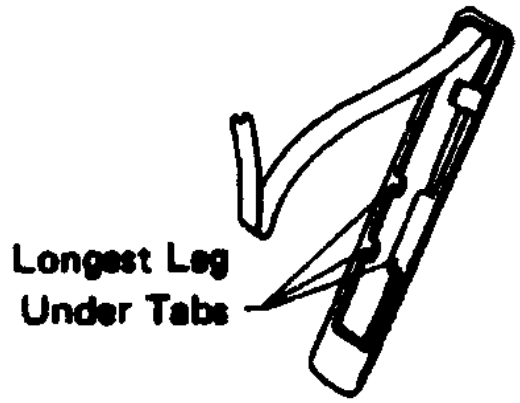


Figure 2-13

c. Align short magazine spring leg with tabs on floorplate (see Figure 2-14). Slide magazine spring and follower assembly into floorplate until assembly snaps into position.

Figure 2-14