

VALKYRIE ARMS LTD.

OPERATOR'S MANUAL

M3A1

SEMI-AUTOMATIC CARBINE



.45 ACP



Olympia, Washington



VALKYRIE ARMS, LTD.

Custom Firearms Manufacturing

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WARNING

This carbine is specifically engineered to function correctly and reliably in semi-automatic fire only. No attempt should be made to convert the mechanism to achieve full-automatic operation; the commencement of such alteration is in violation of federal law, and to attempt such modification may render the firearm mechanically unsafe for use.

This carbine is designed for use only with high-quality original factory-manufactured cartridges. Use of hand loaded, reloaded, "remanufactured" or other non-standard ammunition may cause serious malfunctions which can pose a safety hazard to the shooter or to others.

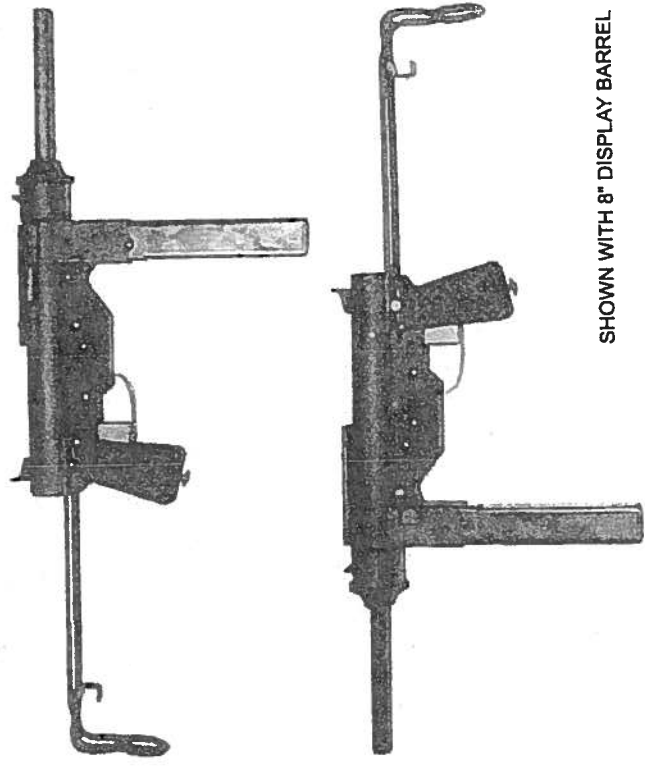
Valkyrie Arms, Ltd. shall not be responsible for injury, death or damage to property resulting from either intentional or accidental discharge of this firearm, or from its function when used for purposes or subjected to treatment for which it was not designed. Valkyrie Arms will not honor claims involving this firearm which result from careless or improper handling, unauthorized adjustment or parts replacement, corrosion, neglect, or the use of wrong caliber / non-commercially produced ammunition.

A WORD TO THE WISE

Most gun accidents happen because the shooter carelessly violates the single most important rule of safe gun handling: ALWAYS KEEP THE MUZZLE POINTED IN A SAFE DIRECTION!

TECHNICAL DATA

| | |
|------------------------|------------------------|
| CALIBER..... | 45 ACP |
| LENGTH OF BARREL..... | 16.25 in. |
| TWIST..... | 1/16 |
| OVERALL LENGTH..... | 37.5 in. |
| WEIGHT..... | 8 lbs. |
| MAGAZINE CAPACITY..... | 30 ROUNDS, (USGI MAGS) |
| OPERATION..... | SEMI-AUTO, BLOWBACK |
| SIGHTS..... | FIXED / IRON |
| STOCK..... | FIXED / WIRE |



SHOWN WITH 8" DISPLAY BARREL

GENERAL INFORMATION

The Valkyrie Arms M3A1 SA is a blowback operated, magazine-fed semi-automatic carbine. It is a sporterized reproduction of the famous WWII sub-machine gun known as the "Grease Gun." Its crude simplicity made it a very reliable and trusted weapon which ultimately led to its adoption as the standard post-war US Army sub-machine gun. M3's were used in Korea, Vietnam and were seen as recently as the Gulf War as an emergency weapon for tank crews.

The original M3A1 was an extremely simple blowback weapon that fired from the open bolt position and only in the full automatic mode. There were no provisions for a safety or selector lever. Construction was simple; stamped sheetmetal halves were welded together to form a single piece clamshell like receiver and the bolt and barrel were the only components requiring machining. Although we utilize as many original parts as possible, the Valkyrie Arms M3A1 is a new and very different firearm. It has been completely redesigned to accommodate the sporter market and comply with BATF regulations. The most obvious of modifications include a 16 inch barrel, a fixed stock, a safety/fire selector and two separate, machined upper and lower receiver sections. The most important modification however is the semi-automatic closed bolt firing system.

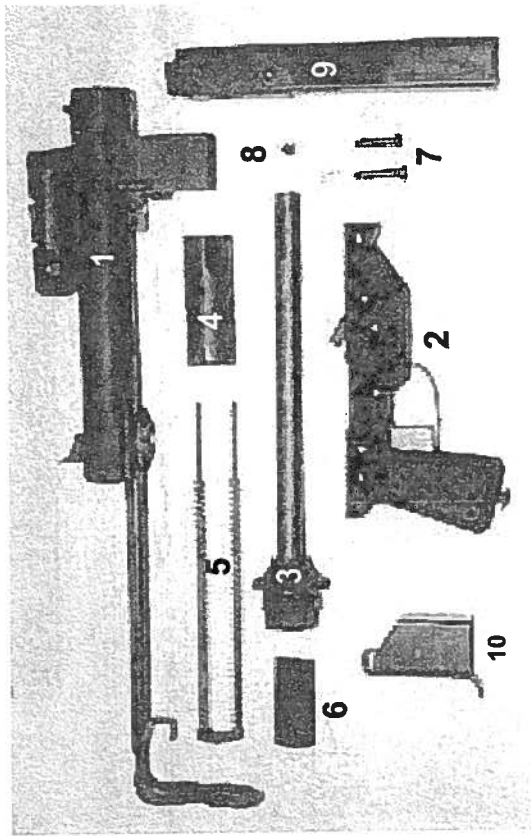
Only top-quality materials have been used in its construction to assure its owner of many years of trouble-free shooting enjoyment. As with all our products, your M3A1 is covered by our lifetime warranty*

*LIFETIME WARRANTY HONORED WITH ORIGINAL OWNER ONLY

*UNWARRANTED REPAIRS AND DISASSEMBLY WILL TERMINATE YOUR FIREARM'S WARRANTY

PLEASE READ THIS INSTRUCTION MANUAL AND UNDERSTAND THE STATED WARNINGS BEFORE USING THIS FIREARM.

PARTS LIST



- 1 UPPER RECEIVER ASSEMBLY
- 2 LOWER RECEIVER ASSEMBLY
- 3 BARREL ASSEMBLY
- 4 BOLT GROUP
- 5 GUIDE RAIL AND RECOIL SPRING ASSEMBLY
- 6 RECOIL BUFFER
- 7 TAKE-DOWN PINS
- 8 BARREL SET SCREW
- 9 MAGAZINE, 30 RND. USGI
- 10 MAGAZINE LAODING TOOL

HANDLING AND OPERATION

OPERATION OF THE SAFETY LEVER

The safety selector on your M3A1 is located on the left side of the lower receiver. It has two positions: "SAFE" in the horizontal position, marked with a GREEN DOT (figure 1) and "FIRE" in the vertical position marked with a RED DOT (figure 2).

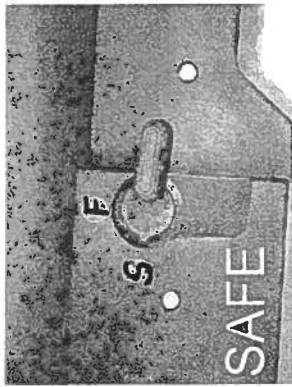


Figure 1

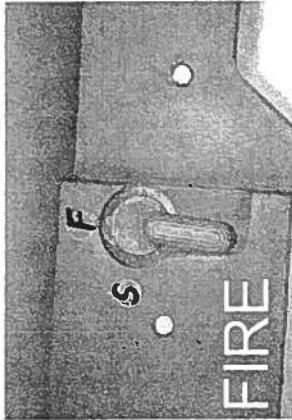


Figure 2

When placed in the "SAFE" position, a cam bears upon the rear portion of the trigger, blocking the sear surface and preventing the hammer from being released. The safety lever makes a positive "click" sound whenever the safety is fully engaged in either the "SAFE" or the "FIRE" position.

NOTE:

The safety can only be applied when the hammer is engaged with the trigger's sear surface.

CAUTION:

NEVER RELY EXCLUSIVELY ON YOUR FIREARM'S SAFETY

No guarantee can be made that the firearm will not fire even if the safety is in the "SAFE" position.

KEEP YOUR FINGERS OUTSIDE THE TRIGGER GUARD WHEN OPERATING THE SAFETY LEVER TO AVOID THE POSSIBILITY OF ACCIDENTAL DISCHARGE.

HANDLING AND OPERATION

INSPECTION

Lift ejector door/dust cover to reveal the bolt, (figure 3). Swing the door all the way to the left so it hangs in the open position.

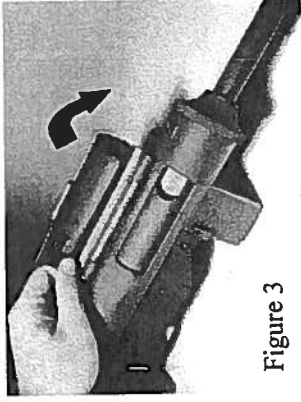


Figure 3

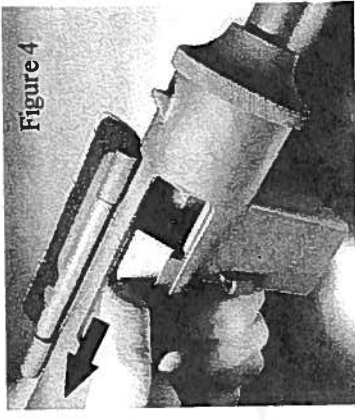


Figure 4

Retract bolt to inspect chamber and magazine well by inserting your finger into the bolt finger groove and pulling back, (figure 4). When inspected and clear, release the bolt.

INSERTING MAGAZINE

Insert magazine into the magazine well, (figure 5). Firmly push it up into the gun until it engages and "clicks" into the magazine catch (figure 6). Give the magazine a good slap at the floor plate to ensure engagement. The maximum capacity of the standard USGI magazine is (30) rounds. Do not exceed this capacity as it may damage the magazine or cause the gun to malfunction.

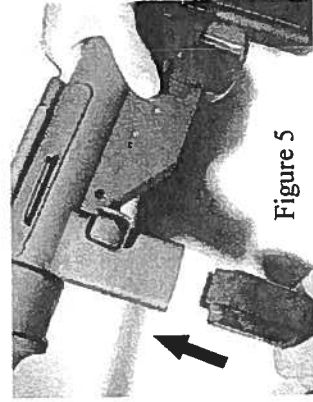


Figure 5

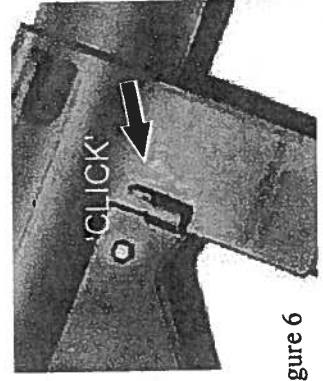


Figure 6

Optional / Additional magazines in 10 to 30 round capacities are available by calling Valkyrie Arms Ltd. (360)-482-4036.

HANDLING AND OPERATION

CHAMBERING A ROUND IN THE CARBINE

WARNING:
DO NOT CHAMBER A ROUND UNLESS YOU ARE READY TO FIRE.
 Keep your fingers away from the trigger throughout this sequence.

After the magazine has been firmly seated into the gun, and the muzzle pointed in a safe direction;

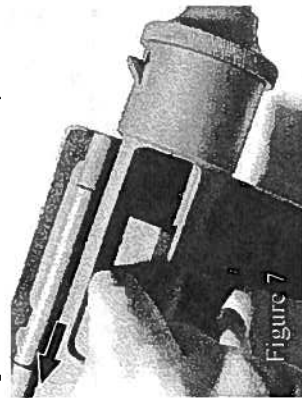


Figure 7

- 1) Pull the bolt to the rear (figure 7) so that it clears the magazine and the round to be chambered.

- 2) quickly release it, allowing it to drive forward under full spring pressure to chamber the round, (figure 8).

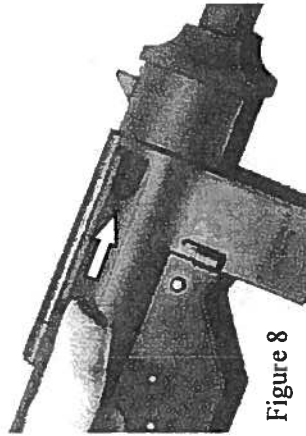


Figure 8

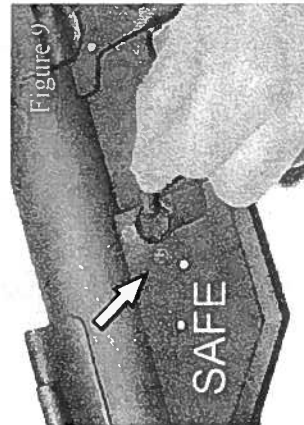


Figure 9

- 3) IMMEDIATELY place the safety selector in the "SAFE" position, (figure 9).

HANDLING AND OPERATION

THE CARBINE IS NOW LOADED AND READY TO FIRE.

WARNING:
 NEVER LEAVE YOUR CARBINE COCKED, READY TO FIRE WITHOUT THE SAFETY LEVER BEING SET ON "SAFE" (figure 9). THIS IS THE FIRE CONDITION AND IS EXTREMELY DANGEROUS; IT COULD BE ACCIDENTALLY DISCHARGED, CAUSING INJURY, DEATH OR DAMAGE TO PROPERTY.

FIRING

1. Grasp the carbine with your left hand on the magazine well and your right hand on the pistol grip. Rest your index finger along or outside the trigger guard. Raise carbine and pull buttstock firmly into shoulder.
2. **MAKE SURE DUST COVER IS OPEN AND NOT OBSTRUCTING EJECTION PORT.** With your left thumb, hold the dust cover in the open position.
3. Aim by aligning target with front and rear sights.
4. Move selector lever to "FIRE"
5. Keeping steady aim, place index finger on trigger and SQUEEZE gently until trigger releases hammer. Don't jerk the trigger. To fire the second and subsequent rounds, all that is necessary is to fully release the trigger and squeeze it again after every shot until you have completed firing or emptied the magazine.

CAUTION:

IF YOUR CARBINE FAILS TO FIRE, KEEP IT POINTED DOWN RANGE AND WAIT 30 SECONDS. IF A HANGFIRE (slow ignition) HAS OCCURRED, THE ROUND WILL FIRE WITHIN 30 SECONDS. IF IT DOES NOT FIRE, REMOVE MAGAZINE, EJECT ROUND AND EXAMINE PRIMER. IF FIRING PIN INDENT ON PRIMER IS LIGHT, MIS-ALIGNED OR NON EXISTENT, HAVE YOUR CARBINE EXAMINED BY A COMPETENT GUNSMITH. IF INDENT ON PRIMER APPEARS NORMAL (in comparison with previously fired rounds) ASSUME FAULTY AMMUNITION; SEGREGATE MISFIRED ROUND FROM OTHER LIVE AMMUNITION, RELOAD AND RESUME FIRING.

HANDLING AND OPERATION

NOTE:
Dispose of misfired rounds in accordance with the ammunition manufacturer's instructions.

UNLOADING & REMOVAL OF MAGAZINE

To unload, retract bolt to verify the gun is empty. Position the selector lever to "SAFE", (figure 9).

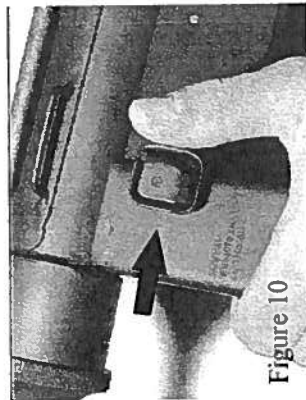


Figure 10

To remove the magazine, position hand around magazine well and identify magazine release button on the left side of the carbine, (figure 10).

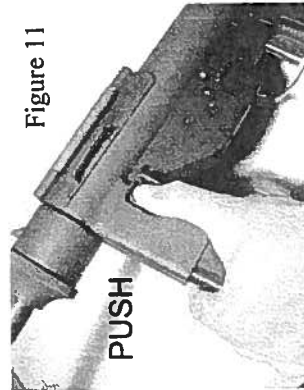


Figure 11

Depress button and apply downward pressure on the magazine, (figure 11).

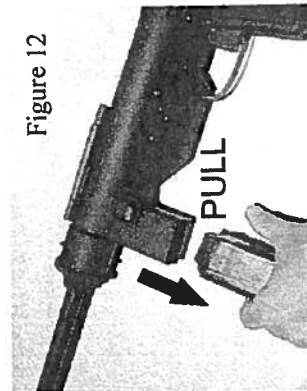


Figure 12

When released from the catch, pull magazine out and away from carbine, (figure 12).

FIELD STRIPPING

ENSURE THAT THE MAGAZINE IS REMOVED AND THE CARBINE IS NOT LOADED SO THAT IT CANNOT FIRE.

WEAR SAFETY GLASSES IN CASE YOU LOSE CONTROL OF SOME SPRING LOADED COMPONENT WHICH COULD CAUSE INJURY.

SEPARATION OF UPPER AND LOWER RECEIVERS

IMPORTANT: To prevent loss of small components during stripping and cleaning, lay them out in an orderly fashion.

To make separation and re-assembly easier, it is recommended that the hammer be 'cocked and locked' prior to disassembly. There are two take-down pins that hold the two receiver sections together; one in the rear where the buttstock attaches and one forward just behind the magazine well. Press each pin in from the right and pull them out on the left. A hammer & punch may be necessary to start the pins. *Figure 13* shows the forward take-down pin about to be pushed in.

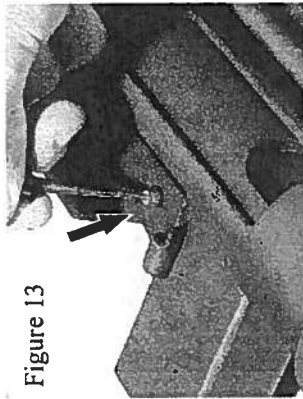


Figure 13



Figure 14

Once free, remove them completely from the carbine and set aside. *Figures 14 & 15* show pins ready for removal.

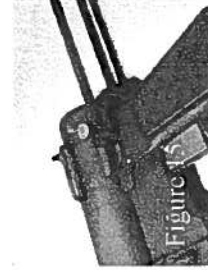


Figure 15

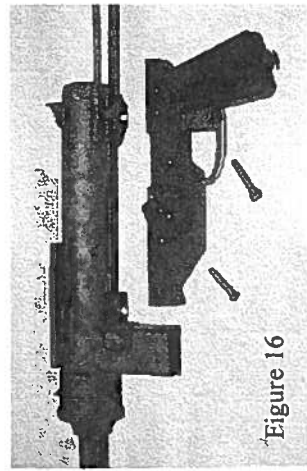


Figure 16

Now grasp the upper receiver in one hand and the pistol grip of the lower receiver in the other. Gently but firmly pull the two apart. *Figure 16* shows the two separate receiver assemblies and their take-down pins.

FIELD STRIPPING

REMOVING THE BARREL, BOLT & GUIDE ROD ASSY.



Figure 17

REMOVING THE BARREL

Using a 1/8" allen wrench, remove the barrel set screw by turning counterclockwise, (Figure 17).



Figure 18

Next, unscrew the barrel/barrel nut assembly from the upper receiver, (Figure 18).

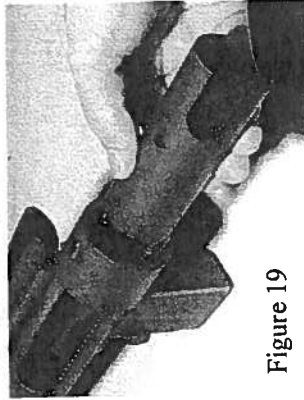


Figure 19

REMOVING BOLT GROUP

With the barrel removed, pull out the bolt group, (Figure 19).

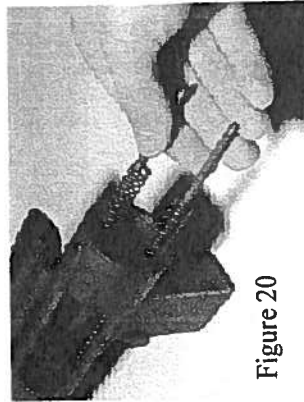


Figure 20

REMOVING GUIDE RODS

Now remove guide rod and recoil spring assembly, (Figure 20).

FIELD STRIPPING

REMOVING THE BARREL, BOLT & GUIDE ROD ASSY.

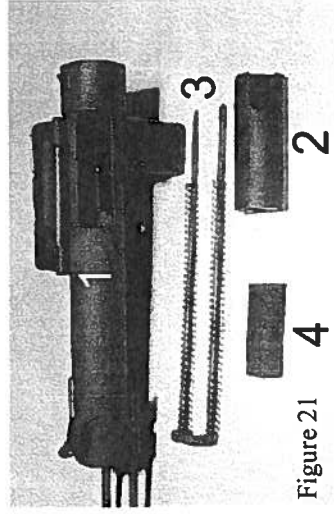


Figure 21

View of field stripped upper receiver, (Figure 21).

1. Upper Receiver
2. Bolt Group
3. Guide Rod & Recoil Spring Assembly
4. Buffer

STRIPPING OF BOLT GROUP

In this section you will learn how to remove the firing pin and extractor for cleaning.

Turn the bolt upside down to reveal the small diameter end of the anchor pin. With a small punch and hammer gently tap the pin through the bolt, (Figure 22). This should be done just far enough to grab the other end with your fingers.

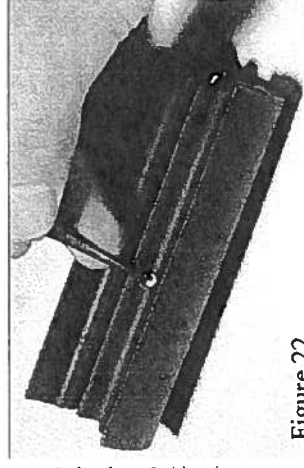


Figure 22

Turn the bolt back over and remove the pin, (Figure 23).

CAUTION: CARE SHOULD BE TAKEN WHEN REMOVING THE ANCHOR PIN. THE FIRING PIN IS UNDER SLIGHT SPRING PRESSURE AND MAY SHOOT OUT OF THE BOLT. SAFETY GLASSES SHOULD BE WORN.

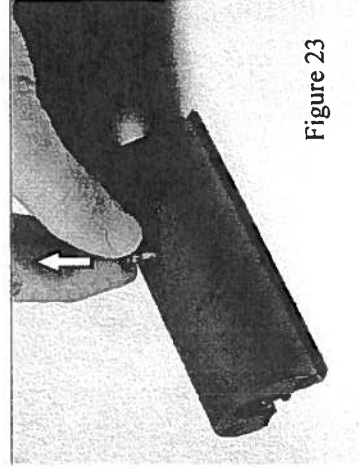


Figure 23

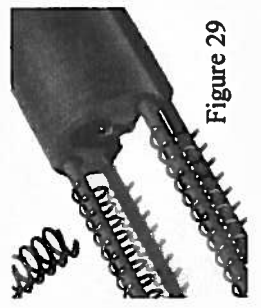
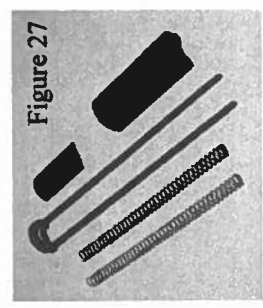
FIELD STRIPPING

LOWER RECEIVER

Field stripping of the lower receiver for cleaning is not necessary and will not be covered in this manual. Standard cleaning techniques using spray-on solvents and lubricants are more than adequate. Any disassembly or maintenance of the lower receiver's fire control components must be done by a competent gunsmith or warranty is void.

RE-ASSEMBLY

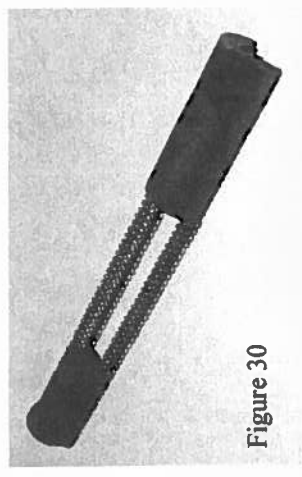
Figures 27 thru 30 highlight the re-assembly of the BOLT & GUIDE ROD ASSEMBLY. Figure 30 shows the finished assembly ready for installation in the carbine's upper receiver.



YES

NOTE: When re-assembling the Bolt and Guide Rod assembly, attention should be given as to what end of the springs are facing the bolt. For optimum performance, the closed end of the spring should face the bolt, (figure 28) as opposed to the open end, (figure 29).

NO



For the remainder of the carbine, perform each operation in reverse to re-assemble.

FIELD STRIPPING

STRIPPING OF BOLT GROUP

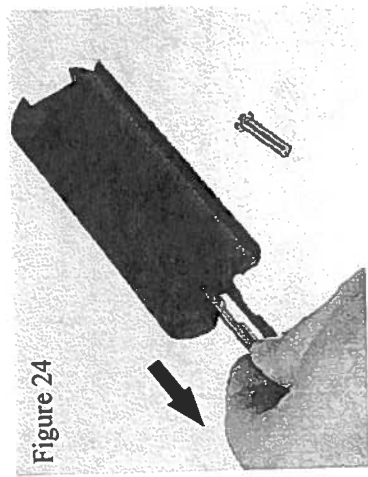


Figure 24

Remove the firing pin from the BACK end of the bolt, (figure 24).

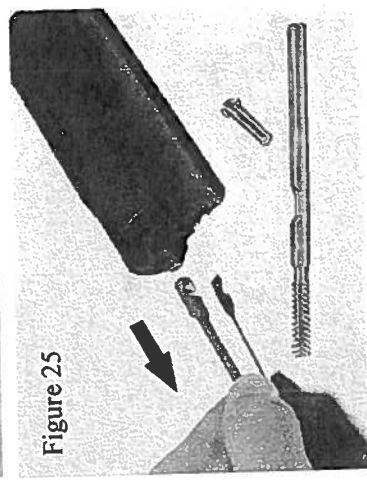


Figure 25

Turn the bolt around to the FRONT and remove the extractor, (figure 25).

Note: A small screwdriver or needle nose pliers may be necessary to assist in the removal.

BOLT GROUP PARTS LIST.

1. Bolt
2. Firing Pin
3. Firing Pin Spring
4. Extractor
5. Anchor Pin

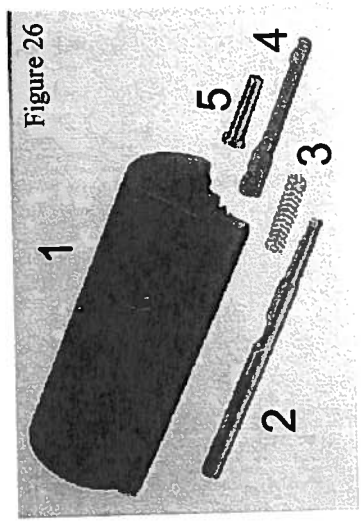


Figure 26