

# HK GRENADE LAUNCHER MODULE

## GLM

KAL. 40 MM X 46

### OPERATOR'S & MAINTENANCE MANUAL

**DRAFT ©**  
01. August 2006



**OPERATORS & MAINTENANCE MANUAL  
FOR THE**

**HK Grenade Launcher Module (GLM)  
Kal. 40 mm x 46**

**NOTE**

The GLM is developed for the installation (with mounting adaptor) on various host weapons. (HK416/417, Colt M4/M4 MWS, M16 A2/A4 e.g.)

This Draft manual illustrates the installation of the Grenade Launcher on the HK416 rifle.

**CAUTION**

Do not attempt to operate the GLM in the stand-alone mode without the buttstock properly attached. Always ensure the GLM is either properly mounted on the host weapon or fitted with the buttstock and vertical foregrip (SAM Configuration) before attempting to fire the launcher.

**NOTE**

Heckler & Koch will provide no warranty and accept no liability for events caused by faulty handling or operation of the GLM. The instructions in this manual must be observed. Even the slightest carelessness or ignorance can cause considerable damage for which Heckler & Koch will accept no liability.

**NOTE**

All information in this manual is subject to change without notice; contact Heckler & Koch regarding updates, modifications and/or changes pertaining to the data contained within this document.



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## 1. **SAFETY RULES:**

- A. Treat every firearm as though it is loaded.
- B. Never point any firearm at anyone or anything that you do not intend to shoot or in a direction where an unintentional discharge may result in damage to property, injury, or death.
- C. Never place your finger into the trigger guard or on the trigger until you are ready to fire.
- D. Be sure of your target and what's behind it before firing.
- E. Ensure that all parts of your hands and body are kept away from the launcher's muzzle at all times.
- F. Always wear appropriate eye and ear protection when firing the launcher.
- G. Clear every firearm before handling it.
- H. Read, understand fully and abide by all safety and procedural recommendations in the operators manual for this item BEFORE USE. Follow all safety rules provided in the operators' manual.
- I. Insure the launcher is fully functional, clean and properly lubricated prior to use or live-firing.
- J. Fire only 40 mm x 46 low velocity ammunition in the launcher that is designed for use in similar launchers.
- K. Insure all sights and attachments are fully secure and tightened on the launcher before use.
- L. Insure the chamber and bore are free of obstructions and/or dents before firing.
- M. Insure the breech/barrel locks fully closed and securely into the receiver before firing the launcher.
- N. Clean and lubricate the launcher in accordance with the instructions in the operators manual before firing and at least every 50 rounds fired.
- O. Insure the modular mounting adaptors for attachment to the host weapon (where applicable) are securely attached to the launcher before use.
- P. When firing the launcher in the stand-alone mode (off host weapon with buttstock and vertical foregrip attached) insure that the buttstock latch is fully engaged so the buttstock will not retract during firing.
- Q. When firing high-explosive ammunition do not engage targets closer than the established danger area for that round.
- R. When disassembling the launcher beware of parts that are held in place under spring tension. Refer to the maintenance manual for the launcher for detailed cautions and instructions before disassembly.
- S. Do not load and/or unload the launcher unless the manual safety is engaged, the muzzle is pointed in a safe direction and your fingers are outside the trigger guard and away from the muzzle of the launcher.
- T. Insure the muzzle of the launcher is clear (above) the surface of any structures you are firing off of or over before pulling the trigger. The sights (and your view of the target) may be clear of the obstruction when the muzzle is not.
- U. Always insure the bore and the muzzle are free of blockages/obstructions before firing. Wear protective clothing as prescribed in current regulations, helmet, body armor, etc, when firing high explosive ammunition.
- V. When mounting the launcher on the host weapon insure that the correct adaptor (if applicable) is used and it or the mounting screws are securely tightened/fastened before use or firing.



## 2. CLEARING PROCEDURES:

Before handling the GLM, the operator must ensure the firearm is **CLEAR**;

Do so by following the steps listed below:

- A. Point the muzzle of the GLM in a safe direction, with the trigger finger outside the trigger guard.
- B. Put the safety lever in the "S" (Safe) position (Fig. #1/Item #1).
- C. Push the barrel release lever (Fig. #1/Item #3) up, allowing the barrel to swing out to the left side of the receiver.
- D. Physically and visually inspect the chamber (Fig. #1/Item #2) for ammunition or empty cartridge case.

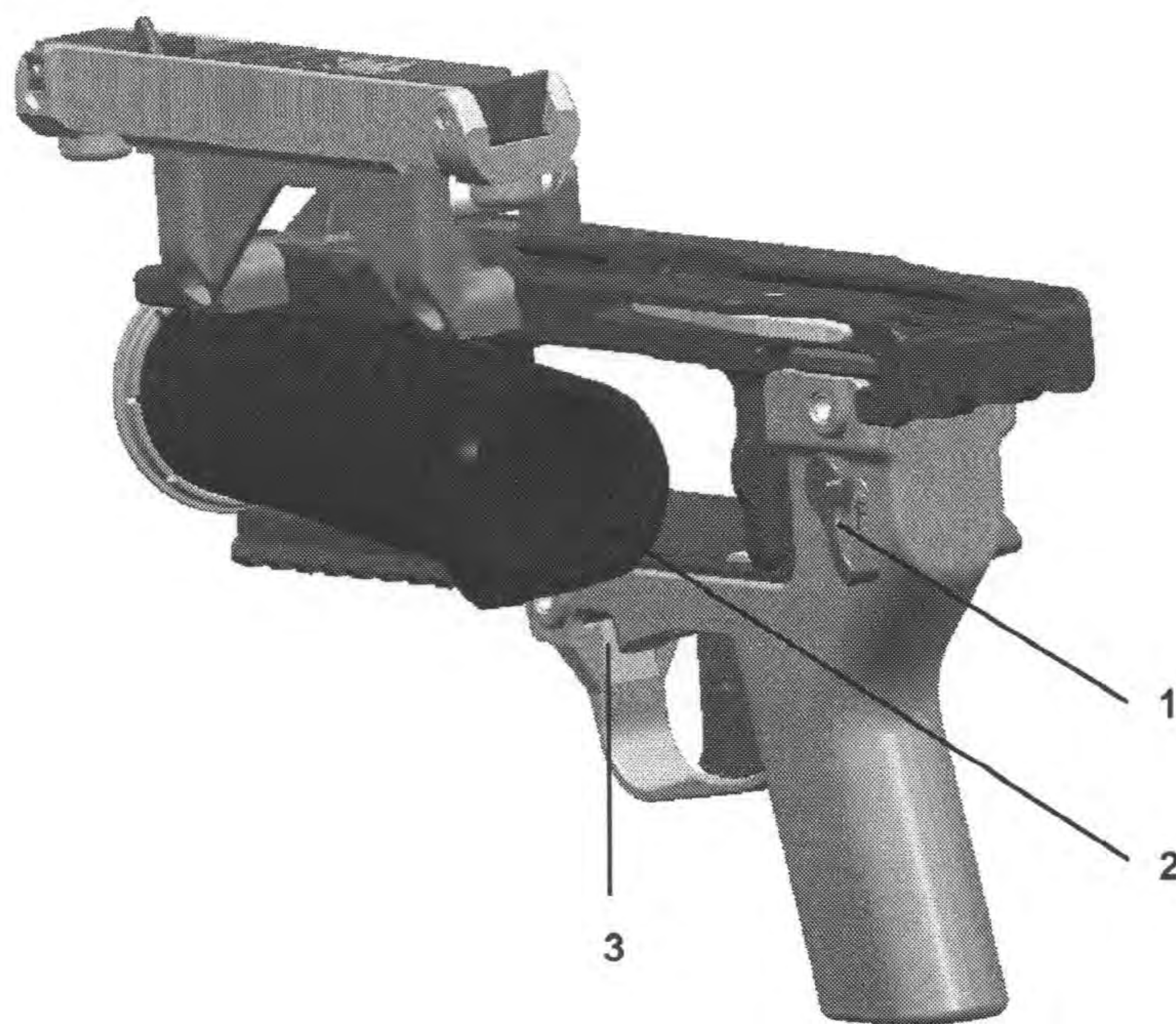


Fig. #1

1.	Safety lever
2.	Chamber
3.	Barrel release lever



### 3. INTRODUCTION:

Developed by Heckler & Koch to meet the needs of the Military for the 21<sup>st</sup> Century, the GLM offers the individual operator unparalleled flexibility and lethality.

**Light Weight:** Utilizing modern production techniques, GLM is constructed of space-age polymers and lightweight aluminium. This results in the GLM weighing in at approximately 1.5 kg (with HK416 mounting adaptor).

**User Friendly:** The GLM boasts ambidextrous operating controls and sling mounting points, the ability to mount the mechanical sights on either the left or right side of the receiver; and a unique double action only trigger system. The swing out barrel aids the operator in rapidly reloading the GLM, especially at night or in low visibility conditions.

**Flexible:** The GLM allows maximum flexibility by being able to be mounted on a wide variety of current and future rifles/carbines or may be fitted with a unique buttstock system for stand alone operation that can be adjusted for length of pull. Additionally the GLM allows for the quick installation of various sighting and ranging units.

**Lethal:** The GLM barrel, allowing the operator to accurately engage targets with a wide variety of ammunition out to 350 meters. The unique swing-out barrel allows the use of longer, less than lethal munitions, providing greater flexibility on the battlefield.

**Reliable:** The GLM is based on the AG-family of grenade launchers which have seen combat use in different scenarios. The simple design of the GLM results in a weapon which is able to operate in virtually any environment.



**GLM attached on Host weapon (HK416)**



**GLM used as Stand-Alone Module (SAM Configuration)**



**GLM (Detached from the Host weapon)**



#### 4. TECHNICAL DATA:

##### **Grenade Launcher Module (GLM)**

Caliber	40 mm x 46
Principle of operation	Single shot weapon with manual feed
Bolt principle	Barrel tilting to the left
Muzzle velocity - $V_5$ -	approx. 75 m/sec
Trigger pull (Double Action Trigger)	$60 \pm 10$ N
Mechanical sight	Folding ladder sight / front sight Range settings 50 - 350 m (50 m - increments)

##### **DIMENSIONS**

Length w/o buttstock	285 mm
Length w. buttstock extended	500 mm
Length w. buttstock retracted	425 mm
Width w/o mechanical sight	68 mm
Width w. mechanical sight	100 mm
Height w/o sights, weapon adaptors	161 mm
Height w. mechanical sights (down)	209 mm
Height w. mechanical sights (up)	306 mm
Barrel length	280 mm
Length of twist	1200 mm (righthand)
Sight radius	148 mm

##### **WEIGHTS**

GLM (w. Mechanical leaf sight, HK416 adaptor and Muzzle cap)	1.5 kg
Folding vertical foregrip with rail	0.1 kg
Buttstock	0.8 kg
Mechanical leaf sight w. mount	0.13 kg
Muzzle cap	0.01 kg
Picatinny Rail, side (accessory)	0.03 kg

##### **OTHER SPECIFICATIONS**

Barrel Profile	Lands and grooves, 6-sided
Maximum firing range	350 m



5. BASIC DESCRIPTION & NOMENCLATURE:

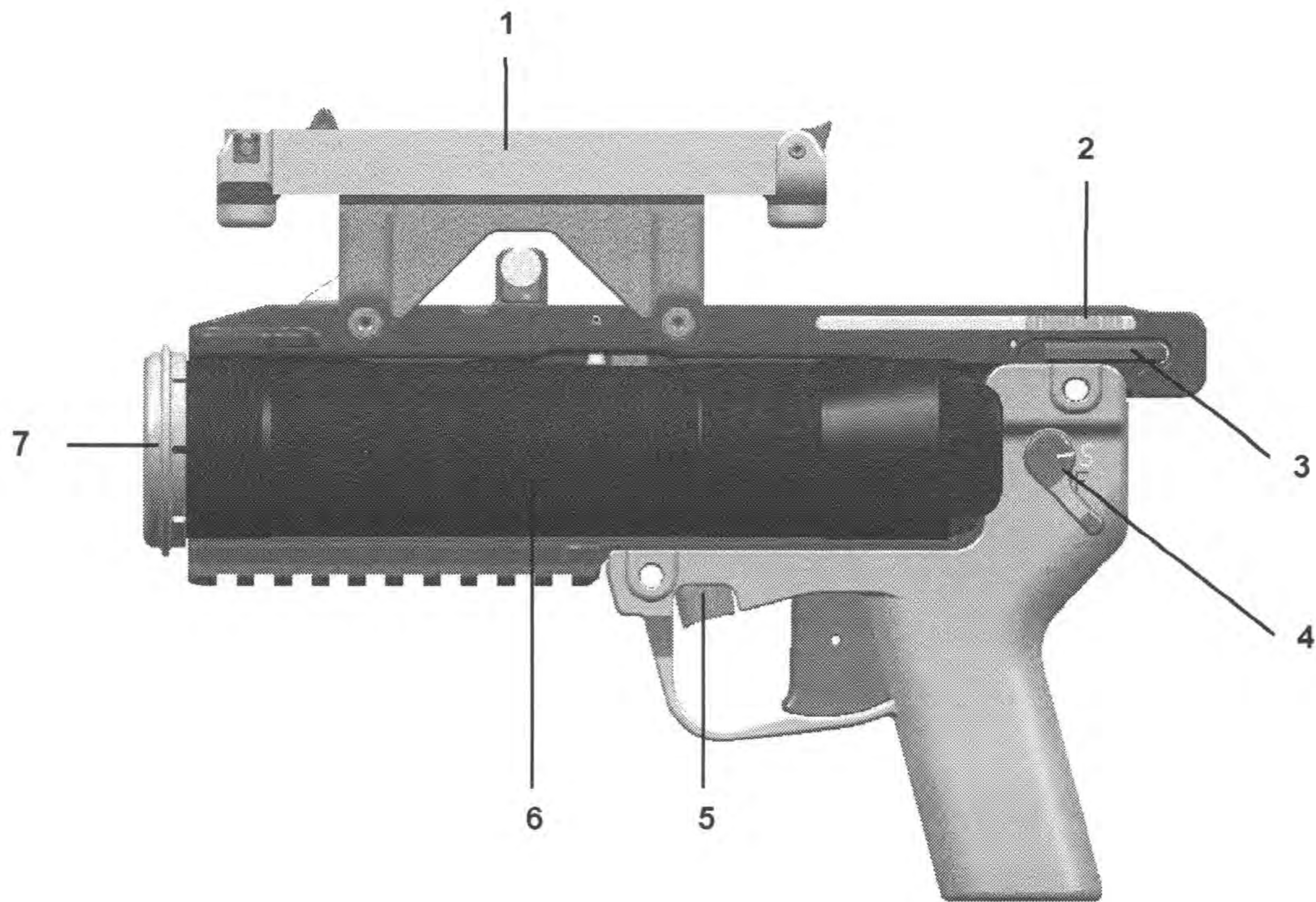


Fig. #2  
GLM - Left Side View

1.	Mechanical leaf sight	5.	Barrel release lever
2.	Buttstock locking lever	6.	Barrel
3.	Allen wrench in storage location	7.	Muzzle cap
4.	Safety lever, ambidextrous		



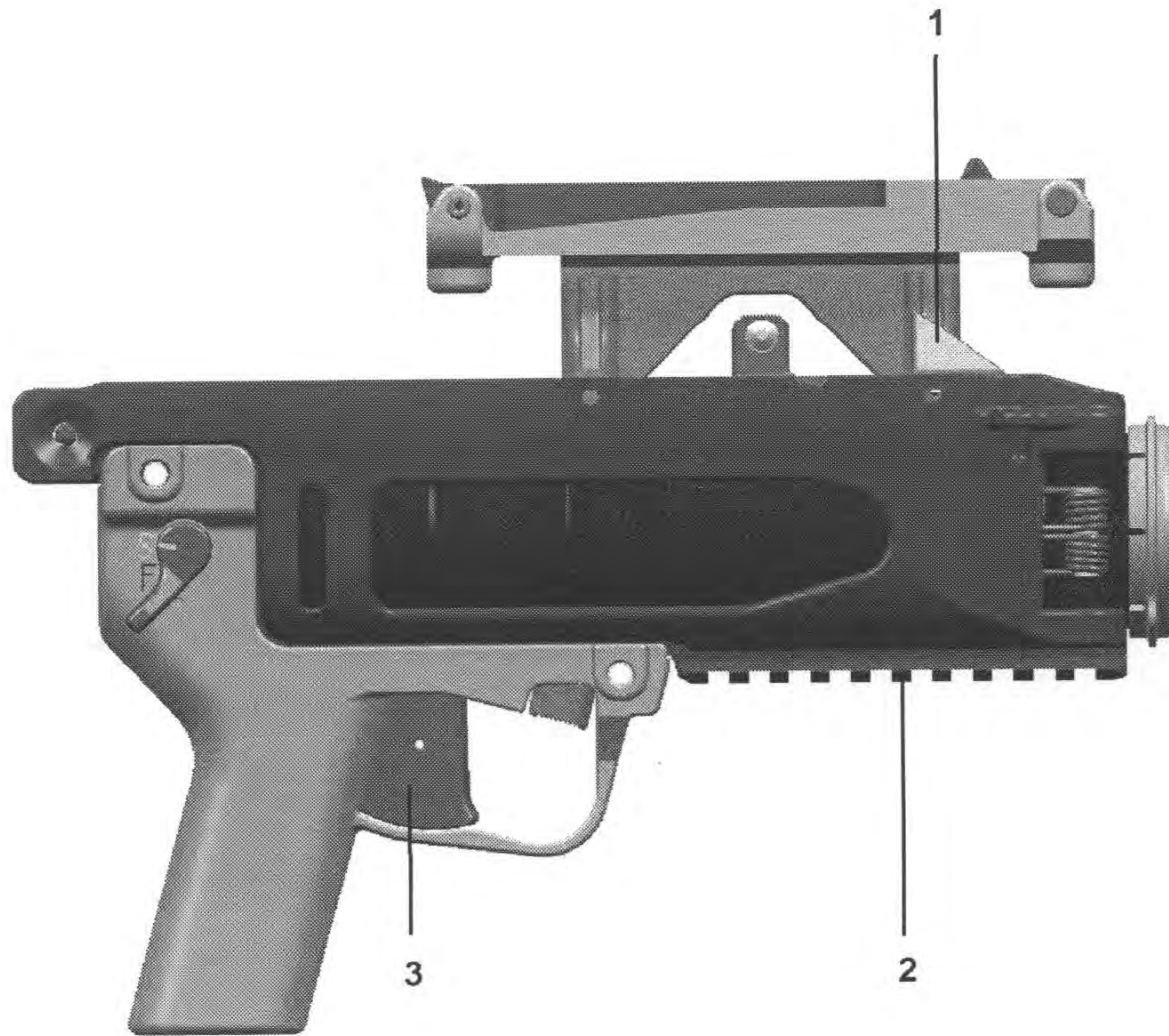


Fig. #3  
GLM - Right Side View

1.	HK416/417 Adaptor, Bayonet lug
2.	Picatinny Rail (MIL-STD-1913)
3.	Trigger



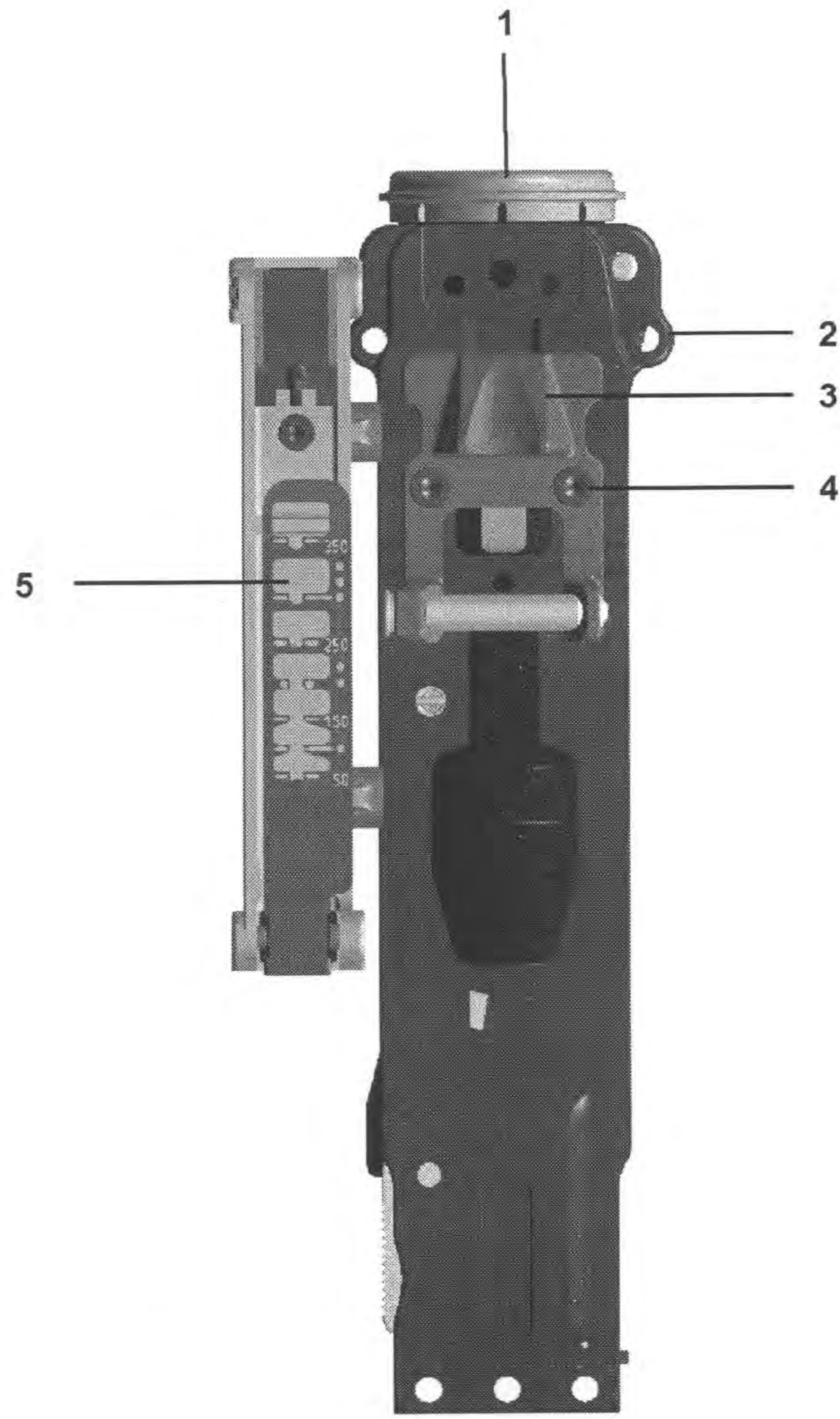


Fig. #4  
GLM - Top View

1.	Muzzle cap
2.	Sling attachment points, ambidextrous
3.	Adaptor, Bayonet Lug
4.	Bayonet adaptor locking screw (2x)
5.	Mechanical leaf sight



A. MARKINGS:

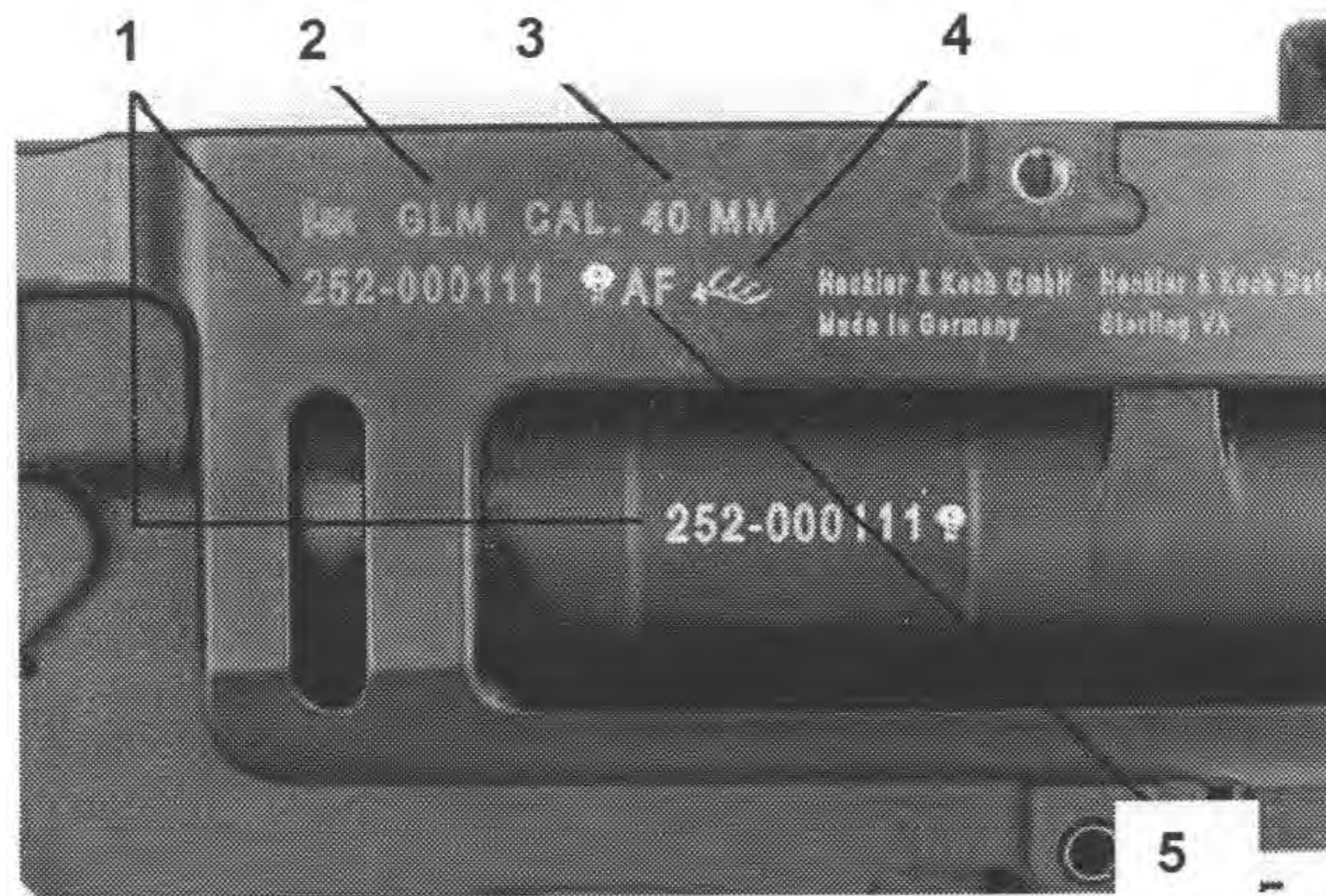


Fig. #5  
Markings – Right side view

1.	Serial Number
2.	Product Designation / Producer Mark
3.	Caliber Designation
4.	(German) Proof Mark
5.	Producer's Code



B. ASSEMBLY GROUPS:

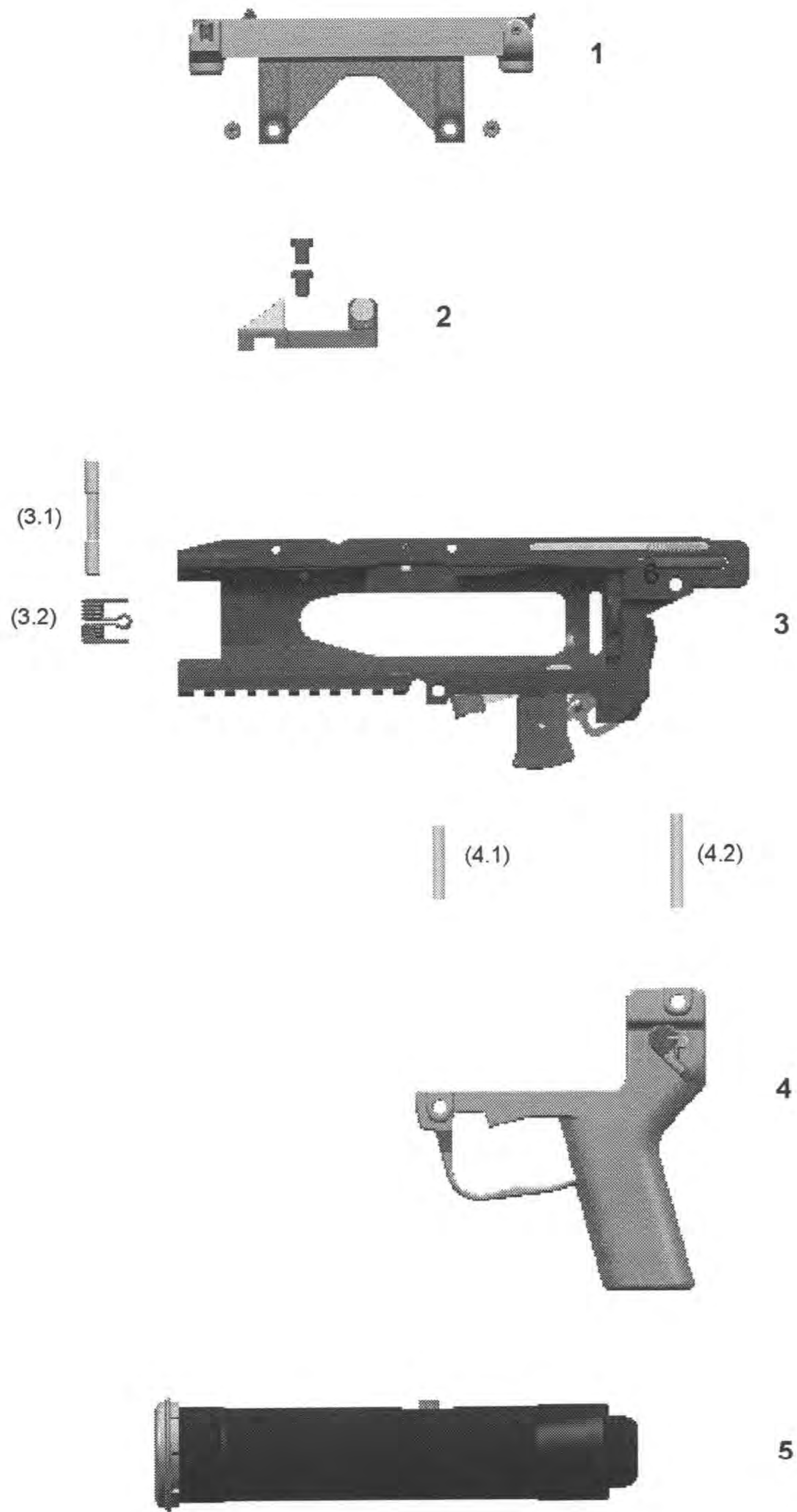


Fig. #6  
GLM Assembly Groups

1.	Mechanical leaf sight (w. fastening screws)
2.	Adaptor, Bayonet lug (w. fastening screws)
3.	Receiver
(3.1)	Barrel axle
(3.2)	Elbow spring
4.	Grip
(4.1)	Fastening pin
(4.2)	Fastening pin
5.	Barrel



C. **BARREL:**

1. The barrel pivots on a hinge (Fig. #7/Item #4) at the right side of the muzzle. The barrel stop (Fig. #7/Item #5) on the top of the barrel limits the barrel's lateral movement.
2. The chamber end of the barrel locks by means of a recessed locking extension (Fig. #7/Item #3) into a protrusion in the receiver's bolt face.
3. The barrel bore's profile features 6 lands and grooves with a twist of 1:1200 mm (47.25 inches) right hand. There are cutaway sections (Fig. #7/Item #1) at the top and bottom chamber area, which facilitate the manual extraction of the cartridge or the cartridge case.
4. The rear end of the chamber features a cylindrical recess, which houses the rim of the cartridge.
5. The axle slot for the engagement of the barrel-locking lever is located at the rear of the barrel, beneath the chamber.

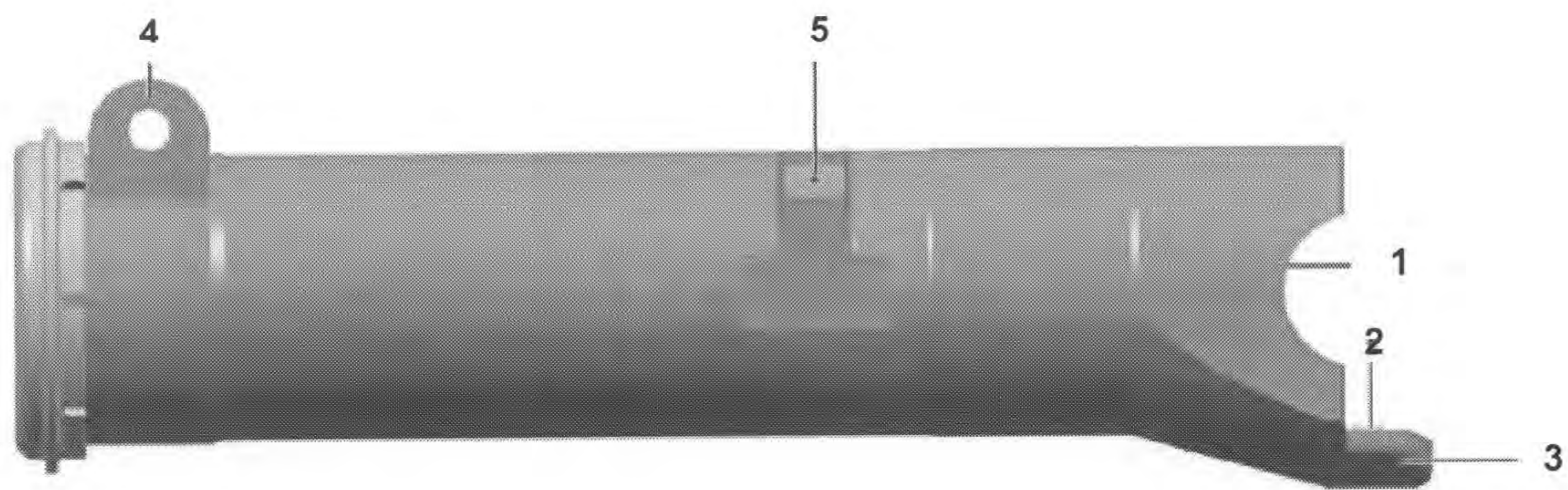


Fig. #7  
GLM Barrel

1.	Extraction cutaway
2.	Pin, barrel, rubber
3.	Locking extension
4.	Hinge
5.	Barrel stop



**D. MECHANICAL LEAF SIGHT:**

1. The mechanical leaf sight can be mounted on either the left or the right side of the receiver. It consists of a sight support (Fig. #8/Item #2) which is fixed by means of two sight fastening screws (Fig. #8/Item #1) to the weapon's receiver. The sight base (Fig. #8/Item #4) is fixed by two sight fastening screws (Fig. #8/Item #1) to the sight support and comprises a foldable leaf rear sight (Fig. #8/Item #5) and a foldable front sight post (Fig. #8/Item #7).
2. For firing at different ranges the ladder rear sight is provided with range marks from 50 m to 350 m in increments of 50 m.
3. For sight adjustment, the rear sight can be moved horizontally on its threaded axis (Fig. #8/Item #3) for windage changes, and the front sight post can be moved vertically by means of an adjustment screw (Fig. #8/Item #6) for elevation changes.
4. All sight screws are secured and adjusted using the 3 mm end of the Allen wrench (Located on the GLM).

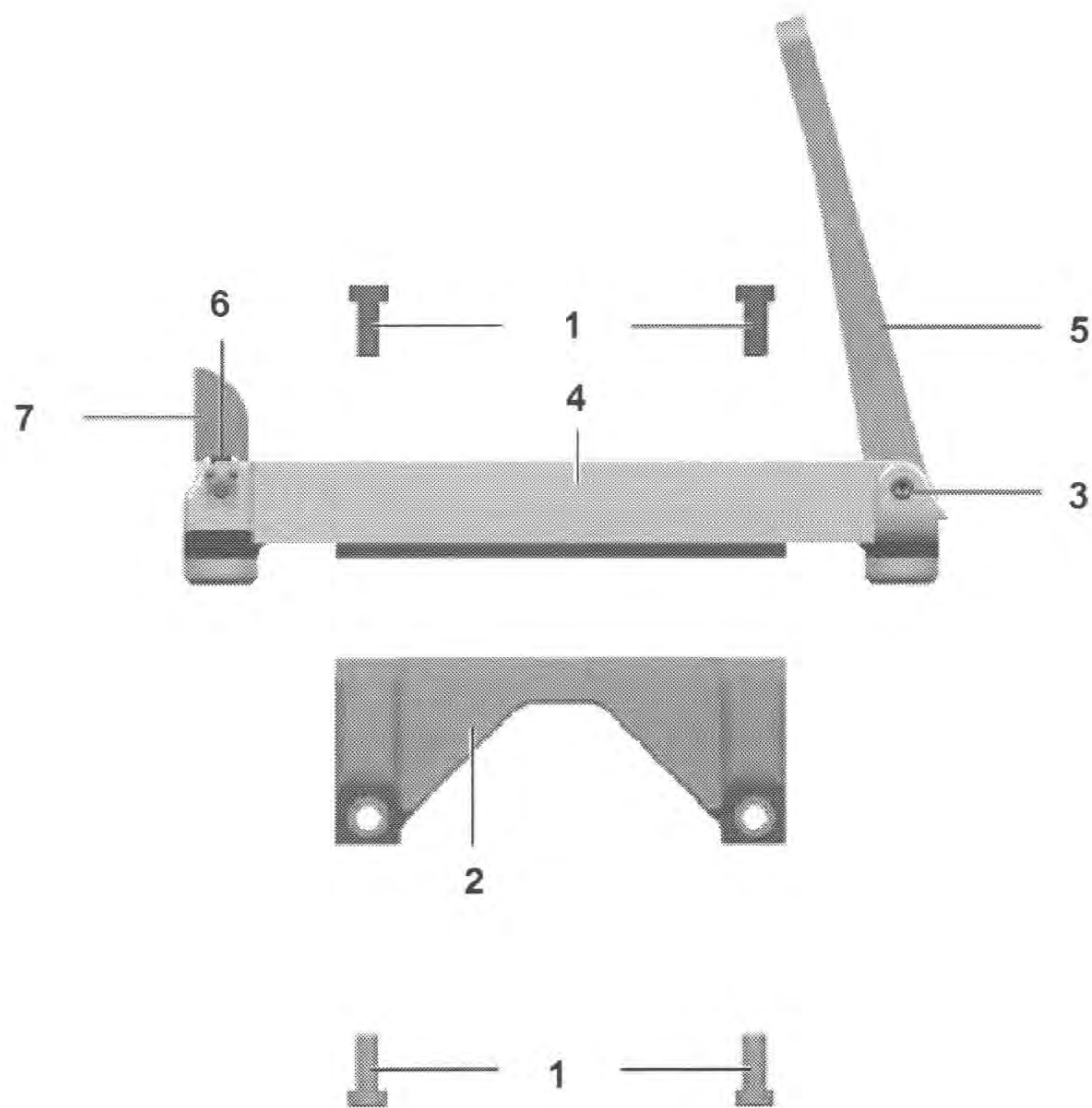


Fig. #8  
GLM Mechanical (Leaf) Sight

1.	Sight fastening screws
2.	Sight support
3.	Threaded rear sight axis
4.	Sight base
5.	Leaf rear sight
6.	Elevation adjustment screw
7.	Front sight post



**E. RECEIVER:**

1. The receiver consists of a rugged hard coated aluminium frame (Fig. #9/Item #3) and houses the bolt face (Fig. #9/Item #5) with the locking extension (Fig. #9/Item #6) for the barrel, the barrel axle and elbow spring as well as the mounting location for the host weapon bayonet adaptor (Fig. #9/Item #2), the mounting interfaces for the host weapon mounting adaptors and the sight attachments (Fig. #9/Item #1). The receiver also includes a Picatinny Rail MIL-STD-1913 (Fig. #9/Item #7) for the attachment of vertical foregrips or accessories. An L-shaped Allen wrench (Fig. #9/Item #4) is stored at the rear end of the receiver and provides both 3 mm and 5 mm tips for removal and attachment of GLM components and accessories. This wrench is also used to adjust the mechanical sights.

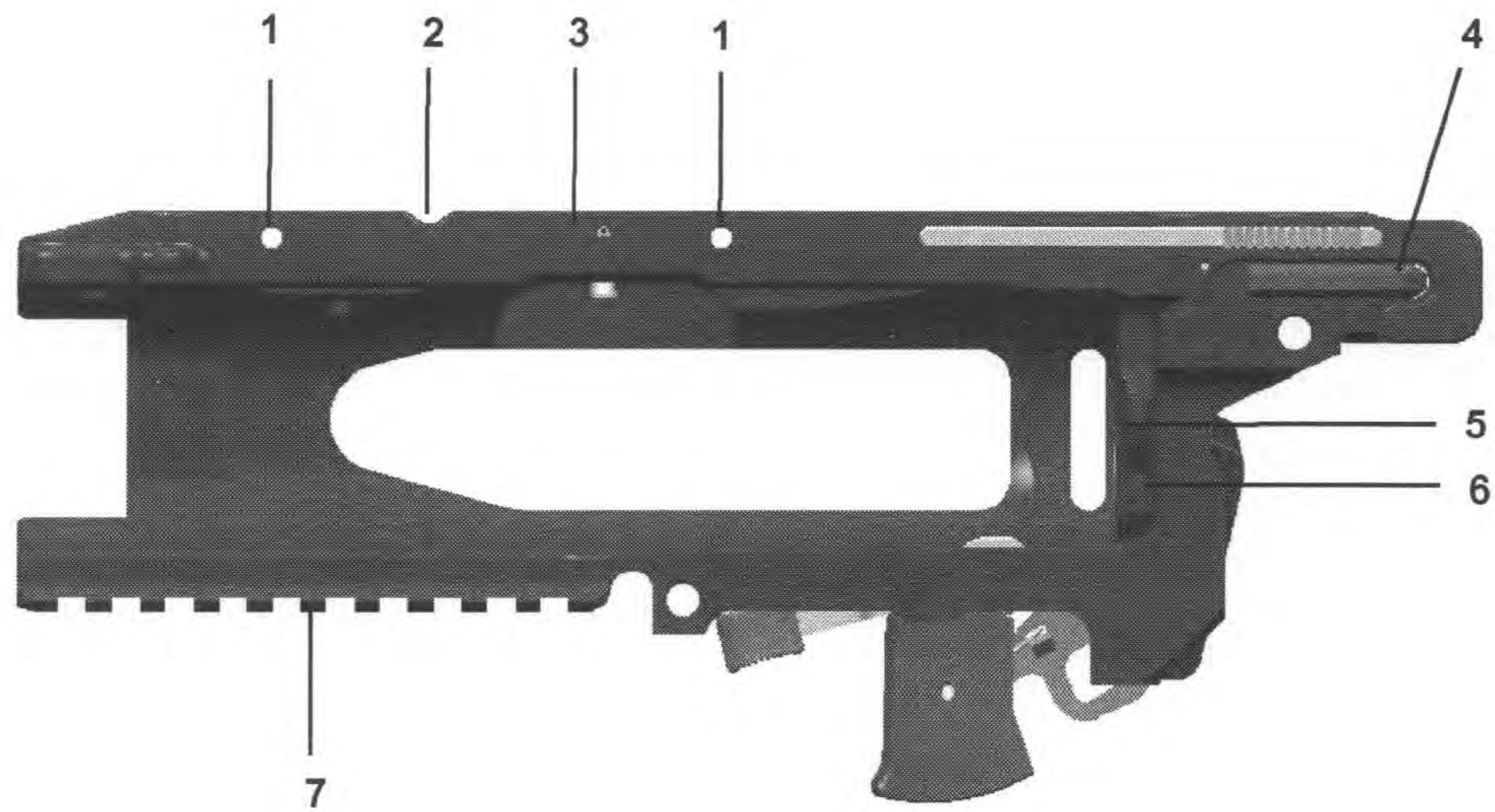


Fig. #9  
GLM Receiver

1.	Sight attachment points	5.	Bolt face
2.	Bayonet adaptor interface	6.	Locking extension
3.	Receiver	7.	Picatinny Rail (MIL-STD-1913)
4.	Allen wrench		



F. PISTOL GRIP WITH SAFETY:

1. The pistol grip (Fig. #10/Item #3) is attached to the receiver by means of two fastening pins (Fig. #10/Item #1) and houses the ambidextrous safety lever (Fig. #10/Item #2).

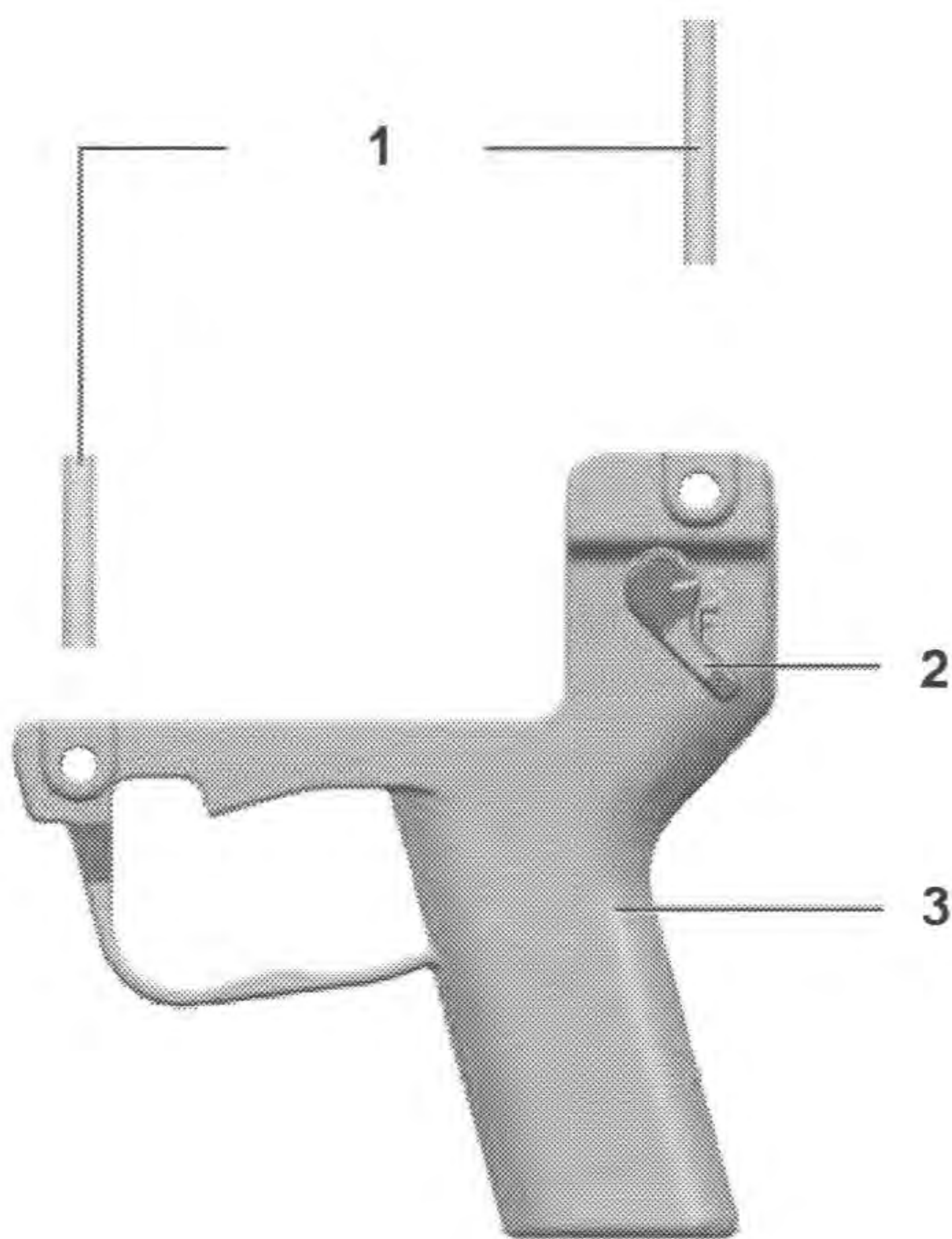


Fig. #10  
GLM Pistol Grip with Safety

1.	Pistol grip
2.	Safety lever
3.	Fastening pins



## 6. MECHANICAL OPERATION OF THE GLM:

### A. BARREL LOCKED, SAFETY ENGAGED, HAMMER IN UNCOCKED (REST) POSITION:

1. When the barrel (Fig. #11/Item #1) is closed, it is locked by the barrel locking lever (Fig. #11/Item #2) which engages into a locking slot (Fig. #11/Item #3) underneath the chamber.
2. When the safety lever (Fig. #11/Item #4) set at "S"(SAFE), the eccentric safety lever axle (Fig. #11/Item #5) blocks the hammer (Fig. #11/Item #6) to the rear.
3. The hammer is under constant spring pressure from the hammer-reset spring (Fig. #11/Item #7) and is pivoted to the rear, until it contacts the safety lever axle or the hammer spring rod (Fig. #11/Item #8).
4. The hammer spring rod is under constant spring pressure from the strong hammer spring (Fig. #11/Item #9) and engages with its upper end on the hammer axle (Fig. #11/Item #10).
5. The trigger (Fig. #11/Item #11) is in its foremost position and holds the trigger bar (Fig. #11/Item #12) and the trigger bar spring (Fig. #11/Item #13), which pivots the trigger bar against the hammer axle (Fig. #11/Item #10).
6. Pulling the trigger and cocking the hammer is not possible in this condition as the safety axle blocks the hammer to the rear.
7. Simultaneously, pivoting the hammer all the way forward is also prevented, as the hammer stud (Fig. #11/Item #14) engages the contact piece (Fig. #11/Item #15) on the trigger bar.

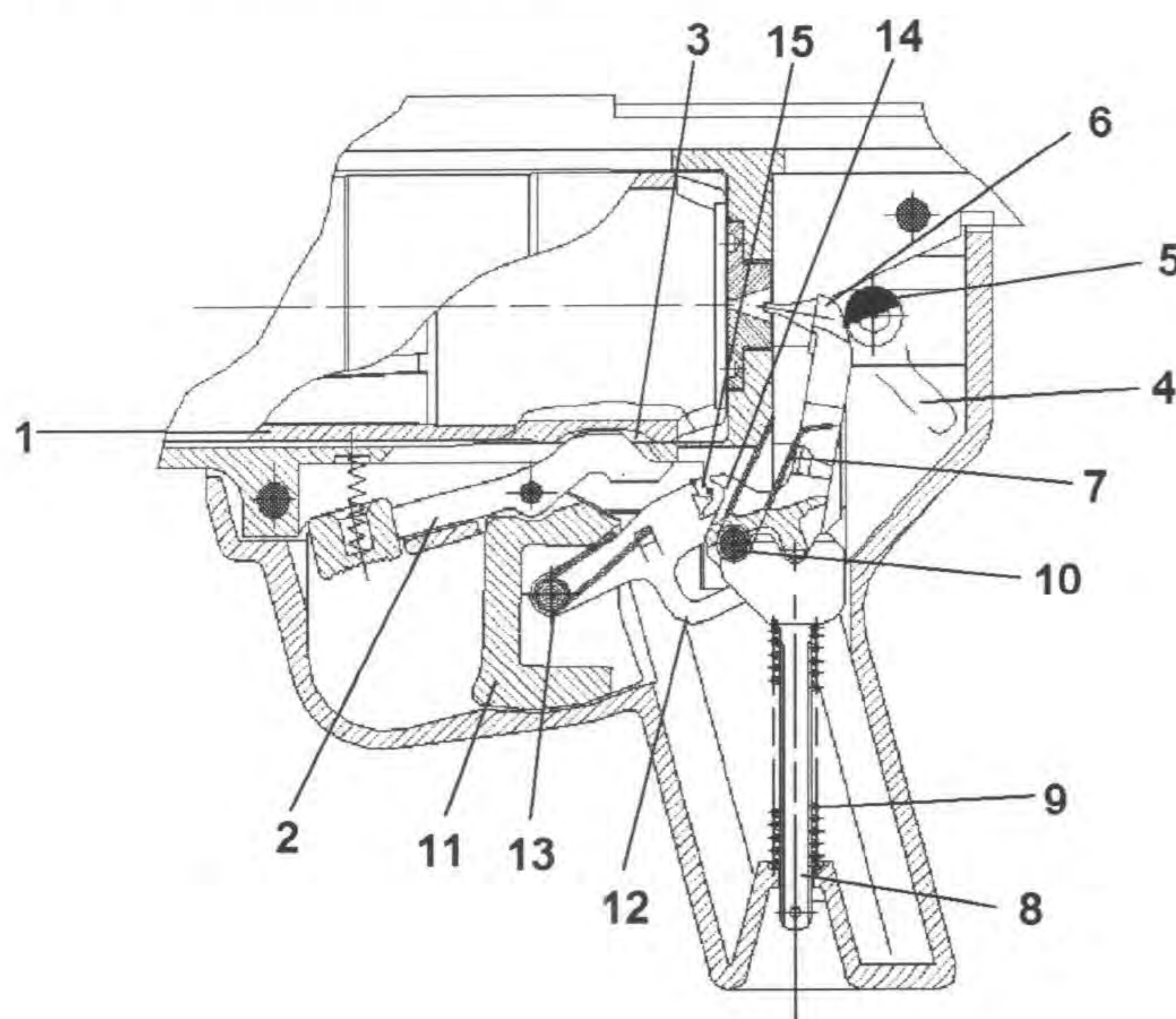


Fig. #11  
Barrel Locked, Safety Engaged, Hammer in Uncocked (Rest) Position

1.	Barrel	9.	Hammer spring
2.	Barrel locking lever	10.	Hammer axle
3.	Locking slot (part of barrel)	11.	Trigger
4.	Safety lever	12.	Trigger bar
5.	Safety lever axle	13.	Trigger bar spring
6.	Hammer	14.	Hammer stud (part of hammer)
7.	Hammer reset spring	15.	Contact piece (part of trigger bar)
8.	Hammer spring rod		



**B. BARREL LOCKED, SAFETY DISENGAGED, HAMMER COCKED BY TRIGGER:**

1. The double action only trigger (Fig. #12/Item #1), which is hinged on the trigger/locking lever axle (Fig. #12/Item #2), actuates the hammer (Fig. #12/Item #4) via the trigger bar (Fig. #12/Item #3).
2. Actuating the trigger pushes the contact piece (Fig. #12/Item #5) on the trigger bar against the hammer stud on the hammer (Fig. #12/Item #6) and pivots the hammer to the rear against the pressure of the hammer spring (Fig. #12/Item #7) on the hammer spring rod (Fig. #12/Item #8).
3. Pulling the trigger further to the rear disengages the hammer stud from the contact piece.
4. Pulling the trigger is only possible when the locking lever (Fig. #12/Item #9) is in its upward (locked) position where it engages into a locking slot (Fig. #12/Item #10) underneath the chamber of the closed barrel.

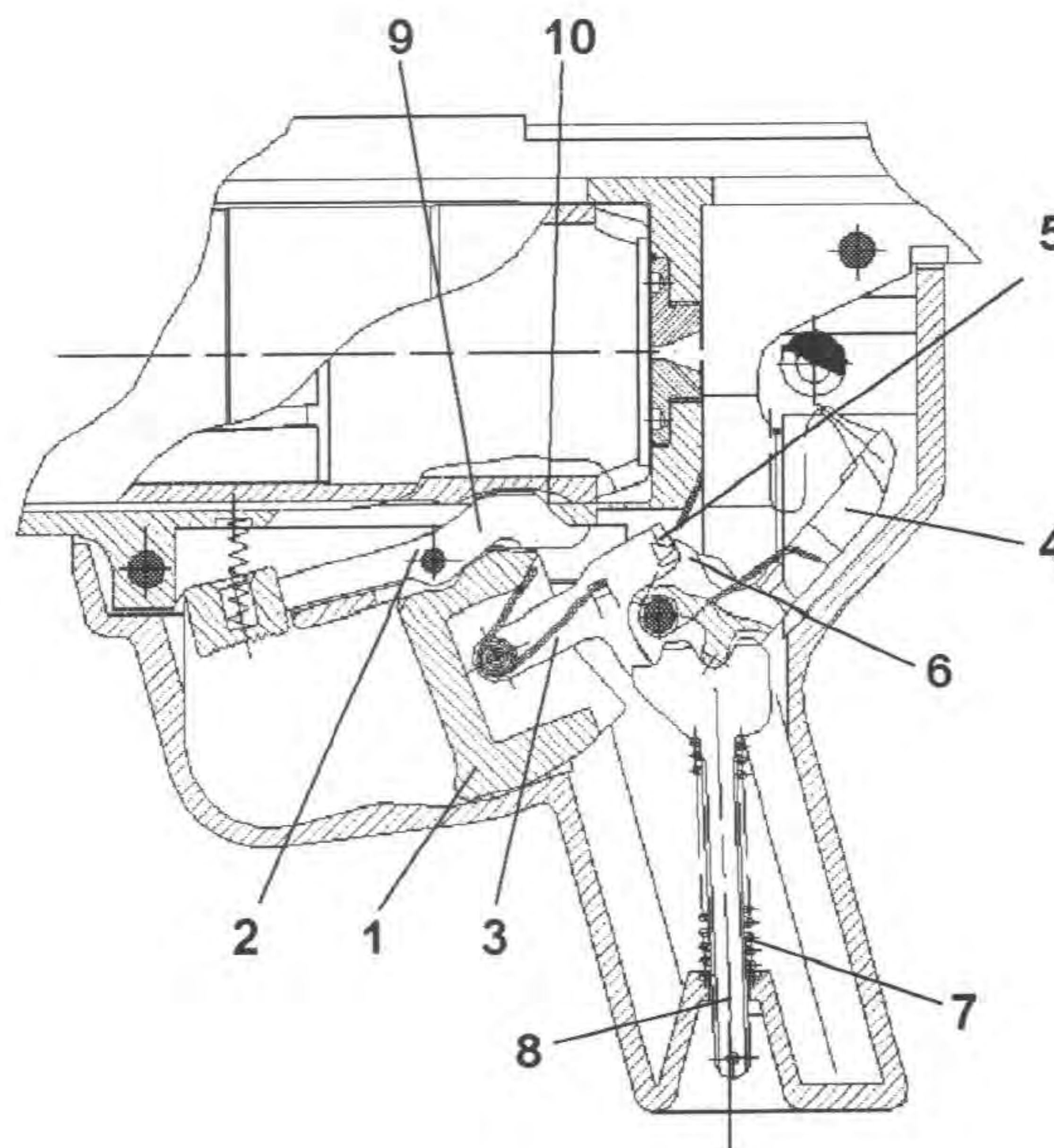


Fig. #12  
Barrel Locked, Safety Disengaged, Hammer Cocked

1.	Trigger	6.	Hammer stud (part of hammer)
2.	Locking lever axle	7.	Hammer spring
3.	Trigger bar	8.	Hammer spring rod
4.	Hammer	9.	Locking lever
5.	Contact piece (part of trigger bar)	10.	Locking slot (part of barrel)



**C. BARREL LOCKED, SAFETY DISENGAGED, TRIGGER PRESSED, HAMMER RELEASED:**

1. The contact piece (Fig. #13/Item #1) snaps from the hammer stud (Fig. #13/Item #2) and is pushed downward by the trigger bar spring (Fig. #13/Item #3).
2. The hammer (Fig. #13/Item #4) pivots all the way forward around its axle (Fig. #13/Item #5) until its tip (Firing pin) (Fig. #13/Item #6) protrudes into the bolt face (Fig. #13/Item #7) and hits the primer of a chambered cartridge.
3. During its forward movement the hammer is driven by the hammer spring (Fig. #13/Item #8) on the hammer spring rod (Fig. #13/Item #9).
4. The hammer spring rod engages the hammer axle before the hammer has reached its final position while the hammer carries out its remaining forward momentum propelled by stored kinetic energy.

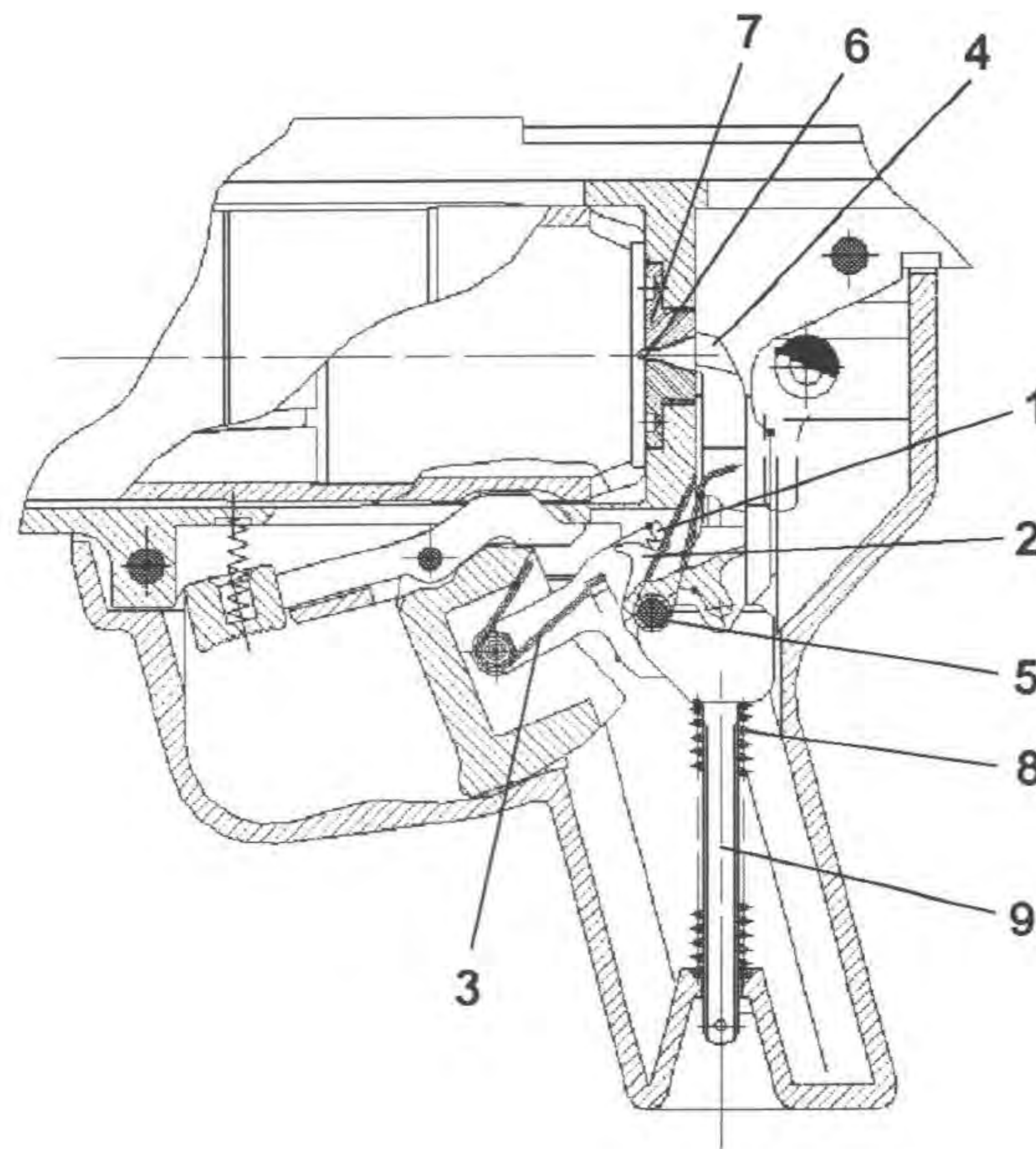


Fig. #13  
Barrel Locked, Safety Disengaged, Trigger Engaged, Hammer Released

1.	Contact piece (Part of the Trigger bar)	6.	Hammer tip (part of the hammer)
2.	Hammer stud (part of the hammer)	7.	Bolt face
3.	Trigger bar spring	8.	Hammer spring
4.	Hammer	9.	Hammer spring rod
5.	Hammer axle		



D. BARREL UNLOCKED, SAFETY DISENGAGED, AND TRIGGER BLOCKED FROM RELEASING HAMMER:

1. Pushing up on the barrel release lever (Fig. #14/Item #2) actuates the barrel locking lever (Fig. #14/Item #1) and disengages the locking extension (Fig. #13/Item #3) from the locking slot in the barrel, making it impossible to pull the trigger (Fig. #13/Item #4) to the point where the hammer (Fig. #13/Item #5) can be cocked and then released.
2. Additionally, the trigger, which is hinged on the same axle (Fig. #14/Item #6) as the barrel locking lever, is fitted with a protrusion (Fig. #14/Item #7) that engages the lower side of the locking lever extension. This safety feature prevents the launcher from being fired in case the barrel is not properly locked.

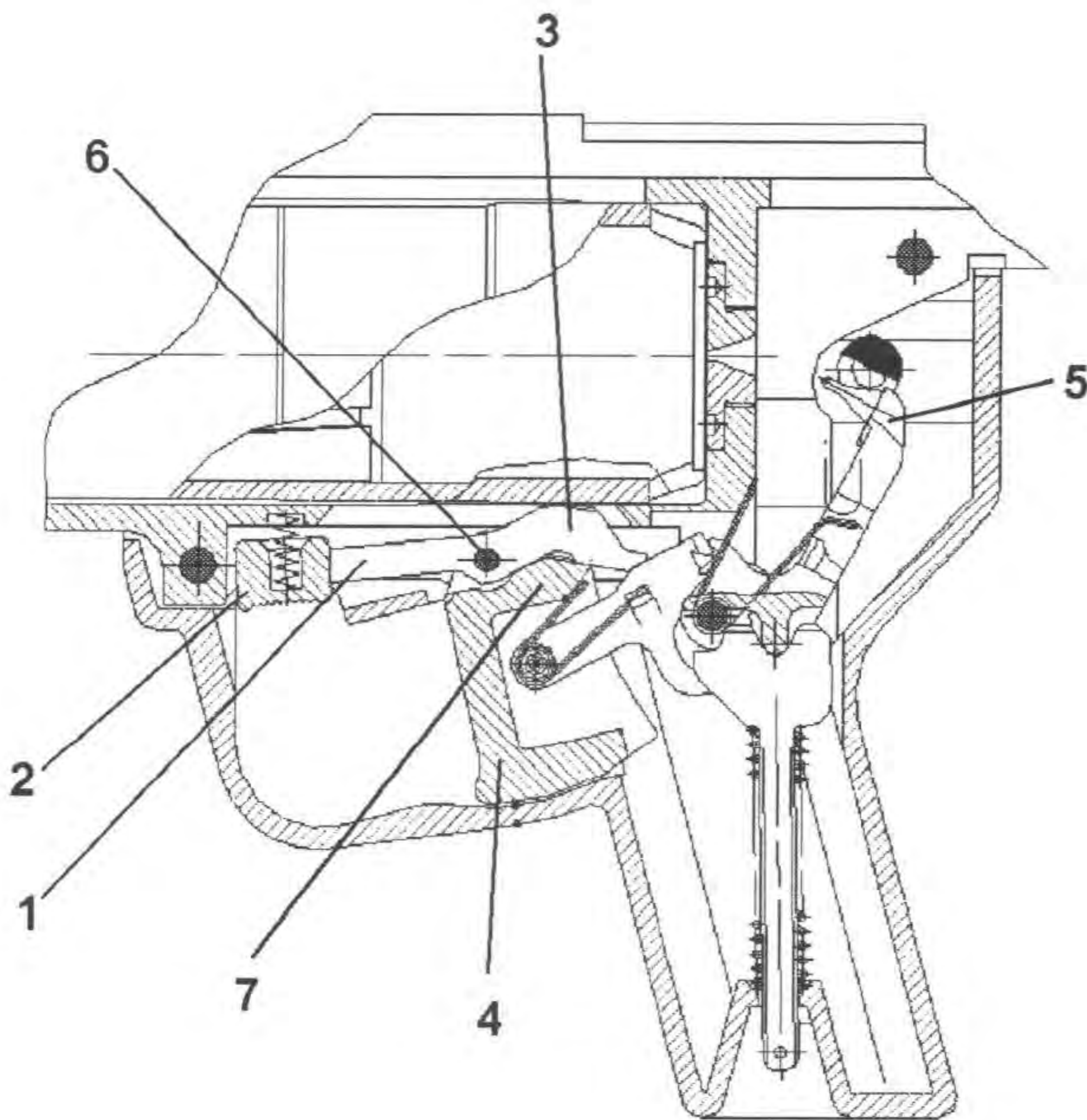


Fig. #14  
Barrel Unlocked, Safety Disengaged and Trigger Blocked From Releasing Hammer

1.	Barrel locking lever	5.	Hammer
2.	Barrel release lever (part of the barrel locking lever)	6.	Trigger axle
3.	Locking lever extension (part of the barrel locking lever)	7.	Rear end of trigger
4.	Trigger		



## **7. OPERATING INSTRUCTIONS:**

### **A. PREPARATIONS & INSPECTION PRIOR TO USE:**

The GLM must be inspected prior to being placed in service or after maintenance has been performed:

#### **1. CLEAR THE GLM (see page 6).**

#### **2. Remove Preservatives:**

- a. Remove any long-term preservatives that may be found on the GLM. Preservatives are applied at the factory prior to shipping the GLM to the end user and may be applied to GLMs prior to being placed in long-term storage. Refer to page 33 for the proper procedures for cleaning and lubricating the GLM.

#### **3. Inspect the Barrel:**

- a. The barrel must be securely mounted to the receiver by means of the barrel axle and elbow spring. Inspect the barrel and muzzle for dents, burrs, bulges, signs of corrosion, and excessive fouling.
- b. Engage the barrel locking lever by pushing upwards. The barrel should swing out from right to left. Push the barrel back into the receiver from left to right. Once seated inside the receiver, the barrel should remain locked in place.

#### **4. Inspect the Sights:**

- a. Inspect the Mechanical leaf sight for proper attachment and signs of damage. Ensure that the sight base is securely attached to the sight support and that the sight support is securely attached to the receiver.
- b. Inspect the front and rear sights to ensure they are safely clamped in both extended and retracted positions.

#### **5. Inspect the Ambidextrous Safety Lever and Trigger Mechanism:**

- a. Rotate the ambidextrous safety lever from "S" to "F" and back to "S"; in each of the two positions the safety lever must firmly seat into place, accompanied by an audible click.
- b. With the muzzle pointed in a safe direction, and the unloaded barrel in the closed position, place the ambidextrous safety lever on "S" and attempt to pull the trigger. The trigger must remain in the forward position and must not be able to travel rearward.
- c. Push up on the barrel locking lever, allowing the barrel to swing out from the receiver and rotate the ambidextrous safety lever from "S" to "F". The hammer tip (firing pin) must not protrude from the bolt face into the chamber.
- d. With the barrel still disengaged from the receiver and the ambidextrous safety lever on "F", press up on the barrel locking lever while attempting to pull the trigger to the rear. It must not be possible to pull the trigger to the rear and release the hammer without the locking lever extension raising up and protruding from the interior of the receiver above the trigger.

#### **6. Inspect the Receiver and Host Weapon Adaptors (if present):**

- a. Inspect the receiver and adaptor for cracks dents, burrs, and signs of corrosion.
- b. Inspect the buttstock locking lever on the left hand side of the receiver located above the safety lever. By pushing down on the rear serrated edge, the locking lever should be able to pivot in and out of the receiver.

Ensure all mounting screws (adaptors, accessories, rails, sights) are present and tight.

### **B. INSTALLATION & REMOVAL OF GLM BUTTSTOCK:**

TOOLS NEEDED: None

#### **1. INSTALLING THE GLM BUTTSTOCK:**

- a. **CLEAR THE HOST WEAPON. (if applicable; see appropriate operators manual).**
- b. **CLEAR THE GLM (see page 6).**
- c. Detach the GLM from the host weapon (if applicable). See next section for details.



- d. Remove the rear host weapon adaptor (if applicable) from the GLM receiver using the 5 mm Allen wrench. (Note: remove the front bayonet adaptor only if the retraction into the 5<sup>th</sup> buttstock notch is desired.)
- e. Ensure the buttstock's index marks (Fig. #15/Item #4) and sling eyelet (Fig. #15/Item #6) are facing up before attempting to install the buttstock into the receiver.
- f. Depress the serrated end of the buttstock locking lever (Fig. #15/Item #3) while inserting the shaft of the buttstock (Fig. #15/Item #2) into the GLM receiver's longitudinal slot and push forward until shaft locks into place. The vertical locking lever (Fig. #15/Item #1) may have to be raised.
- g. Adjust the length of the buttstock's shaft to one of five positions by depressing the serrated end of the buttstock locking lever (Fig. #15/Item #3) and push/pull the buttstock until the desired length has been attained. Ensure that the desired index mark on the buttstock's shaft (Fig. #15/Item #4) aligns with the locking index mark on the receiver (Fig. #15/Item #5).

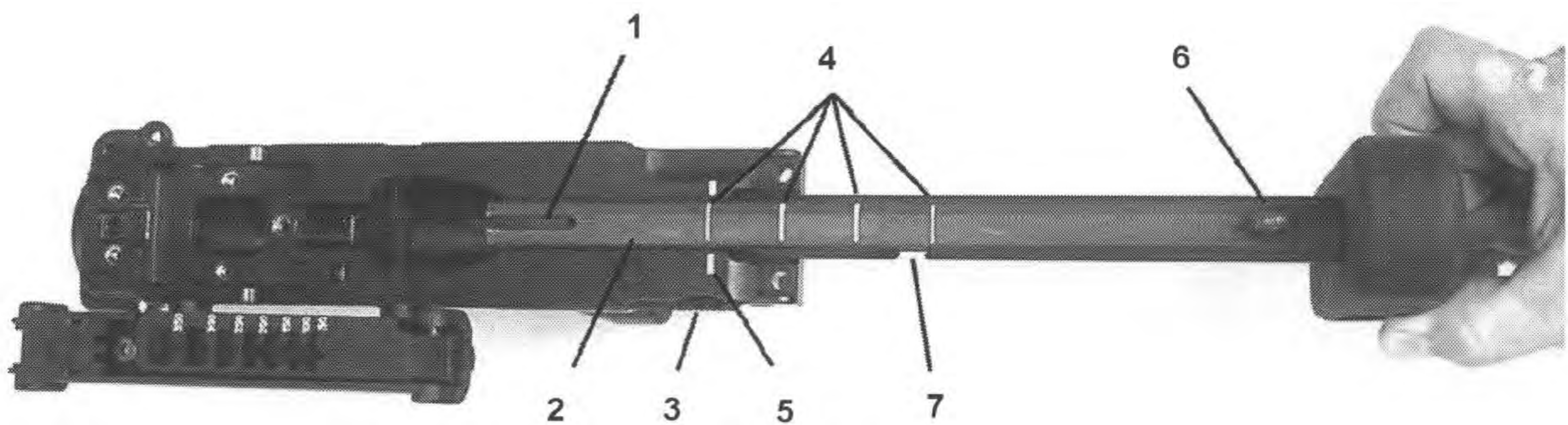


Fig. #15

## 2. REMOVAL OF THE GLM BUTTSTOCK:

- a. **CLEAR THE GLM. (see page 6).**
- b. Lift up on the vertical locking lever (Fig. #15/Item #1) located on the forward portion of the buttstock's shaft (Fig. #15/Item #2) while depressing the serrated end of the buttstock-locking lever (Fig. #15/Item #3).
- c. Withdraw the buttstock from the GLM's receiver by pulling the buttstock directly towards the rear.



### C. ATTACHING & DETACHING THE GLM TO & FROM THE HOST WEAPON:

The unique modular design of the GLM allows the launcher to be installed on a wide variety of host weapons ranging from carbines to rifles. Through the use of an operator replacable adaptor the GLM can presently be attached to and employed on the Heckler & Koch HK416/417 Weapons Systems. The HK416/417 weapon system requires the use of only the front bayonet adaptor. Because the GLM sights are mounted on the launcher's receiver and not on the host weapon, the zero (boresight) of the GLM is retained any time the launcher is removed from or attached to the HK416 or used with the add-on buttstock.

#### 1. **ATTACHING THE GLM TO THE HK416/417 WEAPONS SYSTEM (with rail system):**

TOOLS NEEDED: 5 mm Allen wrench (located on the GLM)

- a. **CLEAR THE HK416/417. (See appropriate operators manual).**
- b. **CLEAR THE GLM. (See page 6).**
- c. Remove the GLM buttstock (if fitted, refer to Page 23/Section 2).
- d. Attach the bayonet adaptor for the HK416/417 to the GLM using the screws provided (see Fig. #16, circle). Tighten all screws with the 5 mm Allen wrench.

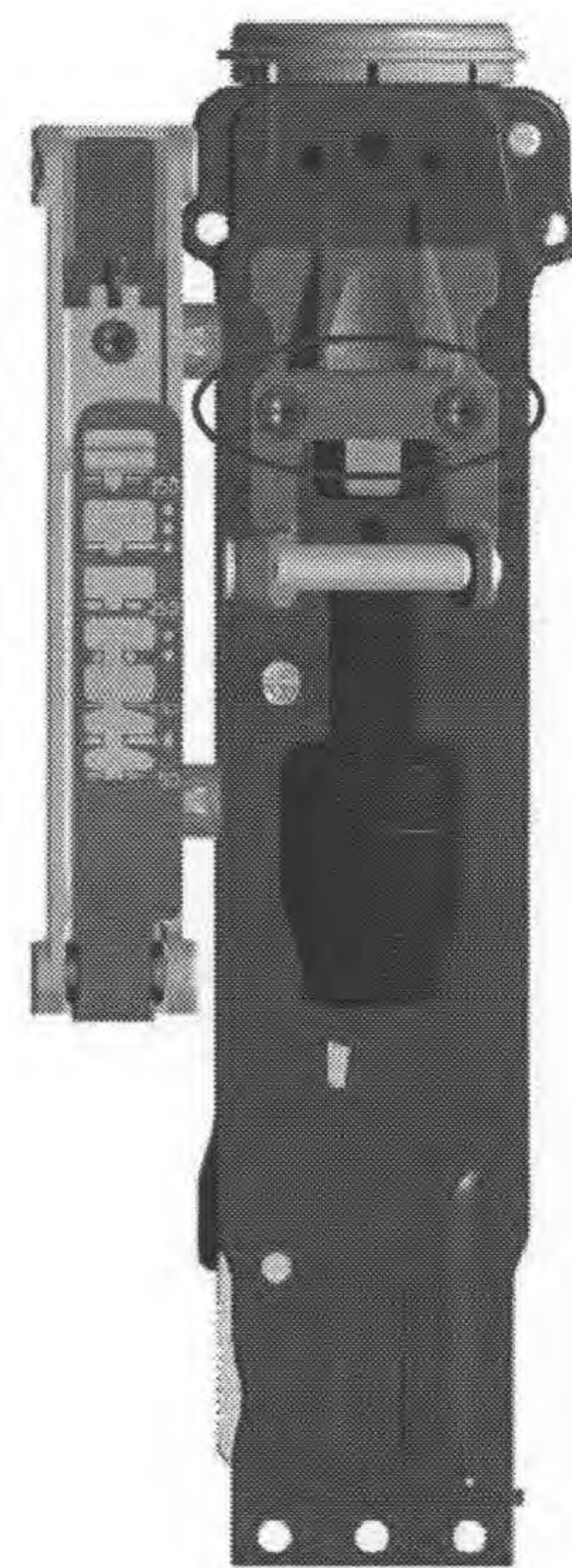


Fig. #16

- e. Place the captive locking pin found on the bayonet adaptor for the HK416/417, now mounted on the GLM, in the open (out) position.
- f. Engage the rear opening of the longitudinal slot, located on the top of the GLM receiver, with the front end of the 6 o'clock rail of the HK416/417 rail system (Fig. #16.1). Slide the GLM back onto the HK416/417's rail system until the GLM is fully seated on the host weapon and the captive locking pin on the GLM lines up with the hole through the rail system of the HK416/417.
- g. Push the captive locking pin from left to right to secure the GLM to the HK416/417 (Fig. #16.2, circle).
- h. Pull forward on the GLM to insure it is securely mounted on the host weapon.



Fig. #16.1

#### 2. **DETACHING THE GLM FROM THE HK416/417 WEAPONS SYSTEM:**

TOOLS NEEDED: None Required

- a. **CLEAR THE HK416/417. (see appropriate operators manual).**
- b. **CLEAR THE GLM. (see page 6).**
- c. Press the captive locking pin, found on the bayonet adaptor of the GLM, out from right to left through the rail system of the HK416/417.
- d. Pull the GLM forward and off of the host weapon.

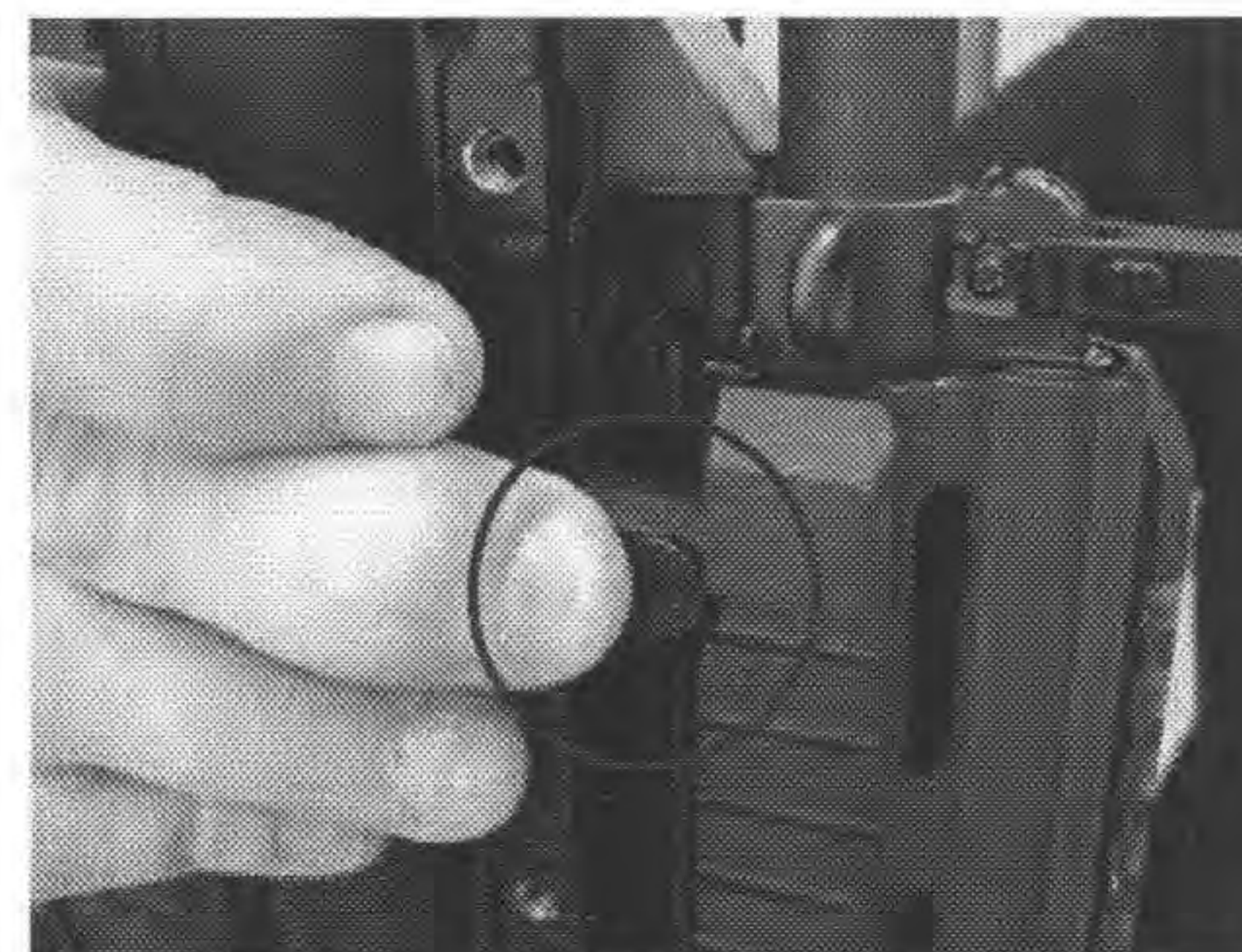


Fig. #16.2



## D. LOADING & UNLOADING THE GLM:

### 1. **LOADING THE GLM:**

- a. Ensure the ambidextrous safety lever is set on "S" (Safe).
- b. Press the barrel release lever up, allowing the barrel to swing out to the left of the receiver (Fig. #17).
- c. Insert a cartridge into the barrel; ensuring the cartridge is seated fully forward in the chamber.
- d. Return the barrel to the closed position, until the locking lever engages the barrel.

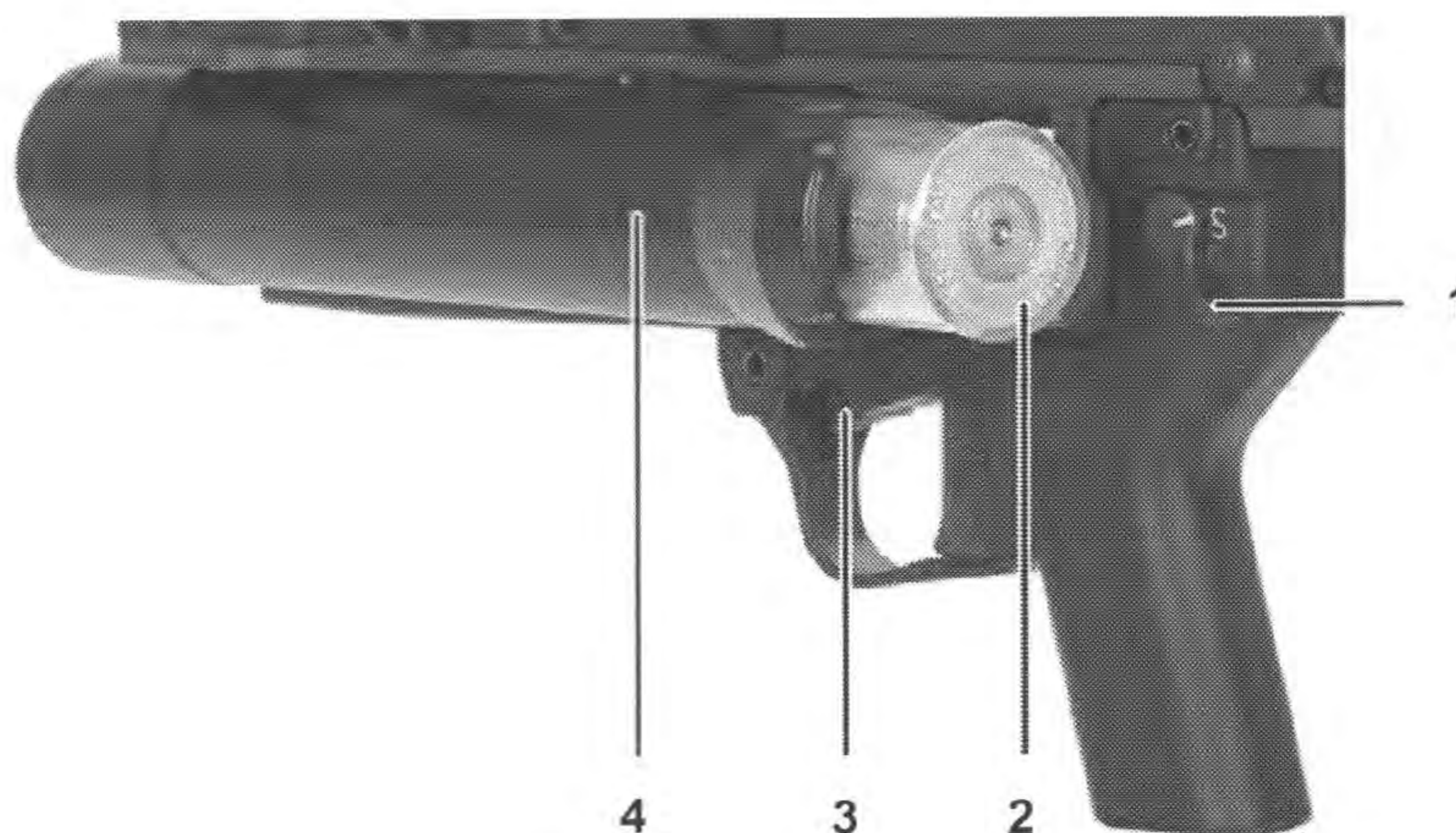


Fig. #17

1. Safety lever
2. Cartridge
3. Barrel release lever
4. Barrel

### **NOTE**

**To quietly load the GLM insert the round, depress and hold the barrel release lever upwards, close the barrel and release the barrel release lever to lock the barrel closed.**

### 2. **UNLOADING THE GLM:**

- a. Ensure the ambidextrous safety lever is set on "S" (Safe).
- b. Press the barrel release lever up, allowing the barrel to swing out to the left of the receiver.
- c. Remove the cartridge or cartridge case by hand, grasping the rim of the cartridge, and pulling towards the rear. Discard live ammunition in accordance with local procedures.
- d. Return the barrel to the closed position, until the locking lever engages the barrel.



E. FIRING THE GLM:

**CAUTION**

Always ensure the GLM is either properly mounted on the host weapon or fitted with the buttstock before attempting to fire.

1. Ensure the ambidextrous safety lever is set on "S" (Safe).
2. Ensure that both the front and rear sights are extended in the up position.
3. Estimate range to target.
4. Sight in on target.
5. Select range (50m, 100m, 150m, 200m, 250m, 300m, or 350m setting).
6. Align and center front sight post in the aperture window located on the folding leaf sight.
7. Rotate the safety lever to "F" (Fire).
8. Place finger on the trigger; only place your finger on the trigger once you have decided or have been authorized to engage targets.
9. Control breathing.
10. Take up slack and pull the trigger straight to the rear with constant pressure until the hammer falls.

F. IMMEDIATE ACTION:

**WARNING:**

In the event of a misfire, the operator must first rotate the ambidextrous safety lever downwards to the "S" (safe) position and maintain the muzzle in a safe direction for at least one minute. If, after a second attempt to fire the round still fails, the operator must wait at least one additional minute before attempting to remove the live round.

1. In the event that the cartridge is not detonated after being struck by the hammer:
  - a. Rotate the safety lever to "S" (Safe).
  - b. Wait for at least one minute keeping the launcher pointed downrange.
  - c. Rotate the safety lever to "F" (Fire).
  - d. Subsequently pull the trigger again.
  - e. If the round fails to fire a second time, wait another minute, then unlock and open the barrel and remove the faulty cartridge.
  - f. Dispose of the cartridge in accordance with applicable local guidelines and procedures.



## G. SIGHT ADJUSTMENT:

TOOLS NEEDED: 3 mm Allen wrench (located on the GLM)

- a. **CLEAR THE HOST WEAPON. (if applicable; see appropriate operators manual).**
- b. **CLEAR THE GLM. (see page 6).**

If the point of impact does not match the point of aim, the sight can be adjusted for both windage and elevation using the 3 mm Allen wrench.

### a. ELEVATION ADJUSTMENT:

1. Insert the 3 mm Allen wrench (Fig. #18/Item #2) into the elevation adjustment screw (Fig. #18/Item #1). One complete rotation of the elevation adjustment screw shifts the point of impact (POI) 34cm (13.4in) at 100m.
2. **Point of Impact Low:** Turn the elevation adjustment screw **counter-clockwise**.
3. **Point of Impact High:** Turn the height adjustment screw **clockwise**.

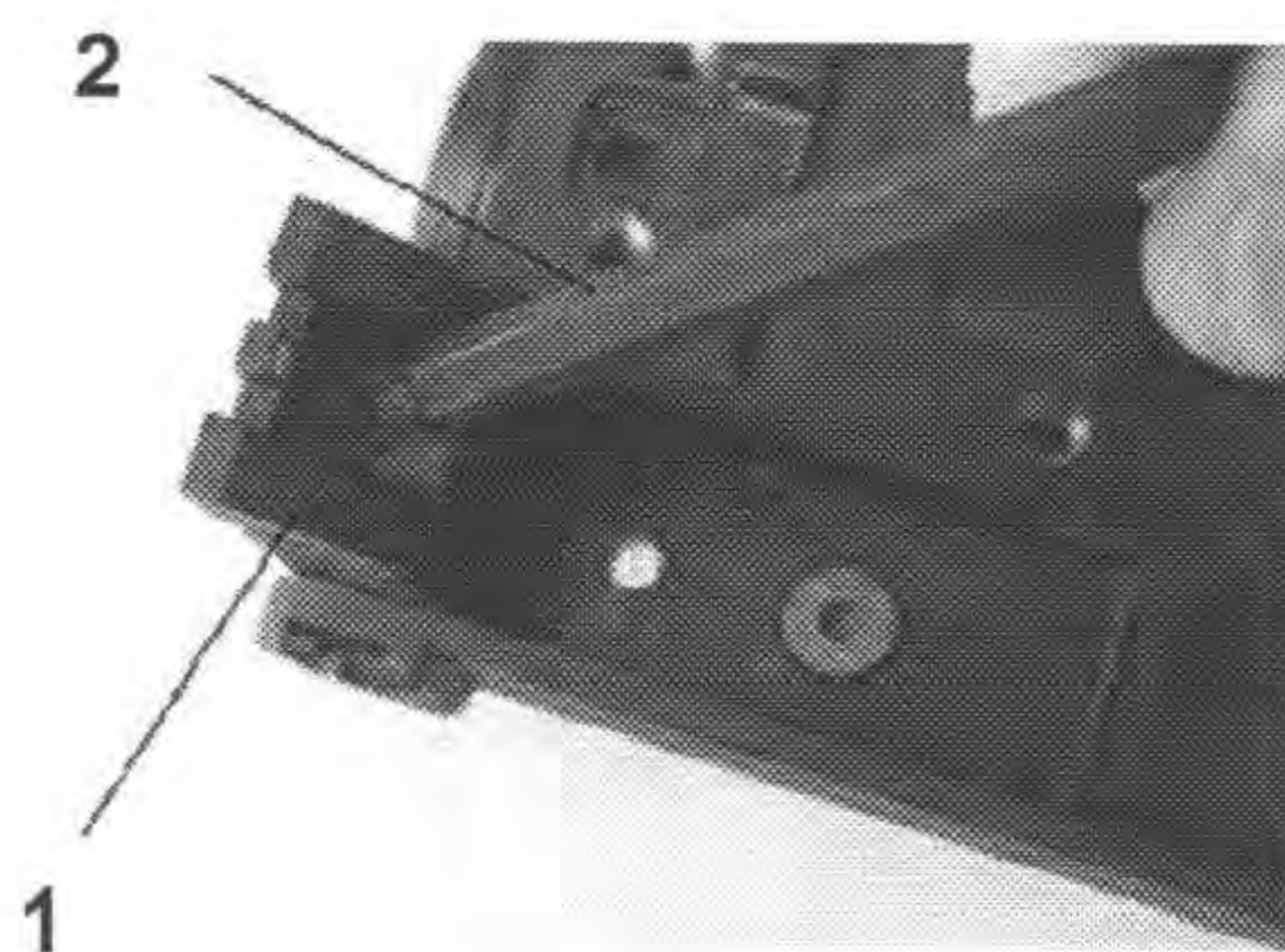


Fig. #18

### b. WINDAGE ADJUSTMENT:

1. Insert the 3 mm Allen wrench (Fig. #19/Item #2) into windage adjustment screw (Fig. #19/Item #1). One complete rotation of the elevation adjustment screw shifts the point of impact (POI) 34cm (13.4in) at 100m.
2. **Point of Impact Left:** Rotate the windage adjustment screw **counter-clockwise**.
3. **Point of Impact Right:** Rotate the windage adjustment screw **clockwise**.

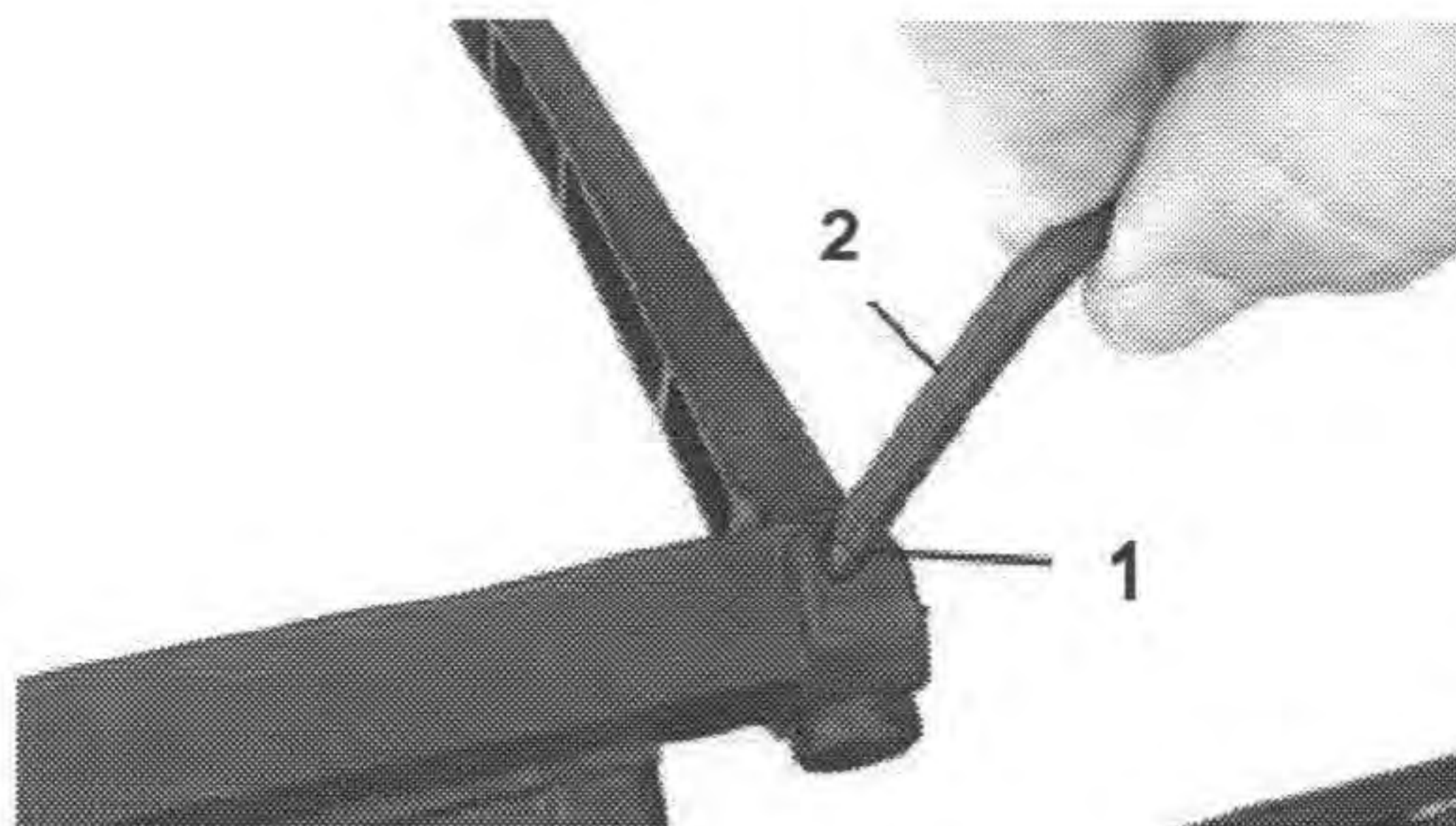


Fig. #19



## H. REMOVAL & INSTALLATION OF MECHANICAL LEAF SIGHT:

TOOLS NEEDED: 3 mm Allen wrench (located on the GLM)

### 1. REMOVAL OF THE MECHANICAL (LEAF) SIGHT:

- a. **CLEAR THE HOST WEAPON. (if applicable; see appropriate operators manual).**
- b. **CLEAR THE GLM. (see page 6).**
- c. Flip up the rear folding leaf sight.
- d. Remove the 3 mm sight screws on the sight support by rotating counter-clockwise. Once screws are removed, separate the sight support from the receiver.
- e. Using the 3 mm Allen wrench, remove the two 3 mm sight screws on the sight base by rotating counter-clockwise. Once screws are removed, separate the sight base from the sight support.

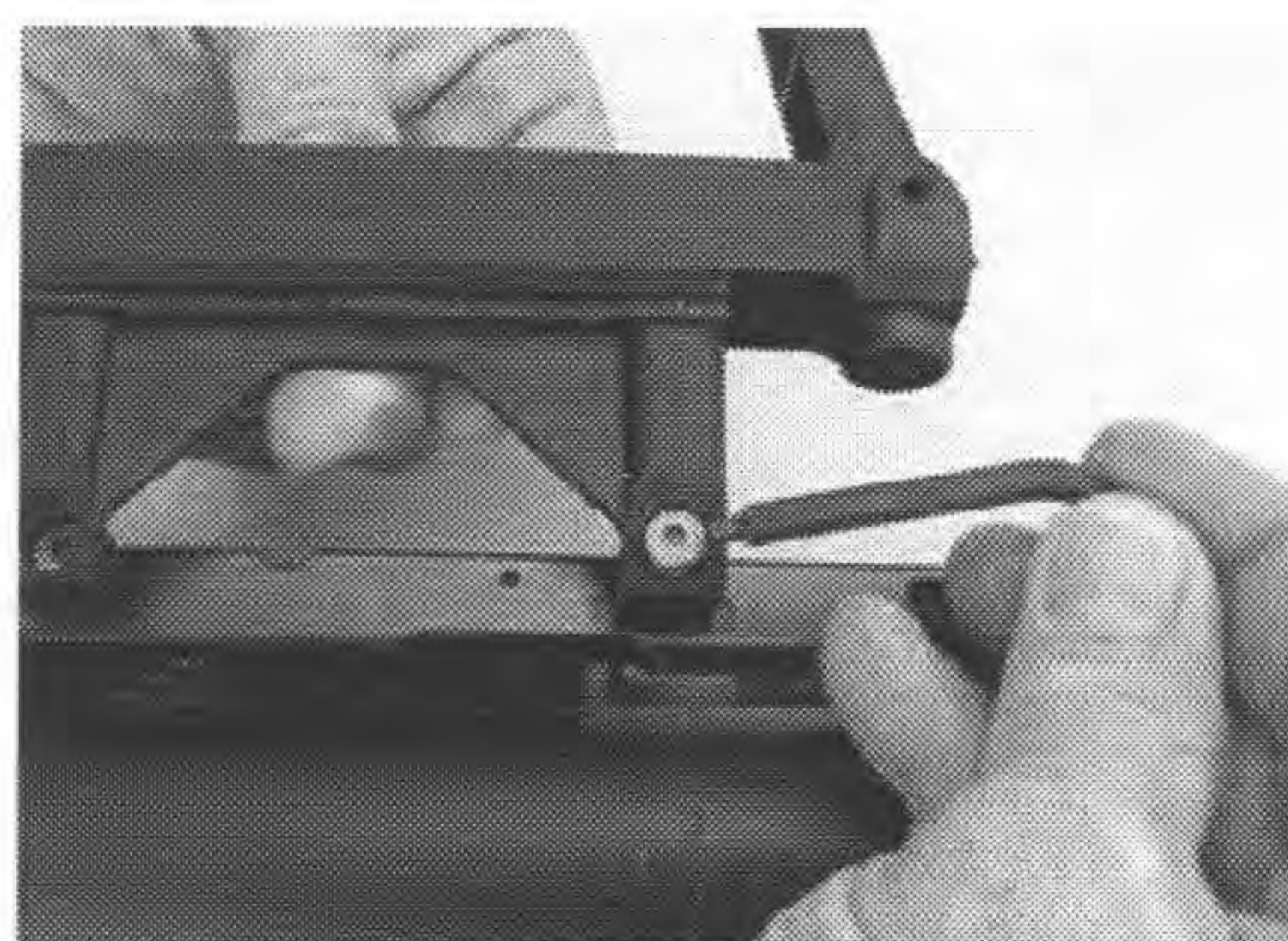


Fig. #20



Fig. #21

### 2. INSTALLATION OF THE MECHANICAL (LEAF) SIGHT:

- a. **CLEAR THE HOST WEAPON. (if applicable; see appropriate operators manual).**
- b. **CLEAR THE GLM. (see page 6).**
- c. The mechanical (leaf) sight may be installed on either the left or right side of the receiver as the primary sight or as a secondary (back-up) sight. Normally, right-handed shooters will place the mechanical leaf sight on the left side of the receiver and left-handed shooters will place the mechanical leaf sight on the right side of the receiver. The sight support is ambidextrous and may be placed on either side.
- d. Position sight base on top of sight support and install two 3 mm sight screws by rotating clockwise until hand tight. An alignment channel and dimple on the bottom of the sight base aids in properly positioning the sight base to the sight support. Ensure that the rear leaf sight always faces the breech of the GLM and that the front sight always faces the muzzle of the GLM.
  - a. Position the sight support on either the left or right side of the receiver and install two 3 mm sight screws by rotating clockwise with a 3 mm Allen wrench until tight. (Do not over tighten)



Fig. #22



Fig. #23

- b. It is recommended that zero procedures be applied to the GLM after the mechanical leaf sight has been exchanged, replaced, and/or repositioned.



## I. INSTALLATION, USE & REMOVAL OF THE VERTICAL FOREGRIP:

TOOLS NEEDED: 5 mm Allen wrench (Located on GLM)

### **Attachment points for mounting of the vertical foregrip**

The GLM is provided with a Picatinny Rail (MIL-STD-1913) forward of the trigger guard on the underside of the GLM receiver. Located here are threaded holes to which the folding vertical foregrip can be attached using mounting screws tightened with the 5 mm Allen wrench. The rail allows additional the attachment of optional accessories such as the fixed vertical foregrip, flash light e.g.

The folding vertical foregrip contains a vertical hand stop to reduce the possibility of the hand or fingers of the operator straying in front of the muzzle during firing.

### **Folding Vertical Foregrip**



Fig. #24



Fig. #25

This accessory comes as a standard feature of the GLM and can be attached by the operator to the attachment points of the GLM. The folding vertical foregrip can be used on the GLM in either mode but is specifically intended to provide a forward gripping surface for use of the GLM as **Stand-Alone Module (SAM)** with the buttstock attached.

The folding action of the vertical foregrip provides for a vertical grasping surface when necessary yet can be stowed to reduce the snag hazard of this item while at the same time providing the operator with a flat surface when he or she desires to lay the GLM on support to steady aiming.

### **CAUTION**

**A vertical foregrip should never be used to support the GLM for firing when the launcher is attached to the host weapon. When firing the GLM from the host weapon the forward firing hand of the operator should be on the pistol grip of the GLM and the rear firing hand on the pistol grip of the host weapon. This helps insure sufficient shoulder contact and steady support between the host weapon buttstock and operators' shoulder while also maintaining a suitable distance of the GLM sighting device(s) from the operators' face during firing.**



## FOLDING VERTICAL FOREGRIP MOUNTING PROCEDURE

To mount the Folding Vertical Foregrip with Handstop on the GLM.

1. **CLEAR THE HOST WEAPON.** (if applicable; see appropriate operators manual).
2. **CLEAR THE GLM.** (see page 6)
3. Align the Vertical Foregrip rail with the rail located on the GLM receiver forward of the trigger guard. Engage the recoil lug on the vertical Foregrip rail with the recoil groove in the receiver rail. Insure the handstop is in the forward position.
4. Install the two 5 mm tapered screws into the holes in the Vertical Foregrip rail and secure them in place using the 5 mm Allen wrench.

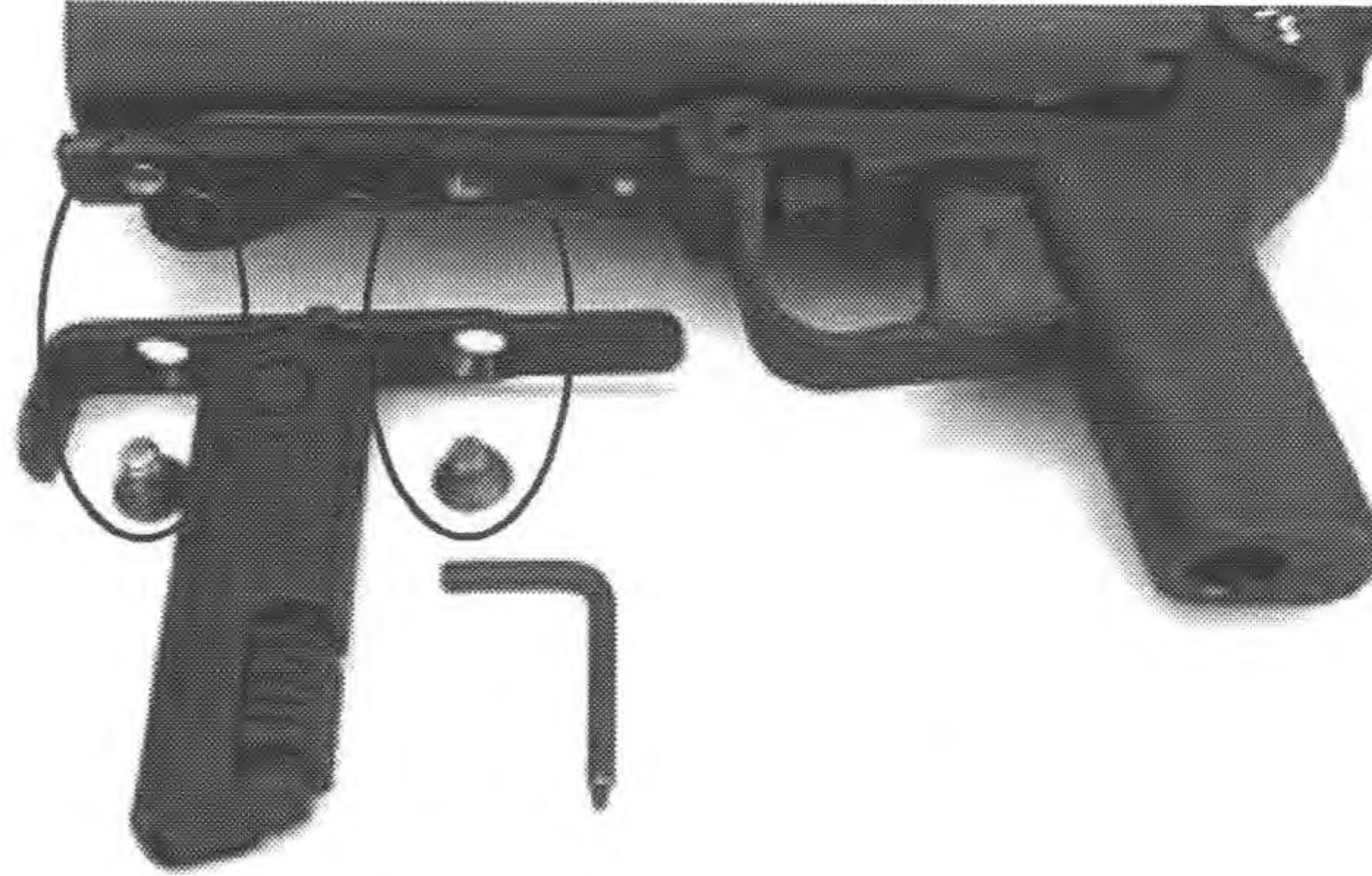


Fig. #26

## LOWERING, STORING THE VERTICAL FOREGRIP

The vertical foregrip can be lowered simply by pulling down on the grip itself.

To fold the grip the serrated release lever is pulled and held downward while the foregrip is folded into a horizontal stored position.



Fig. #27

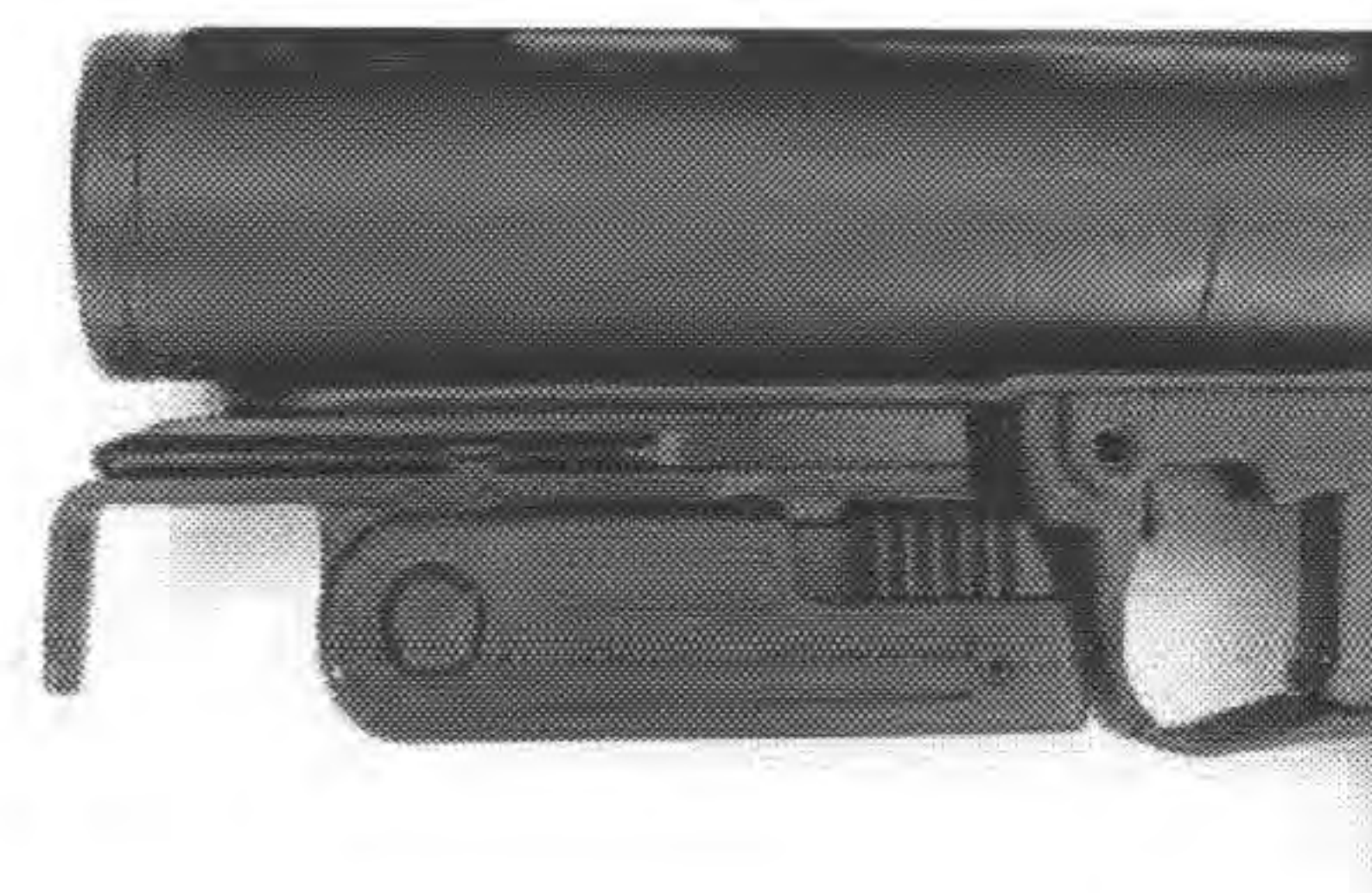


Fig. #28

## **NOTE**

**Do not attempt to fold the vertical foregrip without first actuating the release lever or the foregrip can be damaged.**



## J. INSTALLATION & REMOVAL OF THE SLING:

TOOLS NEEDED: None

### 1. INSTALLATION OF THE SLING:

- a. CLEAR THE HOST WEAPON. (if applicable; see appropriate operators manual).
- b. CLEAR THE GLM. (see page 6).

#### Stand-Alone Configuration (SAM)

- 1) Remove the GLM from the host weapon (if applicable).
- 2) Install the buttstock onto the GLM.
- 3) Install the sling's front snap hook to either the left or right eyelet (Fig. #29.1 / Item #1) located at the front corners of the GLM receiver.
- 4) Install the sling's rear snap hook to eyelet located on the shaft of the buttstock (Fig. #29.1 /Item #2).

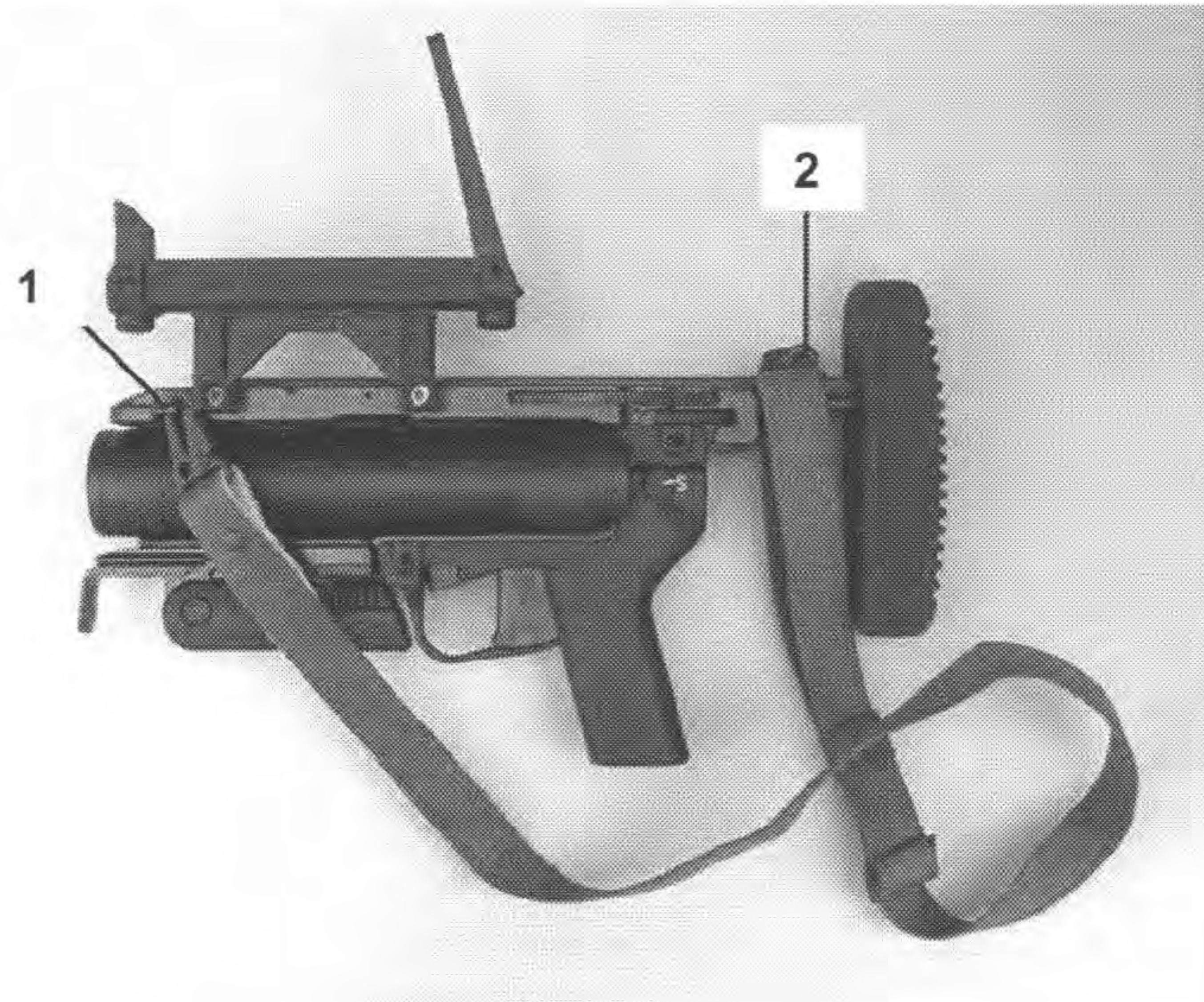


Fig. #29.1

#### NOTE

With the GLM mounted on the host weapon the standard front rifle sling swivel will be blocked.

#### Host Weapon Configuration

- 1) Attach the GLM to the host weapon.
- 2) Attach the front rifle sling hook to the hole located in the rear end of the handguard-style mouting adaptor or to an accessory sling swivel attached to the 9 o'clock rail of the rail attachment system of the host rifle.
- 3) Attach the rear end of the rifle sling to the host weapon as normal.

### 2. REMOVAL OF THE SLING:

- a. CLEAR THE GLM. (See page 6)
- b. Remove the sling following the reverse procedures of the steps outlined above.



K. INSTALLATION AND USE OF THE MUZZLE CAP:



Fig. #29.2

A detachable muzzle cap is provided with the GLM to limit the intrusion of debris into the barrel of the GLM. This plastic muzzle cap snaps onto the muzzle of the GLM and is removed simply by pulling it off in a forward direction.

A lanyard loop is provided on the muzzle cap so it can be attached to the launcher via the means of a short lanyard.

**CAUTION**

Never attach the muzzle cap to the muzzle of the GLM using adhesive tape.  
This may restrict the departure of the grenade from the barrel of the GLM.

L. OPERATOR DISASSEMBLY & REASSEMBLY (FIELD STRIPPING):

**WARNING**

Operator disassembly of the GLM beyond that described in the operators' portion of this manual is not authorized. Evacuate the Grenade Launcher to an authorized armorer or Heckler & Koch if detailed disassembly or repair is needed.



M. OPERATOR CLEANING & LUBRICATION:

1. **Cleaning Intervals:** There are two types of operator cleaning for most firearms: normal cleaning and major cleaning.
  - a. **Normal Cleaning:** Performed after each firing, after firing 50 rounds or every six months.
  - b. **Major Cleaning:** Often referred to as "detailed cleaning". Performed after firing 500 rounds or when the GLM has been exposed to, or laden throughout with sand, dust, water (especially salt water), or other visible contaminants or foreign matter.

**NOTE:**  
The cleaning intervals listed above are recommended intervals only. Your intervals between cleaning will vary greatly depending on many factors to include the type, quantity, and quality of ammunition used, the environment in which the GLM is operated, the thoroughness of your cleaning, and many other factors.

2. **40 mm x 46 Cleaning Kit (Fig. #30):**

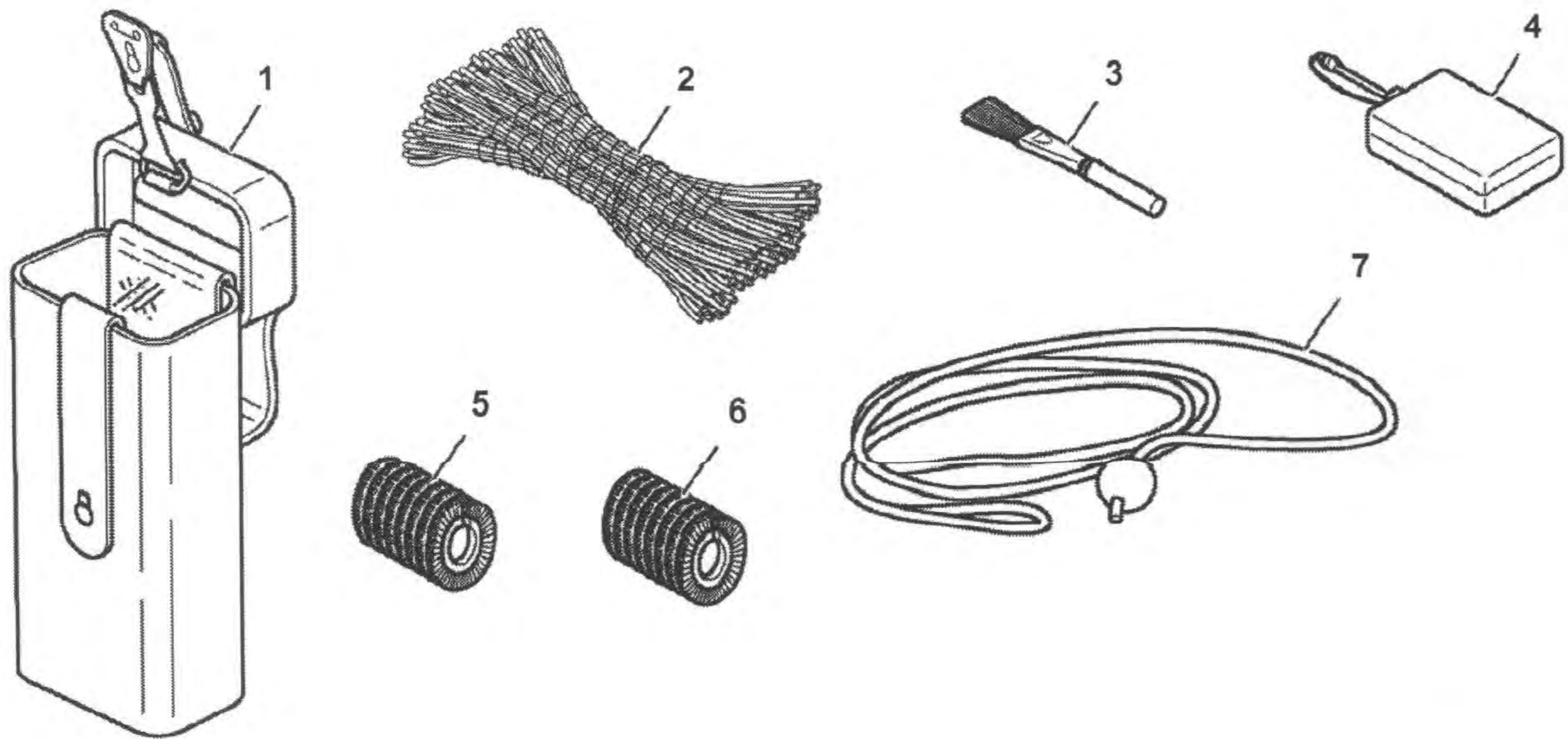


Fig. #30  
40 mm x 46 Cleaning Kit

1.	Storage case
2.	Pull throughs
3.	Cleaning brush
4.	Oiler
5.	Oil brush
6.	Cleaning brush
7.	Cleaning cord



3. NORMAL CLEANING:

a. CLEAR THE GLM (see page 6).

CAUTION:

1. Never clean the bore from the muzzle end of the barrel as damage to the bore and or muzzle can have an appreciable adverse effect on the accuracy of the GLM.
2. Never stop or attempt to reverse direction when pushing a bore brush or cleaning patch through the bore or may become permanently lodged in the barrel.
3. Do not clean with:
  - Metallic objects
  - Chemicals like trichlorethylene
  - Synthetics, when the weapon is at hot temperatures
  - Water

b. Cleaning has to be carried out

- each time after use.
- each time after firing.
- in periodic intervals when the launcher was not in use.

Each time after cleaning the launcher has to be checked for proper condition and smooth functioning.

c. Cleaning

- Clean and dry with a clean cloth.
- Remove dirt and foreign matter with cleaning brush.
- Pull oil-soaked brush several times from the chamber through the barrel (if possible immediately after firing).  
Let the oil react for some time.
- Pull cleaning brush and clean wicks (8 bundles) through the barrel until the barrel is clean.
- Slightly lubricate the barrel bore and moving parts.

d. Preservation in case of preliminary storage up to 6 months

Add-on launchers which are out of use for a longer period of time have to be cleaned, preserved with gun oil and stored in an appropriate storage room. They must be stored with the safety set at "SAFE". During storage there must be no contact between the individual launchers.

Every 6 months the grenade launchers have to be checked for proper condition, smooth and flawless operation. After the inspection they have to be oiled again.



4. **MAJOR CLEANING:**

- a. **CLEAR THE GLM (see page 6).**
- b. Perform NORMAL CLEANING as described previously.
- c. Major Cleaning is the same as Normal Cleaning except that all parts should be rinsed with or immersed in, solvent and thoroughly scrubbed with a nylon brush. All parts should then be dried using rags, swabs, or compressed air.

**NOTE:**

All parts of the GLM can be immersed in any solvent that it is safe to put your hand into, including ultrasonic cleaning solution. Use of ultrasonic cleaning can result in the removal of colored reference markings on the receiver and selector lever.

**NOTE:**

A function check should be conducted on the GLM after cleaning and/or inspection.



## 5. LUBRICATION:

Any firearm requires proper lubrication to function as designed and the GLM is no exception. Absence of lubrication may impede the operation of the GLM, particularly in load-bearing or friction contact areas. Excessive lubrication may also cause function problems by acting as a magnet for dirt, grit, sand, and fouling. Do not use lubricants that boast of their ability to penetrate metal as these substances may deaden cartridge primers.

The following lubricants should be used on the GLM: CLP (Breakfree, TW25 B) LSA, LAW or OX24.

### Lubrication Guide (Where and how much):

- a. **NO Lubrication:** (surface is dry and not slippery to the touch)
  - Plastic or rubber components
  - Sling webbing
  
- b. **LIGHT Lubrication:** (1 or 2 drops of lube or a finger run across the surface yields little or no lubricant)
  - Bore, chamber, locking surfaces of the barrel
  - Safety lever
  - Barrel release lever
  - Buttstock locking lever
  - Barrel axle
  - Barrel elbow spring
  - Bayonet Adaptor Locking Lever screw
  - Vertical Foregrip Axle
  - Vertical foregrip release lever
  - Mechanical (leaf) sight adjustment screws
  - All metal parts (except aluminium parts) and/or any area where metal contacts metal
  
- c. **MEDIUM Lubrication:** (4 to 5 drops of lube or a finger run across the surface of the item yields some lubricant but lube does not run down the side of the item when it is held in the vertical position)
  
- d. **HEAVY Lubrication:** (lubricant runs down the surface of the item when held in the vertical position)

**NOTE:** No Medium or Heavy Lubrication is required on the GLM.

Reapply lubricant periodically during firing as it burns off from the heat. Apply lubricant using a clean shaving brush, cotton swabs, patches, or rags. A spray bottle of lubricant also works well when using compressed air to circulate the lubricant into all parts and spaces and to remove excess lube as well.

**Extreme temperature lubrication procedures:** If the GLM is to be used or fired in temperatures below -35 degrees F (-37° C), thoroughly remove all other types of lubricant from all internal and external surfaces of the firearm, and apply LAW (Lubricating oil, Arctic, Weapon) lubricant, NSN 9150-00-292-9689 in accordance with the instructions for applying LIGHT and MEDIUM amounts of lubricant as described above. Refer to the lube guide below for further guidance on selecting the correct lubricant for all temperature ranges.

Under all but the coldest Arctic conditions, CLP is the lubricant to use on your weapon.

- Between +10 degrees F (-12° C) and -10 degrees F (-23° C) either CLP or LAW may be used.
- Below -10 degrees (-23° C) use LAW.

**Note:** Do not mix lubricants on the same parts of the weapon. The weapon must be thoroughly cleaned during the change from one lubricant to another. Dry cleaning solvent is recommended for cleaning during the change from one lubricant to another.



## N. OPERATOR INSPECTION & FUNCTION CHECK:

During or immediately after cleaning is completed, the operator should briefly inspect the clean parts and surfaces of the GLM and accessories for any irregularities that may cause problems during their use. If any potential deficiencies or unusual conditions are noted, they should be corrected immediately or brought to the attention of the unit armorer.

In general, the operator should keep a watchful eye out for the following general discrepancies:

- Improper function
- Missing Parts
- Cosmetic flaws
- Improper assembly
- Loss of spring tension (where applicable)
- Uncommon looseness (where applicable)
- Cracked welds or seams
- Excessive wear
- Absence of protective finish (where applicable)
- Absence of or excessive presence of lubrication in the proper amount

### 1. INSPECTION CHECKLIST:

- a. **CLEAR THE GLM (see page 6).**
- b. Muzzle: Inspect for dents, burrs, bulges and excessive fouling.
- c. Barrel: Inspect for dents, burrs, bulges, and excessive fouling.
- d. Mechanical Leaf Sight: Inspect for dirt, fouling, and signs of corrosion.
- e. Receiver: Inspect for cracks, dents, bulges and excessive wear.
- f. Trigger: Inspect for cracks and excessive wear. Inspect trigger spring for excessive wear.
- g. Trigger Mechanism: Inspect for excessive wear and corrosion.

### 2. FUNCTION CHECK:

- a. **CLEAR THE GLM (see page 6).**
- b. Ensure the safety lever is set on "S" (Safe).
- c. Attempt to pull the trigger. Hammer should NOT fall.
- d. Set the safety lever at "F" (Fire), unlock and open the barrel of the dismounted launcher. The firing pin tip of the hammer must not protrude past the bolt face.
- e. Depress the barrel locking lever all the way and pull the trigger.
- f. It must not be possible to pull the trigger and release the hammer without the locking lever extension being swiveled up to its locking position where it protrudes the receiver surface above the trigger.
- g. Press the barrel release lever all the way: The barrel must swivel out to the left until it is stopped by the rubber buffered barrel stop which contacts the stop pin on the receiver.
- h. Release the barrel release lever and return the barrel into the receiver: The barrel must be properly locked by the locking lever extension.



**O. OPERATIONS UNDER UNUSUAL CONDITIONS:**

**1. Extreme Cold Climate – Arctic:** Use LAW for lubrication and CLP for cleaning

- a. Cleaning and lubrication should be accomplished inside a warm or protected area at room temperature if possible.
- b. Apply a light coat of LAW to all functional parts.

To prevent the condensation of moisture and eventual freezing, keep the GLM covered when moving from a warm to a cold area to allow gradual cooling.

- c. Always attempt to keep the GLM dry.
- d. Attempt to unload and hand function the GLM every 30 minutes if feasible to help prevent the freezing of functional parts.
- e. Do not lay a warm GLM directly in snow or ice.
- f. When moving a cold weapon into a warm place, condensation (moisture) will form in and on the GLM. If possible, leave the GLM in a protected but cold area outside. When the GLM is brought inside a warm place, it should be wiped dry several times before it reaches room temperature.

**2. Hot, Wet Climate – Jungle:** Use CLP to clean and lubricate.

- a. Perform normal maintenance as outlined in the Maintenance Instructions section.
- b. Clean and lubricate the GLM more frequently. Inspect hidden surfaces of the barrel, receiver and chamber area.
- c. Prevent corrosion by removing handprints by wiping with a dry rag. Lubricate lightly with CLP.
- d. Unload and inspect the ammunition for signs of corrosion and moisture. Wipe ammunition dry before reloading. Do not lubricate ammunition.
- e. Recommendation: Use protective rifle bags/cases as applicable whenever the tactical situation permits.

**3. Hot, Dry Climate – Desert:** Use CLP to clean and lubricate.

- a. Be aware that while deserts can be hot during the daytime, at night temperatures may drop below freezing during hours of darkness. The operator will have to adjust the frequency of inspections and maintenance accordingly.
- b. Frequently inspect the GLM for dust and sand. Attempt to clean the GLM at least daily if possible.
- c. Only lubricate internal working surfaces with normal amounts of CLP. Over-lubricating the GLM in dry desert condition may result in malfunctions for dust and sand will cling to any residual CLP.
- d. Do not lubricate ammunition.
- e. Recommendation: Use protective rifle bags/cases as applicable whenever the tactical situation permits.

**4. Heavy Rain and Fording Operations:** Use CLP to clean and lubricate.

**WARNING:**

Never attempt to fire the GLM if water is suspected to be present in the barrel.

- a. Always drain any water from barrel prior to firing. Dry the bore with a swab and cleaning rod as required.
- b. Always attempt to keep the GLM as dry as possible.
- c. Do not lubricate ammunition.
- d. Recommendation: Use protective rifle bags as applicable whenever the tactical situation permits.



## 8. MAINTENANCE INSTRUCTIONS:

### A. SPECIAL TOOLS & GAUGES:

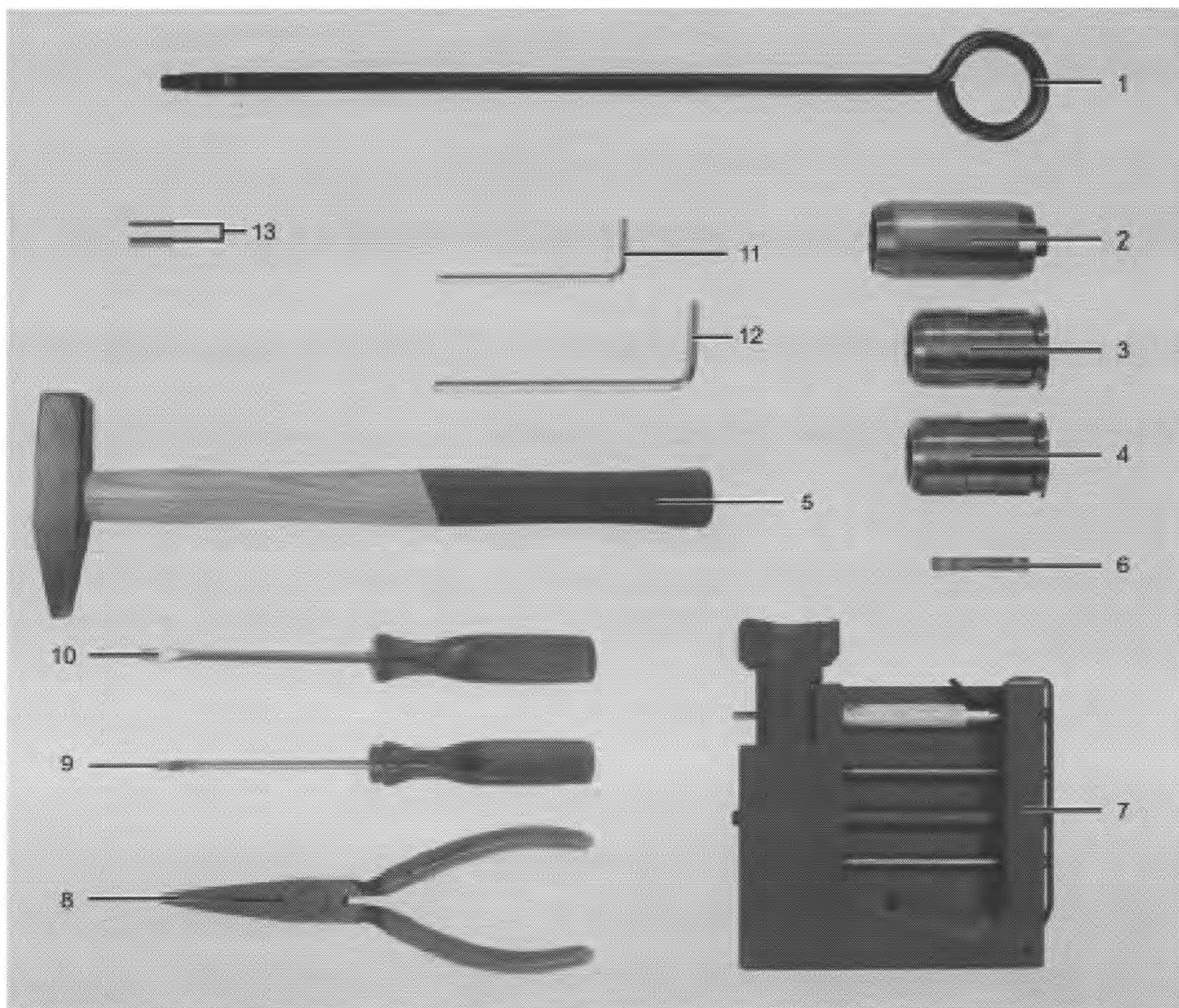


Fig. #31  
GLM Special Tools & Gauges

Item		Part Number
1.	Extension rod for bore erosion gauge	322314
2.	Bore erosion gauge	346106
3.	Headspace gauge (go gauge), 2.13 mm	349548
4.	Headspace gauge (no-go gauge), 2.70 mm	349549
5.	Hammer 200 gr.	957416
6.	Hammer tip protrusion gauge, 1.18 mm (no-go) – 1.7 mm (go)	340117
7.	Assembly fixture for hammer spring/rod (consists: 1,8 mm and 1,4 mm (2x) Drift punch, Pin punching and fitting tool)	352483
8.	Flat pliers	957296
9.	Forked screwdriver for spring engagement	330024
10.	Screwdriver 5,5 x 120 mm	952655
11.	Allen wrench 3 mm	957428
12.	Allen wrench 5 mm	929359
13.	Assembly pins (1,5 mm x 10)	929271



## B. ADJUSTMENT TOLERANCES:

- a. HAMMER TIP PROTRUSION: 1.7 mm (go)  
1.18 mm (no go)
- b. BOLT HEADSPACE: 2.70 mm (no go)  
2.13 mm (go)
- c. BORE EROSION: 40.77 mm (go)

### WARNING:

The following procedures outlined in the maintenance section of this manual must only be performed by qualified personnel. Individual operators are not authorized to perform procedures as outlined in Section 8 (Maintenance Instructions). Improper disassembly/reassembly may result in serious injury to the operator.

## C. INSPECTION OF THE HEADSPACE:

Gauges/Tools Needed: Headspace gauge (Fig. #31/Item #3) (go gauge)  
Headspace gauge (Fig. #31/Item #4) (no-go gauge)

### 1. CLEAR THE GLM (see page 6).

- 2. Insert the Headspace "go" gauge (Fig. #31/Item #3) into the chamber.
- 3. Close and lock the barrel. The barrel must fully close and the locking lever must properly lock the barrel.

In case of short headspace, check the barrel locking extension; the barrel hinge; the cylindrical recess inside the chamber; the bolt face with its locking extension; and the receiver for wear and damage; exchange parts if necessary.

Possible causes for short headspace:

- Improper assembly or damage of the barrel hinge, barrel axle, bearing of barrel axle in the receiver.
  - Improper assembly or damage of the barrel locking extension or bolt face locking extension (Loose).
  - Damage/wear on the receiver or the bolt face
  - Damage/wear on the cylindrical recess at the rear end of the chamber.
  - Damaged/worn out parts must be replaced by new parts.
4. Insert the Headspace "no-go" gauge (Fig. #31/Item #4) into the chamber. Attempt to close the barrel. The barrel **must not close** when the Headspace "no-go" gauge (Fig. #32/Item #2) is inserted into the chamber and the locking lever must not engage into the barrel. If the barrel closes when the "no-go" gauge is inserted, the barrel headspace is too great.

In case of excessive headspace, check the barrel locking extension; the barrel hinge; the cylindrical recess inside the chamber; the bolt face with its locking extension; and the receiver for wear and damage; replace parts if necessary.

Possible causes for excessive headspace:

- Damage/wear on the barrel hinge, barrel axle, bearing of barrel axle in the receiver.
- Damage/wear on the barrel locking extension or bolt face locking extension.
- Damage/wear on the receiver or the bolt face.
- Damage/wear on the cylindrical recess at the rear end of the chamber.
- Damaged/worn out parts must be replaced by new parts.

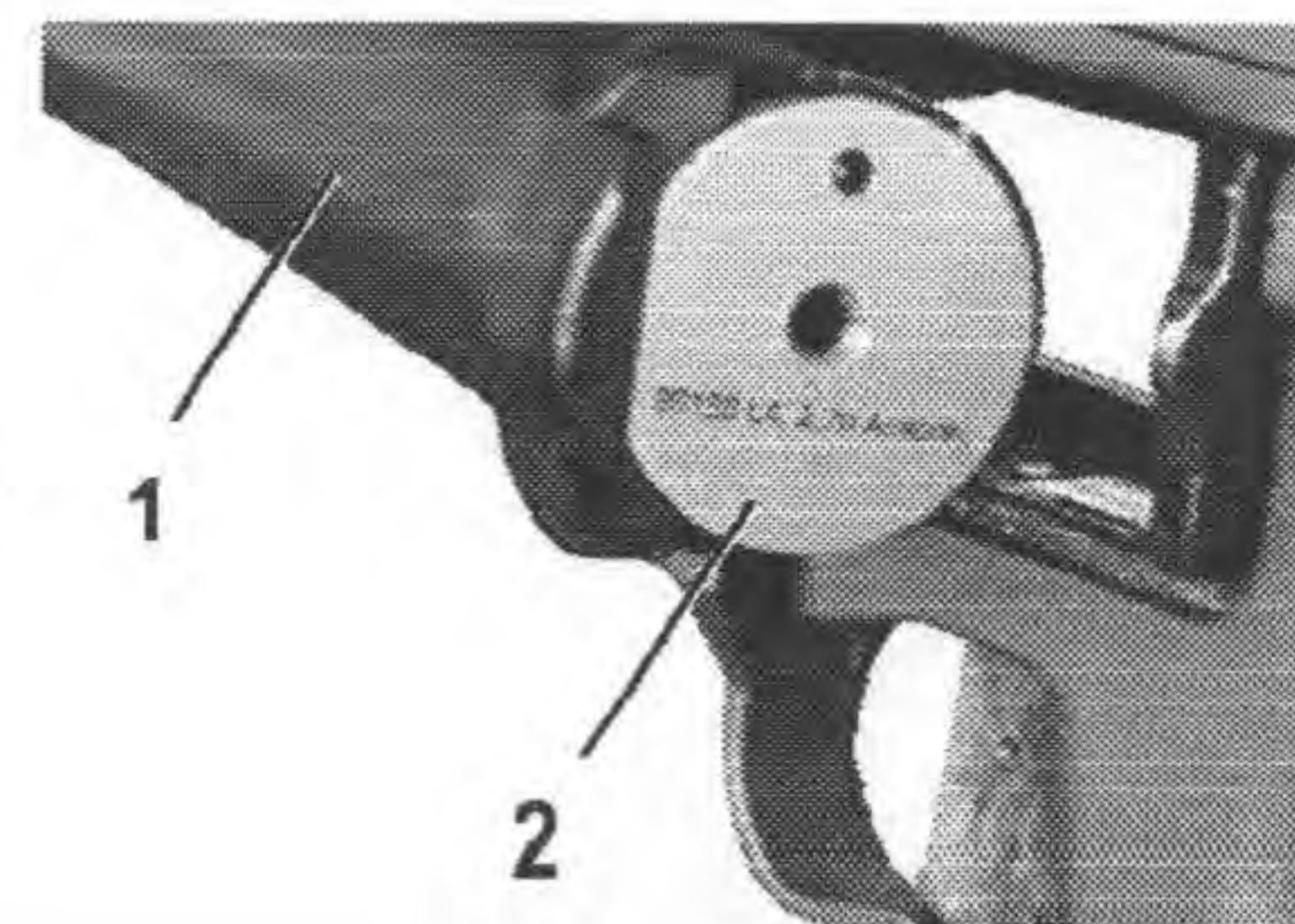


Fig. #32



#### D. INSPECTION OF BORE EROSION:

Gauges/Tools Needed: Bore erosion gauge (Fig. #31/Item #2) (limit gauge)  
Extension rod (Fig. #31/Item #1)

1. **CLEAR THE GLM (see page 6).**
2. Ensure barrel is clean before performing bore erosion inspection.
3. Screw the extension rod onto the Bore erosion gauge.
4. Insert the gauge from the rear (chamber) into the barrel and slide it all the way through the barrel (Fig. #33).
5. If the gauge does not go through, check for dirt or obstructions (dent). Replace the barrel if the bore erosion gauge does not slide through the barrel smoothly.

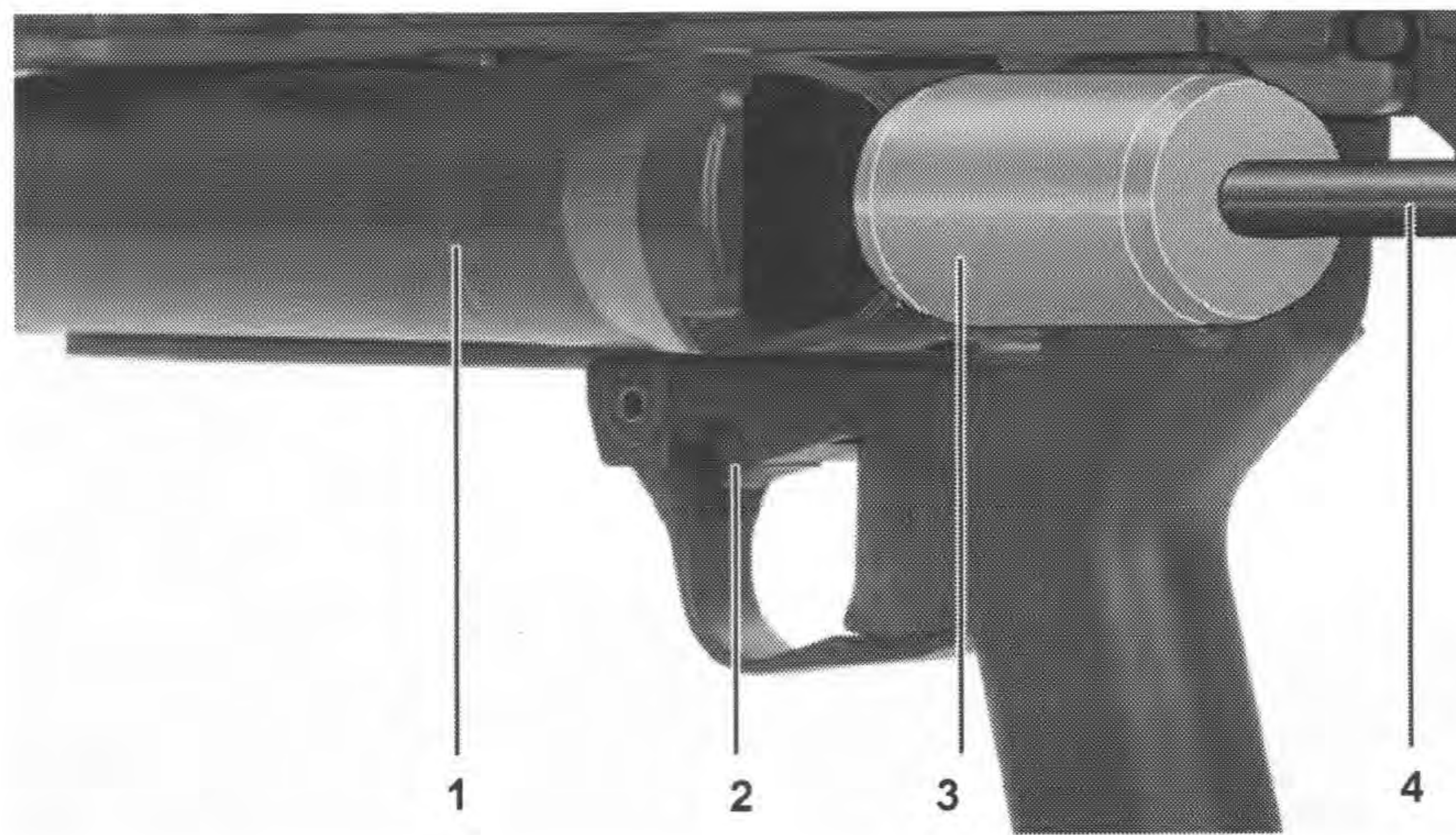


Fig. #33  
Bore erosion test

1. Barrel
2. Barrel release lever
3. Bore erosion gauge
4. Extension rod



E. INSPECTION OF THE HAMMER TIP PROTRUSION:

Gauges/Tools Needed: Hammer tip protrusion gauge (Fig. #31/Item #6)

1. **CLEAR THE GLM (see page 6).**
2. Remove the GLM from the host weapon.
3. Remove the two fastening pins holding the pistol grip to the receiver (Fig.#34), and remove the pistol grip, (Page 17, Fig.#10)
4. Push up on barrel release lever and allow the barrel to pivot from the receiver.
5. Rotate the safety lever to "F"(Fire).
6. Actuate the trigger and keep it pressed, push the hammer tip through the receiver all the way forward.
7. Release the trigger and keep the hammer pushed to the front.
8. Slide the "Go"side of the hammer tip protrusion gauge over the protruding hammer tip. The hammer tip **must not** contact the gauge.
9. Slide the "No-Go"side of the hammer tip protrusion gauge over the protruding hammer tip. Contact with the hammer tip **must** be made.
10. In case of excessive or insufficient hammer tip protrusion; inspect for dirt or debris on the hammer or receiver area, clean if necessary. Recheck and if the area is still the same, the hammer must be replaced. Re-inspect if replaced.

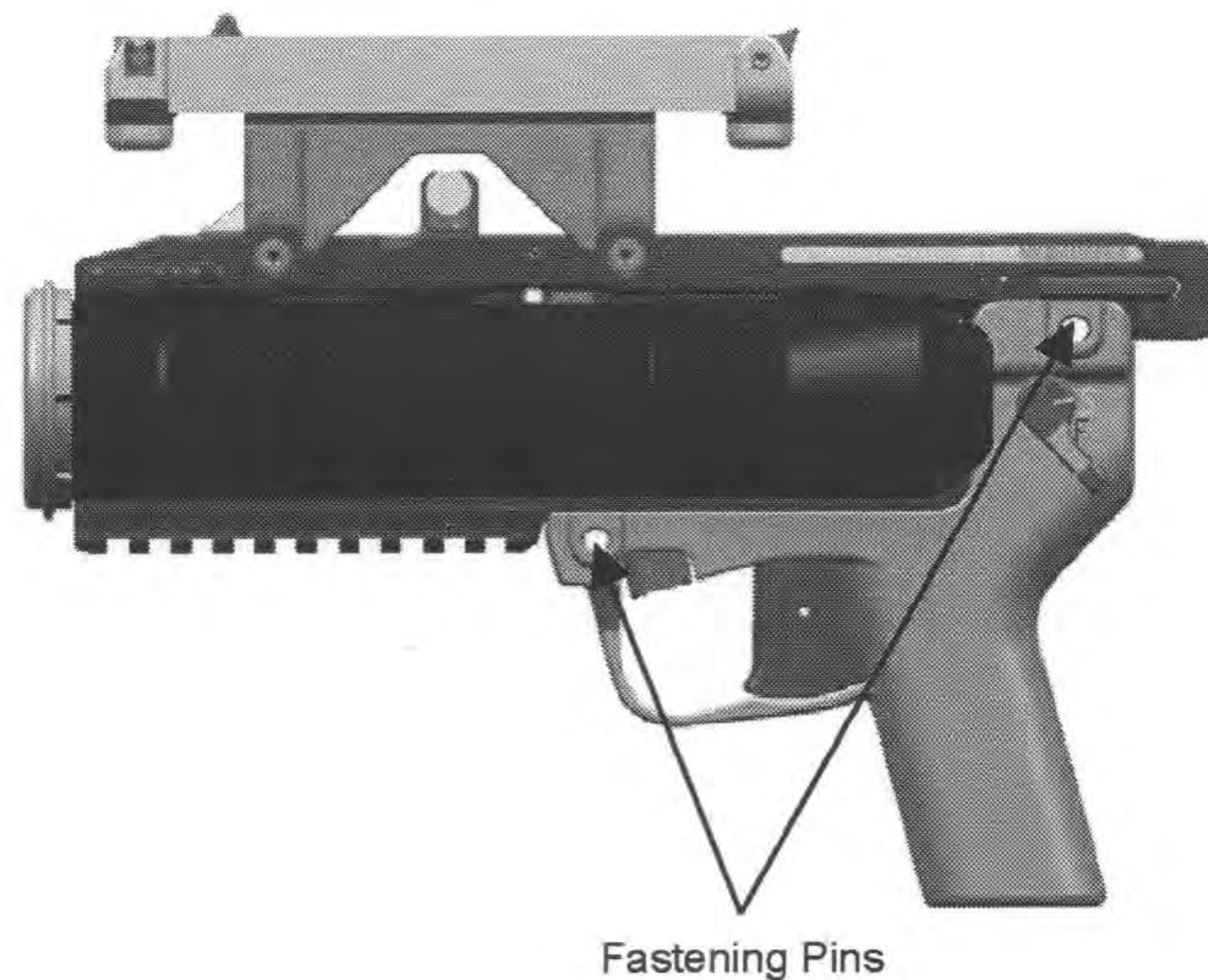


Fig. #34



## F. BARREL REMOVAL & INSTALLATION:

Gauges/Tools Needed: Screwdriver, flat tip  
Pin punching and fitting tool

### 1. Removal:

- a. **CLEAR THE GLM (see page 6).**
- b. Detach the GLM from the host weapon.
- c. Unlock and tilt the barrel open.
- d. Locate the barrel stop pin with screwdriver tip, depress the barrel stop pin into the receiver, allowing the barrel to pivot until there is no spring tension on the barrel.
- e. Drift out barrel axle, remove elbow spring from between the barrel and receiver.

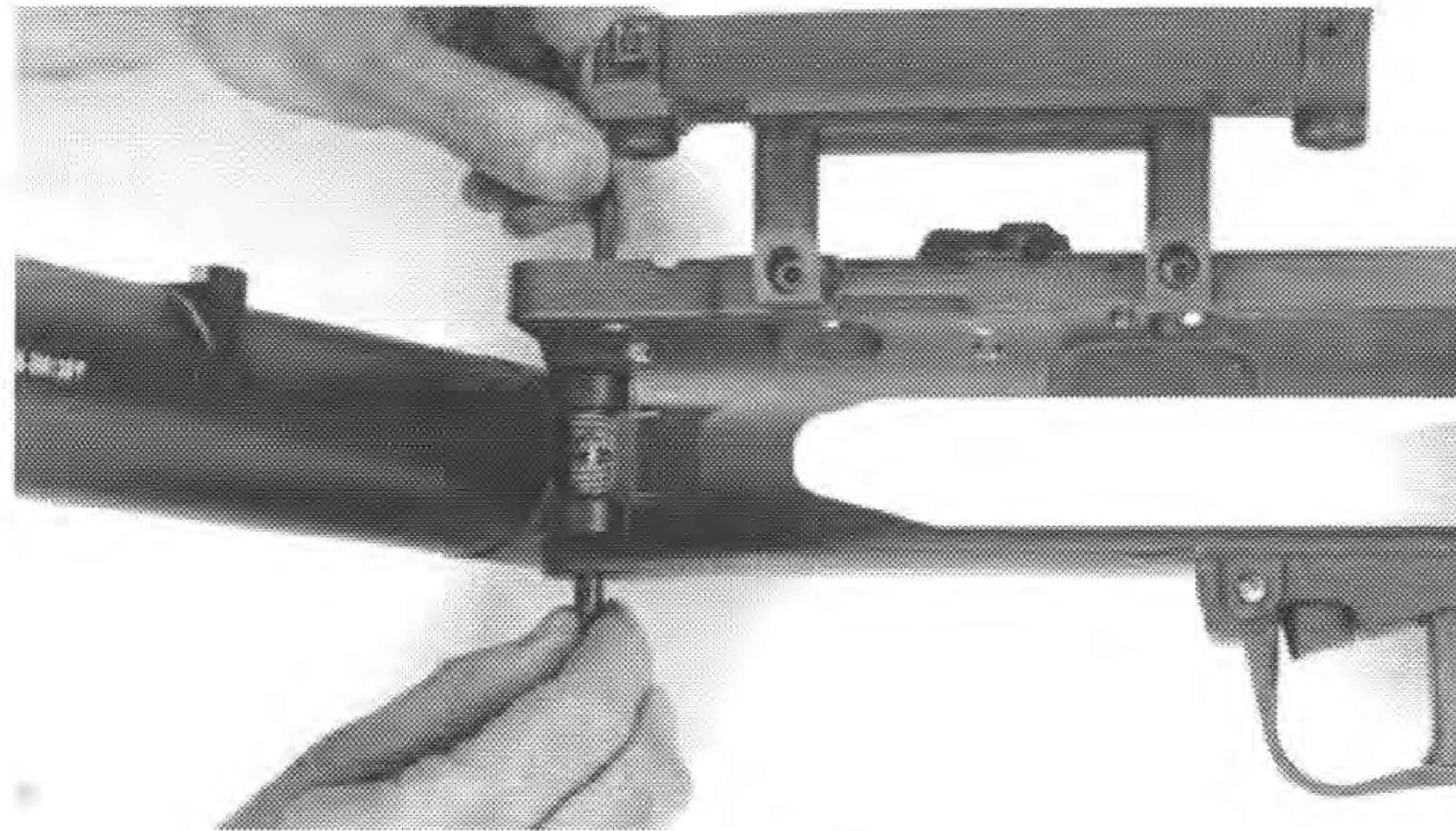


Fig. #35

### 2. Installation:

- a. Insert elbow spring between the barrel hinges, ensuring that the central single spring shank contacts the barrel between the hinges and the two open legs face the receiver.
- b. Install the barrel with its hinges and the elbow spring into the front of the receiver, ensuring that there is no pressure exerted onto the elbow spring.
- c. Align the boreholes of the barrel hinges, the elbow spring and the barrel bearing in the receiver and insert a 5 mm punch, capturing the barrel hinges, elbow spring, receiver barrel bearing (Fig. #35).
- d. Push in the barrel axle until the elbow spring fully engages into the central recessed section off the barrel axle.
- e. Pivot the barrel into the receiver, until the engagement lug on the barrel contacts the barrel stop pin on the receiver.
- f. Press the barrel stop pin all the way into the receiver and pivot the barrel into the receiver until the engagement lug located on top of the barrel clears the recessed barrel stop pin.
- g. Release the barrel stop pin and push the barrel all the way into its locked position where the barrel locking lever must properly engage into the locking slot at the bottom of the barrel.
- h. Check the proper operation of the barrel locking lever, the function of the elbow spring and the rubber buffered barrel stop by repeatedly opening and closing the barrel.
- i. When the barrel release lever on the barrel locking lever is pushed all the way into the receiver, the barrel must unlock and automatically pivot to its open position where it hits the barrel stop pin with the barrel stop buffer.
- j. After installation, ensure that the barrel pivots around its axle without any play and that the barrel properly closes and locks without any play.
- k. When pressing the barrel release lever, the locked barrel must automatically pivot out from the receiver.
- l. Check headspace if a new barrel has been installed.



## G. DISASSEMBLY & ASSEMBLY OF THE TRIGGER & BARREL LOCKING MECHANISM:

TOOLS/GAUGES NEEDED: Pin punching & Fitting tool (Fig. #31/Item #7)  
1,8 mm Punch (Fig. #31/Item #7)  
Hammer (Fig. #31/Item #5)

### 1. Disassembly:

- a. Drift out both the front and rear grip fastening pins by using the pin punching & fitting tool and hammer and remove the grip.
- b. Drift out hammer axle with the Pin Punch and fitting tool and remove the hammer and hammer reset spring.
- c. Drift out trigger/barrel locking lever axle with the Pin Punch and fitting tool and remove barrel locking lever, trigger with trigger bar and attaching parts, trigger spring and barrel locking lever spring.
- d. Drift out the trigger bar axle with 1,8 mm punch and remove the trigger bar spring, the trigger bar bearing, and the trigger bar.

### 2. Assembly:

- a. Insert trigger bar bearing with its recessed side into the bearing hole of the trigger bar.
- b. Slide trigger bar spring onto the trigger bar bearing ensuring that the long shank of the spring engages on the spring engagement protrusion of the trigger bar.
- c. Insert the assembled trigger bar into the rear of the trigger ensuring that the short shank of the trigger bar spring contacts the upper side of the trigger cavity.
- d. Align the boreholes of the trigger, the trigger bar bearing and the trigger bar and drift in the trigger bar axle. Ensure the trigger bar axle is centered in the trigger.
- e. Insert trigger assembly into trigger cavity located on the bottom of the receiver. Insert the Pin punching and fitting tool from the left hand side of the receiver and capture the trigger assembly.
- f. Insert trigger spring (Fig. #36/Item #1) into the rear recess of the trigger, align the trigger bar spring inside the trigger and capture the spring and trigger by drifting the Pin punching and fitting tool to left, ensuring the tip of the punch does not emerge past the right hand side of the trigger (Fig. #36/Item #2).

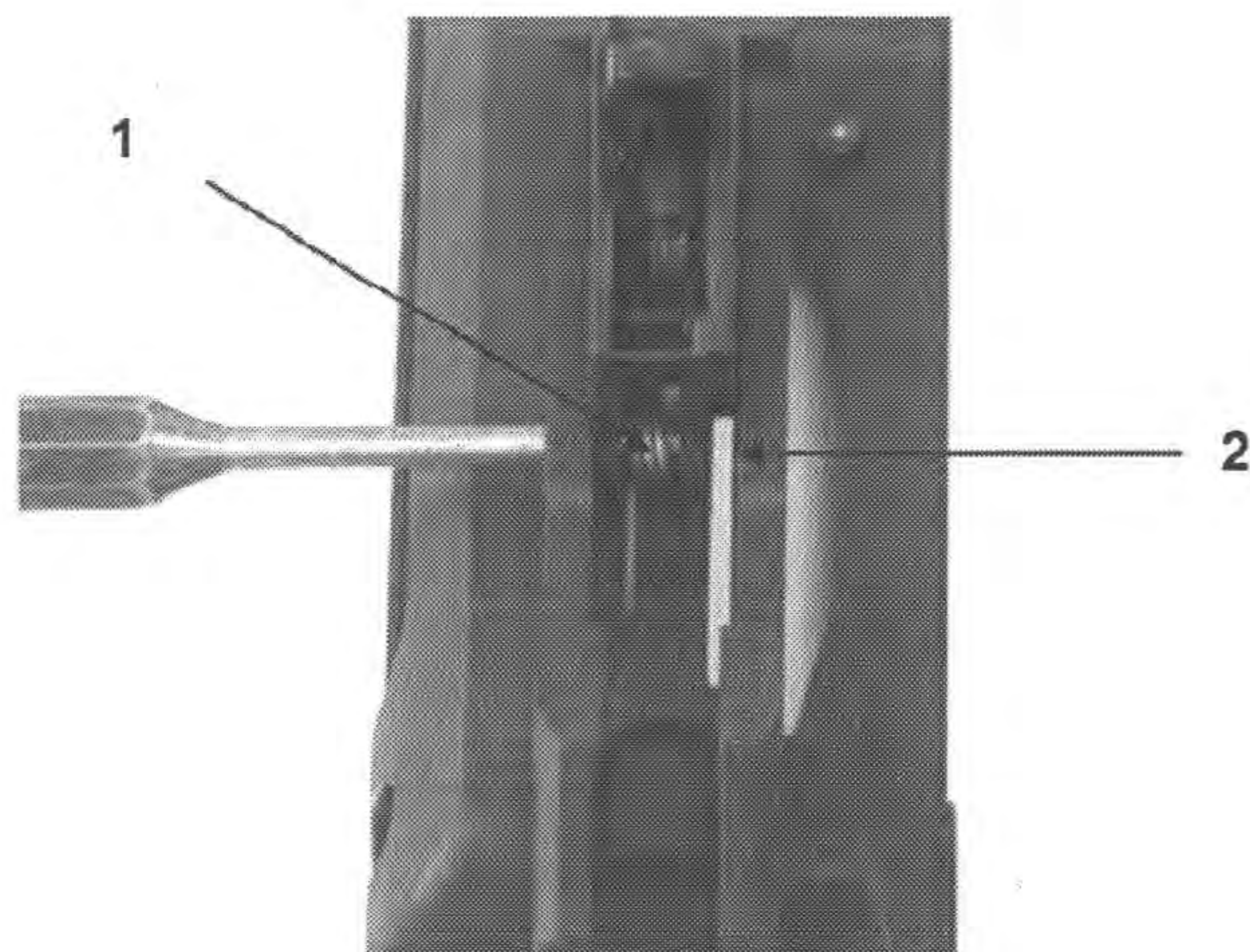


Fig. #36



- g. Position the barrel locking lever spring into the forward placement cavity in front of the trigger.
- h. Insert the back of the barrel locking lever into the slot located on the right side of the receiver's trigger cavity, ensuring that the spring positioning hole, located underneath the serrated barrel release lever, is aligned with the spring.
- i. Push back on the trigger as the barrel locking lever is inserted into the slot. Ensure that the back locking tab on the barrel locking lever is positioned inside the receiver.
- j. Pushing back on the trigger will allow the barrel locking lever to properly seat against the right side of the trigger. A cutout (Fig. #37/Item #1) on the trigger accommodates the locking lever axle.

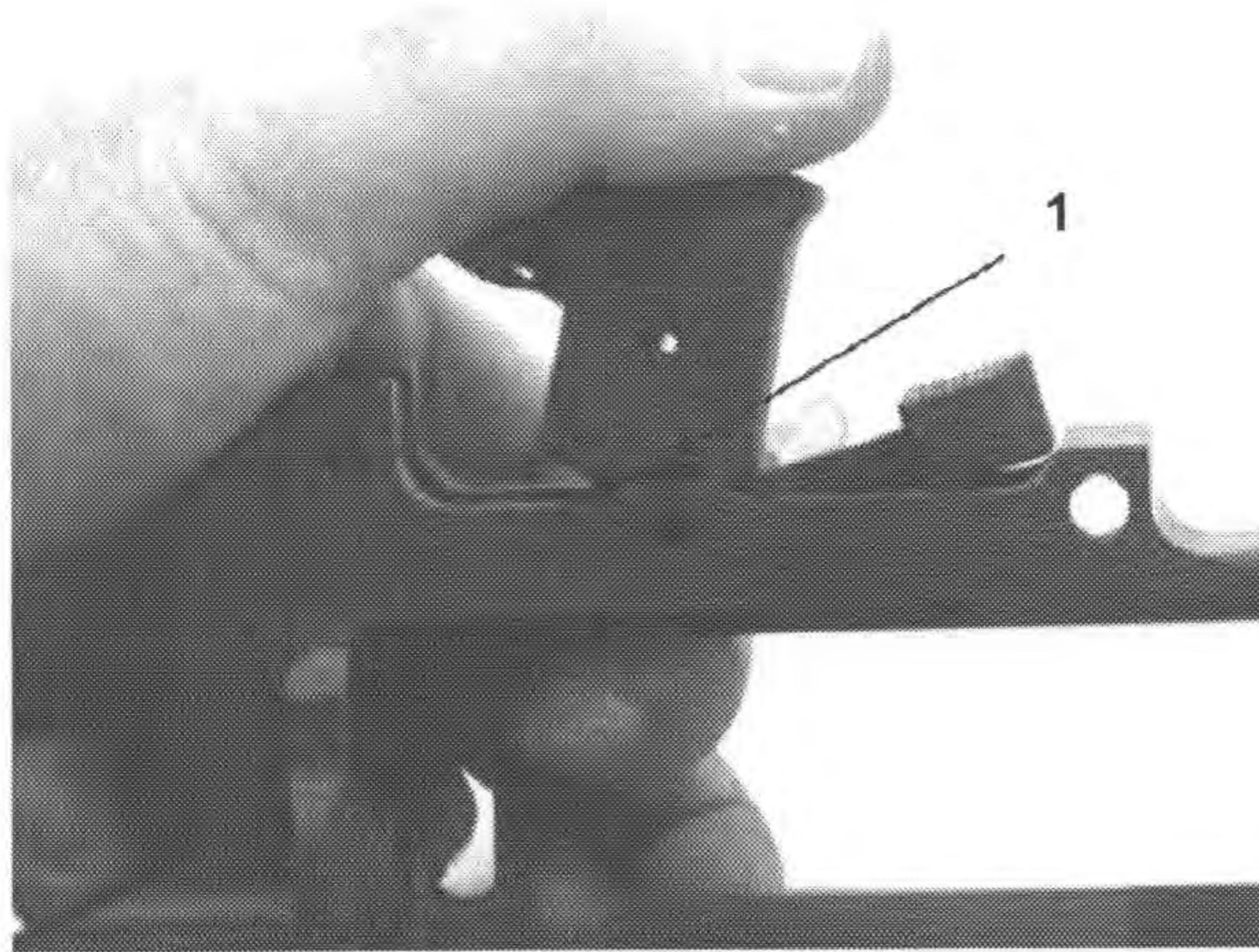


Fig. #37

- k. Capture the locking lever and trigger by drifting the Pin punching and fitting tool from left to right. Once captured and aligned, drift the trigger/barrel locking lever axle from right to left (Fig. #38).

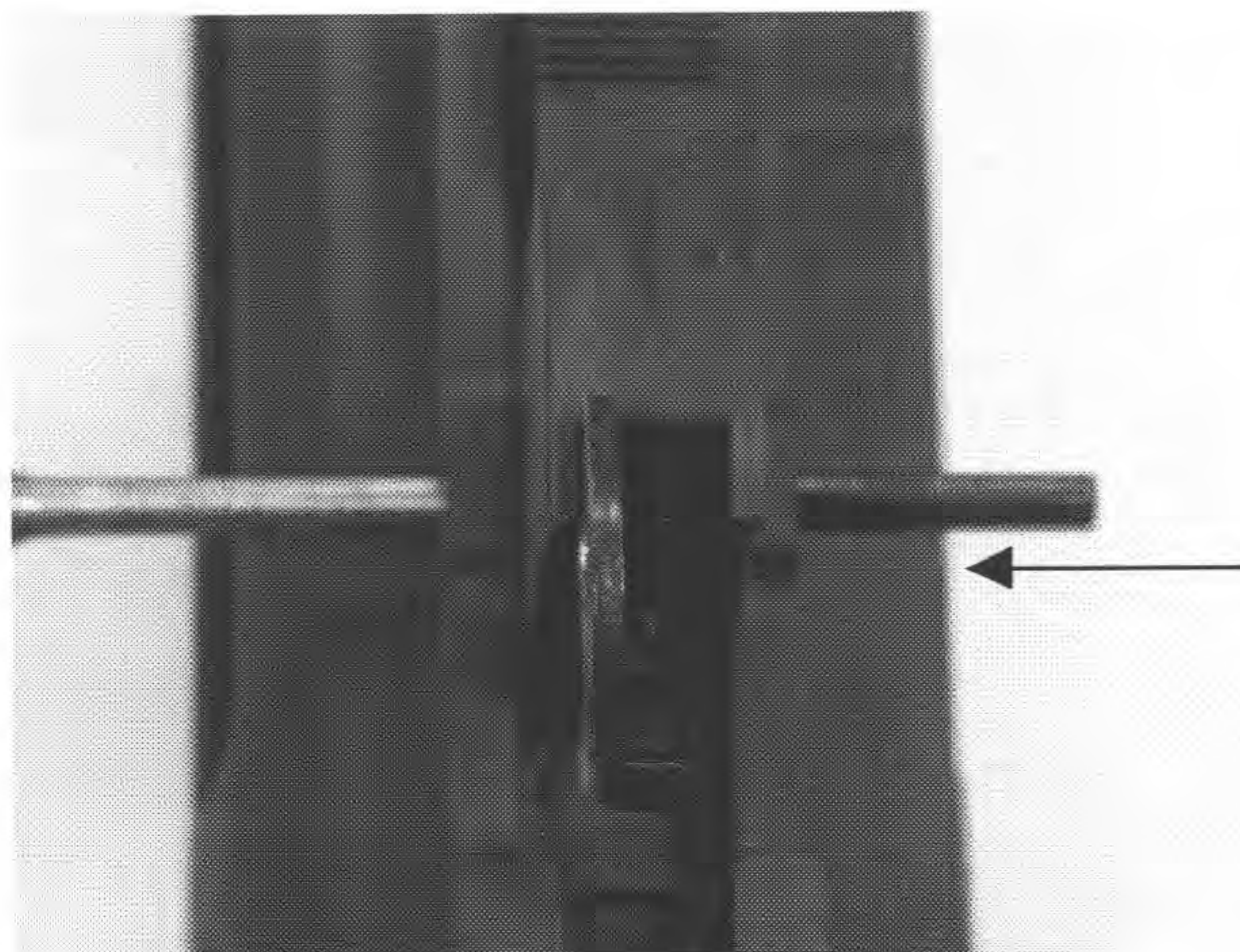


Fig. #38



- l. Push back on the trigger until the rear of the trigger bar (Fig. #39/Item #1) reaches the hammer axle borehole. Insert hammer, ensuring that the hammer tip is facing the chamber and capture with a Pin punching and fitting tool drifted from left to right.

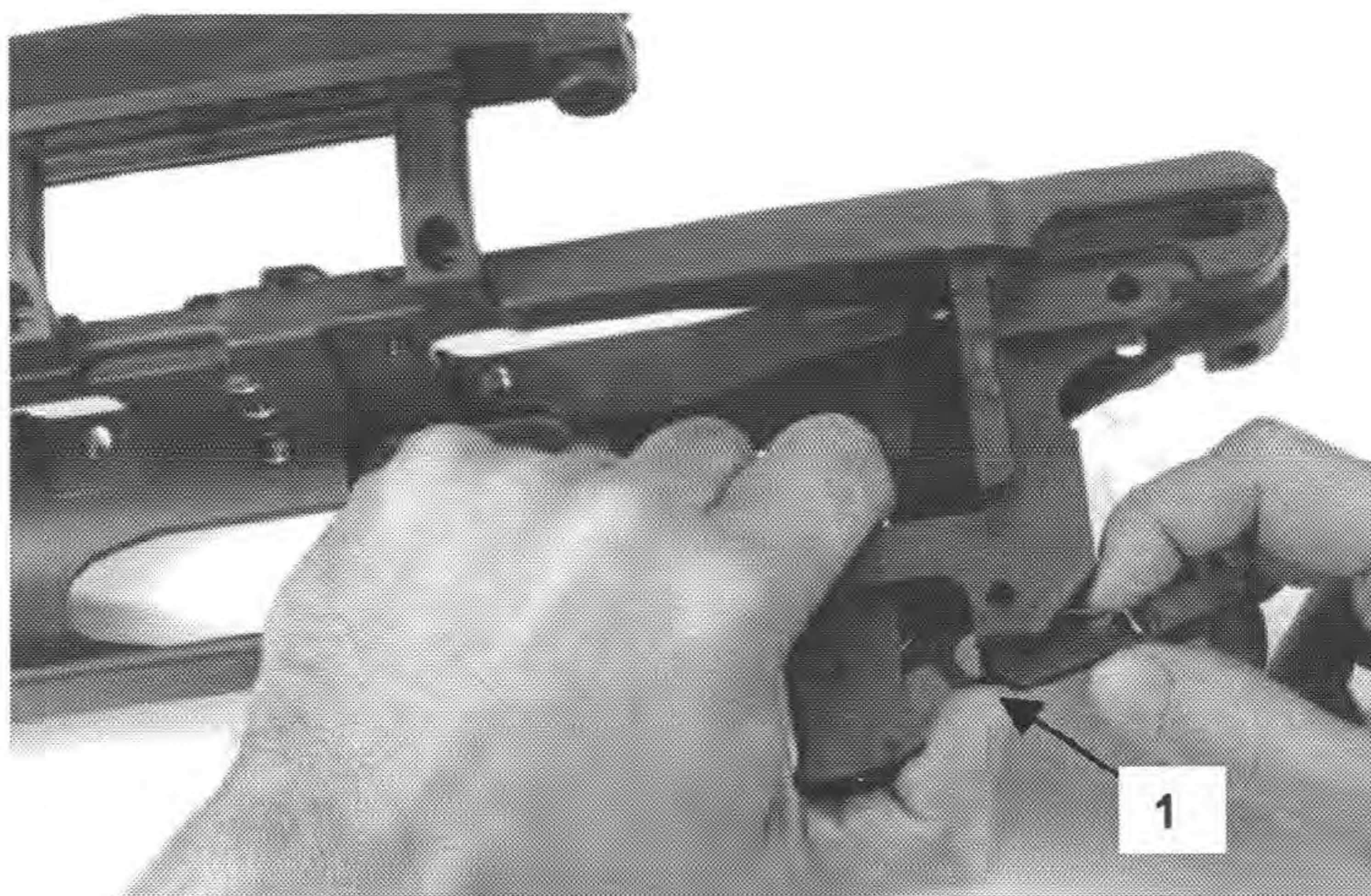


Fig. #39

- m. Insert hammer reset spring onto the Pin punching and fitting tool, ensuring the bent leg (Fig. #40/Item #1) engages the protruding bearing stud (Fig. #40/Item #2) on the hammer.

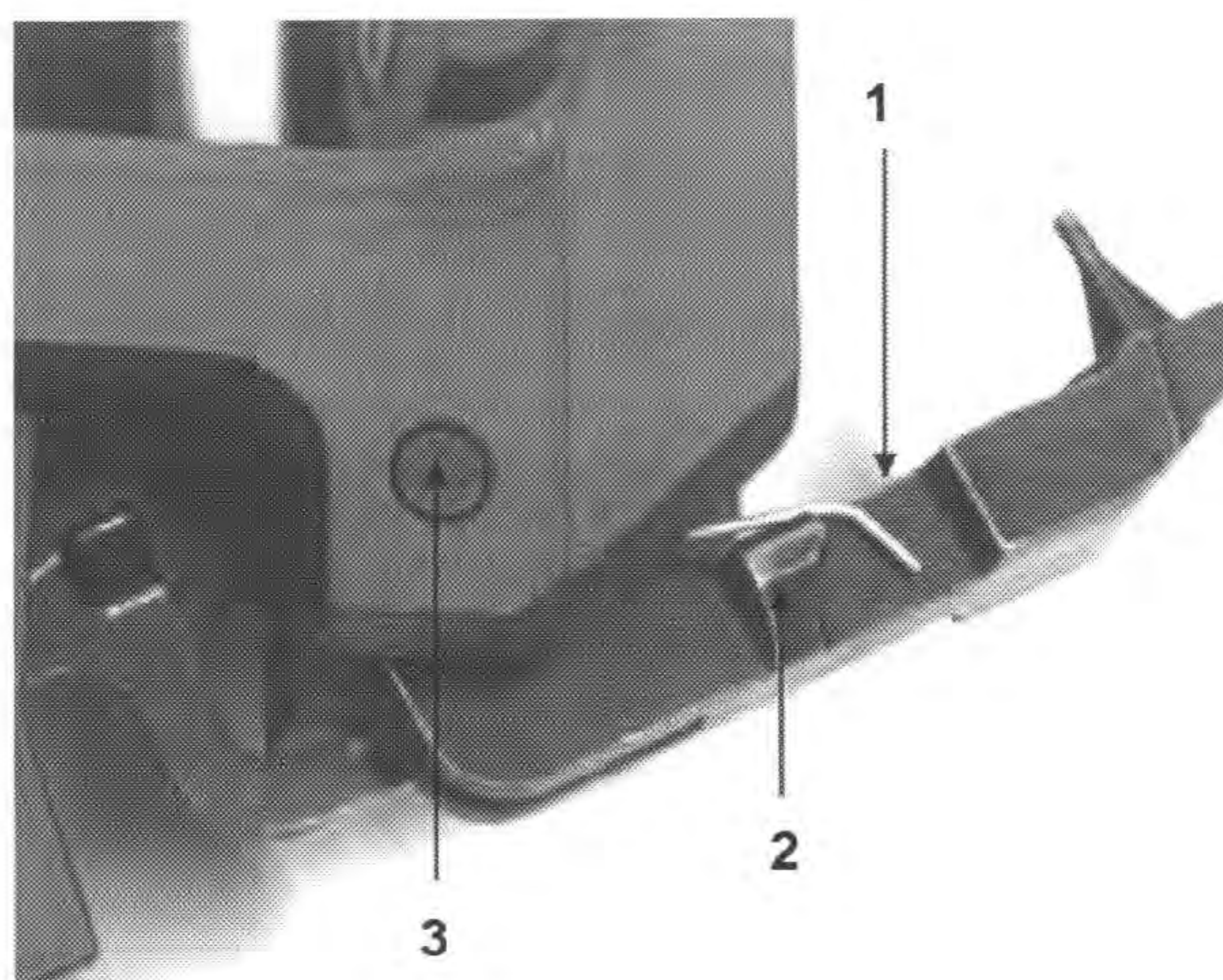


Fig. #40

- n. Continue to drift the Pin punching and fitting tool from left to right until the trigger bar, hammer, and hammer-reset spring are captured.
- o. Drift the hammer axle into the borehole from right to left; ensuring the axle is centered in the receiver (Fig. #40/Item #3).
- p. Insert the grip onto the receiver and reinstall the two grip fastening pins.



## H. DISASSEMBLY & ASSEMBLY OF THE GRIP:

TOOLS NEEDED: Assembling pins, 1.5 mm x 10 mm  
1.4 mm Drift punch

### 1. **DISASSEMBLY OF THE AMBIDEXTROUS SAFETY LEVER:**

- a. Remove grip from receiver (see Fig. #34 and Page#17 / Fig.#10).
- b. Insert assembling pins 1.5 mm x 10 into the assembling pinholes underneath the safety levers, ensuring that the pins are even with the left and right outer surfaces of the grip.
- c. Push down the safety lever catch and remove the left safety lever.
- d. Slide the safety lever index off the right safety lever.
- e. Rotate the right safety lever to "S" (Safe), push down the safety lever catch and remove the right safety lever and safety lever index.
- f. For removal of the safety lever catch, the indexing pin and the springs, drift through the assembling pins with a 1.4 mm Drift punch.

### 2. **ASSEMBLY OF THE AMBIDEXTROUS SAFETY LEVER:**

- a. Insert the springs into the grip (the springs are identical).
- b. Insert safety lever catch on the left side, press in the assembling pin.
- c. Insert safety lever indexing pin on the right side, with the recessed section of the pin to the rear, press the pin into its bearing and insert assembling pin.
- d. Insert the right safety lever from the right side into its bearing, ensuring that the lever is set on "S" (Safe).
- e. Slide the safety lever index onto the safety lever, right, push the index against the inner wall of the grip and push the safety lever all the way into the grip by simultaneously pressing down the safety lever catch, ensuring that the safety lever index remains at the inner wall of the grip.
- f. Hold the right safety lever in place, press down the safety lever catch and insert the left safety lever all the way into the grip, ensuring that the safety levers are set on "S" (Safe).
- g. Drift the assembling pins left and right underneath the safety levers with a 1.4 mm Drift punch all the way into the grip and remove.
- h. Check function by rotating the safety levers from "S" to "F" and back again, the levers must be firmly retained on the grip and must properly click into their respective positions.



### 3. DISASSEMBLY OF THE HAMMER SPRING ROD:

TOOLS NEEDED: Grip assembly/disassembly fixture (Fig. #31/Item #7)  
1,8 mm Drift punch (Fig. #31/Item #7)

- a. Insert the assembly/disassembly fixture (Fig. #41/Item #1) into the grip and push down on the fixture. Once downward pressure has been exerted on the fixture, position the fixture to the rear, allowing the locking surface on the back of the fixture to engage the underside of the ambidextrous safety levers. This action allows the bottom of the hammer spring rod to emerge from the bottom of the grip.

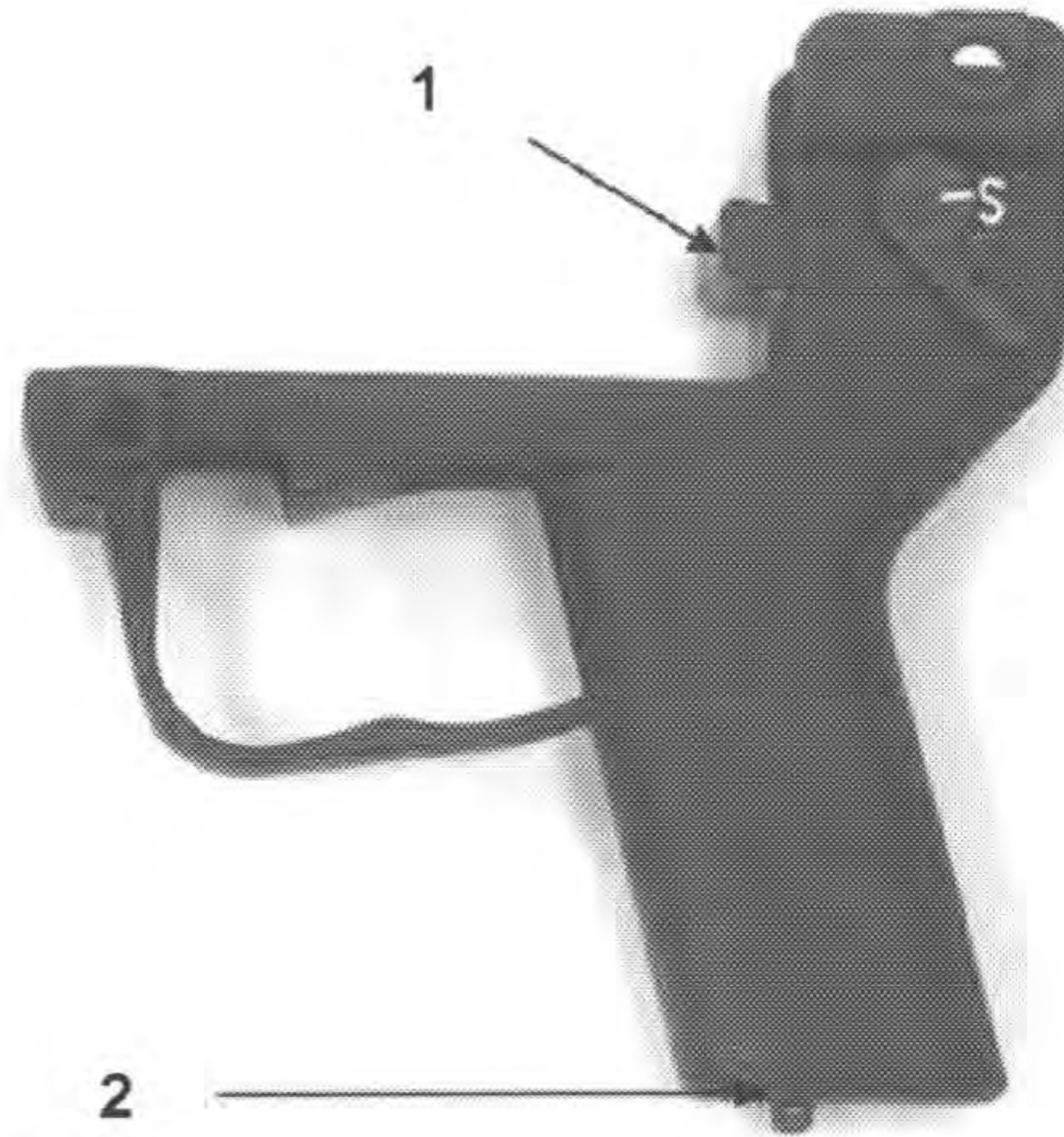


Fig. #41

- b. Drift out the hammer spring rod pin (Fig. #41/Item #2) with a 1,8 mm Drift punch and remove hammer spring rod, hammer spring rod pin and hammer spring.

### 4. ASSEMBLY OF THE HAMMER SPRING ROD:

- a. Position the hammer spring rod and hammer spring in the grip. Insert the grip assembly/disassembly fixture onto the hammer spring rod and spring.
- b. Push down on the grip assembly/disassembly fixture, allowing the bottom of the hammer spring rod to emerge from beneath the grip. Drift the hammer spring rod pin (Fig. #41/Item #2) until the pin is centered on the hammer spring rod.

### 5. FINAL MOUNTING OF THE GRIP TO THE RECEIVER:

- a. Slide the assembled grip over the barrel release lever and the trigger onto the receiver, ensuring that the hammer is in its forward position.
- b. Align the boreholes of the grip and the receiver and drift in both the front and rear grip fastening pins with the pin punching and fitting tool, until the fastening pins are centered in the grip.
- c. Conduct a function check, ensuring that the grip fits snugly to the receiver and that the barrel locking lever, the trigger and the safety levers operate properly and smoothly.



## **I. DISASSEMBLY & ASSEMBLY OF THE BARREL STOP PIN & RUBBER BARREL STOP:**

TOOLS NEEDED: 1,8 mm Drift punch (Fig. #31/Item #7)  
Screwdriver (Fig. #31/Item #10)

### **1. DISASSEMBLY:**

- a. Drift out the dowel pin for the barrel stop pin with the 1,8 mm Drift Punch.
- b. Hold finger over the borehole for barrel stop pin while removing the punch.
- c. Remove the compression spring for the barrel stop pin and barrel stop.

### **2. ASSEMBLY:**

- a. Ensure that the barrel is closed and insert the barrel stop pin and spring for the barrel stop into the borehole on top of the receiver.
- b. Push down on the spring for the barrel stop pin with a screwdriver and drift in the dowel pin for the barrel stop until it is even with the outer side of the receiver.
- c. The barrel stop rubber on the barrel can be easily pulled out and pressed into its bearing.



## J. DISASSEMBLY & ASSEMBLY OF THE MECHANICAL LEAF SIGHT:

TOOLS NEEDED: 3 mm Allen wrench (Located on GLM)

### 1. DISASSEMBLY:

- a. Unscrew and remove the sight fastening screws on the receiver with the 3 mm Allen wrench.
- b. Unscrew and remove the sight base fastening screws with the 3 mm Allen wrench from the sight support.
- c. Remove the front sight fastening clip by lifting the clip at its bottom lip and pushing it to the top, off the front sight axle.
- d. Press down the front sight spring piston and remove the front sight axle to the right (Fig. #42).
- e. Remove the front sight, spring piston, and sight spring.
- f. Turn the height adjustment screw with the 3 mm Allen wrench to the right until it separates from the front sight and separate the front sight base and the front sight.



Fig. #42

- g. Fold the rear sight up, turn the rear sight with the windage screw all the way to the left and remove the circlip on the right side of the rear sight by pushing the circlip out with the screwdriver.
- h. Turn the rear sight with the windage screw all the way to the right and remove the circlip on the left side of the rear sight by pushing the circlip out with the screwdriver.
- i. Push the rear sight down onto the spring piston (Fig. #43), turn the windage screw out of its threaded bearing on the left of the sight base and push out the windage screw.
- j. Remove the rear sight spring piston and the sight spring.

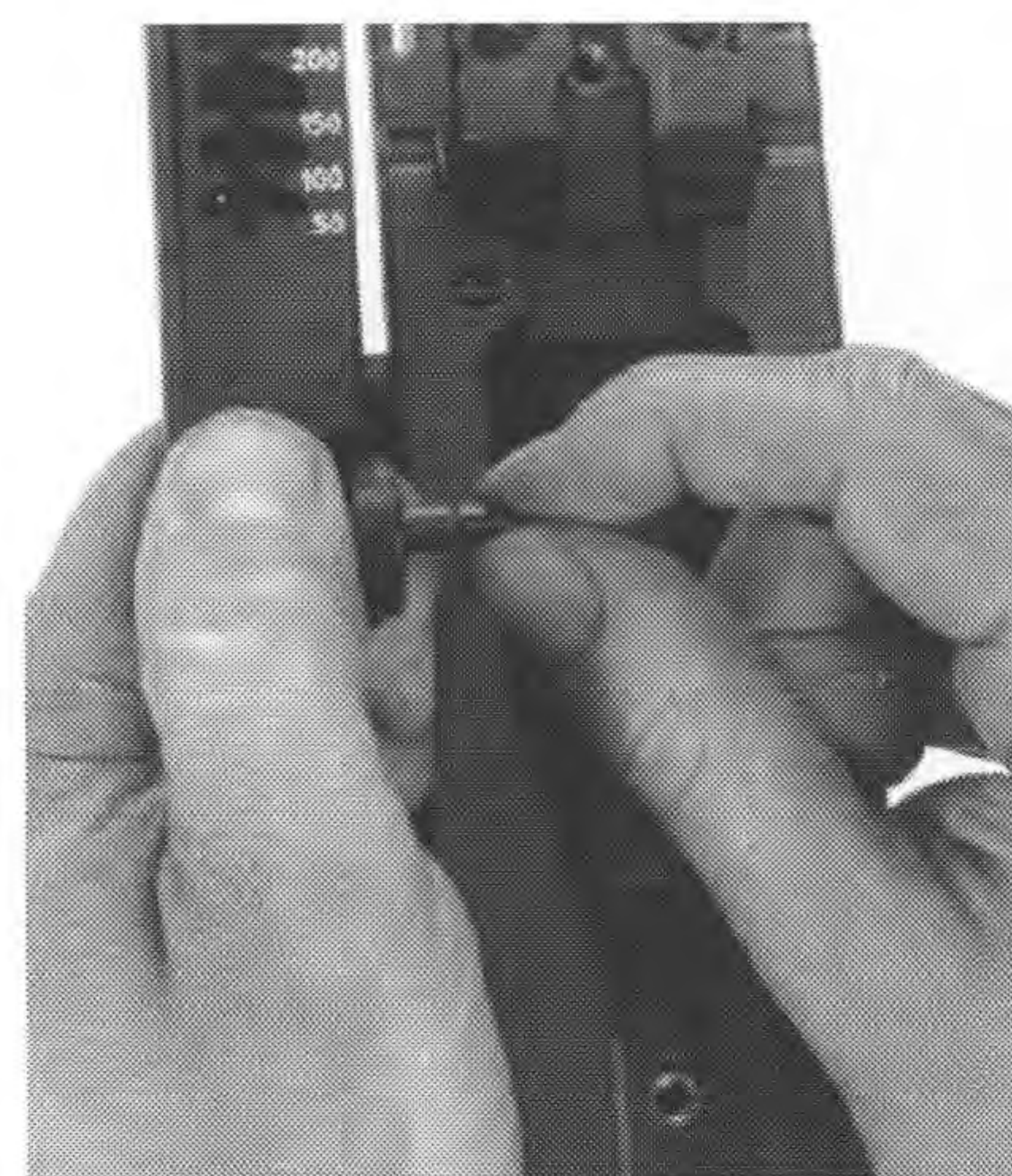


Fig. #43



## 2. ASSEMBLY:

- a. Insert the sight spring and the spring piston into the rear sight bearing, push down on the rear sight all the way onto the sight base and insert the windage screw all the way from the right through the right rear sight hinge and the rear sight. Ensure that the rear sight is mounted with the markings to the rear.
- b. Hold the rear sight down and turn the windage screw with the 3 mm Allen wrench into engagement with the left rear sight hinge.
- c. Turn the windage screw into the sight base until the right recess of the windage screw is even with the right side of the rear sight.
- d. Press the circlip with the screwdriver all the way into the recess of the windage screw.
- e. Turn the windage screw to the right and push the rear sight manually all the way to the right until it engages the circlip on the windage screw.
- f. If the left recess on the windage screw is not yet visible, insert the screwdriver between the left rear sight hinge and the rear sight and turn the windage screw carefully clockwise until the left recess on the windage screw becomes visible.
- g. Press the circlip with the screwdriver all the way into the left recess of the windage screw (Fig. #44).
- h. Check the function of the windage screw by rotating the screw clockwise and counter clockwise: the rear sight must move correspondingly with minimum play.
- i. Swivel the rear sight up and down: it must properly engage in the upper and lower position without play.



Fig. #44

- j. Insert the front sight base all the way into the front sight.
- k. Insert the height adjustment screw through the sight base into the front sight and turn the screw counter-clockwise with the 3 mm Allen wrench all the way into the front sight.
- l. Insert the sight spring and the spring piston into the front of the sight base.
- m. Place the front sight with its bottom onto the spring piston and push down all the way, ensure, that the front sight is directed with the height adjustment screw to the rear!
- n. Push the front sight axle from the right side all the way through the sight base and the front sight.



- o. Slide the fastening clip from the top into the recess of the protruding sight axle on the left of the sight base (Fig. #45).
- p. Check function by folding the front sight up and down. The front sight must move without play and firmly engage in its upright and downward positions.

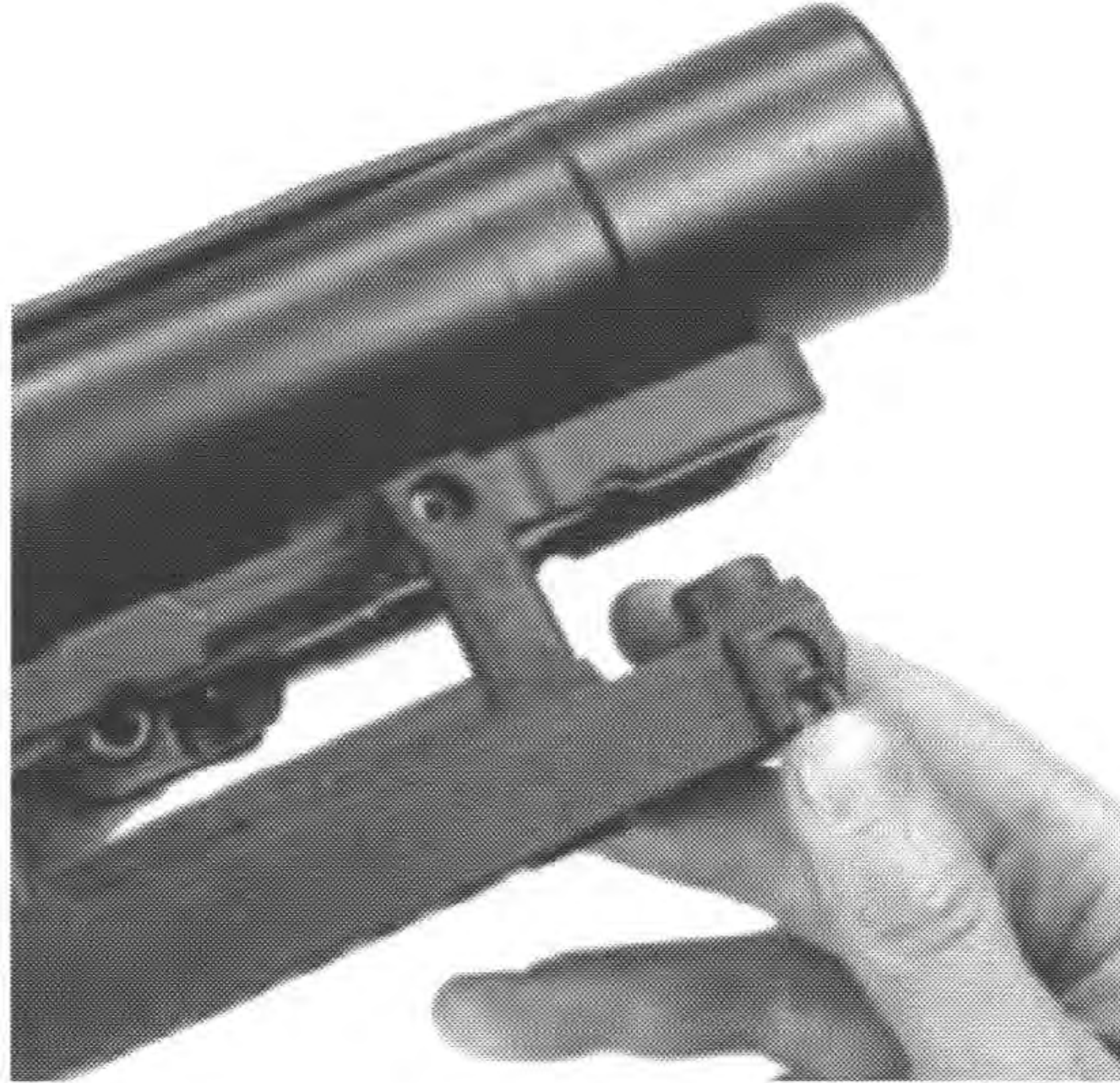


Fig. #45

- The sight can be mounted to the left or the right side of the receiver, for use by right or left handed operators. For mounting of the sight to the receiver, screw the sight support with the two sight fastening screws onto the desired side of the receiver (use the 3 mm Allen wrench). Place the sight base with the rear sight to the rear on the sight support and fasten it with the sight fastening screws.



**K. DISASSEMBLY & ASSEMBLY OF THE PICATINNY RAIL AND VERTICAL FOLDING FOREGRIP:**

TOOLS NEEDED: 5 mm Allen wrench (Located on GLM)

**1. DISASSEMBLY:**

- a. Unscrew and remove the screws on the vertical folding foregrip with the 5 mm Allen wrench.
- b. Remove the vertical folding foregrip and the attached finger guard from the mounting surface.



Fig. #46



Fig. #47

**2. ASSEMBLY:**

- a. Insert the two 5 mm screws into the picatinny mount, apply a drop of blue loctite to the threads and hand tighten.



Fig. #48



Fig. #49



Fig. #50

- b. Ensure that the vertical folding foregrip has positive locking in both up and down positions



Fig. #51



Fig. #52



9. TROUBLESHOOTING GUIDE:

- a. Should you experience a problem with the GLM, first eliminate the following general causes that very often are to blame for the improper function of the launcher.
- b. If stoppages occur, the weapon must always be treated as if loaded until the stoppage has been cleared.
- c. The following list does not include all potential causes and/or corrective actions. Other causes than those indicated below may be encountered.

Malfunction:	Probable Cause:	Corrective Action:
<b>Cartridge does not properly seat in chamber:</b>	Faulty ammunition	Replace ammunition
	Improper ammunition	Replace ammunition
	Bore/chamber fouled	Clean bore/chamber
	Obstruction/dent in barrel	Clean bore/chamber / Replace barrel
<b>Cartridge does not detonate:</b>	Faulty ammunition	Replace ammunition
	Weak hammer spring	Replace hammer spring
	Firing pin protrusion broken	Replace hammer
	Barrel not locked properly	Reseat barrel
	Hammer spring rod bent or damaged	Replace hammer spring rod
	Bolt face fouled	Clean bolt face
	Trigger mechanism fouled	Clean trigger mechanism
<b>Cartridge case does not extract:</b>	Faulty ammunition	Place safety lever on "S", open barrel, place stick, rod etc. from the muzzle end to breech and gently tap cartridge case out to the rear
<b>Trigger cannot be pulled:</b>	Trigger mechanism fouled	Clean trigger mechanism
	Trigger spring bent or damaged	Replace trigger spring
<b>Hammer is not cocked when trigger is pulled:</b>	Contact piece bent or damaged	Replace contact piece
	Hammer stud bent or damaged	Replace hammer stud
	Trigger bar spring weak or damaged	Replace trigger bar spring
<b>Ambidextrous safety lever stuck/unable to rotate:</b>	Safety levers bent or broken	Replace safety levers
<b>Barrel does not pivot when locking lever engaged:</b>	Weak elbow spring	Replace elbow spring
	Damaged locking lever	Replace barrel locking lever
	Bent or damaged receiver	Replace receiver
<b>Barrel does not lock into receiver when closed:</b>	Locking slot fouled	Clean locking slot
	Damaged or weak locking lever spring	Replace locking lever spring
	Damaged/bent locking lever contact surfaces	Replace barrel locking lever
<b>GLM exhibits poor accuracy:</b>	Excessive fouling	Clean GLM
	Damaged/Loose sights	Replace/tighten sights
	Excessive headspace	Replace barrel
	Worn rifling	Replace barrel



## 10. SHIPPING & STORAGE:

### a. SHIPPING THE GLM:

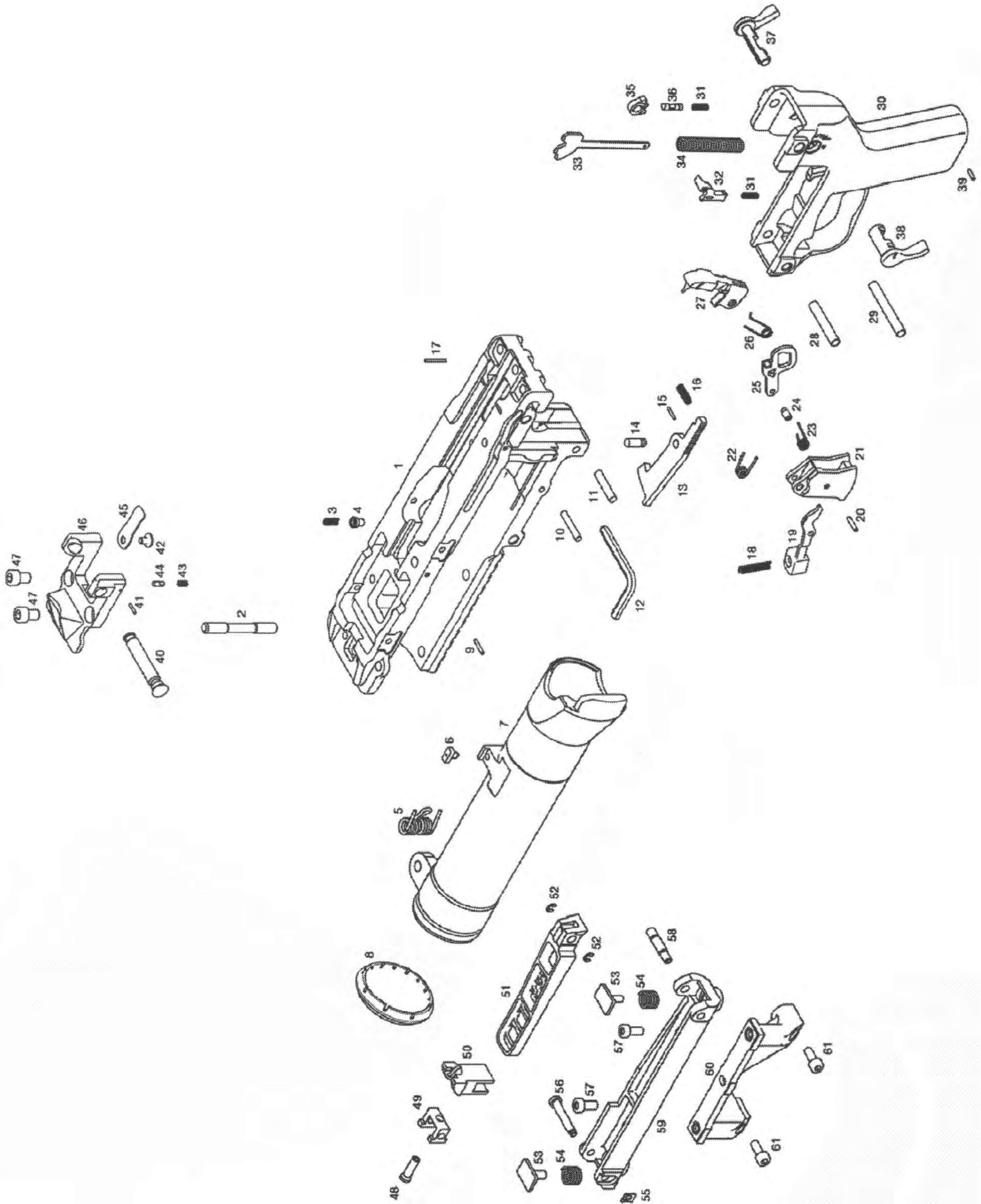
1. **Clear the GLM (see page 6).**
2. Perform a function check on the GLM prior to shipping.
3. Ship the GLM and accessories cleaned and lubricated.
4. Ship the GLM **without** ammunition in the chamber or in the same container.
5. Ship the GLM with the ambidextrous safety lever set on "**S**" (Safe).
6. Ship the GLM with the barrel in the closed (down) position.
7. Ensure that any mounted electro optical sight is turned off and that the batteries are removed prior to shipping.
8. Ensure the GLM is shipped in a suitable container that will protect the grenade launcher and included accessories during transit.

### b. STORING THE GLM:

1. **Clear the GLM (see page 6).**
2. Perform a function check on the GLM prior to shipping.
3. Store the GLM and accessories cleaned and lubricated.
4. Store the GLM **without** ammunition in the chamber.
5. Store the GLM with the ambidextrous safety lever set on "**S**" (Safe).
6. Store the GLM with the barrel in the closed (down) position.
7. Ensure the GLM is stored in a clean, dry environment with regulated temperature controls
8. Clean, lubricate, and perform a function check every six months.
9. Ensure that any mounted electro optical sight is turned off and that the batteries are removed prior to storage.



11. GLM SPARE PARTS LIST





Item	Designation	Ident.-No.
-	GLM Basis unit (GLM w/o Leaf sight and adaptor)	233 442
1	Receiver	233 232
2	Axle, barrel	217 862
3	Compression spring, barrel stop	218 509
4	Pin, barrel stop	218 508
5	Spring, barrel opening	217 863
6	Stop, barrel	217 678
7	Barrel	233 227
8	Muzzle cap	233 234
9	Clamping sleeve	928 690
10	Axle, barrel locking lever/trigger	217 874
11	Axle, hammer	217 873
12	Allen wrench	218 510
13	Feed cover locking lever	233 230
14	Bolt, locking lever	203 069
15	Pin ejector	929 081
16	Compression spring, locking lever	203 067
17	Clamping sleeve	979 969
18	Spring, barrel locking lever	233 236
19	Barrel, locking lever	217 882
20	Axle, trigger bar	928 485
21	Trigger	217 876
22	Spring trigger	217 871
23	Spring, trigger bar	217 879
24	Bearing, trigger bar	217 877
25	Trigger bar	217 878
26	Spring, hammer reset	217 199
27	Hammer	219 082
28	Pin, grip front	987 690
29	Pin, grip rear	987 696
30	Pistol grip	217 855
31	Spring, safety catch lever (2x)	217 895
32	Catch, safety lever	217 897
33	Rod, hammer	217 886
34	Spring hammer	217 887
35	Safety lever index	217 898
36	Pin, safety lever index	217 896
37	Safety lever, right	217 899
38	Safety lever, left	217 998
39	Pin, hammer spring rod	980 717
40	Locating bolt	233 967
41	Clamping sleeve	988 469
42	Lens head screw	979 431
43	Compression spring	233 233
44	Locking pin	233 970
45	Leaf spring	233 971
46	Block	233 969
47	Cylindrical screw	979 420
48	Screw, elevation adjustment, mechanical sight	219 305
49	Sight base, front	219 303
50	Sight, front	203 105
51	Rear sight, folding	203 104
52	Circlip, mechanical sight (2x)	926 005
53	Pin, mechanical sight (2x)	219 301
54	Spring, mechanical sight (2x)	988 633
55	Clip, mechanical sight axle	986 551
56	Axle, front sight	219 306
57	Screw (2x)	971 993
58	Screw, windage adjustment	219 302
59	Support, mechanical sight mount	219 138
60	Base, mechanical sight mount	218 437
61	Socket head screw	971 994

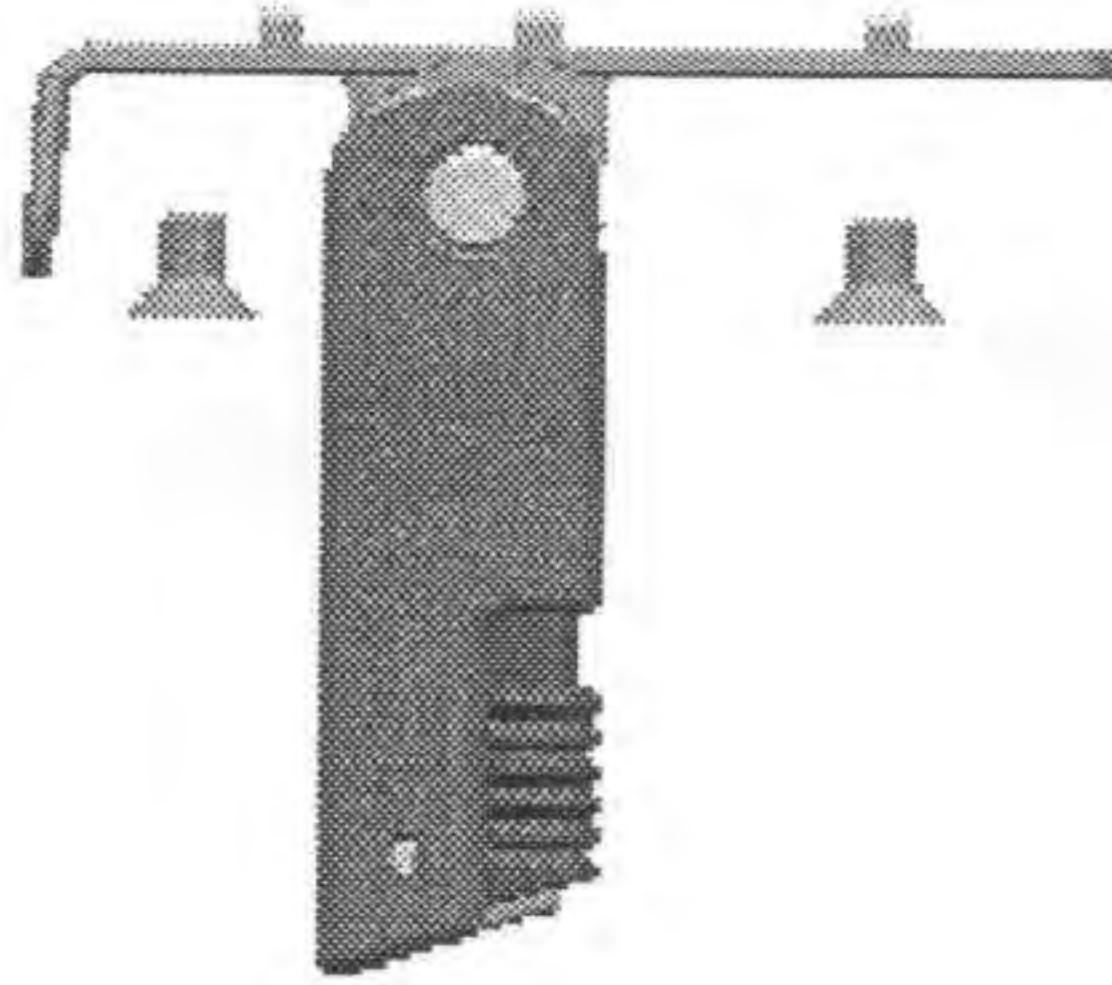


## 12. ACCESSORIES

### A. SAM CONFIGURATION

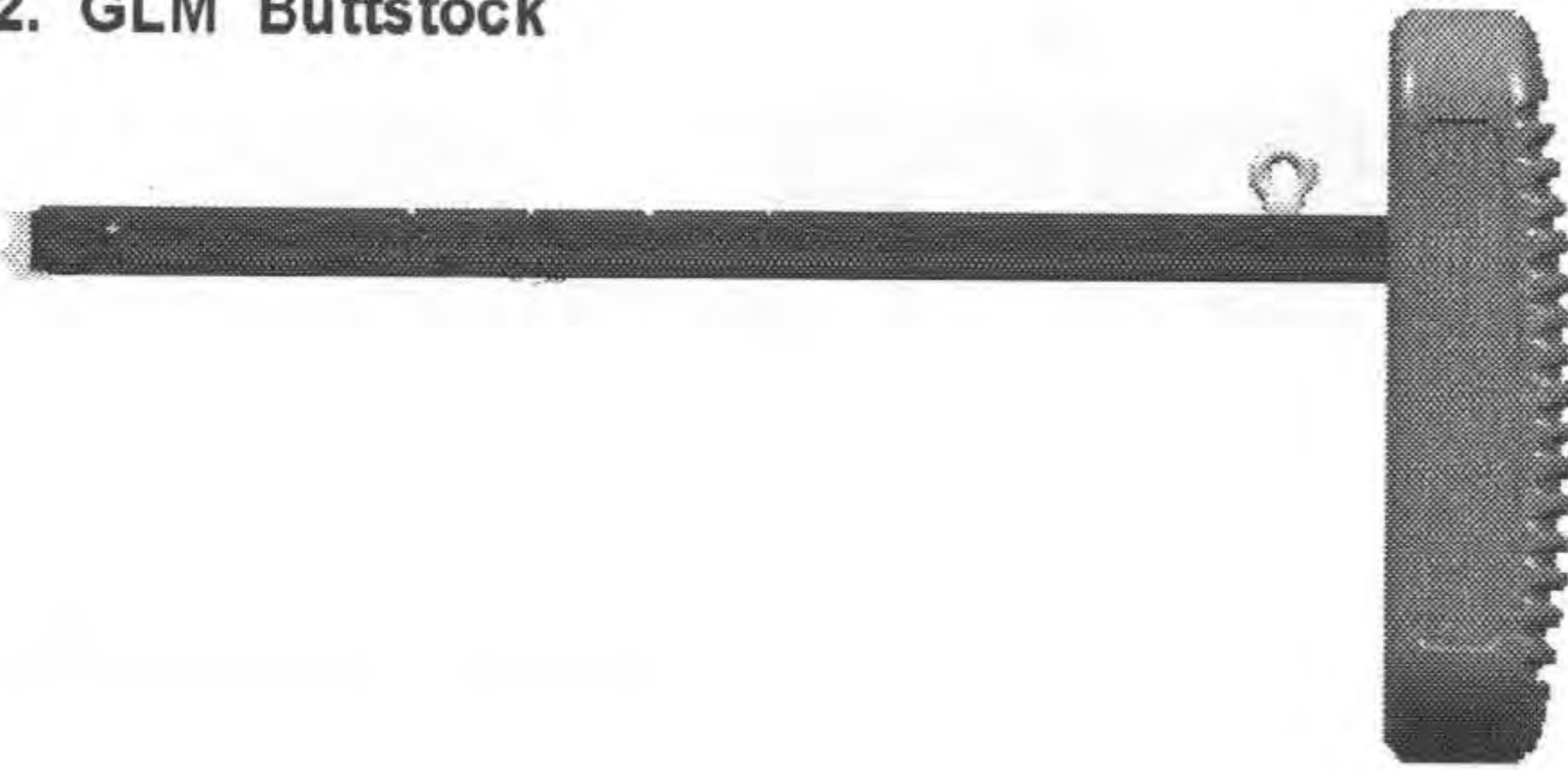
Consists of:

#### 1. GLM Folding vertical foregrip



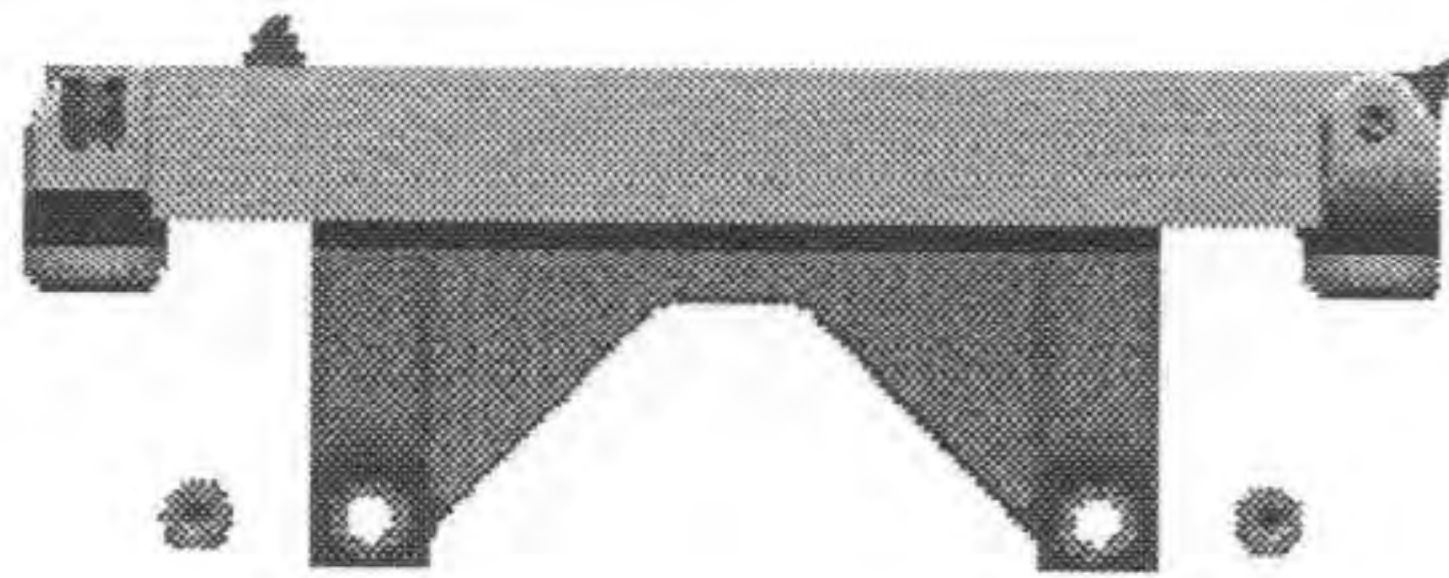
Designation	Ident.-No.
Folding vertical foregrip	234 627
2x Countersunk headscrew (M8x12)	978 478

#### 2. GLM Buttstock



Designation	Ident.-No.
Retractable buttstock	233 498

#### 3. GLM Mechanical Leaf sight (for HK416 Host weapon)



Designation	Ident.-No.
HK416 Mech. Leaf Sight (Tritium sight)	202 769

#### (3). GLM Mechanical Leaf sight (optional)

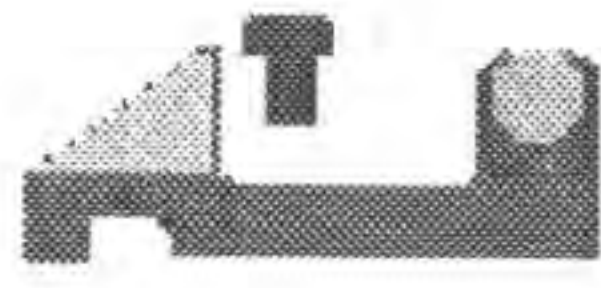


Designation	Ident.-No.
Mech. Leaf Sight (w/o Tritium)	217 894



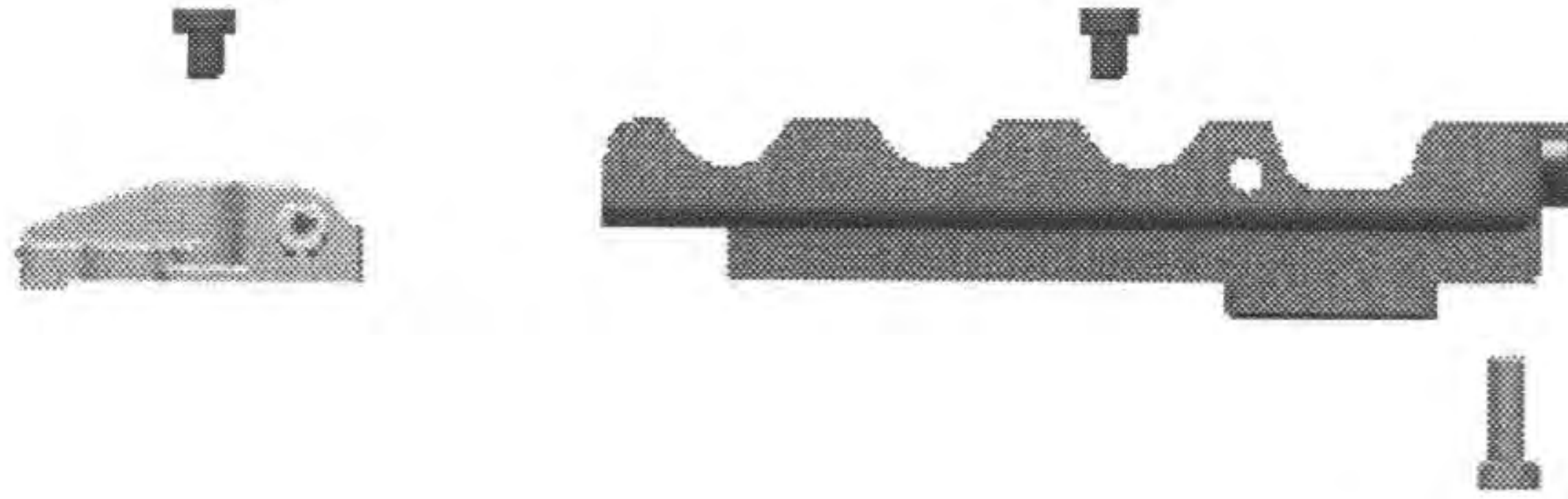
**B. GLM HOST WEAPON ADAPTORS**

**GLM - HK416/HK417 Adaptor**



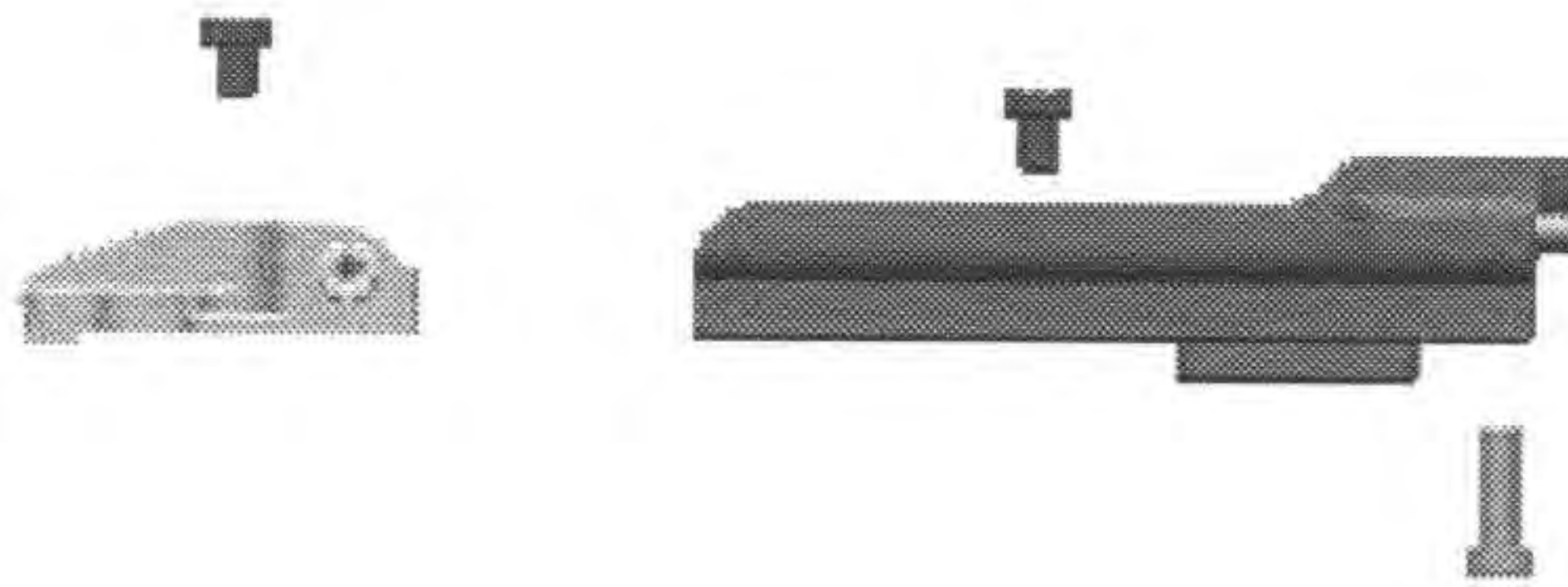
<b>HK416/HK417 Adaptor consists of:</b>	<b>Ident.-No.</b>
(1x) HK416/HK417 Adaptor, Bayonet Lug	233 968
(2x) Cylindrical Screw (M6x8)	979 420

**GLM - M4 Adaptor**



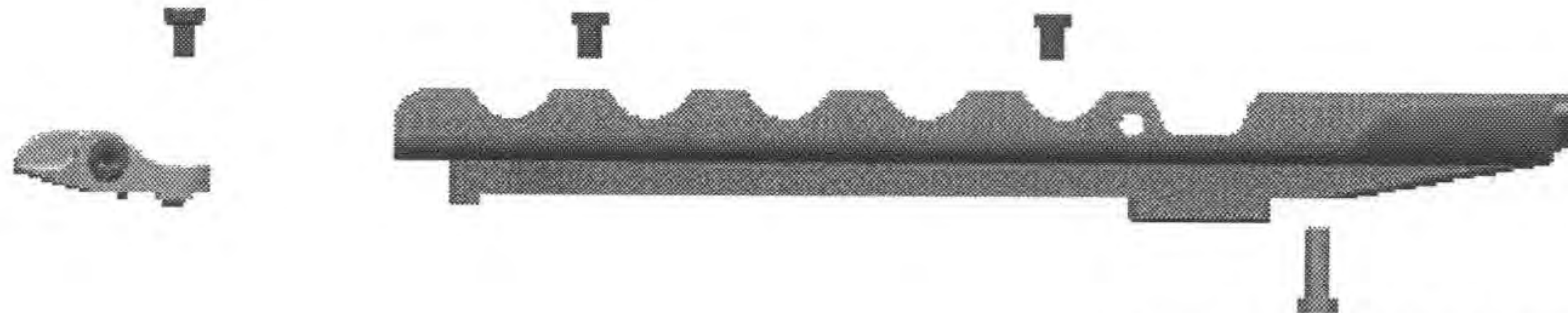
<b>M4 Adaptor consists of:</b>	<b>Ident.-No.</b>
(1x) M4 Block (Front)	233 455
(2x) Cylindrical Screw (M6x8)	979 420
(1x) M4 Adaptor (Rear)	233 453
(1x) Cylindrical Screw (M6x8)	979 420
(1x) Cylindrical Screw (M6x18)	928 821

**GLM - M4 MWS Adaptor**



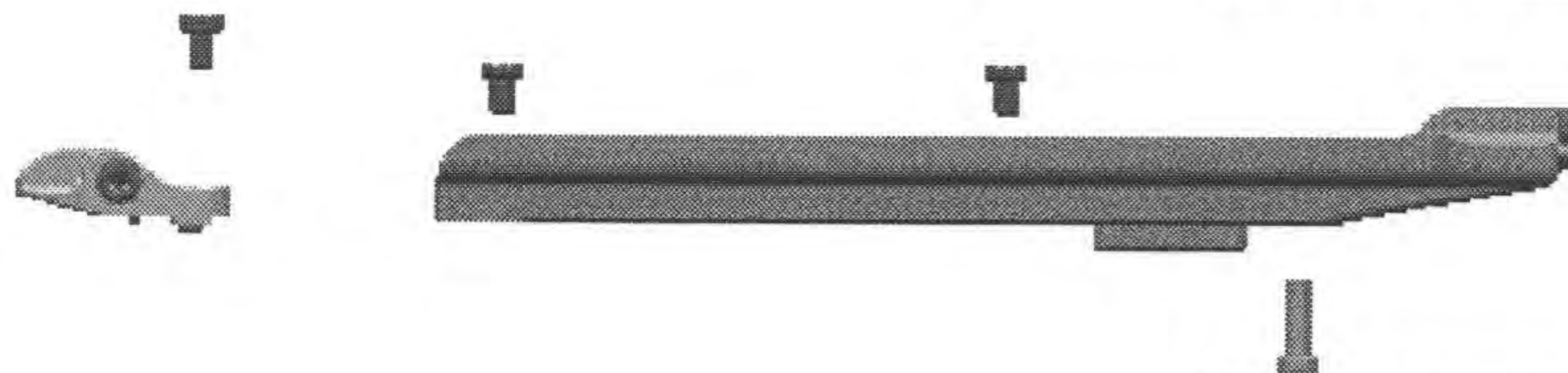
<b>M4 MWS Adaptor consists of:</b>	<b>Ident.-No.</b>
(1x) M4 Block (Front)	233 455
(2x) Cylindrical Screw (M6x8)	979 420
(1x) M4 MWS Adaptor (Rear)	234 246
(1x) Cylindrical Screw (M6x8)	979 420
(1x) Cylindrical Screw (M6x18)	928 821

**GLM - M16 A2 Adaptor**



<b>M16 A2 Adaptor consists of:</b>	<b>Ident.-No.</b>
(1x) M16 Block (Front)	233 446
(2x) Cylindrical Screw (M6x8)	979 420
(1x) M16 A2 Adaptor (Rear)	233 444
(2x) Cylindrical Screw (M6x8)	979 420
(1x) Cylindrical Screw (M6x18)	928 821

**GLM - M16 A4 Adaptor**



<b>M16 A4 Adaptor consists of:</b>	<b>Ident.-No.</b>
(1x) M16 Block (Front)	233 446
(2x) Cylindrical Screw (M6x8)	979 420
(1x) M16 A4 Adaptor (Rear)	234 245
(2x) Cylindrical Screw (M6x8)	979 420
(1x) Cylindrical Screw (M6x18)	928 821