

# **BURST TRIGGER MECHANISM**



**INTERNATIONAL**

**TRAINING**

**DIVISION**

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## GENERAL INFORMATION

The new design of the grip with trigger mechanism permits firing single fire, controlled fire bursts (3 shots) and sustained fire.

This design fulfills all requirements on a modern weapon.

This instruction describes the interaction of the parts as well as the disassembly and assembly of the grip with trigger mechanism.

The illustrations represent the G41 rifle version. The components of the other HK weapons only differ by some parts from the basic version.

The parts table lists up all indent numbers and drawing numbers of the different versions of the burst control device.

The indent number simultaneously serves as order number.

All parts numbers in the illustrations and in the text are identical to the position numbers in the parts table.

Unless not specially referred to, the assembly, respectively the mounting of assembly groups and parts must be carried out vice versa to the disassembly.

## PRINCIPLES FOR CARRYING OUT MAINTENANCE SERVICES

The HK burst control device has proven its extreme robustness and reliability during extensive trials and endurance tests.

Nevertheless a maintenance action might be a sometimes necessary.

Malfunctions might be caused by

- very bad fouling
- wear and tear of parts
- breakage of parts

If there are malfunctions, remove the complete grip from the weapon and check.

In the case of bad fouling remove the trigger mechanism from the grip and clean. Subsequently assemble the grip again and function.

If the troubles are caused by wear and tear or broken parts:

- disassemble trigger mechanism
- replace defective parts
- reassemble trigger mechanism
- Check function after reassembly

## OPERATION

The basic function of the burst control trigger mechanism is identical to the function of the other HK trigger mechanisms.

### FIRE SELECTORS/SAFETY LEVER AT SAFE

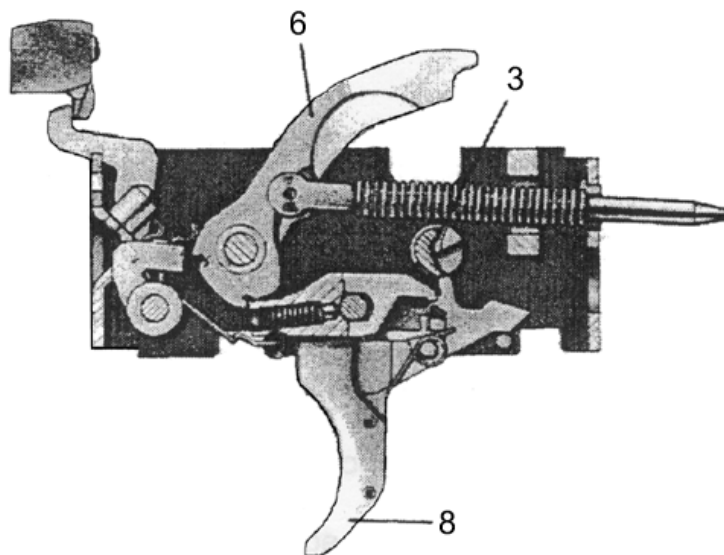
Designation of the parts according to the parts list.

3 – Safety axle

4 – Hammer complete.

8 – Trigger

The rifle is loaded; hammer (6) is cocked.  
Safety axle (3) is in the Safe position.  
The Safety axle blocks the trigger in its forward position.



## FIRE SELECTORS/SAFETY LEVER AT SINGLE FIRE

3 - Safety axle

6 - Hammer, complete

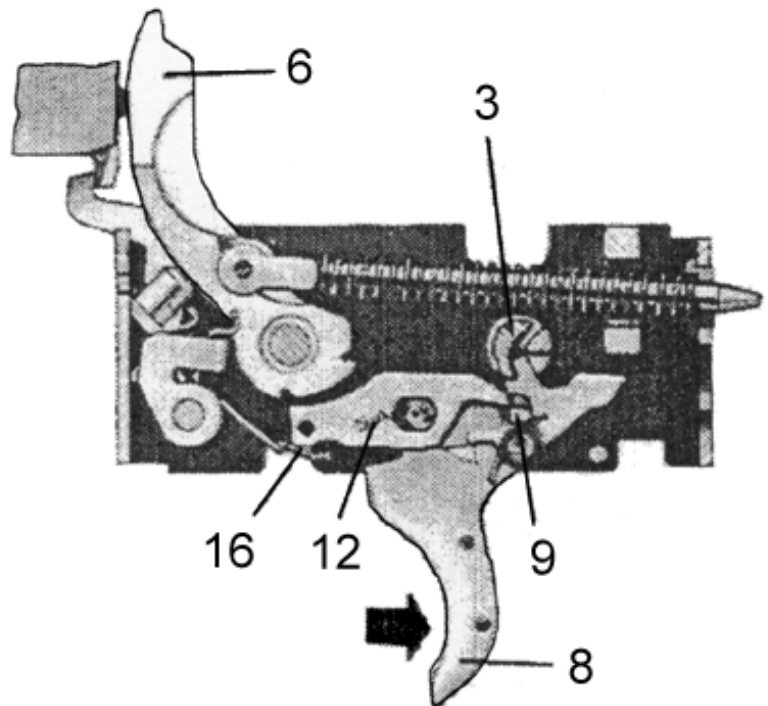
8 - Trigger

9 - Sear release latch

12 - Sear, complete

16 - Elbow spring with roller

The safety axle (3) limits the rearward turn of trigger (8). When the trigger is pulled, sear (12) is swiveled by sear release latch (9) thus disengaging from the single fire notch in the hammer.



Sear (12) is pushed forward by the force of its interior compression spring, whereby, the rear end of the sear slips from the upper step of the sear release latch and the elbow spring with roller (16) swivels the front of the sear upward.

"V" Bolt head carrier

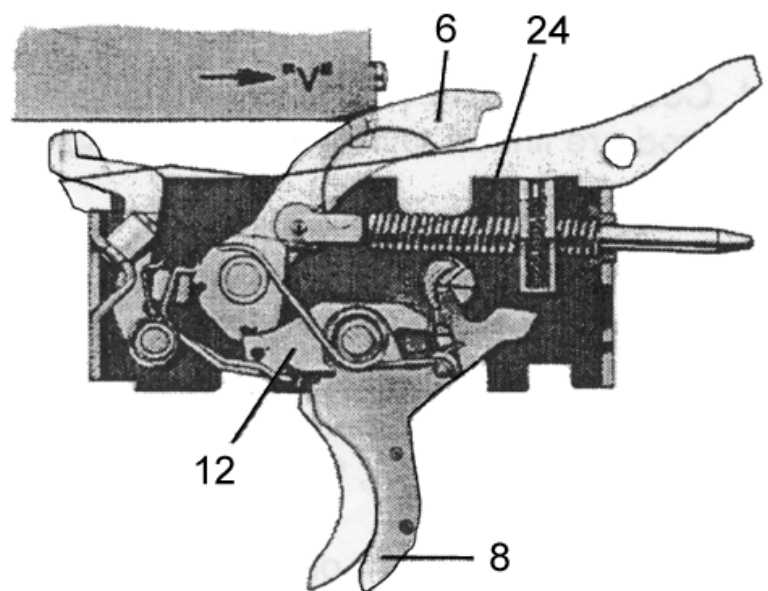
6 - Hammer

8 - Trigger

12 - Sear

24 - Hammer spring

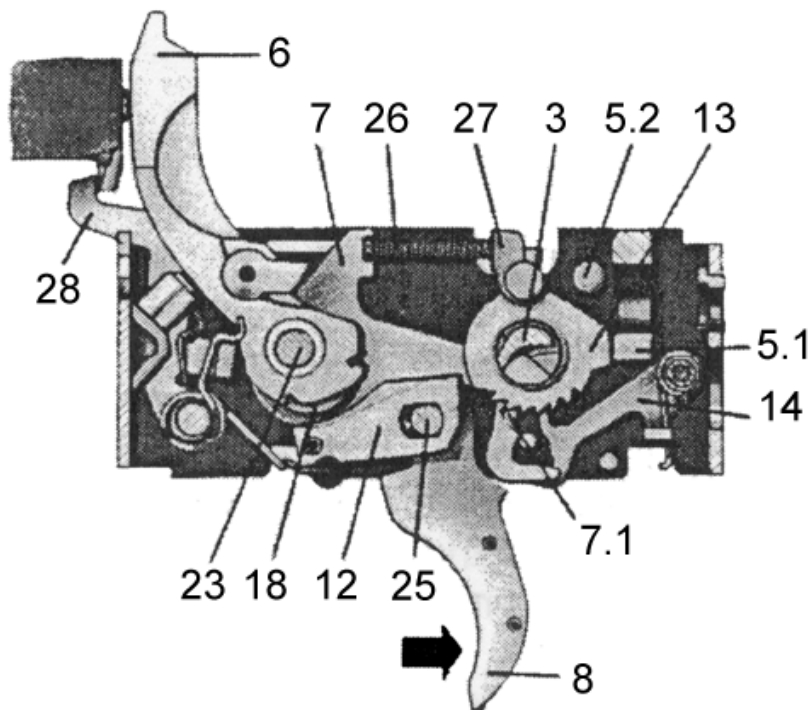
The rearward traveling bolt head carrier "V" cocks the spring loaded hammer (6) which is caught by sear (12) when pivoting forward.



For firing the next shot, the trigger pull must be released and the trigger (6) must be actuated again.

## FIRE SELECTORS/SAFETY LEVER AT 3 ROUNDS BURST

- 3 - Safety axle
- 5.1 - Web Plate
- 5.2 - Stop for counting wheel
- 6 - Hammer
- 7 - Shifter rod
- 8 - Trigger
- 12 - Sear, complete
- 13 - Counting wheel
- 14 - Stop latch, complete
- 18 - Eccentric bush
- 23 - Hammer axle
- 25 - Axle for trigger, sear and catch
- 26 - Compression spring
- 27 - Compression spring rod
- 28 - Catch
- 7.1 - Ratcheted Tooth



An eccentric bush (18) is applied to the hammer. On this bush shifter rod (7) is pivotally mounted. Counting wheel (13) is rotatably mounted on safety axle (3). Counting wheel and shifter rod are linked and spring loaded by compression spring (26) on compression spring rod (27).

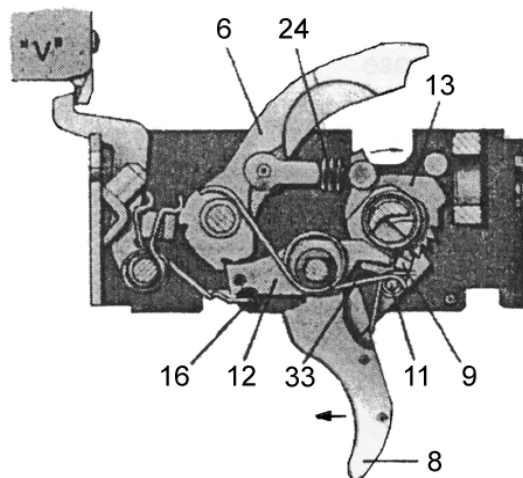
When the hammer is cocked by the rearward traveling bolt, the eccentric bush (18) follows this pivoting movement and moves the shifter rod to the front. The ratched tooth (7.1) of the shifter rod glides along the toothes section of counting wheel (13) and engages into the next toothed segment. During this movement the stop latch (14) retains the counting wheel (13) in its new position, thus preventing it from snapping back to its initial position.

During the forward movement of the hammer the eccentric bush guides the shifter rod to the rear which engages with its ratchet tooth into the toothed section of the counting wheel (13) and rotates the counting wheel for one tooth. When the counting wheel is rotated, the stop latch (14) glides out of its ratchet and clicks into the next tooth. This action is carried out three times.

## STATE OF TRIGGER MECHANISM AFTER FIRING 3 ROUNDS BURST

"V" Bolt head carrier

- 6 - Hammer complete.
- 8 - Trigger
- 9 - Sear release latch
- 12 - Sear, complete.
- 13 - Counting, wheel
- 16 - Elbow spring with roller
- 24 - Hammer spring
- 33 - Elbow spring for trigger

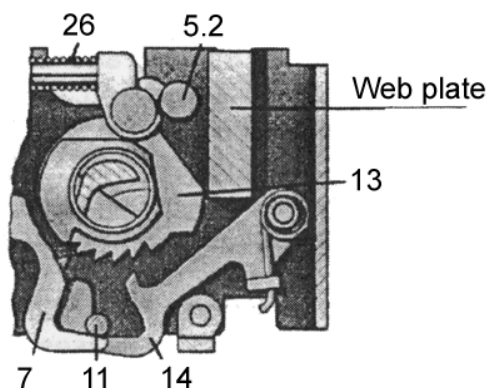


When the hammer snaps forward for igniting the third round, the shifter rod rotates the counting wheel (13) so far that the contact cam on the counting wheel pivots the spring loaded sear release latch (9) to the rear. This action disengages the sear from the sear release latch, whereby the front of the sear can be swiveled upward by the elbow spring with roller.

After firing the third round the hammer (6) is pivoted to the rear and pushed forward by the hammer spring (24).

When the hammer snaps forward, the sear engages in its rear notch which ceases fire.

- 3 - Safety axle
- 5.2 - Stop for counting wheel
- 7 - Shifter rod
- 11 - Axle for sear release latch
- 13 - Counting wheel
- 14 - Stop latch
- 26 - Compression spring



When the trigger is released, it is swiveled forward by the pressure of the elbow spring for trigger (33). The axle for sear release latch (11) on the trigger also pivots downward and disengages stop latch (14) and shifter rod (7) out of counting wheel.

The counting wheel on safety axle (3) is pivoted back by compression spring (26) to its initial position where it contacts stop (5.2) in front of the web plate. All functional parts go back to their starting positions.

## FIRE SELECTOR LEVER AT SUSTAINED FIRE

"V" Bolt head Carrier

"A" Catch Release

3 - Safety Axle

6 - Hammer

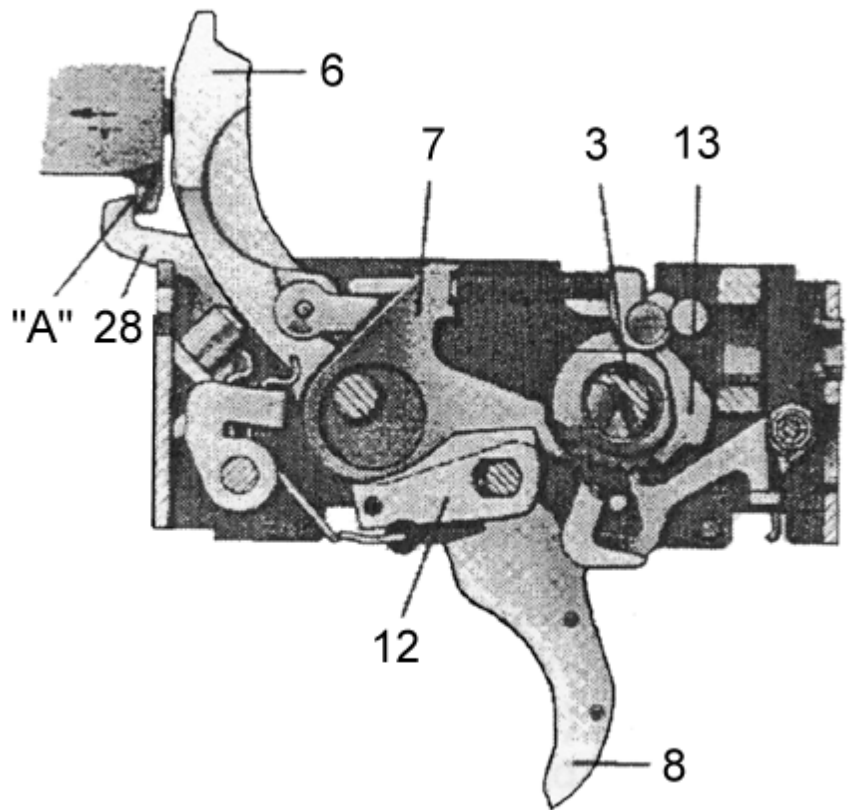
7 - Shifter rod

8 - Trigger

12 - Sear, complete

13 - Counting wheel

28 - Catch



## FIRING SUSTAINED FIRE

Safety axle (3) prevents the engagement of shifter rod (7) in counting wheel (13).

Trigger (8) is pulled all the way and contacts the web plate in the housing with its rear extension. Hammer (6) is released. The longer trigger pull swivels the sear (12) so far downward that it cannot engage in the hammer.

The rearward traveling bolt head carrier "V" cocks the hammer (6) which is now held by catch (28) when the bolt travels forward again.

As the bolt moves to its foremost position, the catch release "A" on the bolt head carrier contacts the catch which now releases the hammer.

The hammer snaps forward and the round in the chamber is ignited.

This action is repeated as long as the trigger (8) is pulled and as long as there are cartridges in the magazine. When the trigger is released, the front of the sear (12) is swiveled upward again, engages in the rear notch of the hammer and thus ceases fire.



## FUNCTION TESTS

### Description of operation (s):

#### Function test when fire selector lever is set at safe.

Cock hammer (6). Press release lever. Hammer disengages of catch, but does not snap forward all the way. Try to pull the trigger – it will be blocked by the safety axle.

#### Function test when fire selector lever is set at – single fire.

Cock the hammer. Set fire selector at single fire. Press release lever. Pull the trigger. The hammer snaps forward.

#### Function test when fire selector lever is set at 3-rounds burst.

Cock the hammer. Set fire selector lever at 3-rounds burst. Pull the trigger and hold it in its rear position. Press release lever. The hammer will snap forward now. Cock the hammer, press release lever. The hammer will snap forward a second time. Cock the hammer again and release lever. The hammer will snap forward for the third time.

Control: Cock the hammer, press release lever. The hammer disengages of the catch but does not snap forward. Now the trigger, which has been held back, can be released.

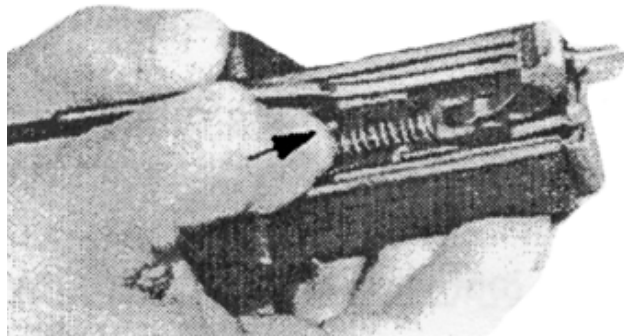
#### Function test when fire selector is set at sustained fire.

Cock the hammer. Pull the trigger, press release lever. The hammer will snap forward. When this action is continued the hammer will always snap forward all the way (sustained fire) as long as the trigger is held to the rear.

## DISASSEMBLY AND ASSEMBLY OF THE GRIP WITH TRIGGER

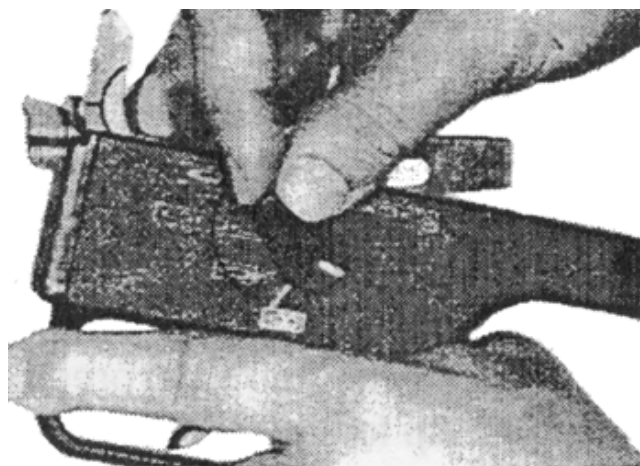
### Description of operation (s)

- Unlock hammer (6)
- Press catch lever (31) downward and place fire selector in a vertical position.
- Detach safety lever (4) on the right side of the grip
- Take out safety axle (3) to the left
- Remove trigger housing (5)



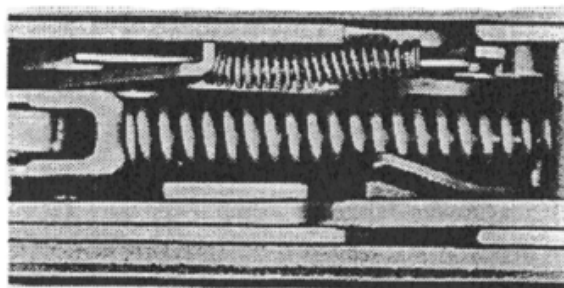
### For reassembly of the grip with trigger mechanism

- Insert trigger housing into the grip
- Place the lever of the safety axle vertical to the grip and insert the axle from the left whereby the catch lever must be depressed
- Mount safety lever (4) on the right side of the grip
- Rotate both safety levers forward to the safe position

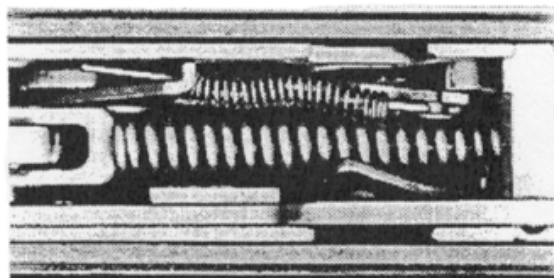


### Note:

When the safety axle is taken out, the counting wheel in the housing is not securely held in position and may tilt. Therefore, mind that the counting wheel touches the stop in the housing and that the wheel is aligned with the opening for the safety axle.



The fire selector lever on the right must be attached all the way onto the safety axle, until it touches the grip. With both fire selector levers, rotate to the front with inward pressure on both levers.



## MP5 Burst Groups

### Disassembly

#### **Ejector –**

- Remove *ejector axle*, (Fig. 1) located on the upper center of the left side of the housing by pushing the axle out from inside-out.
- Lift *ejector* up (Fig. 2) and then remove *ejector spring* from top of housing (Fig 3).

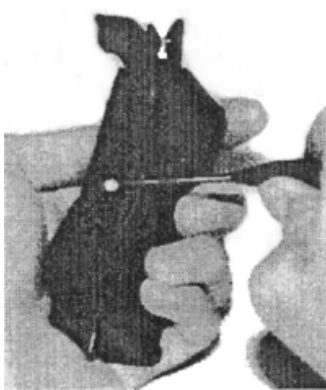


Figure 1

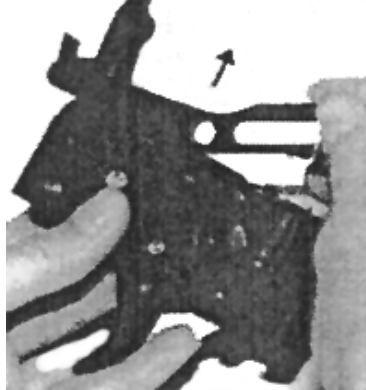


Figure 2

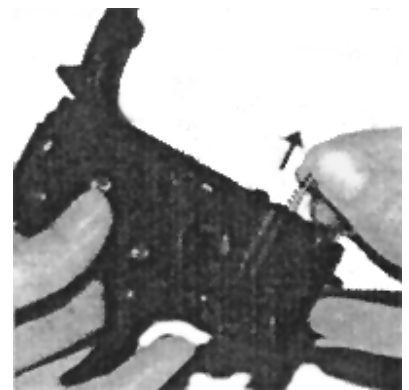


Figure 3

#### **Hammer –**

- With the hammer spring bushing tool, push the tool in against the *bushing* and spring from the rear of the housing.
- Turn the trigger mech. over when the spring is compressed and let the *bushing* fall out (Fig. 4)
- Remove *hammer spring* from the rear of the housing (Fig. 5)
- Push out *hammer axle*, remove *hammer*, up and forward of the housing (Fig. 6)
- Remove *eccentric bush* from the right side of the hammer axle hole (Fig. 7)

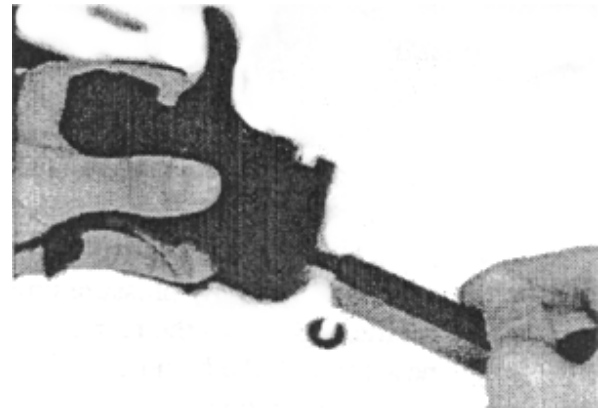


Figure 4

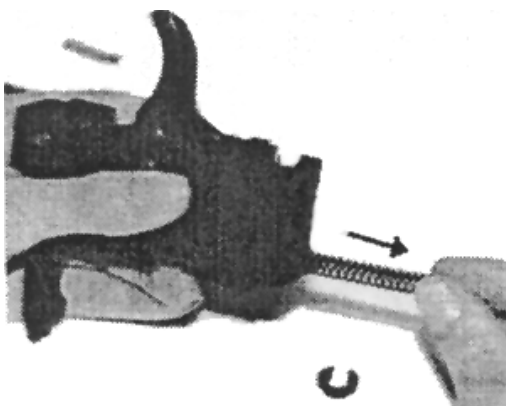


Figure 5

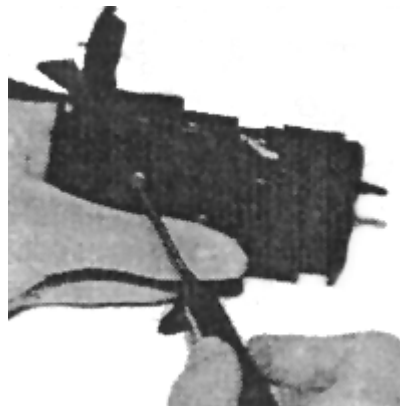


Figure 6

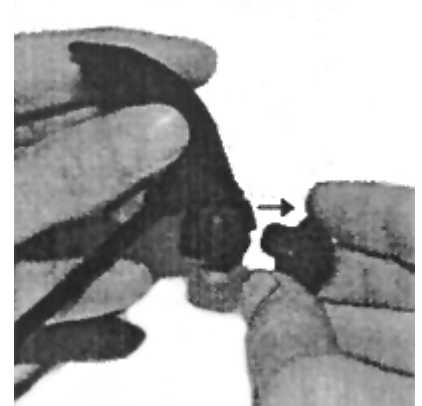


Figure 7

**Compression Rod –**

- Hold *shift lever* forward with finger and flick the *compression rod/counting wheel* union to the inside of the trigger mech. (Fig. 8)
- Move *compression rod* to the rear and lift up, remove *compression rod spring* (Fig. 9)
- With *compression rod* (#27) straight up, (Fig. 10) unhook *compression rod* from *counting wheel* (Fig. 11)

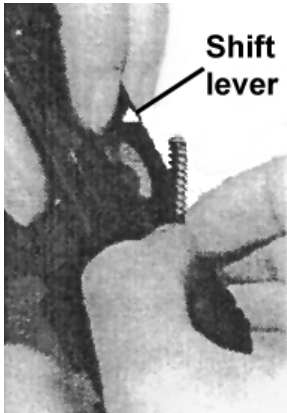


Figure 8

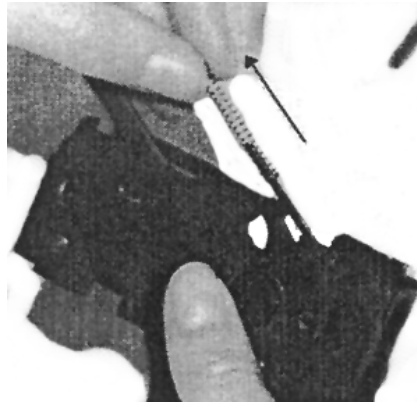


Figure 9

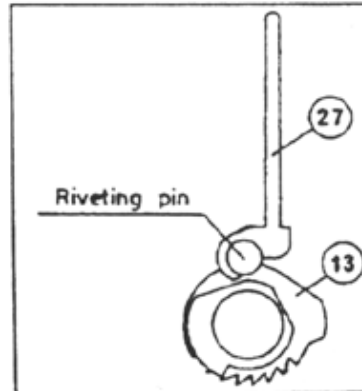


Figure 10

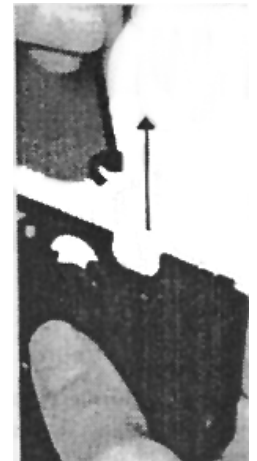


Figure 11

**Counting Wheel –**

- Lift *counting wheel* up. The hammer spring hole should be directly under the *catch lever*. The left side of *wheel* should be lined up with the *ejector slot* of the left upper side of the housing. (Fig. 12)
- Place a punch under the *counting wheel* through the left *selector switch* axle hole and apply pressure upwards. This will start the *counting wheel* rotating up and to the rear of the housing; make sure the *catch lever* (31) is now through the hammer spring hole in the *counting wheel* (13). (Fig. 13)
- Continue rotating the *counting wheel* to the rear and up. (You may need a punch to **slightly** pry the counting wheel up at this point. (Fig. 14) You only need **slight** pressure in prying up) Remove counting wheel. (Fig. 15)

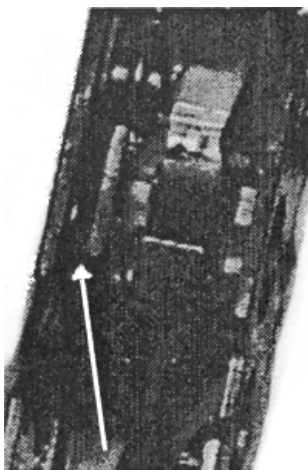


Figure 12

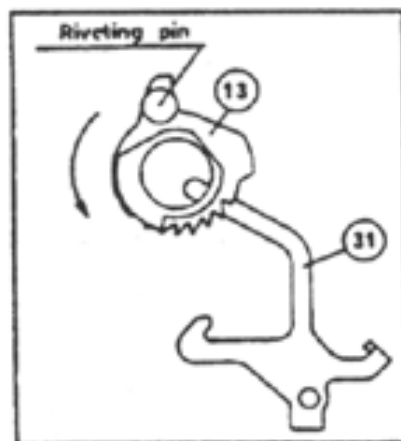


Figure 13

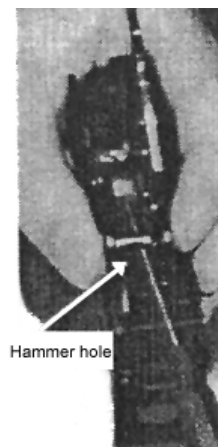


Figure 14

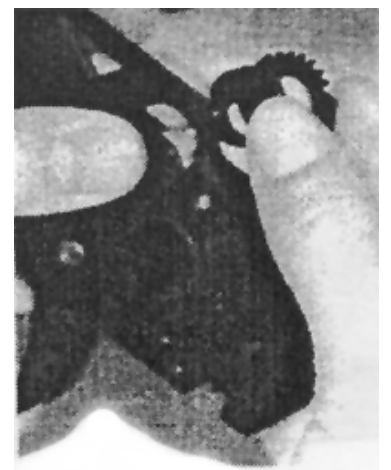
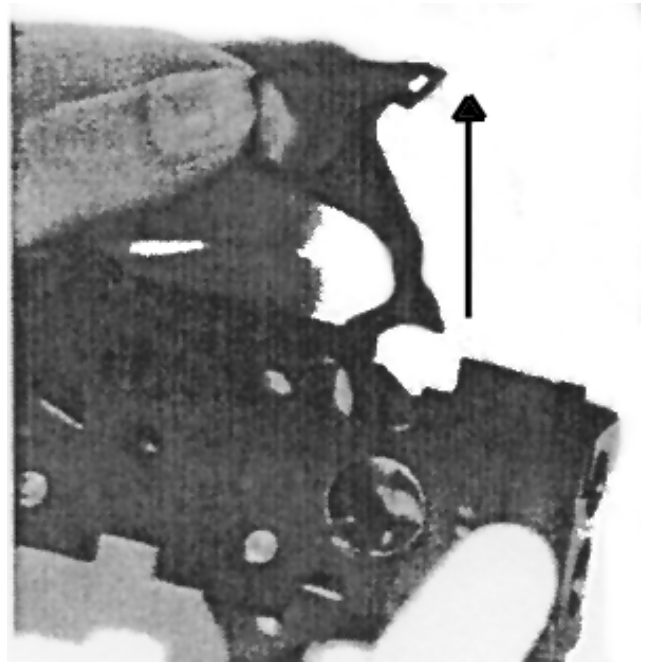


Figure 15

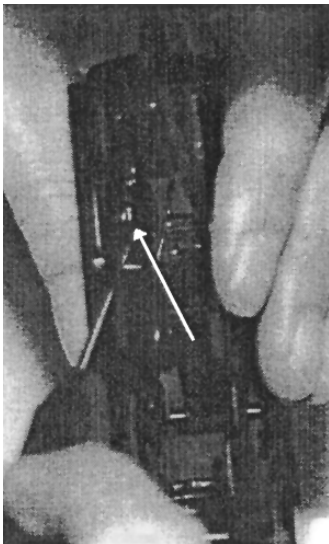
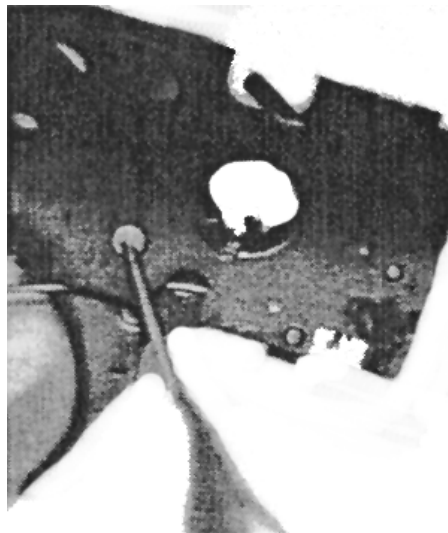
**Shifter Rod –**

- The *shifter rod* is located on the inside of the housing and to the right. There is a large hole in which the *hammer* seats. Lift the *shifter rod* straight up and remove through the top of the housing. (Fig. 16)

**Figure 16****Trigger Assembly –**

Rake the *trigger return spring* off the anvil, located on the inside, left side of the housing (this takes the detension off the trigger) (Fig. 17)

- Push out the *trigger axle* (Fig. 18)
- The *sear* will fall out
- Hold the *trigger* on both sides with your thumb and index finger. Rotate the *trigger* forward and down, it will come out of the housing (Fig. 19)

**Figure 17****Figure 18****Figure 19**

Push out the *sear release latch axle* (11), located to the rear of the *trigger* (8), remove the *sear release latch* (9) and *sear release latch spring* (10), (Fig. 20)

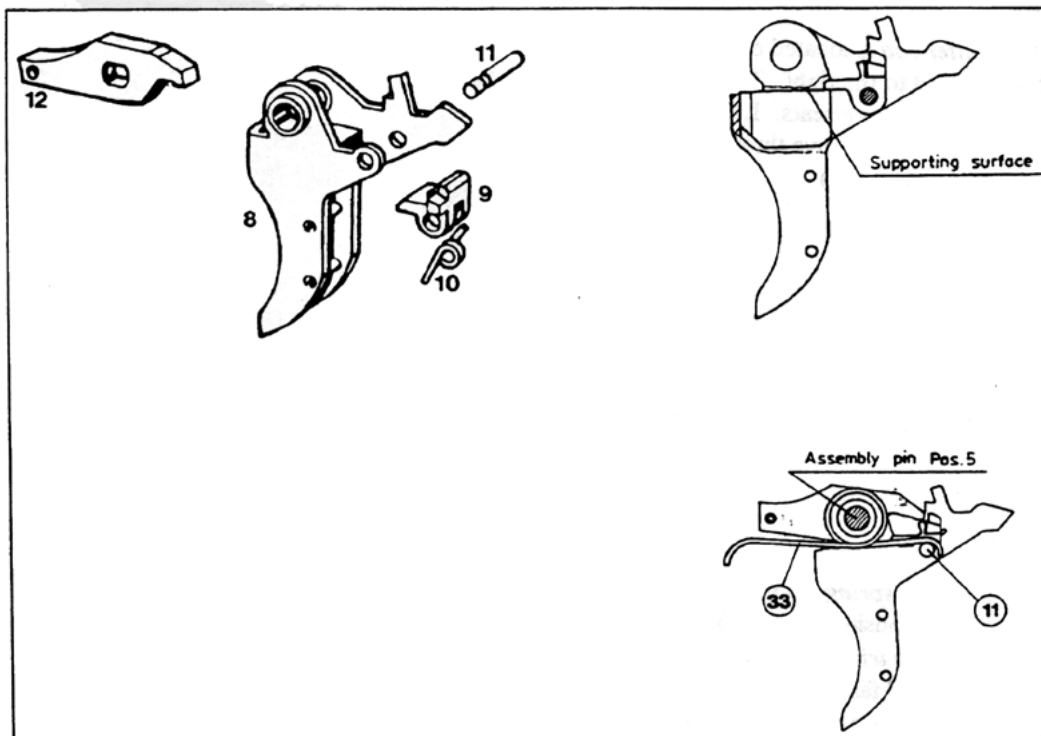


Figure 20

#### Catch Assembly –

- Push out *catch axle* with a punch. (Fig. 21) Bring *catch assembly* out the bottom of the housing. (Fig. 22)
- Remove the hooked ends (dead end) of the *elbow spring* from the horizontal bar of the *catch* (Fig. 22)
- Remove the axle bushing from the *elbow spring* coil.

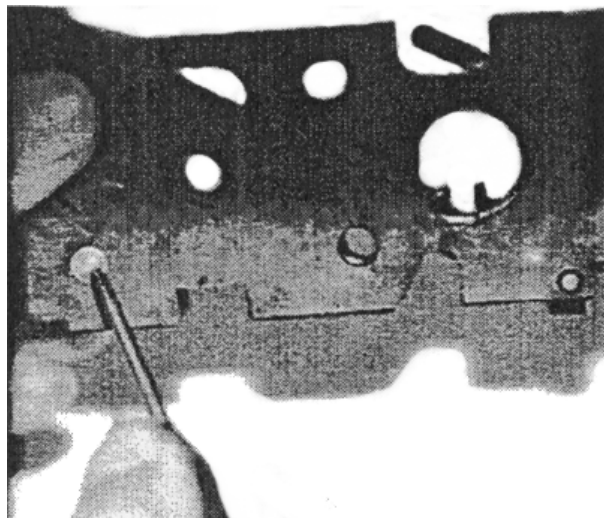


Figure 21

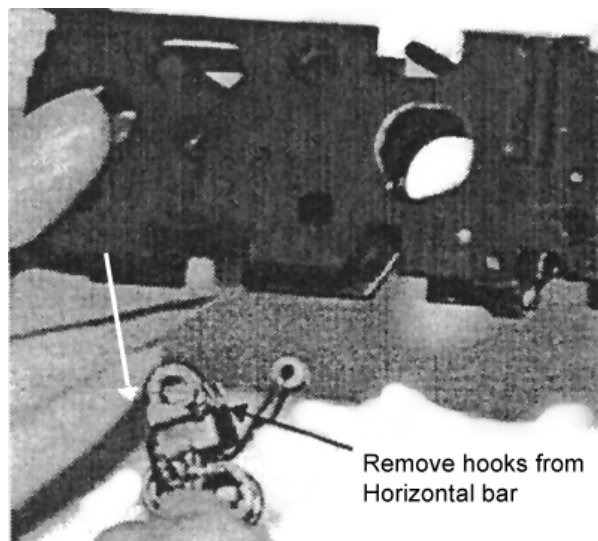


Figure 22

**Release Lever –**

- Pull the *release lever* to the inside of the housing and bring out through the top of the housing. (Figure 23)

Turn housing upside down with rear of housing away from you and remove the active leg of the *spring* from the *catch level*, located to the rear and left of the housing. (Figure 24) Then remove spring from *stop latch*. (Figure 25)

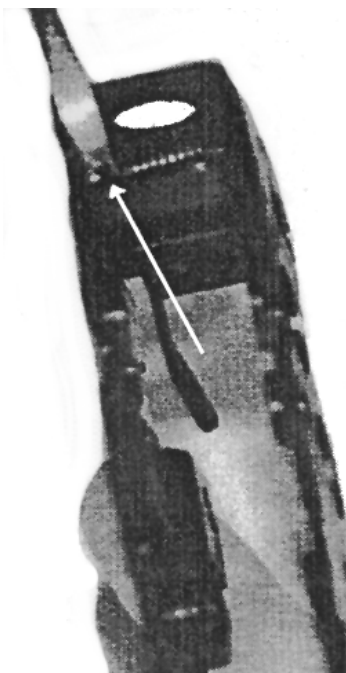


Figure 24

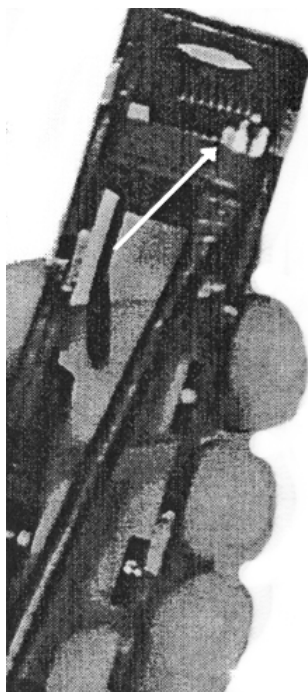


Figure 25

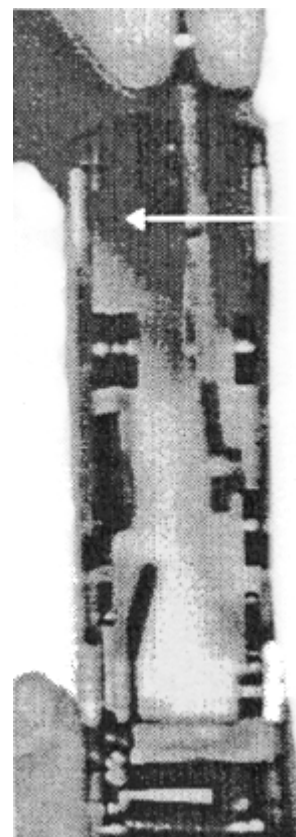


Figure 23

**Catch lever –**

- Push out the *catch lever axle* with a punch (Figure 26) and remove the *catch lever* (Figure 27).



Figure 26

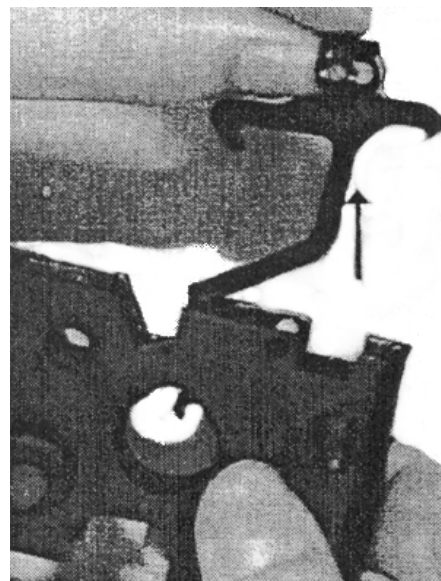


Figure 27

**Stop Latch and Spring –**

- Put downward pressure on the *stop latch elbow spring* and push out the *spring axle* with a punch (Fig. 28)
- Remove *spring* and *stop latch* (Fig. 29)
- Separate *elbow spring* and *stop latch* (Fig. 30)

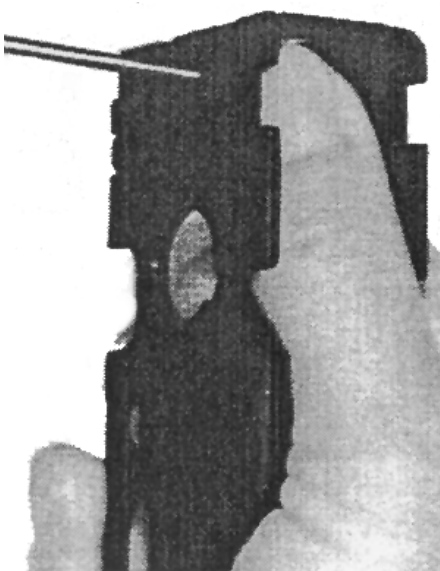


Figure 28

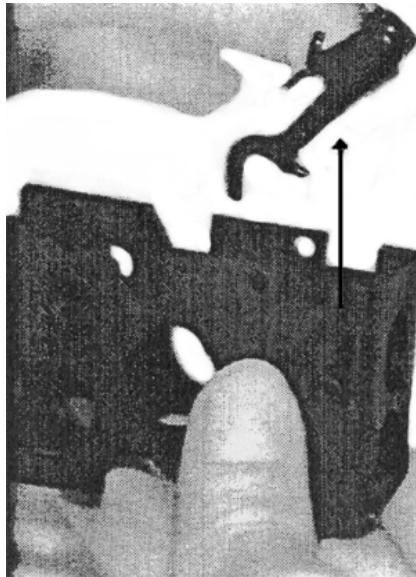


Figure 29

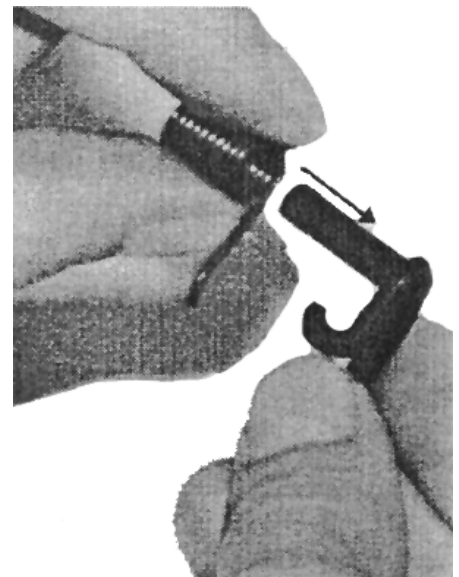
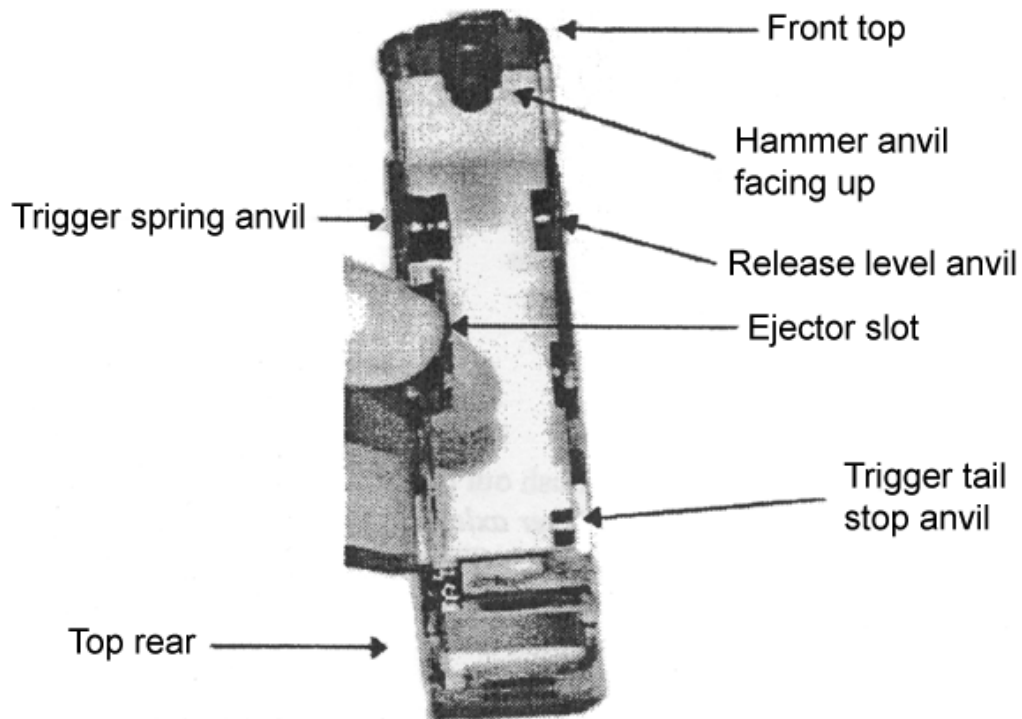


Figure 30



**Disassembly is complete!**



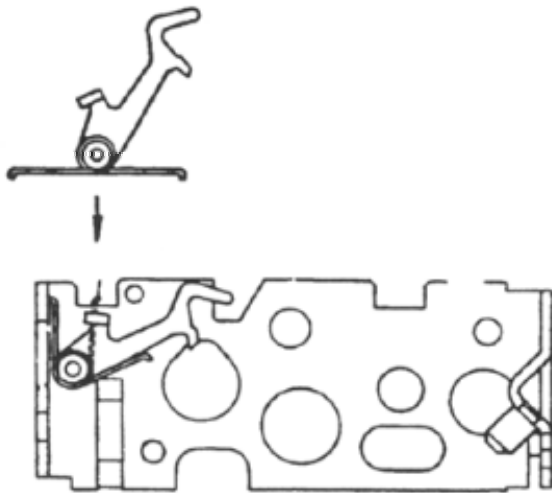
## **ASSEMBLY**

### **Stop Latch and Spring –**

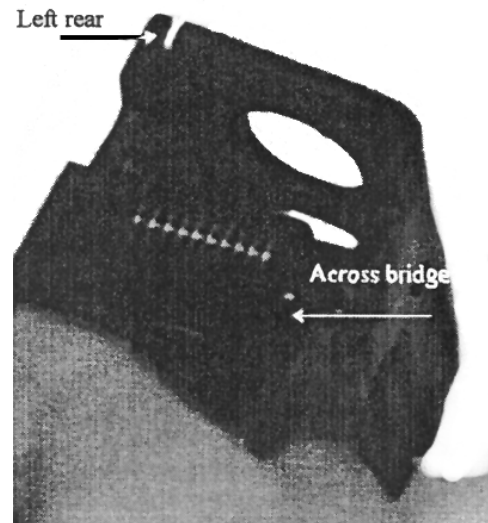
- Turn housing upside down with rear portion away from you
- Place *stop latch axle* into coil of *spring* from right to left (Fig. 31)
- Left leg of *coil spring* will go to the left and against the rear wall. Right leg of *spring* will fall across the bridge inside the housing (Fig. 32 & Fig. 33). The *stop latch* will be to the right with hook side up.
- Push down until the *stop latch axle* is aligned with axle hole. Either slide the *stop latch* and *spring* or start the axle through and push axle into place. (Fig. 34)



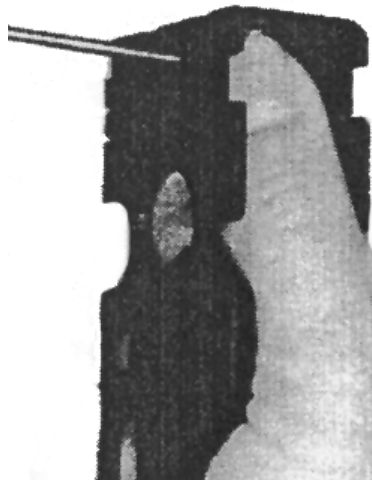
**Figure 31**



**Figure 32**



**Figure 33**



**Figure 34**

**Catch lever –**

Hold *lever* with bridge side up. With the housing still upside down, move it towards the rear of the housing (Fig. 35)

With a spring mandrill, pull the *coil spring* leg forward, which is in the upper left side of the housing, and hook it onto the hooked end of the *catch lever*. (Fig. 36)

Align the *catch lever bridge axle* holes and push *axle* into place

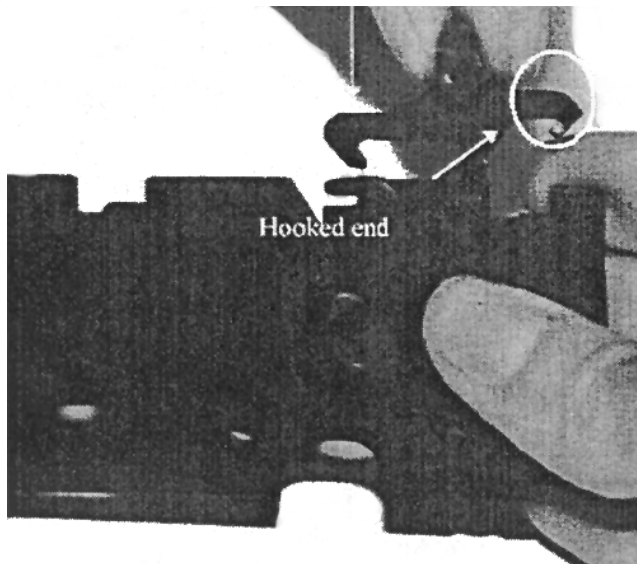


Figure 35

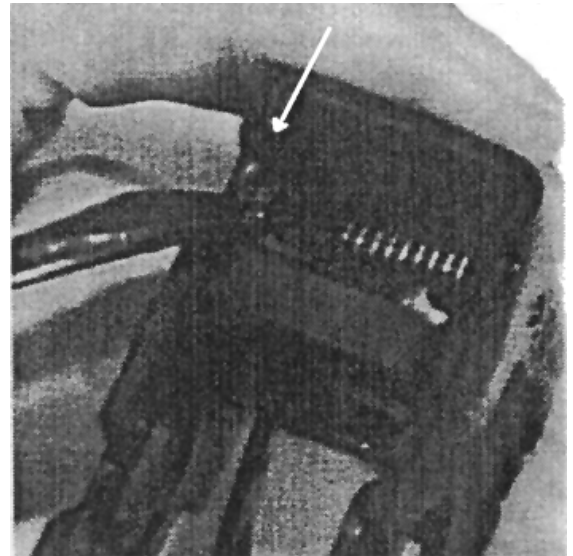


Figure 36

**Trigger Assembly – (Assemble trigger subassembly)**

- Place *sear release latch* (9) onto upper rear of *trigger* (8) with largest lip forward and smaller lips up (Fig. 38).
- Start the *sear release latch axle* (11) through from the left side of the *trigger* with the *spring notch* on the left side.
- Once the *axle* is through the left side of the *trigger* and the left side of the *sear release latch*, place the *sear release latch spring* (10) with the short end up and the long end down, aligning the coil of the *spring* with the *sear release latch axle*.
- Push axle into place. (Make sure the spring notch is on the left side of the trigger and exposed.)

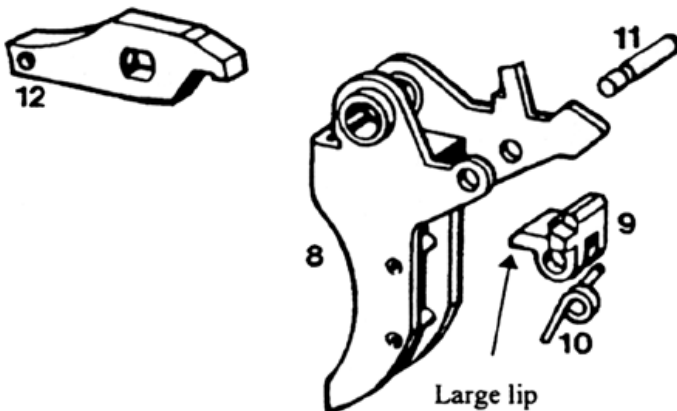


Figure 37

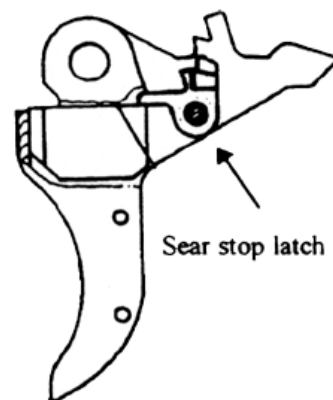


Figure 38

- Place the *trigger return spring* (33) coil on the left side of the *trigger axle* bushing, assuring the long hooked end of the *spring* is forward facing down. Place the short end on the notch on the *sear release latch axle* (11) (Fig. 39).
- Pull the hooked end of the *stop latch* down so the hook is extended below the bottom of the housing (Fig. 40)

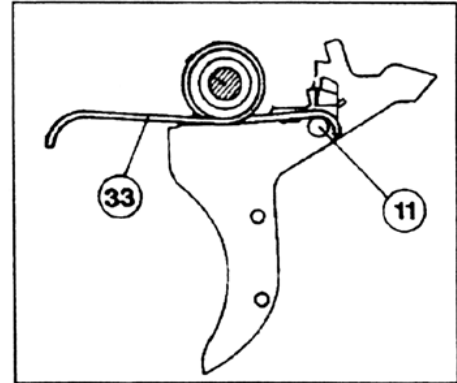


Figure 39

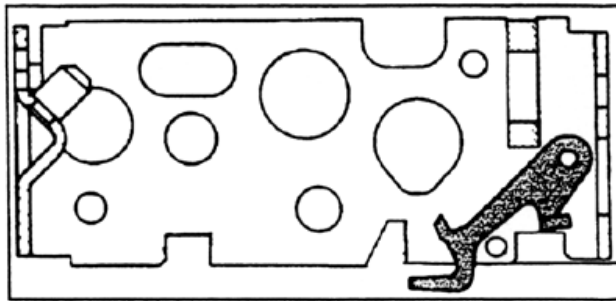


Figure 40

- With the trigger group front to your left, move the *trigger assembly* into the housing from the bottom of the housing (Fig. 41), assuring the right side (non notch side) of the *sear release latch axle* is just forward of the *stop latch* hook (Fig. 42).

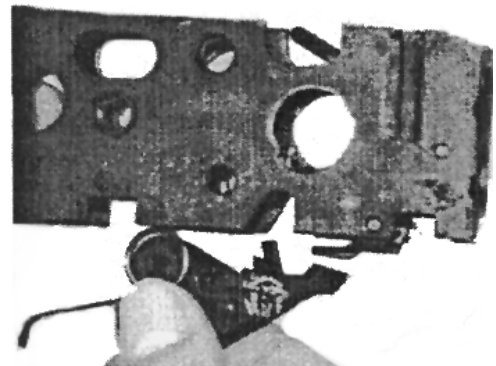


Figure 41

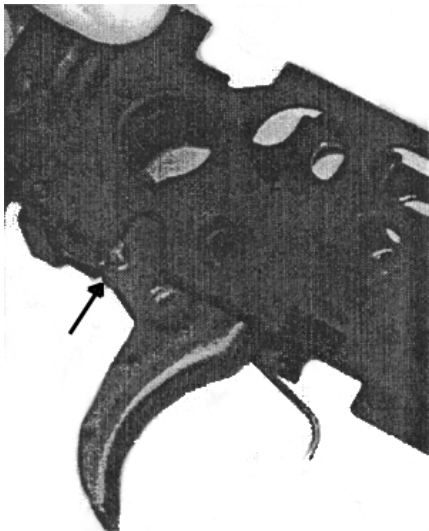


Figure 42

- Continue moving the *trigger assembly* into the housing and align the *axle holes*.
- Start the *trigger axle* in, stopping once the *axle* is holding the *trigger* in on the left side only (Fig. 43)

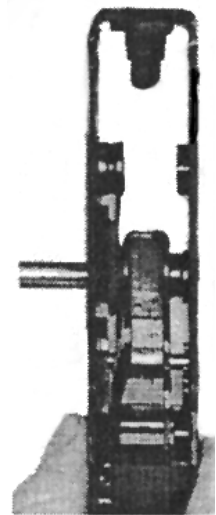


Figure 43

- Using a spring mandrill, from the bottom of the housing, push the *dead leg* (the forward hooked end) of the *trigger return spring* up until it rests on the left side anvil. This will put tension on the *trigger*. (Fig. 44)

Turn housing upside down, lift the *spring leg* of the *catch lever spring*, located on the right side of the housing and lying across the bridge, up onto the *stop latch*. This puts tension on the *stop latch* (Fig. 45)

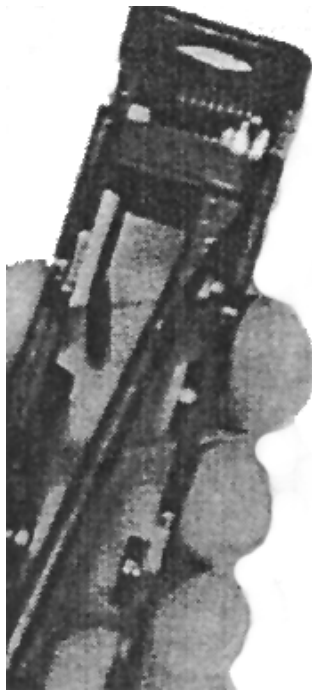


Figure 45

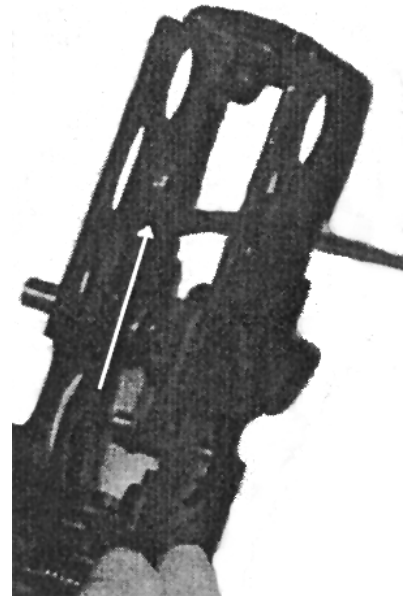


Figure 44

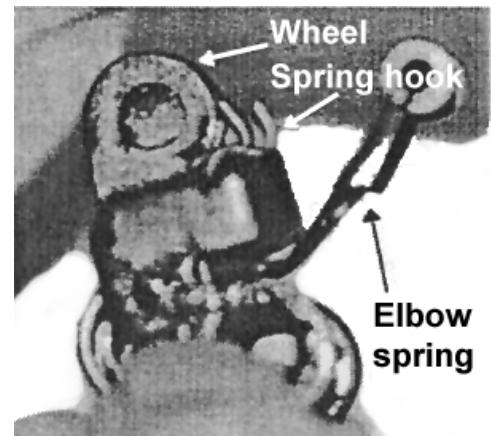


Figure 46

### Catch Assembly –

- Place *axle bushing* into the coil of the *elbow spring*
- Place the hooks of the *catch elbow spring* over the horizontal bar of the *catch*. Holding the *catch* with its wheel up and to the right, the hooks of the *elbow spring* come from the front of the bar and over (Fig. 46). This will align the *coil* and *bushing* with the *catch axle holes*.
- Move the *catch assembly* into the housing from the bottom and front of the housing (Fig. 47) Align the axle hole and slave the assembly with the *hammer strut*.
- Replace the *hammer strut* with the *catch assembly axle*.

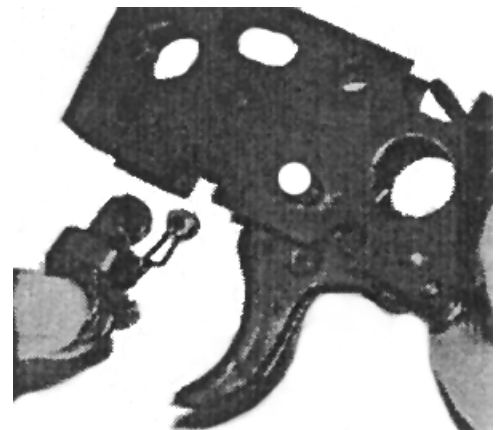


Figure 47

Suspend the *catch elbow spring* with a punch from the bottom of the housing. Punch should be perpendicular to the housing and forward in the small notch on the bottom of the housing. (Fig. 48)

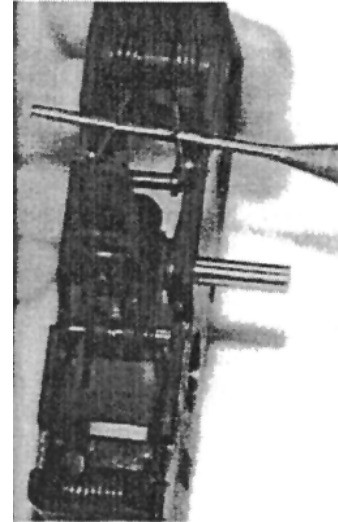


Figure 48

#### Sear –

- From the top of the housing, place the *sear* on top of the *trigger* (Fig. 49)
- Place pressure on the *trigger axle* and slave the *trigger* and *sear* from the right *trigger axle hole*. Once *sear* is aligned with *axle holes*, push *axle* into place.
- Release suspended *elbow spring*.

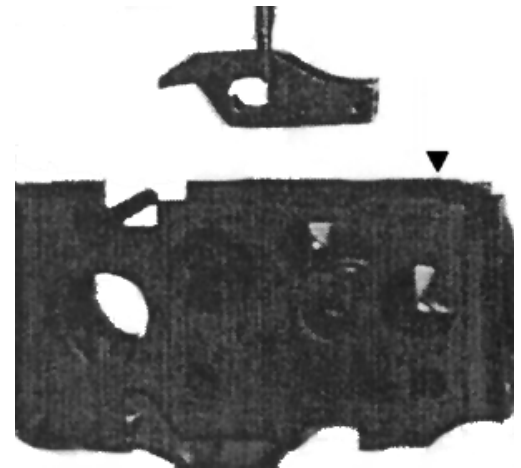


Figure 49

#### Release Lever –

- Insert a punch from under the housing placing the tip behind the horizontal bar of the *catch*. (Fig. 50) Pull the handle of the punch to the rear, pushing the *catch* forward. Place *release lever* on its *axle/anvil* with the long part of the lever resting on the right front corner housing notch (Fig. 51)



Figure 50

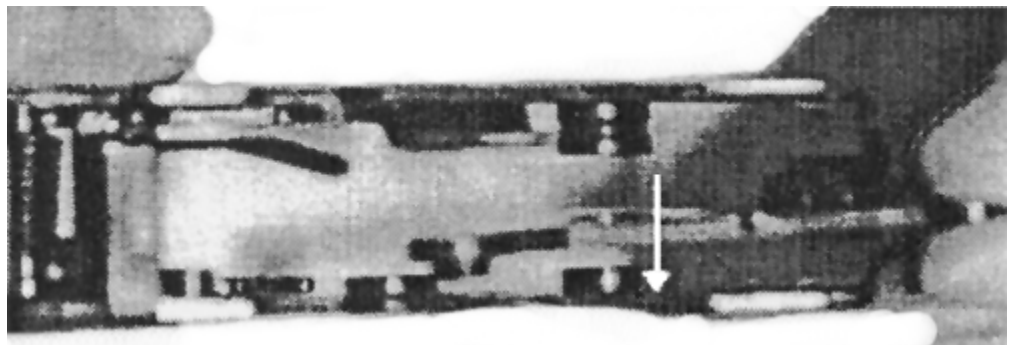


Figure 51

**Shifter Rod –**

- Position *shifter rod* with hooked end down. Slide *rod* down on right side of housing (Fig. 52) placing hook under *sear release latch axle* (Fig. 53) and allow *shifter rod* to fall into housing. (Fig. 54)

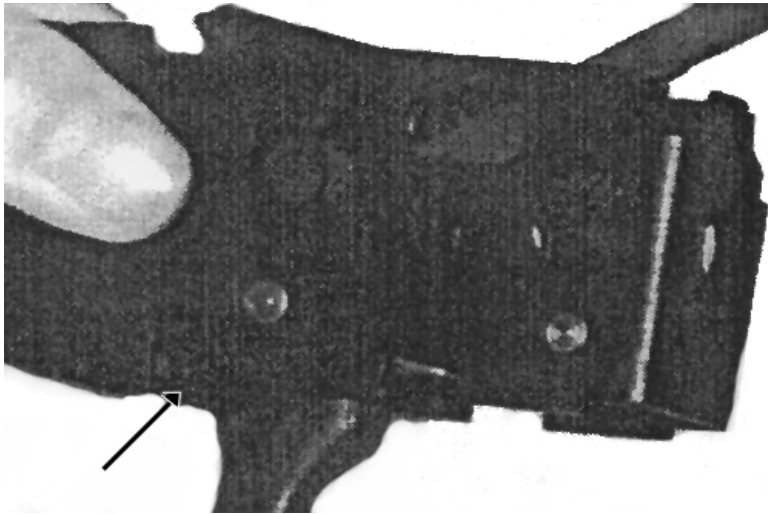


Figure 53

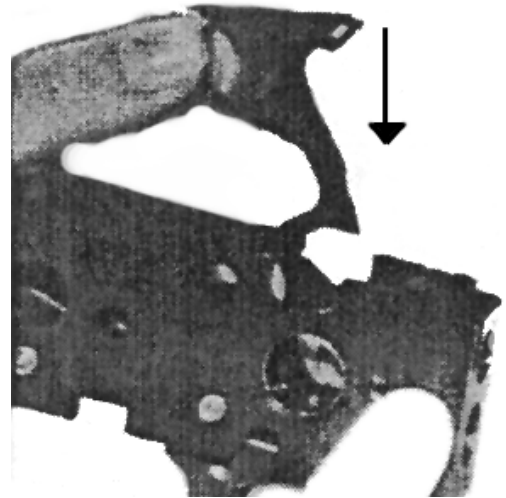


Figure 52

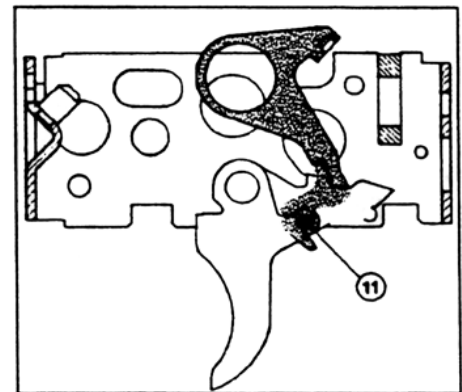


Figure 54

**Counting Wheel –**

- Position *counting wheel* so *compression rod anvil* is resting on housing anvil on right side of housing, left side of *counting wheel* should be on top of *ejector slot* (Fig. 55). Thread *catch lever* through *hammer spring hole* in *counting wheel*. (Fig. 56)

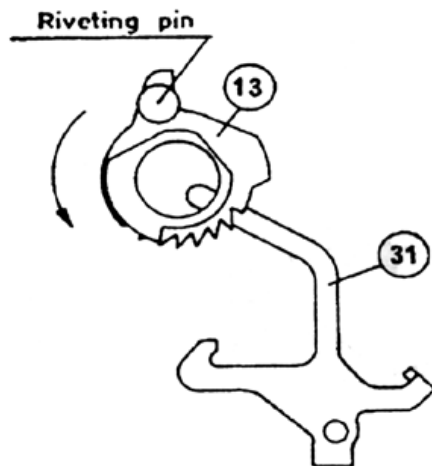


Figure 56

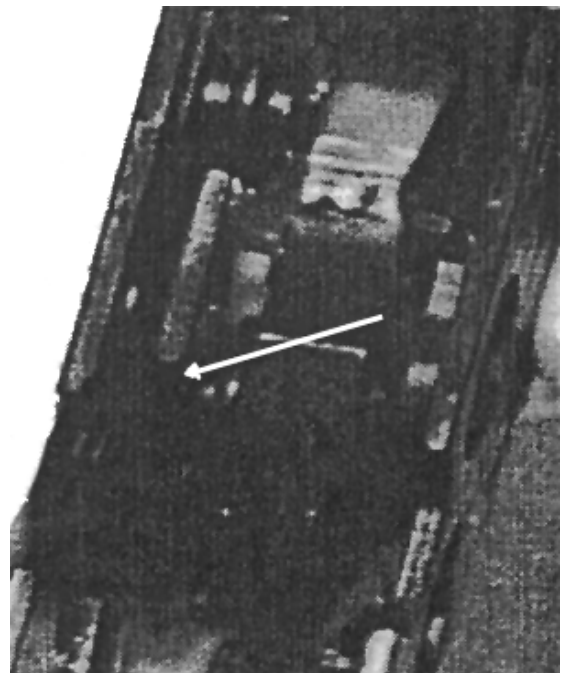


Figure 55

- Push down on the front of the *counting wheel* rotating the *counting wheel* forward and down. Slight pressure will be needed to move *counting wheel* down into position.
- Once *counting wheel* is under the *catch lever* rotate *counting wheel* until the *compression rod anvil* is up on the right side of housing.

### Compression Rod –

- Place hooked end of *compression rod* (27) onto *compression rod anvil* of the *counting wheel* (13) (Fig. 57)
- With long end of *compression rod* straight up or at a slight angle forward, slip the *compression rod spring* onto the *compression rod*.

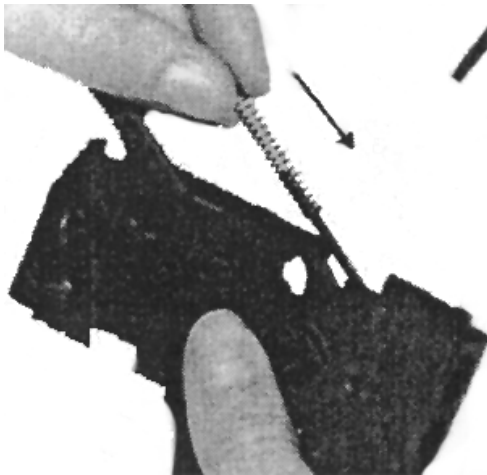


Figure 58

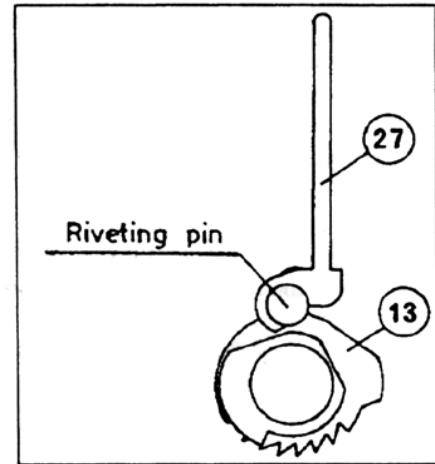


Figure 57

### Union of compression rod and shifter rod-

- Make sure the *shifter rod* is forward (Fig. 58)
- Angle the *counting wheel* towards the inside of the housing.
- Let *compression rod* fall against the upper portion of the *shifter rod*. At that point, thread the *compression rod* through the hole in the *shifter rod*.

Using a *spring mandrill*, place the tip of the mandrill behind the *compression rod* and *counting wheel* union point and push assembly forward until this union is forward of the *counting wheel stop anvil* located on the right side of the housing. At this point, the *compression spring* is compressed and the *compression rod* is protruding through the *shifter rod* (Fig. 59)



Figure 58

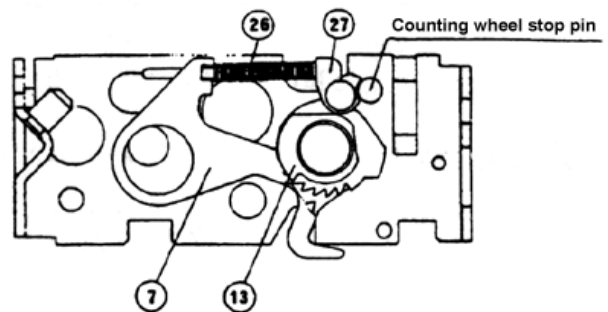
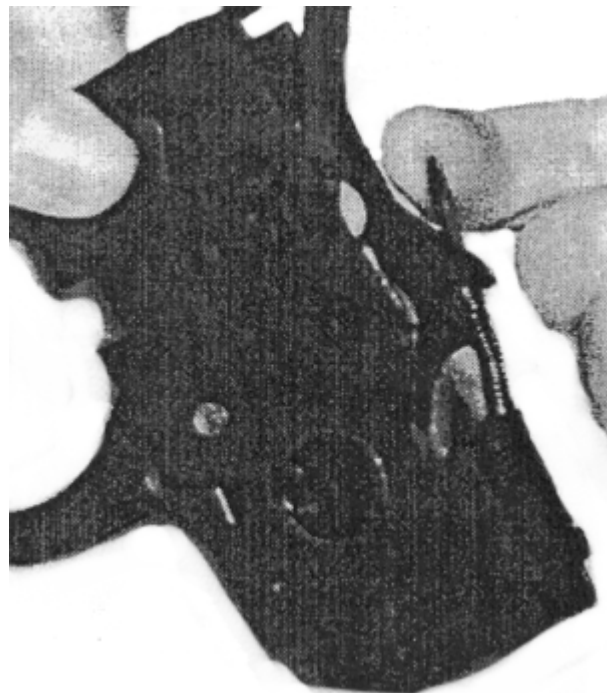


Figure 59

**Hammer –**

- Place the *eccentric hammer bush* into the right side of the *hammer axle hole*. Align the flat areas of the *hammer* and *hammer bushing*.
- Thread the *hammer strut* through the housing until the point of the *hammer strut* is protruding out the rear of the housing.
- Either lift the *shifter rod* up (compressing the compression spring), or push the *shifter rod* up from the bottom of the housing using a punch.
- Bring the right side of the *hammer* against the left side of the *shifter rod* and moving the *hammer* to the inside of the housing at a slight angle to the right.
- *Hammer bushing* should fall into *shifter rod*.

**Figure 60**

- Place *hammer axle* into *hammer axle hole* and put inward pressure on the *axle*
- Look through the other *axle hole* and align the *hammer axle holes*. When they are aligned, the *axle* will fall into place.
- Slide *hammer spring* onto *hammer strut* from the rear of the housing.
- Using the *hammer spring bushing spring tool*, compress the *hammer spring* (Fig. 61)
- Place *hammer spring bushing*, horseshoe down, over the bushing tool
- Remove tool. *Spring* will set bushing into place. If it does not, it will at least trap it. Use a punch to push *bushing* into place.

**Figure 61****Ejector –**

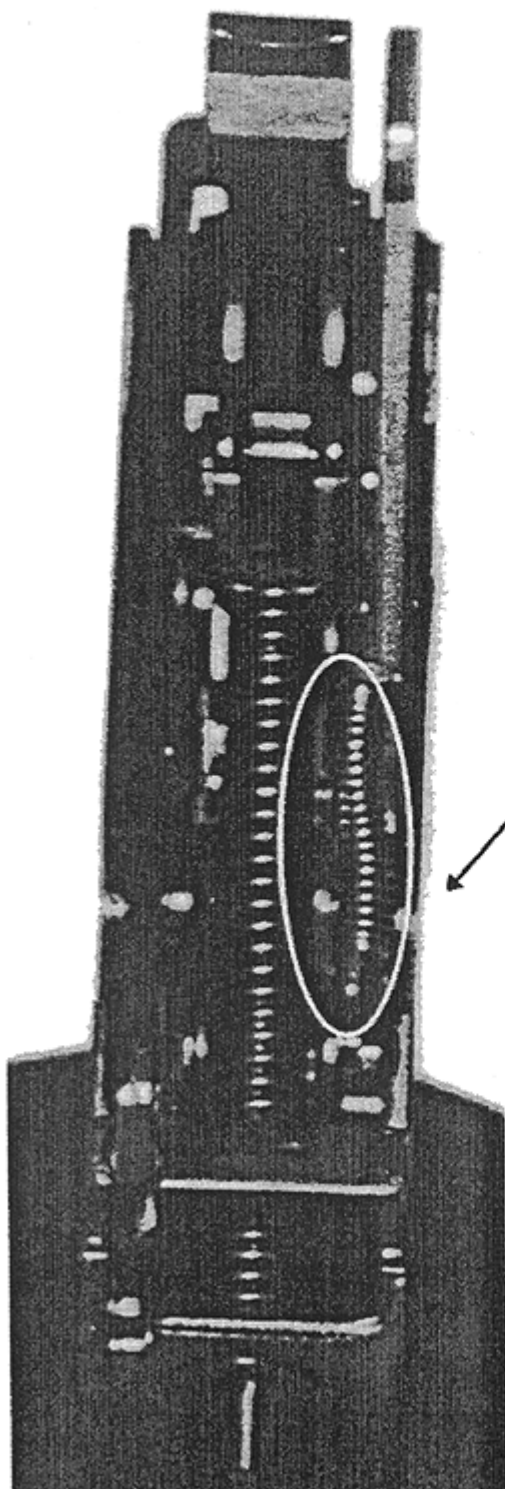
- Place *ejector spring* into *ejector spring cavity* in top left of housing
- Place *ejector* into *ejector slot*
- Align *axle holes* and insert *ejector axle* from outside in

Insert assembled housing into grip and reassemble *selector axles*.

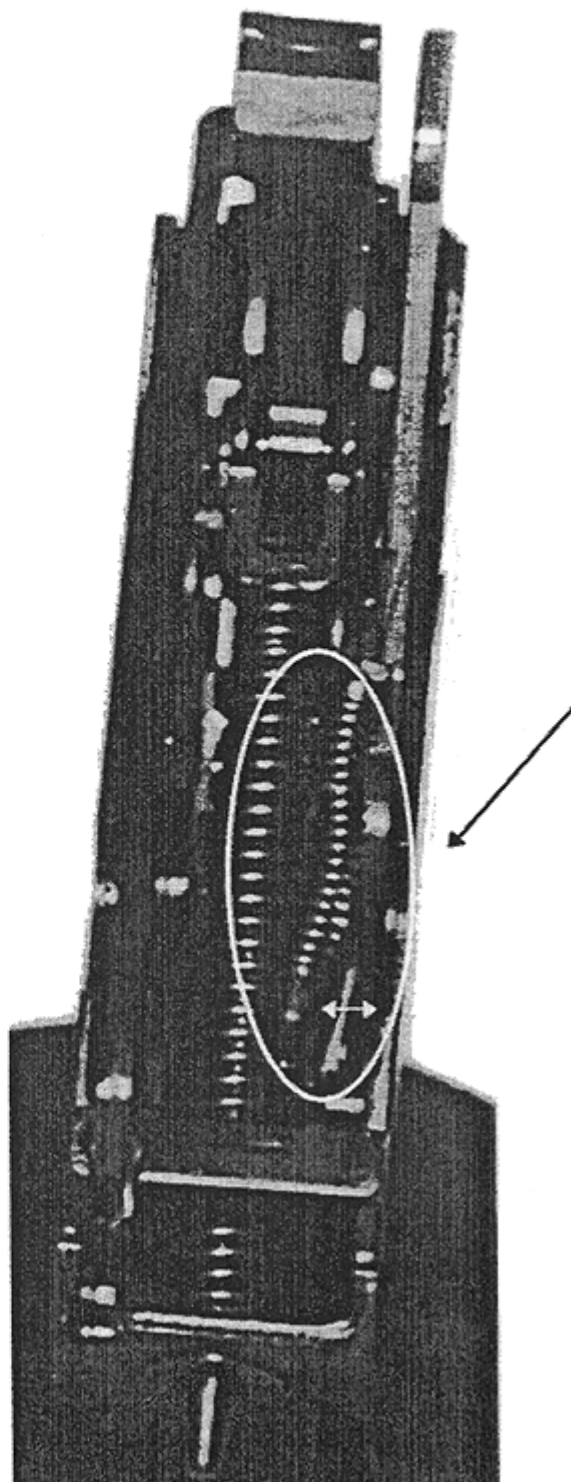
**Assembly is complete! Perform function checks.**



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