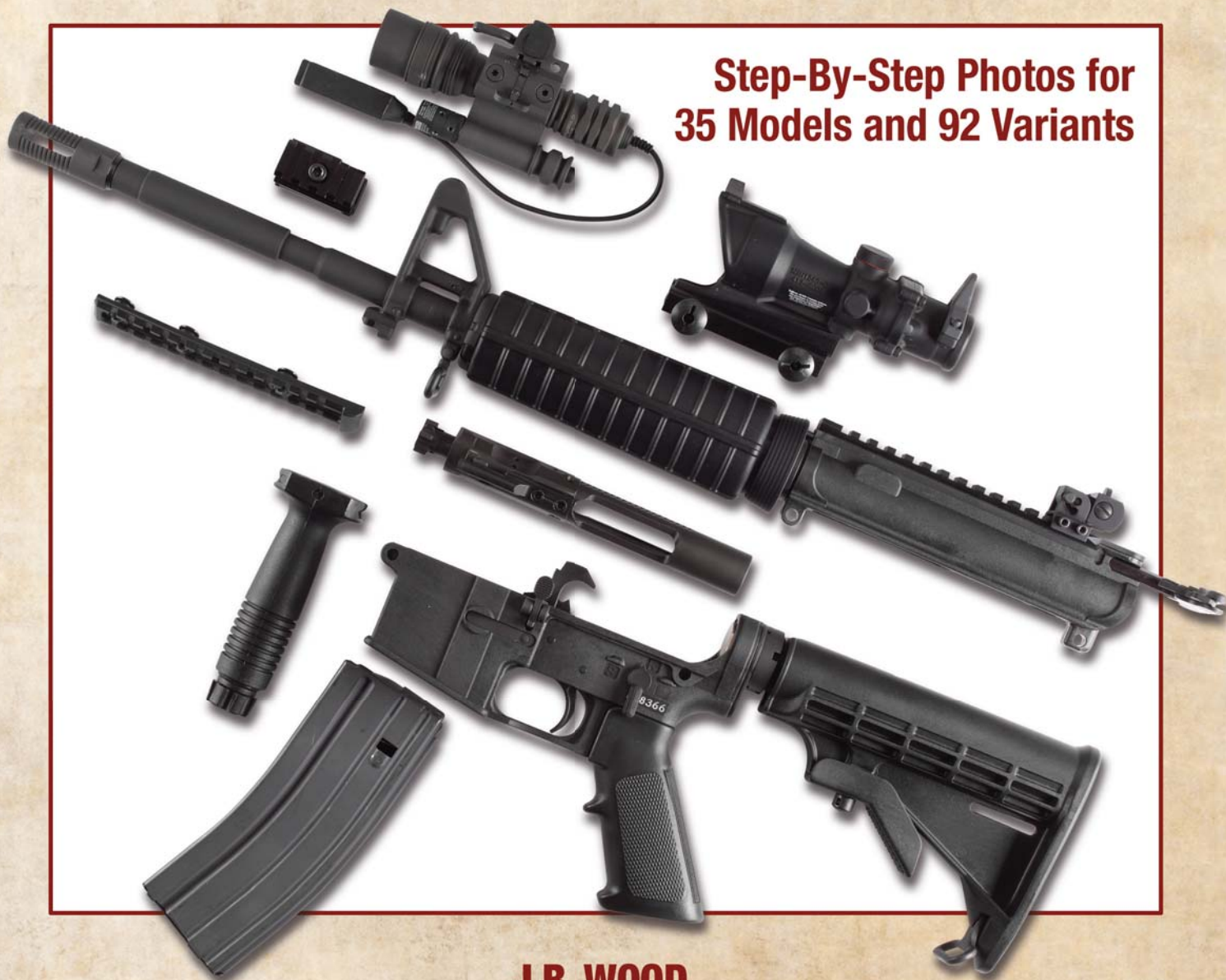


THE GUN DIGEST® BOOK OF

TACTICAL WEAPONS

ASSEMBLY/DISASSEMBLY

Step-By-Step Photos for
35 Models and 92 Variants



J.B. WOOD

A collection of black tactical equipment is displayed against a white background. The items include a rifle with a scope and night vision device, a handgun with a magazine, a flashlight, a scope, a night vision device, a flashlight, and various accessories. The equipment is arranged in a scattered manner, showcasing its components. The text "LB WOOD" is visible at the bottom of the image.

J.B. WOOD

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Dedication

“This book is dedicated to all the professionals in law enforcement and other security agencies who each day put their lives on the line for our protection.”

Acknowledgements

“My thanks to these people, who helped to make this book possible:

John D. Yarger, John A. Yarger, and James W. Yarger of Lock & Load Gun Shop; Mike Burkdoll; Ed Marksberry; E. S. “Mac” Bowen, II; Mitch Kalter of Action Arms. John Bressem of H&K; Wayne Daniel of RFB Industries; the late John Raymond Wilkinson; Martin Mandall; the late Russ Moure of Interarms; Margaret Sheldon of Sturm, Ruger & Co.; Dennis Reese of Springfield, Inc.; Tony Aeschliman of Marlin; Merv Chapman of Feather IND.; Frank Harris of Auto-Ordnance; Charles Brown of Hi-Point; Rick DeMilt and Dave Golladay of FNH USA; Doyle DeWoody of Wilson Combat; George Kellgren of Kel-Tec; Jeff Reh, Rick Gump, and Matteo Recanatini of Beretta USA; Steve Fjestad and John Allen of Blue Book Publications...

...and a special note of gratitude to the late Jim Yeaman, without whom the submachine gun section of this book would have been much more difficult.”

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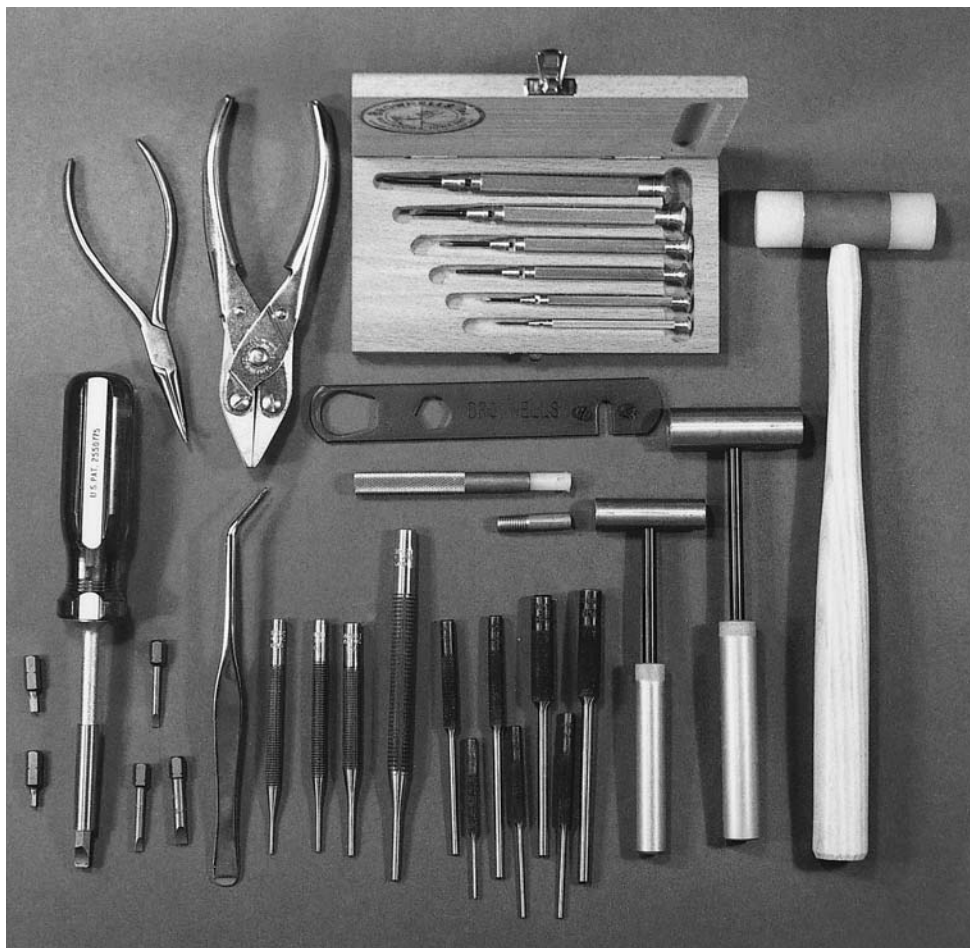
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TOOLS



Countless firearms, old and new, bear the marks, burrs and gouges that are the result of using the wrong tools for taking them apart. In the interest of preventing this sort of thing, I am including here a group of tools that are the best types for the disassembly of firearms. Except for the few shop-made tools for special purposes, all of those shown here are available from one of these three sources.

Brownells, Inc.
200 South Front Street
Montezuma, IA 50171

B-Square Company
8909 Forum Way
Ft. Worth, TX 76140

Midway USA
5875 West Van Horn Tavern Road
Columbia, MO 65203

Williams Gun Sight Company
7389 Lapeer Road
Davison, MI 48423

General Instructions:

Screwdrivers: Always be sure the blade of the screwdriver **exactly** fits the slot in the screw head, both in thickness and in width. If you don't have one that fits, grind or file the tip until it does. You may ruin a few screwdrivers but better them than the screws on a fine rifle.

Slave pins: There are several references in this book to slave pins, and some non-gunsmith readers may not be familiar with the term. A slave pin is simply a short length of rod stock (in some cases, a section of a nail will do) which is used to keep two parts, or a part and a spring,

together during reassembly. The slave pin must be very slightly smaller in diameter than the hole in the part, so it will push out easily as the original pin is driven in to retain the part. When making the slave pin, its length should be slightly less than the width of the part in which it is being used, and the ends of the pin should be rounded or beveled.

Sights: Nearly all dovetail-mounted sights are drifted out toward the right, using a nylon, aluminum, or brass drift punch.

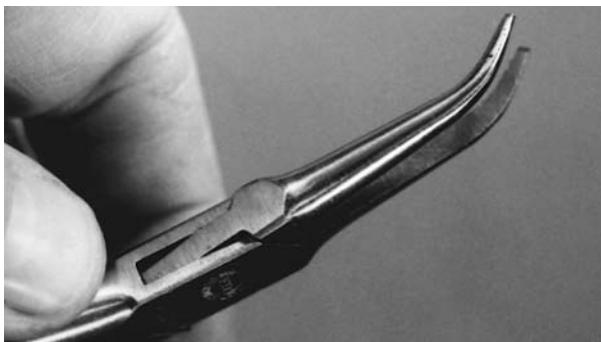
6 : Tools



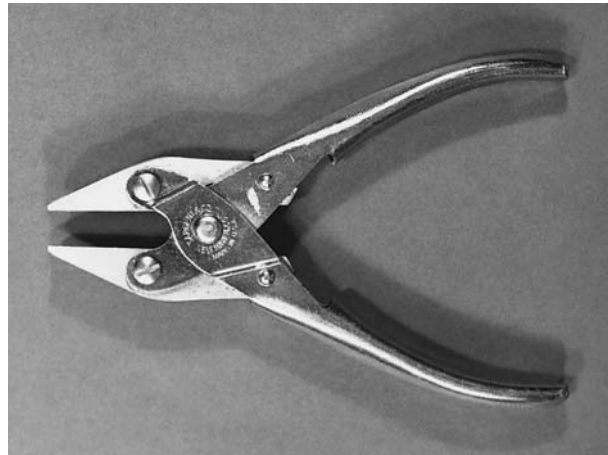
1. The tiniest of these fine German instrument screwdrivers from Brownells is too small for most gun work, but you'll see the rest of them used frequently throughout the book. There are many tight places where these will come in handy.



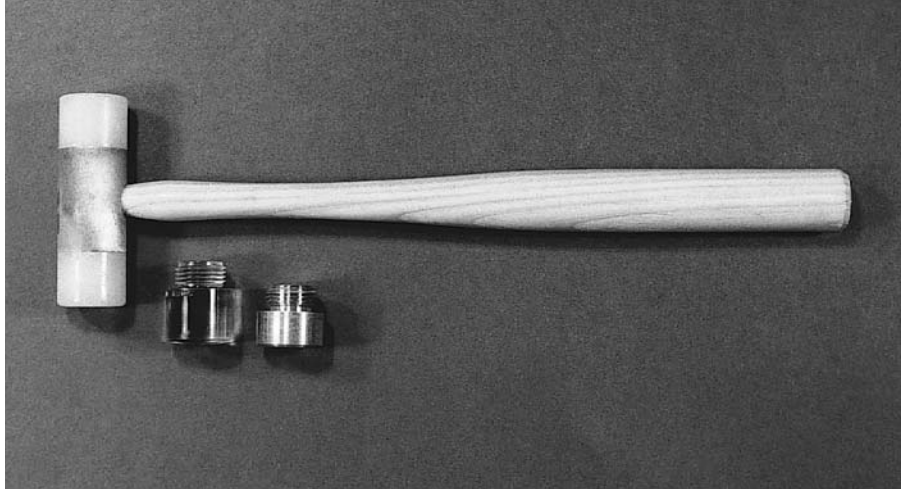
2. When a larger screwdriver is needed, this set from Brownells covers a wide range of blade sizes and also has Phillips- and Allen-type inserts. The tips are held in place by a strong magnet, yet are easily changed. These tips are very hard. With enough force you might manage to break one, but they'll never bend.



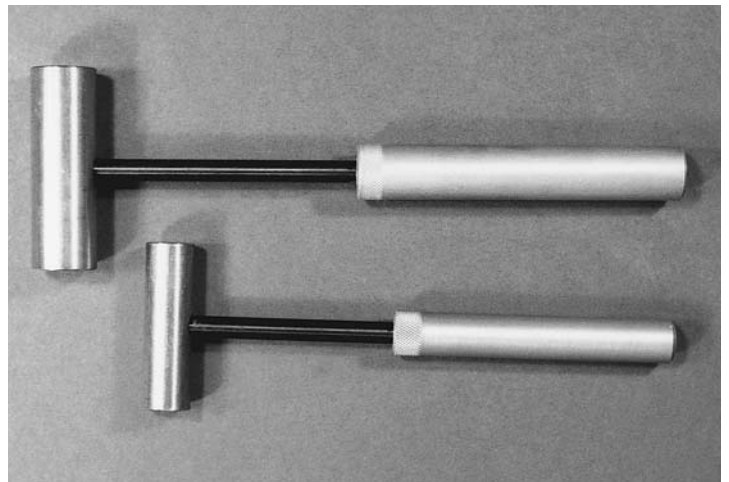
3. You should have at least one good pair of bent sharp-nosed pliers. These, from Brownells, have a box joint and smooth inner faces to help prevent marring.



4. For heavier gripping, these Bernard parallel-jaw pliers from Brownells have smooth-faced jaw-pieces of unhardened steel to prevent marring of parts.



- 5.** For situations where a non-marring rap is needed, this hammer from Brownells is ideal. It is shown with nylon faces on the head, but other faces of plastic and brass are also available. All are easily replaceable.

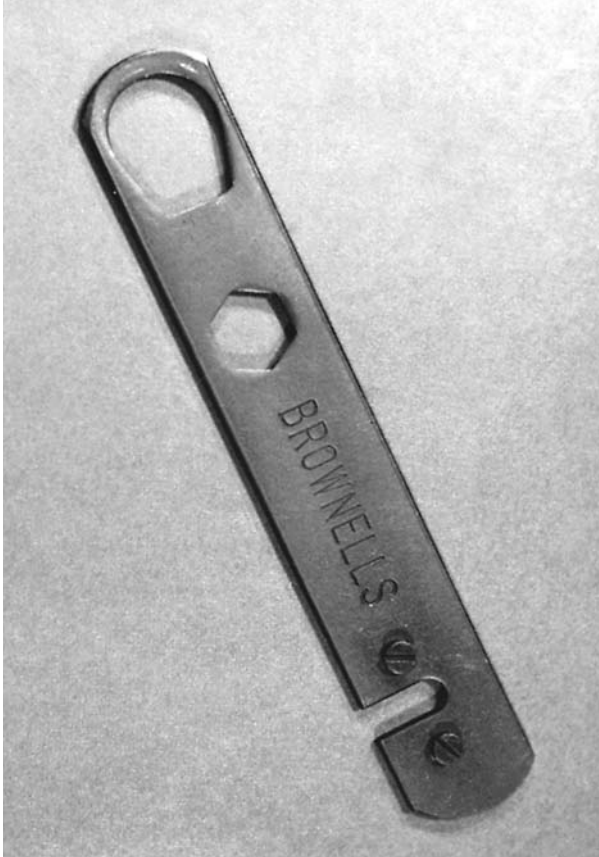


- 6.** For drifting out pins, these small all-metal hammers from B-Square are the best I've seen. Two sizes (weights) are available and they're well worth the modest cost.



- 7.** For situations where reach and accessibility are beyond the capabilities of sharp-nosed pliers, a pair of large sharp-nosed forceps (tweezers) will be invaluable.

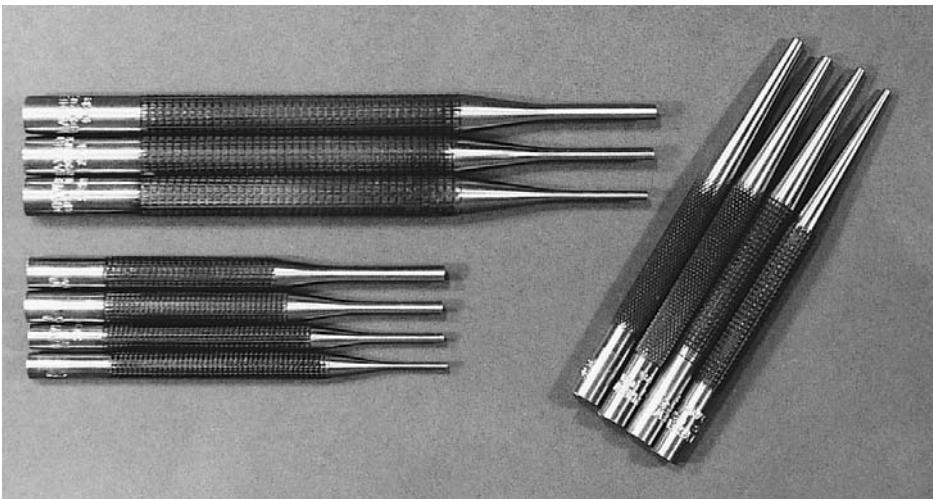
8 : Tools



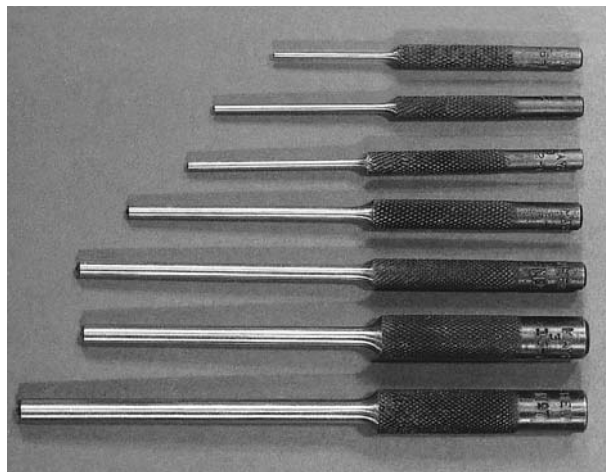
8. This universal Colt tool from Brownells will also work on some other autos of similar design, and even has features for some revolver work. Its main function, of course, is for the removal of a tight barrel brushing on Colt autos.



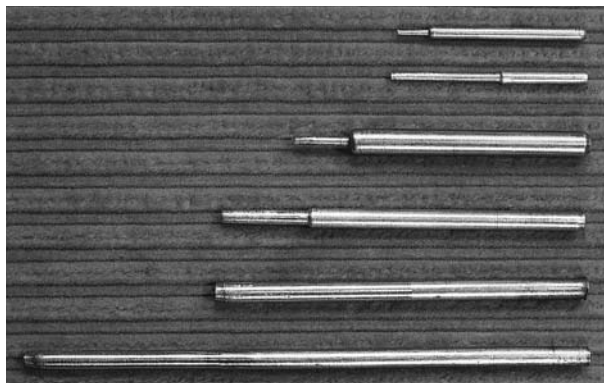
9. One of the most-used tools in my shop is this nylon tipped drift punch, shown with an optional brass tip in place on the handle. It has a steel pin inside the nylon tip for strength. From Brownells, and absolutely essential.



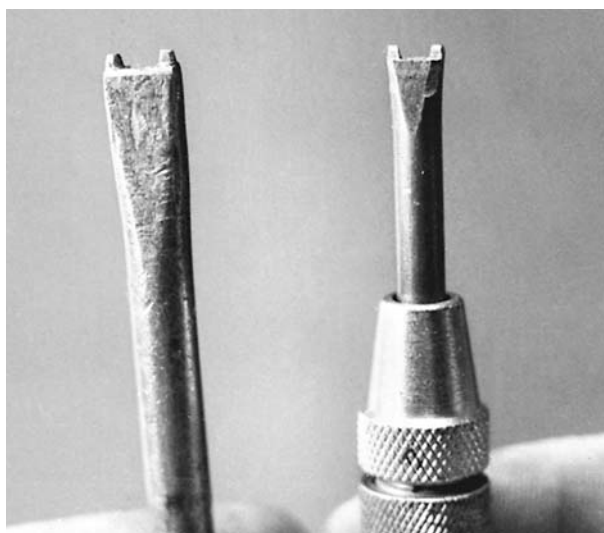
10. A good set of drift punches will prevent a lot of marred pins. These, from Brownells, are made by Mayhew. The tapered punches at the right are for starting pins, the others for pushing them through. Two sizes are available- 4 inches or 6 inches.



- 11.** These punches by Mayhew are designed specifically for roll pins and have a projection at the center of the tip to fit the hollow center of a roll pin, driving it out without deformation of the ends. From Brownells.



- 12.** Some of the necessary tools are easily made in the shop. These non-marring drift punches were made from three sizes of welder's brazing rod.



- 13.** In automatic pistols, the most frequent need for a split-end screwdriver, or two-point wrench, occurs with certain magazine catch buttons. The ones shown were made by cutting away the center of old screwdriver blades, then thinning the points to fit the job. They may be a bit on the crude side but they work!

AMT Back-Up



Data:	AMT Back-Up
Origin:	United States
Manufacturer:	AMT, Inc. El Monte, California
Cartridge:	380 ACP
Magazine capacity:	5 rounds
Over-all length:	5 inches
Height:	4 inches
Barrel length:	2 ⁹ / ₁₆ inches
Weight:	17 ounces

The “Back-Up” is made entirely of stainless steel, and, as its name implies, it is intended as a “back-up” gun for the law officer, for use if his regular sidearm is disabled, empty or lost during a serious social encounter. The little Back-Up is also popular as a self-defense pistol for the private citizen. The excellent and mechanically simple design is the work of John Raymond Wilkinson.

Detail Strip:

1. With the magazine removed and the hammer in the fired position, use a non-marring drift to drive out the breechblock cross-pin toward either side.



2. With a non-marring tool such as a nylon-tipped punch or a wooden dowel, nudge the breechblock upward, working through the magazine well.



3. Remove the breechblock from the top of the slide.



4. Allow the slide to move forward until it clears the, short slide rails at the rear of the frame, and lift the slide upward at the rear to clear the barrel. Move the slide assembly forward off the barrel and frame. Remove the recoil spring and its guide from the frame.



12 : AMT Back-Up

- 5.** Drifting out the small cross-pin in the breechblock will free the extractor and its coil spring for removal upward. **CAUTION:** *Removal of the extractor will also release the firing pin and its spring, so control the firing pin as the extractor is removed.* The circular spring, which retains the breechblock cross-pin, is staked in place on the left side, and no attempt should be made to remove it.



- 6.** Use an Allen wrench of the proper size to back out the grip screws. Lift the grip panels at the rear for removal.

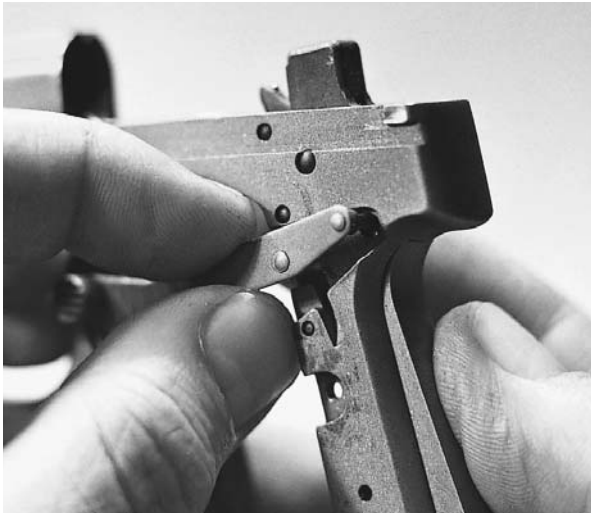


- 7.** With a small tool, detach the trigger bar spring from its groove in the rear lower edge of the trigger bar, and move it inward, behind the bar. Restrain the trigger, and remove the trigger bar toward the left.



- 8.** Removal of the trigger bar will release the trigger and its spring to move forward, and it can then be removed toward either side. Take care that the small trigger spring is not lost.

- 9.** Remove the safety lever toward the left. Take care not to exert outward pressure on the front of the lever.



- 10.** Drift out the small pin at the top of the frame enough to partially release the ejector. It is not removed at this time.



- 11.** With the hammer in the fired position, restrain it, and push out the hammer pivot toward the right.



- 12.** Ease the hammer out upward, along with its strut and spring, and remove the ejector, which will also be released. **CAUTION:** The hammer spring is under tension.

14 : AMT Back-Up

- 13.** The hammer strut is easily removable from the hammer by turning it straight out to the rear and sliding it out of its seat in the hammer toward either side.



- 14.** Drift out the sear cross-pin, and remove the sear forward, into the magazine well.



- 15.** Push out the pin, which retains the sear spring and the trigger bar spring. Before removal, note the position of the two springs to aid in reassembly.

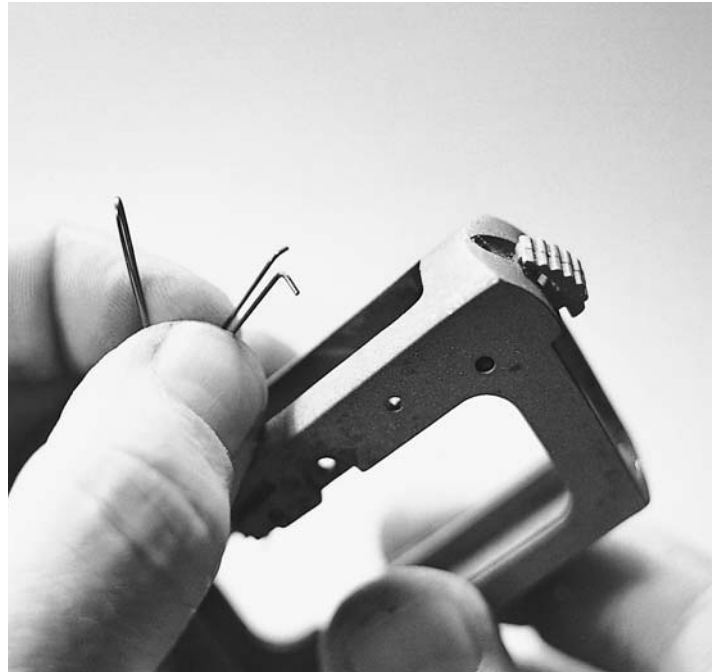


- 16.** Drift out the cross-pin at the lower rear of the grip frame, and remove the magazine catch downward.

- 17.** Move the grip safety upward to clear its lower lugs from the frame, then remove it downward and toward the rear.



- 18.** The inner tips of the grip safety spring are locked into holes on each side within the backstrap. Squeeze the inner arms of the spring together to clear the tips from the holes, and remove the spring toward the rear.



Reassembly Tips:



1. When replacing the hammer and hammer spring assembly, be sure the spring and strut are attached to the hammer with the double curve of the strut in the orientation shown. When the hammer is in position, start the hammer pin through, then insert the ejector before pushing the hammer pin into place. As the hammer is inserted, be sure the lower tip of the spring strut enters the hole in the top of the magazine catch.



2. After the trigger bar/disconnector is back in place, insert a small tool to re-engage the trigger bar spring with its groove in the rear lower edge of the bar.



3. Note that the breechblock pin has a groove near one end. This groove must go on the left side of the gun, to engage the spring clip in the breechblock.

Beretta PX4 Storm



Data:	Beretta PX4 Storm
Origin:	Italy
Manufacturer:	Armi Beretta S.p.A., Gardone (Brescia)
Cartridge:	9 x 19mm (9mm Luger)
Magazine capacity:	17 rounds
Overall length:	7.55 inches
Height:	5.51 inches
Barrel length:	4.02 inches
Weight:	27.69 ounces

The polymer-frame PX4 was introduced in 2003. It has since been offered in other chamberings, including 40 S&W, and in a compact version. All of these are mechanically the same, and the instructions will apply. I will note that for the non-gunsmith, some aspects of the takedown and reassembly may be difficult.

Field Strip:

1. With the magazine removed and the hammer in cocked position, pull the tabs of the takedown latch down, and move the slide and barrel assembly forward off the frame.



2. Lift the barrel rotation block and remove it, along with the recoil spring assembly.



3. Turn the barrel slightly (counter-clockwise, rear view) to clear the locking lug, and remove it from the slide.

Detail Strip:



4. It is possible to dis-assemble the recoil spring unit by retracting the front ring and its collar and depressing the opposed catches of the endpiece. CAUTION: The compressed spring will be released. In normal takedown, this unit is not taken apart.

- 5.** The extractor and its coil spring are removed by drifting out this vertical roll-pin. Control the spring.



- 6.** Except for repair or refinishing, it is best to avoid takedown of the manual safety and firing pin system. If it is necessary, move the right-side safety lever very slightly to align its retaining roll-pin with an exit track, and drift out the pin. This will allow the lever to be taken off, and the body and left lever of the safety, along with the rear firing pin, can then be turned and taken out to the left. The forward firing pin, the firing pin block, and their springs will then be accessible for removal.



- 7.** Assuming that the manual safety system has been taken out, the firing pin and its spring are removed toward the rear, and the firing pin block, shown here, can then be removed, along with its spring.



- 8.** Both the front and rear sights are dovetail-mounted, and can be drifted out if necessary.

- 9.** Use a sharp screwdriver to lift the back-strap retainer until it can be grasped and removed.



- 10.** Remove the back-strap piece toward the rear. Some careful prying may be necessary to free it.



- 11.** Push out the middle cross-pin at the rear of the grip-frame.



- 12.** Be sure the hammer is in forward position, and push out the cross-pin at lower rear. CAUTION: Restrain the spring base, as the hammer spring will force it out.

- 13.** Ease out the spring base and remove it.



- 14.** Use slim pliers to grip the end of the hammer spring, turn it slightly to free it, and take it out.



- 15.** This step is one of those that cannot be properly photographed. With the hammer in cocked position, look inside the top of the frame on the right, and use a fork-tipped tool like the one shown to push down the rear of the small rectangular locking spring. While holding it down, use another tool to nudge the tip of the top retaining cross pin toward the left. This slim pin passes through the hammer pivot, and its head is fully recessed into the grip frame on the left side. This is not an easy operation.



- 16.** Remove the upper cross-pin toward the left.

- 17.** With the hammer in forward position, move the rear sub-frame out upward. You will have to dis-engage it from the trigger bar as it exits.



- 18.** If it is necessary to remove the firing pin block lever and sear-trip lever, push this cross pin out toward the left side. CAUTION: a small coil spring and positioning collar will be released, so control them.



- 19.** The sear and its torsion spring can be removed by pushing out this cross-pin. CAUTION: Control the spring.



- 20.** If the hammer is to be removed, you will have to once again un-latch the lock-spring. The hammer pivot is then pushed out toward the left side. The two-piece hammer spring strut is retained in the hammer by a small roll-pin.

- 21.** Turn the trigger bar upward, and pull the trigger to align it with the exit recess in the frame. Move the bar to the right, and take it out. The trigger bar spring is in a recess inside the magazine well. A hooked tool can be used to remove it upward.



- 22.** Drifting out this cross pin will release the trigger for removal downward. CAUTION: The torsion-type trigger spring will be released inside the frame at the top, so restrain it. In normal takedown, this system is best left in place.



- 23.** If the takedown latch is to be removed, use a very slim tool inside the frame at the top, inserting it in the semi-circular opening at center to depress and hold the spring. The latch can then be taken out either side.



- 24.** To remove the magazine catch system, first insert a small tool in the hole in the release button, and push the lock pin out toward the right side.

24 : *Beretta Px4 Storm*

25. Remove the lock pin.



26. Remove the release button and spring toward the left.



27. Remove the magazine catch piece toward the right.



28. If the slide latch needs to be removed, turn it to its uppermost position, and nudge it out toward the left. CAUTION: Control the torsion spring.

Reassembly Tips:

1. As the rear sub-frame is re-installed, be sure the rear tip of the trigger bar is properly engaged before pushing the unit down into place. After the unit is seated, you must hold the trigger bar against the wall of the grip and use a fork-tipped tool to engage the upper arm of the torsion spring with its groove in the underside of the bar.
2. When installing the back-strap retainer, be sure its angled end is toward the front, as shown. A light tap with a non-marring tool will seat it properly.



3. Support the magazine release button on a firm surface as the lock pin is pushed back into place. The pin should be checked to be sure it is fully locked.

Browning BDA 380



Data: Browning BDA 380

Origin: Italy

Manufacturer: Armi Beretta, S.p.A.,
Gardone (Brescia)
for Browning Arms Co.
Morgan, Utah

Cartridge: 380 ACP

Magazine capacity: 13 rounds

Overall length: 6¾ inches

Height: 4¾ inches

Barrel length: 31⅜ inches

Weight: 23 ounces

Made for Browning by Beretta of Italy, the BDA 380 is essentially a restyled version of the Beretta Model 84, but the changes are extensive enough to give it mechanical features that are entirely different. This is particularly true of the safety and firing pin system, as the BDA has a slide-mounted safety with ambidextrous levers. A hammer-drop system is included in this system, and this also changes the frame components.

Field Strip:

1. Remove the magazine, and depress and hold the takedown-latch lock button, located on the left side of the frame.



2. Turn the takedown-latch lever on the right side of the frame down to the vertical position.



3. Move the slide and barrel assembly forward off the frame.

28 : Browning BDA 380

4. Controlling the tension of the recoil spring, lift the rear of the spring guide away from the barrel, and remove the spring and guide toward the rear.



5. Move the barrel slightly forward, then remove it downward and toward the rear. **Gun is now field-stripped.**



**Browning BDA 380
field-stripped**

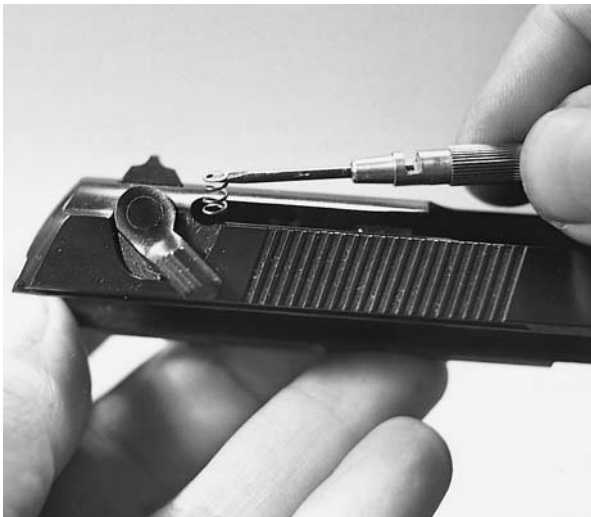


Detail Strip:

- 6.** The extractor pin is drifted out upward.



- 7.** With the safety in the on-safe position, remove the extractor toward the right.



- 8.** Remove the extractor spring from its recess in the slide.



- 9.** Use a small roll pin punch to drift out the roll pin in the base of the right safety-lever, downward.

- 10.** Turn the safety-lever upward to clear its lower tab, and remove it toward the right.



- 11.** Move the safety toward the left until it stops, and remove the firing pin from the rear of the slide. The safety must be in the off-position.



- 12.** Be sure the firing pin spring is at the front of its tunnel, and remove the safety toward the left. The safety positioning ball and spring are staked in place, and should not be removed.



- 13.** Remove the firing pin spring from the slide.

- 14.** Depress the takedown-latch lock button, turn the lever up to vertical position, and remove the latch toward the right.



- 15.** Remove the grips, using a screwdriver with a wide and very thin blade. If necessary, grind or file one to fit.



- 16.** Using the same screwdriver, remove the upper grip screw escutcheon on the right side.



- 17.** With a tool or fingertip, unhook the lower arm of the magazine safety spring from its notch in the frame.

- 18.** Lift the spring out of its slot in the frame, and move it inward to clear its upper loop from the opening in the trigger bar.



- 19.** Turn the spring, and remove it toward the right.



- 20.** Flex the upper arm of the trigger bar spring downward and outward, disengaging it from its slot in the underside of the trigger bar. Pull the trigger to give clearance, and lift the spring out of its recess.



- 21.** Remove the trigger bar toward the right.

- 22.** The cross-shaft of the slide latch is also the trigger pivot. Lift the slide latch at the rear to clear the frame, and move it slightly toward the left. Insert a small screwdriver to disengage the upper arm of the slide latch spring from its shelf in the frame.



- 23.** Remove the slide latch toward the left, and take off its spring.



- 24.** Remove the trigger spring upward.

- 25.** Tip the top of the trigger down into the rear of the guard, and remove it toward either side.



- 26.** Remove the takedown-latch lock button toward the right.



- 27.** Insert a tool to push the longer left block in the rear of the magazine catch toward the right, while pushing the catch toward the left, into the magazine well.



- 28.** When the right end of the catch clears the frame, swing it inward toward the rear, and remove the catch from the frame. For left-handed shooters, the catch can be installed in reverse.

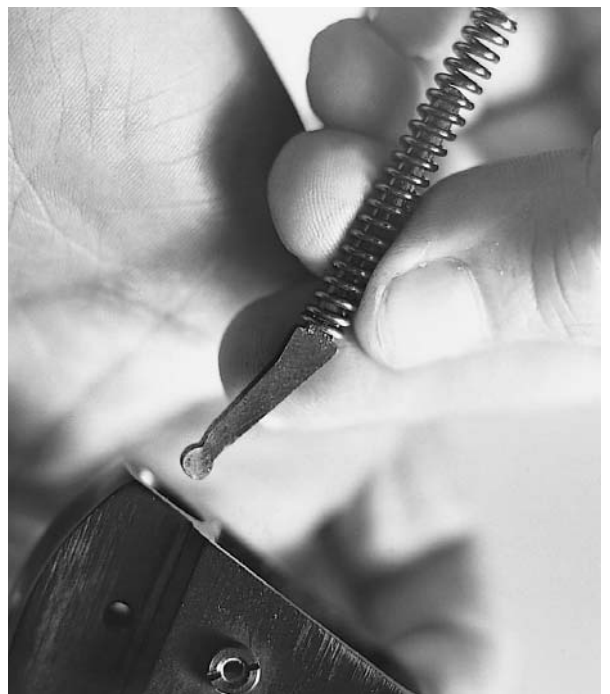
- 29.** The retaining blocks and magazine catch spring can be removed, if necessary, by tipping the blocks outward. Control the spring during removal.



- 30.** With the hammer in fired position, drift out the large roll cross-pin at the lower rear of the grip frame.



- 31.** The hammer spring base should be forced out when the pin is removed. If it is tight, cocking the hammer will exert pressure to force it out. Remove the base plug from the bottom of the grip frame.

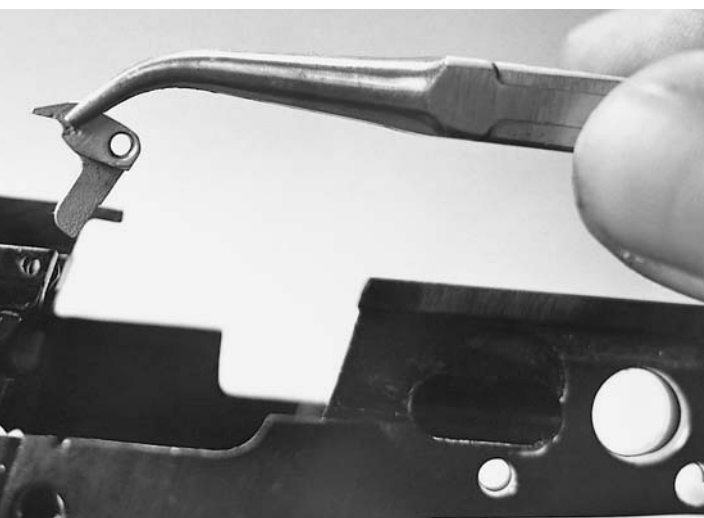


- 32.** Remove the hammer spring and hammer strut from the bottom of the grip frame.

- 33.** Push out the hammer pivot toward the left. Remove the hammer, upward and toward the rear.



- 34.** Restrain the hammer block to avoid loss of the plunger, and drift out the small roll pin at the top of the frame, just behind the magazine well.

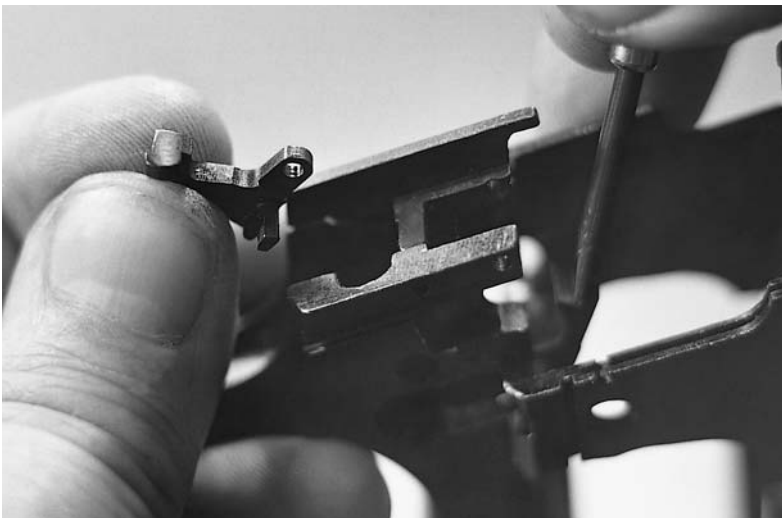


- 35.** Keeping the hammer block under control, remove the safety sear trip (hammer-drop lever) toward the front and upward.



- 36.** Keep a fingertip over the rear to arrest the plunger, and move the hammer block toward the left. Ease out the plunger and spring, and remove them upward.

- 37.** Insert a tool to tip the sear forward, and hold it there. Move the hammer block toward the left, then remove it toward the rear.

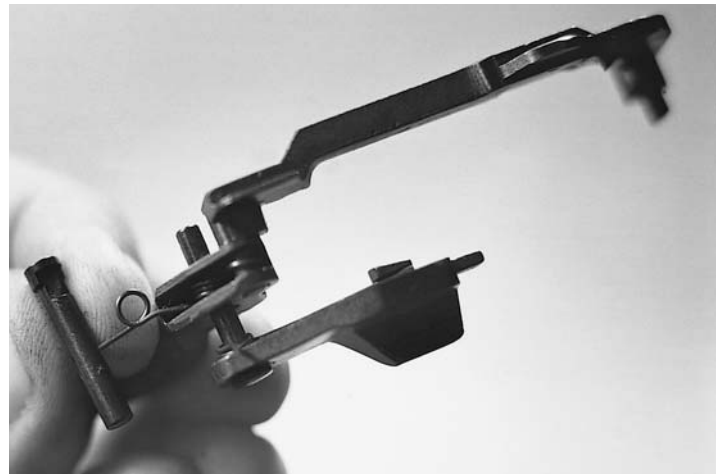


- 38.** Drifting out the small roll pin below the sear pivot will release the lower tail of the sear spring, relieving its tension. Drifting out the sear pivot pin will release the sear and its spring for removal forward, into the magazine well.



- 39.** Drifting out the other small roll pin at the top of the frame will free the ejector for removal upward.

Reassembly Tips:



- 1.** The trigger, trigger spring, trigger bar, slide-latch, and takedown-latch release button are shown in the position they occupy in the frame. When installing the trigger bar, be sure the rear arm of the trigger spring is lifted to bear on the internal pivot of the bar. Also, be sure the forward tip of the spring enters its hole in the takedown-latch release button.

When replacing the hammer block in the frame, take particular care that the plunger and spring do not get away.

Colt 1911 Series

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Colt 1911 also apply to the following guns:

AMT Combat Government Model
AMT Skipper

AMT Hardballer
Argentine Model 1927

AMT Long Slide
Auto-Ordnance M1911A1
Pit Bull

Auto-Ordnance M1911A1 Thompson
Colt Combat Grade Government
Colt Gold Cup
Colt Mark IV Series 70
Colt Super 39
Detonics Scoremaster
Federal Ordnance Ranger M1911A1
Llama Model IXA
Llama Model XV
M-S Safari Arms Model 81 BD

Colt Combat Commander
Colt Commander
Colt Gold Cup 38 Special
Colt Mark IV Series 80
Colt National Match 45
Essex Model 1911A1
Llama Model IIIA
Llama Model XA
M-S Safari Arms Enforcer
M-S Safari Arms Model 81
BP Super

Colt Combat Elite
Colt Delta Elite
Colt Lightweight Commander
Colt Model 1911
Colt Officers ACP
Falcon Portsider
Llama Model VIII
Llama Model XI
M-S Safari Arms Model 81
M-S Safari Arms Model 81
NM

Olympic/Safari Arms Enforcer

Olympic/Safari Arms
Matchmaster

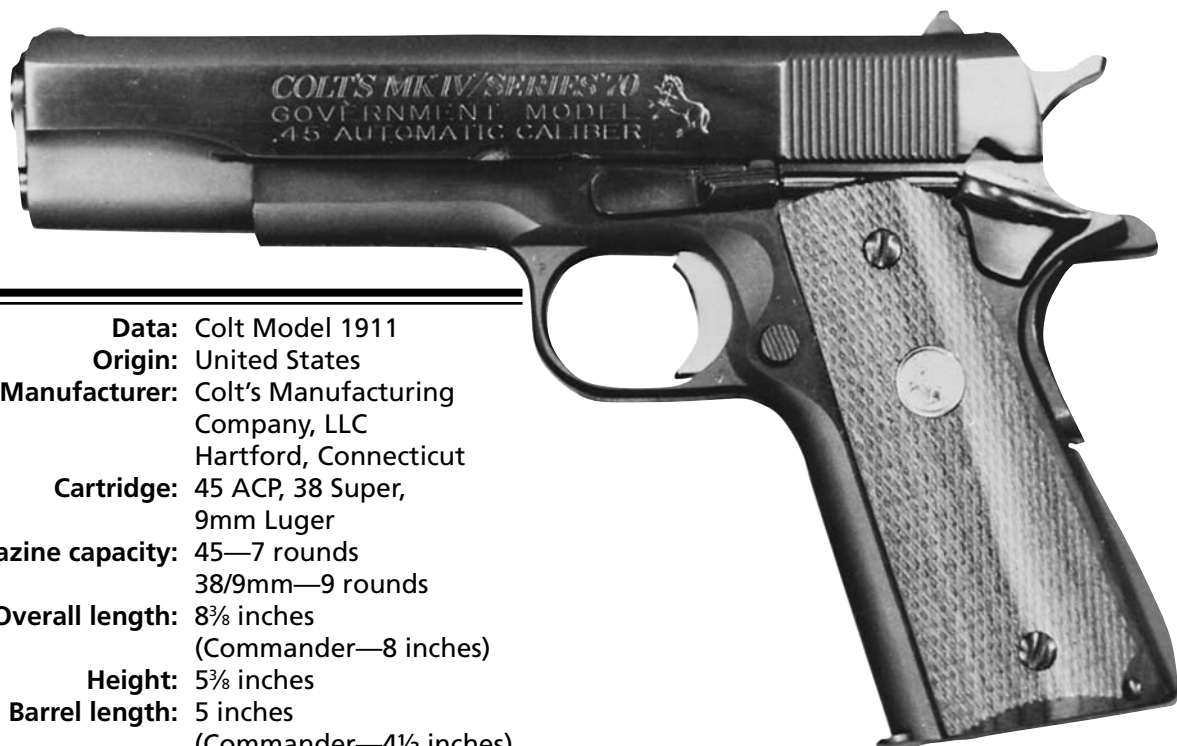
Randall Compact Service
Model

Randall Curtis LeMay Four Star
Springfield Armory M1911A1

Randall Raider
Springfield Armory
M1911A1 Commander
Vega 45

Randall Service Model
Springfield Armory M1911A1
Compact

Springfield Armory M1911A1 Defender



Data: Colt Model 1911

Origin: United States

Manufacturer: Colt's Manufacturing
Company, LLC
Hartford, Connecticut

Cartridge: 45 ACP, 38 Super,
9mm Luger

Magazine capacity: 45—7 rounds
38/9mm—9 rounds

Overall length: 8 $\frac{3}{8}$ inches
(Commander—8 inches)

Height: 5 $\frac{3}{8}$ inches

Barrel length: 5 inches
(Commander—4 $\frac{1}{2}$ inches)

Weight: 40 ounces

Our standard military pistol from 1911 to 1985, the Colt 45 Auto is so well known that it really needs no comment or background data here. The target model, the Gold Cup, has one or two small differences in the internal mechanism. The Series 80 versions have an added firing pin block safety system, consisting of a lever in the frame and a plunger and spring in the slide. These are not complicated, and should cause no takedown problems. The old Government Model has also been copied many times over the years, and the instructions will generally apply to all of these.

Field Strip:

1. With the magazine removed and the hammer down, depress the checkered button below the barrel and turn the barrel bushing toward the right side of the gun until the plug and recoil spring are free to come out. **CAUTION:** *The recoil spring is under tension, so keep strong pressure on the checkered end of the plug and ease it out.* The barrel bushing can ordinarily be turned easily with the fingers, but on some tight older guns, and especially on the new Mark IV Series 70 guns with the barrel-gripping bushing, a special wrench may be necessary.



2. After easing out the plug, remove it from the end of the spring. In rare cases, it may be locked on by an internal tab, and a slight turn will be necessary to free it.

40 : Colt 1911 Series

3. Cock the hammer, and move the slide back until the small semi-circular cut at its lower edge aligns with the top rear of the slide stop.



4. Push the end of the slide stop shaft, on the right side of the gun, and remove the slide stop from the left side.



5. The slide assembly can now be run forward off the frame.

- 6.** Remove the recoil spring and its guide from the slide, together or separately.



- 7.** Turn the barrel bushing back toward the left side of the slide, until its lug aligns with the opening, and remove the bushing from the front of the slide.



- 8.** Tip the barrel link over forward to clear the recoil spring tunnel.



- 9.** Remove the barrel from the front of the slide. **Gun is now field-stripped.**

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Colt Mk IV/Series 70 field-stripped

Detail Strip:

- 10.** With a tool of appropriate size, depress the firing pin and slide the retainer downward to free the firing pin. **CAUTION:** *The firing pin spring is under some compression, and can eject the firing pin with force when the retainer is removed.*



- 11.** After the retainer plate is removed, the firing pin and its return spring can be taken out.



- 12.** Removal of the firing pin retainer plate also frees the extractor. With a small screwdriver pry it gently out, straight to the rear of the slide.

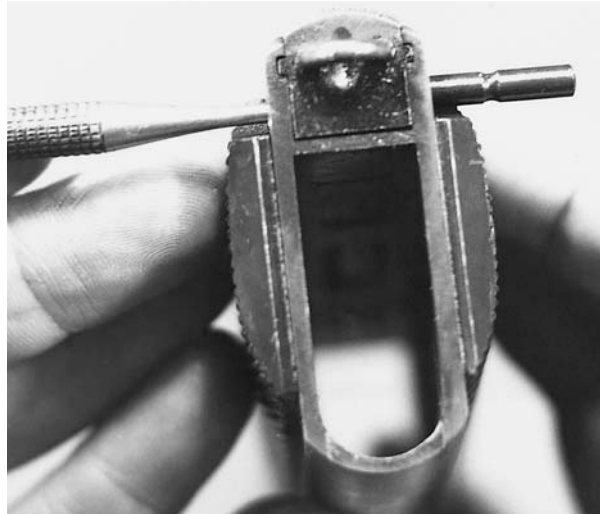


- 13.** When the extractor is pried out past its round headpiece, it can be easily grasped with the fingers and removed from the slide. The rear sight can be drifted out of its dovetail slot from left to right.

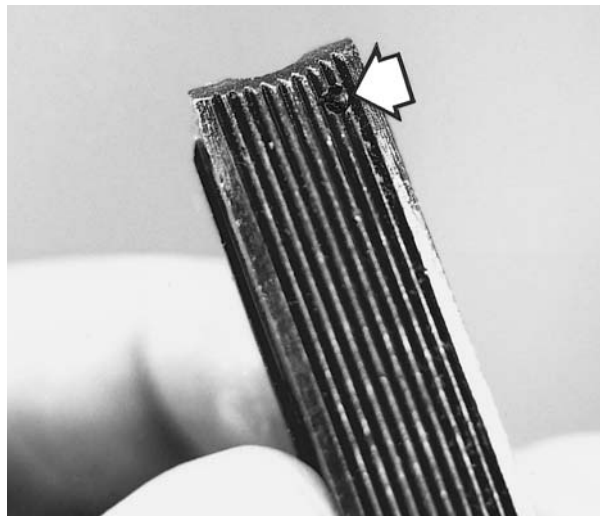
- 14.** The initial takedown key for the frame is the mainspring housing retaining pin, located at the lower rear edge of the grip frame.



- 15.** With the hammer at rest, use a drift of the proper size to drive out the mainspring housing retaining pin.



- 16.** The mainspring housing can now be slid down off the frame. If it is tight, cocking the hammer will put pressure on it through the mainspring and help to ease it out.

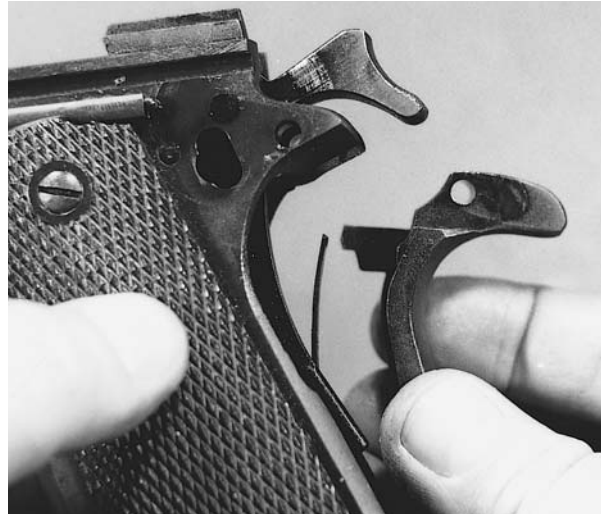


- 17.** Viewing the mainspring housing from the rear, there is a small pin (arrow) at upper right which can be drifted out toward the inside to free the mainspring and its plunger. **CAUTION:** The mainspring is under quite a bit of tension and can cause injury when released. Use a heavy shop cloth to catch it when driving out the pin.

- 18.** With the hammer cocked, move the safety almost to the on-safe position while exerting slight outward pressure toward the left. When its internal projection aligns with its cut in the frame, it can easily be taken out.



- 19.** Removal of the safety frees the grip safety and this is now removed to the rear.



- 20.** The combination leaf spring which powers the sear, trigger, disconnector, and grip safety can now be lifted out at the rear of the grip frame.



- 21.** Pushed from the front with a drift of proper size, the spring and plungers which supply tension to the slide stop and manual safety can now be removed from the rear of its tunnel above the left grip. The spring tunnel is riveted in place inside the magazine well and it is difficult to remove and replace without special tools. Unless removal is absolutely necessary, it should be left in place.

- 22.** Started from the right with a drift of the proper size, the hammer pin is removed from the left side of the grip frame.



- 23.** The hammer can now be lifted out of the frame.



- 24.** Removal of the small pin at lower rear of the hammer will free the hammer strut. Note the direction of its curve, and replace it in the same position.



- 25.** Starting from the right side with a drift, remove the sear/disconnector pin from the left side.

- 26.** The sear and disconnecter can now be removed from the rear of the frame. Note their relationship for proper reassembly.



- 27.** With a small screwdriver, turn the slotted head of the magazine release retainer to the left, while keeping the magazine release depressed to the level shown.



- 28.** With the retainer locked into its slot in the magazine release, the release can be taken out toward the right side of the gun. After removal, turning the retainer back to the right will free the retainer and its spring from the release body. These are small parts, so take care that they aren't lost.

- 29.** After the magazine release is taken out, the trigger is free to be removed toward the rear of the frame. The grip screws can be taken out to free the grips.



Reassembly Tips:

When installing the combination spring, slide the mainspring housing partially into the frame to hold the spring in place while replacing the grip safety.

During reassembly, the most difficult operation is often the alignment of the barrel link with the slide latch hole in the frame. The hole is large enough that the proper alignment can be seen, and the link can be edged into position by moving the slide back and forth a very small distance until it drops into place. Don't try aligning the link and the clearance cut for the top of the latch at the same time. Get the latch shaft through the link, then swing the latch up and align it with the clearance cut.

FNH Five-Seven



Data:	FNH Five-seven
Origin:	Belgium
Manufacturer:	Fabrique Nationale, Herstal
Cartridge:	5.7 x 28mm
Magazine capacity:	20 rounds
Overall length:	8.2 inches
Barrel length:	4.8 inches
Weight:	23.3 ounces

The Five-seveN has also been called the IOM (Individual Officer Model), and USG (U.S. Government). The latter designation indicates its use by several agencies. When the pistol was introduced, original ammunition would pierce body armor, and sales were to Law Enforcement only. Later, with different cartridges and a slight re-design, it was offered for regular commercial sales.

Field Strip:

1. With the internal hammer in fired position and the magazine removed, move the slide about a quarter-inch rearward, and hold it there. Push the takedown latch fully to the rear, and keep it in that position.



2. Ease the slide assembly forward about a half-inch, to clear the rails at the rear, and lift it off the frame.



3. Tip the barrel outward at the rear, and remove it from the slide, along with the captive recoil spring.



FNH Five-Seven field-stripped

Detail Strip:

- 4.** It is possible to remove the recoil spring and its bushing from the barrel by retracting the bushing and spring, then prying off the retaining spring-ring. A vise and extreme caution will be necessary. In normal takedown, this system is left in place.



- 5.** The slide components are contained in a sub-frame that is retained in the cover by this cross pin. It is splined at its right tip, and thus must be drifted out toward the right side. Be sure to use a non-marring brass drift punch.



- 6.** Use a tool to gently pry the rear of the sub-frame outward slightly, as shown.

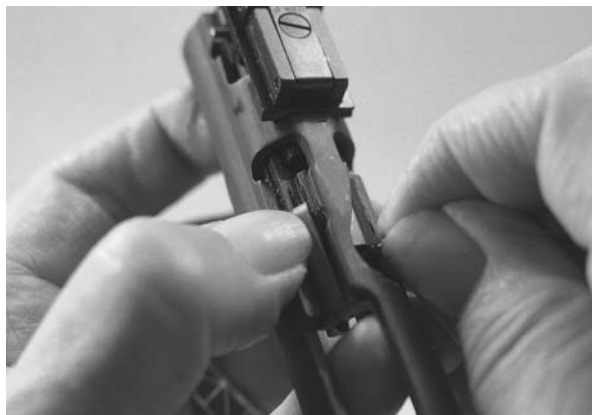


- 7.** When the rear sight has cleared its opening in the cover, push the front sight inward and rearward, to detach the front lug of the sub-frame from its seat in the front of the cover. This will be visible at the front. Remove the sub-frame from the cover.

- 8.** During the sub-frame removal, take care that the loaded-chamber indicator and its small coil spring are not lost. It would probably be wise to remove them at this point.



- 9.** To remove the extractor and its coil spring, depress the extractor slightly at the rear and pull out the pivot pin. Control the spring.



- 10.** Remove the cross pin at the rear of the sub-frame. It can be simply pushed out, no tool required.

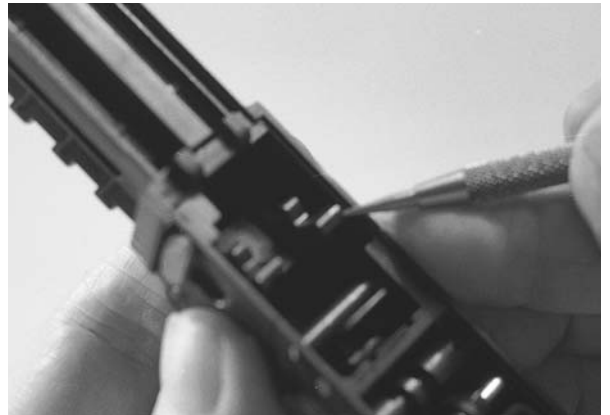


- 11.** Remove the firing pin and its return spring toward the rear.

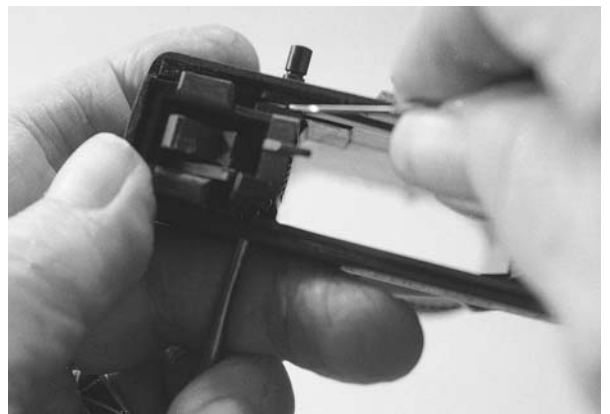
- 12.** If removal of the firing pin safety block and its spring is necessary, these parts can be taken out only upward, and you must first drift the rear sight assembly out of its dovetail-mount. Except for repair, this system is best left in place. This also applies to disassembly of the rear sight. If necessary, the front sight can be drifted out of its dovetail-mount.



- 13.** Unless replacement is necessary, the action locking block and the other forward components should not be removed. If this has to be done, the locking block cross pin is drifted out toward the right. It is under slight spring tension, so control it. If the strong barrel rebound spring must be removed, it will be necessary to insert a spacer of some sort to hold the spring while the cross pin is drifted out toward the right. CAUTION: This spring is very powerful. If the parts above have been removed, the takedown latch can be moved rearward, its rear extension turned upward, and it is then moved inward to be taken out.



- 14.** The safety levers are retained on their cross-shaft by small roll pins. With the shaft turned to the proper position, these can be drifted out inward and the levers can then be taken out to either side. A positioning plunger and spring will be released on the left side, under the cross-shaft. In normal takedown, this system should be left in place.



- 15.** To remove the rear sub-frame, the two cross pins are pushed out toward the left. First, use a slim tool to lift the front tip of the pin-lock spring upward, and hold it there while the front cross pin is pushed out.

- 16.** The pin-lock spring, which also powers the slide latch, will be released when the front cross pin is removed. It should be taken out now, to prevent loss. The slide latch will also be freed, as the front pin is its pivot, but it is not to be removed.



- 17.** Removal of the slide latch would require that its polymer knob be pried off the internal steel part. In normal takedown, this is not advisable.

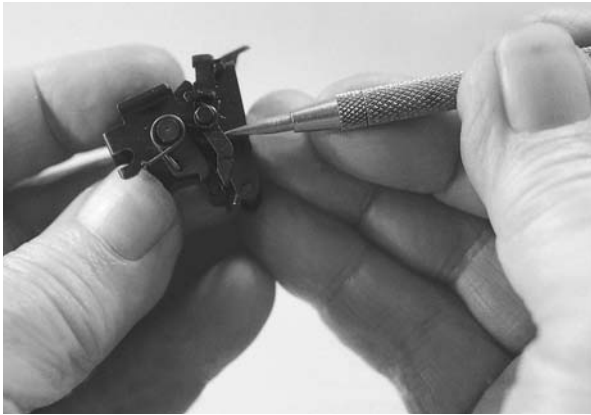


- 18.** Push out the rear cross pin.

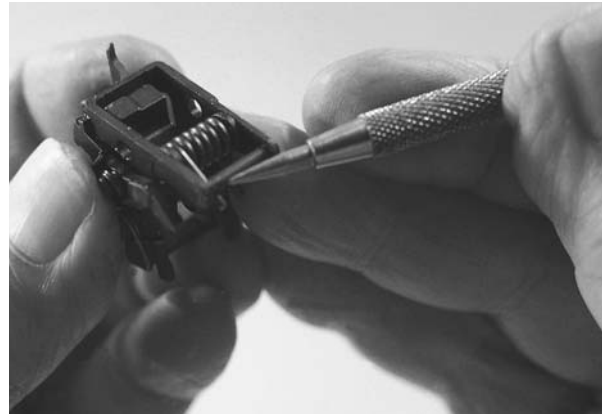


- 19.** Remove the sub-frame upward.

- 20.** The firing pin block lever and the sear, and their attendant springs, can be removed by pushing out the two pivot-pins. If this disassembly is done, note the positions and bearing points of the springs, for reassembly. Removal of the sear will require, of course, that the hammer, if cocked, must be eased down to fired position.



- 21.** The last remark also applies if the hammer is to be taken out. Even at rest, the hammer spring is very strong. It must be controlled as the bearing pin is pushed out.



- 22.** If the hammer is removed, note that the rear arm of the hammer spring bears on a small grooved roller, retained by a rear cross pin in the hammer. Take care that this tiny part is not lost.



- 23.** Move the rear of the trigger bar inward, to clear the magazine safety. Then, turn it over toward the front, relieving the spring tension.

- 24.** The trigger cross pin is splined at the left tip, and must be drifted out toward the left. If the manual safety system was previously removed, the removal of this pin will allow the trigger system to be moved out upward.



- 25.** When the safety is still in place, move the trigger assembly upward and rearward until the cross pin at the top is accessible. Pushing out this pin will free the trigger bar and spring for removal. The trigger is then moved downward, and is taken out through the trigger guard opening. Insert a hooked tool under the manual safety cross-shaft on the right side, and push the magazine safety all the way to the rear. Turn its rear tip inward until it is free, and take it out.



- 26.** A tool is provided with the pistol for removal of the magazine release spring, the round stud on its slim end being used to pull the spring out upward. The release button can then be taken out toward either side. Because of its location, inside the grip frame, a photo of this was not possible.



- 27.** To disassemble the magazine, a sharp rap on a non-marring surface with the back of the floorplate will unlock it and start it off toward the front. CAUTION: The magazine spring is under tension, so control it as the floorplate is taken off.

Reassembly Tips:

- 1.** As the sub-frame unit is put back in, be sure the rear arm of the sear spring contacts its shelf in the frame. When the sub-frame is in place, insert the lock-spring. Remember that its ends must be on top of both pins, and that its center coil goes below the inner flange of the slide latch. Insert the rear cross pin first.



- 2.** When installing the slide sub-frame, align its front lug with the rectangular aperture in the cover, then move it forward and upward into place.



- 3.** The wider end of the supplied tool for the magazine release has a recess that fits and holds the spring for re-insertion.

Kel-Tec PLR-16



Data: Kel-Tec PLR-16

Origin: United States

Manufacturer: Kel-Tec CNC Industries,
Cocoa, Florida

Cartridge: 5.56 x 45mm (223)

Magazine capacity: 10 or 30 rounds

Overall length: 19 inches

Barrel length: 9.2 inches

Weight: 3.2 pounds

The “PLR” designation translates to “Pistol, Long Range”, which, in this chambering, it certainly is. The PLR-16 was introduced in 2006. In circumstances where a carbine might be unwieldy, it would be a perfect choice. The one shown here has the optional fore-grip installed. If your gun has it, you’ll know how to remove it. The takedown sequence shows a standard version.

Detail Strip:

1. Remove the magazine, cycle the action to cock the internal hammer, and set the manual safety in on-safe position. Push out the large cross pin at the rear of the receiver, and turn the pistol-grip down and forward.



2. Pull the recoil spring tube forward and turn it to align its locking lug with the top of the receiver. When released, the tub should enter the receiver to a depth of about a quarter-inch.



3. Move the bolt and piston assembly all the way to the rear, and turn the bolt handle downward to align it for exit. Remove the bolt handle.



4. Tip the bolt and piston assembly downward at the rear, and remove it.

- 5.** Push out the firing pin retaining pin toward the left.



- 6.** Remove the firing pin.



- 7.** Remove the bolt cam piece.



- 8.** Remove the bolt from the carrier unit.

- 9.** If removal of the extractor is necessary for repair, drift out this pin. Control the coil spring, and take care that the small spring buffer is not lost.



- 10.** If the ejector needs to be removed, it is retained by this pin. CAUTION: The coil spring is powerful. Control it and ease it out.



- 11.** To disassemble the piston and recoil spring unit, align the piston head cross pin with the openings in the tube, and push out the pin. CAUTION: This is a strong spring. Keep a good grip on the piston head, and point it away from you.



- 12.** Ease out the piston head and remove it, along with the spring and the tube.

- 13.** If necessary for repair, the lock spring for the takedown pin can be moved out of its recess and turned for removal.



- 14.** The front sight/gas port unit is retained on the barrel by a large roll-pin. This assembly is not routinely removed.



- 15.** Removal of the barrel, its retainer, and extension requires a special two-point wrench to unscrew this barrel nut. This should be considered a factory job.



- 16.** The grip frame and the receiver unit are in the same category. Note that the hammer cross pin is not a through-pin. Also, the eight Phillips screws in the grip frame and the four in the receiver require that opposed screwdrivers must be used, and there are several internal spacers involved. With the tension of the hammer spring and other springs, reassembly would be interesting, to say the least. If these areas need attention, it would be best to send them to Kel-Tec.

Reassembly Tips:

1. When reassembling the piston and recoil spring unit, remember that you must align the piston head with the hole at the tip of the guide rod before inserting the retaining pin. Control the piston. Be careful.



2. When inserting the carrier assembly, be sure the bolt stays in its full-forward position, and that the lug on the tube stays at the top. In place, the tube must be parallel with the barrel.



Smith & Wesson 459

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Smith & Wesson 459 also apply to the following guns:

Smith & Wesson Model 439

Smith & Wesson Model 469

Smith & Wesson Model 639

Smith & Wesson Model 645

Smith & Wesson Model 659

Smith & Wesson Model 669



Data: Smith & Wesson
Model 459

Origin: United States

Manufacturer: Smith & Wesson,
Springfield, Massachusetts

Cartridge: 9mm Luger

Magazine capacity: 14 rounds

Overall length: 7⁷/₁₆ inches

Height: 5¹¹/₁₆ inches

Barrel length: 4 inches

Weight: 28 ounces

Except for the fully adjustable rear sight in its protective mount, the Model 459 and 439 pistols look very much like the Models 59 and 39 which they replaced. Inside, though, there were extensive mechanical changes which make the takedown and reassembly very different in some areas. One of the most notable additions is an automatic firing pin block safety system. This series of S&W pistols is now being referred to as the “second generation.” In addition to the models mentioned above, it also includes Model 639 and 659 (stainless steel), the compact versions, Models 469 and 669, and the 45 ACP, Model 645.

Field Strip:

1. Remove the magazine and cock the hammer. Move the slide toward the rear until the slide-latch notch in its lower edge is aligned with the pivot of the slide latch, and hold it there.



2. Use a non-marring tool to push the right tip of the slide-latch cross-piece toward the left.



3. Remove the slide-latch toward the left. Move the slide back to its normal position, and use the safety to drop the hammer to the fired position. Return the safety to off-safe, and move the slide assembly forward off the frame.

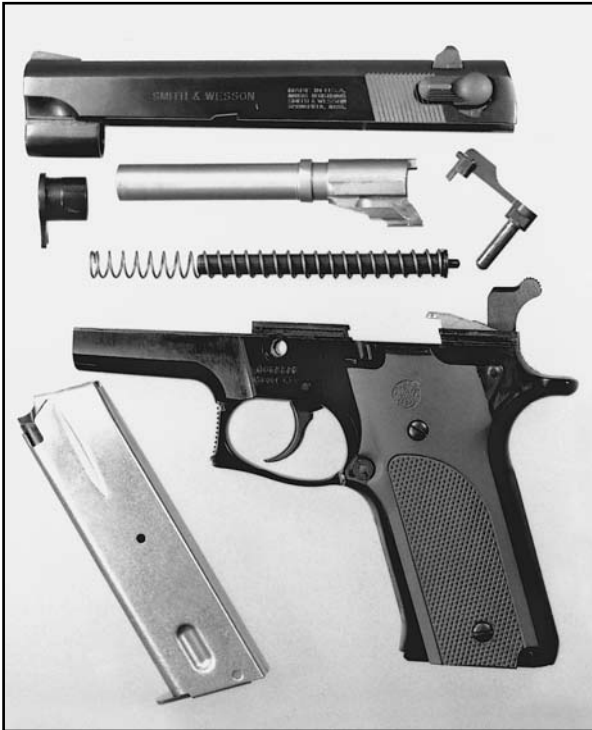


4. Grip the recoil spring and guide firmly to control the spring tension, and lift the spring assembly away from the barrel, removing it toward the rear. The slide-latch plunger and spring, mounted inside the rear of the recoil spring guide, are staked in and should not be disturbed.

5. Turn the muzzle bushing counterclockwise (front view) until it stops, then remove it toward the front.



6. Move the barrel slightly forward, then tip it downward at the rear and remove it from the bottom of the slide. **Gun is now field-stripped.**



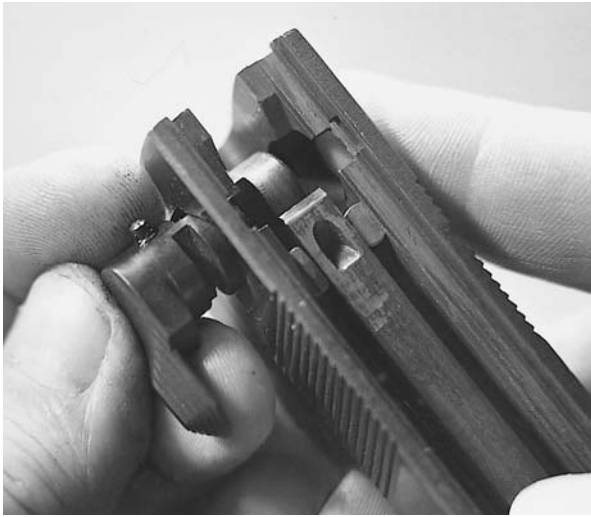
Smith & Wesson 459 field-stripped

Detail Strip:

7. Depress the firing pin safety block, on the underside of the slide at the right, and use a slim tool to push the firing pin forward until it stops. Release the safety block, and the firing pin will be held forward.



- 8.** In its forward position, the firing pin head will still protrude slightly into the safety cross-piece. Insert a tool to depress it to clear the safety, and push the safety, in off-safe position, toward the left. The small positioning plunger and spring at the lower rear of the safety cross-piece will be released as the safety moves out of the slide, but they will usually stay in their recess. Remove the safety toward the left.



- 9.** Restrain the firing pin at the rear, and once again depress the firing pin safety block. The firing pin and its spring will be released for removal toward the rear.



- 10.** Alternately depress the rear sight hinge plungers on each side.



- 11.** Restrain the plungers as they clear the sides of the sight mount, and remove the sight upward and toward the rear. Disassembly of the sight itself is not recommended.

- 12.** With an Allen wrench or screwdriver bit, remove the screw on the left, inside the rear sight mount.



- 13.** Slide the rear sight mount out of its dovetail in the slide, and restrain the two vertical coil springs that will be cleared.

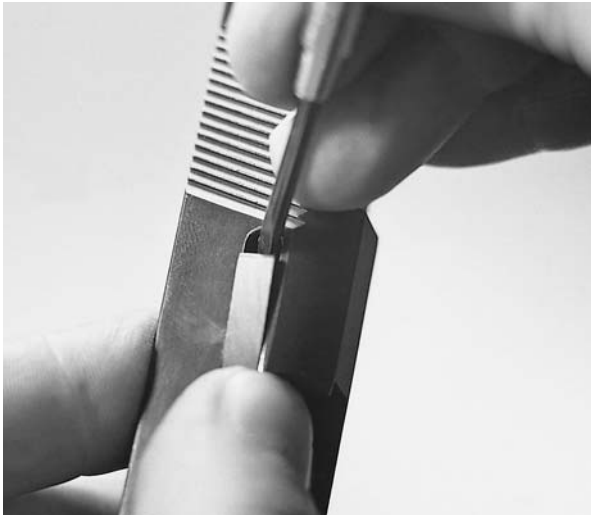


- 14.** Remove the firing pin safety block and its spring from the top of the slide.

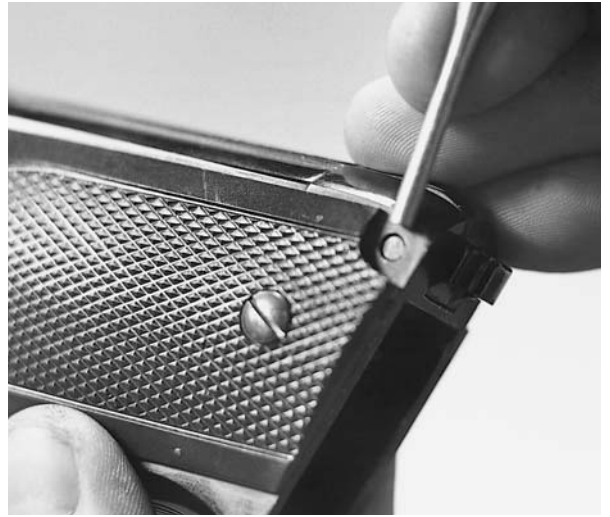


- 15.** Remove the magazine safety plunger and spring from the top of the slide.

- 16.** Insert a small sharp screwdriver between the extractor and its plunger, and turn the blade slightly, forcing the plunger toward the rear, and lever the extractor out of its recess. Keep the plunger under control, and ease the spring and plunger out toward the front.



- 17.** With the hammer in the fired position, drift out the cross-pin at the lower rear of the grip frame.

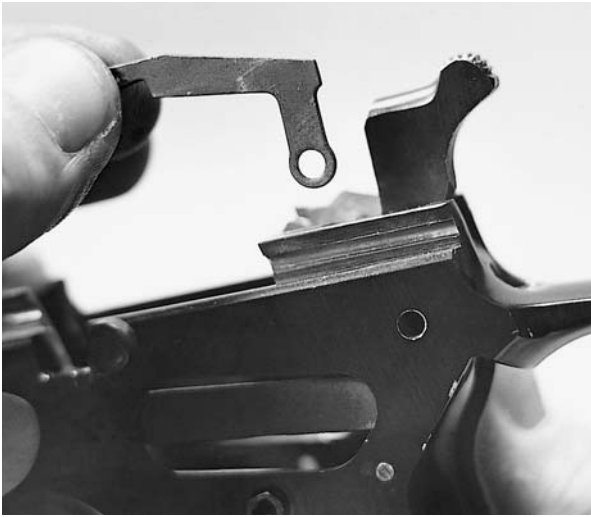


- 18.** Push the lower end of the backstrap insert back until it clears its frame shelf, and it will be forced downward by the pressure of the hammer spring. Remove the insert downward and toward the rear.



- 19.** Remove the hammer spring plunger and the spring from the hammer strut.

- 20.** Remove the grips. Push the hammer pivot about one-third of its length toward the right. Remove the ejector upward, and take out the ejector spring from its well in the frame.



- 21.** Remove the hammer pivot toward the right, and take out the hammer upward. A roll cross-pin joins the strut to the hammer, and this can be removed to separate them, if necessary.

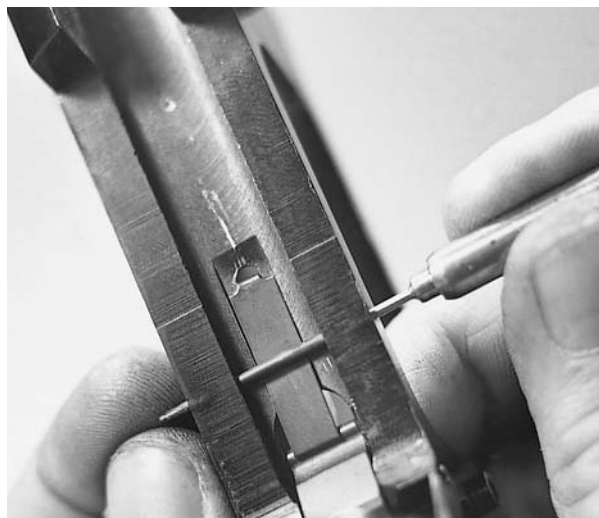


- 22.** Move the sear trip lever slightly toward the left, then remove it upward.



- 23.** Move the firing pin block lever slightly to the left, then rearward, and take it out upward. Remove the spring that powers these two parts from its well in the frame.

- 24.** Drift out the small cross-pin that retains the sear spring, inside the backstrap. This must be drifted out toward the right. Remove the spring toward the rear.



- 25.** Push out the sear cross-pin toward either side, and remove the sear downward.



- 26.** Turn the disconnecter very slightly toward the right, to clear the trigger bar, and remove the disconnecter downward.



- 27.** Insert a small screwdriver to restrain the trigger spring plunger, and push the trigger pivot pin out toward either side.

- 28.** Allow the trigger to move downward, slowly release the tension of the trigger spring and plunger, and remove the trigger bar toward the rear. The trigger play spring, riveted in place on top of the trigger bar, should not be disturbed.



- 29.** Remove the trigger plunger and spring toward the rear. Move the trigger to the rear of the guard, tilt it forward, and take it out upward. The trigger pivot retaining plunger and spring are mounted inside the trigger, and are retained by a small cross-pin. In normal takedown, these parts are best left in place.



- 30.** Depress the magazine release retainer, and unscrew the release button from the magazine catch cross-piece (counterclockwise, left side view). There is a tool slot in the button, but in most cases the button can be unscrewed with the fingers. The button, retainer, and spring are taken off toward the left, and the catch piece toward the right.

Reassembly Tips:

When replacing the sear cross-pin, note that the reduced tip must go on the right, to mate with the hole in the hammer pivot plate.

When moving the rear sight mount into place, alternately depress the two springs to avoid deformation.

- 1.** When replacing the slide assembly on the frame, the ejector and the two small levers on the right must be depressed to go under the slide.



Taurus 45/.410 Revolver



Data: Taurus 45/.410
Origin: Brazil
Manufacturer: Forjas Taurus S. A.,
Porto Alegre
Cartridge: 45 Colt, .410 shotshell
Overall length: 8-1/4 inches
Height: 5-1/4 inches
Barrel length: 3 inches
Weight: 38 ounces

Originally called the “44-Ten Tracker,” this big revolver has been more recently titled “The Judge.” I can think of several tactical applications, so it certainly deserves inclusion here. Versions are also offered in blue steel, and with a longer barrel.

Disassembly:

1. With an Allen wrench of the proper size, take out the screw at the bottom of the grip, and remove the grip downward.



2. Remove the front sideplate screw.



3. Operate the cylinder latch, and swing out the cylinder. Align one of the cylinder flutes with the flange at the front of the frame, and carefully move the crane and cylinder assembly out of the frame toward the front.



4. As this unit is taken out, the cylinder stop plunger and spring will be freed at the rear tip of the crane post, so take care that these small parts are not lost. They are easily removed.

- 5.** To avoid marring the knurling at the end of the ejector rod, use a thick leather pad in the pliers as the rod is unscrewed. NOTE: This is a left-hand thread. Turn the rod clockwise, front view, for removal.



- 6.** Remove the ejector rod and attached spring.



- 7.** Remove the ejector return spring.



- 8.** Remove the ejector/ratchet unit toward the rear.

- 9.** Remove the rear locking pin from the unit. It will probably need a push with a small tool. Take care that this small part is not lost.



- 10.** The front crane latch and its coil spring are retained by a lengthwise pin in the crane arm, accessible only after removal of the cylinder from its arbor. Doing this requires special tools to avoid damage. If this becomes necessary, it's best to let Taurus do it.



- 11.** Remove the middle and rear sideplate screws. Note that these are not the same as the front screw, so keep them separate for reassembly.



- 12.** Hold the gun as shown, and tap the frame with a rubber or nylon mallet until the sideplate drops into the palm of the hand.



- 13.** The firing pin retaining pin normally protrudes as shown. It is a slip-fit in its aperture, so it might be best to remove it at this point to avoid loss. The firing pin is also lightly staked at the rear, so it won't come out if the pin is removed.

- 14.** Move the cylinder latch thumbpiece rearward so the hammer can be cocked. Insert a slim tool through the hole in the hammer spring strut, as shown.



- 15.** Ease the hammer back forward, and remove the strut, its base, and the trapped hammer spring. If this unit is to be disassembled, grip the top of the strut in a vise and be very careful, as the spring is fully compressed.



- 16.** Use the trigger to move the hammer very slightly to the rear. The trigger movement will be stopped by the cylinder latch, and this will position the hammer at the right point for taking it off its post toward the right. Note that the hammer must clear the frame at the top, and its lower front must align with an exit cut in the back edge of the cylinder hand.

- 17.** The double-action lever (Taurus: “sear”) is easily lifted out of its recess toward the right. CAUTION: The coil spring behind it will be released. The keylock in the back of the hammer can be removed by drifting out its crosspin, but it is best left in place in normal takedown. If it is taken out, a tiny ball and coil spring will be released.



- 18.** Move the cylinder latch thumbpiece rearward so the trigger can be pulled fully to the rear. Insert a slim tool through the hole near the rear tip of the trigger spring guide.

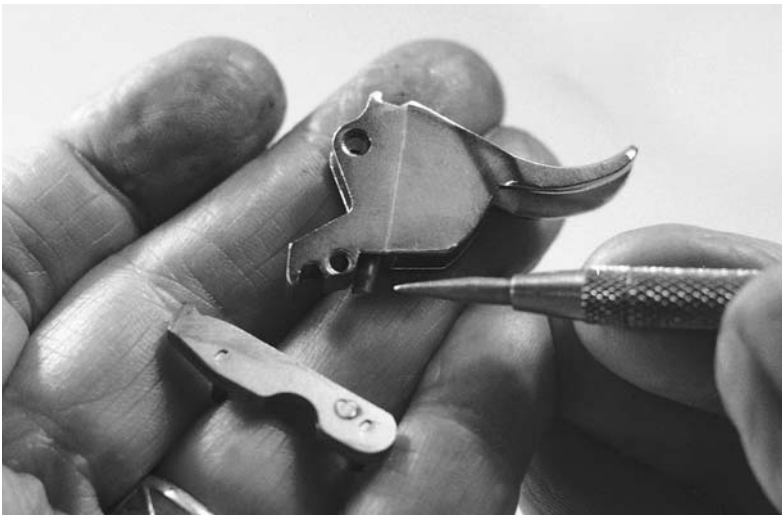


- 20.** Be sure the cylinder stop is in its rearmost and up position, tip the cylinder hand slightly rearward to clear its channel, and remove the trigger from its pivot post.



- 19.** Ease the trigger back forward, and remove the spring, guide, and base. If this unit is to be taken apart, remember that you have a fully-compressed spring. Be very careful.

- 21.** The cylinder hand is easily detached, and its plunger and spring can then be taken out of the trigger.



- 22** Removal of the trigger will also free the transfer bar to be lifted out of the frame.



- 23.** Move the cylinder stop to its rearmost position, tip it downward, and remove it toward the right.



- 24.** Removal of this screw will allow the thumbpiece to be taken off toward the left, and the cylinder latch and spring to be removed from inside the frame.

- 25.** As noted earlier, the firing pin is retained not only by a small cross pin, but also by being lightly staked at the rear. If removal of the firing pin and its coil return spring must be done, use a brass drift to gently nudge the parts out rearward, as shown.



- 26.** The front sight is dovetail-mounted, and can be drifted out if necessary.



Reassembly Tips:



- 1.** This rear view of the trigger shows the proper assembly when it is in place in the gun. The transfer bar is on the left. The cylinder hand is on the right, with its lower cross-piece contacting the plunger and spring.



- 2.** This view shows the parts in proper order before the sideplate is re-installed. Note that the sideplate has a flange at the top that must be inserted first. After this, use a rubber or nylon mallet to seat it in place. When installing the cylinder and crane unit, keep the frame pointed downward to insure that the cylinder stop plunger and spring stay in place.

Taurus Model PT24/7



Data: Taurus PT24/7
Origin: Brazil
Manufacturer: Forjas Taurus, S.A.,
Porto Alegre
Cartridge: 9x19mm (9mm Luger)
Magazine capacity: 17 rounds
Overall length: 7.16 inches
Height: 5.62 inches
Barrel length: 4.20 inches
Weight: 27.6 ounces

The PT24/7 arrived in 2004, and has since been offered in 40 S&W and 45 Auto versions. A later pistol, the PT24/7 OSS, has some mechanical differences. With its smooth, short DA trigger pull and manual safety, the T24/7 is perfect for law enforcement use. Many of them are now serving in that capacity.

Field Strip:

1. Lock the slide open, and remove the magazine. Turn the takedown latch down to vertical position, and remove it.



3. Remove the recoil spring unit.



2. Restrain the slide, release the slide latch, and ease the slide forward until it is even with the frame. Pull the trigger, and remove the slide and barrel assembly toward the front.



4. Move the barrel slightly forward, then tip it outward for removal.

Taurus Model PT 24/7 field stripped.

Detail Strip:

- 5.** While it is possible to pry the end of the recoil spring around the endcap and turn it off the rod, this is not done in normal disassembly.



- 6.** The front and rear sights are retained by small vertical screws. In normal takedown, both are best left in place.



- 7.** To remove the slide endpiece (Taurus: "Slide Cap"), insert a slim tool in the recess on its left side, to push it rearward, and use a small screwdriver to slightly lift its forward locking tab.



- 8.** Depress the striker block (Taurus: "Firing Pin Lock") to allow the striker to be pushed all the way forward, and use a tool to depress the striker spring and lift the retainer for removal.

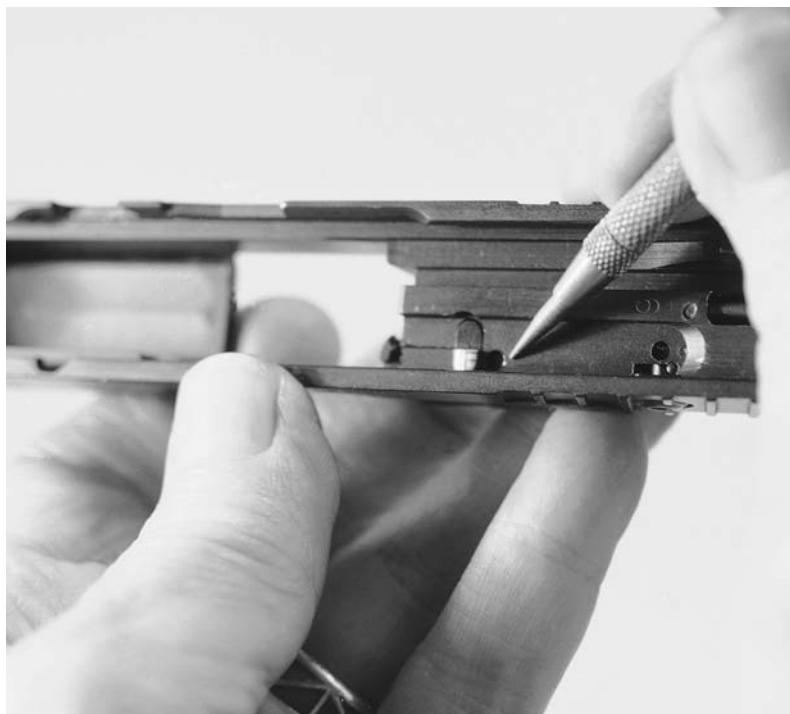
- 9** Remove the striker spring assembly. This is a captive unit, and it is not routinely disassembled.



- 10** Remove the striker (Taurus: "Firing Pin").



- 11** Remove the striker rebound spring from the guide post. The guide post is staked in place, and is not routinely removable.



- 12** Drifting out the vertical pin beside the striker block will allow removal of the extractor, loaded-chamber indicator, striker block, and their attendant coil springs. This should be done only for repair purposes. Control the springs.

- 13.** The key lock is best left in place in normal takedown. If it must be removed for repair, drifting out this small vertical pin will free it for removal. CAUTION: A tiny detent ball and coil spring will be released, so take care that these parts are not lost.



- 14.** To remove the sub-frame from the grip-frame, first drift out the two cross-pins -- one forward of the trigger, and one to its rear.



- 15.** After the pins are drifted out, move the sub-frame upward at the front, then forward, to disengage its rear underlug from the frame. CAUTION: As the unit emerges, restrain the combination slide latch and takedown lever spring on the left side at the front.



- 16.** Remove the slide latch/takedown lever spring.

- 17.** Remove the slide latch.



- 18.** Remove the manual safety. Take care that the detent ball behind it does not detach and become lost.



- 19.** Use a magnetized tool to remove the detent ball, and a hooked tool to remove the coil spring under it.

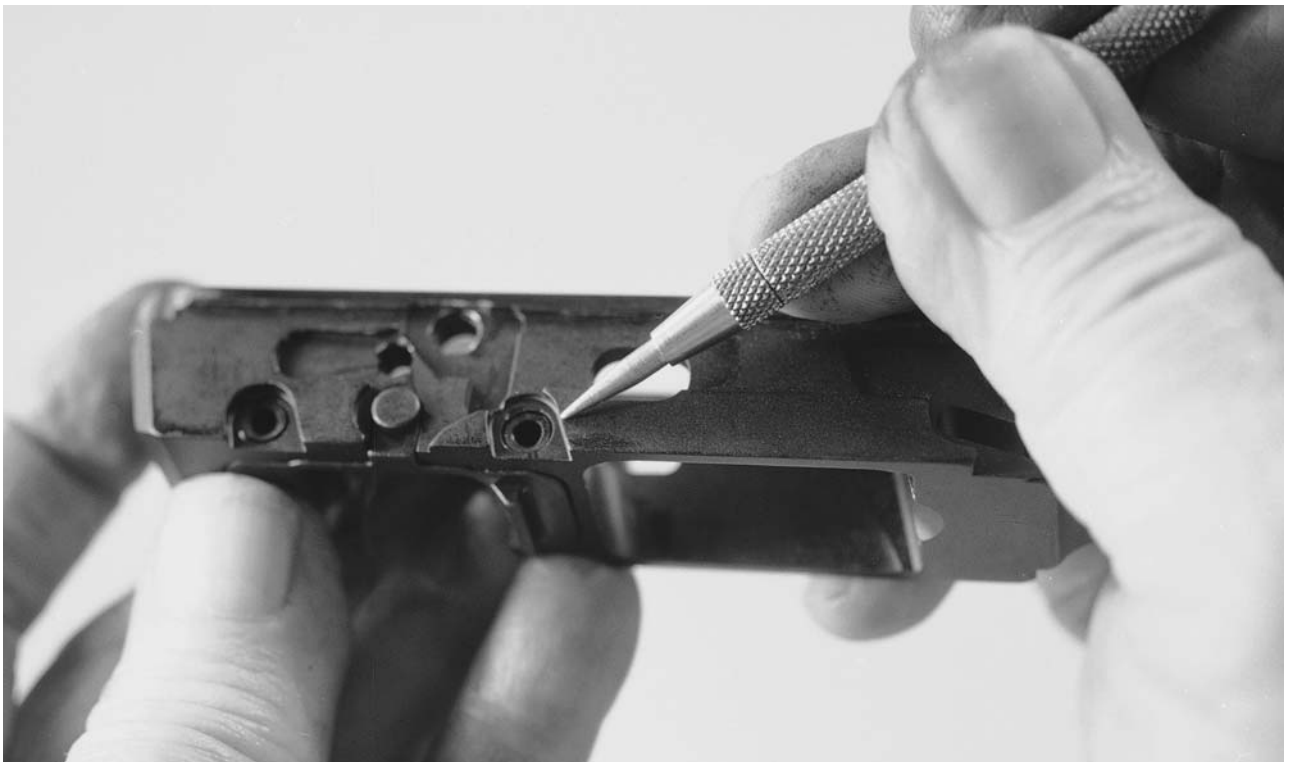


- 20.** With the trigger slightly pulled for clearance, push out the trigger pin toward the left.

- 21.** Move the trigger downward, turn it to the position shown, and remove the trigger assembly toward the right.



- 22.** If necessary for repair, the trigger bar, trigger safety, and torsion spring can be separated from the trigger by drifting out this cross-pin. The pin is riveted on the right side, and in normal takedown this system should not be disturbed.



- 23.** If the trigger system housing has to be removed for repair purposes, two retaining bushings must be carefully drifted out. In normal takedown, these parts are left in place.

- 24.** The ejector is retained by two cross-pins on the left side of the sub-frame. Removal should be for repair purposes only. Note that the slide retainer and its coil spring will also be released.



- 25.** On the right side of the sub-frame, two cross-pins retain the trigger bar ramp. Again, removal should be only for repair.



- 26.** Because of its location inside the grip frame, a photo here is not possible. Use a tool with a forked tip, such as the one shown, to push the torsion magazine release spring out of engagement with the catch piece, and this will free it for removal.



Reassembly Tips:

1. If the trigger assembly has been taken apart for repair, this view of the proper arrangement may be helpful.



2. Here is a view of the left side of the sub-frame, with the parts in proper order for re-insertion. As this unit is put back into the grip frame, control the combination spring at the front, and keep the safety pressed snugly in place.



3. When installing the striker retainer, remember that the beveled edge goes toward the rear. Remember also that the striker block must be depressed to allow full forward travel of the striker.



4. When preparing to lock the slide open for insertion of the takedown latch, press the barrel down into its lower position to prevent its following the breech face to the rear.

Wilson Combat ADP



Data: Wilson Combat ADP
Origin: United States
Manufacturer: Wilson Combat,
Berryville, Arkansas
Cartridge: 9x19mm (9mm Luger)
Magazine capacity: 10 rounds
Overall length: 6.25 inches
Barrel length: 3-3/4 inches
Weight: 18-1/2 ounces

The “ADP” designation may translate to “Advanced Design Pistol”, but the letters are also the initials of the designer, Alex DuPlessis. The gas-brake action, which it shares with the H&K P7, makes for a very small and flat 9mm. This compactness would qualify it as a fine choice for a Law Enforcement back-up pistol. Some of the complete takedown elements are a little difficult, so pay close attention to the instructions.

Field Strip:

1. With the magazine removed, depress the two takedown buttons at the rear of the frame. While holding them pushed in, move the slide slightly rearward, and lift it at the rear. Ease the slide forward off the barrel.



2. Remove the recoil spring from the barrel. Note, for reassembly, that the larger closed coil is toward the front.



Wilson ADP field stripped.

Detail Strip:



3. In normal takedown, the gas piston is not removed. If this is necessary, the pivot pin must be drifted out toward the right.



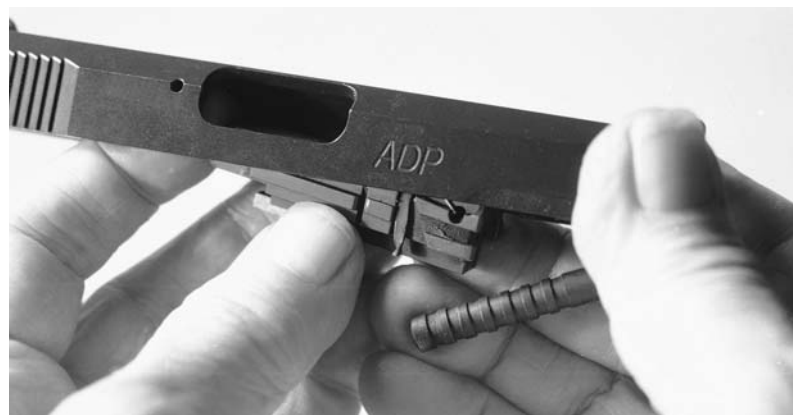
- 4.** To remove the breechblock assembly from the slide, begin by drifting out this cross pin. Note also that the front and rear sights can be drifted out of their dovetail mounts, if necessary for repair.



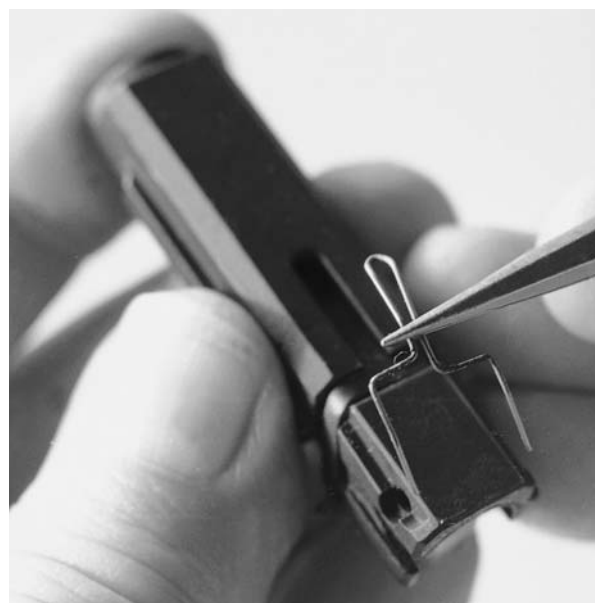
- 6.** Remove the extractor.

- 8.** Remove the combination block lever and pin lock spring.

- 5.** Move the breechblock forward until the extractor is accessible in the ejection port.



- 7.** Move the breechblock forward until it clears its rails in the slide, and take it out.



- 9.** Remove the striker block lever. Depending on the slide position as the breechblock is taken out, both the lever and the pin lock spring may be detached inside the slide, so take care they are not lost. If necessary, a sharp tool can be used to pry the striker spring off its post inside the rear of the slide. Or, it can be left in place.



- 10.** Remove the striker from the breechblock.



- 11.** If removal of the barrel and trigger assembly is necessary, begin by drifting out the front cross pin. Note that this is a roll-type pin, so be sure to use a proper roll-pin drift. In supporting the polymer frame for this operation, take care that the manual safety lever is not stressed.

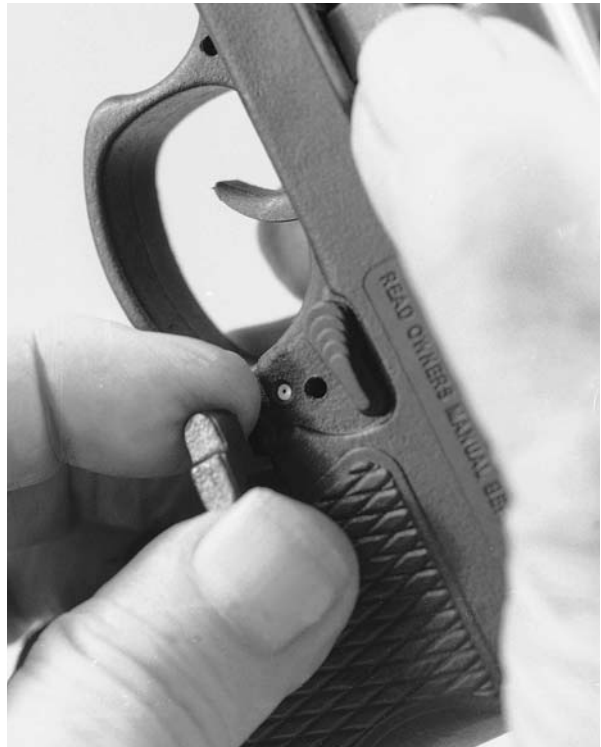


- 12.** Turn the manual safety to the on-safe position for clearance, and drift out the rear cross pin.

- 13.** Insert a tapered tool in the piston opening at the front, and use it to nudge the barrel assembly upward in very small increments. CAUTION: As this is being done, depress and hold in the magazine release button, to keep the spring in its recess in the barrel post.



- 14.** As the barrel assembly is moved upward, the magazine release will be freed for removal. CAUTION: Insert a tool on the left side of the barrel post to restrain the magazine release spring, which will be freed as the barrel unit clears the frame.

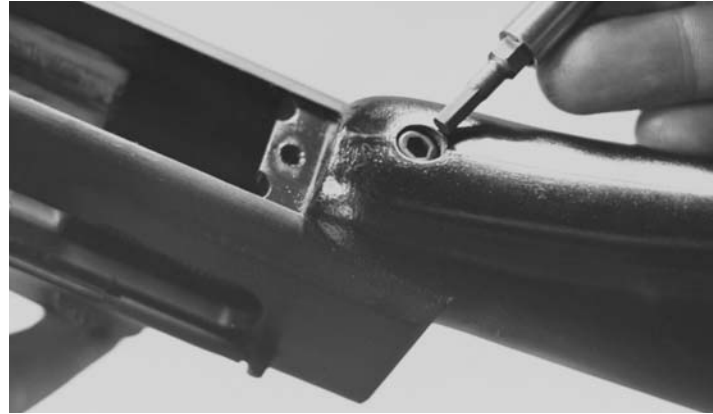


- 15.** Ease out the magazine release spring, and remove it.

- 16.** The doubled-over short upper end of the slide latch spring is mounted in a recess in the under-edge of the barrel housing. Gently pry or pull it out of its recess for removal of the spring and attached slide latch.



- 17.** The trigger assembly can be removed from the barrel unit by drifting out this roll-pin. In normal takedown this system is best left in place, as the polymer trigger could be damaged. If this must be done for repair, be sure the opposite trigger extension is well-supported.



- 18.** If the trigger assembly is removed from the barrel unit the trigger bar can be turned over toward the front, relieving the spring tension. Pushing out this cross pin will allow removal of the trigger bar and spring.



- 19.** Because of its polymer construction, the manual safety system is not routinely removable. The stress of removal could damage the parts.



- 20.** Drift out the rear cross pin toward the right.



- 21.** Remove the disconnecter (Wilson: "Catch Transfer") and its torsion spring.



- 22.** Removal of the rear sub-frame will require the use of a clamp to keep the takedown buttons at center.



- 23.** Pushing out this cross pin will allow removal of the takedown buttons and the transverse coil spring.

Reassembly Tips:

1. Installing the disconnecter and its spring will be made easier by the use of a slave pin, as shown. Be sure the lower arms of the torsion spring go inside the sub-frame.



3. As the barrel and trigger assembly are moved downward, be sure the slide latch is fully to the rear, so its pivot end can enter.

5. This view of the breechblock shows the striker block and the spring in place, ready for re-insertion in the slide. Remember to install the extractor as the unit is moved rearward. The same slave pin used in the sub-frame can be helpful in lifting the lock-spring ends for re-insertion of the cross pin.

2. As the barrel and trigger assembly are put back into the frame, insert a flat tool on the left side of the barrel post to compress the magazine release spring into its recess.



4. When the lower tip of the barrel post is visible in the release opening, install the magazine release and hold it precisely even with the sides of the frame as the barrel unit is pushed downward into place.





BENELLI 121 M1

Data: Benelli 121 M1
Origin: Italy
Manufacturer: Benelli Armi, S. p. A.,
Urbino
Gauge: 12
Magazine capacity: 7 rounds
Overall length: 39 3/4 inches
Barrel length: 19 5/8 inches
Weight: 7 lbs., 3 oz.

The new Benelli semi-auto shotgun has an unusual action, using neither gas nor long recoil. Instead, it has a prop-type locking bar that is released by a rebounding bolt head—a unique system. The SL-80 series that included the Model 121 M1 was discontinued in 1985, but many of these are still in use by law enforcement.

Disassembly:

1. Loosen the cross-screw in the magazine tube hanger loop at the muzzle, and slide the hanger off toward the front. Cycle the action to cock the internal hammer, and set the safety in the on-safe position. Unscrew the knurled retaining nut at the front of the forend, and remove the nut and the sling loop toward the front. The nut unscrews counter-clockwise (front view).



2. Remove the barrel, upper receiver, and forend toward the front. If the gun is new and tight, it may be necessary to pull the bolt halfway back and release it several times, to start the assembly forward.



3. Tip the rear of the forend wood away from the barrel, and remove the forend downward and toward the rear. Remove the spacer ring and spring ring from the recess at the front of the forend. The rings will be released as the wood is taken off, so take care that they aren't lost.



4. Move the bolt all the way to the rear of the receiver, and pull out the firing pin retainer toward the right. A fingernail notch is provided in the head of the T-shaped retainer, and no tools are needed. Remove the firing pin and its return spring toward the rear.

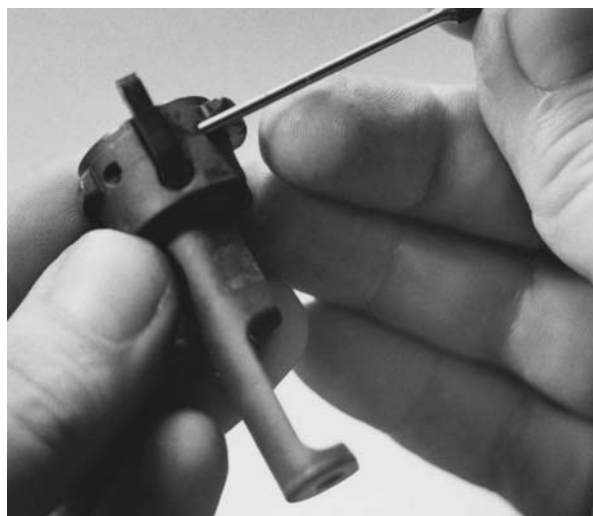
- 5.** Remove the cocking handle toward the right, and remove the bolt assembly toward the rear. The ejector, which is also the bolt guide, is welded in place inside the receiver, and is not removable.



- 6.** Remove the locking bar from the underside of the bolt carrier, outward and toward the rear.



- 7.** Remove the bolt head from the front of the bolt carrier. Remove the heavy bolt head spring toward the front.



- 8.** The extractor and its coil spring are retained on the right side of the bolt head by a vertical roll pin. Restrain the extractor, and drift out the pin in either direction. Remove the extractor and spring toward the right.

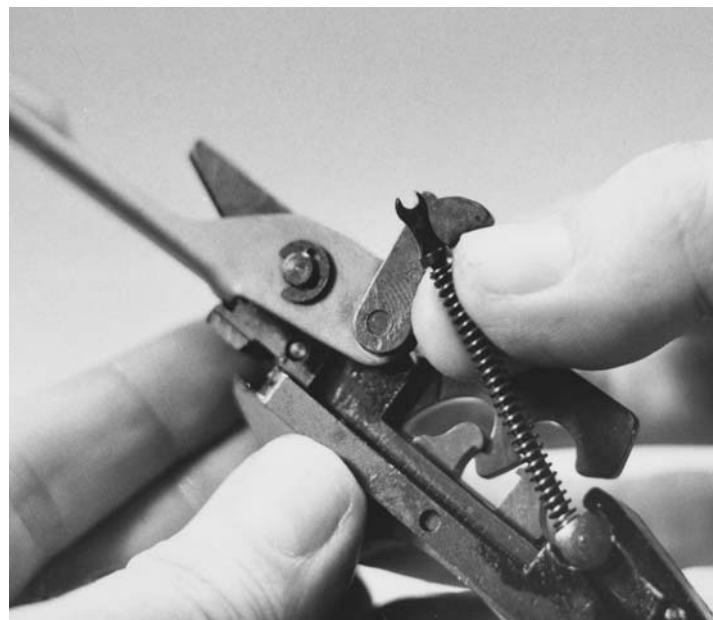
- 9.** The recoil spring connector strut is retained at the lower rear of the bolt carrier by a cross-pin that is riveted on both sides. Unless removal is necessary for repair, this pin should be left in place.



- 10.** Drift out the roll pin at the lower rear of the lower receiver, directly above the safety. Push the carrier latch, and tip the carrier up to its raised position. Use a nylon-tipped drift punch to nudge the trigger group downward at the rear. Be sure the carrier stays elevated, or it will be damaged.



- 11.** When the trigger group is free, remove it downward and toward the rear.



- 12.** Grip the front of the carrier spring guide firmly, and move it toward the rear to detach it from its cross pin in the carrier dog. Slowly release the spring tension, and remove the guide, spring, and spring base from the trigger group.

- 13.** The carrier pivot is retained on both sides of the group by C-clips, but only one has to be taken off. Remove the C-clip from either side, restraining it as it is pried from its groove to prevent loss. Remove the carrier pivot from the trigger group.



- 14.** Remove the carrier upward.



- 15.** The carrier dog pivot is easily removed, and the dog is then detached from the carrier. The pivot is held in place by the side of the group unit when the carrier is in place, and is freed as the carrier is taken off, so take care that it isn't lost.



- 16.** Move the safety to the off-safe position, pull the trigger, and ease the hammer over forward, beyond its normal fired position. The hammer spring and follower can now be removed upward.

- 17.** Pull out the hammer pivot toward the right, and remove the hammer upward.



- 18.** Restrain the trigger, and drift out the trigger pin toward the right.



- 19.** Remove the trigger assembly upward. The trigger spring is easily detached from the front of the trigger. The secondary sear, or disconnect, and its plunger and spring can be removed from the trigger by pushing out its cross pin. **Caution:** Control the plunger and spring as the pin is taken.



- 20.** Hold a fingertip over the hole on top of the group at the rear to arrest the safety spring, and drift the small cross pin at upper rear toward the right until the hole is cleared. Remove the safety spring and plunger upward, and push out the safety button toward either side. If the plunger fails to come out with the spring, tap the trigger group on the workbench to free it. The other small cross pin at the rear of the group is a limit pin for the trigger. It retains no part, and need not be removed in normal takedown.

- 21.** The carrier latch and its spring are retained inside the right wall of the lower receiver by a vertical pin that is pushed out upward. Only half of the lower tip of the pin is accessible, and a very small screwdriver or an opened paper clip should be used to push the pin. Restrain the carrier latch.



- 22.** After the pin is pushed out, remove the carrier latch from the lower receiver. The spring is easily detached from the carrier latch, if necessary.



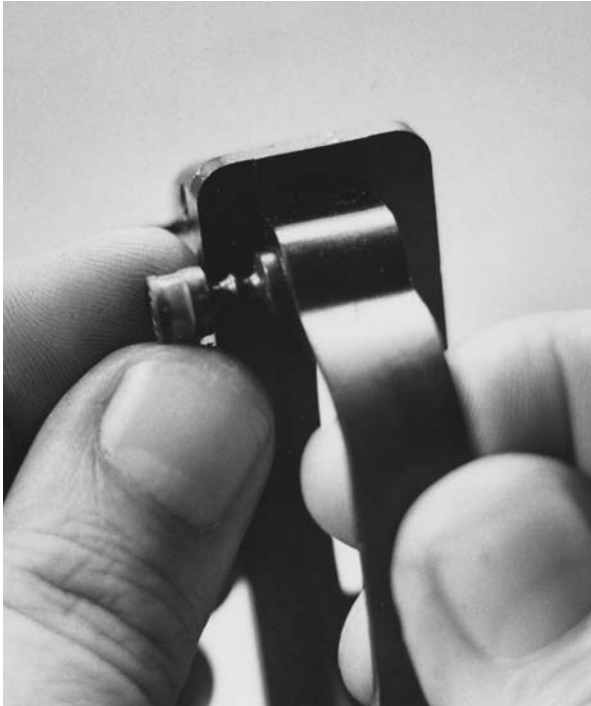
- 23.** An ordinary socket wrench can be used to remove the nut under the buttplate that retains the stock. The exact size of the nut is 13mm, but if no metric socket is available, a standard 1/2-inch socket will work. Take off the nut, lock washer, and spacer washer, and remove the buttstock toward the rear.



- 24.** Drifting out the vertical roll pin at the rear of the recoil spring housing will release the stock mounting bolt for removal toward the rear. **Caution:** The stock bolt is also the retainer for the recoil spring, so restrain it during removal. Take out the spring and follower toward the rear. No attempt should be made to remove the spring housing or the magazine assembly from the lower receiver.

Reassembly Tips:

1. When replacing the safety button in the trigger group, remember that the end with the red band goes on the left side.



2. When replacing the carrier spring base in its recess on the left side of the trigger group, note that the hole in the base is off-center. The end nearest to the hole must go toward the outside—that is, to the left. Also, the flat face of the base goes to the front. The bolt head must be pushed to its rear position in the carrier before the cocking handle can be reinserted.

When replacing the two rings in the front of the forend, the plain ring goes in first, and the spring ring at the front.

When moving the barrel and receiver assembly toward the rear, be sure the rear tip of the recoil spring strut on the bolt carrier engages the cup of the spring follower.





Remington Model 870R

Data:	Remington Model 870R
Origin:	United States
Manufacturer:	Remington Arms Company, Bridgeport, Connecticut
Gauge:	12
Magazine capacity:	4 rounds
Overall length:	40-3/8 inches (stock extended) 29-7/8 inches (stock folded)
Barrel length:	20 inches
Weight:	8 pounds

In police use, the basic Remington 870 will often be found with the factory pistol-grip folding stock, and a short barrel equipped with rifle-type sights. Extended magazine tubes are also available, and sling swivels are often added. Except for the police accessories, the 870R is internally the same as the regular sporting 870, and the instructions can be applied to either gun.

Disassembly:

1. Open the action, and unscrew the magazine endcap. Take off the barrel toward the front.



2. Fold the collapsible stock, and use an Allen wrench or an Allen screwdriver bit to back out the screw at the upper rear of the pistol grip unit.



3. Remove the stock unit toward the rear.



4. Push out the large cross pin at the lower rear of the receiver, and the smaller cross pin at the front of the trigger group.

- 5.** Remove the trigger group downward and toward the rear, tilting it slightly to clear the slide latch on the left.



- 6.** Inside the lower edge of the receiver, depress the left shell stop, and move the action slide and bolt assembly forward out of the receiver. Lift the bolt off the action slide bars, and separate the bolt and slide piece.

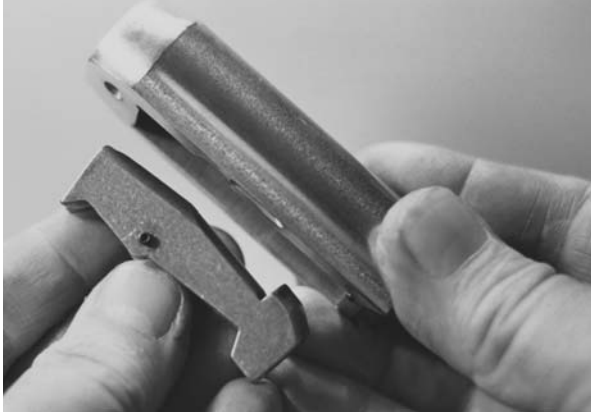


- 7.** Restrain the firing pin, and drift out its vertical retaining pin downward.



- 8.** Remove the firing pin from the rear of the bolt. The spring will be released from the underside of the bolt.

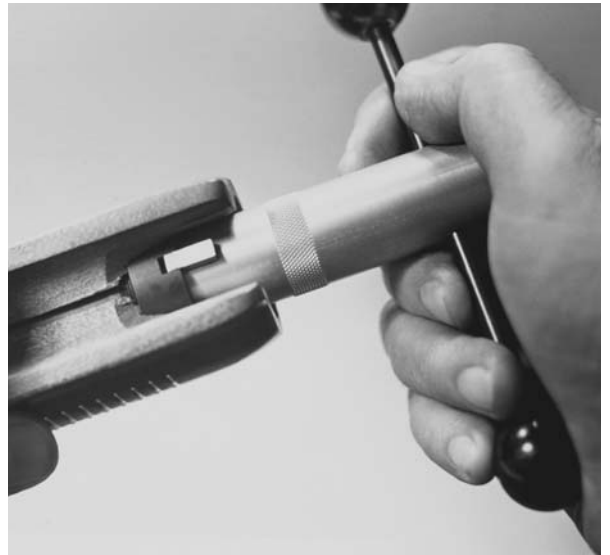
- 9.** Remove the locking block from the underside of the bolt.



- 10.** . Insert a small sharp screwdriver between the extractor and its plunger, and depress the plunger toward the rear. Lift the extractor out of its recess in the bolt. **Caution:** *Keep the plunger and spring under control, and ease them out for removal toward the front.*



- 11.** Insert a tool into the retainer at the front of the magazine tube, and pry it outward, moving the tool to lift it evenly. **Caution:** *The magazine spring will be released, so control it.* Remove the retainer, spring, and magazine follower. The ejector and its housing are riveted inside the left wall of the receiver, and should be removed only for repair. Replacement requires new rivets and a special tool. The right and left shell stops are staked in place in their recesses at the rear. If removal is necessary for repair, insert a sharp screwdriver to pry them inward, then remove them toward the rear.

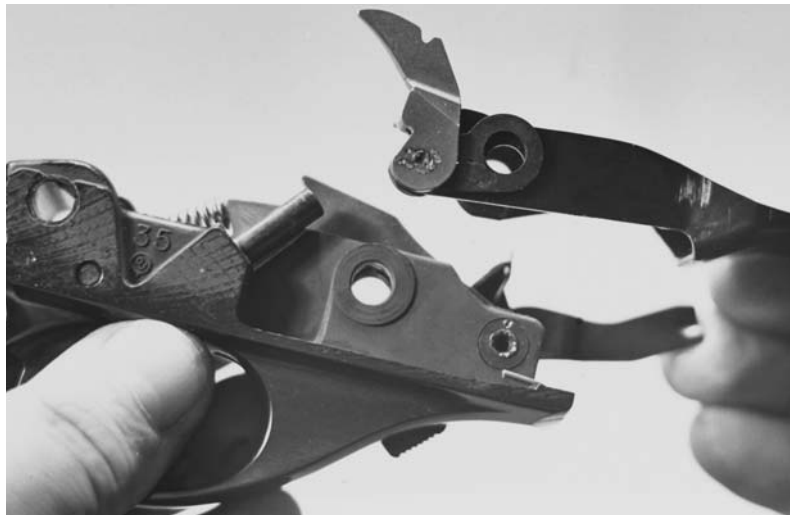


- 12.** Use a B-Square Model 870 forend wrench or a piece of shop steel cut to fit, and unscrew the forend cap nut. Remove the action slide tube and bars toward the rear.

- 13.** Restrain the carrier, and push out the carrier pivot, which is also the front group pin sleeve. Take care not to lose the lock spring at its end.



- 14.** Release the spring tension slowly, and remove the carrier assembly upward and toward the front. Remove the carrier plunger and spring from their well on the right side. The carrier dog and its spacer plate are riveted on the right rear arm of the carrier, and should not be disturbed in normal takedown.



- 15.** Restrain the hammer, pull the trigger, and ease the hammer down to fired position. Push out the rear group cross pin sleeve toward the left, taking care not to lose the lock spring at its end.



- 16.** Removal of the sleeve will allow the top of the trigger to move further toward the rear, relieving the tension of the sear and trigger spring. Detach the front of the spring from its stud on the back of the sear, and remove it upward.

- 17.** Drift out the trigger cross pin toward the left.



- 18.** Remove the trigger assembly upward, turning it slightly to the left to clear the left connector. The two connectors are cross pinned to the top of the trigger, and the pin is riveted. Remove this system only for repair.



- 19.** The sear cross pin is accessible on the right side inside the carrier spring well. Angle a small drift punch to nudge it out toward the left.



- 20.** Remove the sear upward.

- 21.** The hammer and slide latch are pivoted and retained by the same cross pin at the front of the trigger group, and the pin is riveted on the right side over a washer in a recess. This system should not be removed unless necessary for repair. If it is to be taken out, take care that the slide latch is not deformed during removal of the cross pin, and restrain the hammer, as its plunger and spring will be released as the pin is removed. The slide latch spring will also be freed for removal.



- 22.** Hold a fingertip over the hole at the upper rear of the trigger group, and push out the safety spring cross pin. Remove the safety spring upward. The safety detent ball will probably stay in the well.



- 23.** Remove the safety toward either side. Insert a tool from the top to push the safety detent ball down into the safety tunnel, and remove it. Take care that this small steel ball is not lost.

Reassembly Tips:

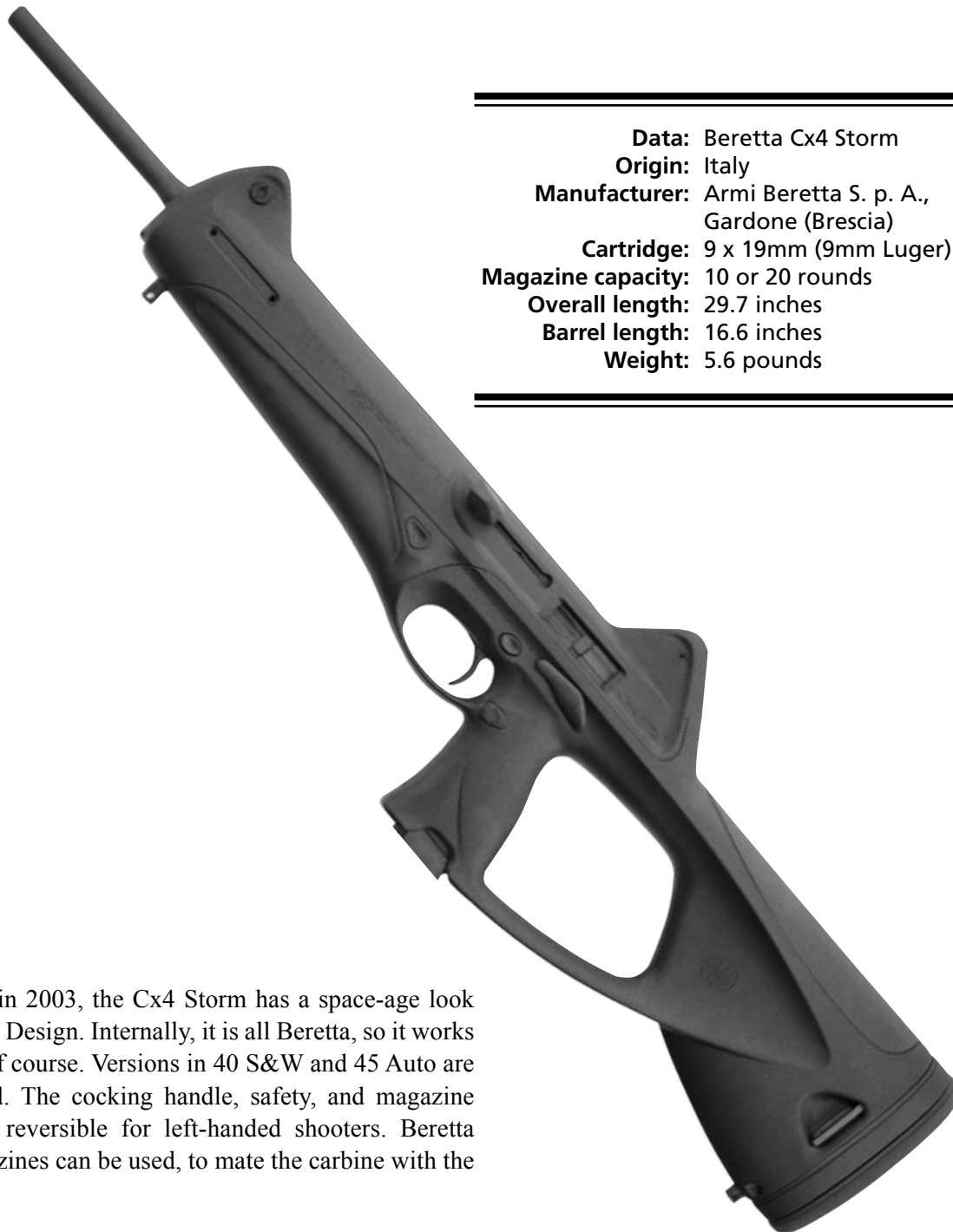
1. When replacing the trigger assembly, be sure the forward tip of the left connector arm is positioned above the rear tail of the slide latch, as shown.



2. When replacing the carrier assembly, be sure the rear step of the carrier dog engages the carrier spring plunger correctly, as shown.
When replacing the firing pin in the bolt, insert the spring through the underside, and be sure the front of the spring enters its recess inside the front of the bolt.
When replacing the bolt and action slide assembly in the receiver, it is necessary to depress the right and left shell stops, in that order, as the assembly is moved back into place.



Beretta Cx4 Storm



Data:	Beretta Cx4 Storm
Origin:	Italy
Manufacturer:	Armi Beretta S. p. A., Gardone (Brescia)
Cartridge:	9 x 19mm (9mm Luger)
Magazine capacity:	10 or 20 rounds
Overall length:	29.7 inches
Barrel length:	16.6 inches
Weight:	5.6 pounds

Introduced in 2003, the Cx4 Storm has a space-age look by Giugiaro Design. Internally, it is all Beretta, so it works infallibly, of course. Versions in 40 S&W and 45 Auto are also offered. The cocking handle, safety, and magazine release are reversible for left-handed shooters. Beretta pistol magazines can be used, to mate the carbine with the sidearm.

Detail Strip:

1. Remove the magazine, and cycle the action to cock the internal hammer. Set the manual safety in onsafe position. Push out the disassembly latch.



2. Move the barrel and bolt assembly forward off the grip frame/buttstock.



3. Move the bolt assembly rearward until the cocking handle aligns with its circular exit track, and remove the handle.

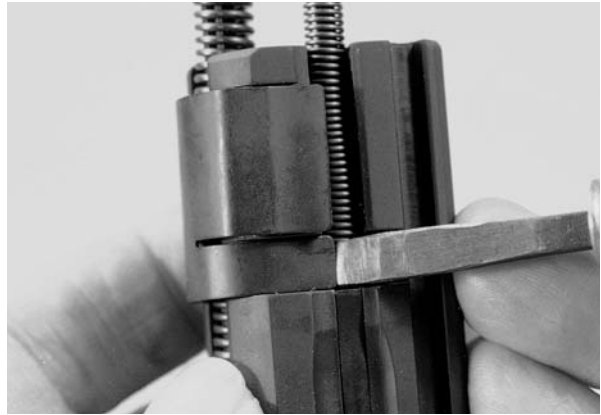


4. Remove the bolt assembly.

- 5.** The ejection port cover is removed inward, using a small tool in the access recesses at the top.



- 6.** Use a wide tool to nudge the retainer off upward.



- 7.** Remove the extractor.



- 8.** Remove the recoil spring assembly.

- 9.** The recoil spring unit is dismountable, by retracting the spring, moving the endpiece forward, and turning it. CAUTION: Control the compressed spring.



- 10.** Remove the ejector assembly. This unit is not routinely dismountable.



- 11.** Pushing out this cross pin will release the firing pin and its return spring, and the firing pin safety block and its spring, in that order. Control the parts.



- 12.** While it is possible to remove the sub-frame containing the firing system parts, this requires prior removal of the manual safety, detachment of the bolt latch handle, and other operations. It would be best to have this done by an authorized Beretta repair facility.

- 13.** Removal of the barrel requires a special long-reach wrench, and the advice in number 12 applies.



- 14.** What appears to be a simple cross pin retaining the rear sight is not. Actually, the apertures access twin plungers and springs that are detects for the two sight positions. This unit should not be routinely disassembled.



- 15.** The front sight is another unit that should not be disassembled.

Reassembly Tips: None. The Cx4 cannot be mis-assembled.



Hi-Point Model 995

Data:	Hi-Point Model 995
Origin:	United States
Manufacturer:	Beemiller, Inc., Mansfield, Ohio (for MKS Supply, Dayton, OH)
Cartridge:	9 x 19mm, .40 S&W
Magazine capacity:	10 rounds
Overall length:	31-1/2 inches
Barrel length:	16-1/2 inches
Weight:	4.5 pounds

Introduced in 1996, this neat and reliable little carbine uses polymer, formed steel, and alloy construction to keep the price very affordable. Where it matters, the parts are good steel. The gun is very durable, and it works, every time. It also has some nice design points - twin extractors and a drop-safe system.

Disassembly:

1. Remove the magazine, and pull the trigger to drop the striker to fired position. Use a 7/16-inch wrench to unscrew and remove the cocking handle. After the handle is taken off, the hold-open sleeve is easily slid off.



2. Using a 5/16-inch wrench, remove the two cap nuts on the left side of the receiver cover. It may be necessary to use a wrench on the other side to hold the crosspins.



3. After the crosspins are pushed out, remove the receiver cover upward.



4. If removal of the rear sight is necessary, it is held by two screws at the front, one at the rear, and one at the sight elevation screw. In normal takedown, the sight is best left in place.

- 5.** Lift the barrel shroud at the rear, disengage it at the front, and take it off.



- 6.** Remove the Allen screw near the front of the stock unit.



- 7.** Use a non-marring tool to slide the retainer clip off the action-mounting lug toward the front. The tool may have to be tapped with a small hammer to start it.



- 8.** Lift the barrel and receiver unit at the front, and remove it from the stock.

- 9.** The magazine release button is a press fit on its shaft, and it should not be disturbed in normal takedown. If access to the magazine catch and spring is necessary for repair, you must separate the two sides of the stock unit.



- 10.** If this must be done, it will require removal of screws on each side of the handgrip, and six cross-screws in the stock unit.



- 11.** After the eight screws are taken out, there are two small clips on the underside of the stock and trigger guard that must be removed before the two sides of the stock are separated.

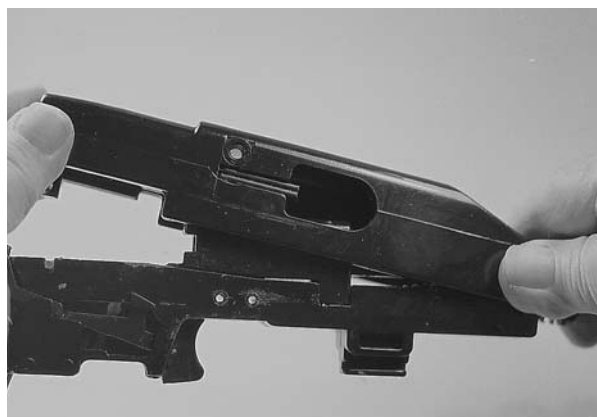


- 12.** Drift out the roll-pin at the rear of the receiver unit.

- 13.** Move the breech block slightly to the rear, just enough to clear the extractors from their recess in the barrel, and lift the breech block at the rear to pull the under lug of the striker spring base out of the receiver unit.



- 14.** The spring base will often be tight, and will require the insertion of a small tool to assist it upward.



- 15.** Restrain the breechblock against the tension of the recoil spring, tilt it upward to clear its lower edge above the barrel, and ease it off toward the front. Some manipulation will be necessary to clear it past the front sight.



- 16.** Remove the recoil spring from its channel below the barrel.

- 17.** Remove the striker spring base from the rear of the breechblock unit.



- 18.** Use a small tool to start it rearward, and remove the striker and its spring.

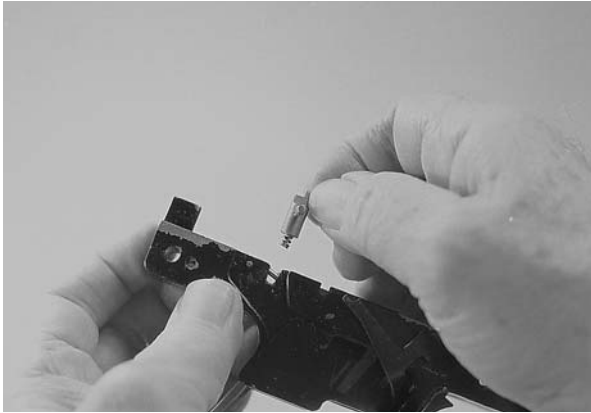


- 19.** The twin extractors are pivoted and retained by a vertical pin, accessible on the underside of the breechblock. **CAUTION:** Control the coil spring that powers the extractors.

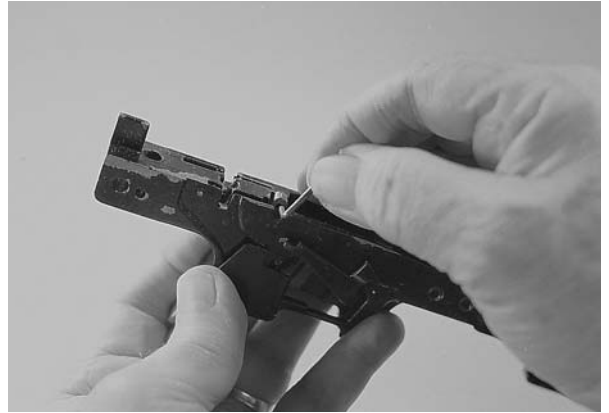


- 20.** Restrain the sear, and tip the sear lever off the crosspin. Remove the sear lever upward and toward the rear.

- 21.** Remove the sear and its spring upward.



- 22.** Push the drop safety to its upper position, and use a small tool to lift the sear block arm to vertical. The arm can then be taken out toward the right.



- 23.** Remove the drop safety bar downward.



- 24.** Drifting out the trigger crosspin will allow the trigger to be moved rearward and taken out downward, along with the attached trigger bar. The small trigger pin is near the edge in the alloy receiver unit, and except for repair, this system is best left in place.

- 25.** If the trigger has been removed, drifting out this crosspin will release the trigger bar and its spring. Control the spring.



- 26.** The safety and its detent ball and spring are not routinely removable.



- 27.** The front sight post and ring are vertically adjustable. If the adjustment screw is backed all the way out, the post and ring can be taken out upward.



- 28.** The front sight base is retained on the barrel by two screws on the underside. With those removed, the base, and the barrel band, can be slid off toward the front.

- 29.** If necessary for repair, the barrel can be removed from the receiver unit by drifting out two roll-type crosspins.



- 2.** When installing the breechblock, use a tool to guide the under lug of the striker spring base into its hole in the receiver. Insert a drift to align the holes before the crosspin is driven into place.

Reassembly Tips:

- 1.** Be sure that the sear and the sear lever are installed as shown.



- 3.** Make all of the cross-screws snug, but avoid over-tightening in this polymer stock.

INGRAM SM11-A1



Data: SM11-A1 Carbine

Origin: United States

Manufacturer: RPB Industries, Inc.,
Atlanta, Georgia

Cartridge: 380 ACP

Magazine capacity: 16 and 32 rounds

Overall length: 28 3/4 inches

Barrel length: 16 1/4 inches

Weight: 6 pounds

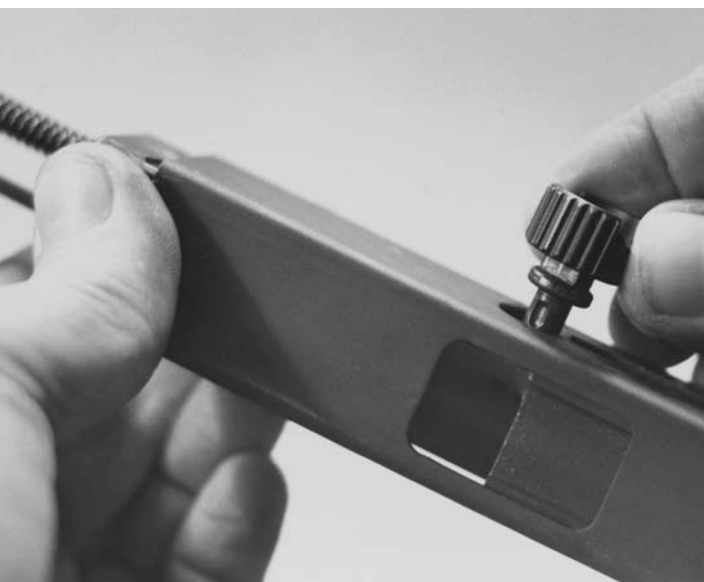
Based on the original Ingram submachine gun design, this gun was originally produced by Military Armament Corporation as the MAC-10 and MAC-11, designations by which they are still popularly known. In addition to the 380 ACP chambering, they are also available in 45 ACP and 9mm Parabellum. The semi-auto versions of each caliber have the same mechanisms as the gun shown here. To prevent conversion to full-auto, the components of the sear, trigger, and disconnecter system are semi-permanently installed. More recent production bears the Cobray trade name.

Disassembly:

1. With the magazine removed and the bolt forward, push the large cross pin at the lower front of the receiver out toward the right and remove it.



2. Lift the barrel and receiver assembly at the front, then remove it forward.

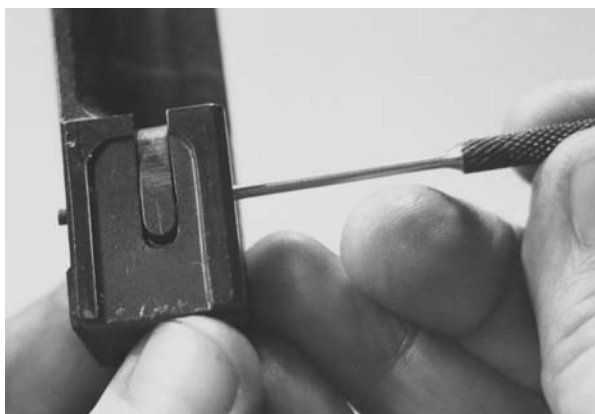


3. Move the bolt toward the rear until the bolt handle is aligned with the larger opening at the rear of its track, and pull the bolt handle off upward. Remove the bolt assembly toward the rear.



4. The bolt spring assembly, which includes the spring guide and ejector, is best left attached to the bolt in normal takedown. If removal is necessary, compress the spring slightly to expose a small cross pin in the front tip of the guide. Drive out the pin, guide, and spring, and the ejector assembly will be released for removal toward the rear. Caution: The spring is compressed. Ease it out.

5. The extractor is retained by a vertical roll pin on the right side of the bolt. Drift out the pin upward, and remove the extractor and its coil spring toward the right.



6. The bolt handle spring and plunger are retained by a small vertical roll pin at the front edge of the bolt. Drive the pin upward, and remove the spring and plunger toward the front. **Caution:** *This is a strong little spring, under tension. Release it carefully.*



7. Removal of the cooling jacket requires a special twin-lug wrench, and in normal takedown it is best left in place. If removal is necessary, this unit can be turned by inserting a rod section or a large drift punch in one of the recesses, and tapping its side with a small hammer, counter-clockwise (front view).



8. The barrel is threaded into the receiver at the rear, and is also secured by a large roll pin through the receiver. Since rear projection of the barrel is adjustable, and its meeting with the bolt face critical, barrel removal is definitely not recommended.

- 9.** The principal parts of the firing mechanism in the lower frame are semi-permanently installed to prevent full-auto conversion, but removal of the springs for replacement is possible. The trigger cross pin is retained by two C-clips on the left side. Carefully lift the clips off upward, being careful not to lose them.



- 10.** Push out the trigger pin toward the left.



- 11.** Move the trigger forward, disengage the trigger/ disconnecter spring from the two parts, and remove the spring upward.

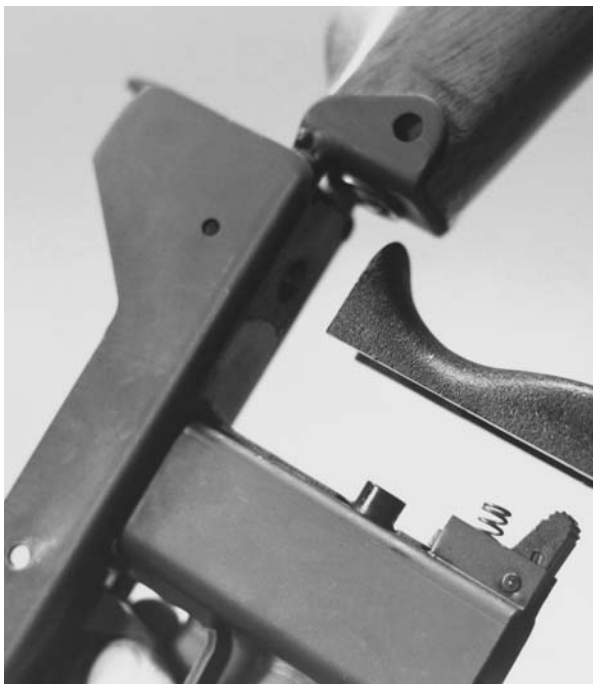


- 12.** Insert a small screwdriver through the hole in the top of the sear to slightly compress the sear spring. Tip the spring toward the rear, and remove it.

- 13.** The safety is retained by a small roll pin that crosses the safety button on the outside. When the pin is drifted out, the button is removed downward, and the safety block and its spring and plunger are removed upward.



- 14.** Remove the screw in the back center of the hand-grip/magazine housing.



- 15.** Remove the rear section of the hand-grip toward the rear. It may be tight, and require gentle prying at top and bottom to free it. Take care not to lose the magazine catch spring.



- 16.** Remove the spring from the back of the magazine catch.

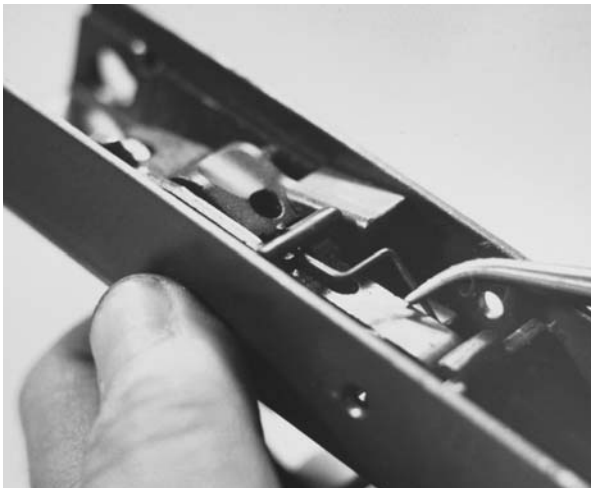
- 17.** Push out the magazine catch cross pin, and remove the catch downward.



- 18.** Remove the large screw at the front of the stock bracket, and take off the buttstock toward the rear. The location of this screw, behind the magazine housing, may require an angle-tip or offset screwdriver.



Reassembly Tips:



- 1.** When replacing the combination trigger and disconnect spring, be sure the front lower hook goes beneath the forward arm of the trigger, and the front upper hook beneath the left arm of the disconnect, as shown. The rear loop of the trigger/disconnect spring must go behind and below the rear of the trigger. When inserting the cross pin, exert downward pressure on the trigger while guiding the right tip of the pin into its hole in the receiver. Be sure both C-clips are fully snapped in place on the left side after the pin is installed.

Kel-Tec SUB-2000



Data:	Kel-Tec SUB-2000
Origin:	United States
Manufacturer:	Kel-Tec CNC Industries, Cocoa, Florida
Cartridge:	9 x 19mm (9mm Luger)
Magazine capacity:	10, 15, or 20 rounds
Overall length:	30 inches
Barrel length:	16 inches
Weight:	4 pounds

The SUB-2000 arrived in 2001, and replaced the SUB-9 in the Kel-Tec line. The labor-intensive SUB-9 was quite pricey, and the SUB-2000 more affordable. Like the SUB-9, the SUB-2000 is “foldable,” reducing the overall length to just sixteen inches. A version in 40 S&W chambering is also offered.

Detail Strip:

1. Remove the magazine, and cycle the action to cock the internal hammer. With the manual safety in on-safe position and the bolt closed, push out the large cross pin at the rear until it stops.



2. Move the bolt assembly all the way to the rear, and remove the buffer/endpiece.



3. Remove the recoil spring assembly.



4. Remove the bolt handle.

- 5.** Remove the bolt and bolt tube assembly.



- 6.** Separate the bolt head from the bolt tube.



- 7.** The firing pin and its return spring are retained by a vertical roll-type pin. CAUTION: The return spring is strong. Control the parts.



- 8.** The extractor and its coil spring are retained by a vertical roll-pin.

- 9.** If extensive cleaning makes it necessary to take off the two sides of the fore-grip, there are six screws on each side, twelve in all, and six internal spacer-nuts. Obviously, this should be done only in an instance of mud immersion.



- 10.** The receiver can be disassembled, but the factory warns against doing this, and so do I. There is an inter-dependence of springs and parts, no through-pins, and other considerations. In the unlikely event that there is a problem, send it to Kel-Tec.



- 11.** This advice also applies to the front sight unit.



- 12.** The safety lock and the stock snap unit are not routinely removable.

- 13.** If necessary for repair, the takedown cross pin can be taken out by depressing its lock-spring.



Reassembly Tips:



- 1.** In some SUB-2000 guns, the cocked hammer may stop the bolt as it is re-inserted. If so, use a tool, through the ejection port, to slightly depress the hammer as the bolt is moved forward.



- 2.** When installing the recoil spring and buffer, be sure the rear tip of the spring assembly is seated properly in its recess in the buffer.

Kel-Tec SU-16



Data:	Kel-Tec SU-16
Origin:	United States
Manufacturer:	Kel-Tec CNC Industries, Cocoa, Florida
Cartridge:	5.56 x 45mm (223)
Magazine capacity:	10 or 30 rounds
Overall length:	37 inches
Barrel length:	18 inches
Weight:	5 pounds

The model designation is supposed to stand for “Sport/Utility,” but this handy carbine would also be perfect for tactical deployment. The SU-16 was introduced in 2003. There are several later sub-models with different stocks and other special features. In all of them, regular AR-15/M-16 magazines can be used.

Detail Strip:

1. Remove the magazine, cycle the action to cock the internal hammer, and set the manual safety in on-safe position. Push the opposed fore-grip latches rearward and allow the combination fore-grip and bipod to swing down and forward.



2. Push out the assembly pin, and turn the buttstock unit down and toward the front.



3. Pull the recoil spring tube forward, and turn it to bring the locking lug to the top, as shown. When eased back, the tube will enter the receiver to a depth of about a quarter-inch.



4. Move the tube and bolt assembly all the way to the rear, and move the rear part slightly downward to align the bolt handle with its exit track. Remove the bolt handle.

- 5.** Tip the bolt and tube assembly downward at the rear, and take the unit out of the receiver.



- 6.** Push out the firing pin retainer.



- 7.** Remove the firing pin.



- 8.** Remove the bolt cam piece.

- 9** Remove the bolt from the carrier.



- 10** If the extractor needs to be removed for repair purposes, drifting out this pin will release the extractor, its coil spring, and a small buffer.



- 11.** The ejector and its coil spring are retained by this roll-type pin. CAUTION: This strong spring is compressed, so take care to control the parts.



- 12.** Turn the tube to align the hole with the pin that retains the piston head. CAUTION: When this pin is pushed out, the piston head and the powerful recoil spring will be released. Control the piston, and keep the unit pointed away from you.

- 13.** Ease out the piston and spring, and remove the tube.



- 14.** The buttstock unit, which contains the trigger and hammer system, is composed of two sides that are held together by 18 opposed Phillips screws. There are also several internal spacers, and the pivot pins for the parts are not through-pins. It is, of course, possible to disassemble this unit, but reassembly would be quite a challenge. If there is a problem, it would be best to return it to Kel-Tec. This also applies, for the same reason, to the receiver.



- 15.** If the magazine retainers in the buttstock need to be replaced, prying out the C-clips will release them for removal inward, along with their circular springs. Note that the front and rear "snap-pins" are of different lengths.



- 16.** If the fore-grip/bipod sides have to be removed, first detach the torsion spring from its recesses.

- 17.** With one of the fore-grip pieces in the position shown, flex it slightly to clear the lower tip of the lock pin from its recess, and use a sharp tool to nudge the pin out downward. The head of the cross-piece is ball-shaped, and after the pin is removed the side can be snapped off. This will free the cross-piece and the opposite fore-grip.



- 18.** The gas piston head is retained by a roll-pin, and the head is removed toward the rear. Removal should be for repair only. The large roll-pin below retains the housing on the barrel, and this unit is not removed in normal takedown.



- 19.** The front sight unit is a press-lock fit on the barrel, and it is removed toward the front. Some damage to the polymer is inevitable, and this should be done only for repair purposes.



- 20.** If the fore-grip latch or its spring have to be replaced, these parts are retained by a large C-clip. However, removal would require that the piston housing and the front sight are first taken off.

1. When the piston and recoil spring unit is reassembled, use a tapered drift to align all of the holes for reinsertion of the pin. CAUTION: Control the spring.



2. When the piston and bolt unit is put back into the receiver, be sure the locking lug is on top, as shown. Also, the bolt must be forward in the carrier, to clear its side lug.





Kel-Tec SUB-9

Data:	Kel-Tec SUB-9
Origin:	United States
Manufacturer:	Kel-Tec CNC Industries, Cocoa, Florida
Cartridge:	9 x 19mm (9mm Luger)
Magazine capacity:	10, 15, or 20 rounds
Overall length:	29.5 inches
Barrel length:	16.1 inches
Weight:	4.6 pounds

The excellent SUB-9 was introduced in 1997, and a version in 40 S&W chambering was also offered. The grip frame was available in several dimensions, for use with full-capacity magazines by Smith & Wesson, Beretta, SIG/Sauer, or Glock. Thus, an officer can mate the carbine to his sidearm. The SUB-9 was made for only three years, being discontinued in 2000.

Detail Strip:

1. Remove the magazine. Be sure the hammer is cocked, the safety in on-safe position, and the bolt closed. With a non-marring tool, push the large cross pin at the rear of the stock outward to the right until it stops. The pin is not removed at this point.



2. Move the bolt assembly all the way to the rear, and remove the buffer.



3. Move the recoil spring unit slightly rearward until the bolt handle is freed for removal.



4. Remove the recoil spring and bolt assembly. The spring unit is easily removed from the bolt tube. This unit is not routinely dismountable.

- 5.** Push out the cross pin, and detach the breechblock from the bolt tube.



- 6.** If removal of the firing pin and its return spring must be done for repair, these parts are retained by a vertical Allen screw. The return spring is quite strong, so control the parts.



- 7.** The extractor is pivoted and retained by a roll-type pin. Note that it is powered by two coil springs. Control them during removal.



- 8.** The grip frame is retained by two cross-screws in the receiver, at top front and top rear.

- 9.** Remove the grip frame.



- 10.** The magazine catch spring can be moved out upward, and the catch piece is removed toward the side.



- 11.** While it is possible to remove the cross-screws at the front of the receiver, and separate the sides, an inter-dependence of parts and springs and a lack of through-pins would make this inadvisable. The Kel-Tec manual for the SUB-9 advises, in red print, that they "strongly discourage" this. Disassembly of this unit should be done at the factory.



- 12.** If the interior of the fore-grip ever needs service or cleaning, the two sides are retained by six Allen screws on each side. There are six spacer-nuts inside.

- 13.** The factory-installed front sight assembly is not routinely dismountable.



- 14.** If the safety lever is damaged and must be replaced, it can be taken off the cross-shaft by removal of this small screw. The cross-shaft should not be disturbed.



- 15.** If the takedown pin must be removed, insert a hooked tool in the recess at its front to depress the small retaining plunger and spring.



- 16.** For repair purposes only, a precisely-sized screwdriver can be used to unscrew the retaining collar and free the "stock snap" plunger and its coil spring.

Reassembly Tips:

1. When the recoil spring unit is inserted, be sure the 'wavy' end is toward the front. Stop it short of the bolt handle hole in the tube, so the handle can be put in.



2. When installing the buffer, note that its wider edge goes at the top.





Marlin Model 9

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Marlin Model 9 also apply to the following gun:

Marlin Model 45

Data:	Marlin Model 9
Origin:	United States
Manufacturer:	Marlin Firearms North Haven, Connecticut
Cartridge:	9mm Parabellum
Magazine capacity:	12 rounds
Overall length:	35-1/2 inches
Barrel length:	16-1/2 inches
Weight:	6-3/4 pounds

This handy “Camp Carbine” was introduced in 1985, and the following year the Marlin company brought out a version in 45 ACP, that one having a seven-round single-row magazine. Except for the dimensional differences to accommodate the larger round, the 45 version is essentially the same as the 9mm, and the instructions will apply.

1. Remove the magazine. Back out the screws at the front and rear of the magazine housing/trigger guard unit. These are captive screws.



2. Remove the action from the stock

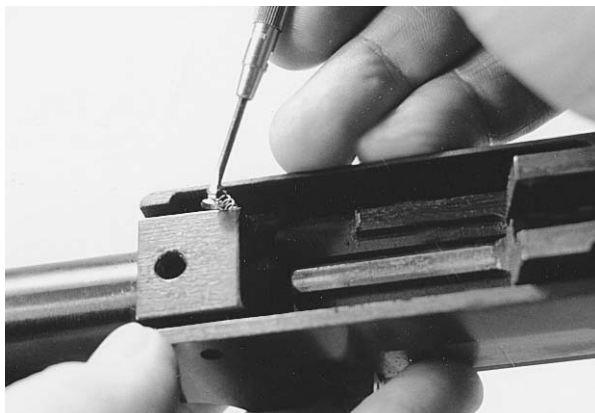


3. Drift out the cross pins at front and rear, at the lower edge of the receiver. The forward cross pin must be pushed out toward the left.

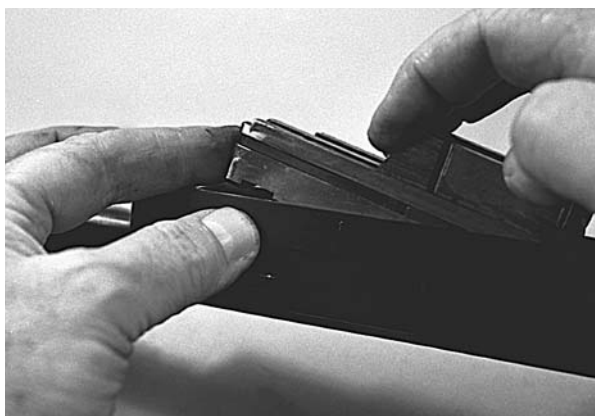


4. Remove the trigger guard/magazine housing downward. Note that the bolt hold open latch will also be released on the left side at the lower edge of the receiver.

- 5.** Remove the hold open latch spring from its recess in the lower edge of the receiver.



- 6.** Move the bolt slightly to the rear, lift it at the front, and remove the cocking handle

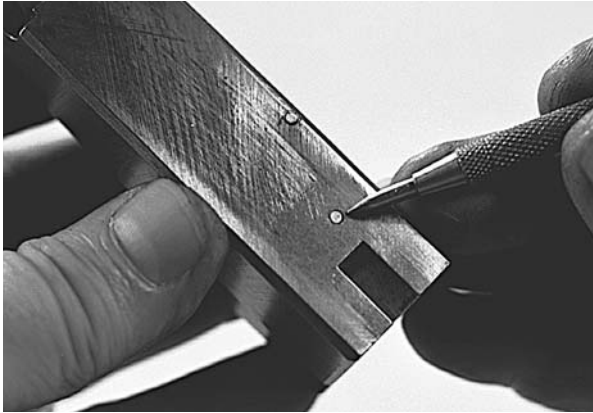


- 7.** Continue lifting the bolt at the front until it will clear, and ease it out toward the front. Control the recoil spring tension.

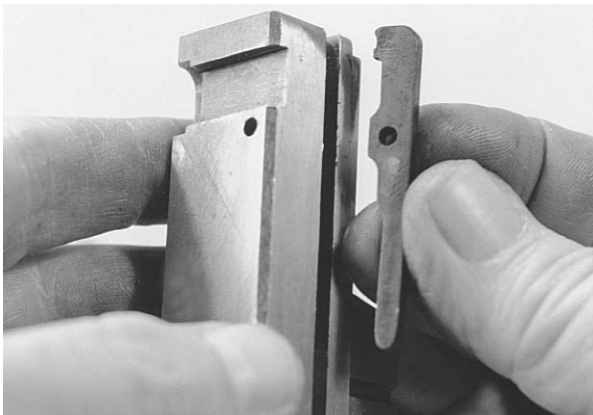


- 8.** Remove the recoil spring and its guide from the rear of the bolt.

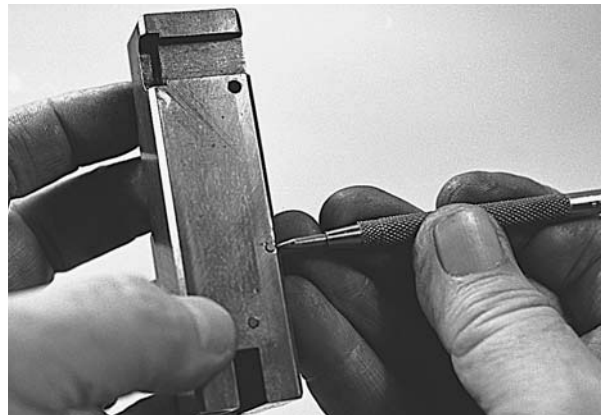
- 9.** The firing pin and its return spring are retained in the bolt by a vertical pin, which is driven out upward.



- 10.** The extractor is pivoted and retained by a vertical pin, which is driven out upward.

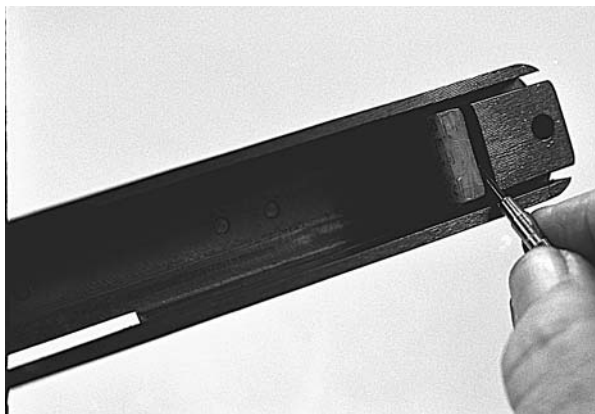


- 11.** Remove the extractor toward the right, and take out the coil extractor spring from it recess.

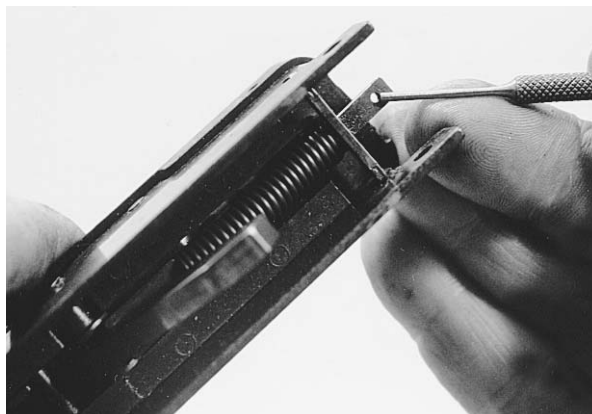


- 12.** The loaded chamber indicator and its coil spring are also retained and pivoted by a vertical pin which is driven out upward.

- 13.** If it is necessary to remove the polymer recoil buffer for replacement, it is pried out of its recess toward the front. On the barrel, the rear sight is dovetail-mounted, and the front sight is retained by two vertical screws.



- 14.** Insert a small drift or a paper clip into the hole at the rear of the hammer spring strut, and ease the hammer down to fired position. This will trap the spring on the strut. Note that you will have to temporarily reinsert the magazine to lower the hammer.



- 15.** Remove the C-clip on the left tip of the hammer pivot.

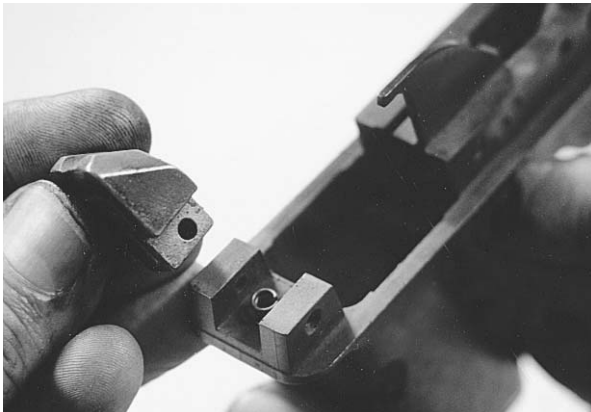


- 16.** Remove the sideplate.

- 17.** Remove the trapped hammer spring, the strut, and spring base plate. If this unit is taken apart, use caution, as the spring is compressed.



- 18.** Restrain the sear, and push on the hammer pivot to move the right sideplate off.



- 19.** Remove the cartridge guide and its spring.



- 20.** Remove the hammer.

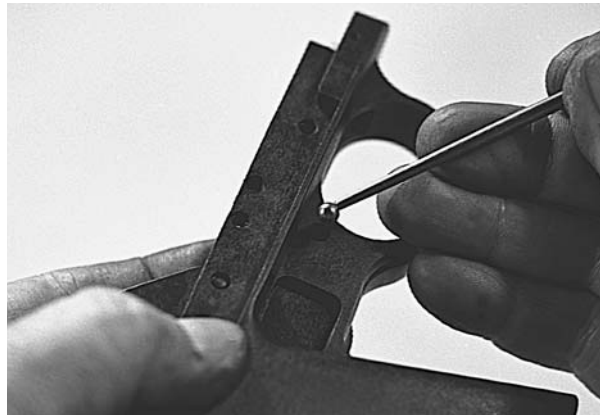
- 21.** Remove the sear from the top of the trigger, along with its spring.



- 22.** Tip the trigger upward at the front, moving it from under its spring at the rear, and remove it.



- 23.** Push the safety out upward for removal. Keep a fingertip over the hole indicated, to arrest the safety positioning ball and spring.



- 24.** Use a magnetized tool to remove the safety ball and spring.

- 25.** Depress the magazine safety at the front, and take out the trigger block lever.



- 26.** The magazine safety and its spring are retained by the forward cross pin of the two ejector mounting pins. In normal takedown, this system is best left in place.



- 27.** The trigger spring can be removed by drifting out the cross pin.



- 28.** The magazine catch can be removed by unscrewing its slotted button. The button is then taken off toward the left with the spring, and the catch is taken off toward the right.

- 29.** The sear/disconnector trip in the trigger, and its coil spring, can be removed by drifting out a small cross pin.

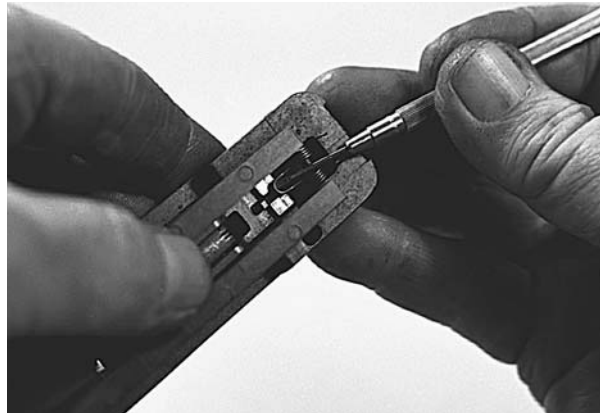


Reassembly Tips:

1. When reinstalling the safety, it will be necessary to insert a tool to depress the positioning ball and spring as the safety-lever is moved down into place.



2. When reinstalling the trigger, use a tool at the rear to lift the spring onto the rear of the trigger.



3. Remember that the bolt hold open and its spring must be installed before the lower housing is put back on the receiver.



4. As the trigger and magazine unit is put into place, the cartridge guide must be flexed slightly rearward to clear the edge of the receiver

When reassembling the trigger unit, the use of slave pins may be a help. However, with patience, it can be done without them.

When replacing the firing pin, extractor, and loaded chamber indicator on the bolt, remember that they are retained by splined pins that are drive in downward.

Russian AK-47

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Russian AK-47 also apply to the following guns:

American Arms AKY-39
American Arms AKC-47
Mitchell Arms AK-47
Norinco Type 84S AK
Poly Tech AKS-762
Valmet Model 71

American Arms AKF-39
Egyptian Maadi AK-47
Mitchell Arms AK-47 Heavy Barrel
Poly Tech AKS-47S
Valmet Model 62
Valmet Model 78



Data:	Russian AK-47
Origin:	U.S.S.R.
Manufacturer:	Russian arsenals, and factories in China, Egypt, Yugoslavia, and other satellite nations.
Cartridge:	7.62x39 Russian
Magazine capacity:	30 rounds
Overall length:	34.65 inches
Barrel length:	16.34 inches
Weight:	9.40 pounds

The Avtomat Kalashnikov was adopted in 1947 as the standard Russian military rifle. It has also been produced in large quantities by various Eastern-bloc nations, as well as in civilian versions in other countries. While there are slight variations in some of the non-Russian versions, there are no major mechanical differences that would affect the takedown. The gun shown here was made by the Maadi factory in Egypt.

Disassembly:

1. Remove the magazine. Cycle the action to cock the internal hammer. Push in the takedown latch at the rear of the receiver cover, and left the cover at the rear. Take off the cover toward the rear.



2. Keeping the spring under control, push the guide forward out of its mount in the receiver, lift it up slightly, and remove the guide and spring toward the rear. The captive recoil spring and its linked internal guide are not routinely dismountable.



3. Pull the bolt assembly all the way to the rear. It will be forced upward, out of its exit cuts, by the hammer spring tension. Remove the bolt assembly upward and toward the rear.



4. Note that the gas piston is attached to the bolt carrier by a large cross pin. In Normal takedown this is best left in place. Move the bolt all the way to the rear in the carrier, and turn it counter-clockwise, front view, until its cam lug is clear of its track in the carrier, as shown.

- 5.** Remove the bolt toward the front.



- 6.** Drift out the retaining cross pin, and remove the firing pin toward the rear.



- 7.** Drift out the extractor retaining pin in the direction of the cam lug. Note that this can be done only after removal of the firing pin retaining pin, as it crosses the beveled head of the extractor pin.



- 8.** Remove the extractor and its spring.

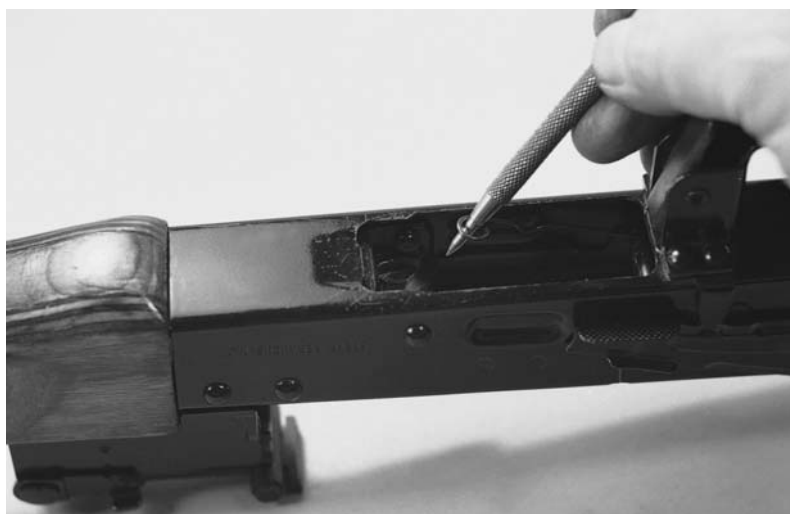
- 9.** Turn the gas tube latch up to the position shown.



- 10.** Lift the gas tube assembly at the rear, and take it off rearward. In normal takedown, the tube and handguard are not separated.



- 11.** Inside the magazine opening on the left side is the loop of the pin retaining spring. This spring arches over a groove in the hammer pin, and goes under a groove in the trigger pin.



- 12.** Insert a tool in the loop, and pull the spring out toward the front.

- 13.** Push out the trigger pin toward the left.



- 14.** Move the trigger forward, past the ends of the hammer spring, and remove the assembly upward.



- 15.** Push out the hammer pin toward the left. Control the hammer and its spring. Turn the hammer and spring assembly in either direction, and remove it upward. The hammer must be moved rearward during this operation, to clear the side rails inside the receiver.



- 16.** If necessary for repair, the hammer spring can be sprung off the side posts for removal.

- 17.** Turn the safety-lever up to vertical position, as shown, and remove it toward the right.



- 18.** The magazine catch and its torsion spring are retained by a cross pin. The pin is heavily riveted and removal should be only for repair.



- 19.** Insert a tool in the hole in the rear of the cleaning rod, lift it out of its recess, and remove it toward the front.

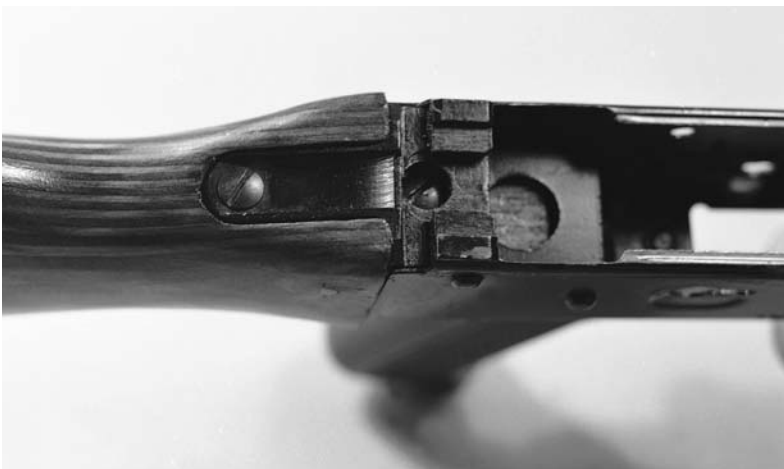


- 20.** If removal of the muzzlebrake is necessary, depress the plunger and unscrew the muzzlebrake clockwise, front view (a reverse thread). If the front sight and its base are to be removed they are retained by two cross pins.

- 21.** Turn the forend latch over to the position shown, and move the forend cap forward until it clears the wood. If it is tight, it may be necessary to nudge it with a non-marring tool.



- 22.** Move the forend forward, and take it off downward.



- 23.** The buttstock assembly is retained by two vertical screws at the rear of the receiver.



- 24.** The pistol grip is retained by a single through-bolt.

- 25.** A spring-powered trap door in the buttplate is pushed inward to release a container of cleaning equipment. The buttplate is retained by two screws.

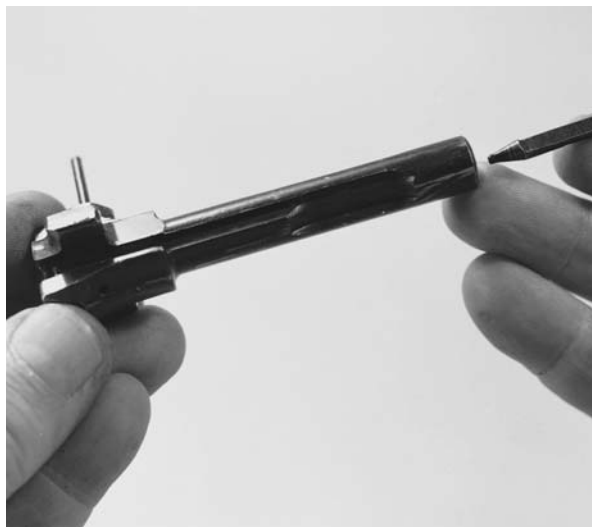


Reassembly Tips:

When the hammer and trigger are reinstalled, be sure the rear tips of the hammer spring are hooked into the top of the trigger.

When replacing the pin lock spring, be sure its small arched area goes over the hammer pin, and its rear tip goes under the trigger pin, engaging the grooves in the pins.

- 1.** When reassembling the bolt, remember that the extractor pin must be oriented so its beveled head will allow passage of the firing pin retaining pin.



- 2.** When reinstalling the firing pin, note that it has a sloped area near the front, and also a more vertical step on the opposite side. The vertical cut, nearer the tip, must align with the retaining cross pin.



Russian SKS (Simonov)

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Russian SKS (Simonov) also apply to the following guns.

Chinese Type 56

Yugoslavian Model 59/66

Data: Russian SKS (Simonov)

Origin: Russia

Manufacturer: Russian arsenals, and
factories in China and
other satellite nations

Cartridge: 7.62x39mm Russian

Magazine capacity: 10 rounds

Overall length: 40.2 inches

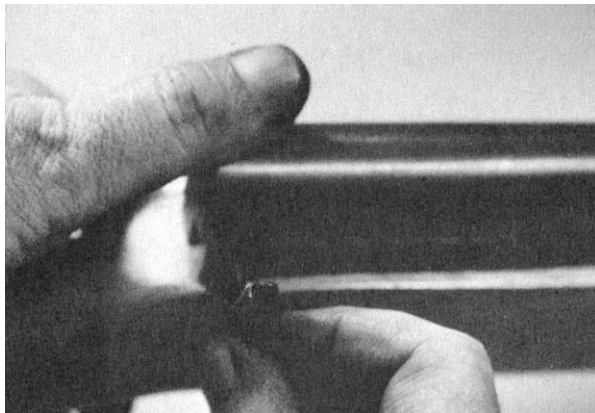
Barrel length: 20.47 inches

Weight: 8.5 pounds

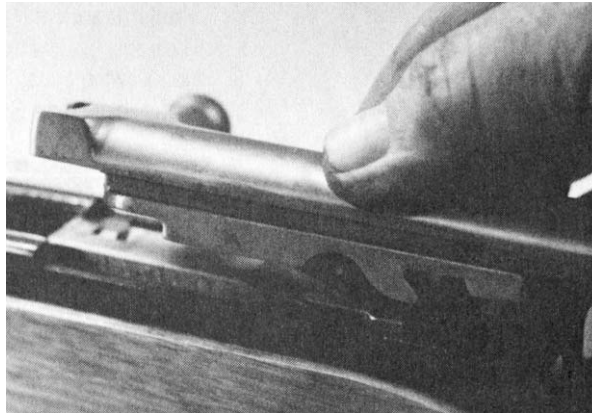
Introduced in 1945, the Samozaryadnyi Karabin Simonova (SKS) was the first rifle chambered for the then-new 7.62mm “short” cartridge. The gun was made in large quantity, and it has been used at some time by every communist country in the world. Versions of it have been made in China, Yugoslavia, and elsewhere. While some of these variations may be different in small details, the mechanism is the same, and the instructions will apply.

Disassembly:

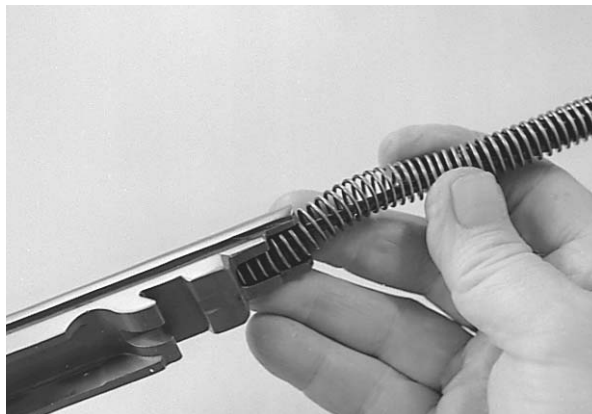
1. Cycle the action to cock the internal hammer. Turn the takedown latch up to vertical position, and pull it out toward the right until it stops. Take off the receiver cover toward the rear.



2. Move the bolt and recoil spring assembly back until it stops, and lift it off the receiver.



3. The bolt will probably be left in the receiver when the carrier and recoil spring unit are removed. If not, the bolt is simply lifted out of the carrier.

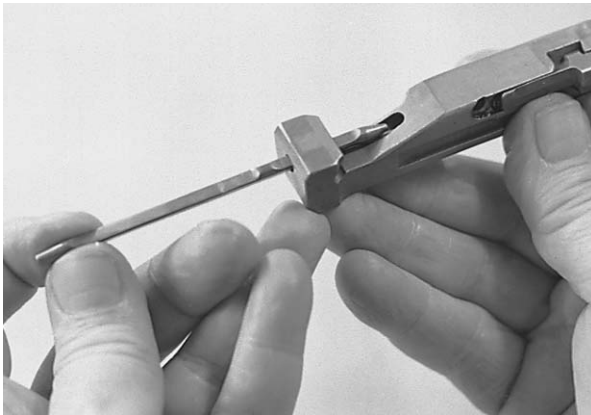
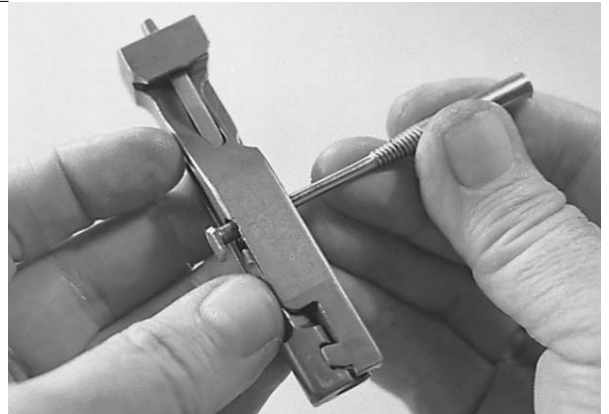


4. The captive recoil spring assembly is removed from the bolt carrier toward the rear.

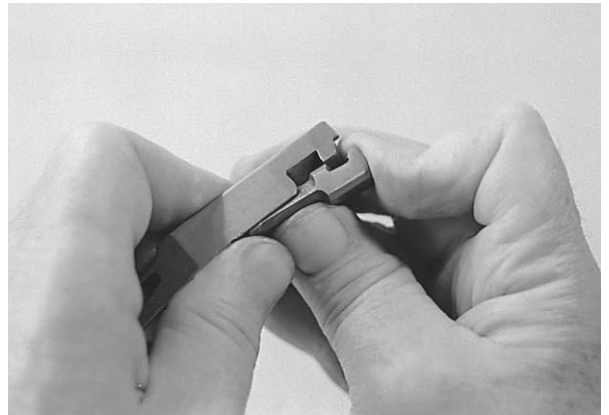
- 5.** If it is necessary to dismantle the spring assembly, rest the rear tip on a firm surface, pull back the spring at the front, and move the collar downward until it clears the button and take it off to the side. **Caution:** Control the spring.



- 6.** Push out the firing pin retainer toward the right.



- 7.** Remove the firing pin toward the rear.

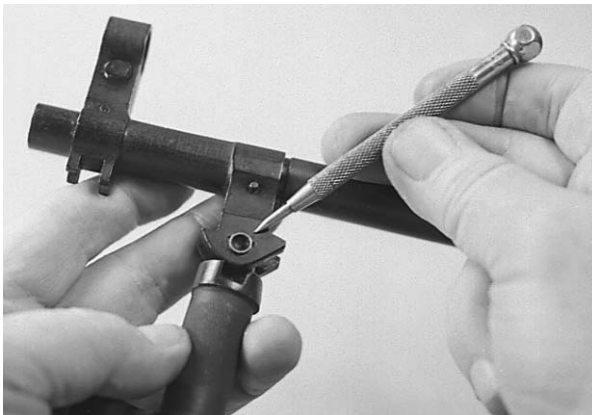


- 8.** Push the extractor toward the rear, and tip it out toward the right for removal. The spring is mounted inside the rear of the extractor, and it will come off with it.

- 9.** The takedown latch is retained by an internal cross pin. In normal takedown, it is best left in place. To get the latch out of the way for the remainder of takedown, push it back into its locked position.



- 10.** Insert a drift through the hole in the head of the cleaning rod. Lift it out of its locking recess, and remove it toward the front.



- 11.** The bayonet hinge is often riveted in place. If removal is not necessary for repair, it is best left in place.

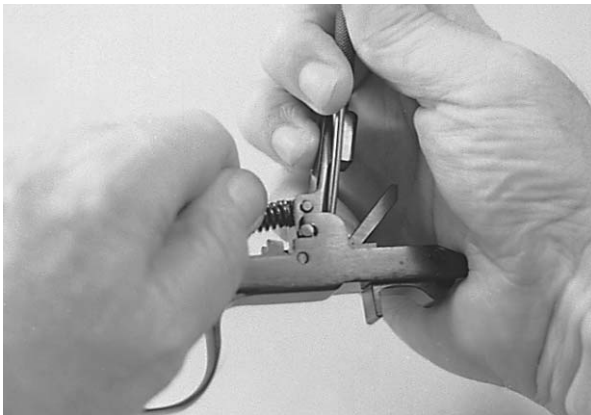
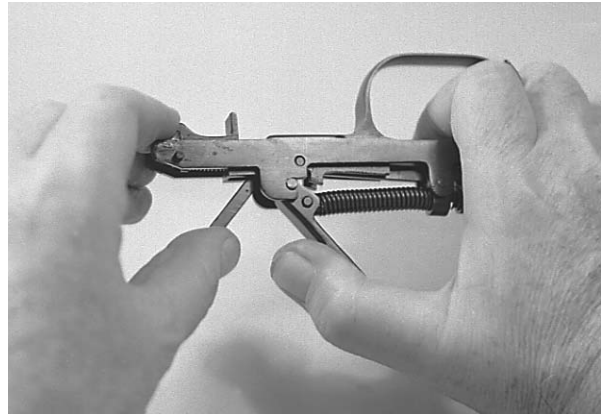


- 12.** Be sure the internal hammer is in cocked position, and set the manual safety in on-safe position. Use a bullet rip or a suitable tool to push the guard latch forward.

- 13.** When the latch releases, the guard will jump out slightly. Tip the guard away from the stock, move it toward the rear, and remove the guard unit.



- 14.** Release the safety. Depress the disconnecter, at the front of the hammer, about half way. Control the hammer, and pull the trigger. Ease the hammer down to fired position. Caution: The hammer spring is powerful.

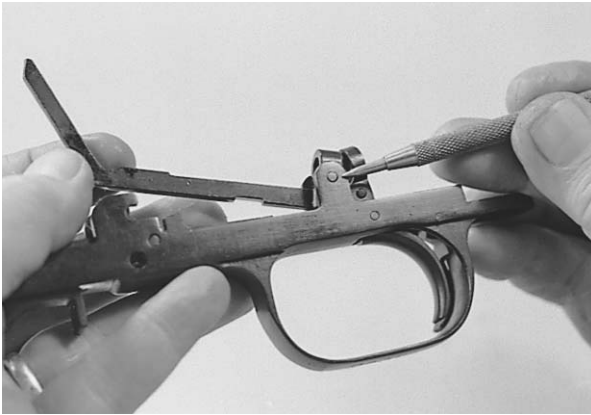


- 15.** Insert a sturdy drift in front of the hammer, and lever it toward the rear until its pivot studs are clear of the hooks on the unit. **Caution:** Keep a good grip on the hammer. When it is clear, take off the hammer and its spring and guide. Another method is to grip the unit in a padded vise and use a bar of metal to apply pressure to the front of the hammer.

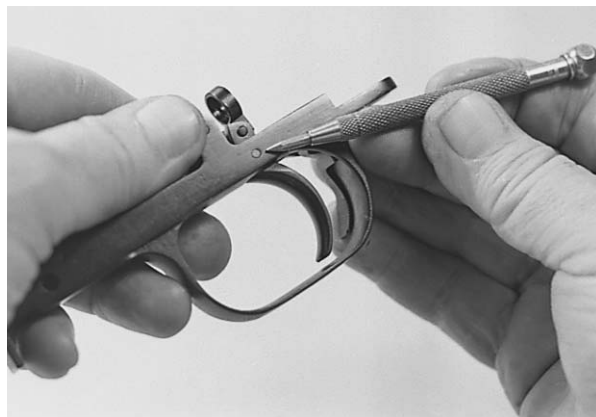


- 16.** The trigger spring can be removed by gripping a forward coil with sharp-nosed pliers and compressing it slightly rearward, then tipping it out.

- 17.** Pushing out the cross pin will free the disconnecter for removal upward.



- 18.** Removal of this cross pin will allow the rebound disconnecter to be taken out.

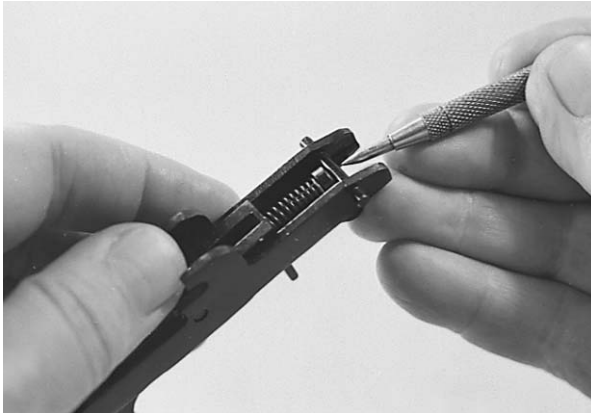


- 19.** Drift out the trigger cross pin, and take out the trigger upward. The safety spring will also be freed for removal.



- 20.** Drift out the safety-lever pin, and remove the safety.

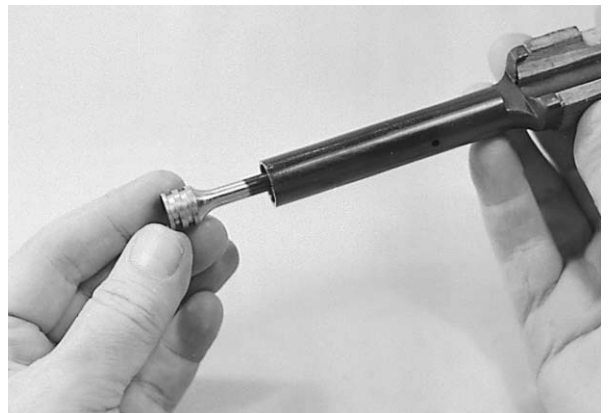
- 21.** This cross pin at the front of the trigger guard assembly retains the magazine catch, the combination spring, and the sear.



- 22.** The trigger guard spring can be lifted out of its well in the stock.



- 23.** With a bullet tip or a non-marring tool, turn the handguard latch upward until it is stopped by its lower stud in the track. Lift the handguard and gas cylinder assembly at the rear, and remove it.

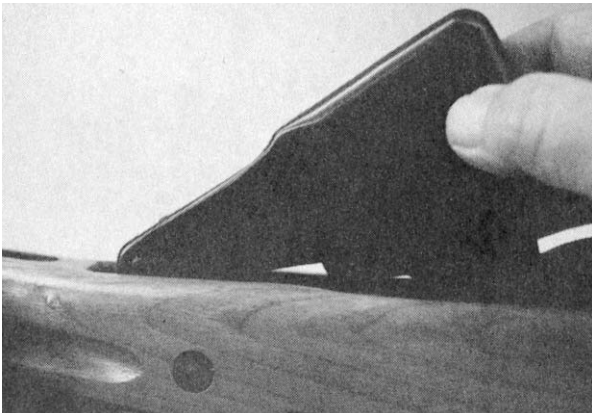


- 24.** Remove the gas piston from the cylinder.

- 25.** The gas port unit is retained on the barrel by a cross pin. In normal takedown, it is left in place.



- 26.** Drift out the stock end cap cross pin. Use a non-marring tool to nudge the end cap slightly forward.



- 27.** Grip the magazine assembly, and pull it rearward and downward for removal.

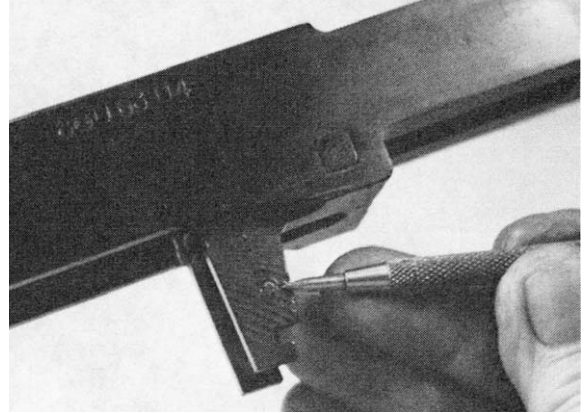


- 28.** Remove the action from the stock.

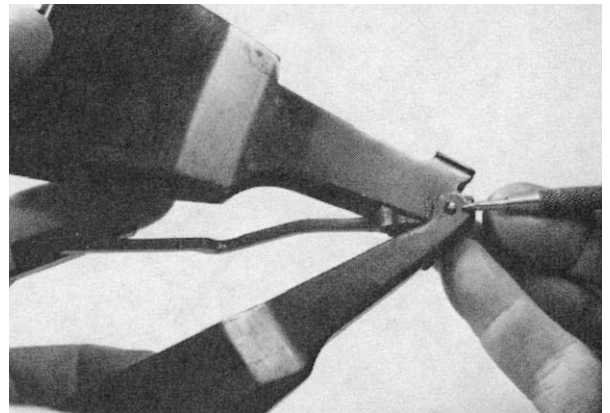
- 29.** The rear sight assembly is retained on the barrel by a cross pin, and is driven off toward the front. In normal takedown, the unit is left in place.



- 30.** Drifting out this cross pin will allow removal of the bolt hold-open latch and its coil spring downward.



- 31.** The trigger guard latch, which is its own spring, is retained by a cross pin. After removal of the pin, the latch is driven out downward.



- 32.** The magazine, the follower and its spring, and the magazine cover are joined by a cross pin at the front. The pin is riveted on both sides, and removal should be only for repair.

Reassembly Tips:

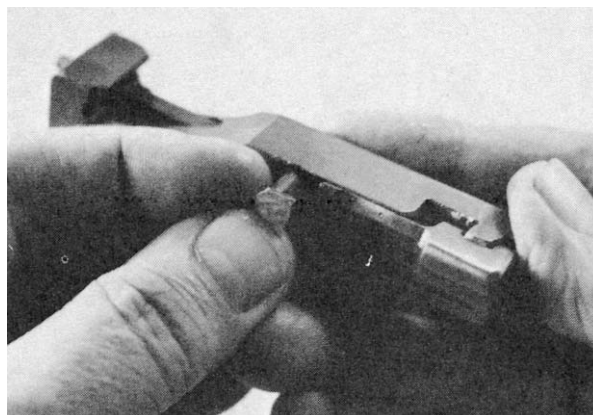
1. When the stock end piece has been nudged back into position, insert a drift to align the hole with the barrel groove.



2. For those who have disassembled the trigger group, here is a view of that unit with all of the parts properly installed.



3. When replacing the trigger group in the gun, extremely sharp shoulders at the rear of the sub-frame may cause a seating problem. These can be easily beveled, as shown, with a file. Note: For installation of the trigger group, the manual safety must be in on-safe position. Rest the top of the receiver on a firm surface as the guard unit is pressed into place.



4. When replacing the firing pin in the bolt, be sure the retaining shoulder is on top. Also, be sure the retainer is oriented to fit into its recess on the right side.

Springfield M6 Scout



Data: Springfield M6 Scout
Origin: CZ, Czech Republic
Manufacturer: Springfield, Inc.,
Geneseo, Illinois
Cartridge: .22 LR, .22 Hornet, .410
Overall length: 32 inches
Barrel length: 18-1/4 inches
Weight: 4.5 pounds

This neat little rifle/shotgun combination began several years ago as a survival piece for U. S. Air Force pilots. Springfield, Inc., first offered a civilian version in 1982. Since 1995 CZ has made it for them. The original versions had no trigger guard. The current version has a guard and there have been other little mechanical improvements along the way.

Disassembly:



1. Cock the hammer and set the striker block on the hammer in the on-safe position. Uncock the hammer.



2. Use a non-marring brass copper or aluminum tool to carefully remove the C-clip from one end of the hammer crosspin (either side). Control the C-clip as it is taken off, to avoid loss.



3. Restrain the hammer, and push out the crosspin. The opposite C-clip can stay in place.



4. Remove the hammer assembly upward.



5. In normal takedown, the hammer/selector/safety system is best left in place. If necessary for repair or refinishing, begin disassembly by turning the knob to off-safe, and push 'it down to its lower (shotgun) position. Remove the small Allen screw at the lower end of the selector shaft.



6. Use a regular screwdriver to unscrew and take out the slotted lower tip of the selector.



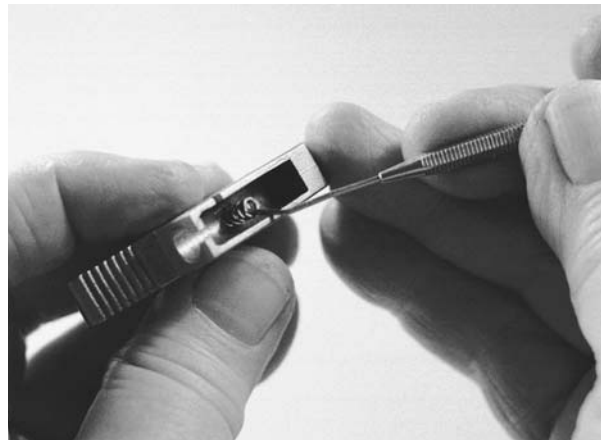
- 7.** Restrain the striker block to keep its detent ball and spring in place. Turn the selector until its lug aligns with the exit out in the hammer, and remove it.



- 8.** Keep the hammer face level, slowly release the striker block tension, and lift it out.



- 9.** You can use a magnetized rod to lift out the detent ball, as shown, or just tip the hammer and deposit the ball in a parts tray. Either way, take care that the small ball is not lost.



- 10.** Use a tool with a hooked tip to lift out the detent ball spring.



- 11.** The hammer spring and its guide may be caught in its mounting frame, attached to the trigger. If so, it is possible to remove the trigger and its attachments as a unit, taking care with the partially compressed spring. If not (**CAUTION**), free the guide and spring and remove them upward.



- 12.** Insert a tool at the rear of the trigger and push the assembly forward. Remove the trigger, trigger spring, and the attached hammer spring housing upward. This should be done only if necessary for repair.

- 13.** If it is necessary to separate the trigger, spring and housing, this can be done by drifting out the crosspin.



- 14.** It is possible to take off the trigger guard by drifting out this pin and unhooking it at the rear. However, the pin is finished-over, so this should be done only if necessary for repair.

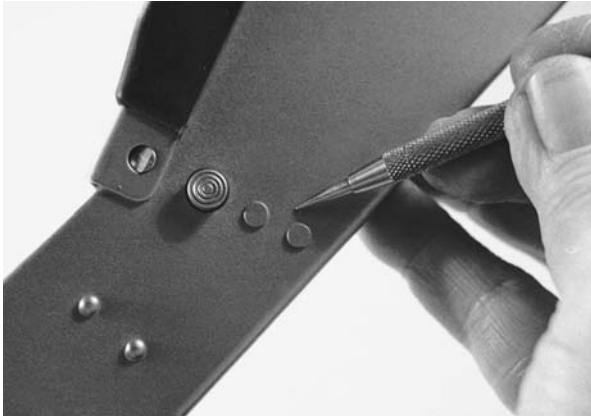


- 15.** If the guard is removed, it will give access to an Allen screw that retains the hinge-pin for the barrels. It should be noted that any attempt to drive out the hinge-pin without first removing this screw will result in great damage.



- 16.** The upper and lower firing pins and their return springs are retained by screws on the right side of the receiver. If these are taken out you must control the firing pins and springs.

- 17.** The latch for the cartridge storage unit in the buttstock is tempered to be its own spring. It is double-riveted in place, and is not routinely removed.



- 18.** If it is necessary to remove the lid of the cartridge storage unit, it is pivoted and retained by a crosspin. This pin can be taken out by careful removal of the small C-clip that retains it taken.

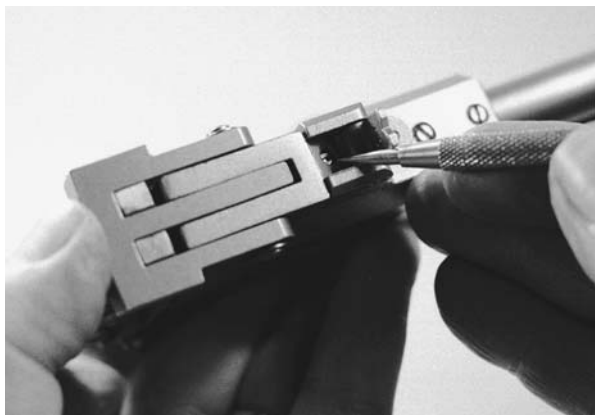


- 19.** If the lid has been taken off, and removal of the storage unit and butt-plate is necessary., it is released by taking out this large Phillips screw.

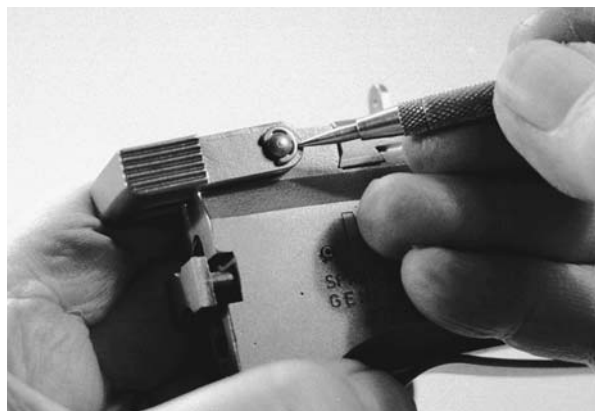
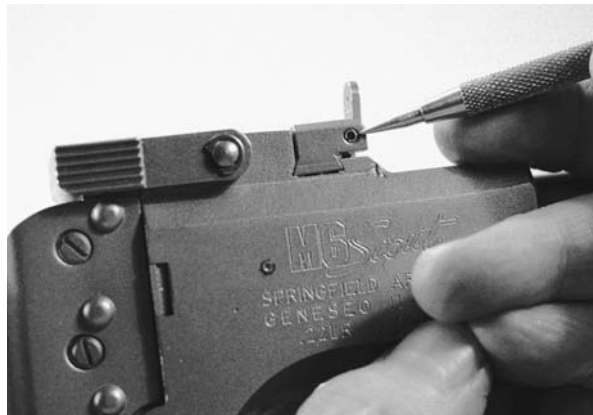


- 20.** The ejector and its twin springs are retained in the barrel unit by this roll-type crosspin. Control the ejector during removal.

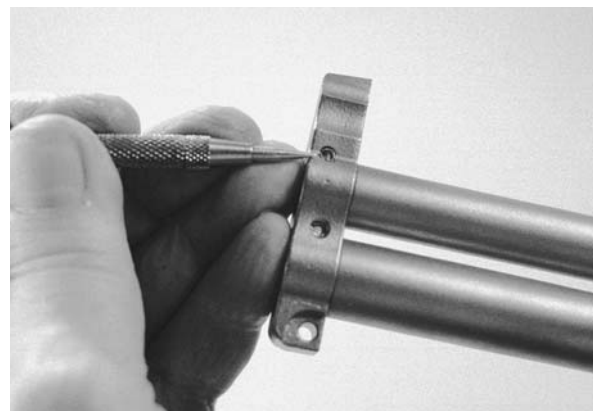
- 21.** Inside the top of the rear sight is a screw that will release the sight to move out of its dovetail mount. **CAUTION:** The detent ball and spring will be released.



- 22.** It is also possible to take off the flip-over sight without removing the base, by drifting out this roll-type crosspin. Again, **CAUTION:** The detent ball and spring will be released.



- 23.** The barrel latch piece is easily taken off by removing the C-clip on either side, and pushing out the crosspin. **CAUTION:** The ball and spring will be released, so ease it off.



- 24.** If the front sight is ever damaged, and the barrel band must be taken off, it is retained by two roll-type crosspins, one above each barrel. After the pins are drifted out, nudge the band unit alternately at top and bottom for removal.

Reassembly Tips:

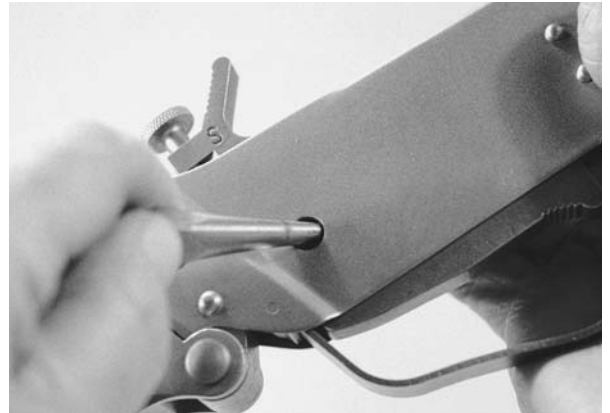
1. Before the trigger and hammer spring assembly is reinserted, put the front of the hammer spring guide against the edge of the workbench and push it back to hook the spring behind the shoulders of the spring housing, as shown, then insert the entire assembly. Take care that the spring does not creep out of its housing. Be sure the rear tip of the guide enters its hole inside the stock. Insert a tool in front of the assembly to lever it rearward.



2. When the striker block is put back into the hammer, be sure it is inserted as shown, with the cut-away portion on the left side.



3. When reassembling the striker/safety system in the hammer, do not over-tighten the slotted end piece on the selector shaft. Be sure the knob can still be turned to place the lug in the safety slot. A twin-point bit is helpful for this. When all is in place, tighten the small Allen screw at the lower end.



4. Insert the hammer/trigger crosspin until it is just into one side of the trigger. Then, insert the hammer, and use a tool to position it before the crosspin is pushed through.

U.S. 30 M-1 Carbine

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the U.S. 30 M-1 Carbine also apply to the following guns:

Iver Johnson M-1 Carbine
Universal M-1 Carbine

Plainfield M-1 Carbine
U.S. 30 M1A1

Data: U.S. 30 M-1 Carbine

Origin: United States

Manufacturer: Winchester, IBM,
General Motors, and
several other contractors

Cartridge: 30 Carbine

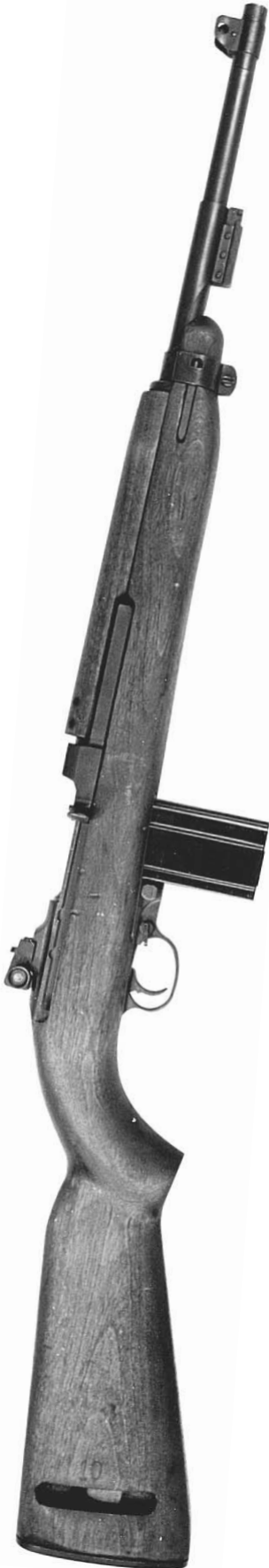
Magazine capacity: 15 or 30 rounds

Overall length: 35.6 inches

Barrel length: 18 inches

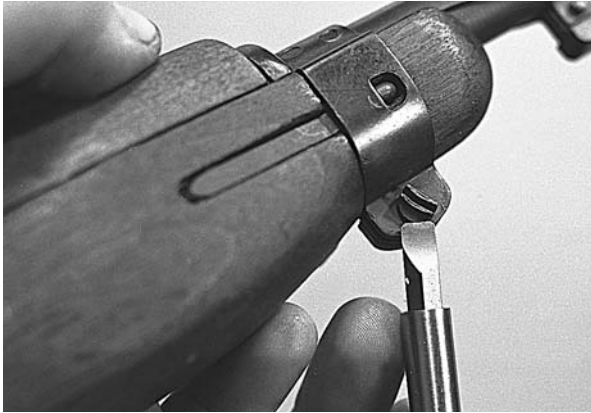
Weight: 5 1/2 pounds

Designed by an engineering group at Winchester, the Carbine was adopted as a U.S. military arm in 1941. Several sub-models were developed later, such as the M1A1 with folding stock, and M2 selective fire version. With the exception of the parts that pertain to their special features, the instructions for the standard M1, given here, can be applied to the others. Early and late Carbines will have some small differences, such as the change from a flat-topped bolt to a round one, different rear sight, etc., but none of the changes affect the takedown to any great degree. This can also be said of the post-war commercial versions.

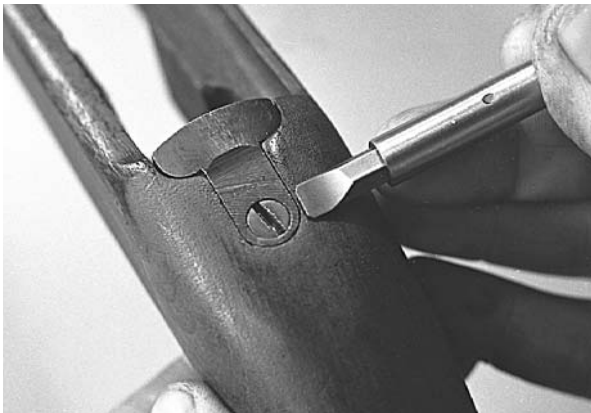


Disassembly:

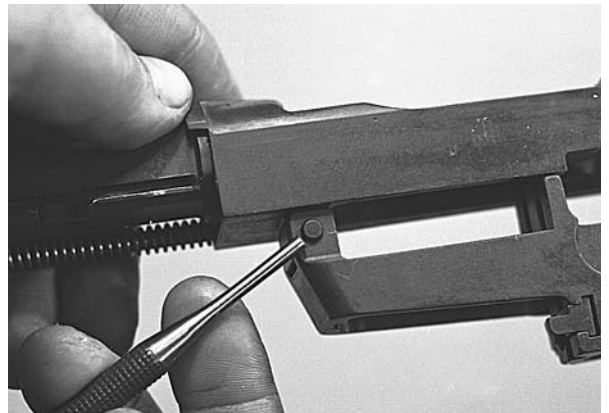
1. Remove the magazine, and cycle the action to cock the internal hammer. Loosen the cross screw in the lower flanges of the barrel band. It should be noted that if a screwdriver is not available, the rim of a cartridge case can be used to turn the specially-shaped screw head.



2. Depress the barrel band latch, located on the right side, and slide the band and bayonet mount unit toward the front. Move the upper handguard wood forward, and lift it off. Tip the action upward at the front, unhooking its rear lug, and lift it out of the stock.



3. The barrel band latch can be removed by drifting its cross post toward the right, using the small access hole on the left side of the stock. Backing out the vertical screw in the tail of the recoil plate will allow removal of the plate upward.



4. Push out the cross pin at the front of the trigger housing, move the housing forward, out of its slots at the rear, and remove it downward.



- 5.** Restrain the hammer, pull the trigger, and ease the hammer down to the fired position. Insert a drift punch through the hole in the front of the hammer spring rod, move the rod toward the rear, and lift its head out of its seat in the back of the hammer. **Caution:** *The spring is under heavy tension, so control it as the rod and spring are eased out upward, and toward the left for removal.*

- 6.** Take out the hammer pivot pin, and remove the hammer upward.



- 7.** Insert a small tool at the rear of the trigger housing, and pull the trigger spring toward the rear until it stops, about as far as shown.



8. Restrain the sear, inside the trigger housing, and push out the trigger pin toward either side.

9. Remove the sear, sear spring, and trigger upward.



10. The sear and its spring are easily detached from the top of the trigger. After the trigger is removed, the trigger spring can be moved forward out of its well at the rear of the housing and taken out.



11. Insert a small screwdriver into the hole on the underside of the trigger housing, below, below the magazine catch, and push the catch retaining plunger toward the rear, holding it there while moving the catch out toward the right, along with its spring and plunger.



- 12.** Remove the magazine catch retaining plunger toward the front, slowly releasing the tension of its spring. Remove the spring, and the rear plunger which positions the safety. The two plungers are identical, and need not be kept separated.

- 13.** Remove the safety-catch toward the right.



- 14.** Grip the action slide spring and its guide rod firmly, just behind its front tip, and move it just far enough toward the rear to disengage its front stud from the recess on the back of the action slide. Tip the rod and spring away from the slide, and slowly ease the tension, removing them toward the front.



- 15.** Move the action slide toward the rear until its inner projection on the left side is aligned with the exit cut in the barrel groove. Turn the slide toward the left and downward, disengaging the inner projection from the groove. At the same time, the rear lug of the cocking handle will be aligned with its exit cut in the receiver track, and the action slide can be removed.

- 16.** Move the bolt to the position shown, and lift its right lug upward and toward the right. Rotate the bolt, and remove it upward and forward.

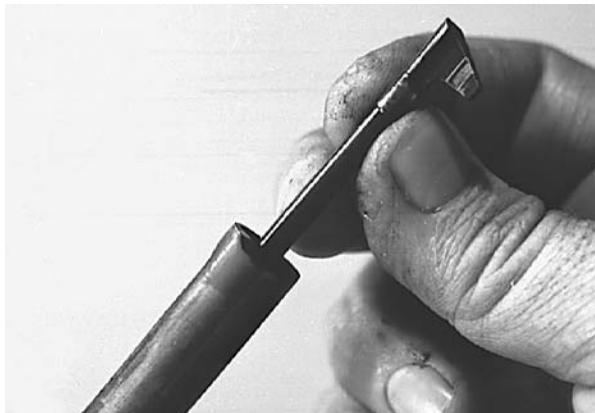


- 18.** A hole is provided in the underside of the tool for pushing out the extractor, and it is removed upward.

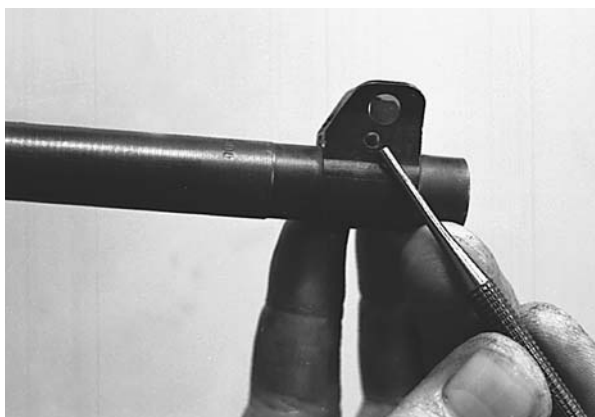
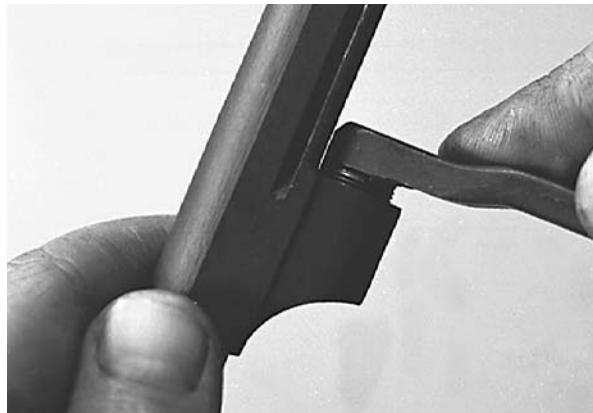
- 17.** Disassembly of the bolt is much easier if the special military tool is used. The knurled knob of the screw is turned to back it out, the bolt is laid in the tool, and the knob tightened, pushing the disassembly nose on the rotary piece against the extractor plunger. At the same time, the ejector is depressed by a post in the front of the tool. With these two parts held in place, the extractor is easily lifted out, the screw backed off, and the other parts removed. In the photo, the tool is shown with the screw tightened, ready for removal of the extractor. It is possible, without the tool, to use a small screwdriver to depress the extractor plunger. If this method is used, be sure to restrain the ejector, as it will be released when the extractor shaft clears its retaining cut.



- 19.** After the extractor is removed, the screw on the tool is backed off, and the ejector and its spring are removed toward the front. The extractor plunger and its spring can be taken out of their hole at the base of the lug, and the firing pin can be removed from the rear of the bolt.



- 20.** To remove the gas piston, it is best to use the standard military wrench designed for this. The retaining nut is simply unscrewed, and the piston is taken out toward the rear. It is possible to remove the nut without the wrench, with pliers, for example, but the nut is sure to be damaged.



- 21.** The front sight can be removed by drifting out its cross pin, and using a non-marring punch to nudge it off toward the front. When the sight is taken off, be sure the small key inside it is not lost. The barrel band unit can be taken off after the sight is removed.

Reassembly Tips:

1. When replacing the ejector in the bolt, be sure the ejector is oriented as shown for proper engagement with the extractor post.



2. When replacing the tiny extractor plunger, be sure the notch on the plunger is oriented downward, as this surface locks the extractor in place,



3. When properly assembled, the extractor and its plunger will be engaged as shown.

4. During replacement of the action slide, position the bolt as shown, then bring the slide onto the bolt lug and move it into place in its track.

Insert the trigger spring from the front, and push it back to the temporary rear position, just as in disassembly. After the trigger/sear system is installed, move the spring back toward the front, lifting its forward end to drop into the groove at the upper rear of the trigger.



WILKINSON TERRY



Data: Terry Carbine

Origin: United States

Manufacturer: Wilkinson Arms,
Covina, California

Cartridge: 9mm Luger (Parabellum)

Magazine capacity: 31 rounds

Overall length: 28 3/4 inches

Barrel length: 16 3/16 inches

Weight: 7 1/8 pounds

There was an earlier version of this gun, not made by Wilkinson, which was marketed as the PJK M68. This gun was of lesser quality than the Terry, and was not mechanically identical, although similar in appearance. The instructions given here apply only to the genuine Terry Carbine, as made by Wilkinson. The original Terry was made from 1996 to 1998. After the death of Ray Wilkinson, a new company, Northwest Arms, made the gun from 2000 to 2005. Some will be marked "Linda" a name previously used for the Wilkinson 9mm, pistol.

Disassembly:

1. Remove the magazine, and cycle the action to cock the hammer. Unscrew the knurled barrel retaining nut at the front of the receiver (counter-clockwise, front view), and remove the barrel assembly toward the front. If necessary, the flash hider can also be unscrewed from the muzzle, allowing removal of the barrel nut forward. If this is done, take care not to lose the twin half-rings at the rear of the flash hider.



2. With an Allen wrench, or an Allen bit in the Magna-Tip screwdriver, remove the vertical Allen screws at the front and rear of the grip frame. If the forend piece is also to be taken off, it is retained by two Allen screws of the same size. Remove the grip frame downward.



3. Remove the Allen screw in the backstrap of the grip frame, and remove the backstrap toward the rear. The grip side panels can now be lifted off the grip frame.



4. Hold a fingertip over the hole on top of the grip frame just above the safety, on the left side, and push the safety out toward the right. Use a drift punch near the size of the safety, to prevent loss of the safety detent ball.

- 5.** Carefully withdraw the drift punch, and remove the safety detent ball and spring from their recess in the grip frame. If the spring sticks in the hole, a small screwdriver can be used to lift it out.



- 6.** Removal of the safety will have partially released the cartridge guide, or feed ramp. Drifting out the small pin that crosses the lower end of the guide will allow its removal upward. All pins must be drifted out toward the right.



- 7.** Restrain the trigger and trigger bar (disconnecter) at the top of the grip frame, and drift out the trigger cross pin toward the right.

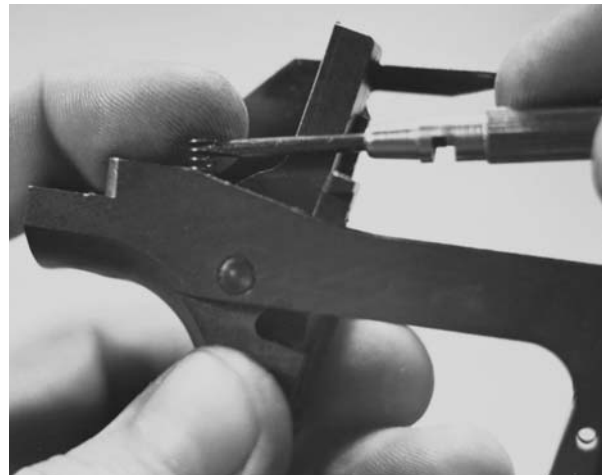


- 8.** Remove the trigger assembly upward. Note that the trigger insert, or connector, is retained in the trigger by a cross pin. In normal takedown this is best left in place. The trigger spring is easily removed from its well in front of the trigger.

- 9.** Depress the trigger bar (disconnecter) at the rear to clear the sear wing, and move it forward until it can be lifted out of its guide at the front. As the bar is moved, control the rear disconnecter spring beneath its rear tip to prevent loss. Remove the small spring inside the guide at the front. The guide is press-fitted into the grip frame, and should not be removed.



- 10.** Remove the rear disconnecter spring from its well at the rear.



- 11.** Restrain the hammer, trip the sear, and gently lower the hammer to fired position. Restrain the sear, inside the magazine well, and drift out the sear cross pin toward the right. Note the position of the sear spring before removal. **Caution:** *The sear spring will be released when the pin is removed, so control it.* Remove the sear and its spring forward, into the magazine well.

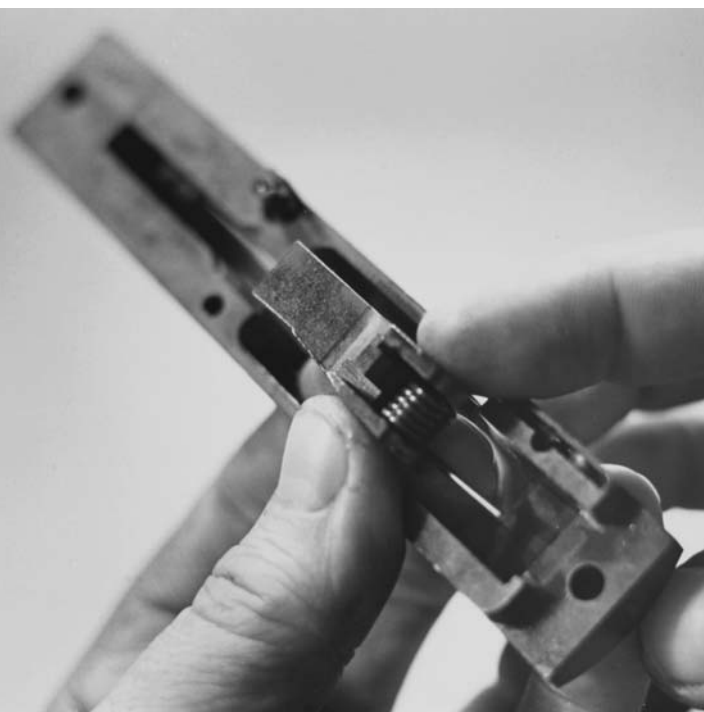


- 12.** Drift the hammer cross pin toward the right, just enough to clear the ejector. Restrain the hammer, as the ejector is also the hammer stop.

- 13.** While holding the hammer, remove the ejector upward.



- 14.** Slowly allow the hammer to tip over forward into the magazine well, relieving the tension of its spring, and drift the hammer pin out toward the right.



- 15.** Remove the hammer and its spring from the top of the grip frame.



- 16.** Grip the head of the magazine catch with non-marring smooth-jawed pliers, and unscrew the catch button from the cross-shaft of the catch (counter-clockwise, left side view). Remove the button and spring toward the left, and the magazine catch toward the right.

- 17.** Remove the Allen screw on the underside at the forward end of the buttstock.



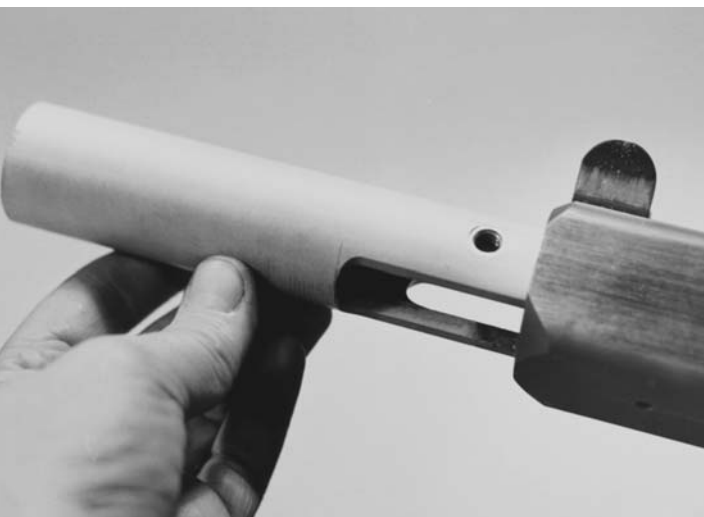
- 19.** If you do not have an original Terry disassembly kit, use a piece of bar stock of suitable size, such as the aluminum piece shown, to engage the slots at the front of the barrel sleeve. The sleeve is then unscrewed from the receiver counter-clockwise (front view). If it is very tight, tap the end of the bar with a small hammer. An alternate method is to grip the bar in a vise, and turn the receiver. Note that the barrel timing pin is press-fitted in the sleeve, and is not removed. The rear receiver endpiece also should not be disturbed.

- 18.** A hole is provided at the top of the rubber buttplate that will allow a slim, long-shanked screwdriver to reach the slotted screw in the front interior of the stock. The buttplate can also be easily pulled out to allow direct access to the screw. Remove the screw, and take off the butt-stock toward the rear. It should be noted that removal of the stock at this point is not necessary to further disassembly, and the remainder of takedown can be done with the stock in place.



- 20.** With an Allen wrench of the proper size, unscrew and remove the bolt handle, counter-clockwise (left side view). **Caution:** *Restrain the bolt as the handle is removed, as it will be released.* Note that the bolt handle may be tightly fitted, and may require that an Allen wrench be tapped with a hammer to free it.

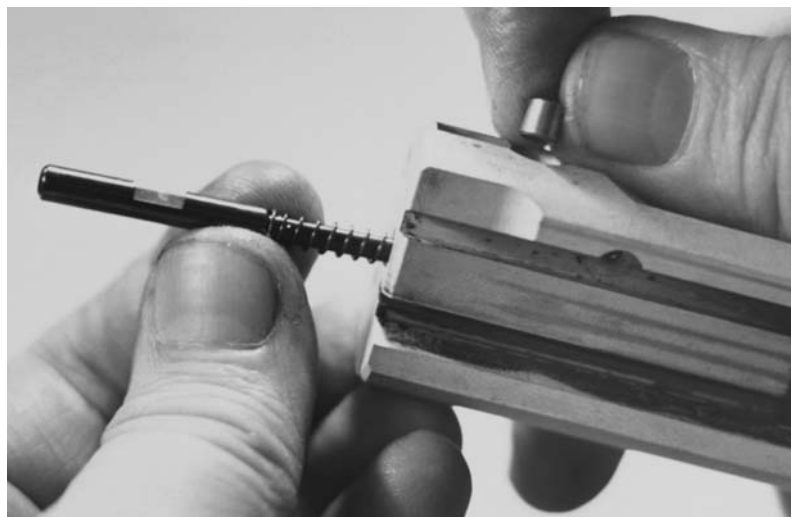
- 21.** Remove the bolt assembly from the front of the receiver. The twin recoil springs and their guides are easily removed from the rear of the bolt.



- 22.** The extractor is retained by a vertical pin on the right side of the bolt, and the pin is drifted out downward.



- 23.** Gently lift the front of the extractor to free it, then remove it toward the right.



- 24.** Removal of the extractor will expose the firing pin retaining button at the rear. Depress and restrain the firing pin at the rear, and tap the bolt with a nylon hammer to jar the button out of its recess. Remove the firing pin and its spring toward the rear.

- 25.** The front sight is retained by twin Allen screws, and is taken off upward.



- 26.** To remove the rear sight, first loosen the vertical adjustment screw on the left side, and slide the upper portion of the sight off forward and upward.



- 27.** Removal of the sight slide will expose the rear retaining screw. Remove both Allen screws, and take off the sight and its protective bracket upward.



- 28.** The ejection port cover can be removed by drifting out its hinge pin toward the rear. This pin is tightly fitted in the loops on the cover, so be sure the rear hinge post on the receiver is well supported during removal. Note that the cover spring will be released as the pin is removed, so control it. Unless removal is necessary for repair, the cover should be left in place. Also note that the cover latch plunger and spring are retained by riveting of the plunger tail, and the same advice applies to these parts.

Reassembly Tips:

1. When replacing the bolt in the receiver, be sure the bolt is in proper alignment, and insert a tool at the rear to ensure that the twin recoil spring guides enter their recesses in the receiver end-piece. As the bolt is moved to the rear, be sure that the springs do not twist and deform.



2. When replacing the sear and sear spring, start the sear pin into the sear, then insert a drift from the opposite side and push the spring into place, holding it with the tip of the drift until the pin is driven into place. If this proves difficult, a slave pin can be used.



3. When replacing the trigger bar (disconnecter), place it in its slot in the front guide, and use a tool to depress the rear spring while sliding the bar into place at the rear.

4. When replacing the safety system, remember that the twin grooves on the safety go on the left side. Being sure the cartridge guide is in upright position, insert the safety from the right. Move the safety until its left tip is even with the detent spring hole, then place the spring and ball in position, and while holding a fingertip over the safety opening on the left side, use a drift to compress the ball and spring, and push the safety toward the left into place.

When replacing the barrel, be sure the slot in the collar, midway on the barrel, mates with the locator or timing pin in the barrel sleeve before tightening the barrel retaining nut.

ARMALITE AR-180



Data:	Armalite AR-180
Origin:	United States
Manufacturer:	Armalite, Incorporated, Costa Mesa, California
Cartridge:	223 Rem. (5.56mm)
Magazine capacity:	5 and 20 rounds
Overall length:	38 inches
Barrel length:	18 1/4 inches
Weight:	6 1/2 pounds

This semi-auto-only version of the AR-18 has a slight external resemblance to the U.S. M-16 and the AR-15, but it is very different mechanically. In several ways, it is superior to that basic design. It is of simpler construction, and is easier to operate and field strip. In addition to the Armalite production, the AR-180 has also been manufactured under license in England, Netherlands, and Japan.

Disassembly:

1. If the gun has an Armalite telescopic sight, push the scope base latch toward the left, and move the scope and base toward the rear until it stops. A spring inside the base will be compressed.



2. Move the scope and base straight upward, and when the base has cleared its track on top of the receiver, the scope assembly will be forced off toward the front.



3. Remove the magazine, and cycle the action to cock the internal hammer. Set the safety in the on-safe position. Depress the receiver latch plunger, and push the receiver latch forward. Its upper projection will enter the rear sight mount.



4. Keeping the latch depressed, tilt the rear of the receiver upward. **Caution:** Keep a firm grip on the latch, as it is the rear base of the compressed recoil spring assembly.

- 5.** Slowly release the spring tension, and remove the recoil spring assembly from the rear of the receiver.



- 6.** Move the bolt back to align the bolt handle with the larger opening at the end of its track, and remove the bolt handle toward the right.



- 7.** Remove the bolt assembly toward the rear.



- 8.** Depress and hold the firing pin, and push the firing-pin-retaining cross pin out toward the left and remove it.

- 9.** Remove the firing pin and its spring toward the rear.



- 10.** Remove the bolt cam pin toward the left.



- 11.** Remove the bolt from the front of the carrier.



- 12.** Restrain the extractor, and push out the extractor cross pin toward either side.

- 13.** Remove the extractor and its spring from the bolt.



- 14.** The ejector is retained by a small roll pin at the front of the bolt. Restrain the ejector against the tension of its spring, and drift out the roll pin. Remove the ejector and its spring toward the front.

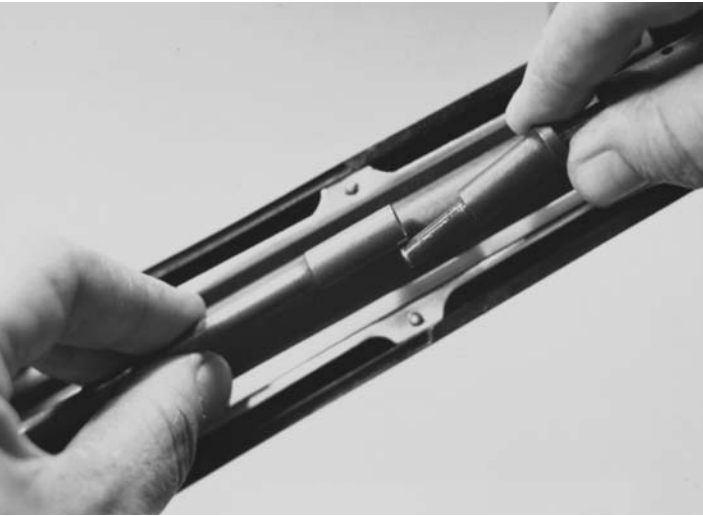


- 15.** Push out the hinge pin at the front of the receiver toward the right, and separate the grip frame and buttstock unit from the receiver.



- 16.** Removal of the recoil spring unit will have released the upper handguard. Tip it upward at the rear, and remove it.

- 17.** Move the gas piston rod toward the rear, fully compressing its spring, and remove the connector toward the rear, tilting it toward the side.



- 18.** Slowly release the spring tension, moving the gas piston rod forward and tilting it toward the side for removal, along with its spring.



- 19.** Remove the gas piston toward the rear. The gas piston tube can be unscrewed from the rear sight base, but in normal takedown it is best left in place.



- 20.** Drifting out the two cross-pins in the front sight unit will allow the unit to be moved forward. This will release the lower handguard for removal forward and downward. The handguard plate can then be removed toward the rear.

- 21.** The flash hider can be unscrewed from the muzzle by using a wrench of the proper size. The front sight unit can then be taken off toward the front.



- 22.** The ejection port cover hinge has a grooved tip at the rear for engagement of a tool to nudge it out rearward, releasing the cover and its spring. The hinge pin is often tightly fitted, and unless necessary for repair, it is best left in place. The cover latch plunger and spring are retained by a roll pin.

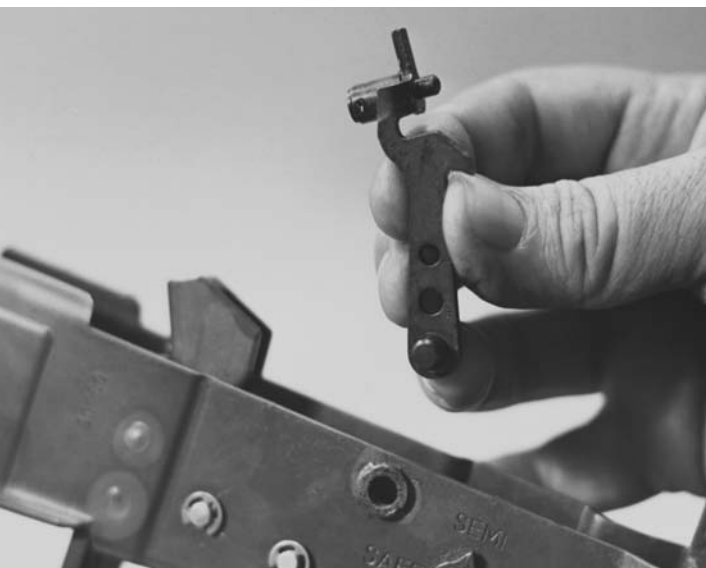


- 23.** Swing the bolt latch up to the vertical position. Release the safety, restrain the hammer, and pull the trigger, lowering the hammer to the fired position.



- 24.** Remove the C-clip that retains the bolt latch pivot, and push the latch pivot inward for removal.

- 25.** Remove the bolt latch upward. A plunger and spring are retained in the front of the latch by a roll cross-pin. Take out the plug, spring, and plunger downward.



- 26.** Remove the C-clip from the tip of the safety cross-piece on the right side of the frame.



- 27.** Remove the safety indicator lever toward the right. Return the hammer to the cocked position.

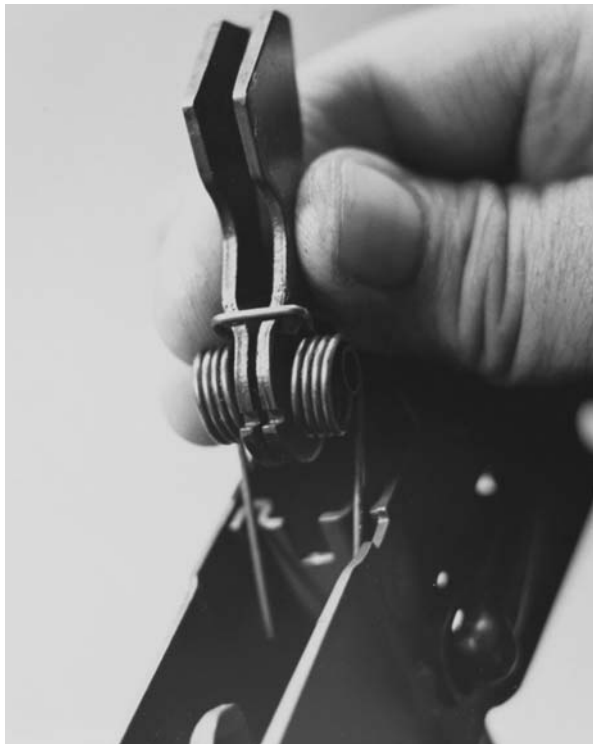


- 28.** Insert a tool from the top to engage the hole in the safety spring yoke, and depress the yoke and spring toward the rear. While holding them there, remove the safety toward the left.

- 29.** Slowly release the spring tension, and remove the safety yoke and spring upward.



- 30.** Restrain the hammer, pull the trigger, and lower the hammer to the fired position. Remove the C-clip from the left tip of the hammer pivot, restrain the hammer, and push out the pivot toward the right.



- 31.** Remove the hammer and its spring forward and upward.



- 32.** Remove the C-clip from the left tip of the trigger pivot. Restrain the trigger and sear, and push out the trigger cross-pin toward the right.

- 33.** Remove the trigger assembly upward. Pushing out the pivot sleeve will release the trigger spring for removal, and will also release the secondary sear, or disconnecter, for removal. If the sleeve is to be removed, use a large roll-pin punch to avoid deforming it.



- 34.** The magazine catch and its spring are retained by a vertical roll pin, which is drifted out upward, and the catch and spring are taken off toward the right.



- 35.** The buttstock hinge pin is retained by a C-clip in a groove at its lower tip, and the hinge pin is taken out upward. The buttstock can then be removed.



- 36.** . The upper and lower stock latch plungers and their common spring are retained by two roll pins. Drifting out one of the pins will allow removal of one plunger and the spring.

- 37.** The pistol grip is retained by a screw accessible from below, and the grip is taken off downward. The buttstock is retained on its hinge plate by a long screw accessible at the center of the buttplate.



Reassembly Tips:

- 1.** Note that the cam pin hole in the bolt is staked on one side, to prevent the bolt from being reinstalled in the bolt carrier backwards. When replacing the bolt in the carrier, be sure the extractor is on the right.



- 2.** When replacing the cam pin, note that the crosshole in the pin must be oriented lengthwise for passage of the firing pin.



Colt AR-15

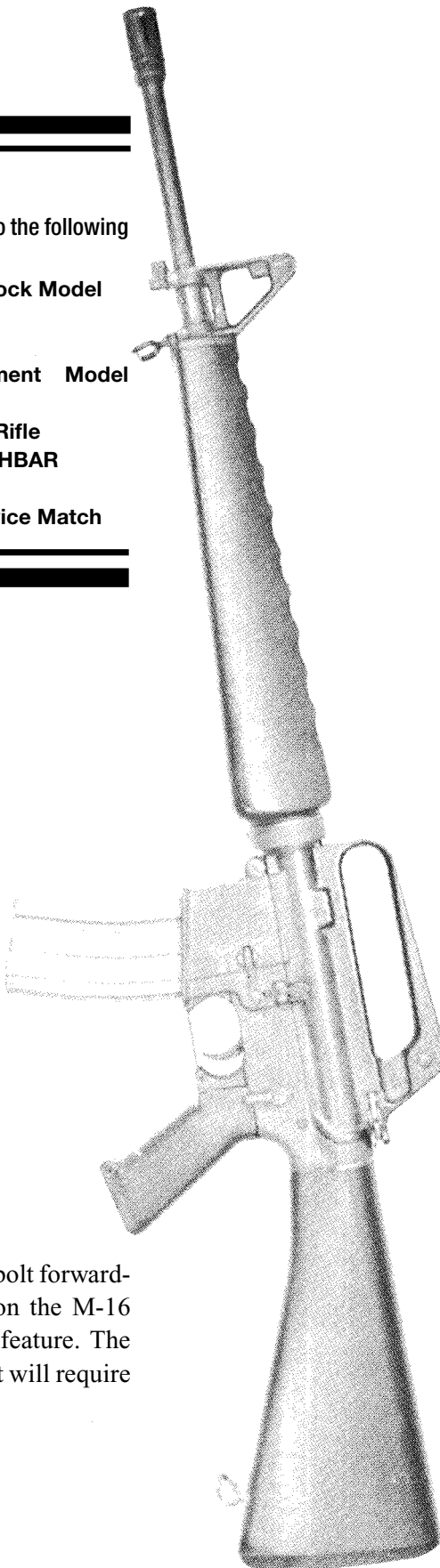
Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Colt AR-15 also apply to the following guns:

Colt AR-15A2 Sporter II	Colt AR-15 Collapsible Stock Model
Colt AR-15A2 Delta HBAR	Colt AR-15A2 Carbine
Colt AR-15 Delta HBAR Match	Colt AR-15A2 HBAR
Colt AR-15A2 Government Model Carbine	Colt AR-15A2 Government Model Target
Colt Sporter Target Model	Colt Sporter Lightweight Rifle
Colt Sporter Match HBAR	Colt Sporter Match Delta HBAR
Olympic Arms AR-15 Heavy Match	Eagle Arms EA-15
Olympic Arms CAR-15	Olympic Arms AR-15 Service Match

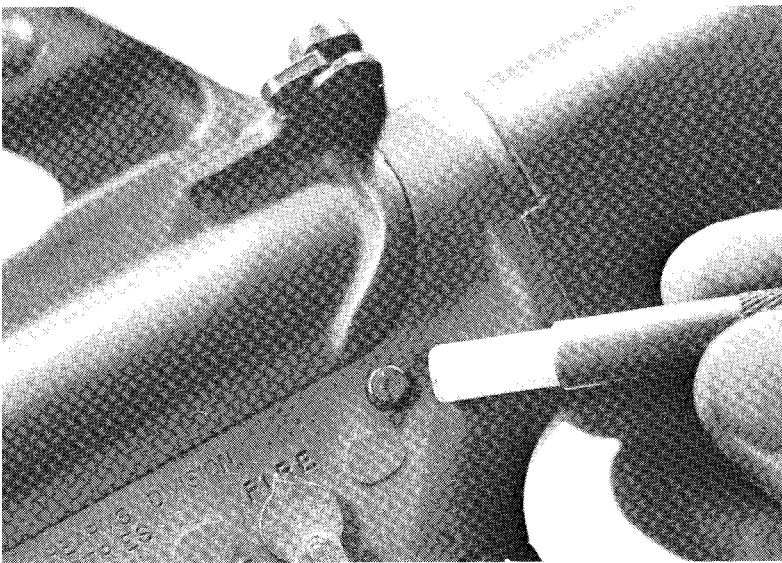
Data:	Colt AR-15
Origin:	United States
Manufacturer:	Colt Firearms Hartford, Connecticut
Cartridge:	223 Remington (5.56mm)
Magazine capacity:	5 and 20 rounds
Overall length:	38 3/8 inches
Barrel length:	20 inches
Weight:	7 1/4 pounds

The original AR-15A1, made from 1963 to 1984, did not have the bolt forward-assist plunger and spring on the right side of the receiver, as on the M-16 military gun. All AR-15A2 rifles, up to the present, have this feature. The plunger is retained by a pin, and removal is a simple operation that will require no additional instructions.

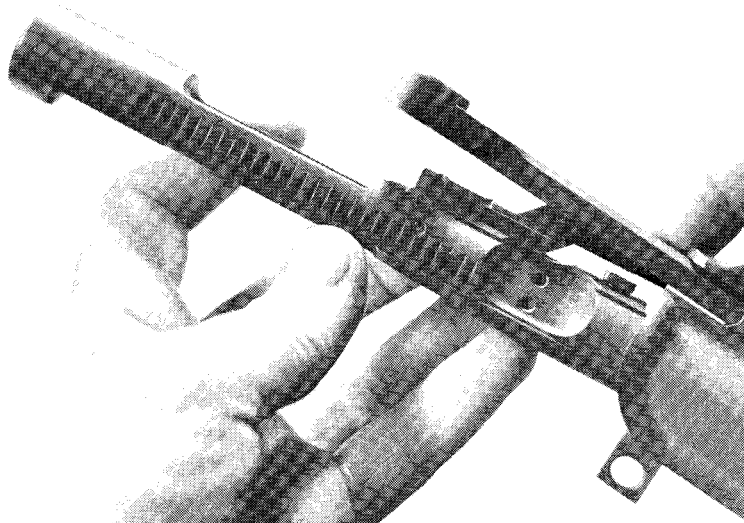
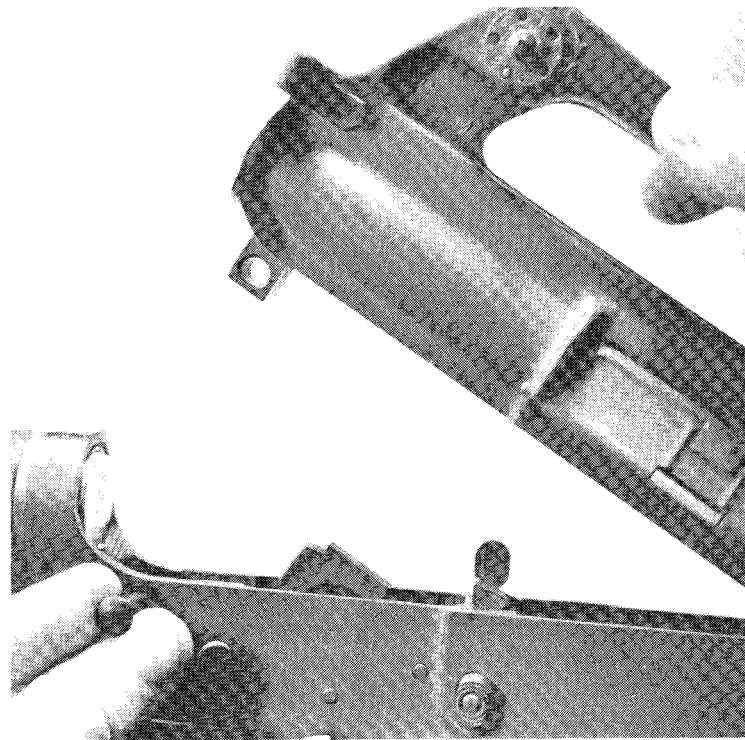


Disassembly:

1. Remove the magazine, and cycle the action to cock the hammer. Push out the takedown pin, located at the upper rear of the grip frame, toward the right.

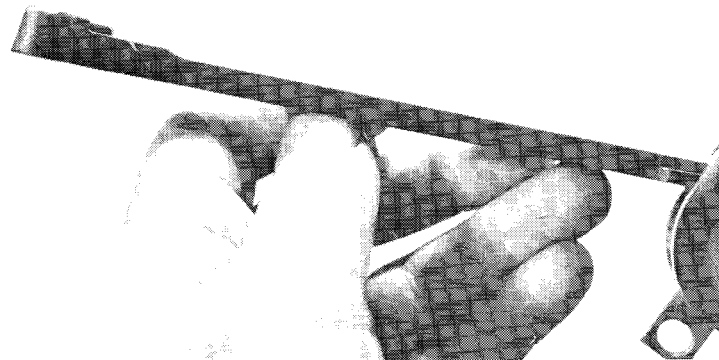


2. With the takedown pin stopped in pulled-out position, tip the barrel and receiver assembly upward at the rear.

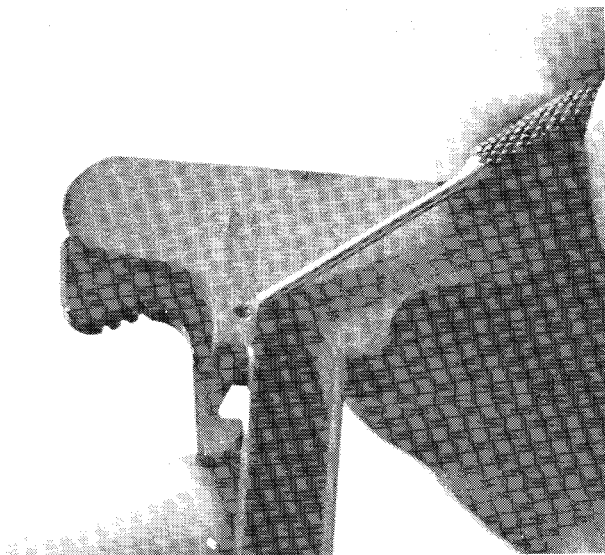


3. Use the charging handle to start the bolt assembly toward the rear, and remove the assembly from the rear of the receiver.

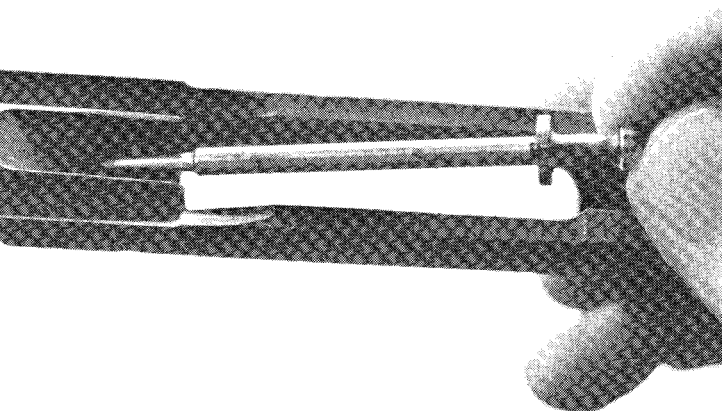
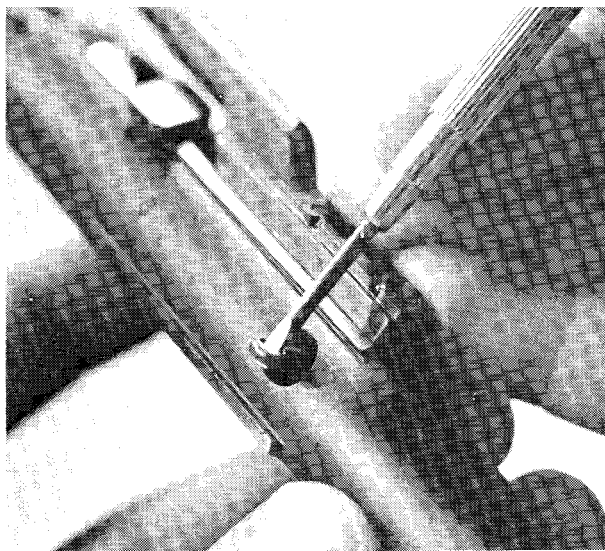
4. Move the charging handle to the rear until it stops, then move it out the rear of the receiver.



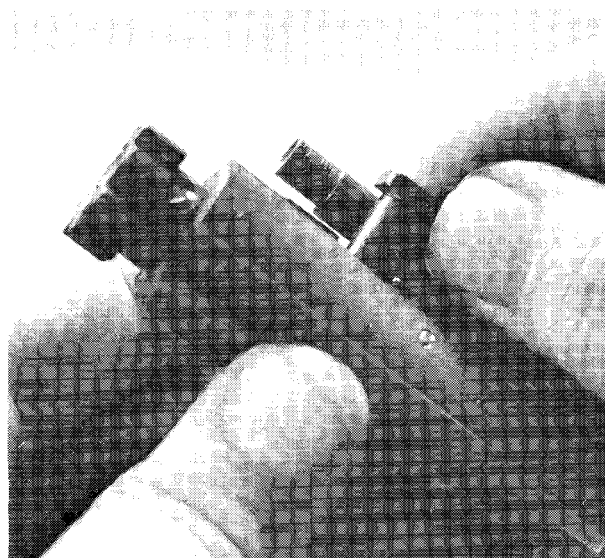
- 5.** The charging handle latch and its spring are retained in the handle by the vertical roll pin. In normal takedown, it is best left in place.



- 6.** Use a small tool to pull out the cotter pin on the left side of the bolt carrier, to free the firing pin.

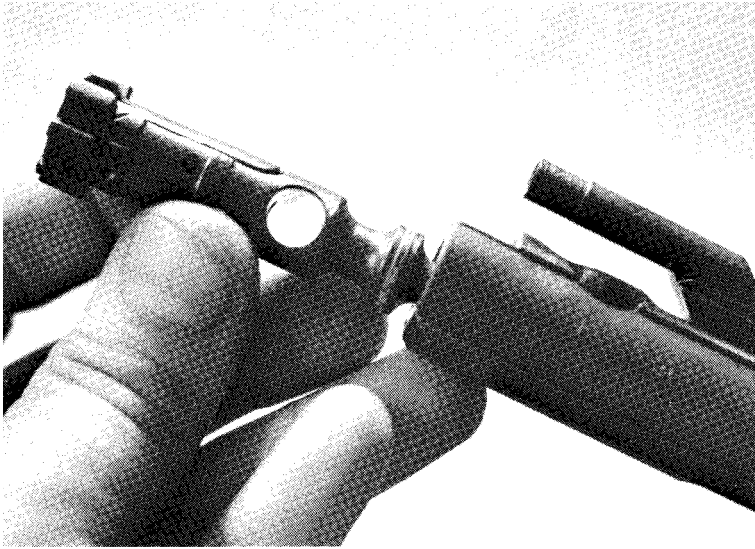


- 7.** Remove the firing pin toward the rear.

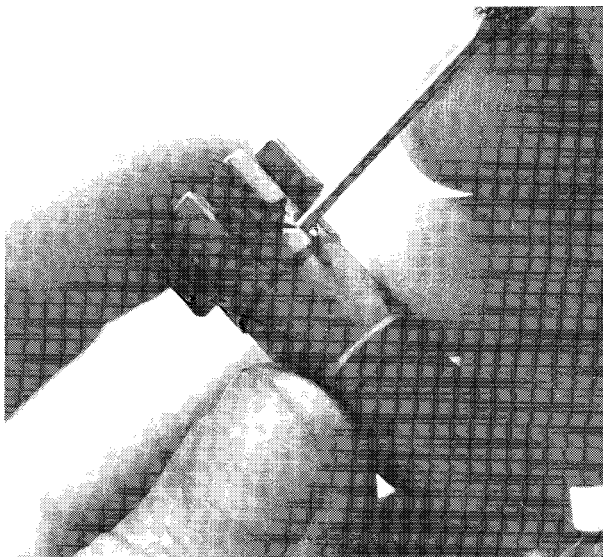
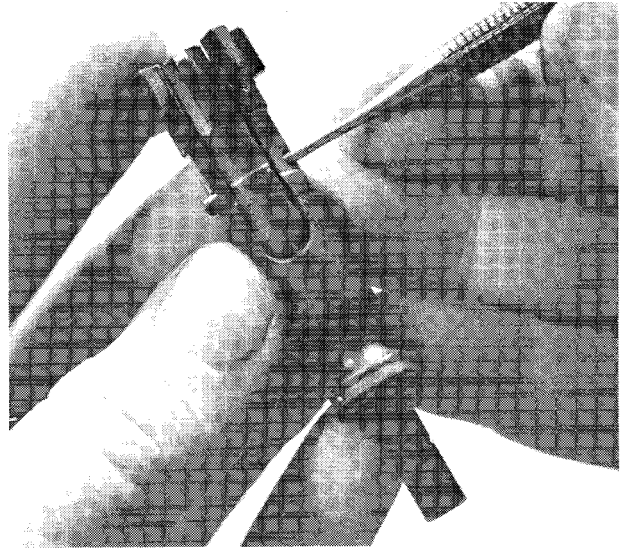


- 8.** Rotate the bolt cam pin to clear its flange from beneath the edge of the overhang, and remove the bolt cam pin upward.

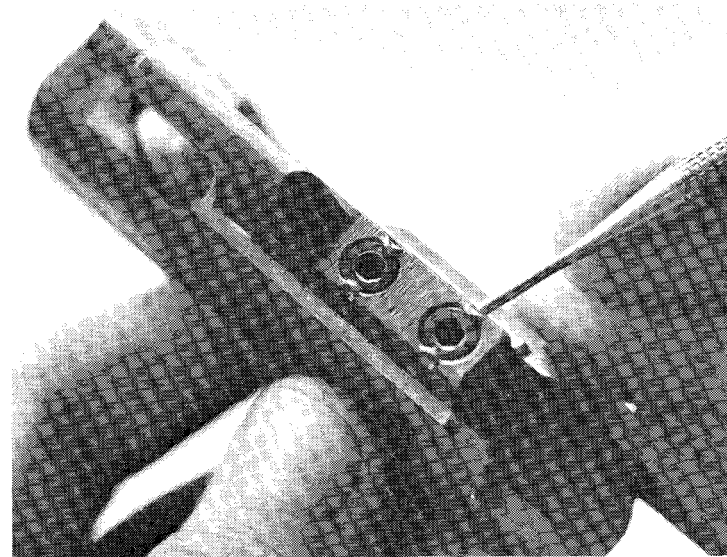
- 9.** Remove the bolt from the front of the bolt carrier.



- 10.** The extractor and its coil spring are retained in the bolt by a cross pin which is easily pushed out in either direction.

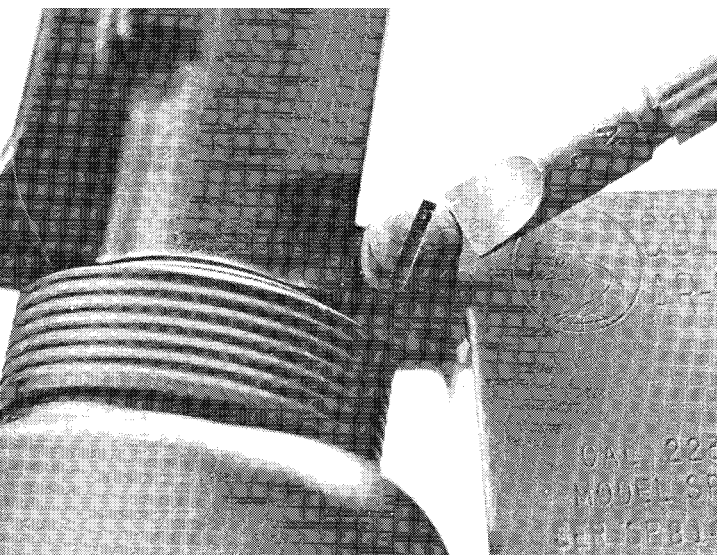


- 11.** The ejector and its spring are also retained by a pin, a small roll pin that crosses the front of the bolt. The ejector spring is quite strong, so restrain the ejector during removal.

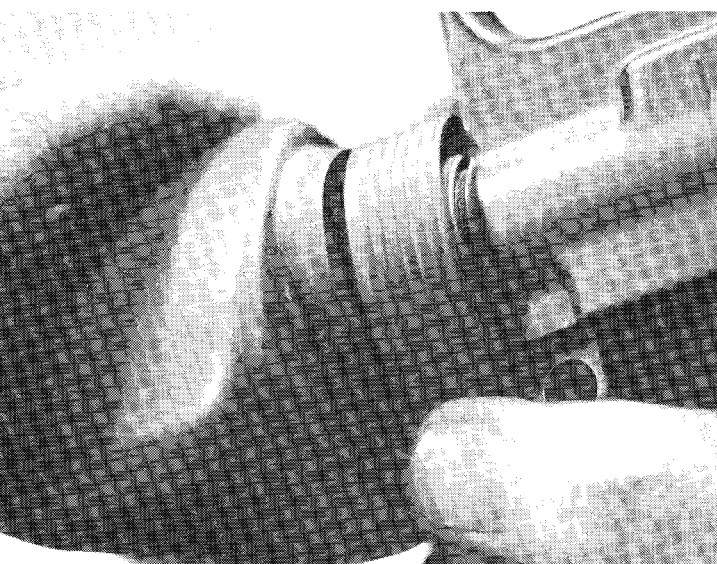
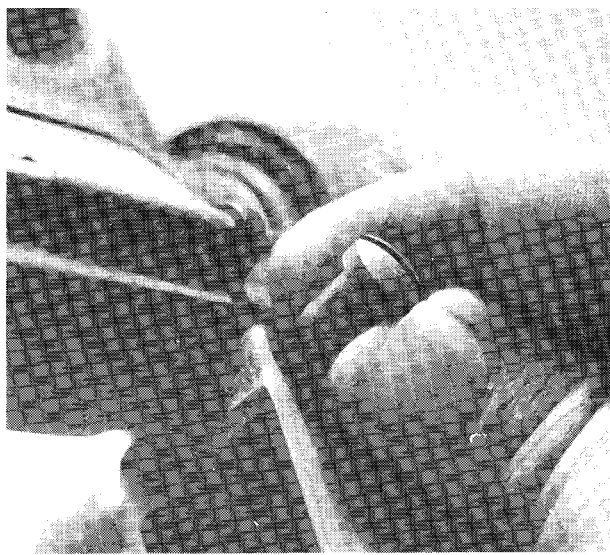


- 12.** The gas cylinder is retained by two Allen screws on top of the bolt carrier, and these are heavily staked in place. **CAUTION:** This unit should be removed only if repair or replacement is necessary.

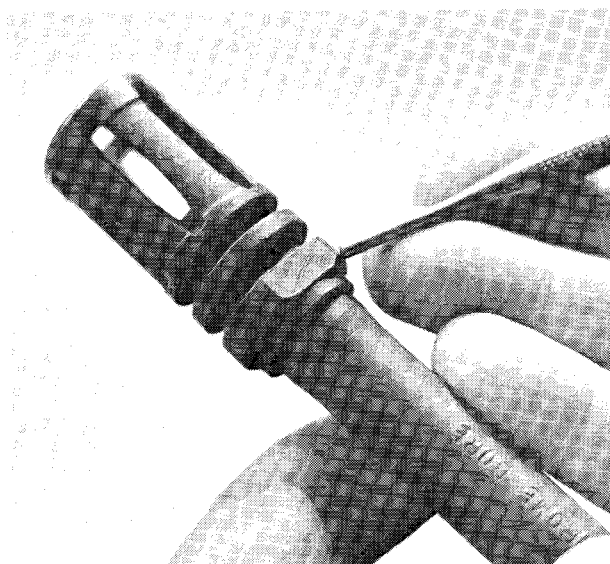
- 13.** Remove the cap screw at the left end of the receiver pivot. It will be necessary to stabilize the screw-slotted head of the pivot with another large screwdriver on the right side during removal.



- 14.** Use a slim drift punch that will not damage the interior threads to nudge the receiver pivot out toward the right, and separate the barrel and receiver unit from the stock and grip frame assembly.

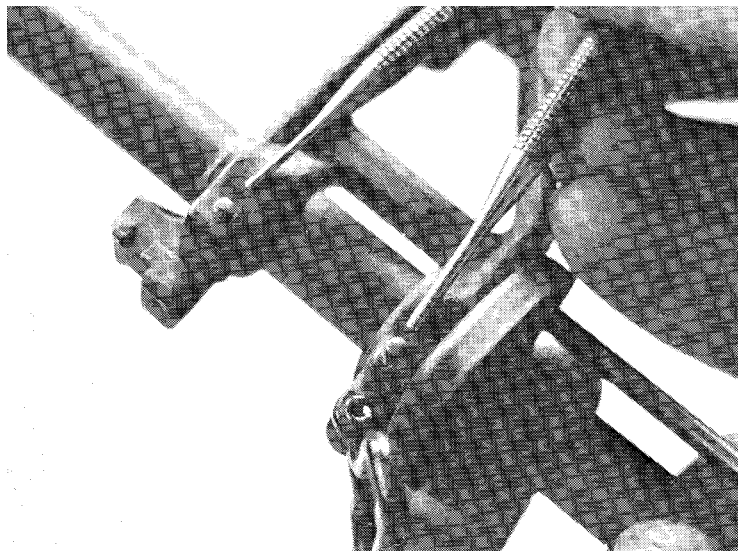


- 15.** Pull back on the grooved slip ring right at the rear of the handguard units, and alternately tip each unit outward at the rear, then remove them rearward.

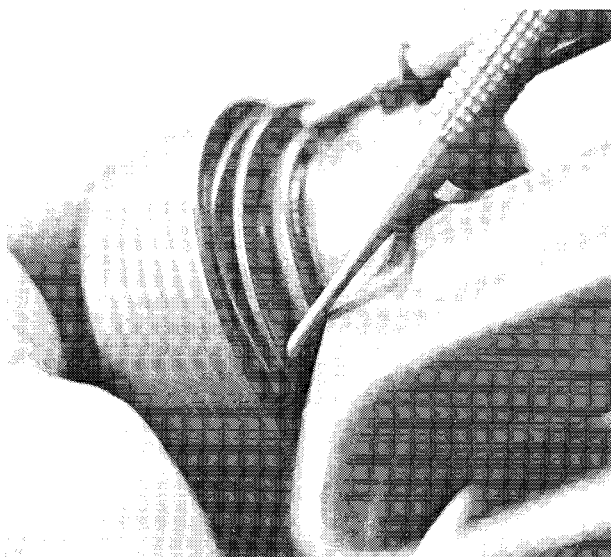
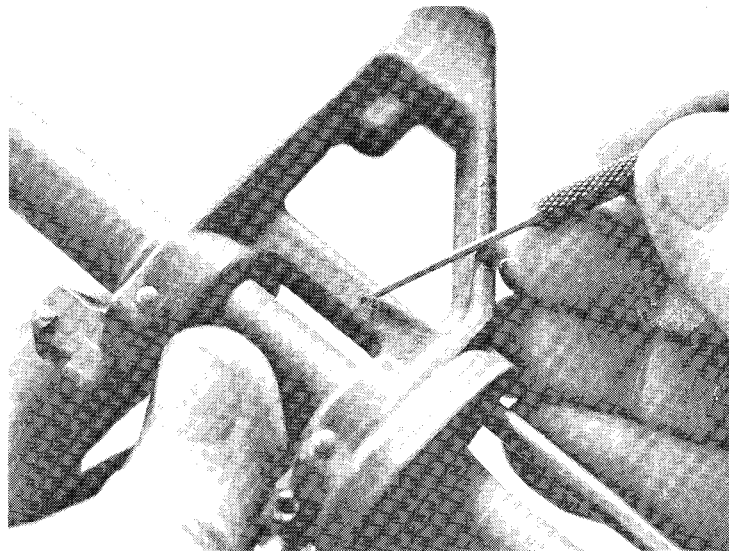


- 16.** With a wrench of the proper size, unscrew the flash hider from the end of the barrel, and take care not to lose the lock washer behind it.

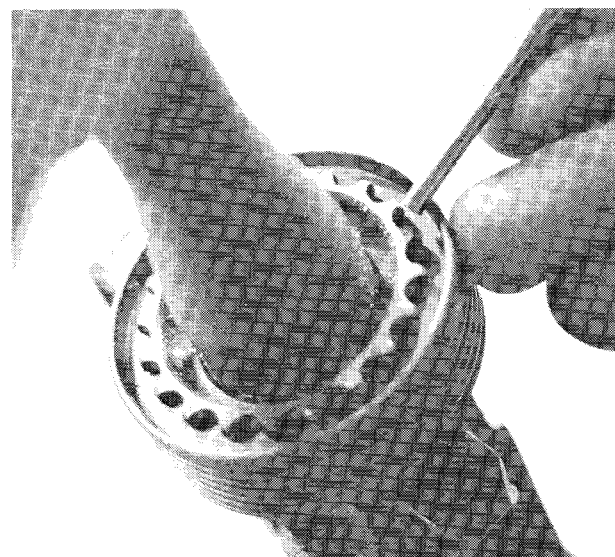
- 17.** The combination front sight base, gas port unit, and bayonet mount is retained on the barrel by two large cross pins. When these are drifted out toward the right, the unit can be nudged forward off the barrel. During removal, take care that the gas transfer tube is not damaged.



- 18.** The gas conduit is retained in the sight unit by a roll cross pin. In normal takedown, this should not be disturbed.

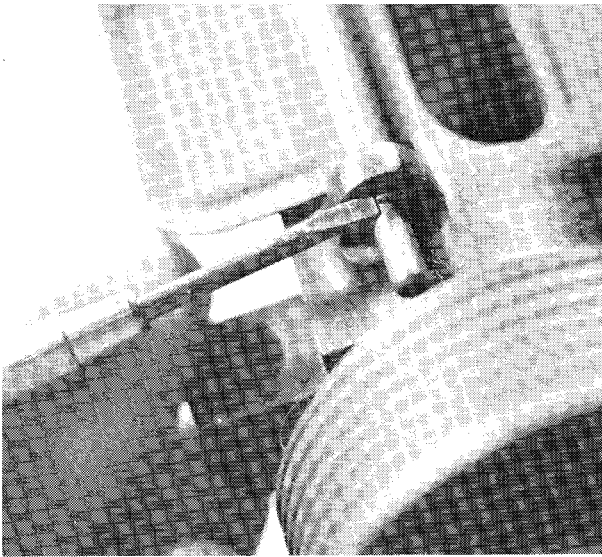


- 19.** Insert a small tool in one of the holes at the top of the large clip-ring at the front of the receiver, and gently pry the ring out of its channel. Moving it rearward will relieve the tension of the circular spring assembly that powers the handguard slip-ring.

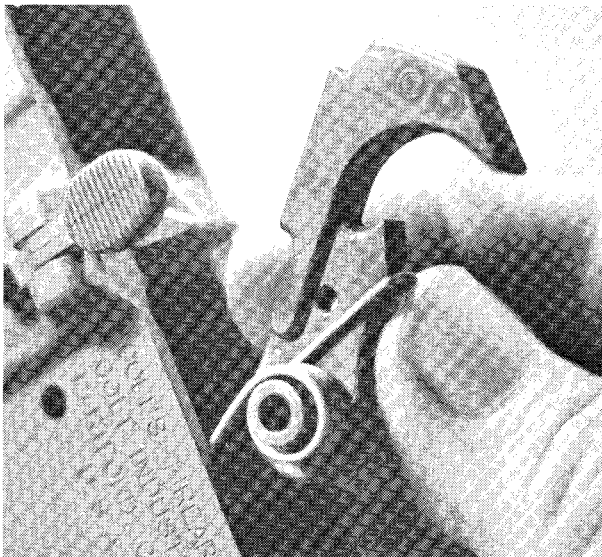
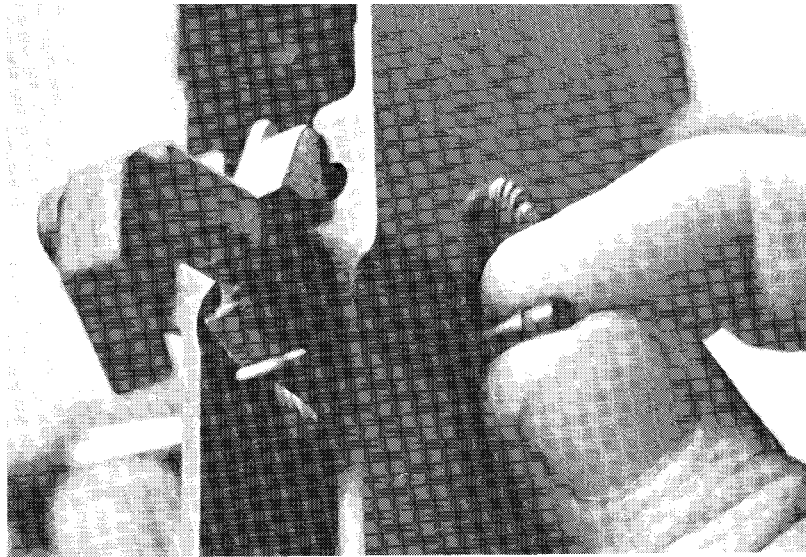


- 20.** Move the slip-ring to the rear to give access to the toothed barrel retaining nut, and unscrew the nut counter-clockwise (front view). Take off the retaining nut, slip-ring, spring, and clip-ring toward the front.

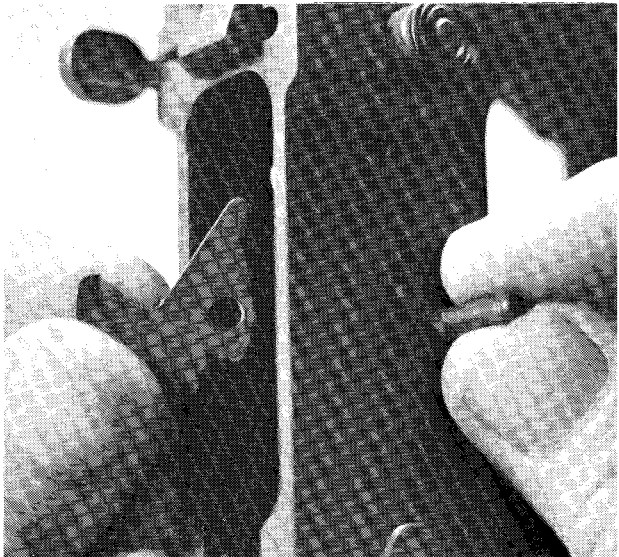
- 21.** The long pin which forms the hinge for the ejection port cover is retained by a C-clip in a groove near its forward end. Take off the C-clip, and move the hinge pin out toward the rear. **Caution:** *The cover spring will be released as the pin is cleared, so restrain it. Take care that the very small C-clip is not lost.*



- 22.** Restrain the hammer and pull the trigger to lower the hammer to fired position. Push out the hammer pivot pin toward either side, controlling the hammer against its spring tension.

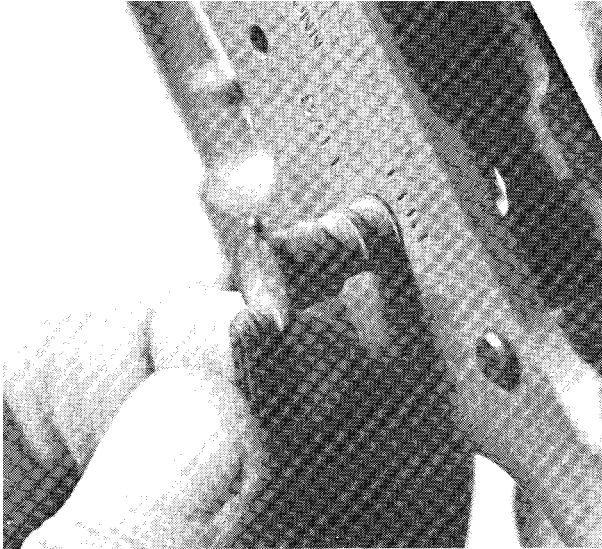


- 23.** Remove the hammer and its spring upward. The spring is easily detached from the hammer.

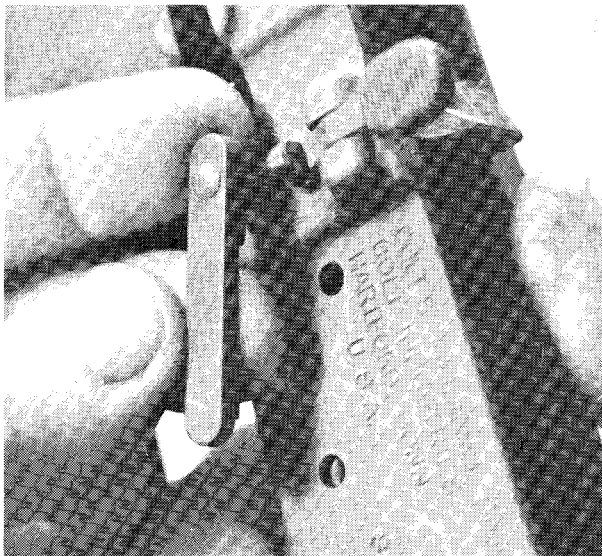
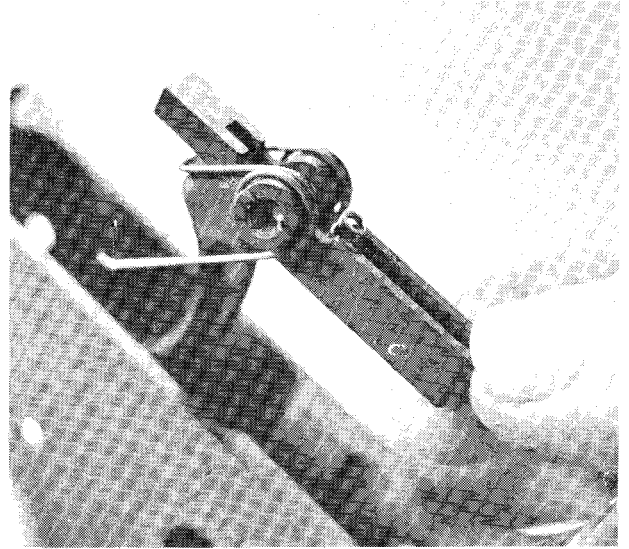


- 24.** Push the trigger pin just far enough toward the right that the disconnecter is cleared, and remove the disconnecter from the top of the grip frame.

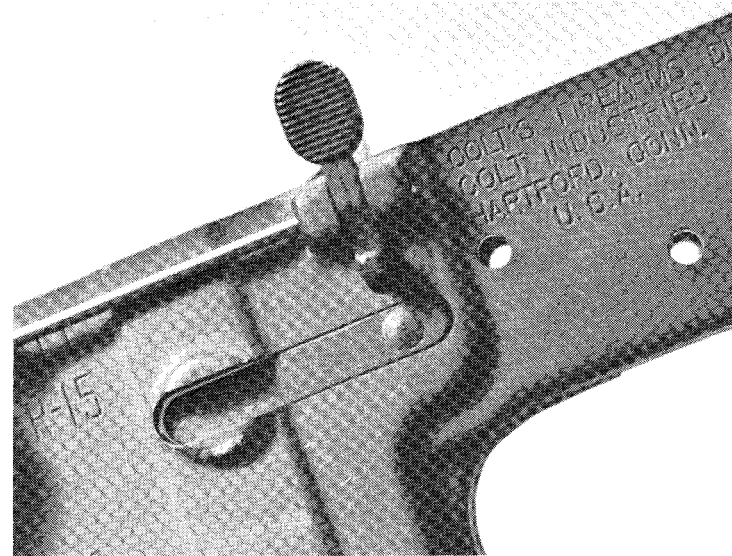
- 25.** Set the safety halfway between its two positions, and use a nylon drift punch on the right side to nudge it toward the left, then remove it.



- 26.** Remove the trigger pin, and take out the trigger assembly upward. The trigger spring and disconnect spring are easily detached from the trigger.

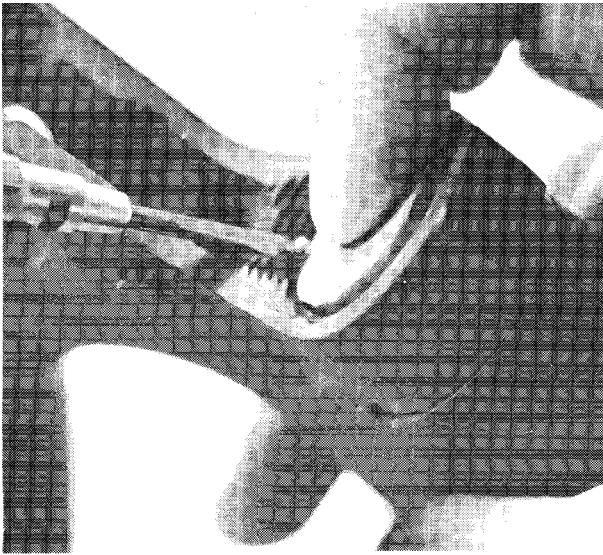


- 27.** The magazine catch is removed by pushing it toward the left beyond its normal magazine release point, then unscrewing the catch piece from the button. The button and spring are then take off toward the right, and the catch piece toward the left. The catch piece is unscrewed counter-clockwise, left-side view.

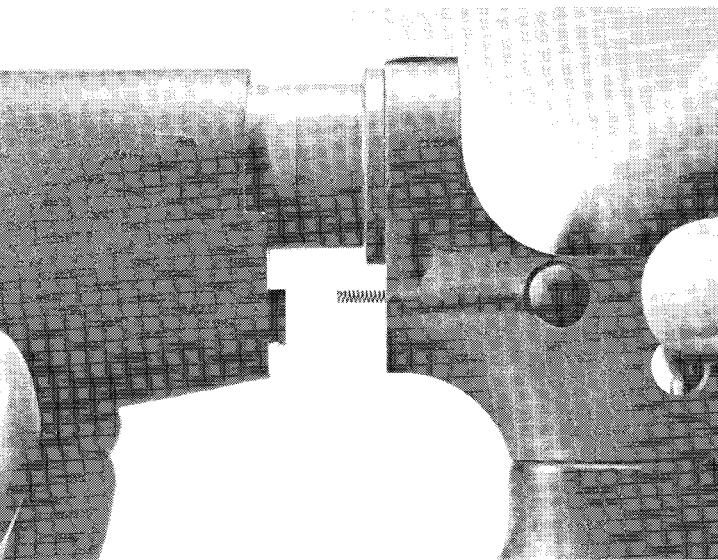
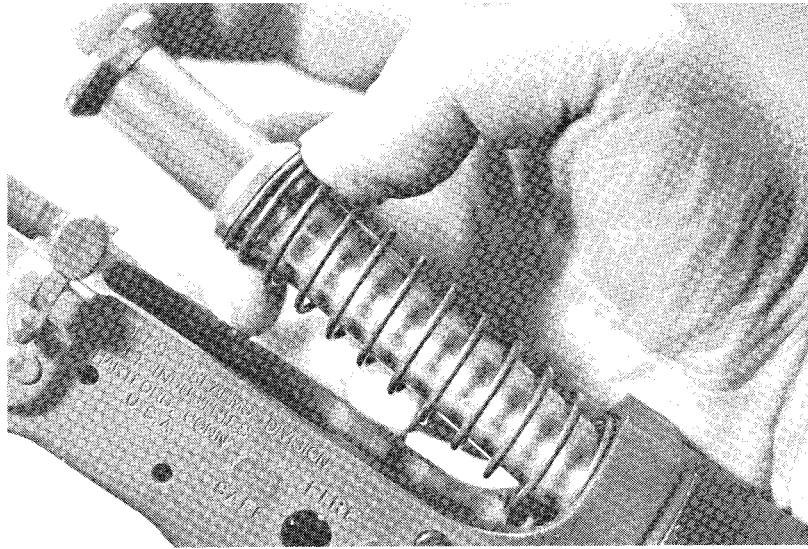


- 28.** The hold open device and its spring are retained on the left side of the grip frame by a roll pin, and after removal of the pin they are taken off toward the left.

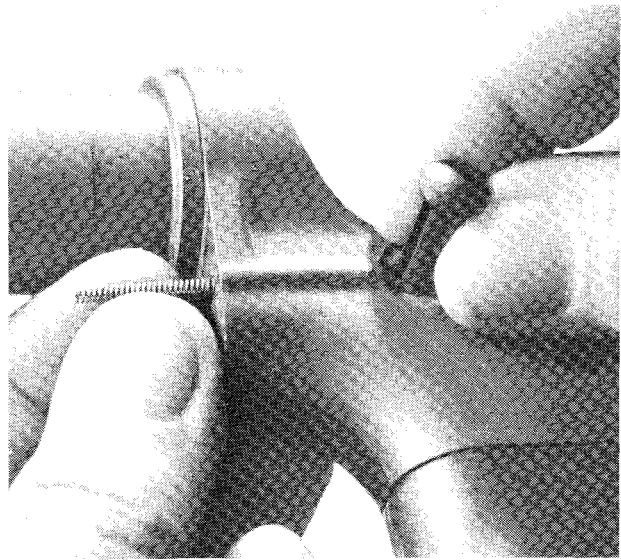
- 29.** Restrain the recoil buffer against the tension of the recoil spring, and depress the buffer stop plunger. Caution: The spring is strong, so take care to keep it under control.



- 30.** Slowly release the tension of the spring, and remove the buffer and spring toward the front.

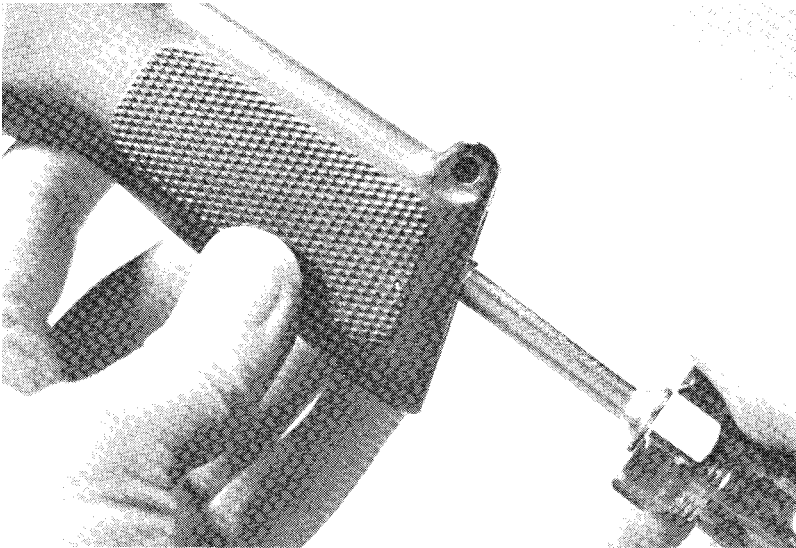


- 31.** Remove the upper screw in the buttplate and remove the buttstock toward the rear. Take care not to lose the takedown pin retaining plunger and its spring at the rear of the grip frame. Removal of the lower screw in the buttplate will give access to the mechanism of the storage compartment cover and its latch.

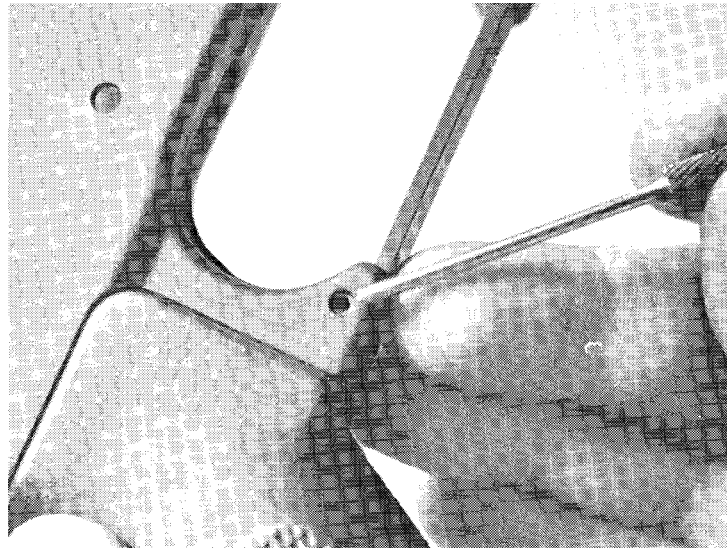


- 32.** Remove the takedown pin spring and plunger from the rear of the grip frame. The takedown pin can then be removed toward the right.

- 33.** The pistol grip is removed by backing out a screw accessible through the bottom of the grip. Note that this will also release the safety plunger and its spring for removal downward.

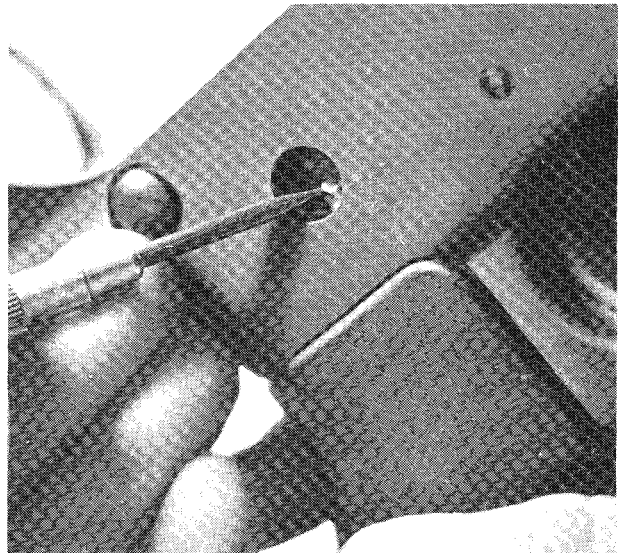


- 34.** The lower section of the trigger guard is retained at the rear by a roll cross pin. After this is removed, the section can be swung downward, and a very small roll pin in its forward hinge will be exposed for removal. The hinge pin can then be taken out toward the right, and the lower section removed.

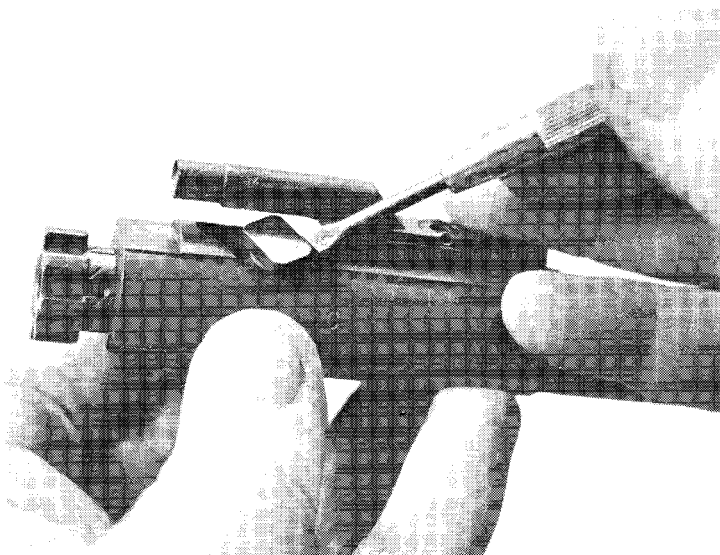
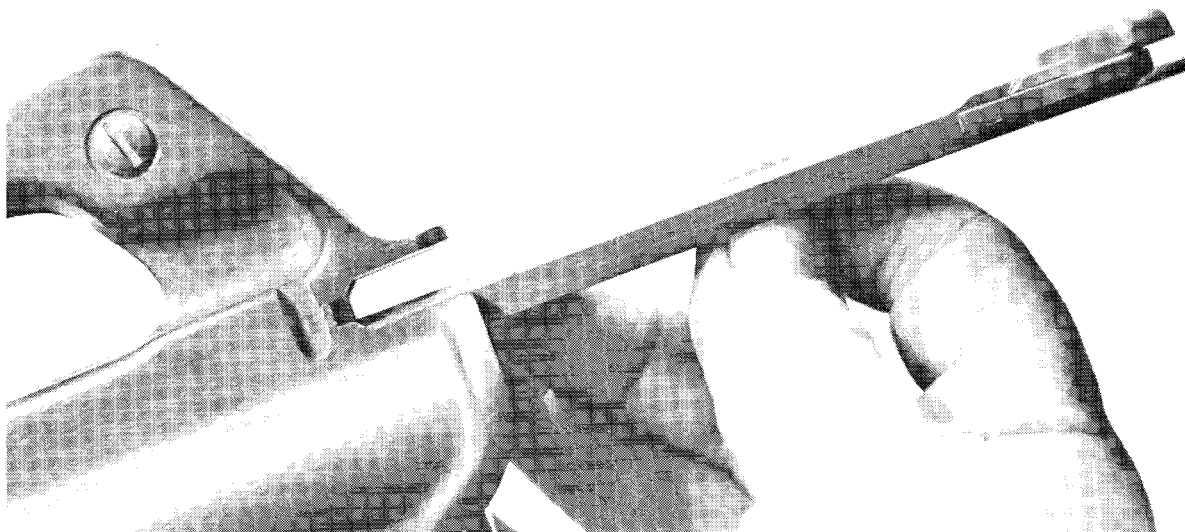


Reassembly Tips:

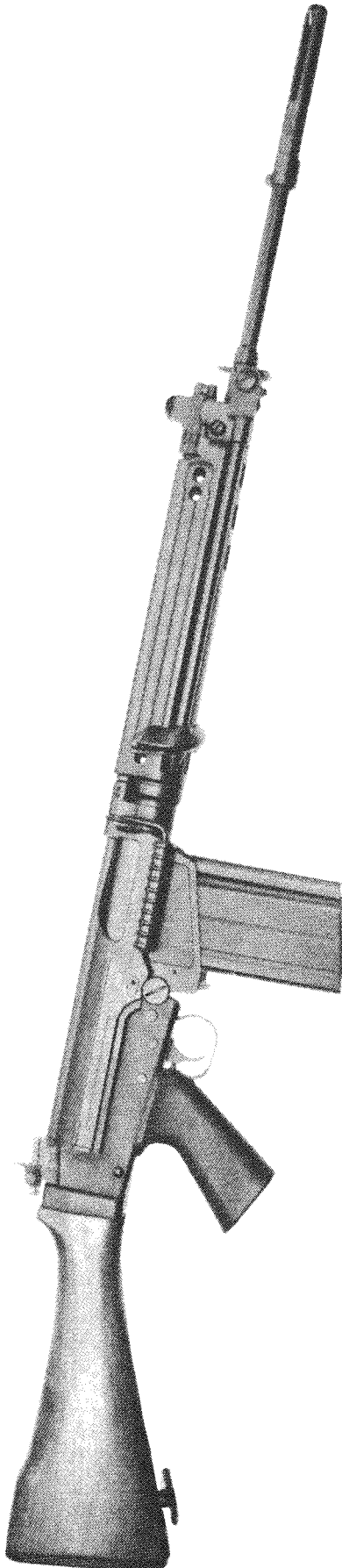
- 1.** When replacing the safety-lever, use a tool on the right side to depress the safety plunger as the safety is pushed into place.



2. When replacing the cocking handle, remember that its forward end must be inserted into the receiver and then moved upward into its track.



3. When replacing the bolt in the bolt carrier, note that the extractor must be oriented to the upper right, and the ejector to the lower left. Also, remember to turn the bolt cam pin so its flange is beneath the edge of the gas cylinder.



FN-FAL

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the FN-FAL also apply to the following guns:

Springfield Armory SAR 48

Springfield Armory SAR 4800

Springfield Armory SAR 48 Bush Rifle

Springfield Armory SAR Para Model

Data: FN/FAL

Origin: Belgium

Manufacturer: Fabrique Nationale,
Herstal (Liege)

Cartridge: 7.62mm NATO (.308 Win.)

Magazine capacity: 20 rounds

Overall length: 41.50 inches

Barrel length: 21 inches

Weight: 9 pounds 8 ounces

Some elements of the FN Model 1949 were used in the design of the Fusil Automatique Leger (FAL), but it is a true assault rifle in the modern sense. It was first made around 1950, and by the middle of that decade it was the standard military rifle of so many countries that a list would fill too much space here. Among these contract versions, there are some small differences in various features, but nothing that would cause difficulty in takedown. This gun has been marketed in the U.S. by Springfield Armory of Geneseo, Illinois, in a number of civilian-legal styles. They are essentially exact copies of the original FAL in semi-automatic only, and these instructions apply to all. The gun shown here is an original Belgian version.

Disassembly:

1. Remove the magazine, and cycle the action to cock the hammer. Move the latch lever toward the rear and tip the barrel and upper receiver upward at the rear.



2. Grasp the spring rod at the rear of the bolt carrier and remove the bolt and carrier assembly toward the rear.



3. Move the bolt to the rear of the carrier and lift it at the front. Use a tool to depress the firing pin head, and remove the bolt from the carrier.



4. The bolt spring rod and its positioning spring can be removed by drifting out its cross pin toward the right. This pin is riveted on the left side, and in normal takedown it is best left in place.

5. Restrain the firing pin, and push out the retaining cross pin toward the left. The return spring is powerful, so control the firing pin.



6. Remove the firing pin and its return spring toward the rear.



7. Insert a drift punch into the hole in the extractor plunger, and draw the plunger rearward until the extractor can be tipped out toward the front. Again, this is a very strong spring, so control it.



8. After the extractor is removed, ease the plunger and spring forward and take them out.

- 9.** Slide the cover rearward off the receiver.



- 10.** A tool with a hollow end is used to compress the locking split-end of the hinge cross screw, and push it level with the side.



- 11.** After the tip is unlocked, use a coin to unscrew the hinge cross screw on the right side.



- 12.** After the cross screw is removed, push out the hinge-piece toward the left, and separate the barrel and upper receiver from the action and buttstock unit.

- 13.** Ease the hammer down to fired position, and pry the hammer spring housing upward at the rear, as shown. **Caution:** *Keep the housing and spring under control.*



- 14.** Turn the safety-lever up past the on-safe position to vertical, and remove it toward the left.



- 15.** Inside the action on the right side is the pin lock-plate. Turn it over toward the front, and in the position shown, it can be taken out upward.



- 16.** Depress the trigger, push out the hammer pivot toward the right, and remove the hammer.

- 17.** Restrain the sear on the inside, and push out the trigger cross pin toward the right.



- 18.** Remove the trigger and sear assembly upward. The sear and the sear plunger and spring are free for removal from the trigger.



- 19.** Spring the wire latch out of its locking recess in the pistol grip, and turn it outward.

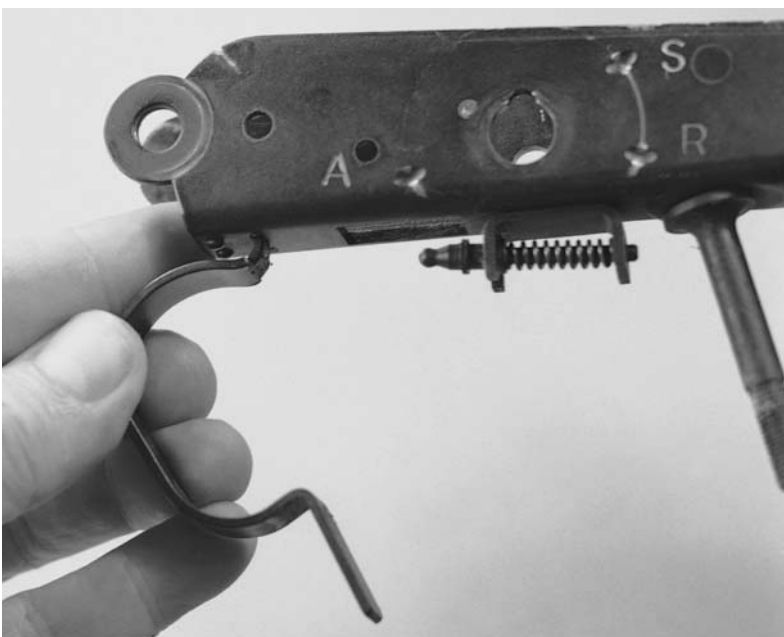


- 20.** Remove the combination oiler and cleaning kit from the pistol grip.

- 21.** Use a large screwdriver with a wide blade to unscrew the retaining nut inside the pistol grip.



- 22.** Remove the pistol grip downward.



- 23.** Turn the trigger guard forward to the position shown, and take it off downward.



- 24.** To remove the trigger spring and its plunger, tip the plunger downward out of its slot in the mount.

- 25.** Use a screwdriver with a wide, thin blade to remove the buttplate screw, and take off the buttplate. Take care that the lock washer on the screw isn't lost.



- 26.** Use a large screwdriver with a wide blade to remove the buttstock retaining nut. **Caution:** As the nut clears its threads, the bolt spring will be released, and it is powerful. Control it.



- 27.** Remove the concentric recoil springs and the follower toward the rear.



- 28.** Remove the retaining screw on the underside at the forward edge of the stock.

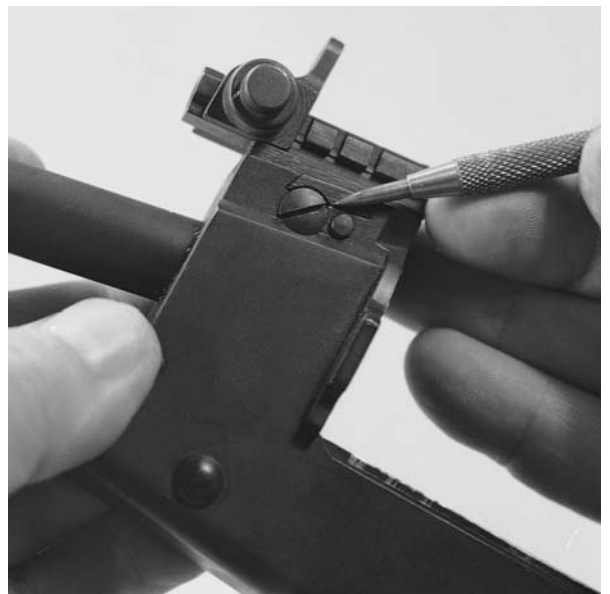
- 29.** Take off the buttstock toward the rear.



- 30.** If removal of the receiver latch is necessary, drift out this cross pin. **Caution:** *The spring will be released rearward. Ease out the spring.*



- 31.** Removal of this small screw will allow the latch lever to be taken off toward the left, and the latch bolt can then be taken out rearward.



- 32.** The rear sight can be removed by backing out the adjustment screws on each side.

- 33.** The magazine catch and the bolt hold-open, and their attendant springs, can be removed by taking out a single cross screw. Note that this screw is usually staked in place, and it should be removed only for repair purposes.



- 34.** The ejector is retained by a cross pin which is heavily riveted on both sides, and again, removal should be only for repair.



- 35.** A small vertical pin retains the stop piece in the cocking handle assembly. After removal of the pin, the stop piece can be pushed out toward the left, and the cocking handle slide can be moved out of its track toward the rear. When this unit is out, another small vertical pin can be drifted out to free the handle and its spring and plunger.



- 36.** A cross screw on the right side retains the forend plates. Removal of the large screws on each side of the bipod will allow the bipod to be taken off, but in normal takedown this unit is best left in place.

- 37.** Tip the forend plates outward, then remove them toward the front. The cross screw is captive in the right plate.



- 38.** If the flash hider, sling swivel, and bipod have been removed, and the gas piston assembly is to be removed for repair, it is retained by this cross pin.



- 39.** For access to the gas system, use a bullet tip or a tool to depress the latch button, and turn the gas cylinder plug clockwise, front view, about a quarter turn. When it is clear, the piston spring will push it out, so control it.



- 40.** Remove the gas cylinder plug, and take out the piston and its spring toward the front.

Reassembly Tips:

1. When replacing the gas cylinder plug, be sure the large letter "A" is on top when the plug is locked, as shown. If the plug is installed the other way, the gas system will be blocked. This is a feature for grenade launching. Note that the gas adjustment sleeve, to the rear of the sight, is designed to work with a special wrench. However, it can be turned with tools, if care is taken to avoid marring.



2. When replacing the trigger and sear assembly, be sure the sear is inserted with the large recess toward the rear, as shown, to mate with the plunger.



3. When reinstalling the hammer spring and its housing, seat the follower in the hammer recess, place the housing on top of the lower receiver, and push it forward and downward to lock in place.



4. To replace the recoil spring in the buttstock, use a rod small enough to pass through the hole in the retainer, to guide the spring, and use a screwdriver on each side in the slot to start the retainer into its threads. Avoid cross-threading.

HECKLER & KOCH HK 91



Data: Heckler & Koch HK 91
Origin: Germany
Manufacturer: Heckler & Koch GmbH,
Oberndorf/Neckar
Cartridge: 308 Winchester
(7.62 x 51mm)
Magazine capacity: 5 and 20 rounds
Overall length: 40-1/4 inches
Barrel length: 19 inches
Weight: 10.3 pounds

The HK 91 is the semi-auto version of the selective-fire G3, the standard German military rifle. Except for the full-auto system, the two guns are mechanically very similar, and most of the instructions will apply. There is also a version in 223, the HK 33, and all three guns are available in retractable-stock models.

Disassembly:

1. Remove the magazine, and cycle the action to cock the internal hammer. Push out the two locking cross pins at the lower rear of the receiver. Cross-holes are provided in the buttstock for storage of the pins during disassembly.



2. Remove the buttstock and back plate assembly toward the rear. The recoil spring and its guide and the buffer assembly can be taken out of the stock, if necessary, by removal of two slotted screws inside the front of the buttstock. Control the springs during this operation.



3. Tip the grip frame down at the rear, and remove it downward.



4. Turn the safety lever up to vertical position, and remove it toward the left. The hammer should be in the fired position for this operation.

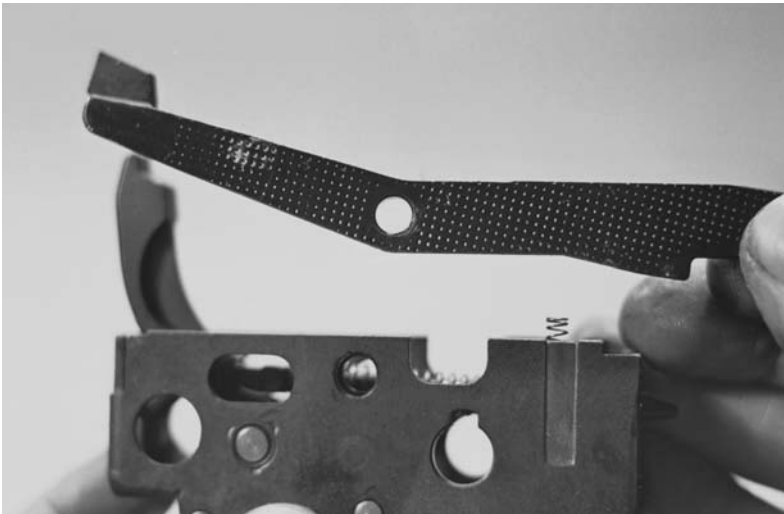
- 5.** Remove the sub-frame from the pistol-grip unit. If it is very tight, it may be necessary to pry it gently at the front to start it.



- 6.** Restrain the ejector, and push the ejector pivot out toward the left.



- 7.** Remove the ejector upward, and take out its vertical spring at the rear.



- 8.** Restrain the hammer spring and its guide at the top, and insert a tool through the side opening to lift the forward end of the guide out of its engagement with the hammer.



- 9.** Remove the hammer spring and guide upward and toward the front.



- 10.** Remove the hammer pivot toward either side.



- 11.** Remove the hammer upward.

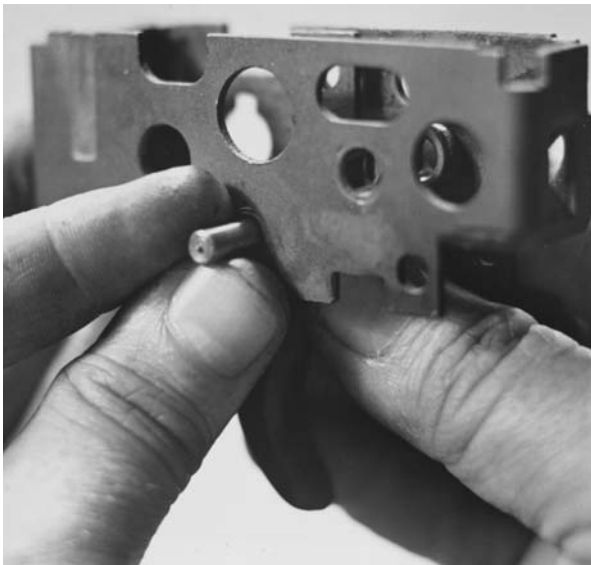


- 12.** Restrain the sear spring and its roller at the front, and push out the sear cross pin toward either side.

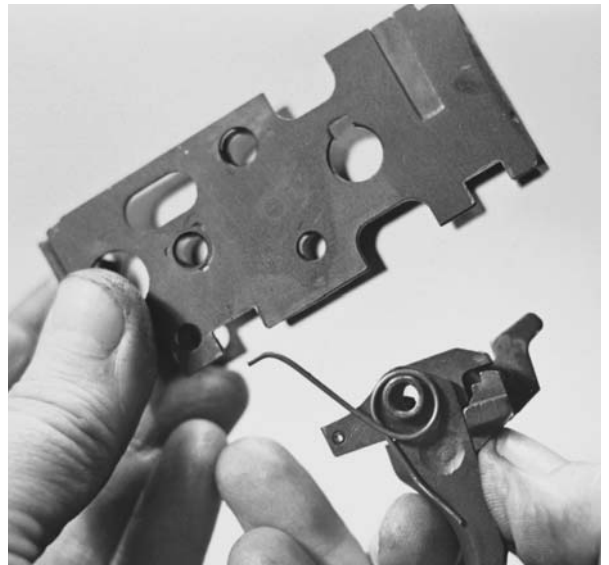
- 13.** Remove the sear spring and its roller, or mounting sleeve, downward.



- 14.** Unhook the trigger spring from its shelf on the trigger, on the left side at the rear, and move the spring arm downward and forward, relieving its tension. Caution: Keep fingertips clear, as the released spring can cause injury.



- 15.** Push out the trigger pivot pin toward either side.



- 16.** Remove the trigger assembly downward. The sear is easily lifted out from the trigger top, and the trigger spring from the left side of the trigger.

- 17.** A roll pin at the front of the sear retains an internal plunger and spring. If this is to be removed, control the plunger and spring, and ease them out.



- 18.** A single screw on the right side retains the pistol-grip handle on the grip frame. After the screw is removed, the handle is taken off downward.



- 19.** Remove the bolt assembly from the rear of the receiver.

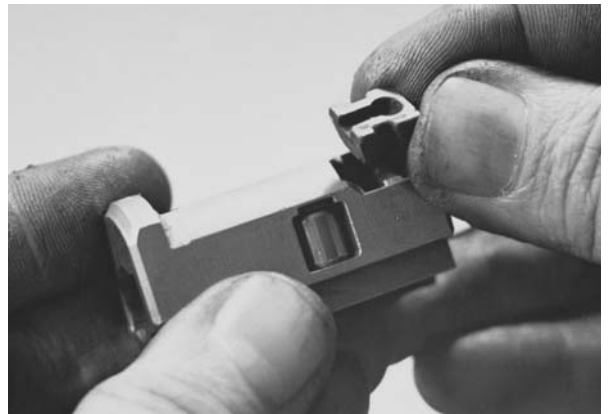


- 20.** Turn the bolt head 90 degrees toward the right, and remove the bolt head toward the front.

- 21.** Insert a small screwdriver in the loop of the extractor spring on the bolt head, and lift it just enough to clear its shoulder on the extractor, then pull the spring out toward the front.



- 22.** After removal of the spring, the extractor can be lifted out of its recess in the bolt head. The locking rollers are retained by an inner bracket, which is held by a roll pin. The pin can be drifted down into the bolt head, and the bracket and rollers moved out toward the side. In normal takedown, this unit is best left in place.



- 23.** Rotate the locking piece one-half turn in either direction, and remove it toward the front.

- 24.** Remove the firing pin toward the front, along with its spring.



- 25.** The bolt head locking lever and its spring are retained on the bolt carrier by a cross pin. If these parts are to be removed, keep them under control, as the spring is very strong.



- 26.** Push out the locking pin at the front of the handguard.

- 27.** Tip the handguard down at the front, then remove it toward the front and downward.



- 28.** It is possible to remove the cocking handle assembly by aligning its cross pin with the access holes in the sleeve and drifting out the pin. The handle and spring are then removed outward, and the internal rod is moved out toward the rear. In normal takedown, this unit is best left in place.



- 29.** The magazine catch button is retained on the cross-piece by a vertical roll pin. When the pin is drifted out, the button and spring are released toward the right, and the catch piece is taken off toward the left.

- 30.** The cap at the front is retained by a plunger and spring. Depress the plunger, and take off the cap toward the front.



- 31.** Engage a tool or a piece of bar stock with the opposed notches in the front of the flash hider, and unscrew it from the end of the barrel. Take care not to lose the retaining spring.



- 32.** The rear sight is both horizontally adjusted and retained by a large Phillips screw on top. If this is removed, take care that the lock washer and the flat spring plate are not lost. The turret locking ball and spring will also be released on the underside of the sight, so keep these small parts under control. Unless repair is necessary, the sight should be left in place.

Reassembly Tips:

1. When replacing the bolt head in the carrier, it will be necessary to depress the rear of the locking lever or lift its front beak to engage with its track on the bolt head.



2. When reassembling the trigger group, install the sear spring assembly first, being sure that its upper arms are in front of the hammer pivot projections inside. Lift the lower portion of the spring, and insert one of the major retaining pins, as shown, to hold the spring during installation of the sear and trigger assembly. When the parts are installed, remove the pin, and be sure the small roller at the rear tip of the spring engages the underside of the sear.



3. Before replacing the bolt and bolt carrier in the receiver, the bolt head must be moved forward slightly in the carrier, as shown, to retract the locking rollers.



Ruger Mini-14

Similar/Identical Pattern Guns

The same basic assembly/disassembly steps for the Ruger Mini-14 also apply to the following guns:

Ruger Mini-14 Ranch Rifle

Ruger Mini Thirty

Data: Ruger Mini-14

Origin: United States

Manufacturer: Sturm, Ruger & Company
Southport, Connecticut

Cartridge: 223 Remington (5.56mm)

Magazine capacity: 5 rounds

Overall length: 37-1/4 inches

Barrel length: 18-1/2 inches

Weight: 6.4 pounds

While externally it may appear to be a miniature of the U.S. M-14 rifle, the Mini-14 is all Ruger on the inside. Introduced in 1973, this neat little carbine has gained wide acceptance both as a sporting gun and in police and guard applications. There has been one small change in the original design—a bolt hold-open button was added on the top left side of the receiver, and all guns of more recent manufacture will have this feature. The Ruger Mini Thirty in 7.62x39 and the Ruger Ranch Rifle are mechanically the same.



Disassembly:

1. Remove the magazine, and cycle the action to cock the internal hammer. Push the safety back to the on-safe position, and insert a non-marring tool through the hole at the rear of the trigger guard to spring the guard downward at the rear. Swing the guard toward the front until it stops.



2. Remove the trigger housing downward.



3. Tip the rear of the action upward out of the stock, and remove it toward the front.





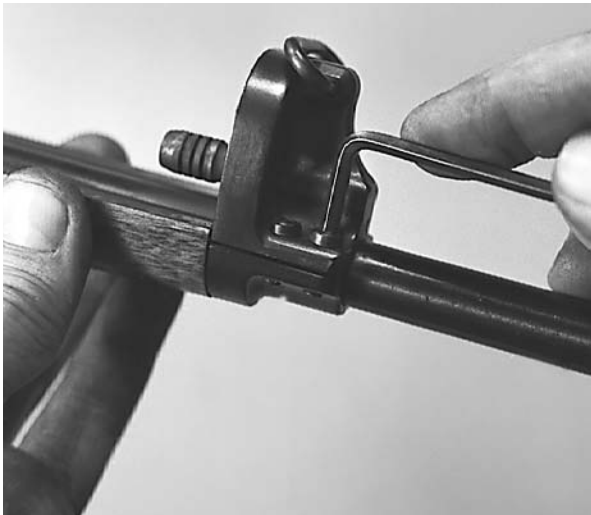
- 4.** Grasp the recoil spring firmly at the rear, where it joins the receiver, and lift the tip of the guide out of its hole in the front of the receiver. **Caution:** *This is a strong spring, so keep it under control.* Tilt the spring and guide upward, slowly release the tension, and remove the spring and guide toward the rear.

- 5.** Move the slide assembly toward the rear until its rear lug aligns with the exit cut in the slide track, and move the operating handle upward and toward the right. Remove the slide assembly.



- 6.** Move the bolt forward to the position shown, and remove it upward and toward the right. The bolt must be turned to align the underlug of the firing pin with the exit cut in the bottom of the bolt track.

- 7.** In normal takedown, the gas block assembly should not be removed. If it is necessary, use an Allen wrench to remove the four vertical screws, separating the upper and lower sections of the gas block. The gas port bushing will be freed with removal of the lower block, so take care that it isn't lost.



- 8.** Slide the bolt hold-open cover downward out of its slots in the receiver and remove it.



- 9.** Depress the bolt latch plunger on top of the left receiver rail, and lift the bolt lock out of its recess toward the left. **Caution:** The bolt latch retains the plunger, so control the plunger and ease it out upward, along with its spring.



- 10.** The front magazine catch, located in the front of the receiver below the barrel, is retained by a roll cross pin, accessible through holes on each side. Drift out the cross pin, and remove the catch toward the front.

- 11.** Insert a small screwdriver beside the extractor plunger, and turn and tip the screwdriver to depress the plunger. Move the extractor upward out of its recess. **Caution:** *As the extractor post clears the ejector it will be released, so restrain the ejector and ease it out toward the front. Also take care to keep the extractor plunger under control, and ease it out.* Removal of the extractor will also free the firing pin to be taken out toward the rear.



- 12.** Close and latch the trigger guard, and insert a piece of rod or a drift punch through the hole in the rear tip of the hammer spring guide.



- 13** Restrain the hammer, move the safety to the off-safe position, and pull the trigger to release the hammer. The rod will trap the hammer spring on the guide. Tip the front of the guide upward, out of its recess at the rear of the hammer, and remove the guide assembly toward the right. If the spring is to be taken off the guide, proceed with care, as the spring is fully compressed.

- 14** Push out the hammer pivot, and remove the hammer upward and toward the right.



- 15** Move the safety back to the on-safe position, and take off the trigger guard downward and toward the rear.

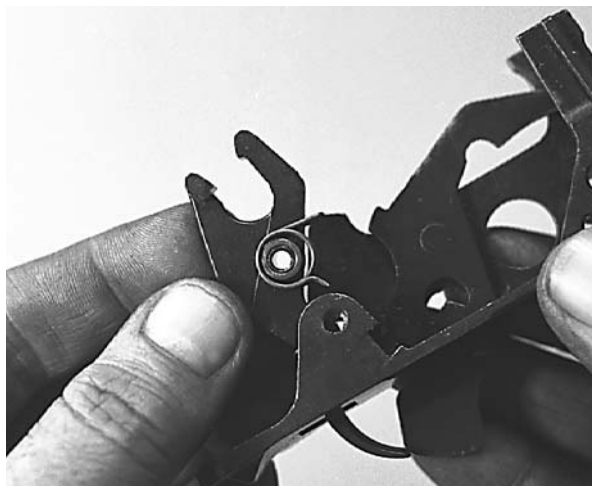


- 16** Drift out the safety spring pin toward the left, ease the spring tension slowly, and move the spring toward the rear, unhooking it from the safety. Remove the spring toward the right rear.



17 Restrain the trigger and sear assembly, and drift out the trigger cross pin.

18. Remove the trigger and sear assembly upward.



19. The trigger spring is easily detached from the trigger and the pivot bushing can be drifted out to free the secondary sear and its coil spring from the top of the trigger. **Caution:** Use a roll pin punch to avoid damaging the bushing, and take care to restrain the sear against the tension of its spring.



20. Tip the upper portion of the safety catch toward the right, moving its pivot stud out of its hole in the trigger housing, and remove the safety upward.

- 21.** The main magazine catch is retained by a cross pin at the front of the trigger housing, and the pin must be drifted out toward the left. **Caution:** *The strong magazine catch spring will also be released when the pin is removed, so insert a shop cloth into the housing behind the spring to catch it.* This spring is rather difficult to reinstall, so if removal is not necessary for repair, the catch is best left in place.



Reassembly Tips:

- 1.** When installing the trigger and sear assembly, tilt the assembly forward, and be sure the front hooks of the trigger spring engage the top of the cross piece in the housing. Push the assembly downward and toward the rear until the cross pin can be inserted.



When replacing the safety spring, be sure that its front arm goes on the right side of the rear arm of the magazine catch spring. Otherwise, the safety spring pin cannot be fully inserted.

VALMET 76FS

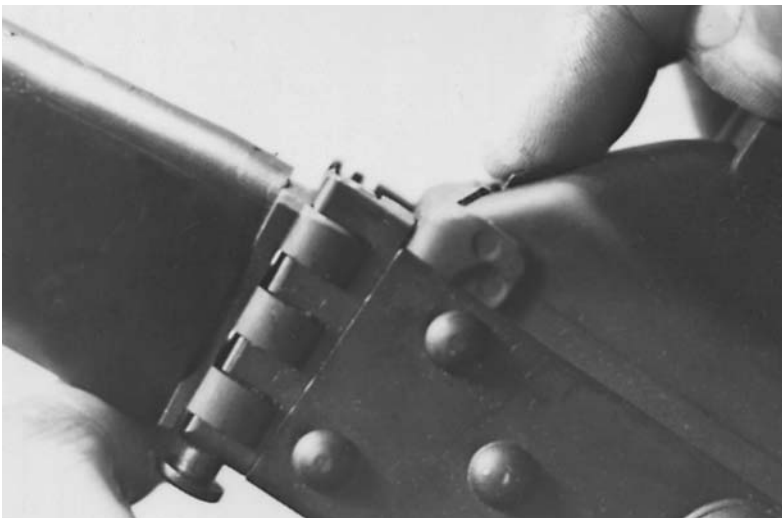


Data:	Valmet 76 FS
Origin:	Finland
Manufacturer:	Valmet Oy, Helsinki
Cartridge:	223 Rem. (5.56mm)
Magazine capacity:	15 and 30 rounds
Overall length:	36-5/8 inches
Barrel length:	16-5/8 inches
Weight:	8-3/4 pounds

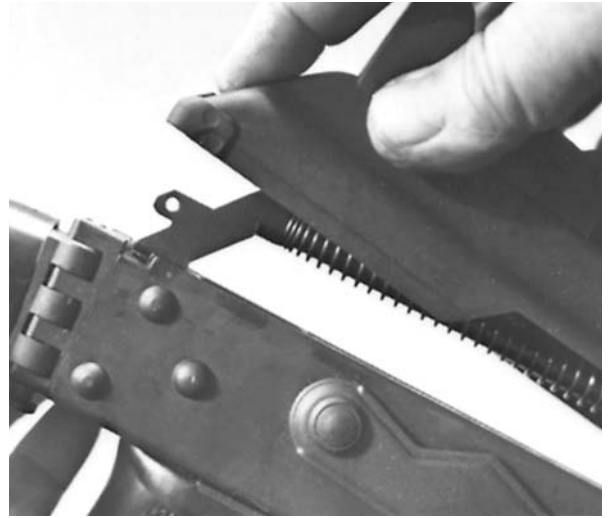
Imported for a time by Interarms in several models, the Valmet is essentially a modified semi-auto version of the Russian AK-series of guns. The Valmet was offered in two chamberings, the 223 and the 7.62x39mm, and the models were the 62/S, 62/FS, 71/S, and 76/FS. The last folding-stock model, the M76/FS, is the gun shown here. They are all mechanically similar, but not identical.

Disassembly:

1. Remove the magazine, and cycle the action to cock the internal hammer. Set the safety in the off-safe position. Depress the receiver cover latch, and lift the rear of the cover upward.



2. Detach the receiver cover and remove it upward and toward the rear.



3. Move the rear base of the recoil spring guide forward to detach it from its seat in the receiver, lift it upward, and remove the guide and spring toward the rear.



4. Move the bolt carrier assembly toward the rear until the piston is clear of its sleeve at the front. Lift the rear of the carrier as it is moved toward the rear, and remove the assembly.

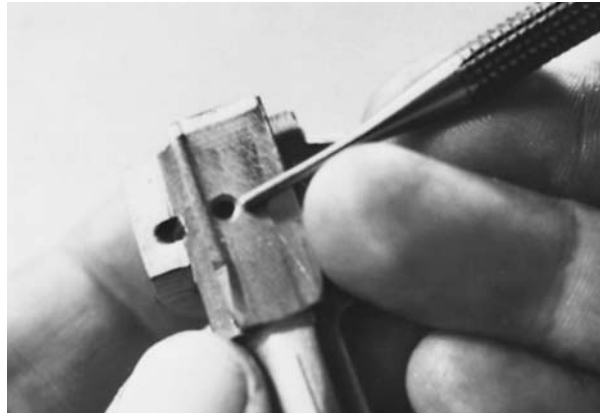
- 5.** Move the bolt rearward in the carrier until it stops, turn it to the left (counter-clockwise, front view) until its lug clears, then remove the bolt toward the front.



- 6.** If the gas piston is damaged and requires replacement, drifting out this roll pin will release it for removal toward the front. Otherwise, don't disturb it.

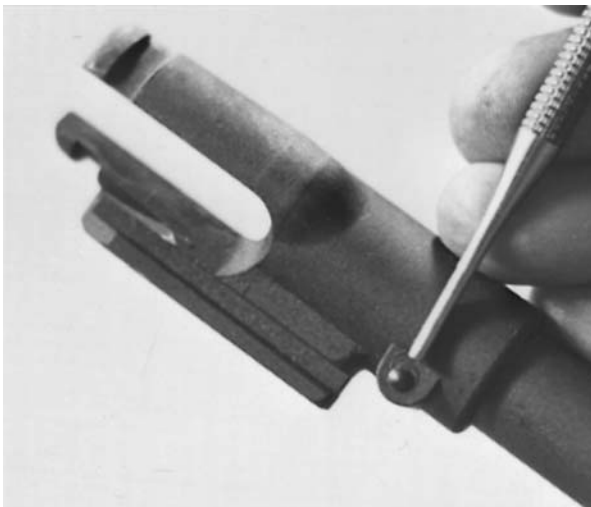


- 7.** The extractor and its spring are retained by the larger of the two pins that cross the front of the bolt. The pin is drifted out toward the right. Restrain the extractor and spring, and ease them out.



- 8.** The smaller of the two pins in the bolt retains the firing pin and its spring. Restrain the firing pin at the rear, drift out the pin upward, and remove the firing pin and spring toward the rear.

- 9.** Move the gas tube toward the rear, lift it slightly to clear its lower edges, and remove it rearward.



- 10.** The flash hider is retained on the end of the barrel by a cross pin which is driven out toward the right.



- 11.** The combination front sight base and gas port unit is retained by two cross pins. After the pins are drifted out toward the right, the unit can be nudged forward off the barrel.

- 12.** The handguard is retained by a threaded nut-plate at the front, and the plate has spanner-holes for the use of a special wrench. In the absence of this tool, use a nylon drift punch set in one of the holes to free the nut, then unscrew it, counter-clockwise (front view). Take off the nut-plate, washer, and the second nut, then remove the handguard toward the front. The rear handguard plate will also be freed for removal. The barrel and the bolt cam plate are cross-pinned and riveted in place, and routine removal is neither practical nor advisable. The ejector is also riveted in place on the left inner wall of the receiver, and it should not be disturbed unless necessary for repair.



- 13.** Restrain the hammer, pull the trigger, and ease the hammer over past its normal forward position. Insert a tool inside the receiver to lift the front loop of the hammer pin retaining spring, and push the hammer pin out toward the left. Move the safety upward to clear the pin.



- 14.** Restrain the hammer, and remove the hammer pin toward the left.



- 15.** Insert a tool to unhook the rear tips of the hammer spring from the trigger, and move the hammer and its attached spring forward. Turn the hammer assembly to clear it, and remove the hammer and spring from the bottom of the receiver.

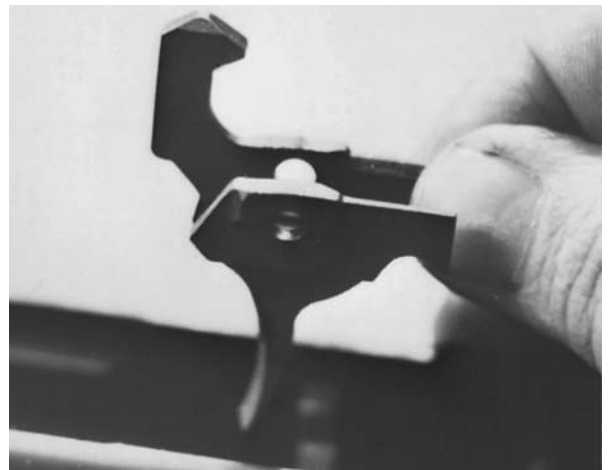
- 16.** Insert a tool to slide the pin retaining spring forward, and remove it from the bottom of the receiver.



- 17.** Push out the trigger pin and remove it toward the left. Restrain the sear while this is done.



- 18.** Remove the sear and its coil spring from the top of the receiver.

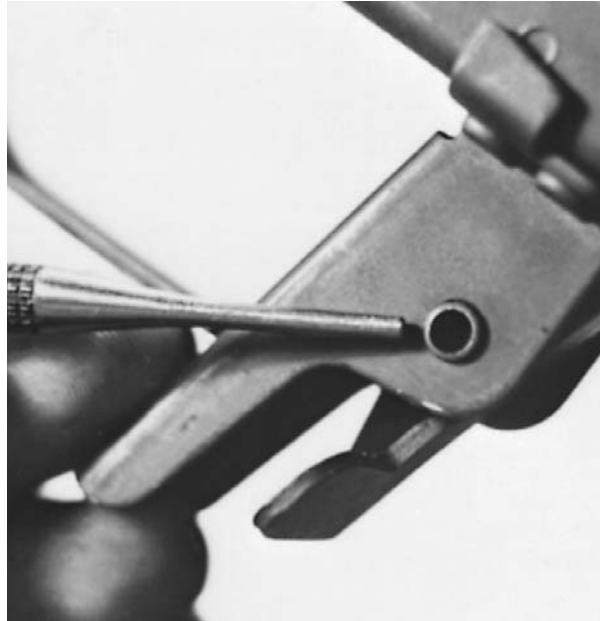


- 19.** Remove the trigger from the top of the receiver.

- 20.** Turn the safety lever up to the vertical position, move it toward the left, then slightly toward the rear. Remove the lever toward the right.



- 21.** The magazine catch and its torsion spring are retained by a riveted cross pin, and these parts should be removed only for repair. The pistol grip piece is retained by a screw and lock-washer inside the receiver.



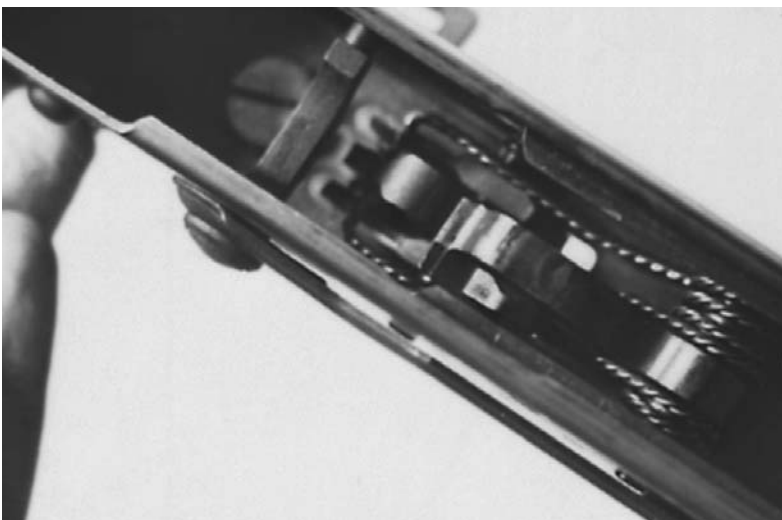
- 22.** The folding buttstock is retained by a vertical hinge pin. After the pin is driven out downward, the stock latch spring can be slid toward the left, releasing the stock latch for removal downward.



- 23.** The latch that holds the stock in folded position is retained on the back of the rear handguard plate by a hexagonal nut, and can be removed with a small wrench of the proper size.

Reassembly Tips:

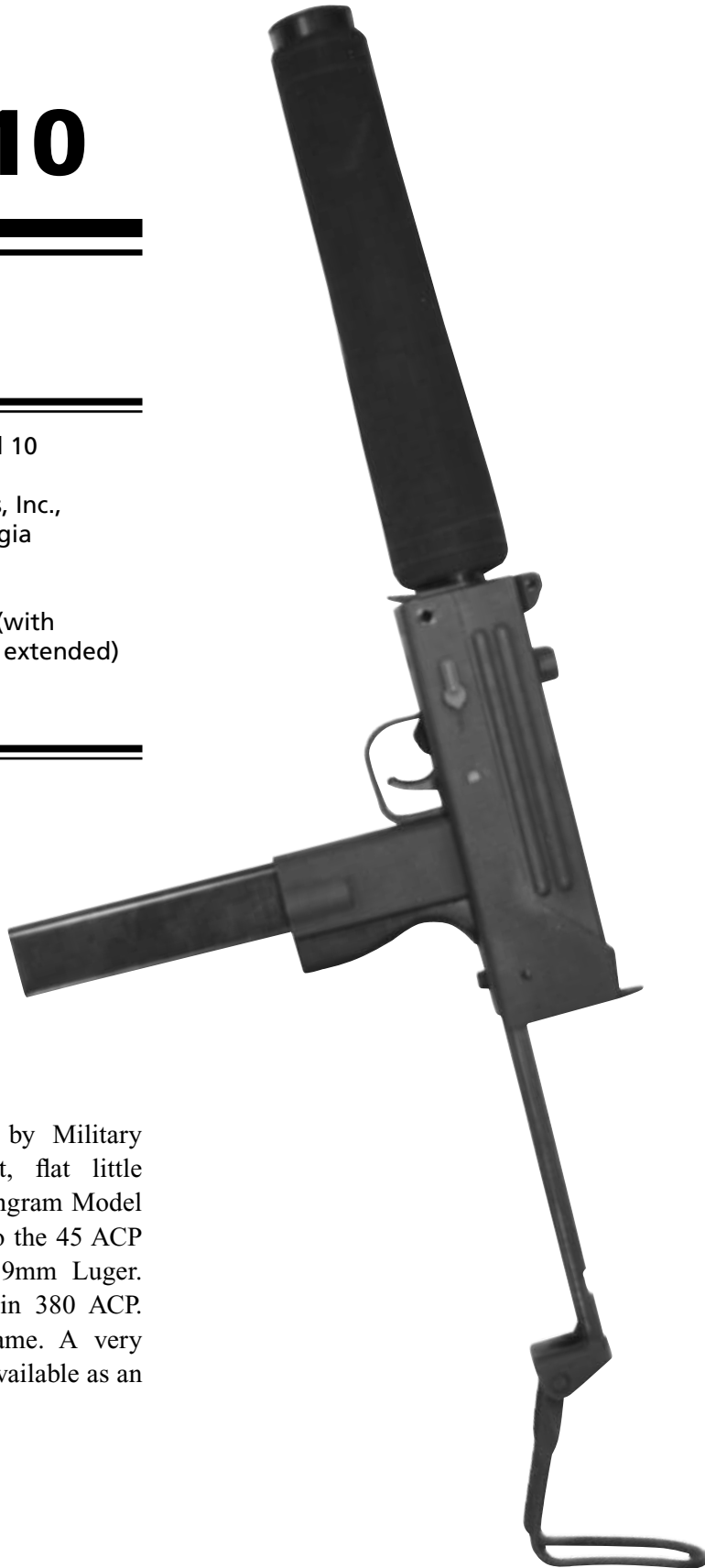
- 1.** When reassembling the internal components of the receiver, be sure to install the safety lever first, as this cannot be done with the sear and trigger assembly in place. Install the sear and trigger next, then the lock spring, being sure the rear tip of the spring is below the trigger pin. Install the hammer, lift the lock spring, and insert the hammer pin beneath the spring. Finally, hook the rear tips of the hammer spring back into the top rear of the trigger. The photo shows the interior of the receiver, with the parts properly installed, and the hammer in cocked position.
- 2.** When replacing the bolt carrier assembly, position the rear of the carrier over the rear of the receiver as shown, then move it downward to engage its tracks with the flanges inside the receiver.



INGRAM MODEL 10

Data: Ingram Model 10
Origin: United States
Manufacturer: RPB Industries, Inc.,
Atlanta, Georgia
Cartridge: 45 ACP
Magazine capacity: 30 rounds
Overall length: 31-3/4 inches (with
silencer, stock extended)
Barrel length: 5-3/4 inches
Weight: 6-1/4 pounds

Originally made as the MAC-10 by Military Armament Corporation, this neat, flat little submachine gun is now called the Ingram Model 10 by RPB Industries. In addition to the 45 ACP chambering, it is also offered in 9mm Luger. A smaller gun, the Model 11, is in 380 ACP. The guns are mechanically the same. A very effective “suppressor” (silencer) is available as an accessory.



Disassembly:

1. Remove the magazine, and leave the bolt in the forward position. Unscrew the suppressor, and remove it from the barrel.



2. Push out the takedown pin, located at the lower front of the receiver, toward the right.



3. Lift the front of the receiver assembly, move the assembly forward, and detach it from the grip frame.



4. Move the bolt assembly to the rear of the receiver, and align the bolt handle with the larger opening at the rear of its track. Pull the bolt handle out upward. If it is very tight, insert a drift punch from below and nudge it out.



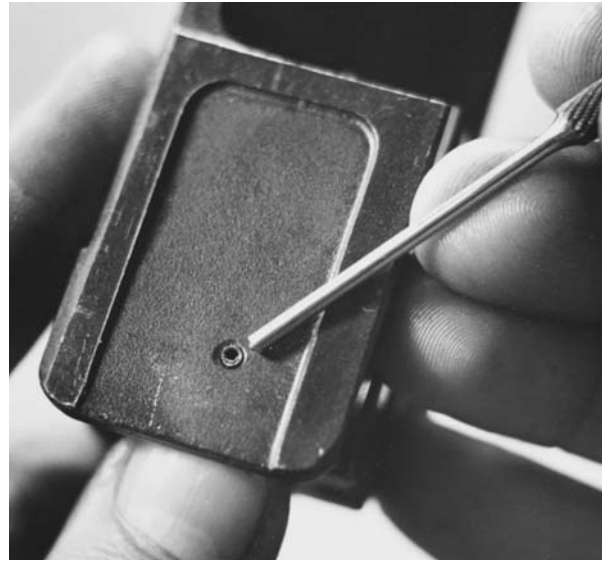
- 5.** Remove the bolt assembly toward the rear.



- 6.** The barrel is threaded into the receiver and also retained by a large roll cross pin. Routine removal is not recommended.

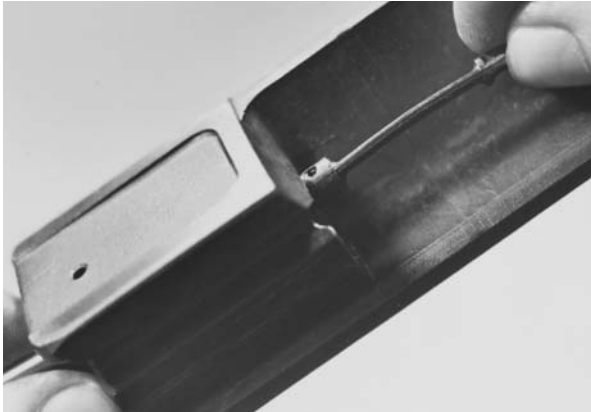


- 7.** The recoil spring assembly is retained in the bolt by a roll cross pin at the front of the recoil spring guide. Compress the recoil spring slightly to push the guide out the front of the bolt, drift out the cross pin, and the spring and guide assembly can be removed toward the rear. **Caution:** When the pin is out, control the compressed spring.



- 8.** The extractor is retained by a roll cross pin which is drifted out toward the right.

- 9.** After the pin is removed, insert a drift punch from the rear, and nudge the extractor out toward the front.



- 10.** The bolt handle retaining plunger and its spring are retained at the front of the bolt by a vertical roll pin, which is drifted out upward. Restrain the spring as the pin is removed, and take out the spring and plunger toward the front.



- 11.** Lift the front L-shaped tip of the selector positioning spring slightly, and push the selector crosspiece toward the left.



- 12.** Restrain the sear, and remove the selector toward the left.

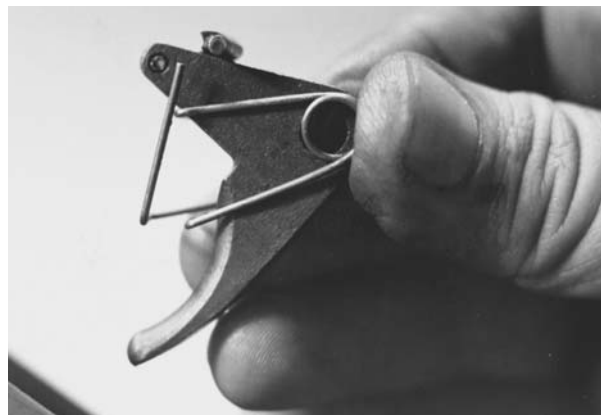
- 13.** Remove the sear and its spring from the top of the receiver.



- 14.** Remove the disconnecter from the top of the receiver.



- 15.** Restrain the trigger, and push out the trigger pin toward the left.



- 16.** Remove the trigger assembly upward.

- 17.** The spring is easily detached from the trigger. The sear trip is retained on the front of the trigger by a roll cross pin, and can be removed if necessary.



- 18.** Remove the pivot pin locking spring.

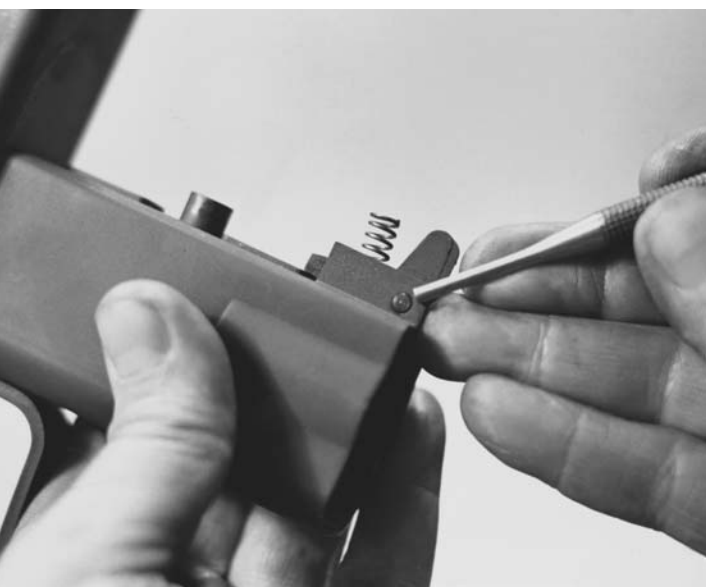


- 19.** The safety assembly is retained by a roll cross pin in the safety button. After the pin is drifted out, the button is taken off downward, and the safety block, spring, and plunger upward.

- 20.** Remove the screw at the center of the backstrap piece on the pistol grip.

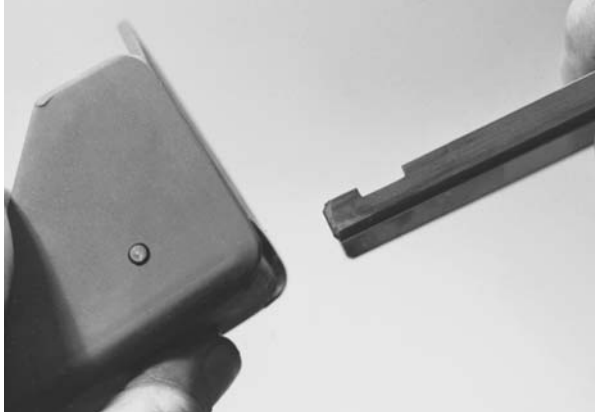


- 21.** Move the backstrap piece toward the rear for removal. Note that the magazine catch spring bears on the backstrap, so remove it slowly.



- 22.** Push out the cross pin at the lower rear of the grip frame, and remove the magazine catch and its spring.

- 23.** Depress and hold the stock latch button, and remove the stock toward the rear. The stock shoulder piece is retained by a C-clip on its hinge pin.



- 24.** Inside the frame at the rear, depress the stock latch cross pin slightly, and move the pin out toward either side.



- 25.** After the cross pin is removed, the stock latch and its plunger and spring can be taken out upward.

Reassembly Tips:

1. When replacing the trigger assembly, turn the sear trip in at the front to bear against the lower arm of the trigger spring, and use it to keep the spring to the rear while the cross pin is inserted.



2. This top view of the grip frame shows the parts installed in proper order.



3. When replacing the extractor, note that it must be oriented so the hole in the extractor base will align with the cross-hole in the bolt. When the extractor is in position, insert a tapered drift punch to check this alignment before installing the cross pin.





Reising Model 50

Data:	Reising Model 50
Origin:	United States
Manufacturer:	Harrington & Richardson, Worcester, Massachusetts
Cartridge:	45 ACP
Magazine capacity:	12 and 20 rounds
Overall length:	35-3/4 inches
Barrel length:	11 inches
Weight:	6-3/4 pounds

Designed by Eugene G. Reising, the Model 50 was made by Harrington & Richardson from 1940 through World War II, with a total production of about 100,000 guns. The Model 50 and a folding-stock version, the Model 55, were produced mainly for the U.S. Marines and the British Purchasing Commission. After the war, many of these guns were released to local law enforcement agencies in the United States.

Disassembly:

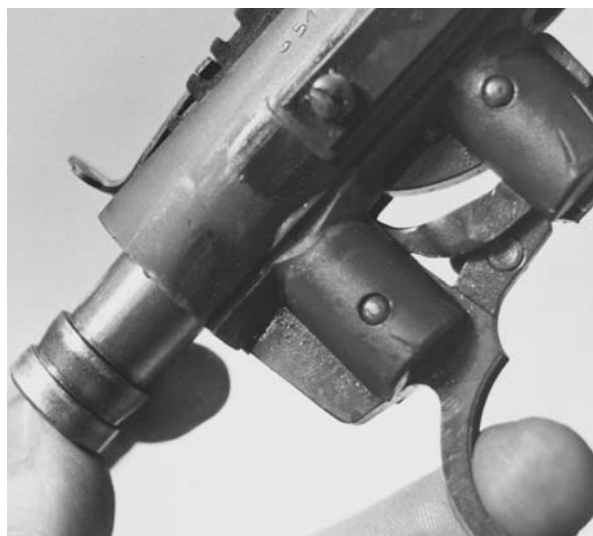
1. Remove the magazine, and set the fire selector in the full-auto position. Pull the trigger to drop the hammer to the fired position. Unscrew the takedown knob, located on the underside just behind the magazine housing. If the knob is tight, there is a slot for a coin or a large screwdriver. Lift the action out of the stock.



2. Unscrew the large endcap at the rear of the receiver, controlling it against the pressure of the hammer spring.



3. Remove the hammer spring toward the rear.



4. Tilt the action, pull the trigger, and remove the hammer from the rear of the receiver.

- 5.** Drift out the front and rear magazine housing retainers toward the left.



- 6.** Remove the magazine housing downward.



- 7.** The magazine catch, which is its own spring, is retained on the back of the magazine housing by a single screw.

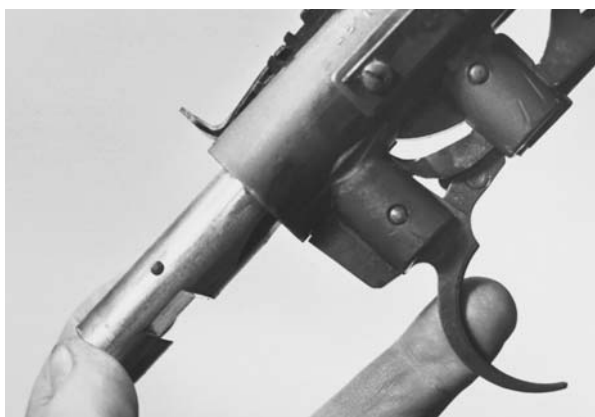
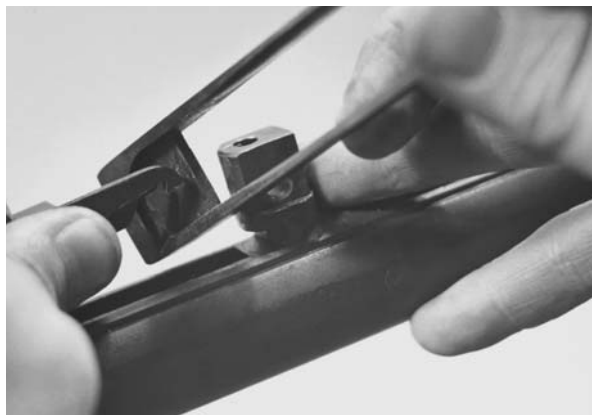


- 8.** Move the action slide toward the rear until a hole is visible in the bolt spring guide. Insert a pin or tool in the hole and ease the slide forward, capturing the spring.

- 9.** Move the slide assembly forward until it is stopped by the rear magazine housing mount, and move the front of the disconnecter and connector away from the receiver for clearance. Tilt the front of the action slide away from the barrel.



- 10.** Move the rear of the action slide outward, and twist it toward either side to clear the bolt contact lug from the receiver. Remove the slide assembly from the receiver. Restrain the bolt spring guide at the rear, remove the pin or tool, and remove the spring and guide toward the rear.



- 11.** Tilt the action upward, pull the trigger, and remove the bolt from the rear of the receiver.



- 12.** The firing pin and its return spring are retained in the bolt by a cross pin which is drifted out toward the left. Restrain the firing pin as this is removed.

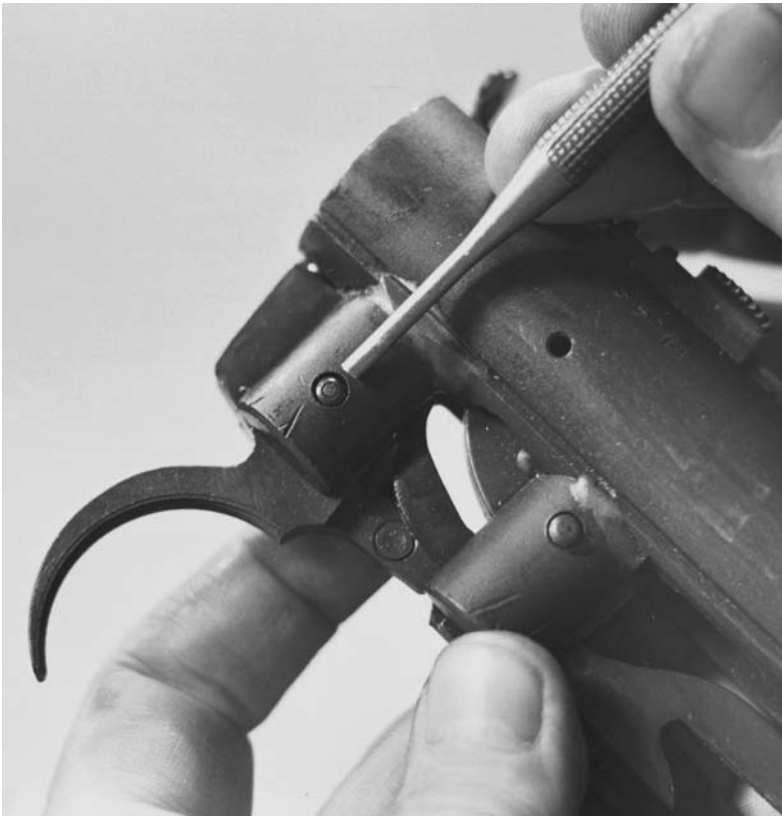
- 13.** The extractor is retained on the right side of the bolt by a screw. After the screw is removed, insert a tool to gently pry the extractor from its recess.



- 14.** Remove the two screws that retain the selector and its positioning spring, and remove these parts toward the right.



- 15.** Push out the cross pin that retains the trigger and disconnector.



- 16.** Remove the trigger and disconnecter assembly downward. The trigger and disconnecter can be separated by drifting out the link pin. The trigger spring and plunger, and the disconnecter spring, can now be removed.



- 17.** Push out the sear cross pin.



- 18.** Remove the sear and connector assembly downward. The spring is easily removed from the top of the sear, and the connector and its spring and plunger can now be removed.

- 19.** The rear sight is retained by a single screw.



- 20.** The front sight is retained in its dove-tail by a vertical Allen screw.



Reassembly Tips:

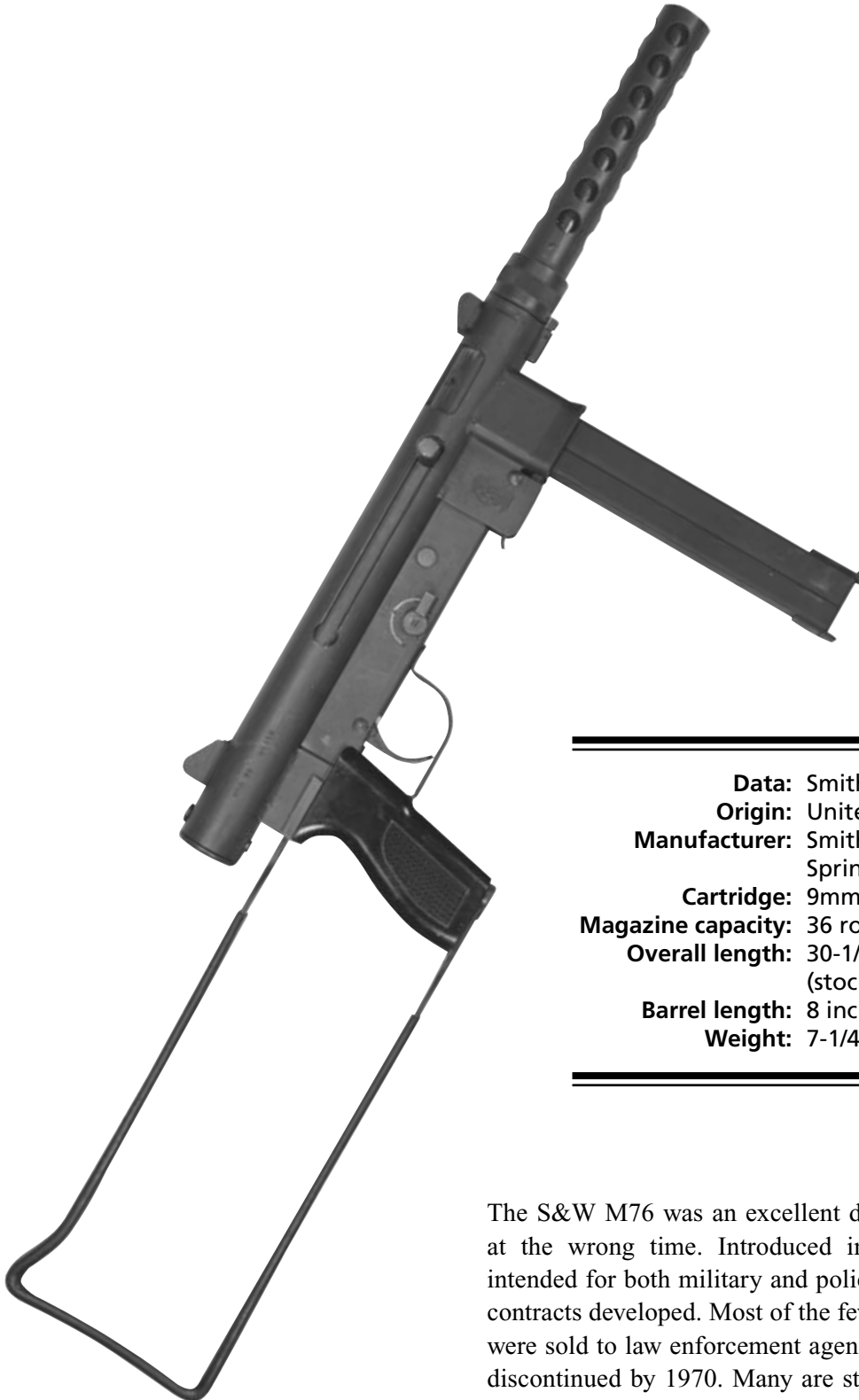


- 1.** Here are right and left side views of the trigger, sear, disconnector, and connector assembly in proper order.



When replacing the action slide, be sure its upper rear lug engages the recess on the underside of the bolt.

SMITH & WESSON M76



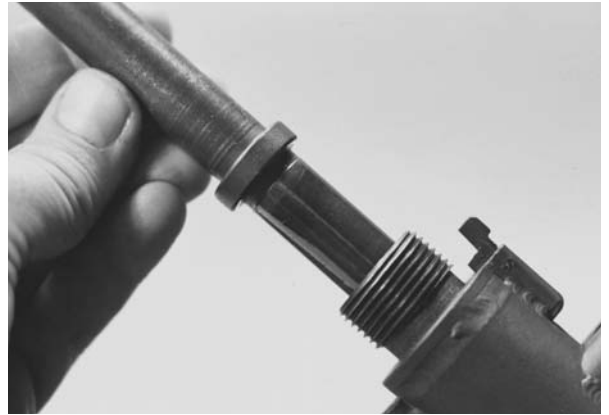
Data:	Smith & Wesson Model 76
Origin:	United States
Manufacturer:	Smith & Wesson, Springfield, Massachusetts
Cartridge:	9mm Luger
Magazine capacity:	36 rounds
Overall length:	30-1/2 inches (stock extended)
Barrel length:	8 inches
Weight:	7-1/4 pounds

The S&W M76 was an excellent design that came along at the wrong time. Introduced in 1967, the gun was intended for both military and police use, but no military contracts developed. Most of the few thousand guns made were sold to law enforcement agencies, and the M76 was discontinued by 1970. Many are still in use, and the gun also has considerable collector value.

1. With the bolt in the forward position and the magazine removed, depress the barrel collar detent toward the rear, and unscrew the collar and cooling jacket for removal toward the front.



2. Remove the barrel toward the front.



3. Fold the buttstock, restrain the receiver endcap, and push out the retaining pin upward. **Caution:** *Even with the bolt forward, the recoil spring has considerable tension, so keep the endpiece under control.*

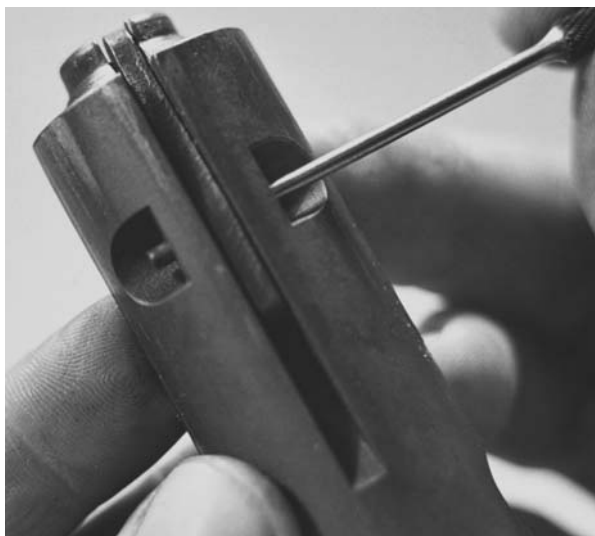


4. When the pin is out, slowly release the spring tension, and remove the endcap, guide, and spring toward the rear.

- 5.** Move the bolt back until the bolt handle aligns with the larger opening at the end of its track, and remove the bolt handle toward the right.



- 6.** Remove the bolt toward the rear.



- 7.** The extractor is retained by a roll cross pin at the front of the bolt. The pin can be drifted out toward either side.

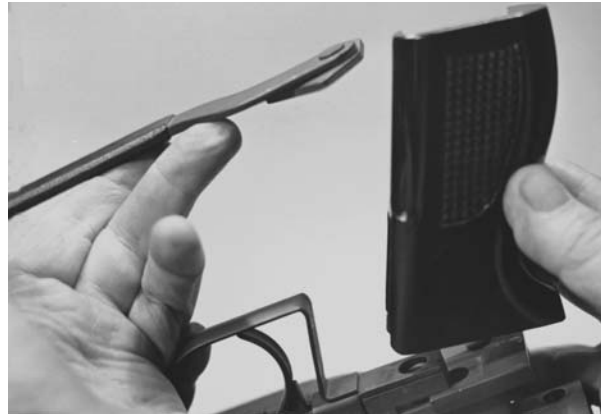


- 8.** Remove the extractor upward, and take out the extractor spring from its recess.

- 9.** With a coin or a large screwdriver, unscrew the large bolt at the bottom of the pistol grip.



- 10** Flex the lower arm of the stock and its plate away from the bottom of the grip piece, and remove the pistol grip toward the rear and downward.



- 11.** Unfold the stock to the rear, and tip the trigger sub-frame down at the rear. Remove the trigger sub-frame downward and toward the rear.



- 12.** Remove the C-clip from the left tip of the sear pivot, and push out the sear pivot toward the right.

- 13.** Remove the sear and its attached spring upward. The spring is easily removed from its post.

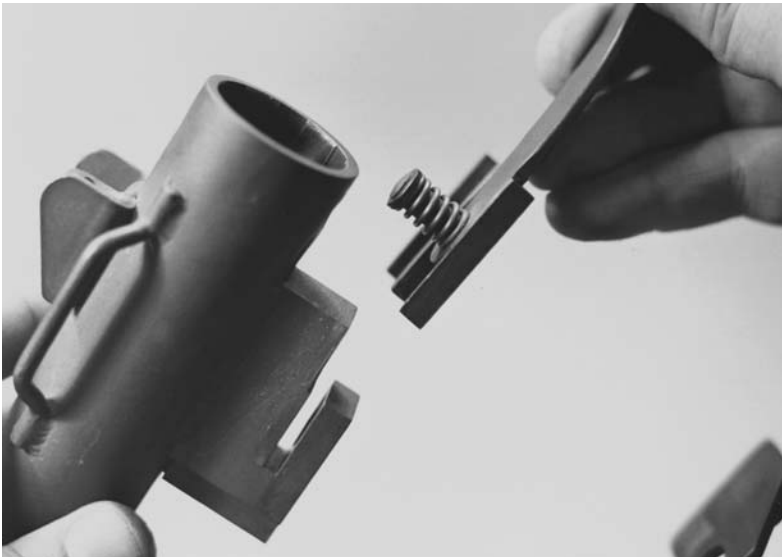


- 14.** The selector (and its twin levers, balls, and springs) is heavily staked at the end of its cross-shaft on each side. Removal is not feasible in normal takedown.

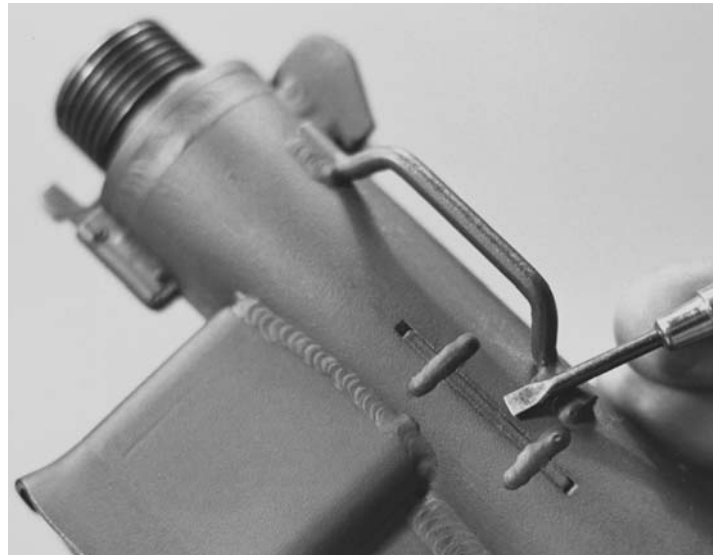


- 15.** The trigger cross pin is roll-riveted on the left side, and this system is not removed in normal takedown. The forward trigger guard rivet also retains two leaf springs inside the frame, the springs powering the trigger and trigger bar. All of these parts should be removed only for repair purposes, and a new rivet and trigger pin will probably be needed for reassembly. The trigger bar can be separated from the trigger by drifting out the connecting cross pin.

- 16.** Removal of the pistol grip bolt will have freed the buttstock base plates, and the buttstock can be removed toward the rear. The lower stock plate is retained by a riveted hinge-post. The upper mount hinge is also riveted over a washer at the top, retaining the mount and lock spring. Removal should be only for repair.



- 17.** The ejector is spot-welded in place, and is not routinely removed. To replace a broken ejector, the spot-welds must be ground away, and the ejector is then driven out toward the left. The sights and sling loops are also welded in place.



- 18.** The barrel collar detent and its spring are retained by a small roll pin. The detent and its spring are removed toward the front.

19.

The magazine catch and its spring are retained by a cross pin that is roll-riveted on the left side, and this system should be removed only for repair. If removal is necessary, use a drift punch small enough to enter the hollow end on the left, and drift the pin out toward the right. For replacement, a new pin may be necessary.



Reassembly Tips:



1.

When replacing the trigger sub-frame, it is necessary to pull the magazine catch downward and hold it out of the way as the sub-frame is moved into place.

THOMPSON MODEL 1921

Data: Thompson Model 1921
Origin: United States
Manufacturer: Colt Firearms,
Hartford, Connecticut
Cartridge: 45 ACP
Magazine capacity: 20, 30, and 50 rounds
Overall length: 33-3/4 inches
Barrel length: 10-1/2 inches
Weight: 10-3/4 pounds

Apparently, quite a number of venerable Thompson guns are still in use with many departments around the country. In my own area, both the local police and the sheriff's department have a Thompson in the arms locker. Mechanically, there is very little difference between the Model 1921 and Model 1928, and most parts will interchange. The Model 1921 gun shown here has a Model 1928 recoil spring assembly.



Disassembly:

1. Remove the magazine, depress the stock release button, and slide the buttstock off toward the rear.



2. With the bolt in the forward position, set the safety to "fire" and the selector to "full auto." Pull the trigger and hold it to the rear. Depress the frame latch button on the underside at the rear.



3. Keeping the trigger pulled to the rear, move the grip frame off toward the rear.



4. Fold a small piece of leather around the blade tip of a large screwdriver (to avoid marring the frame), and insert the tip on the right side between the upper part of the pivot plate and its short middle spring-arm. Turn the screwdriver to lever the arm downward, and push the rocker pivot pin toward the left.

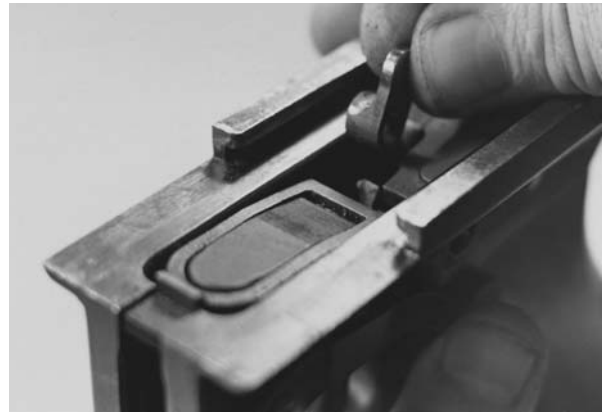
- 5.** Repeat this operation with the longer lower arm of the pivot plate, levering the spring arm clear of the notch in the safety shaft, and moving the safety toward the left.



- 6.** Remove the safety toward the left.



- 7.** Remove the selector lever, which is also the rocker pivot, toward the left.



- 8.** Remove the rocker piece upward.

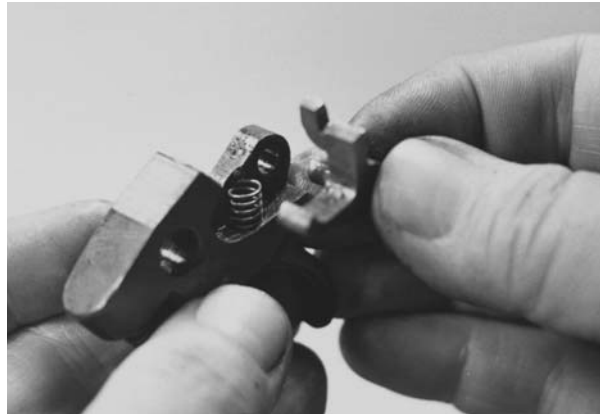
- 9.** The pivot plate is now removed toward the right. If the plate is tight, use a non-marring punch to nudge its two cross-shafts, the sear and trigger pivots, but do this alternately and equally to avoid deforming the plate. Take care to exert no pressure on the spring arms during removal. When the plate is free enough to be grasped and pulled out toward the right, restrain the sear and trigger assemblies, as they will be released.



- 10.** Remove the sear assembly upward. The sear, sear lever, and their attendant springs are easily separated after removal.



- 11.** Remove the trigger assembly upward. The trip is easily lifted off the top of the trigger, and the spring can be taken out of its well at the front.

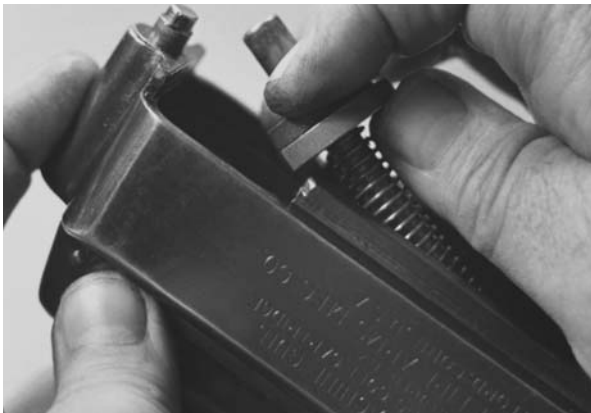


- 12.** The disconnecter is taken off the trigger toward the left, and its spring removed from its well in the trigger.

- 13.** Move the magazine catch lever upward until its front projection is clear of its hole in the frame, and push the catch toward the left for removal. The catch spring is mounted on the cross-shaft of the magazine catch, and will come out with it.



- 14.** The rear hand grip is retained by a large screw, and the grip is taken off downward.



- 15.** Depress the rear tip of the buffer rod (recoil spring guide) until the inside collar can be grasped. Move the assembly forward until its rear tip is clear, then lift it outward and remove the spring and guide toward the rear. Keep the spring under control.

- 16.** Move the bolt to the rear of the receiver, and lift it out. Move the actuator forward until the H-block is pushed outward, and remove the H-block.



- 17.** Move the actuator back until its knob aligns with the larger opening in its track, and remove the actuator downward. Inside the receiver, there is a thin steel bracket holding twin oiler pads. In normal takedown, this is best left in place.



- 18.** The ejector is removed by inserting a sharp tool to lift its rear tail until the lug is clear of its hole in the receiver, then unscrewing it, counter-clockwise (left side view). During this operation, a piece of cardboard should be used to protect the finish of the receiver from drag marks. Except for repair or refinishing, the ejector should not be removed.

- 19.** If the gun has a compensator at the muzzle, as on the one shown, drift out the cross-pin, then unscrew the compensator counter-clockwise (front view). On guns without the compensator, driving out the cross-pin will allow the front sight ring to be nudged off toward the front. The rear sight is retained by its hinge-pin, and removal will also release a plunger and spring that bear on the sight.



- 20.** The forward hand grip is retained by a large screw, and is taken off downward.



- 21.** The frame latch button is retained in its well by an enlarged loop at the end of its spring. Pull it out while turning the button and spring counter-clockwise (bottom view). If the button and its spring are ever jammed in the well, an access hole is provided on top of the receiver for insertion of a drift punch to nudge it out.



- 22.** Hook a screwdriver blade under the extractor beak, as shown, and lift it just enough to clear the underlug from its well in the bolt. Then, lever the extractor toward the front for removal. In normal takedown, the extractor is best left in place.



- 23.** Push out the hammer pin toward either side.



- 24.** Remove the hammer from the bolt.

- 25.** Remove the firing pin and its spring from the bolt.



Reassembly Tips:

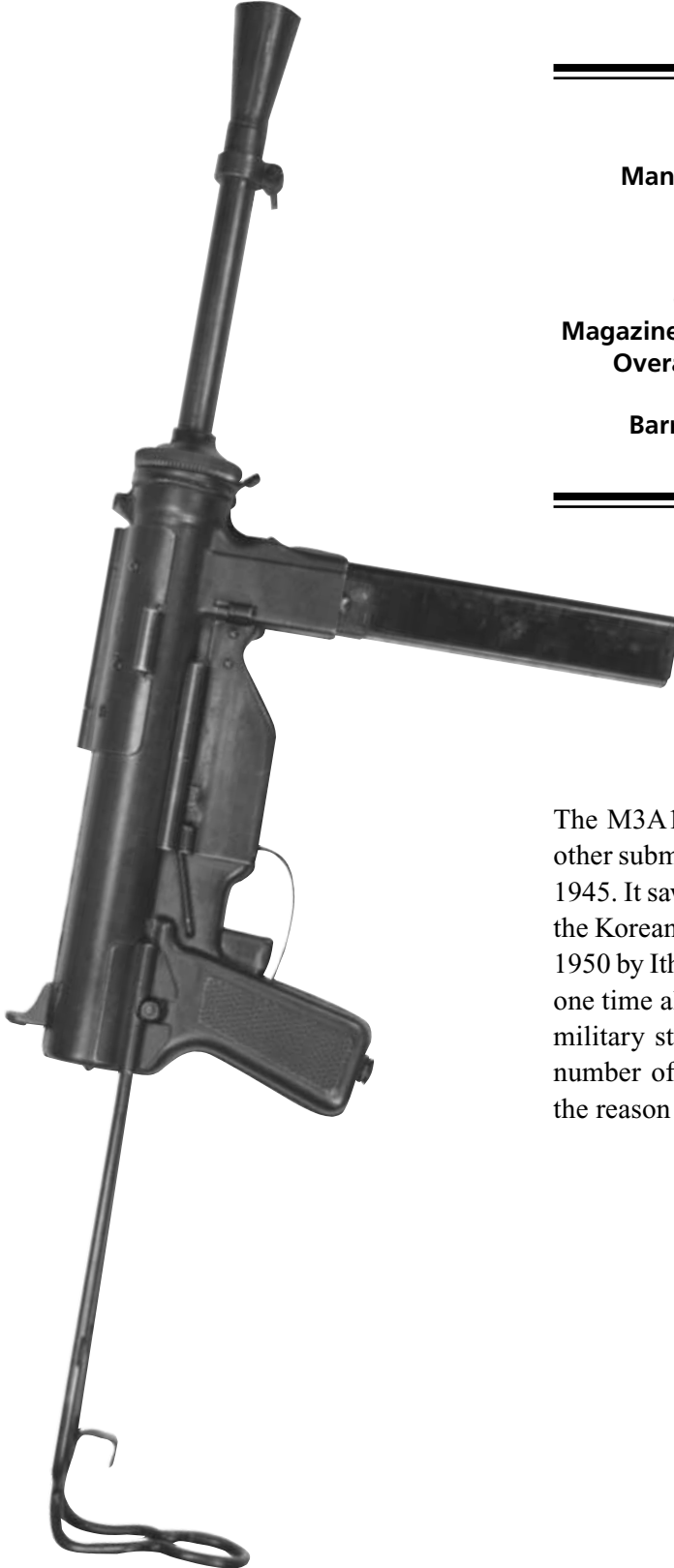


- 1.** The H-block is marked with an arrow and the word “UP” to aid reassembly. The receiver is usually inverted during disassembly and reassembly, so the “UP” marking should be visible with the receiver in that position, and the arrow should point toward the muzzle.



- 2.** When replacing the rocker, be sure its “beak” is oriented toward the rear. If it is installed in reverse, the selector will not function, and the firing will be non-selective full-auto. When replacing the selector (“rocker pivot”) and the safety, use the leather-padded screwdriver, as in steps 4 and 5, to flex the spring arms as the parts are moved into place. Note that the flat side of the collar on the recoil spring guide goes toward the inside top of the receiver.

U.S. M3A1



Data:	U.S. M3A1
Origin:	United States
Manufacturer:	Guide Lamp Division, General Motors Corporation, Detroit, Michigan
Cartridge:	45 ACP
Magazine capacity:	30 rounds
Overall length:	29.8 inches (stock extended)
Barrel length:	8 inches
Weight:	8-3/4 pounds

The M3A1 replaced the original M3 gun, and all other submachine guns in the U.S. service, in April 1945. It saw little use in World War II, but its use in the Korean War prompted additional production in 1950 by Ithaca Gun Company. Nationalist China at one time also produced copies of the gun. Surplus military stocks of the M3A1 have been sold to a number of law enforcement agencies, and this is the reason for its inclusion here.

Disassembly:

1. With the bolt in the forward position and the magazine removed, depress the barrel collar detent and unscrew the barrel and collar assembly for removal toward the front. The collar is retained on the barrel by a cross pin, and this is not removed in normal disassembly. If the gun is equipped with a flash hider, this can be removed by loosening the wing nut and slipping the flash hider off toward the front.



2. Depress and hold the stock latch, and pull the wire buttstock off toward the rear.



3. Insert the buttstock through the trigger guard as shown, and turn it to spring the guard out of its slot in the front of the pistol grip.



4. Tip the trigger guard over toward the front, and remove it.

- 5.** Tip the housing assembly downward at the rear, and remove it. The ejector is riveted to the housing, and is not removed in normal takedown.



- 6.** Open the ejection port cover, and remove the bolt and recoil spring assembly toward the front.

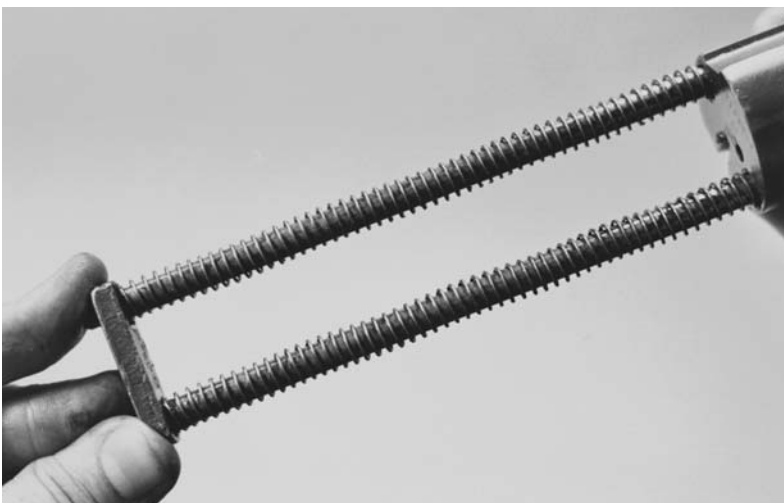


- 7.** Restrain the springs and guide rod assembly at the rear, and remove the guide rod retaining clip at the front of the guide rod locating plate. Caution: Keep the springs under control.



- 8.** Remove the guide rod locating plate, keeping the spring system under control.

- 9.** Release the spring tension slowly, and remove the springs and guide rod assembly toward the rear.



- 10.** Drift out the extractor retaining pin upward.



- 11.** If the extractor is not tightly fitted, hook a screwdriver blade under the extractor beak, and pull the extractor out toward the front. The extractor is its own spring.

- 12.** If the extractor is tightly fitted, insert a rod into the small hole at the rear of the bolt, and push the extractor out toward the front. This method is also used if the extractor beak is broken off.



- 13.** Push the magazine catch cup toward the rear, off the magazine housing, and when it clears unhook the right tip of the cross-piece from its slot in the housing.



- 14.** After the catch is removed, the cup and spring are easily separated from the catch cross-piece.

- 15.** The ejection port cover hinge can be drifted out toward the rear to free the cover for removal. The hinge pin will usually be tightly fitted, and removal should be done only for repair.



- 16.** Push out the sear pin toward either side. When the pin is removed, the combination trigger and sear spring will pull the sear downward, but the sear will remain attached to the trigger bar.



- 17.** Remove the trigger pivot toward the right.



- 18.** Move the trigger and sear assembly upward into the receiver, move the assembly forward, and take it out downward.



- 19.** Push out the sear connector pin toward either side, and remove the sear from the front of the trigger bar ("connector").



- 20.** The combination sear and trigger spring is easily unhooked from the front of the trigger bar. The trigger bar cross pin at the top of the trigger is semi-riveted in place, and is not routinely removed. The rear spring hook, on the front of the trigger, may be clinched, and will have to be bent outward to free the spring.

- 21.** The stock retaining latch is retained by a collar on the right side that is cross pinned to the latch shaft. The collar is taken off toward the right, and the latch and spring toward the left.



- 22.** Unscrew and remove the cap and oiler rod from the oil bottle at the bottom of the pistol grip, and use a wrench of the proper size to unscrew and remove the oil bottle.



- 23.** The barrel collar detent is retained by two rivets, and is not routinely removed.

Reassembly Tips:

1. When replacing the trigger and sear assembly, position the trigger and install the trigger pivot first. Then, elevate the sear and bar, and pull the trigger to move the sear into alignment for replacement of the sear cross pin.



2. When replacing the bolt and spring assembly, be sure the rear tips of the guide rods snap into their holes in the rear of the receiver and protrude slightly, as shown.



3. When replacing the trigger guard, use the stock again, this time at the rear, to snap the rear tip of the guard into its slot.

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| ◆ Hi-Point M995 | ◆ Thompson Model 1921 |

About the Author:

J. B. Wood, a true legend in the gunsmithing community, is the author of numerous best-selling works on gunsmithing procedures, including *Gun Digest® Book of Automatic Pistols Assembly/Disassembly*, *Gun Digest® Book of Firearms Assembly/Disassembly: Rimfire Rifles*, *Gun Digest® Book of Assembly/Disassembly: Centerfire Rifles* and many others. He is also a contributor to *Combat Handguns* magazine.



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