



COLT.®

AR-15 SPORTER RIFLE

Caliber .223

HAND GUNS

SPORTING ARMS

ACCESSORIES



OPERATION AND MAINTENANCE MANUAL

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INTRODUCTION

The AR-15 SPORTER, manufactured by Firearms Division of Colt Industries, is a lightweight, semi-automatic rifle.

The essential features of the AR-15 Sporter can be broken down into several categories:

Light Weight

The carrying weight of the Sporter is approximately $6\frac{3}{4}$ pounds, complete with a loaded, 5-round magazine. As a direct result of the lightweight feature of the Sporter, substantially more ammunition or other hunting equipment may be carried with no increase to total weight. A major contribution to the light weight of the rifle is the result of the bolt locking into the barrel, eliminating the necessity of the heavier receiver normally required on other rifles to support breech pressures.

Unique Gas Operating System

The bolt and bolt carrier together form a piston and cylinder, which are actuated by the gas fed back through the gas tube, from the gas port near the muzzle. This system eliminates the necessity of the operating rod used in a conventional gas piston and bolt system. The result is the reduction of a maintenance problem and less overall weight.

The .223 Cartridge

Velocity of 3100 fps at the muzzle imparted to the 55-grain bullet makes this an extremely effective cartridge, with excellent accuracy and penetration.

Straight Line Construction

The barrel, bolt, recoil buffer unit and stock of the Sporter are assembled in a straight line. With the natural light recoil from the .223 cartridge, plus the straight back recoil resulting from the straight line construction, rifle climb is reduced substantially. Rapid semiautomatic fire is more controllable with the Sporter than with rifles of conventional design.

Accuracy

Every Sporter is fired for group form in a bench rest. Acceptance specifications call for 5-shot groups with an extreme spread of less than 3 inches at 100 yards. The Sporter's effective sighting range has been set at 500 yards, utilizing the long range sight.

Simplicity of Operation

Hot or cold, wet or dry — whatever the condition — the Sporter is easily handled. Bolt and magazine release buttons are finger tip operations. Initial cocking requires two fingers. The trigger guard is also adaptable to winter use; it can be opened for use with a heavy glove merely by using the point of a cartridge. Selection of semiautomatic fire or the safe position requires only thumb pressure.

Simplicity of Maintenance and Field Strip

For field strip and cleaning, the following tools are required: One live cartridge;* the .223 bullet point, as a tool, allows for servicing to the point of replacing the firing pin. For further servicing, the firing pin is the primary tool. The corrosion-resistant materials used in the Sporter require a minimum amount of care. Long parts life and functional reliability can be assured with routine care and wiping parts with a light oil.

*Due to the commercial availability of a soft point bullet only, it is recommended that the use of the live round as a takedown tool be utilized only as a field tool. Routine takedown should be accomplished with a $\frac{1}{8}$ " drift punch tool. The full jacketed military cartridge is not subject to severe distortion as a result of its use as a takedown tool and is, therefore, recommended for all takedown procedures with the military.

THE AR-15 SPORTER

1.0 Description, General

1.1 The AR-15 Sporter is a caliber .223, air cooled, gas operated rifle. It is fed from a 5-round magazine. By substituting a crimped round for the standard .223 cartridge, police departments may also use the Sporter to launch rifle type gas grenades.

1.2 The barrel is air cooled and is provided with a flash suppressor, which also serves as a grenade launcher. The barrel is surrounded by a heat resistant glass fibre material which serves as a hand guard and forearm. A heat reflecting inner shield keeps the hand guard cool.

1.3 The sights are adjustable at front and rear as explained later in 7-1, 8-1 and 8.2.

1.4 The magazine holds 5 rounds of caliber .223 ammunition and is made entirely of non-corrosive material. The buttstock is made of a synthetic material of high impact strength and is provided with a soft rubber butt plate.

1.5 Pressing the takedown pin to one side permits the rifle to be opened, exposing the working parts for cleaning and inspection.

1.6 In this rifle the bolt is locked to the barrel by means of locking lugs, like small gear teeth, on the bolt. Similar lugs on the barrel extension engage the bolt lugs, holding the bolt firmly against the barrel. Thus the full force of the explosion of the cartridge is absorbed by the barrel and bolt alone. For this reason the receiver can safely be made of lightweight aluminum alloys. The safety, durability and function of the rifle is in no way reduced and the portability and logistical values are greatly increased.

FUNCTION

2.0 Semiautomatic

2.1 The function of the various components during fire is as follows: With the rifle loaded and the safety-selector lever set on "FIRE," the trigger is pulled. The trigger rotates on the trigger pin, causing the trigger sear to release the hammer. The hammer is then thrown forward by the pressure of the hammer spring, striking the firing pin, which in turn causes ignition of the cartridge.

2.2 When the cartridge fires, the pressure of the explosion causes the bullet to move down the barrel. When the bullet passes the gas port, which is a small hole under the front sight, a small amount of gas is piped through the gas tube back into the bolt carrier. This gas, under pressure, expands in the cylinder between the bolt and bolt carrier, driving the bolt carrier to the rear. As the bolt carrier moves to the rear, the cam track in its upper surface acts upon the bolt cam pin, causing it and the bolt through which it passes to rotate until the locking lugs of the bolt are no longer in line with the lugs of the barrel extension. The bolt is now in the unlocked position and as the bolt carrier continues its rearward motion, the bolt assembly is also carried to the rear. As the bolt carrier and bolt recoils, it compresses the action spring and returns the hammer to the cocked position. By means of the extractor, which is pinned to the bolt, the expended cartridge case is withdrawn from the chamber. The ejector, also carried in the bolt, then throws the empty case out through the ejection port.

2.3 The rearward stroke of the bolt carrier is arrested by the buffer assembly and action spring guide which strikes the bottom of the receiver extension. The action spring then forces the bolt carrier toward the chamber. On the forward stroke, the face of the bolt picks up a cartridge from the magazine and thrusts it into the chamber. As the bolt lugs enter the barrel extension, the ejector is compressed against the left side of the cartridge face and the extractor snaps into the cannellure on the right side. As the bolt carrier enters the final one-half inch of its closing stroke, the bolt cam pin emerges from the bolt carrier guide channel in the upper receiver and the bolt carrier cam track then rotates the bolt counterclockwise into the locked position. This completes one loading cycle.

2.4 When the trigger is pulled, the disconnect is rotated forward with the trigger by the action of the disconnect spring. After firing, the hammer is cocked by the recoil of the bolt carrier and the hook of the disconnect engages the upper inside notch of the hammer, holding it back and preventing a second shot.

2.5 When the trigger is released, the trigger spring causes the trigger to return to the normal position, carrying the disconnect backward with it. The hammer is then released from the hook on the disconnect. However, before the disconnect hook actually releases the hammer, the trigger sear has moved in front of the hammer notch and the hammer drops from the disconnect to the trigger sear. The arm is then ready for a second shot.

OPERATION

3.0 Loading

- 3.1 Press the magazine release and remove magazine. See figure 1.
- 3.2 With the magazine well empty, pull the charging handle rearward as far as possible and release. See figure 2.
- 3.3 Set the safety-selector lever on "SAFE". See figure 3.
- 3.4 Load the magazine by pressing cartridges down from the top until five are in place. The bullet must point toward the smooth face of the magazine with the large end of the cartridge under the magazine feed lips.
- 3.5 Insert the loaded magazine into the rifle, pushing upward until the catch snaps into place.
- 3.6 Pull the charging handle fully to the rear and release quickly, allowing the bolt to move forward to battery position by the force of the action spring. If no firing is to be done immediately after charging, it is advisable to close the dust cover. See figure 4. This cover will open automatically when firing is commenced.

4.0 Firing

- 4.1 Rotate safety-selector lever to "FIRE" position. Squeeze trigger.

5.0 Reloading

- 5.1 Since the bolt and bolt carrier are held to the rear upon emptying a magazine, reloading is simply a matter of pressing the magazine release button and replacing the empty magazine with a loaded one. When the bolt catch button on the left side of the receiver is pressed—see figure 5—the bolt will close and chamber the first round from the new magazine. The rifle is then ready to fire again.



Fig. 1



Fig. 2

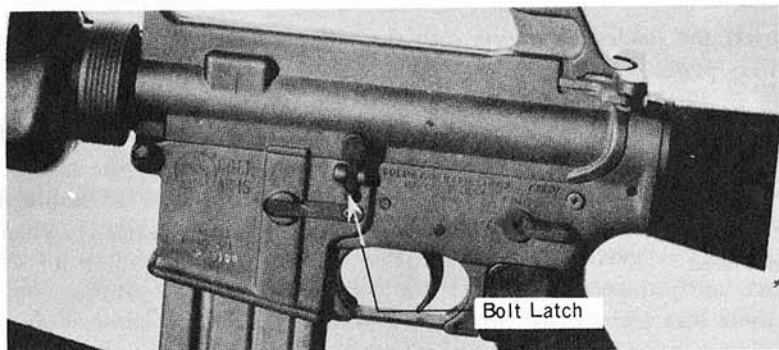


Fig. 3

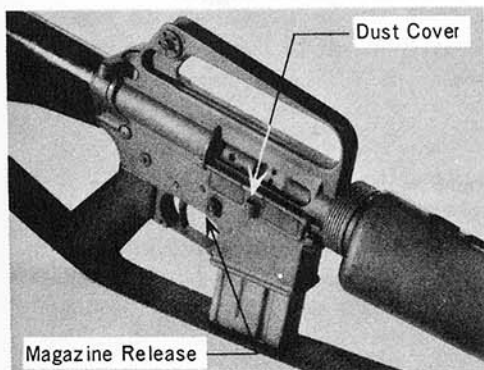


Fig. 4

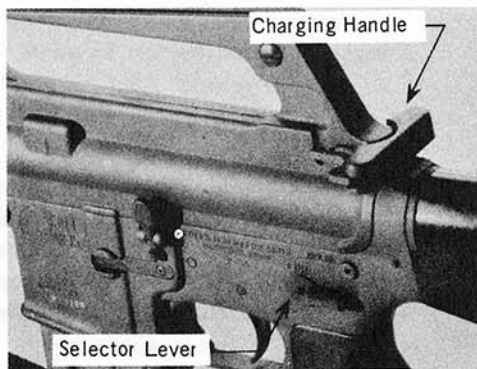


Fig. 5

6.0 Unloading

- 6.1 Set safety-selector lever to safe.
- 6.2 Remove magazine.
- 6.3 Pull charging handle to rear.
- 6.4 Inspect chamber and bolt face.
- 6.5 Release charging handle.
- 6.6 Pull trigger to fire hammer.

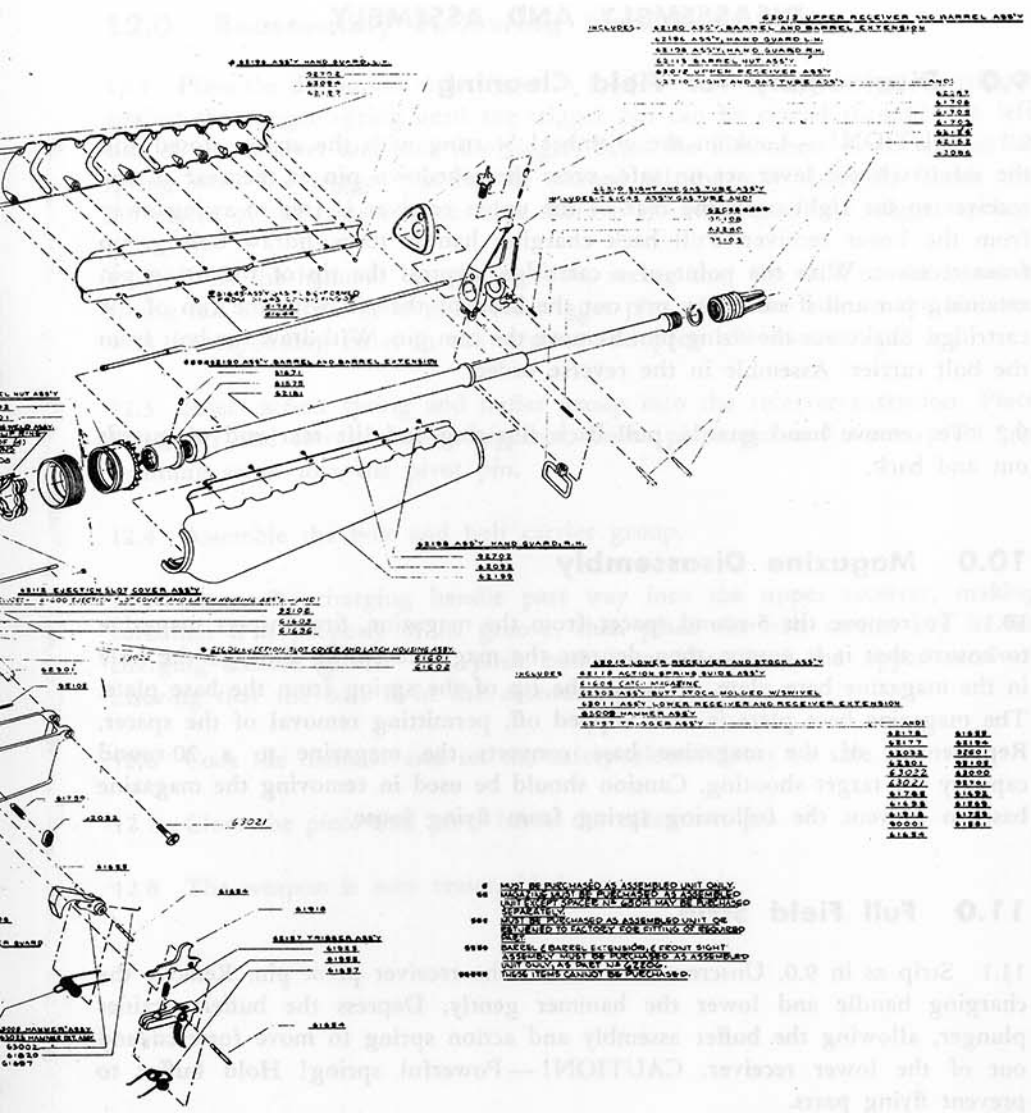
7.0 Sight Adjustment - Windage

7.1 Windage adjustment is normally accomplished by using a bullet point to depress the detent and release the windage drum. Considering the soft point commercial ammunition and its possible distortion by making sight adjustments, it is recommended that a $3/32$ drift punch be utilized. Windage adjustments are made in one notch increments. Rotation of one notch in the direction of the "R" and the arrow will change the point of impact of the bullet one inch to the right at 100 yards (1 minute of angle). Reversing the rotation of the windage drum will cause the bullet to strike to the left the same amount.

8.0 Sight Adjustment - Elevation

8.1 Set the rear sight on normal range setting for distances of 0-300 yards. For distances of 300 to 500 yards, rotate rear sight to "L" (long range) position.

8.2 To adjust the sights for elevation, depress the front sight detent with a bullet point and rotate the sight post. Rotating the post clockwise as indicated by the arrow and word "up" will raise the point of impact; reversing the direction of rotation will lower the point of impact. Each detent notch rotated will change the point of impact 1 inch at 100 yards (1 minute of angle).



8201'S UPPER RECEIVER AND BARREL ASSY
 INCLUDES: 8218 ASSY, BARREL AND BARREL EXTENSION
 8218 ASSY, HAND GUARD L.H.
 8218 ASSY, HAND GUARD R.H.
 8218'S BARREL, EXT ASSY
 8201'S UPPER RECEIVER ASSY
 8218, FRONT AND REAR TUBE ASSY

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8218'S FRONT AND REAR TUBE ASSY
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8218'S FRONT AND REAR COVER ASSY
 INCLUDES: 8218'S FRONT AND REAR COVER AND LATCH HOUSING ASSY
 8218'S FRONT AND REAR COVER AND LATCH HOUSING ASSY
 8218'S FRONT AND REAR COVER AND LATCH HOUSING ASSY
 8218'S FRONT AND REAR COVER AND LATCH HOUSING ASSY

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8201'S LOWER RECEIVER AND STRAP ASSY
 INCLUDES: 8218'S ACTION SPRING GUIDE ASSY
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 8218'S ACTION SPRING GUIDE ASSY
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66 MUST BE PURCHASED AS ASSEMBLED UNIT ONLY
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8218'S HAND GUARD ASSY
 8218'S HAND GUARD ASSY
 8218'S HAND GUARD ASSY
 8218'S HAND GUARD ASSY

COLT'S PAT. F.A. MFG. CO. INC.
HARTFORD, CONN., U.S.A.

EXPLODED VIEW, AR-15 MODEL SPI CAL .223
 "SPORTER"
 SCALE 1/2
 (T, 801, 223 SERIES MODEL)
 DRAWN W. MCDONALD 8-13-64

GX5139

DISASSEMBLY AND ASSEMBLY

9.0 Disassembly for Field Cleaning

9.1 CAUTION!—Look in the chamber! Starting with the action closed and the safety-selector lever set on safe, press the takedown pin at the rear of the receiver to the right until the rear of the upper receiver is free to swing away from the lower receiver. Pull back charging handle to withdraw bolt group from receiver. With the point of a cartridge, depress the tip of the firing pin retaining pin and if necessary pry out the head of the pin with the rim of the cartridge. Shake out the firing pin. Remove the cam pin. Withdraw the bolt from the bolt carrier. Assemble in the reverse order.

9.2 To remove hand guards, pull back slip ring and lift rear end of guards out and back.

10.0 Magazine Disassembly

10.1 To remove the 5-round spacer from the magazine, first inspect magazine to ensure that it is empty, then depress the magazine spring through the hole in the magazine base plate, releasing the tip of the spring from the base plate. The magazine base plate is then slipped off, permitting removal of the spacer. Replacement of the magazine base converts the magazine to a 20-round capacity for target shooting. Caution should be used in removing the magazine base to prevent the following spring from flying loose.

11.0 Full Field Strip

11.1 Strip as in 9.0. Unscrew and remove the receiver pivot pin. Remove the charging handle and lower the hammer gently. Depress the buffer retainer plunger, allowing the buffer assembly and action spring to move forward and out of the lower receiver. CAUTION!—Powerful spring! Hold buffer to prevent flying parts.

11.2 With a cartridge point, press out the hammer pin. The firing pin, gently used, may be of assistance during the last half of the hammer pin's movement.

11.3 Start the trigger pin in either direction (a cartridge point can be used for this), using a tail of the hammer spring to complete its removal. Lift out the trigger and disconnect. This completes field stripping.

12.0 Reassembly Following Field Strip

12.1 Place the disconnect and trigger in the lower receiver, pressing the trigger against the trigger spring until the trigger pin can be passed through the left side of the receiver and into the trigger. Press the disconnect down against its spring until the trigger pin can be pushed all the way through. Check the movement of the trigger to see that there is no binding of the trigger spring.

12.2 Press the hammer into its position, seeing that the tails of the hammer spring fall into their grooves in the trigger pin. Align the hole in the hammer with corresponding holes in the receiver and press the hammer pin in.

12.3 Insert action spring and buffer group into the receiver extension. Place the upper and lower receiver together, insert pivot pin and screw pivot pin retaining screw into the pivot pin.

12.4 Assemble the bolt and bolt carrier group.

12.5 Insert the charging handle part way into the upper receiver, making sure that it is properly in its groove, then place the bolt carrier key in the charging handle groove and push both assemblies into the upper receiver, insuring that the bolt is in the extended position.

12.6 Cock the hammer and set the safety-selector lever to safe.

12.7 Close the piece and press home the takedown pin.

12.8 The weapon is now reassembled.

PARTS LIST

AR-15 Model SP1 Cal. .223

"Sporter"

PART NO.	PART NAME	COMPLETE ASSEMBLY
63015	Assembly, Magazine (5 rounds alum.)	1
62121	Magazine Box Assembly	1
61922	Box, Magazine	1
61928	Clip, Magazine	1
91201	Semi Tubular Rivet	3
62100	Follower, Magazine	1
62187	Spring, Magazine	1
61923	Bottom Plate, Magazine	1
63014	Magazine Spacer — 5 rounds	1
63008	Bolt Carrier Assembly	1
62116	Bolt Assembly	1
61564	Ejector	1
61562	Extractor	1
61563	Pin Extractor	1
61540	Ring, Bolt	3
95102	Roll Pin (Ejector)	1
61569	Spring-Ejector & Safety Detent	1
61568	Spring-Extractor	1
61538	Bolt	1
61704	Pin, Cam	1
63007	Assembly-Key & Bolt Carrier	1
63003	Carrier, Bolt	1
63024	Key-Bolt Carrier	1
92201	Socket Head Cap Screw	2
62294	Pin, Firing	1
63025	Pin, Firing Pin Retaining	1
62114	Charging Handle Assembly	1
61941	Handle-Charging	1
61942	Latch-Charging Handle	1
95113	Roll Pin (Charging Handle Latch)	1
61875	Spring, Charging Handle Latch	1

PART NO.	PART NAME	COMPLETE ASSEMBLY
63010	Lower Receiver & Stock Assembly	1
63011	Assembly, Lower Receiver & Receiver Extension	1
63017	Receiver Lower w/Roll Mark	1
63006	Receiver Lower (Basic Dwg., No Roll Mark)	1
63004	Marking Identification Lower Receiver	1
61574	Extension, Receiver	1
61582	Retainer-Buffer	1
61694	Spring, Buffer Retainer	1
95107	Roll Pin (Lower Receiver Extension)	1
61970	Assembly Trigger Guard	1
61248	Guard Trigger	1
61250	Plunger, Trigger Guard	1
61531	Spring, Trigger Guard	1
95101	Roll Pin	1
62032	Button-Magazine Release	1
62301	Catch-Bolt	1
62178	Bolt Catch Plunger	1
62177	Bolt Catch Spring	1
95105	Roll Pin, Bolt Catch	1
62157	Trigger Assembly	1
61955	Trigger	1
61925	Spring, Disconnect	1
61657	Spring, Trigger	1
61654	Pin, Hammer & Trigger	1
61918	Disconnect	1
63009	Hammer Assembly	1
63023	Hammer Detail Assembly	1
63002	Hammer	1
61820	Retainer, Hammer Pin	1
61697	Spring, Hammer	1
61655	Pin, Takedown	1
61698	Detent Takedown Pin	1
61692	Spring Detent, Takedown Pin	1
62302	Assembly Buttstock Molded (w/Swivel)	1
62193	Stock (Swivel)	1
62204	Molded Buttstock Assembly	1
62205	Molding, Buttstock	1
61934	Molding, Buttstock Cap	1
62282	Swivel Assembly, Rear	1
62280	Front Sling Swivel	1

PART NO.	PART NAME	COMPLETE ASSEMBLY
95103	Roll Pin (Swivel Pin)	1
62097	Swivel Base	1
95111	Roll Pin (Stock Swivel)	1
92601	Screw, Butt Cap	7
95106	Roll Pin (Trigger Guard Pivot Pin)	1
61604	Catch Magazine	1
61605	Plate-Magazine Catch	1
61606	Shaft-Magazine Catch	1
61759	Spring-Magazine Catch	1
62119	Action Spring Guide Assembly	1
61576	Buffer	1
61577	End Ring, Buffer	2
61580	Guide-Action Spring	1
61579	Inner Ring, Buffer	1
61578	Outer Ring, Buffer	2
95101	Roll Pin (Buffer Pin)	1
63000	Safety, Selector Lever	1
61581	Spring, Action	1
61785	Detent, Safety	1
61569	Spring, Ejector & Safety Detent	1
62194	Pistol Grip	1
92701	Screw, Pistol Grip	1
90001	Lock Washer	1
63022	Pin, Receiver Pivot	1
63021	Screw, Receiver Pivot Pin	1
63013	Upper Receiver & Barrel Assembly	1
63012	Upper Receiver Assembly	1
62112	Ejection Slot Cover Assembly	1
61603	Latch, Cover	1
61696	Spring, Latch Cover	1
61600	Ejection Slot Cover & Latch Hous. Assembly	1
61601	Cover, Ejection Slot	1
61602	Housing Cover Latch	1
95102	Roll Pin (Ejection Slot Cover Latch Pin)	1
61755	Detent-Rear Sight	1
61658	Pin-Cover Hinge	1
63005	Upper Receiver	1
95101	Roll Pin, Rear Sight Windage Drum Pin	1
61702	Screw, Rear Sight Adjusting	1

PART NO.	PART NAME	COMPLETE ASSEMBLY
61700	Sight-Rear	1
90402	Snap Ring-Cover Hinge Pin	1
61518	Spring, Cover	1
61708	Spring, Rear Sight	1
61754	Spring, Rear Sight Detent	1
61703	Windage Drum, Rear Sight	1
62180	Barrel & Barrel Extension Assembly	1
62181	Barrel	1
61575	Extension, Barrel	1
61671	Pin, Barrel Indexing	1
62113	Barrel Nut Assembly	1
61902	Nut, Barrel	1
61901	Slip Ring Hand Guard	1
90403	Snap Ring, Hand Guard	1
61962	Spring Weld Ass'y Hand Guard Slip Ring	1
61961	Hand Guard Slip Ring Spring Sect.	4
62310	Sight & Gas Tube Assembly	1
62068	Sight Front	1
62280	Front Sling Swivel	1
61645	Assembly Gas Tube	1
61643	Tube & Plug Assembly, Gas	1
61789	Tube Gas	1
61644	Plug, Gas Tube	1
95103	Roll Pin (Swivel)	1
95108	Roll Pin (Gas Tube)	1
62087	Cap, Hand Guard	1
62086	Taper Pin, Front Sight	2
62196	Assembly, Hand Guard L.H.	1
62197	Hand Guard L.H.	1
62094	Hand Guard Liner, L.H.	1
92702	Liner Screw	10
62198	Assembly, Hand Guard R.H.	1
62199	Hand Guard R.H.	1
62092	Hand Guard Liner R.H.	1
92702	Liner Screw	10
61706	Post-Front Sight	1
61705	Detent, Front Sight	1
61709	Spring, Front Sight Detent	1
62182	Suppressor-Flash	1
62126	Flash Suppressor-Lock Washer	1