

TM 9-2117

(FORMERLY TM 9-1285)

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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FIELD AND DEPOT
MAINTENANCE
WINCHESTER RIOT-TYPE
SHOTGUN M12 AND
STEVENS RIOT-TYPE
SHOTGUNS M520—30
AND M620A



HEADQUARTERS, DEPARTMENT OF THE ARMY
JULY 1957

TECHNICAL MANUAL }
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HEADQUARTERS,
DEPARTMENT OF THE ARMY
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WINCHESTER RIOT-TYPE SHOTGUN M12 AND STEVENS RIOT-TYPE SHOTGUNS M520-30 AND M620A

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* This technical manual supersedes TM 9-1285, 25 November 1942.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of personnel responsible for field and depot maintenance of this materiel. They contain information on maintenance which is beyond the scope of the tools, equipment, or supplies normally available to using organizations. This manual does not contain information which is intended primarily for the using organizations, since such information is available to ordnance maintenance personnel in TM 9-285.

b. This manual contains a description of and procedures for removal, disassembly, inspection, repair, rebuild and assembly of the Winchester riot-type shotgun M12 and the Stevens riot-type shotguns M520-30 and M620A (figs. 1, 2, and 3). The appendix contains a list of current references, including supply and technical manuals, and other available publications applicable to the materiel.

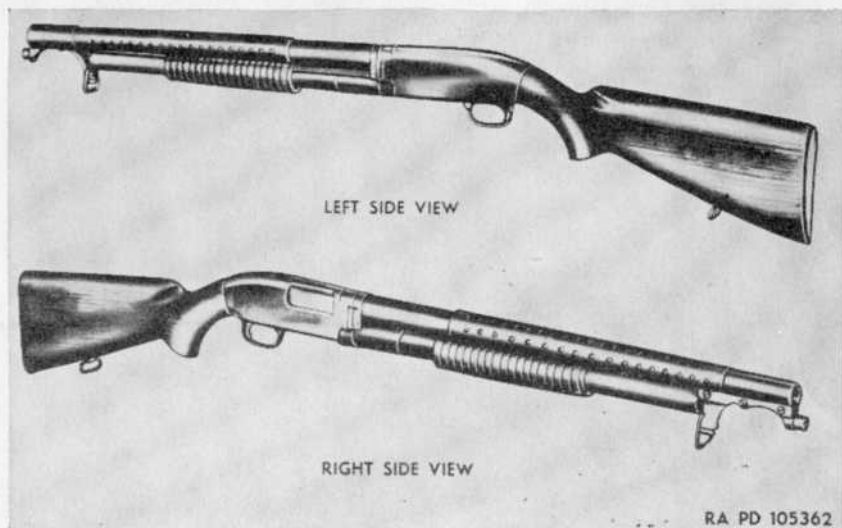
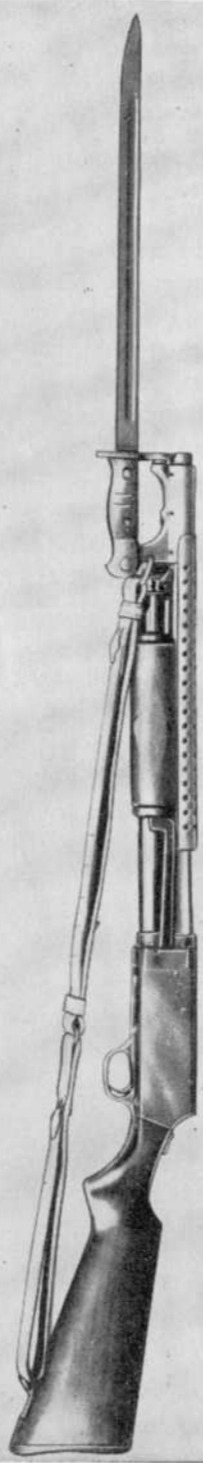


Figure 1. Right and left side views of the Winchester riot-type shotgun M12.



LEFT SIDE—WITH M1917 BAYONET ATTACHED



RIGHT SIDE—WITHOUT BAYONET

RA PD 105328

Figure 2. Right and left side views of the Stevens riot-type shotgun M520-50.

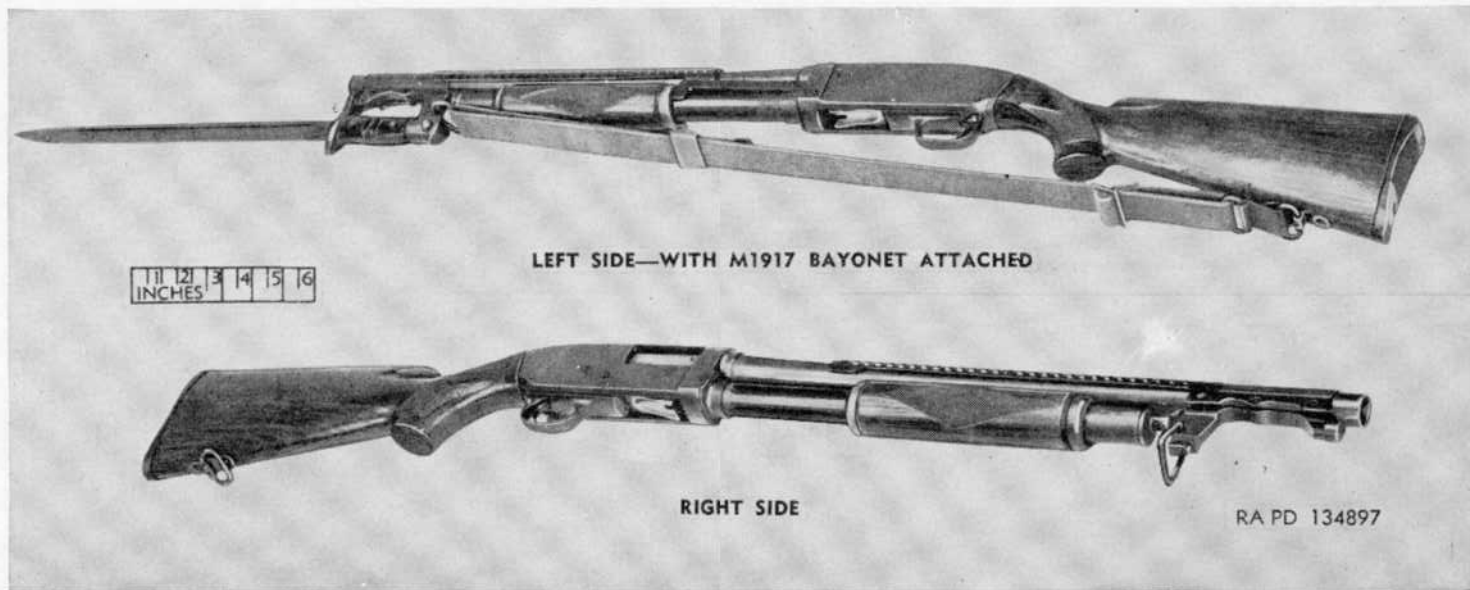


Figure 3. Right and left side views of the Stevens riot-type shotgun M620A.

c. TM 9-285 contains operating and lubricating instructions for the materiel and contains all maintenance operations allocated to using organizations in performing maintenance work within their scope.

d. This manual differs from TM 9-1285, 25 November 1942, as follows:

- (1) Adds information on—
 - Forms, records and reports.
 - Parts, special tools, and equipment for field and depot maintenance.
 - General repair methods.
 - 12-gage Stevens shotgun M520-30.
- (2) Revises information on—
 - 12-gage Stevens shotgun M620A.
 - 12-gage Winchester shotgun M12.
 - Inspections.
 - Repair.
- (3) Deletes reference to—
 - 12-gage Winchester shotgun M97.
 - 12-gage Stevens shotgun M520.
 - 12-gage Ithaca shotgun M37.
 - 12-gage Remington shotgun M31.
 - 12-gage Remington shotgun M11.
 - 12-gage Remington Sportsman shotgun.
 - 12-gage Savage shotgun M720.

2. Field and Depot Maintenance Allocation

The publication of instructions for complete disassembly and rebuild is not to be construed as authority for the performance by field maintenance units of those functions which have been restricted to depot shops and arsenals. In general, the prescribed maintenance responsibilities will apply as reflected in the allocation of maintenance parts listed in the appropriate columns of SB 9-117. Instructions for depot maintenance are to be used by maintenance companies in the field only when the tactical situation makes the repair functions imperative. Provisions of parts listed in the depot guide column of the supply bulletin will be made to field maintenance only when the maintenance to be performed has been certified by a responsible officer of the requisitioning organization.

3. Forms, Records, and Reports

a. *General.* Responsibility for the proper execution of forms, records, and reports rests upon the officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for compilation, maintenance, and use. Rec-

ords, reports, and authorized forms are normally utilized to indicate the type, quantity, and condition of materiel to be inspected, repaired, or used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of materiel in the hands of troops and for delivery of materiel requiring further repair to ordnance shops. The forms, records, and reports establish the work required, the progress of the work within the shops, and the status of the materiel upon completion of its repair.

b. Authorized Forms. The forms generally applicable to units maintaining these weapons are listed in the appendix. For a listing of forms, refer to DA Pam 310-2. For instructions on use of these forms, refer to FM 9-10.

c. Field Report of Accidents.

- (1) *Injury to personnel or damage to materiel.* The reports necessary to comply with the requirements of the Army safety program are prescribed in detail in SR 385-10-40. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.
- (2) *Ammunition.* Whenever an accident or malfunction involving the use of ammunition occurs, firing of the lot which malfunctions will be immediately discontinued. In addition to any applicable reports required in (1) above, details of the accident or malfunction will be reported as prescribed in SR 700-45-6.

d. Report of Unsatisfactory Equipment and Materials. Any deficiencies detected in the equipment covered herein which occur under the circumstances indicated in AR 700-38 should be immediately reported in accordance with the applicable instructions in those regulations.

4. Definitions of Shotgun Terms

a. Bore. The bore of a shotgun has two diameters, the chamber diameter and the true bore diameter, which are joined by a tapered section usually called the forcing cone (fig. 4).

b. Choke. A choked shotgun barrel is one in which the diameter of the barrel at the muzzle is slightly smaller than the true bore diameter

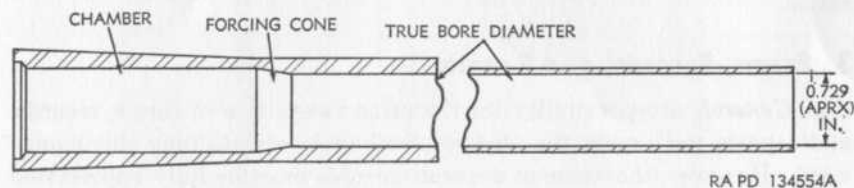


Figure 4. Section of a cylinder-bored, 20-inch, riot-type shotgun barrel.

(fig. 4). This affects the dispersion of the shot pellets. The degree of choke is measured by the number of pellets that group within a 30-inch circle at a distance of 40 yards. For an unchoked barred (cylinder-bored), this will be 40 percent; for a slightly choked barrel (improved cylinder-bored), this will be 50 percent; and for a full-choked barrel 75 percent. The shotguns covered by this technical manual are all unchoked (cylinder-bored).

c. Gage. The gage of a shotgun is determined by the number of spherical balls of lead of the same diameter as the bore of the shotgun that are required to make 1 pound. For example, the diameter of one of 12 equal-size lead balls, whose total weight equals 1 pound, is equal to the diameter of the bore of a 12-gage shotgun barrel. Because of slight variations between barrel diameters of different manufacturers, these sizes were standardized. The shotguns covered by this technical manual are all 12-gage (0.729-inch gage).

d. Type. There are three types of shotguns, riot type, skeet type, and trap type. The major difference is the length and bore of the barrel. Riot-type shotguns are equipped with a 20-inch cylinder-bored barrel. The slide action riot-type shotgun is further distinguished by a bayonet attachment and sling. These shotguns are generally used for guard duty. The skeet- and trap-type shotguns are equipped with a 26-inch improved cylinder-bored barrel and a 30-inch full choke barrel respectively. There are some skeet- and trap-type shotguns that have 28- and 32-inch barrels. The 28-inch barrels may be either improved cylinder-bored or full choke and the 32-inch barrel would be full choke. The skeet- and trap-type shotguns are used in training personnel to fire at moving targets. The shotguns covered by this technical manual are all of the riot type.

e. Action. There are two types of action to feed the shell into the chamber: slide action, sometimes referred to as pump action, and semi-automatic, sometimes referred to as autoloading. Slide action shotguns are capable of firing from three to six shells without reloading. These guns are manually operated by means of a slide handle which ejects the empty shell, cocks the hammer, and inserts a live round in the chamber. Semiautomatic shotguns are capable of firing from three to five shells without reloading. When this gun is fired, the force of recoil operates the mechanism which ejects the empty shell, cocks the hammer, and inserts a live round in the chamber. The shotgun is then ready for firing by merely actuating the trigger.

f. Takedown. The term "takedown" applies to guns so constructed that the barrel or barrel magazine and action slide handle group can easily be removed from the receiver without the use of tools. This construction facilitates cleaning and transportation.

g. Solid-Frame. The term "solid-frame" applies to guns which, either through basic design or the assembly of the bayonet attachment to the barrel, are not easily taken down without tools.

h. Firing Mechanism. A hammer gun is a shotgun on which the hammer is visible and operative outside the receiver. A "hammerless" shotgun has its hammer wholly enclosed within the receiver and is thus not manually operated.

Section II. DESCRIPTION AND DATA

5. Winchester Shotgun M12

a. The Winchester shotgun M12 has the manufacturer's name and model number stamped on the rear-left side of the barrel. This weapon can also be identified by the long receiver extension, visible when gun is assembled, just below the barrel through which the magazine tube passes.

b. It is a 12-gage, riot-type weapon with a 20-inch cylinder-bored barrel. This gun is manually operated, repeating shotgun of the slide action, hammerless, solid-frame, and takedown type.

c. This shotgun is primarily composed of a bayonet band assembly, a magazine and action slide group, a barrel group, a trigger guard group, a breech bolt group, a butt stock group, and a receiver group (fig. 5).

d. The bayonet band assembly has the hand guard riveted to it. This assembly is mounted on the muzzle end of the barrel and forward end of the magazine tube and is held in place by means of a stud on the magazine plug and screws passing through the assembly and grooves in the barrel. A swivel is attached to the band and serves as a means of attaching a sling. The front sight is screwed into the front of this assembly.

e. The magazine tube is positioned beneath the barrel and has a capacity of five shells loaded end-to-end. The shells are pressed together and fed into the receiver by the force of the magazine spring acting upon the follower. The action slide is mounted and operates on the magazine tube. The rear end of the slide or bar passes through the forward end of the receiver and engages with, reciprocates, and cam-operates the breech bolt, which in turn operates the carrier and cams back and cocks the hammer.

f. The trigger guard group contains the hammer, trigger, trigger (safety) lock, carrier, and action slide lock mechanism, together with their springs and components. The action slide lock is pivoted in the left side of the trigger guard and engages with the action slide bar to block its rearward movement after the breech bolt is locked in position

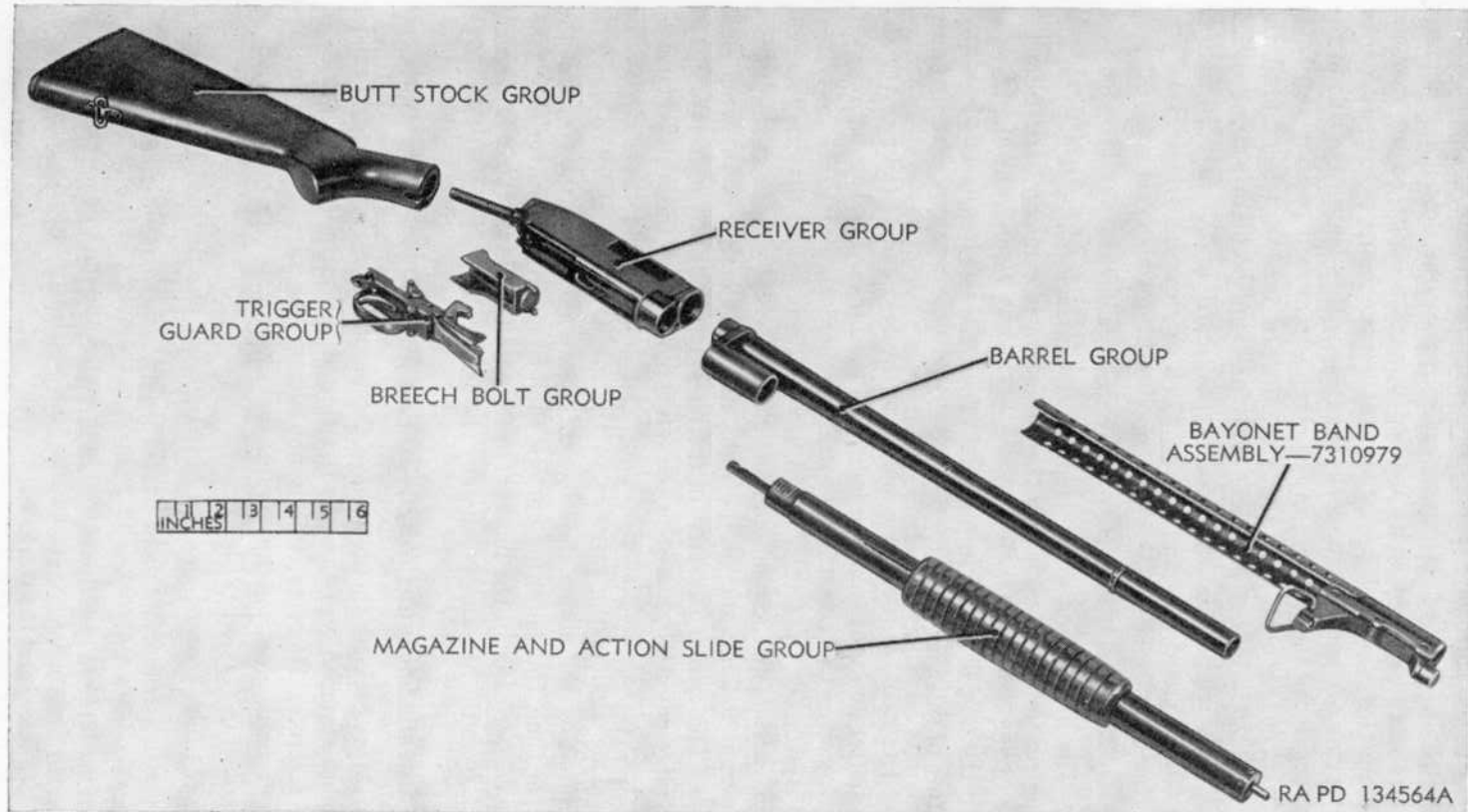


Figure 5. Major groups of Winchester shotgun M12.

by the action slide bar; thereby preventing premature unlocking of the breech bolt. The lock is disengaged either by the descending hammer when the gun is fired or by manual upward pressure on the rear end of the action slide lock projecting through the guard to the left rear of the trigger. A hook on the lock, engaging with a lug on the side of the hammer, locks the hammer in the extreme rearward position and holds it from engagement with the sear forward face of trigger until the breech bolt is locked in place. This prevents premature firing of the gun. The trigger (safety) lock is positioned in the forward end of the trigger guard bow and acts to block or clear the trigger, thus preventing or allowing firing of the gun.

Note. The sear is an integral part of the trigger in this gun.

g. The breech bolt group contains the extractors, the firing pin, and firing pin retractor by which the firing pin is cammed back from the face of the bolt and blocked from being driven forward by the hammer until the bolt is locked in position. Thus, the retractor acts as a safety feature of this gun.

h. The stock of the gun is bolted to the rear end of the receiver and the barrel and magazine are locked to the forward end of the receiver. The receiver contains the operating mechanism, and to its lower rear end is attached the trigger guard to which is mounted the firing mechanism, carrier, and action slide lock. The receiver is open at the bottom to permit loading and at the right side for ejection of the fired shell cases. The ejector is seated in the inner left wall of the receiver. The cartridge cutoff is pivoted in the left inner wall of the receiver, just to the rear of the magazine opening, and acts to hold the shells in the magazine against the pressure of the magazine spring. The cutoff is operated by the action slide bar to release and block the shells at the proper time, thus allowing but one shell to enter the receiver at a time. The carrier assumes the function of the cutoff while the latter is cammed back from the blocking position by the action slide bar.

6. Stevens Shotguns M520-30 and M620A

a. Most Stevens shotguns have the manufacturer's name and model number stamped on either the left side of the barrel or the left side of the receiver. However, this is not always the case. If the manufacturer's name does not appear on the weapon, it can be identified as described in (1) and (2) below.

- (1) The Stevens shotgun M520-30 can be identified by the shape of the receiver. The upper part of the rear of the receiver forms a corner. This weapon is the only one that has the safety located in the receiver tang and is the only one whose stock is fastened by a screw running vertically through the receiver tang and the stock.

(2) The Stevens shotgun M620A has the safety located in the trigger guard. It differs from the M520-30 by the substitution of a receiver extension for the receiver tang. The stock is fastened to the receiver extension by a bolt running horizontally through the stock.

b. The Stevens shotguns M520-30 and M620A are 12-gage, riot-type weapons with 20-inch cylinder-bored barrels. They are manually operated, repeating shotguns of the slide action, hammerless, and takedown types.

c. These shotguns are primarily composed of a bayonet band assembly, a barrel, magazine, and action bar group, a stock group, a trigger guard group, a sliding breech and slide group, and a receiver group (figs. 6 and 7).

d. The bayonet band assembly has the hand guard welded to it. It is mounted on the muzzle end of the barrel and forward end of the magazine and held in place by means of screws passing through the assembly and grooves in the barrel. A swivel is attached to the band and serves as a means of attaching a sling. The front sight is screwed into the front of the assembly.

e. The barrel, magazine and action bar group is attached to the forward end of the receiver by means of grooves and guides in the rear end of the barrel, sliding into and mating with similar grooves and guides in the forward end of the receiver. When the groups are in position, the magazine nut is moved rearward by screw action of the magazine, so that lugs on the nut engage in slots in the receiver and barrel to hold the group locked together. The magazine is of the tubular type, with a capacity of five shells loaded end-to-end. The shells are pressed together and fed into the receiver by the force of the magazine spring acting upon the follower. The magazine is locked to the barrel at the rear by the magazine nut and forward by a screw passing through a projection in the magazine plug and into a shoulder on the barrel. The action bar tube is mounted and moved back and forth on the magazine; and the action bar, attached to the rear of this tube, passes through the forward end of the receiver and engages with and operates the slide. This slide in turn connects with and operates the sliding breech and lifter and cocks the hammer.

f. The stock group of the gun is bolted to the receiver extension, which, in the shotgun M620A, floats and locks to the receiver and trigger guard by the forward end of the extension seating in grooves in the rear end of the receiver and trigger guard, when assembled. In the shotgun M520-30, the stock is fastened to the receiver projection and trigger guard by a screw which passes vertically through an integral extension on the receiver and the stock grip and screws into an integral extension on the trigger guard.

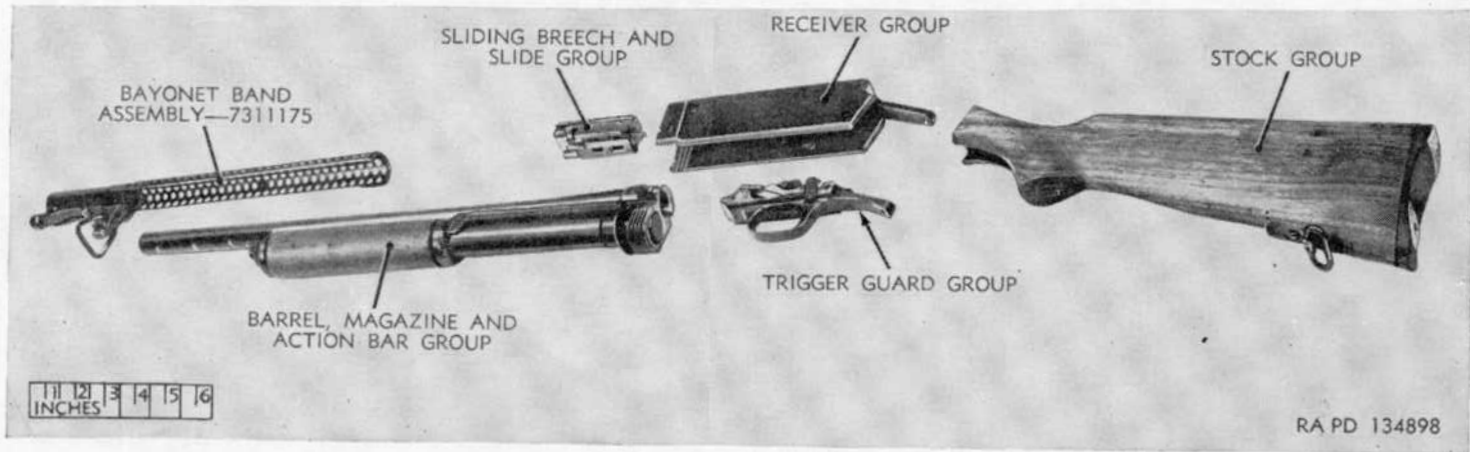


Figure 6. Major groups of the Stevens shotgun M520-30.

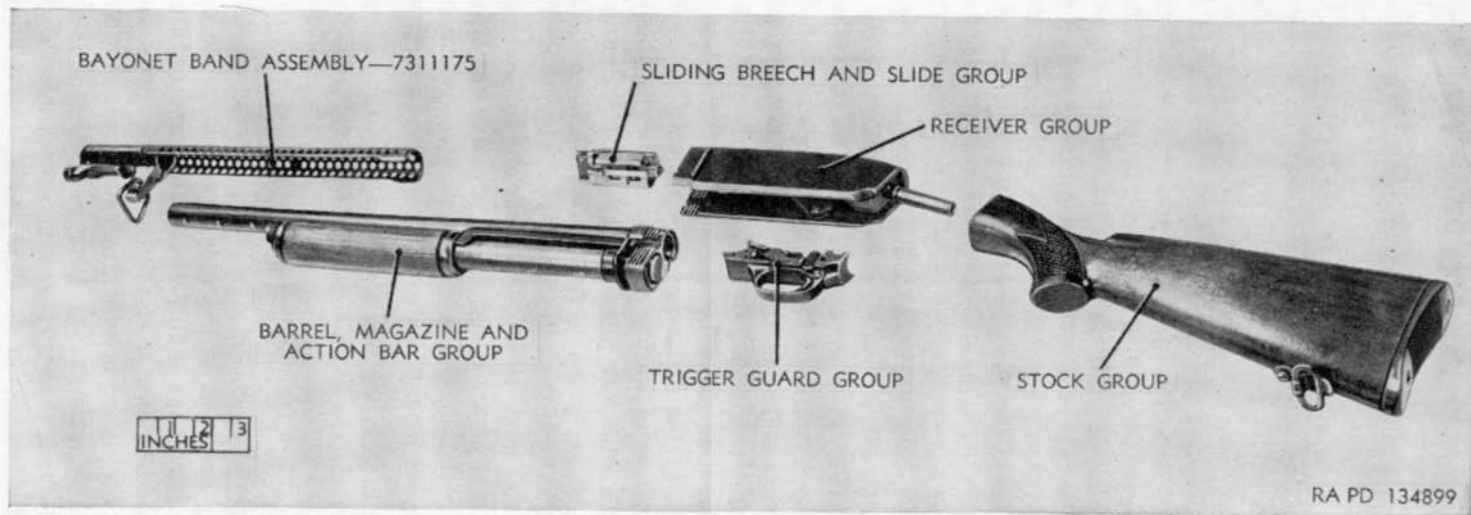


Figure 7. Major groups of the Stevens shotgun M620A.

g. The trigger guard group contains the hammer assembly, trigger, sear, slide lock assembly, slide lock release assembly, and safety, together with their springs and component parts. It is connected to the underside of the receiver. The trigger guard of the shotgun M520-30 has an integral extension extending to the rear, while the shotgun M620A has a floating extension. The sear hook on the hammer of the shotgun M520-30 points down, while the hook on the shotgun M620A hammer points up. The mousetrap-type mainsprings of the two, which pivot on the mainspring pin, are the same. The sear of the shotgun M520-30 is longer than that of the shotgun M620A and seats in a slot on top of the trigger where it is functioned by a coil spring, while the shotgun M620A sear, pivoting on the slide lock pin, is functioned by a torsion spring. The trigger of the shotgun M520-30 differs from that of a shotgun M620A in that it has a slotted top for the sear and sear spring. When pulled, the shotgun M520-30 trigger raises the rear of the sear to release the hammer, while the shotgun M620A trigger levers down the sear rear end of the sear to release the hammer. The slide lock assemblies are the same for both models; but the slide lock spring of the shotgun M620A is a torsion-type spring, while the slide lock spring of the shotgun M520-30 is a safety-pin-type spring. The slide lock, pivoted in the trigger guard, engages with the slide to block its rearward movement after it has locked the sliding breech in position, thereby preventing premature unlocking of the sliding breech. The lock is disengaged from the slide either by the action of the slide lock release spring, functioned by the descending hammer with which it is engaged, or by manual pressure upward on the rear end of the slide lock through the medium of the slide lock release, which extends downward through the floor of the trigger guard to the left of the trigger. The safety of the shotgun M620A is of the cylindrical type, while that of the shotgun M520-30 is of the lever type. The shotgun M620A safety operates laterally in the rear of the trigger guard to block and free the trigger. In the shotgun M520-30, the safety thumbpiece acts upon the safety lever which operates longitudinally to block or free the trigger.

h. The sliding breech, which is a component of the sliding breech and slide group, contains the extractors, right and left, the firing pin, the locking block, and their components. The locking block operates in radial grooves cut in the sliding breech and is operated by means of cam lugs on the lower end of the block, functioning with similarly shaped camming apertures in the slide, upon which the sliding breech rests. The slide moves the sliding breech back and forth and cams the locking block up and down in an aperture in the top of the receiver to lock and unlock the sliding breech. The extractors are of the usual claw type, functioned by springs. The firing pin passes through the sliding breech and the locking block and is cammed back into the sliding breech on the rearward movement of the slide by the locking block. The slide

moves in the guideways in the receiver walls and supports, operates, locks, and unlocks the sliding breech; it also operates the lifter and shell stop, and cams back and cocks the hammer. The slide is, in turn, operated by the action bar which engages with it by means of a lug on the bar, engaging in a notch in the slide when assembled. The slide is blocked in the forward (locked) position by the slide lock mounted in the trigger guard. The slide and lock are held in close contact in the locked position by a spring plunger in the forward end of the slide, bearing upon the barrel head when assembled.

i. The receiver, which is a component of the receiver group, contains the operating mechanism. It is open at the bottom to permit loading, at the right side for ejection of fired shell cases, and at the top for engagement with the locking block operating in the sliding breech. The lifter is pivoted to the inside of the receiver and operated by means of a spring-functioned pawl on the rear end of the lifter engaging with a notch in the slide, together with the lifter spring pinned to the receiver at the rear of the lifter. The function of the lifter is to raise the shell to chamber level when released from the magazine. The shell stop is screwed to the inside of the right wall of the receiver and is operated by the slide and spring action of the stop. The ejector is positioned in the left wall of the receiver and acts to kick the shell out of the ejection opening in the receiver when pulled to the rear out of the barrel chamber by the extractors positioned in the forward end of the sliding breech.

7. Tabulated Data

Gage of bore.....	12
Diameter of bore.....	0.729 in.
Boring of barrel.....	cylinder
Type of action.....	slide
Type of firing mechanism.....	hammerless
Type of magazine.....	tubular
Capacity of magazine.....	5 rd
Operation.....	manual
Cooling.....	air
Length of barrel.....	20 in.
Length of stock and receiver (approx).....	20 in.
Length of assembled gun (approx).....	40 in.
Weight of assembled gun M12 (w/attachments) (approx).....	7 lb 8 oz
Weight of assembled gun M520-30 (w/attachments) (approx).....	8 lb
Weight of assembled gun M620A (w/attachments) (approx).....	8 lb
Weight of bayonet M1917 (approx).....	1 lb 2 oz

CHAPTER 2

PARTS, SPECIAL TOOLS, AND EQUIPMENT FOR FIELD AND DEPOT MAINTENANCE

8. General

Tools and equipment and maintenance parts over and above those available to the using organization are supplied to ordnance field maintenance units and depot shops for maintaining, repairing, and/or rebuilding the materiel.

9. Parts

Maintenance parts are listed in Department of the Army Supply Bulletin SB 9-117, which is the authority for requisitioning replacements. Parts not listed in SB 9-117 but required by depot shops in rebuild operation may be requisitioned from the listing in Department of the Army Supply Manual ORD 9 SNL B-9 and will be supplied, if available, when the need is substantiated. Requisitions for ORD 9 parts will contain a complete justification of requirements.

10. Common Tools and Equipment

Standard and commonly used tools and equipment having general application to this materiel are listed in Department of the Army Supply Manual ORD 6 SNL J-8, Section 6, and ORD 6 SNL J-10, Section 2, and are authorized for issue by TA and TOE.

11. Special Tools and Equipment

The special tool in table I is listed in Department of the Army Supply Manual ORD 6 SNL J-12. This table contains the only special tool necessary to perform the operations described in this manual, is included for information only, and is not to be used as a basis for requisitions.

Table I. Special Tool for Field and Depot Maintenance

Item	Identifying number	References		Use
		Fig.	Par.	
GAGE, headspace, 12-gage	7314899	8, 13	20	To check headspace on all models of shotguns.

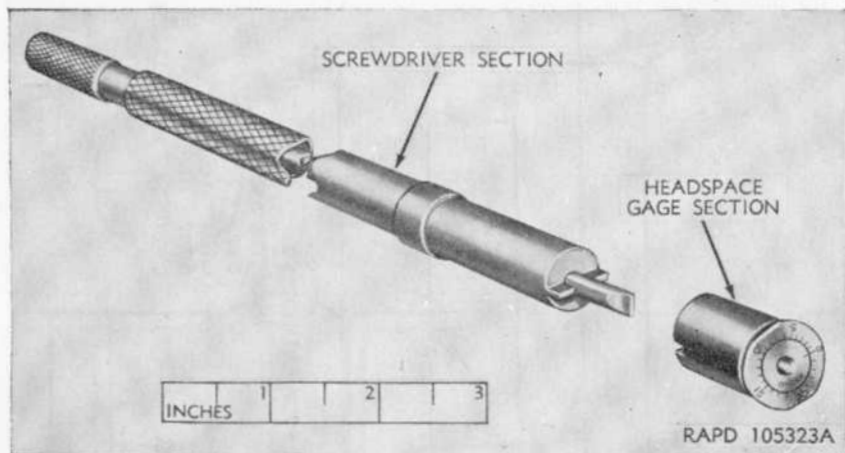


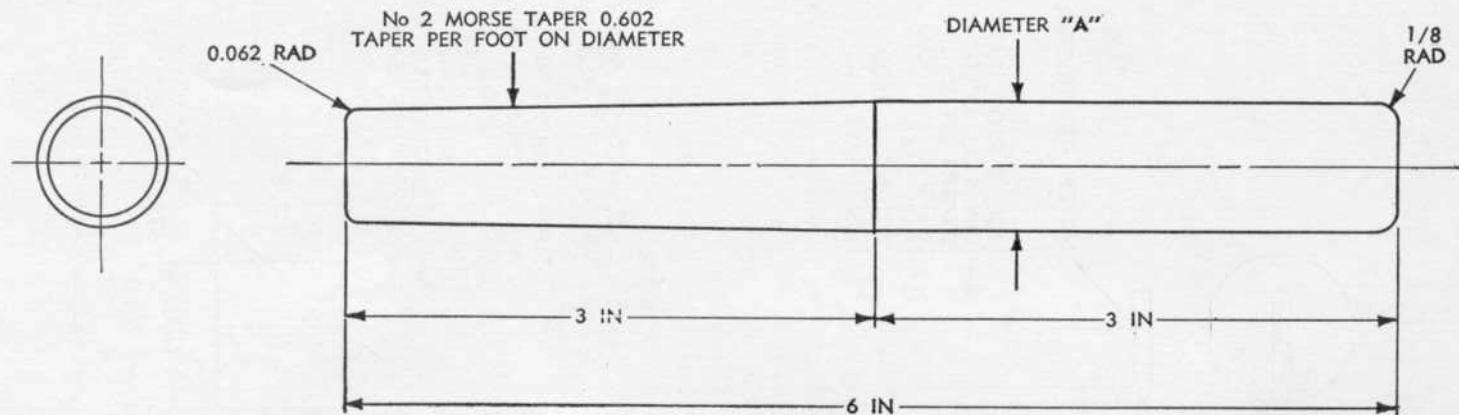
Figure 8. 12-gage headspace gage.

12. Improved Tools

The list of improvised tools in table II applies only to field and depot organizations engaged in rebuilding these shotguns. Illustrations giving dimensioned details are included to enable these maintenance organizations to fabricate these tools locally, if desired. These tools are not essential for rebuild and are not available for issue. The data furnished are for information only. The chief value of these tools is to maintenance organizations engaged in rebuilding a large number of weapons.

Table II. *Improved Tools for Field and Depot Maintenance*

Item	References		Use
	Fig.	Par.	
CYLINDER, barrel-rectifying, four in set, 0.723, 0.725, 0.727, 0.729 in. diameter.	9, 24, 39	37c(4), 38c(2),(b) 46c(12)	To remove dents from barrels.
WEIGHT, trigger pull 2 in set, 5 and 8 lb.	10, 12	19	To check trigger pull.
WRENCH, cap, action slide sleeve screw.	11, 20	37a(5), 37d(4)	To remove and install action slide sleeve screw cap form forend (M12).
WRENCH, front forend nut.	11, 38	46a(5), 46d(4)	To remove and install front forend nut (Stevens Shotguns M520-30 and M620A).



MAKE FOUR CYLINDERS

CYLINDER	DIAMETER "A"
1	0.723
2	0.725
3	0.727
4	0.729

SUGGESTED MATERIAL: WD2315 STL. CARB. AND HDN.—
ROCK C60—65—FINISH GRIND ALL OVER

RA PD 134555

Figure 9. Improvised barrel-rectifying cylinders.

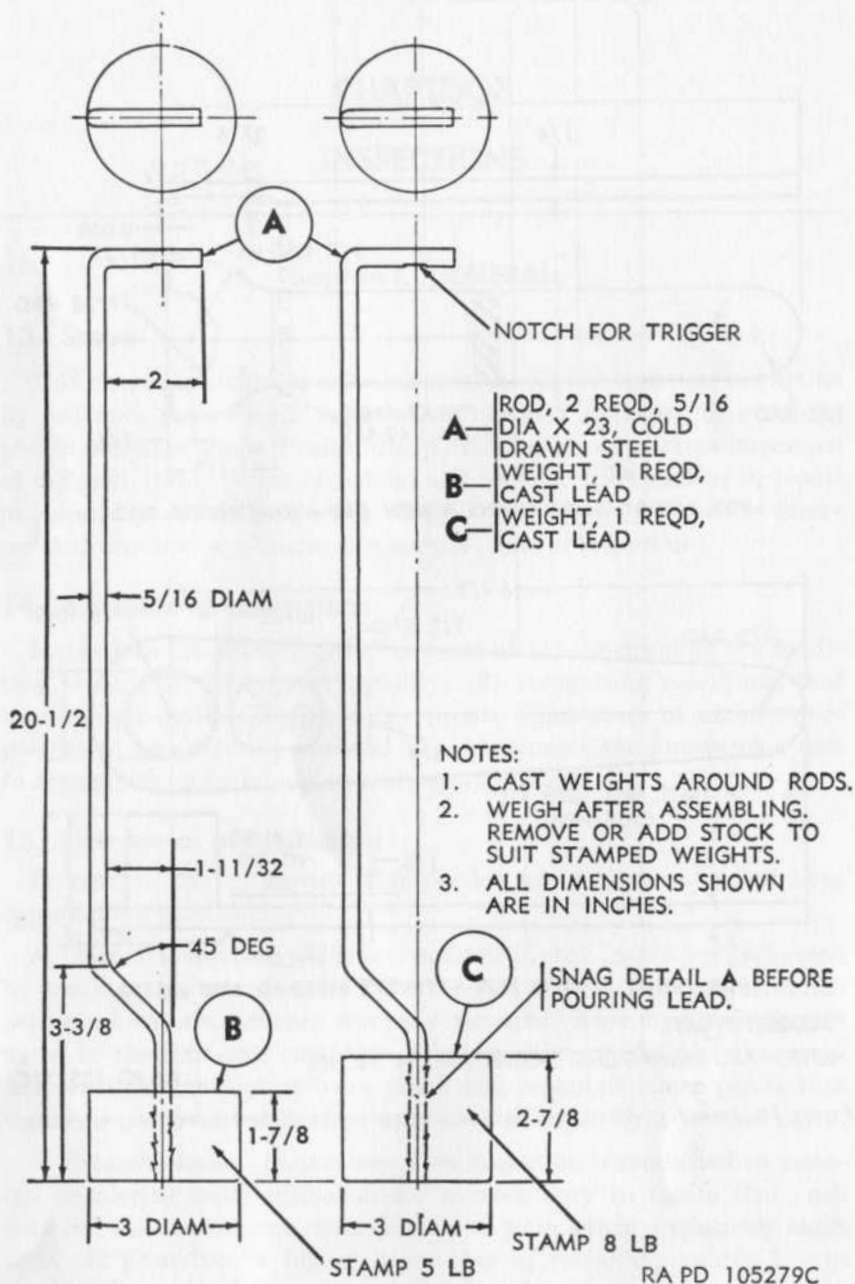
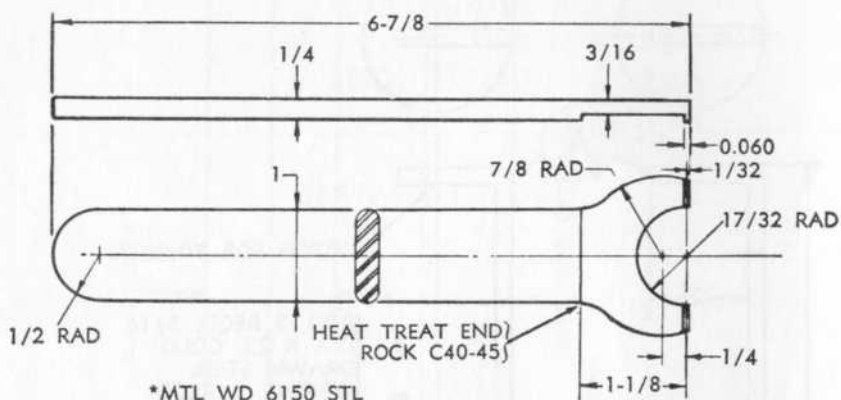
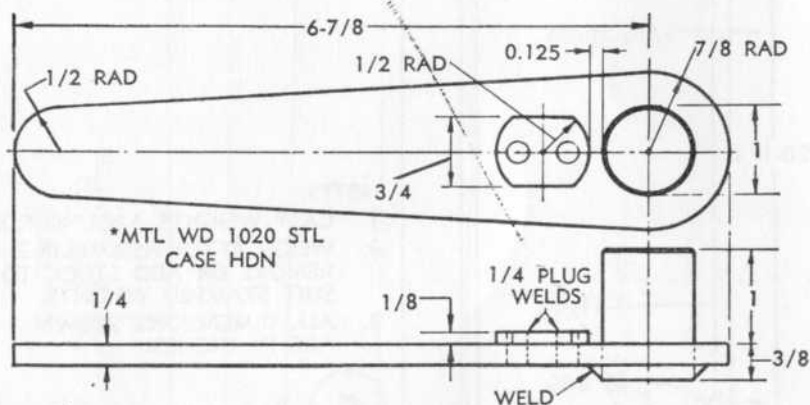


Figure 10. Improvised trigger-pull weights.



FOR ACTION SLIDE SLEEVE SCREW CAP—WINCHESTER M12



FOR FRONT FOREND NUT—STEVENS M520-30 AND M620A

*SUGGESTED MTL

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

RA PD 105277C

Figure 11. Improvised action slide sleeve screw cap and front forend nut wrenches.

CHAPTER 3

INSPECTIONS

Section I. GENERAL

13. Scope

This chapter provides specific instructions for the technical inspection by ordnance maintenance personnel of materiel in the hands of troops and in ordnance shops. It also briefly describes the in-process inspection of materiel during repair or rebuild and the final inspection after repair or rebuild has been completed. Troubleshooting information is incorporated wherever applicable as a normal phase of inspection.

14. Purposes of Inspections

Inspections are made for the purposes of (1) determining the condition of an item as to serviceability, (2) recognizing conditions that would cause failure, (3) assuring proper application of maintenance policies at prescribed levels, and (4) determining the ability of a unit to accomplish its maintenance and supply missions.

15. Categories of Inspection

In general, five categories of inspection are performed by ordnance maintenance personnel.

a. Overall Inspection. This is a periodic overall inspection performed by a contact party on materiel in the hands of troops and an inspection performed by maintenance company personnel when materiel is evacuated to the ordnance company. The inspection of materiel evacuated is more thorough and includes check and repair of minor points that would not be required in the inspection performed by a contact party.

b. Preembarkation Inspection. This inspection is conducted on materiel in alerted units scheduled for oversea duty to insure that such materiel will not become unserviceable or worn out in a relatively short time. It prescribes a higher percentage of remaining usable life in serviceable materiel to meet a specific need beyond minimum serviceability.

c. In-Process Inspections. These are inspections performed in the process of repairing (field maintenance) or rebuilding (depot maintenance).

nance) the materiel as prescribed in chapter 4. This is to insure that all parts conform to the prescribed standards, that the workmanship is in accordance with approved methods and procedures, and that deficiencies not disclosed by the preliminary inspection are found and corrected. Detailed instructions are contained in chapter 4.

d. Final Inspection. This is an acceptance inspection performed by a final inspector, after repair or rebuild has been completed, to insure that the materiel is acceptable for return to user or for return to stock according to the standards established. Detailed instructions are contained in chapter 5.

e. Spot Check Inspection. This is a periodic overall inspection performed on only a percentage of the materiel in each unit to determine the adequacy and effectiveness of organizational and field maintenance.

Section II. INSPECTION OF MATERIEL IN THE HANDS OF TROOPS

16. General

Warning: Before starting an inspection, be sure to clear the weapon. Do not touch the trigger until the weapon has been cleared. Inspect the chamber to insure that it is empty and check to see that no ammunition is in position to be introduced. Avoid having live ammunition in the vicinity of the work.

a. Refer to TM 9-1100 for responsibilities and fundamental duties of inspecting personnel, the necessary notice and preparations to be made, forms to be used, and general procedures and methods to be followed by inspectors. Materiel to be inspected includes organizational spare parts and equipment and the stocks of cleaning and preserving materials. In the course of this technical inspection, the inspector will accomplish the following:

b. Check to see that the weapon has been cleaned of all corrosion-preventive compound, grease, excessive oil, dirt, or foreign matter which might interfere with proper functioning or obscure the true condition of the parts.

c. Make an overall inspection of the weapon for general appearance, condition, operation, and manual functioning. Use dummy or drill cartridges.

d. Determine serviceability, i.e., the degree of serviceability, completeness, and readiness for immediate use, with special reference to safe and proper functioning of the materiel. If the materiel is found serviceable, it will be continued in service. In the event it is found unserviceable or incipient failures are disclosed, the deficiencies will be corrected

on the spot or advice given as to corrective measures when applicable, or, if necessary; the materiel will be tagged for delivery to, and repair by, ordnance maintenance personnel.

e. Determine causes of mechanical and functional difficulties that troops may be experiencing and check for apparent results of lack of knowledge, misinformation, neglect, improper handling and storage, security, and preservation.

f. Check on application of all urgent modifications and if any unauthorized alterations have been made or if work beyond the authorized scope of the unit is being attempted. Check the index in DA Pam 310-4 and the current modification work order files for any modification work orders promulgated subsequent to this printing.

g. Instruct the using personnel in proper preventive maintenance procedures where found inadequate.

h. Check on completeness of the organizational maintenance allowances and procedures for obtaining replenishments.

i. Satisfactory metal finishes for weapons range from dense black to medium light gray. Certain small arms weapons are manufactured with an unusual shade of neutral gray finish. Since this finish (gray zinc phosphate) is an accepted Department of the Army standard, these weapons will not be rejected by inspectors or troops for this condition. Rigid restrictions on shiny metal surfaces will not be carried to an extreme. A worn surface is objectionable from the standpoint of visibility when it is capable of reflecting light, somewhat as a mirror does. No weapon will be rejected for oversea use unless exterior parts have a distinct shine. Bright rear sights will not be permitted on weapons for oversea use. Check to see that all rear sights have a dull black or gray finish on all surfaces.

j. Wooden components must not be cracked in such a way as to interfere with the structural strength. Surface cracks, bruises, or dents which do not affect their strength should not cause rejection.

k. Light pitting of the barrel, even though plainly visible, is not cause for rejecting a weapon. It does not affect the accuracy materially, but is a disadvantage because it interferes with subsequent cleanings.

l. Looseness and play in some components may be cause for rejection. In many cases, however, the importance of such defects is exaggerated. Looseness and play must be considerable to affect the accuracy of a weapon beyond its natural dispersion. All weapons must have play between working components to permit them to operate in localities where sand and dust are prevalent. A weapon may become completely useless if its working parts are fitted with insufficient clearance.

m. Minor defects in metal components do not normally affect their being acceptable. Scratches and tool marks on barrels are ordinarily of no importance.

n. The barrel will be free of corrosion, bulges, and rings. Pits should not exceed $\frac{5}{8}$ inch in length. Barrel must exhibit no looseness in the receiver.

o. The bolt will be free of burrs on its various operating surfaces. Firing pin hole shall be free of carbon and corrosion. Extractor will be free of burrs and shell engaging lugs will not have a feather edge. Extractor plunger spring will have tension on plunger. Slide must not be broken or deformed. Slide lug must not be worn.

p. Trigger guard group will not bind or have excessively loose fit in receiver. Sear, hammer, and trigger must not be cracked or deformed.

q. Receiver will be free of burrs and sharp corners on its operating surfaces. Lifter must be parallel with bottom of receiver and must not bind or be excessively loose. Shell stop and ejector must be properly seated in slots within the receiver.

r. Bayonet and band assembly must slide over muzzle end of barrel readily. Connection between guard and band must be tight. Swivel must be free of dents and bends and must be free-swinging. Front sight must not be loose-fitting nor protrude through the barrel.

s. Magazine and action bar group or action slide group must fit without forcing between barrel head and barrel lug. Follower must be free of dents and must slide in magazine. Action bar tube must slide over magazine. Forend or action slide handle must not have cracks or splits.

t. Stock group or butt stock group must slide readily into the rear end of the receiver. Butt plate or stock must be free of cracks. Butt swivel must be free-swinging and must not have cracks or bends. Screw must not be stripped.

17. Winchester Shotgun M12

a. Visual Inspection.

- (1) Check barrel for dents and looseness. Barrels should not be badly pitted and should be free of rust, cracks, and bulges.
- (2) Inspect wooden components for cracks and checks.
- (3) Check metal components for rust or corrosion on their surfaces.
- (4) Check whether butt plate is broken or cracked.
- (5) Check whether front sight is in place.
- (6) Check whether all screws, lock screws, and pins are in place and secure.
- (7) Check whether bayonet band assembly is secure.
- (8) Check slings for cracked leather or torn or worn webbing.

b. *Functional Inspection.*

- (1) With the breech bolt locked and the hammer cocked, press upward on the rear end of the action slide lock, showing at the left rear of the trigger guard. Push action slide handle forward slightly and pull smartly and fully to the rear; then push smartly and fully forward. Reciprocate action slide thus several times to test smoothness of action.

Note. Movement of action slide should be smart and full both ways to insure full cocking of hammer, locking of breech bolt, and engagement of action slide lock. Slamming of mechanism, however, should be avoided.

- (2) Retract action slide as in (1) above, release pressure on rear of action slide lock, and push slide smartly forward to lock the breech bolt; then attempt to retract the action slide. The action slide should not retract.
- (3) Pull the trigger, thus allowing the hammer to fall forward to the fired position and attempt to retract the action slide. The action slide should retract after moving action slide handle slightly forward. (Forward movement permits the action slide lock to be disengaged.)
- (4) Retract the action slide fully and then push forward until the breech bolt is fully forward, but not raised to the locked position. Then pull the trigger to release the hammer. The trigger should not release the hammer until the breech bolt is fully locked.

Warning: Fired shells may often be used for testing, when dummy shells are not available, by turning in the uncrimped end so that the length of the shell approximates that of the live shell. Use of live shells for testing is prohibited.

- (5) Place two or more dummy or fired shells in the magazine and work through the action to test gun for feeding, loading, extraction, and ejection of shells. The second shell should not leave the magazine until the breech bolt is locking behind the first shell in the chamber.

Note. Fired shells will not work through the action as easily as live or dummy shells as they are somewhat deformed through being fired. Therefore, allowances should be made for friction and smoothness of action in positioning the shell.

- (6) With breech bolt locked and hammer in cocked position, push the trigger lock safety all the way to the right and attempt to pull the trigger to release the hammer. The trigger should not retract nor the hammer be released.
- (7) Push trigger lock all the way to the left so that red band shows and attempt to pull the trigger. The trigger should retract and the hammer be released to fire the gun.

- (8) Check for looseness between receiver and barrel. If barrel is loose in receiver, loosen the barrel adjusting sleeve lock and back off barrel adjusting sleeve one notch at a time until barrel is tight in receiver. If this adjustment does not correct the looseness, return to depot.

18. Stevens Shotguns M520-30 and M620A

a. *Visual Inspection.* Proceed as in paragraph 17a.

b. *Functional Inspection.*

- (1) With the sliding breech locked and hammer cocked, push forend slightly forward and press upward on the slide lock release showing at left of trigger. Pull forend fully and smartly to the rear and then push fully and smartly forward. Reciprocate forend thus several times to test smoothness of action.

Note. Movement of forend should be full and smart both ways to insure full cocking of the hammer, locking of the sliding breech, and engagement of the slide lock. Slamming of mechanism, however, should be avoided.

- (2) Retract forend as in (1) above, release slide lock release, and push forend smartly forward to lock the sliding breech. Then attempt to retract the forend. The forend should not retract.
- (3) Pull the trigger, thus allowing the hammer to move forward to the fired position, and attempt to retract the forend. The forend should retract.
- (4) Retract the forend fully; then push forward until the sliding breech is fully forward but not locked and the locking block not fully engaged in the aperture in the top of the receiver. Then pull the trigger to release the hammer. The hammer should not release until the sliding breech is fully locked and the locking block fully seated in the aperture in top of the receiver. However, these weapons will fire in an unlocked position.

Caution: Movement of forend should be full and smart both ways to insure full cocking of the hammer, locking of the sliding breech, and engagement of the slide lock.

Warning: Fired shells may often be used for testing, when dummy shells are not available, by turning in the uncrimped end so that the length of the shell will approximate that of a live shell. Use of live shells for testing is prohibited.

- (5) Place two or more dummy shells in the magazine and work through the action to test the gun for feeding, loading, extraction, and ejection of shells. The second shell should not leave

the magazine until the first shell has been loaded into the chamber and the sliding breech is locking behind it.

Note. Fired shells will not work through the action as easily as live or dummy shells as they are somewhat deformed through being fired. Therefore, allowance should be made for friction and smoothness of action in positioning the shell.

- (6) With sliding breech locked and hammer in cocked position, push safety all the way to the right (shotgun M620A) or to rear (shotgun M520-30) and attempt to retract the trigger. The trigger should not retract nor the hammer release.
- (7) Push safety all the way to the left (shotgun M620A) or forward (shotgun M520-30) and pull the trigger. The trigger should pull and the hammer should be released to fire the gun.

19. Trigger Pull

a. If suitable weights totaling 5 and 8 pounds are not available, improvise such weights in accordance with figure 10.

b. To test the trigger pull, note that the gun is fully unloaded, action locked, hammer fully cocked, and safety set to fire position.

c. With the weight resting on the floor, insert the hook or trigger weight through the looped opening of the trigger guard to bear on trigger, so that the pressure will be applied $\frac{1}{4}$ inch from lower end of trigger.

Note. Care should be taken to see that notched hook contacts the trigger only; that the hook does not rub against trigger guard or stock; and that the rod and axis of bore are parallel and perpendicular.

d. With the barrel of gun held vertically, raise the gun and the weight (fig. 12) from the floor as gently as possible.

e. If the 5-pound weight pulls the trigger or the 8-pound weight fails to pull the trigger, correct the trigger pull in accordance with the instructions for the particular weapon.

20. Headspace

a. The headspace is the amount of clearance between the rear locating face of the barrel or chambering ring and forward face of the breech bolt (or sliding breech). When the bolt is locked in the firing position, the headspace should be from 0.072 inch to 0.090 inch in all shotguns. Check headspace as described in *b* through *j* below.

b. Clean the shell chamber and face of bolt. Set headspace gage—7314899 (fig. 8) so that moveable core and body are indexed at zero and insert the gage in the chamber (fig. 13), with flat spots on the gage turned to clear the extractors. Close bolt and lock in firing position.

c. Lower the screwdriver section into the bore, with the inner or screwdriver part retracted, until the lugs on the outer sleeve engage the slots in the body of the gage.

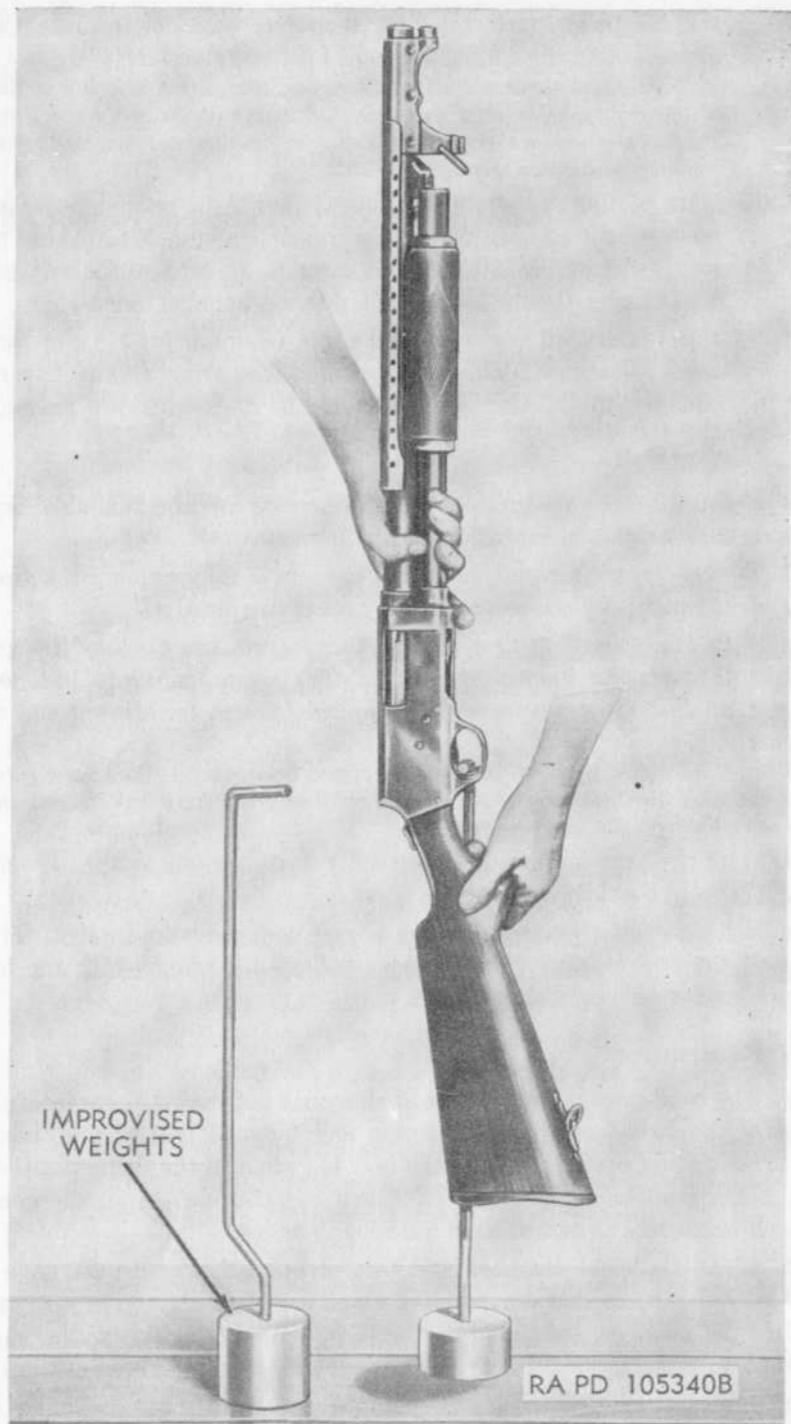


Figure 12. Testing trigger pull with improvised weights.

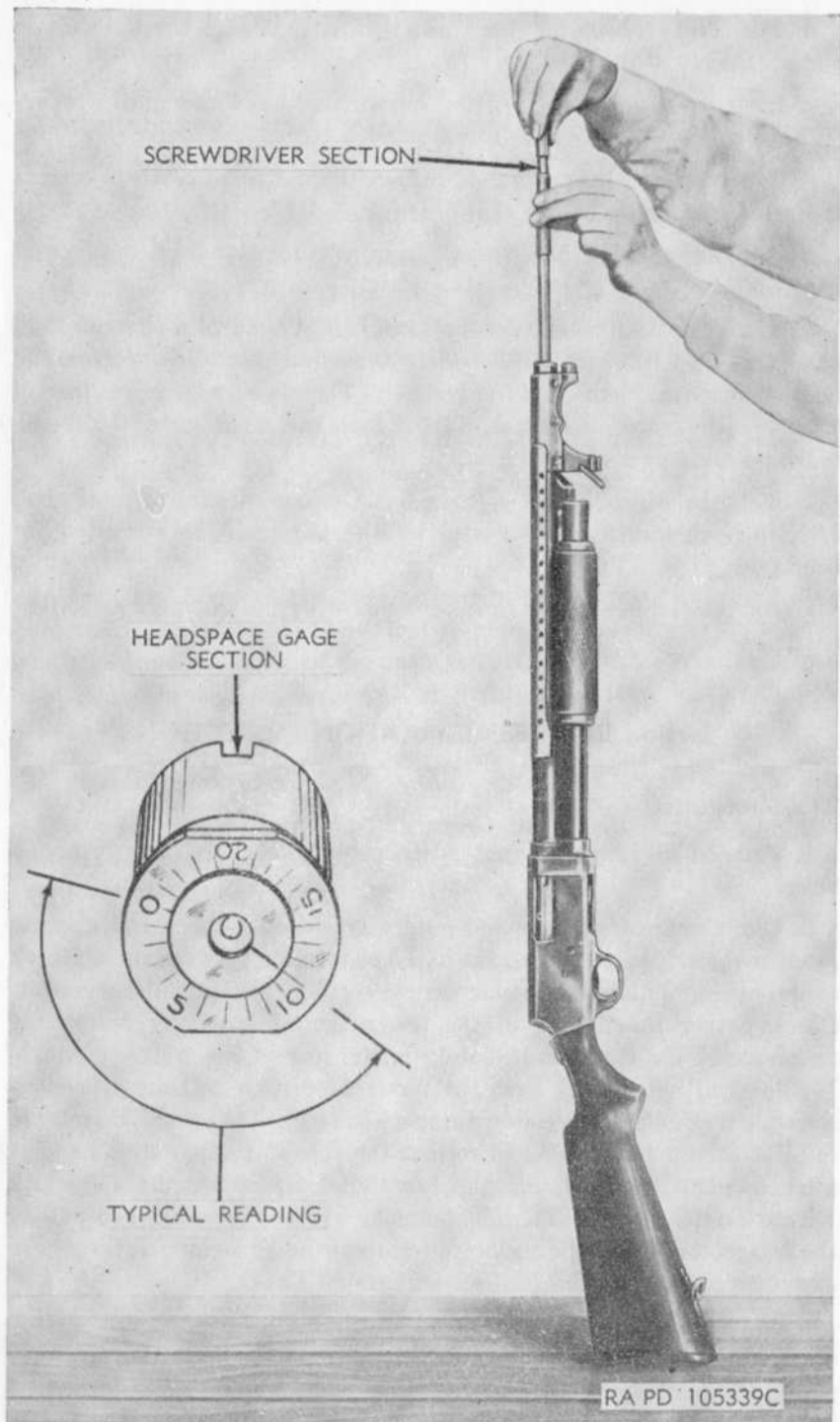


Figure 13. Gaging headspace with headspace gage 7314899.

d. Push the screwdriver down and turn it to engage the screwdriver slot in the core of the gage.

e. Hold the sleeve and turn the screwdriver clockwise until firm resistance indicates the gage is fully expanded.

f. Remove screwdriver section, retract the bolt, and catch gage as it is ejected from receiver.

g. Note the number of divisions from zero registered on the face of gage.

h. The gage itself simulates the form of the head of a shotgun shell and takes up 0.065 inch of headspace when fully seated, with core and body indexed at zero, in the chamber. Therefore, a gage reading of 0.007 inch indicates headspace of 0.072 inch and a reading of 0.025 inch indicates headspace of 0.090 inch.

i. Shotguns which have less than 0.007-inch clearance or more than 0.025-inch clearance as measured by the gage will be corrected for headspace.

j. Correct the headspace in accordance with the instructions for the particular weapon.

Section III. PREEMBARKATION INSPECTION

21. Shotguns

a. Proceed as in paragraphs 16 through 20 and as in *b*, *c*, and *d* below.

b. Check mating grooves and guideways of both the barrel and the receiver for evidence of looseness in the connection between them. Check reciprocating action of the action bar group for smooth operation. Check proper functioning of the trigger guard group by performing underside of the stock immediately in the rear of the trigger guard to handle) will not retract from the forward position without depressing the slide lock release assembly (action slide lock). Allow the hammer to fall. It should be possible to retract the forend (action slide handle) after a slight forward movement without depressing the slide lock release (action slide lock). The hammer will not release, when pulling the trigger until the sliding breech (breech bolt) is fully locked. For exception to result of this test, see paragraph 18*b*(4).

c. Materiel will not be considered unsuitable for oversea use because of lack of modification unless such modification affects the safety of personnel, is essential to functioning of the materiel, or is prescribed by an URGENT Department of the Army modification work order (MWO). RED-BORDERED War Department modification work

orders that are still in effect will be considered as urgent modification work orders.

d. Any weapon will be rejected for oversea use, if exterior parts have a distinct shine; also bright rear sights will not be permitted on weapons for oversea use.

22. Organizational Spare Parts, Tools, and Equipment

Examine all spare parts, tools, and equipment for completeness and serviceability. Replace any defective items. It is not normally necessary to inspect items in sealed packages, since they have been inspected for serviceability prior to packaging and during storage.

Section IV. INSPECTION OF MATERIEL RECEIVED IN ORDNANCE SHOPS

23. General

A technical inspection similar to that in paragraphs 16 through 20 is performed. In addition, the extent of repairs necessary is determined and an estimate is made of the parts required. A troubleshooting inspection is performed, as necessary, to localize malfunctions and apply corrective measures.

24. Troubleshooting

Table III lists malfunctions, their probable causes, and proposed corrective actions. For troubleshooting information within the scope of organizational maintenance, see TM 9-285.

Table III. Troubleshooting

Malfunction	Probable causes	Corrective action		
		Winchester shotgun M12	Stevens shotgun M520-30	Stevens shotgun M620A
Failure to fire.	<i>Empty chamber</i>	Pump shell chamber (par. 17b(5)).	Pump shell into chamber (par. 18b(5)).	Pump shell into chamber (par. 18b(5)).
	Failure of operator to load.	Repair magazine and action slide group (par. 37c).	Repair magazine and action bar group (par. 46c).	Repair magazine and action bar group (par. 46c).
	Failure to feed.	Load magazine (par. 17b(5)).	Load magazine (par. 18b(5)).	Load magazine (par. 18b(5)).
	Empty magazine.	Use other ammunition (par. 30a).	Use other ammunition (par. 30a).	Use other ammunition (par. 30a).
	<i>Failure of shell</i>	Replace firing pin (par. 40a and d). See table V for firing pin protrusion.	Replace firing pin (par. 47a and d). See table V for firing pin protrusion.	Replace firing pin (par. 47a and d). See table V for firing pin protrusion.
	Faulty ammunition.	Clean firing aperture in the breech bolt (par. 40c(1)).	Clean firing pin aperture in sliding breech (par. 47c(2)).	Clean firing pin aperture in sliding breech (par. 47c(2)).
	Short or broken firing pin.	Replace hammer assembly (par. 39a and d).	Replace hammer assembly (par. 49a and d).	Replace hammer assembly (par. 49a and d).
	Foreign matter in firing pin aperture in breech bolt or sliding breech.	Replace hammer spring (par. 39a and d).	Replace main spring (par. 49a and d).	Replace main spring (par. 49a and d).
	Broken hammer.	Remove burs or replace trigger (par. 39a and d).	Remove burs or replace sear (par. 49c).	Remove burs or replace sear (par. 49c).
	Weak or broken main or hammer spring.	Replace trigger spring (par. 39a and d).	Replace sear spring (par. 49a and d).	Replace sear spring (par. 49a and d).
<i>Uncocked hammer</i>	Replace trigger or sear spring (par. 39a and d).	Replace trigger or sear spring (par. 49a and d).	Replace trigger or sear spring (par. 49a and d).	
Broken or burred sear.				
Broken sear or trigger spring.				
Broken or weak trigger or sear spring.				

Failure to load or feed.

Foreign matter in sear notch in trigger or hammer. <i>Safety engaged</i>	Clean out notch in hammer (par. 39c).	Clean out notch in hammer (par. 49c).	Clean out notch (par. 49c).
Operator fails to disengage safety.	Disengage trigger lock (safety) (par. 17b).	Disengage safety lever (par. 16c).	Disengage safety (par. 16c).
Foreign matter in the safety aperture in the trigger. <i>Unlocked breech bolt</i>	Clean safety aperture in trigger (par. 39c).	Clean safety aperture in trigger (par. 49c).	Clean safety aperture in trigger (par. 49c).
Failure to move slide smartly and fully forward (par. 16c(2)(d)).	Push slide smartly and fully forward (par. 17b).	Push slide smartly and fully forward (par. 16c).	Push slide smartly and fully forward (par. 16c).
Obstruction in the shell seat of the lifter assembly or in the shell seat of the carrier assembly.	Clean shell seat in carrier assembly (par. 39c).	Clean shell seat of the lifter assembly (par. 50c).	Clean shell seat of the lifter assembly (par. 50c).
Slide lock fails to hold slide in position.	Repair or replace slide lock (par. 39c).	Repair or replace slide lock (par. 49c).	Repair or replace slide lock (par. 49c).
<i>Faulty extraction and ejection</i>			
Worn, burred, or broken extractor.	Repair or replace extractor (par. 40c).	Repair or replace extractor (par. 47c).	Repair or replace extractor (par. 47c).
Weak or worn, burred or broken ejector.	Repair or replace ejector (par. 41c).	Repair or replace ejector (par. 50c).	Repair or replace ejector (par. 50c).
Weak or broken extractor springs.	Replace extractor spring (par. 40a and d).	Replace extractor spring (par. 47a and d).	Replace extractor spring (par. 47a and d).
<i>Carrier does not function correctly</i>			
Broken or bent carrier or lifter.	Repair or replace carrier (par. 39).	Repair or replace bent lifter assembly (par. 50).	Repair or replace lifter assembly (par. 50).
<i>Double feeding</i>			
Broken, burred or improperly assembled cartridge cutoff or shell stop.	Repair, replace and/or assemble cutoff (par. 41).	Repair, replace and/or assemble shell stop (par. 50).	Repair, replace and/or assemble shell stop (par. 50).

Table III. Troubleshooting—Continued

Malfunction	Probable causes	Corrective action		
		Winchester shotgun M12	Stevens shotgun M520-30	Stevens shotgun M620A
Failure to load or feed—Continued	Foreign matter in cutoff or shell stop seat in receiver.	Clean seat (par. 41c).	Clean seat (par. 50c).	Clean seat (par. 50c).
	Corroded follower or damaged magazine.	Repair or replace (par. 37).	Repair or replace (par. 46).	Repair or replace (par. 46).
Failure to function correctly.	Broken or kinked spring.	Replace spring (par. 37).	Replace spring (par. 46).	Replace spring (par. 46).
	Foreign matter in tube or magazine.	Clean tube (par. 37c).	Clean magazine (par. 46c).	Clean magazine (par. 46c).
	<i>Action slide or action bar sticks</i>			
	Bent action slide bar or action bar.	Repair or replace action slide (par. 37).	Repair or replace bar (par. 46).	Repair or replace bar (par. 46).
	Burs on action slide bar cam lug or on action bar cam slot.	Remove burs (par. 37c).	Remove burs (par. 46c).	Remove burs (par. 46c).
	Foreign matter in breech bolt or sliding breech camming aperture.	Clean out aperture (par. 40c).	Clean out aperture (par. 47c).	Clean out aperture (par. 47c).
Burs on breech bolt or sliding breech guideways or on guide.	Remove burs (pars. 40c and 41c).	Remove burs (pars. 47c and 50c).	Remove burs (pars. 47c and 50c).	
<i>Action slide lock or slide lock assembly does not function</i>				
Broken or bent action slide lock spring or slide lock spring.	Replace spring (par. 39a and d).	Replace spring (par. 49a and d).	Replace spring (par. 49a and d).	
Improperly fitted assembly of hammer.	Assemble (par. 39d).	Assemble (par. 49d).	Assemble (par. 49d).	

<p>Burs on action slide bar or on action bar.</p> <p>Broken extractor springs.</p> <p><i>Firing pin does not retract</i></p> <p>Broken firing pin, broken or worn retractor or retractor spring.</p> <p>Burred or broken locking block.</p> <p><i>Trigger (safety) lock or safety sticks</i></p> <p>Burred lock plunger or safety plunger.</p> <p>Broken lock plunger spring or safety plunger spring.</p> <p>Foreign matter in slots in safety or lock.</p> <p>Burred safety, safety lever or trigger web.</p>	<p>Remove burs (par. 37c).</p> <p>Replace extractor spring (par. 40a and d).</p> <p>Replace same (par. 40a and d).</p> <p>Remove burs or replace plunger (par. 39).</p> <p>Replace plunger spring (par. 39a and d).</p> <p>Clean slots (par. 39c).</p>	<p>Remove burs (par. 46c).</p> <p>Replace extractor spring (par. 47a and d).</p> <p>Replace firing pin (par. 47a and d).</p> <p>Repair or replace locking block (par. 47).</p> <p>Repair or replace safety lever or trigger (par. 49).</p>	<p>Remove burs (par. 46c).</p> <p>Replace extractor spring (par. 47a and d).</p> <p>Replace firing pin (par. 47a and d).</p> <p>Repair or replace locking block (par. 47).</p> <p>Remove burs or replace plunger (par. 49).</p> <p>Replace plunger spring (par. 49a and d).</p> <p>Clean slots (par. 49c).</p> <p>Repair or replace trigger or safety (par. 49).</p>
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CHAPTER 4

REPAIR AND REBUILD

Section I. GENERAL

25. General

a. Information and instructions contained herein are supplementary to instructions for the using organization contained in TM 9-285.

b. In this manual, the main groups of the weapon are disassembled, inspected, replaced or repaired, and assembled.

26. Cleaning and Lubrication

a. General. Refer to TM 9-285 for using arms information on cleaning, cleaning agents, and precautions to be observed in cleaning. Information for ordnance personnel is given in *b* through *e* below.

b. Cleaning Materiel Received From Storage.

- (1) Materiel received in ordnance shops from storage will be cleaned by any available applicable cleaning process (TM 9-1005).
- (2) If some time is to elapse before the start of repair or rebuild operations, apply a light grade of preservative oil to all polished metal surfaces to prevent rusting.

c. Cleaning After Repair. After repair operations and prior to assembly, remove shop dirt and other foreign matter from all metal surfaces by any available applicable cleaning process (TM 9-1005).

d. Cleaning After Shop Inspection. After in-process shop inspections, dip parts in a tank containing fingerprint remover oil (type A), remove (use rubber gloves), and dry thoroughly with dry, compressed air (provided with moisture filter traps) or by wiping with clean, lint-free, dry cloths. Apply preservatives as soon as possible after cleaning.

e. Lubrication. Oil and lubricate the shotguns in accordance with instructions in TM 9-285.

Note. Instructions for shotgun M620A are applicable to the shotgun M520-30. General instructions on lubrication are covered in TM 9-2835. Lubricating materials are listed in ORD 3 SNL K-1 and their uses are explained in TM 9-1007.

27. General Repair Methods

a. *Disassembly and Assembly Procedures.*

- (1) In disassembling a unit, remove the major subassemblies and assemblies whenever possible. Subassemblies may then be disassembled, as necessary, into individual parts.
- (2) During assembly, subassemblies should be assembled first and then installed to form a complete unit.
- (3) Complete disassembly of a unit is not always necessary in order to make a required repair or replacement. Good judgment should be exercised to keep disassembly operations to a minimum.

b. *Replacement of Parts.*

- (1) Unserviceable and unrepairable assemblies will be broken down into items of issue and serviceable parts will be returned to stock. Parts or assemblies that cannot be repaired or reclaimed to the standards set forth in this manual will be replaced as indicated.
- (2) When assembling a unit, replace taper pins and cotter pins with new ones, if possible. If screws or nuts are damaged, they should be replaced.
- (3) All springs should be replaced, if they are broken, kinked, cracked, or fail to function properly.
- (4) If a required new part is not available, reconditioning of the old part is required. Such parts should be examined carefully after reconditioning to determine their serviceability.

c. *Use of Tools.*

- (1) Care must be exercised to use tools that are suitable for the task to be performed, in order to avoid mutilation of parts and/or damage to tools.
- (2) A special tool (ch. 2) is provided for maintenance of the shotguns. This tool should be used only for the purpose for which it is intended.

d. Repairing Damaged Threads. Damaged threads should be repaired by use of a thread restorer or by chasing on a lathe.

e. Removal of Excessive Carbon and Rust. Light rust and carbon may generally be removed with a cloth moistened with light oil or rifle-bore cleaner solvent cleaning compound. If this does not suffice, crocus cloth or fine abrasive cloth may be used. Care should be observed not to scratch or alter surfaces cleaned and to thoroughly remove all dirt and abrasive before assembling the parts. Avoid the use of any abrasive that may remove phosphate coating, zinc plating, or cadmium plating.

f. Removal of Burs From Threads, Screwheads, and Working Surfaces. During the entire life of the weapon, polishing and stoning are necessary to relieve friction and to remove burs set up by firing. Burs on screwheads, threads, and like surfaces should be removed with a fine file. Burs or roughness on working surfaces should be removed with a fine sharpening stone.

Caution: Care should be observed to stone and file evenly and lightly and not to remove more metal than is absolutely necessary and to maintain correct contour of surfaces worked on. Parts or assemblies should never be altered in any way that would affect interchangeability of parts.

g. Repair of Damaged Machined and Polished Surfaces. Rough spots, scores, burs, galling, and gouges will be smoothed so that the part will efficiently perform its normal function. In performing any of these operations, critical dimensions will not be altered.

28. Finish of Metals

a. TM 9-1861 will be used as a guide. Oxide black finish is prescribed for finishing shotguns. Phosphate may be used where oxide black finishing equipment is not available.

b. Barrels will be protected from acids, alkali, and phosphating solutions by plugging the muzzle and breech with corks.

c. Exterior springs will be finished. Inner springs up to 1/8-inch wire diameter will not be finished. All other springs may or may not be finished, depending on circumstances.

d. It will not be necessary to finish parts which already have a good quality finish and which will definitely not be improved by finishing.

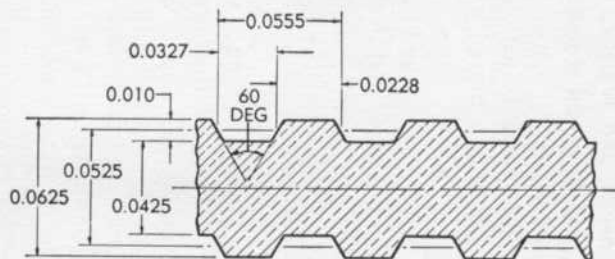
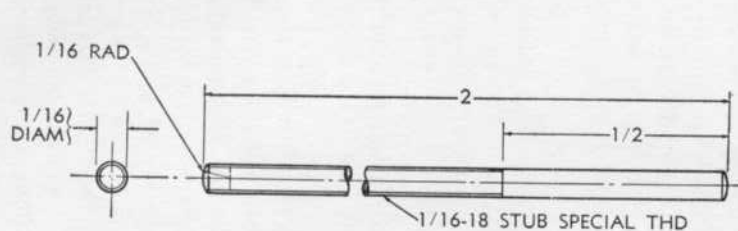
e. All metal parts will be free of corrosion.

29. Wooden Components

Dents or mutilations that do not affect strength or general appearance may be sanded out. Wood dough (plastic wood substitute) may be used, if practicable. Unvarnished wood components, such as stocks, forends, action slide handles, and hand guards will be sanded all over. Patching is permitted where strength is not affected. Reinforcing screws 5305-523-3523 will be used to reinforce weak areas and small cracks not affecting the strength of the stock.

Note. If reinforcing screws are not available through normal supply channels, they can be fabricated as shown in figure 14.

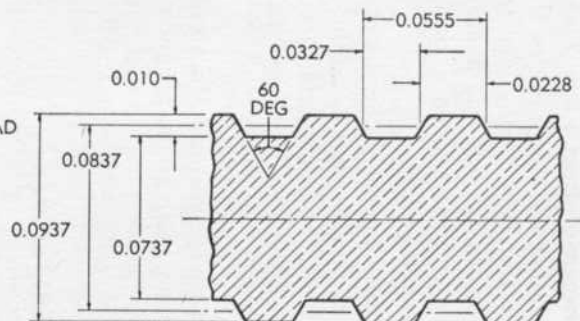
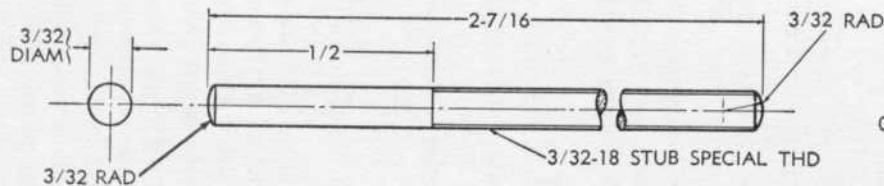
Components which are cracked in such a manner that strength is affected will be replaced. Unvarnished wooden components should be treated with fungicide solution G-4 (powdered form mixed in linseed oil mixture).



SCREW—7190954
HALF-HARD BRASS, COMP B
(SPEC QQ-B-611)

A

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES



SCREW—5233523
HALF-HARD BRASS, COMP B
(SPEC QQ-B-611)

B

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

RA PD 187843B

Figure 14. Fabrication of reinforcing screws.

30. Function-Firing

a. Following repair or complete rebuild, fire each shotgun with two rounds. If weapons do not function satisfactorily, additional rounds are authorized. Weapons which fail to meet the test are to be corrected by replacement of defective component or by performing such repair as required.

b. All weapons will be cleaned as soon as possible after all firing tests have been completed and each day thereafter for 3 days, making a total of 4 consecutive days. An alternate method of scheduling cleaning operations is to clean all weapons immediately after function-firing and two successive times following the first cleaning; cleaning intervals should be at least 16 hours with not more than 72 hours between any two successive cleanings.

c. Special care should be taken to insure that bolt faces, breech ends of receivers, and other parts subjected to burned powder residues are thoroughly cleaned. These parts should be scrubbed with a bristle brush moistened with rifle-bore cleaner solvent cleaning compound.

d. A single cleaning of the bore and chamber of function-fired weapons with steam or hot water (not less than 200° F.) is acceptable in lieu of the cleaning in *b* above. The steam or hot water may be applied by hand or machine and the bore and chamber air-dried. The bore and chamber will then be scrubbed with a snug-fitting wire brush dipped in rifle-bore cleaner solvent cleaning compound. Three dry swabs will then be passed through the bore and chamber, followed by one swab saturated with rifle-bore cleaner solvent cleaning compound.

31. Proof-Firing

When barrel or breech bolt has been replaced, each shotgun is to be proof-fired from a rest, under cover, with one round of high-pressure ammunition, so loaded as to develop mean chamber pressure of 15,000 psi minimum (DEPOT MAINTENANCE ONLY).

32. Marking of Rebuilt Weapons

a. *Initials.* All weapons rebuilt in the United States will be stamped with the initials of the rebuilding establishment. Weapons rebuilt by oversea depot maintenance shops will not be stamped. Initials identifying the establishment rebuilding a shotgun will be stamped on the left side of the stock between the hand grip and the butt plate. If the weapon has been previously rebuilt at another establishment, the new identifying initials will be placed directly below those preceding. If the weapon is being rebuilt at the same establishment as before, new initials need not be added. The establishments and the initials to be used are as follows:

Augusta Arsenal	AA
Benicia Arsenal	BA
Mt. Rainier Ordnance Depot.....	MR
Raritan Arsenal	RA
Red River Arsenal.....	RRA
Rock Island Arsenal	RIA
Springfield Armory	SA

b. Proofmark. After proof-firing, a "P" will be stamped on the underside of the stock immediately in the rear of the trigger guard to show that the shotgun has been proof-fired. If the shotgun has been

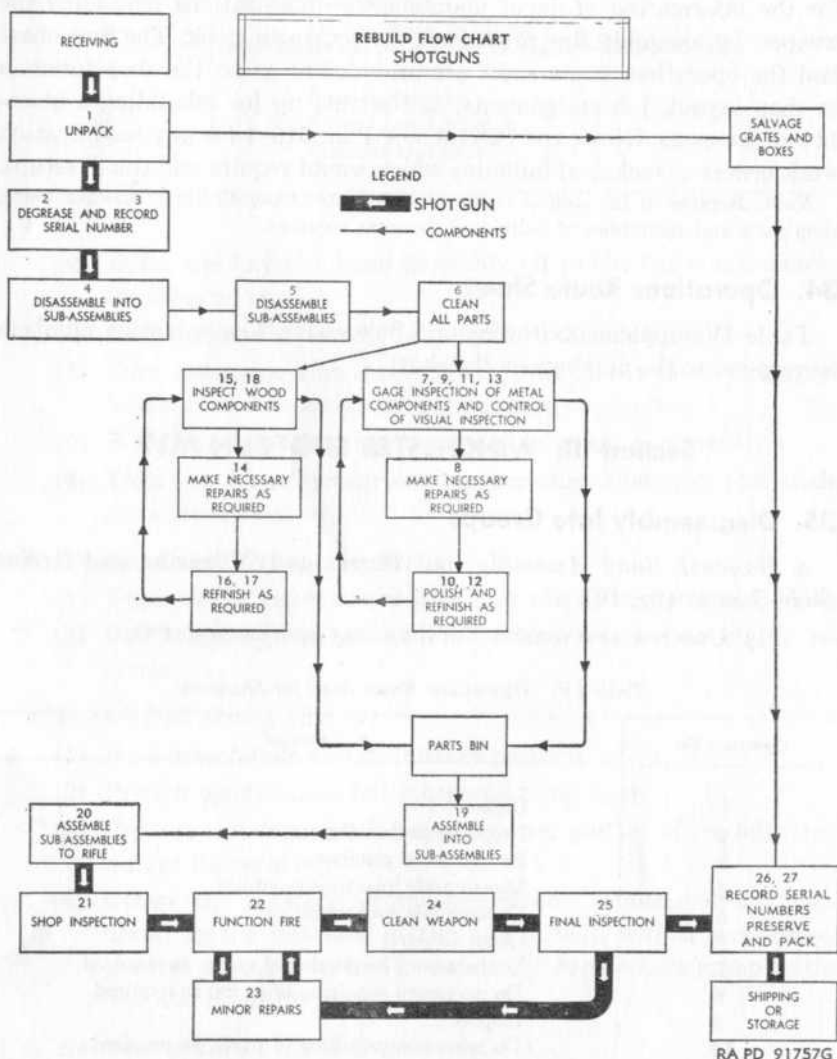


Figure 15. Rebuild flow chart for shotguns.

previously proof-fired and the first proofmark is still visible, the next proofmark will be applied in line with the original proofmark, toward the butt plate.

Section II. REBUILD FLOW CHART AND OPERATIONS ROUTE SHEET

33. Flow Chart

A flow chart illustrating the sequence of operations necessary during rebuild of the weapon is provided in figure 15. This chart is intended for the information of depot maintenance organizations rebuilding the weapon by assembly line procedures for return to stock. The flow chart and the operations route sheet are provided to assist the shop foreman in shop layout, job assignments, and setting up for rebuilding a quantity of weapons. Check the current DA Pam 310-4 for any modification work orders or technical bulletins which would require additional setups.

Note. Because of the lack of uniformity and interchangeability of shotgun parts, keep parts and assemblies of individual shotguns together.

34. Operations Route Sheet

Table IV supplements the rebuild flow chart. The operation numbers correspond to the numbers on the chart.

Section III. WINCHESTER SHOTGUN M12

35. Disassembly Into Groups

a. *Bayonet Band Assembly and Barrel and Magazine and Action Slide Groups* (fig. 16).

- (1) Unscrew and remove the three bayonet band screws.

Table IV. Operations Route Sheet for Shotguns

Operation No.	Operation
1	Unpack
2	Degrease (vapor degreaser)
3	Record serial number
4	Disassemble into subassemblies
5	Disassemble subassemblies
6	Clean all parts
7	Do necessary inspecting of parts, as required
8	Do necessary repairing of parts, as required
9	Inspect
10	Do necessary polishing of parts, as required
11	Inspect
12	Do necessary refinishing, as required

Table IV. Operations Route Sheet for Shotguns—Continued

Operation No.	Operation
13	Inspect
14	Repair and sand stocks, forends, and handles
15	Inspect
16	Sandblast parts needing refinishing
17	Refinish
18	Inspect
19	Assemble subassemblies
20	Assemble subassemblies to shotgun
21	Inspect
22	Function-fire
23	Do necessary repairing
24	Clean weapon
25	Final inspection
26	Record serial number
27	Preserve and pack

Note. Repeat operations 21 and 22 if repair work is performed.

- (2) Drive the bayonet band assembly off to the front and remove from barrel muzzle.
- (3) Push action slide handle fully forward to lock action.
- (4) Turn magazine tube one-quarter turn clockwise to disengage interrupted threads on tube from those on receiver.
- (5) Withdraw magazine and action slide group from receiver.
- (6) Turn the barrel group one-quarter turn clockwise and withdraw from receiver.

b. *Trigger Guard Group* (fig. 17).

- (1) Unscrew the guard screw from rear end of trigger guard group.
- (2) Pull trigger guard group upward and to the rear out of receiver.

c. *Breech Bolt Group* (fig. 17).

- (1) Push breech bolt into its forward position.
- (2) Pry out ejector from left inner wall of receiver.
- (3) Pry out cartridge cutoff from the lower portion of the left inner wall of the receiver.
- (4) Rotate the rear end of the breech bolt retaining lever, positioned in the left face of the breech bolt, with a screwdriver or other suitable tool. Then slide the breech bolt group to the rear and lift from receiver.

d. *Receiver and Butt Stock Groups* (fig. 17).

- (1) Remove butt plate screws and butt plate.

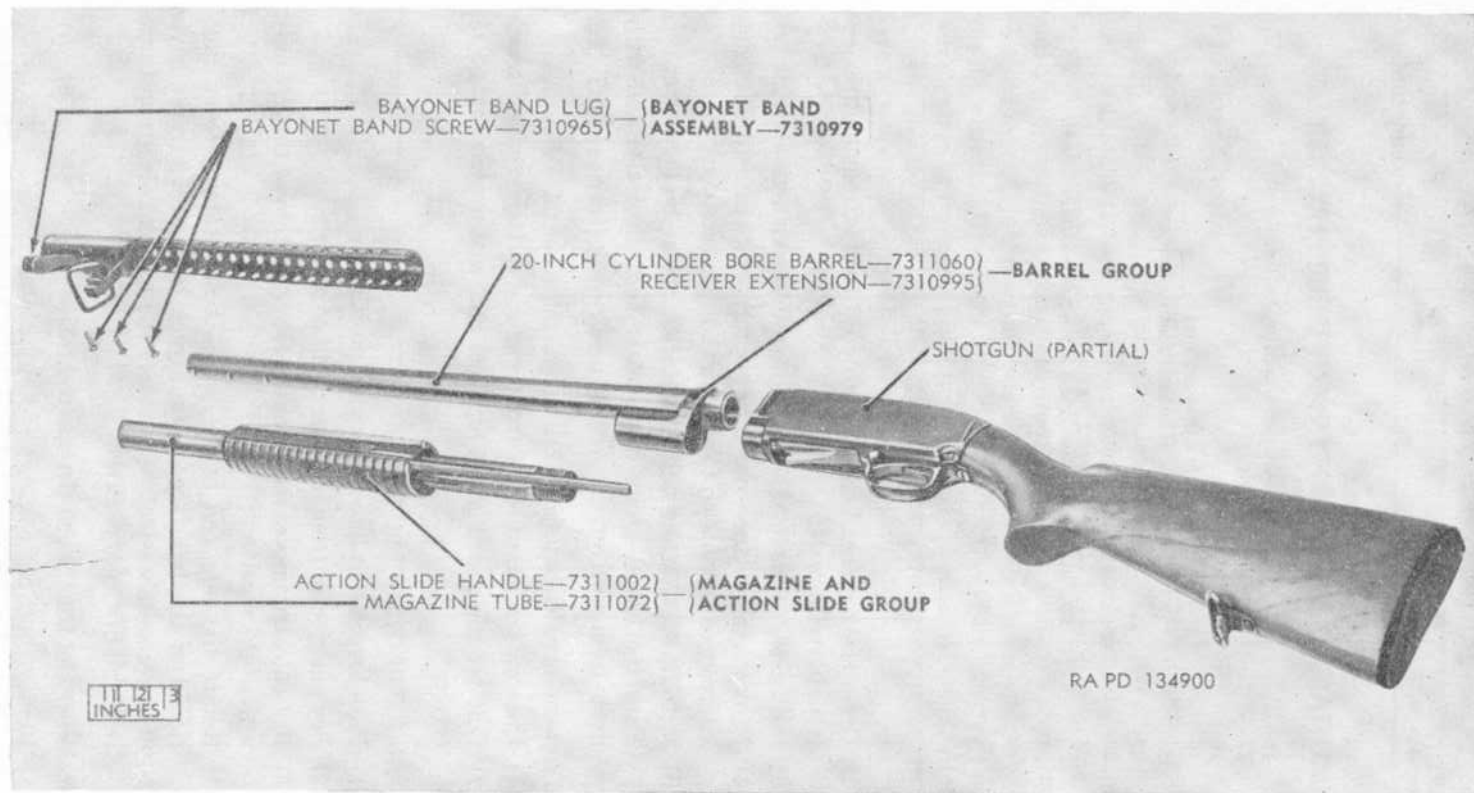


Figure 16. Muzzle end of Winchester M12—partially exploded view.

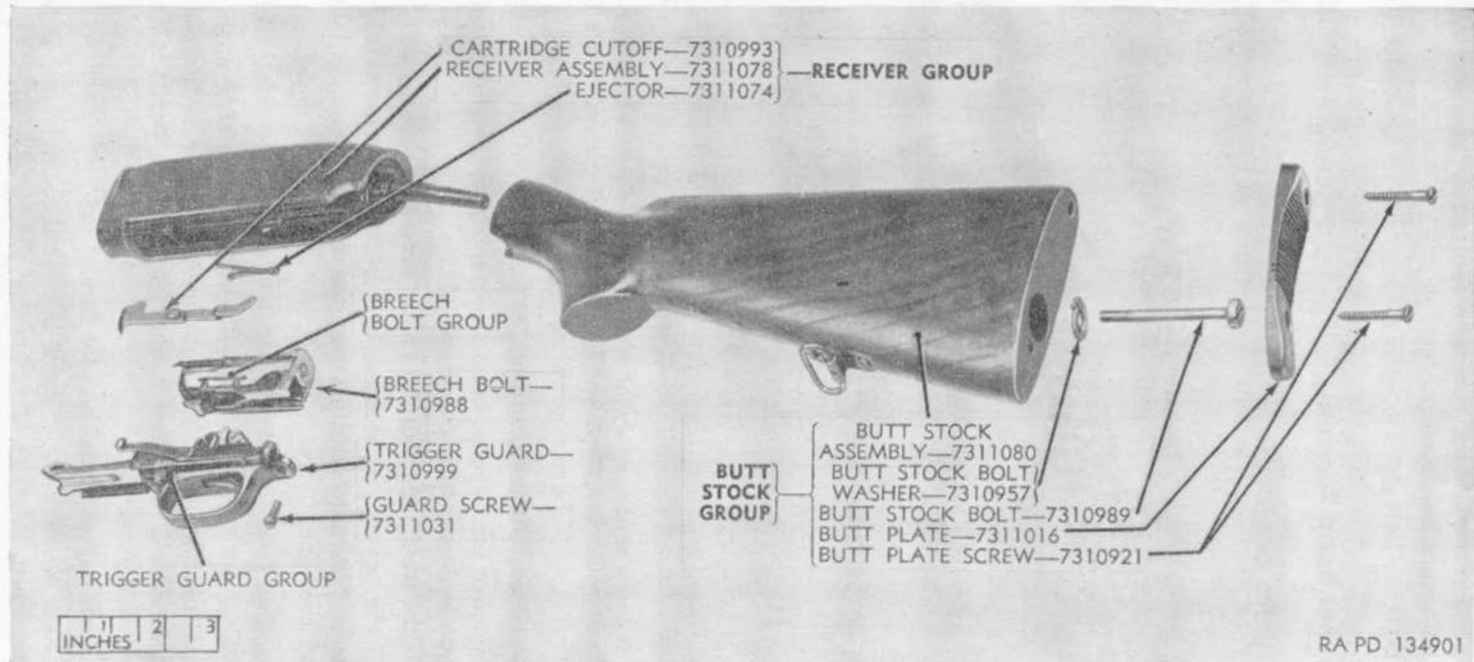


Figure 17. Breech end of Winchester M12—partially exploded view.

- (2) Remove butt stock bolt and turn stock over and shake out butt stock bolt washer.
- (3) Separate butt stock assembly from receiver assembly.

36. Bayonet Band Assembly

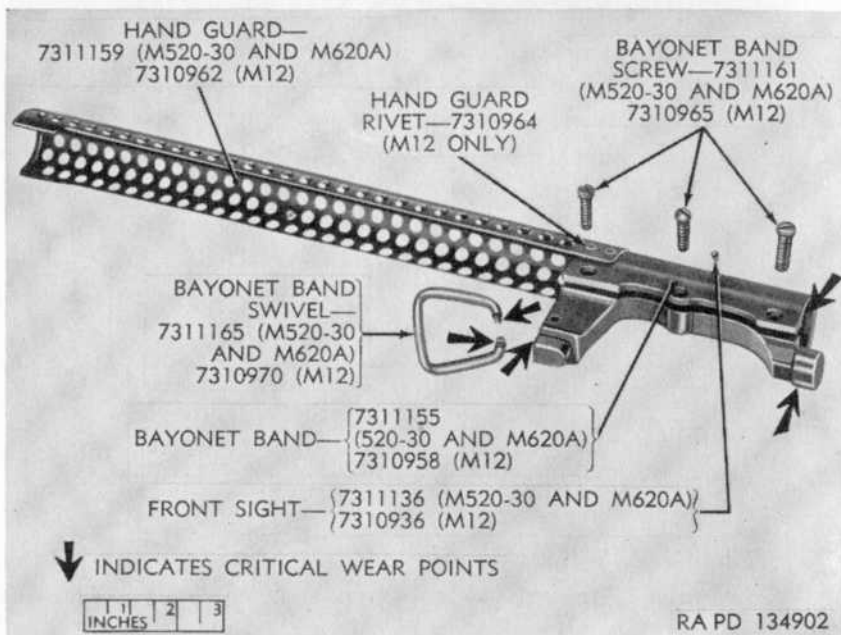


Figure 18. Bayonet band assembly for Winchester shotgun M12 (7310979) and for Stevens shotguns M520-30 and M620A (7311175)—exploded view.

a. Removal and Disassembly (fig. 18).

- (1) Remove the bayonet band assembly from the rest of the shotgun as described in paragraph 35a.
- (2) If the front sight requires repair, remove it with a pair of pliers.
- (3) If the bayonet band swivel requires repair, remove it by separating the sides and drawing the swivel out of the holes and off the band.

b. Inspection.

- (1) Check all parts for damage, excessive wear that might cause malfunction, burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Check bayonet band lugs for burrs.
- (3) Check whether hand guard is riveted securely and is bent or deformed.

- (4) Check whether bayonet band swivel is free-swinging, bent, broken, or otherwise damaged, or missing.
- (5) Check whether bayonet band screws and the screw holes in the guard are stripped.
- (6) Check whether front sight is missing or burred.

c. Repair and Rebuild.

- (1) Replace all broken, worn, missing, or otherwise unserviceable and replaceable parts as indicated in (2) through (7) below. Remove burrs and rust as explained in paragraph 27*e* and *f*.
- (2) Replace bayonet band assembly, if bayonet band swivel is broken or missing, hand guard or rivet is too loose, or bayonet band screw holes are stripped.
- (3) Remove burrs from bayonet band lugs.
- (4) Stake hand guard rivet where the connection is loose and remove any small dents from hand guard.
- (5) Clean out aperture for the bayonet band swivel to make it swing freely. If slightly out of shape, remove (a(3) above) and straighten.
- (6) If bayonet band screws are stripped, replace.
- (7) If front sight is unserviceable, replace.

d. Assembly and Installation (fig. 18).

- (1) If missing or removed, screw front sight into bayonet band. Be sure threads are properly mated, as the front sight is made of soft metal and is easily stripped.
- (2) If bayonet band swivel has been removed, spread the sides and snap back in place on bayonet band.
- (3) Install the bayonet band assembly on the shotgun as described in paragraph 43*e*.

37. Magazine and Action Slide Group

a. Removal and Disassembly (fig. 19).

- (1) Remove magazine and action slide group as described in paragraph 35*a*.
- (2) Unscrew the magazine plug screw.

Note. Keep a firm hold on the magazine plug, as it is under considerable pressure.
- (3) Remove magazine plug slowly and allow magazine spring to expand under guidance of the thumb and forefinger. Withdraw the spring.
- (4) Tilt the forward end of the magazine tube down and allow the magazine follower to slide out.

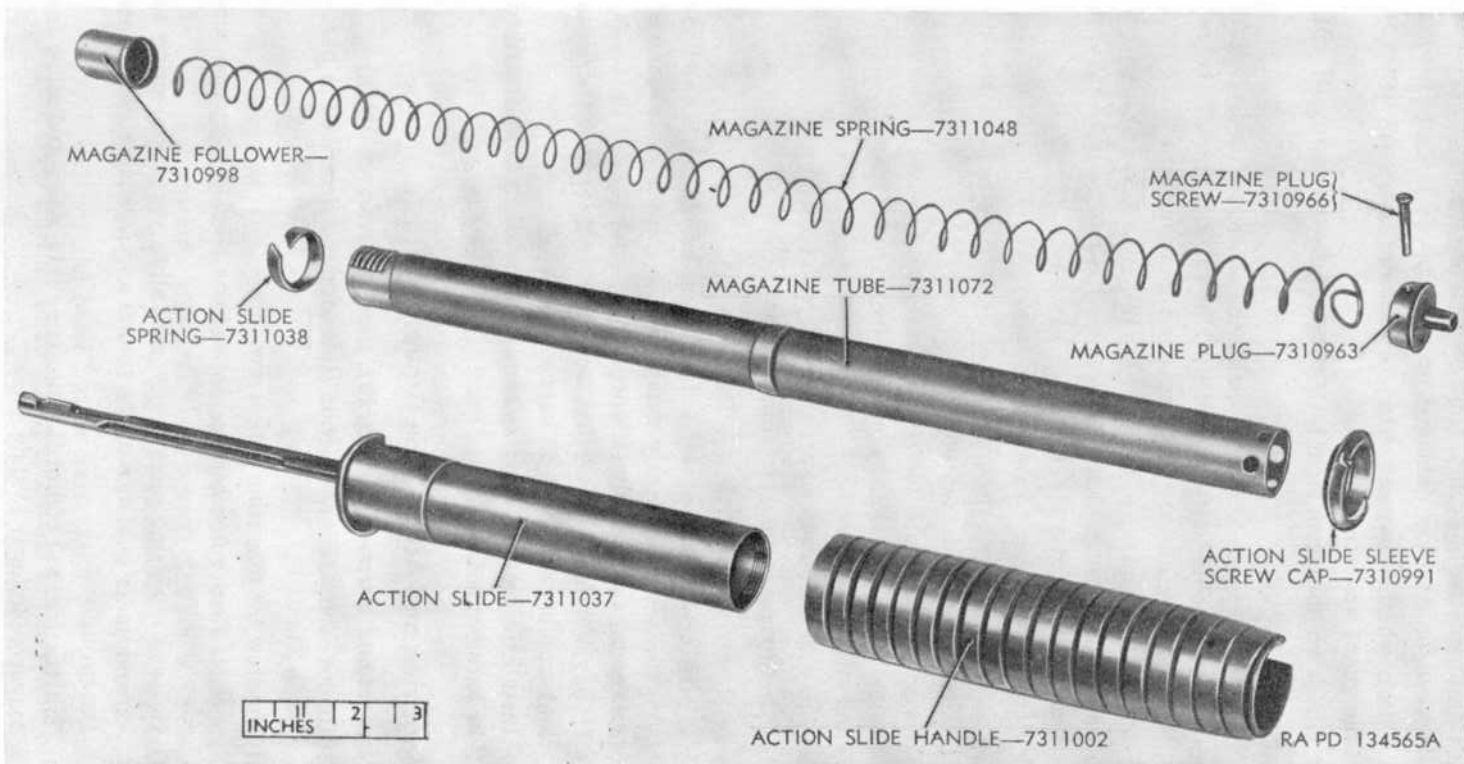


Figure 19. Magazine and action slide group—exploded view.



Figure 20. Removing action slide sleeve screw cap.

- (5) Remove the action slide sleeve screw cap, using the improvised action slide sleeve screw cap wrench (figs. 11 and 20).
- (6) Pull the magazine tube out of the action slide and then slide the action slide spring to the rear and off the magazine tube.
- (7) Pull action slide handle off the action slide.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and for deformation and free action with mating parts. Check for missing parts.
- (2) Check threads on magazine plug screw, action slide sleeve screw cap, magazine tube, and action slide for wear and burrs.
- (3) Check action slide for dents and other damage. Check lug on action slide for excessive wear.

Warning: The condition of this lug greatly affects the operation of the weapon, by causing action slide to stick or failing to cam breech bolt into the locked position. This defect affects the safety of the operator.

- (4) Check magazine spring for deformation, kinks, and set.
- (5) Check magazine follower for dents and other damage.

- (6) Check magazine tube for dents and other damage. Check whether follower moves freely in tube.
- (7) Check action slide handle for splits and cracks.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burrs and rust as explained in paragraph 27e and f.
- (2) Replace magazine plug screw, if threads are stripped or otherwise unserviceable.
- (3) Replace action slide sleeve screw cap, if threads are stripped or if cap is otherwise unserviceable.
- (4) Dents and other types of deformation in the magazine tube may be removed by the use of improvised rectifying cylinders similar to those used for the barrel (par. 38c). Remove foreign matter from the magazine tube and, if threads are stripped or if tube is otherwise unserviceable, replace.
- (5) Remove bends and twists from action slide by straightening in a vise. If threads are stripped or if lug is excessively worn, replace.
- (6) If magazine spring is found to be unserviceable, replace.
- (7) Dents in the magazine follower may be removed with the aid of a mandrel. If unserviceable, replace.
- (8) Replace action slide handle, if cracked or split.
- (9) Unserviceable magazine plug and action slide spring are to be replaced by depot maintenance only.

d. Assembly (fig. 19).

- (1) Slide action slide handle onto action slide.
- (2) Slide action slide spring over the threaded end of the magazine tube.
- (3) Slide the action slide and action slide handle over the threaded end of the magazine tube.
- (4) Install the action slide sleeve screw cap, using the improvised action slide sleeve screw cap wrench (figs. 11 and 20).
- (5) Insert the magazine follower and magazine spring.
- (6) Compress the spring and place the magazine plug in position on the magazine tube and insert the magazine plug screw.

e. Functional Check.

- (1) Push in on the magazine follower to compress the spring; release pressure slowly. The follower must move freely through the magazine tube.
- (2) Work the action slide group with a reciprocating action. A free, easy action, without binding or sticking is necessary.

f. *Installation.* Install the magazine and action slide group as described in paragraph 43d.

38. Barrel Groups

(figs. 21 and 22)

a. *Removal and Disassembly.*

- (1) Remove the barrel group as described in paragraph 35a.
- (2) Remove adjusting sleeve lock screw (fig. 22).
- (3) Note position of adjusting sleeve (fig. 21) and record the number of threads engaged with the 20-inch barrel and the particular splined serration engaged with the adjusting sleeve lock (fig. 22).
- (4) Slide adjusting sleeve lock away from the adjusting sleeve (fig. 22).
- (5) Remove the adjusting sleeve (fig. 22).

Note. The adjusting sleeve lock cannot be removed unless the receiver extension (fig. 22) is removed and this is only done if the parts are to be replaced (DEPOT MAINTENANCE ONLY).

- (6) Hold barrel between suitable vise jaws and unscrew the receiver extension with a large adjustable wrench, as shown in figure 23. If the extension is stuck, it may be shocked loose

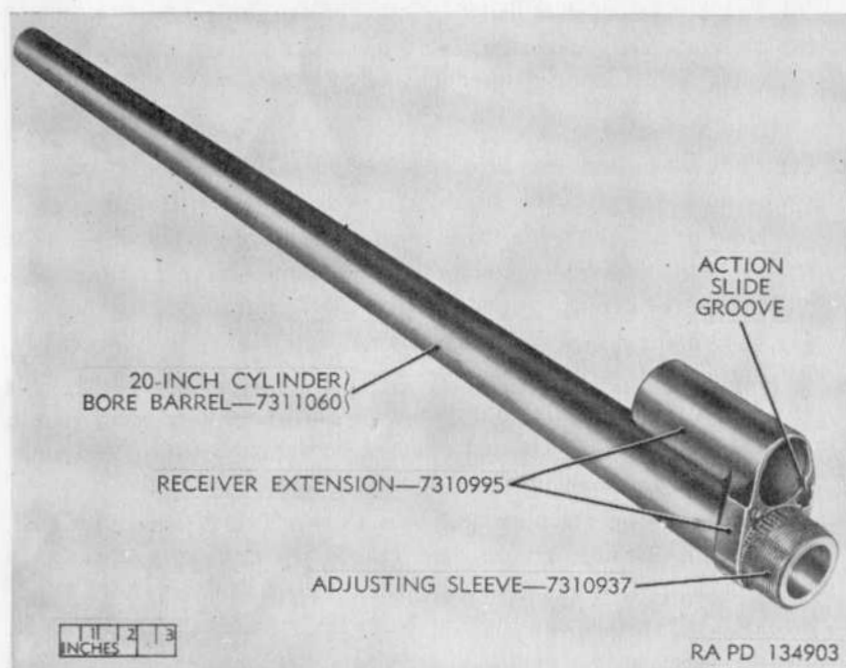


Figure 21. Barrel group for Winchester shotgun M12.

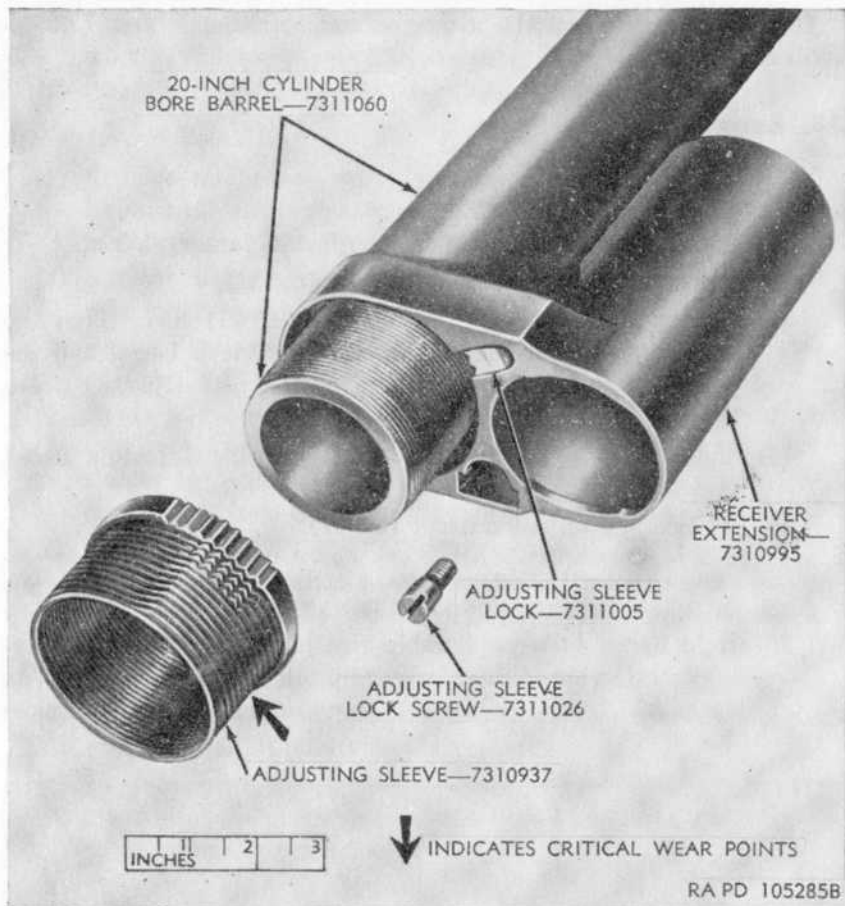


Figure 22. Barrel group—partially exploded view.

by using a suitable drift and by applying the shock near the barrel (DEPOT MAINTENANCE ONLY).

(7) Slide adjusting sleeve lock (fig. 22) from receiver extension.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Inspect the chamber and bore of the 20-inch barrel for rust, dents, leading, cracks, and bulges. Rust usually appears in dark irregular patches; leading shows in dull gray streaks.
- (3) Check surface of adjusting sleeve for burrs and stripped threads.
- (4) Check receiver extension for dents, deformation, and stripped threads.

c. *Repair and Rebuild.*

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burrs and rust as explained in paragraph 27e and f.
- (2) Repair 20-inch barrel as described in (a) and (b) below:
 - (a) Remove rust and leading, using a wad of fine steel wool on the end of a cleaning rod. Push the wool the full length of the bore each time, but do not rotate or scrub the bore or the barrel chamber as they will become scratched and this will hasten fouling.
 - (b) Remove small dents from the 20-inch barrel by using one of the four improvised rectifying cylinders (figs. 9 and 24). Clean the bore thoroughly to remove any foreign matter which may scratch the barrel. Coat the bore and the cylinders with a film of engine oil (OE-30). The oil acts as a cushion between the bore and cylinder.

Note. If the 0.723-inch cylinder passes the dent without contact, use a larger size cylinder.

Insert the 0.723-inch diameter cylinder from the breech end and slide it down until it contacts the dented area. Insert a

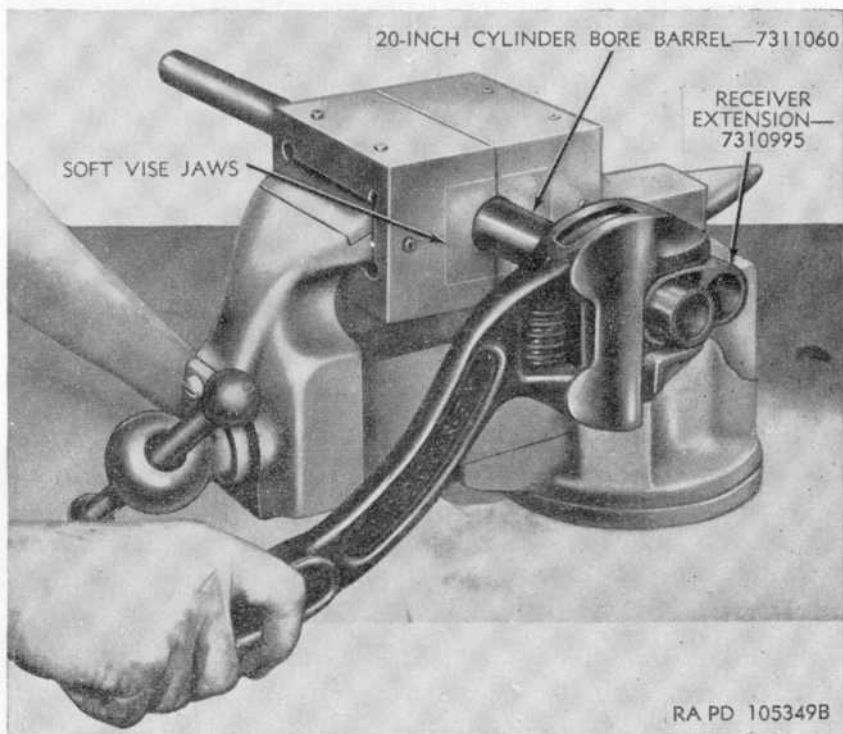


Figure 23. Removing receiver extension from barrel.

hard wooden dowel or brass rod in the breech end, length to suit, and tap the end of the dowel to produce a snug fit between the bore and the cylinder. Tap the exterior of the barrel at the dent with a plastic hammer. Continue to drive the cylinder through the bore, alternately tapping the wooden dowel and the exterior of the barrel over the cylinder until the cylinder passes the dent. Remove the rectifying cylinder from the breech end. Insert the next larger size cylinder, first making certain it is coated with oil, and proceed as above. Continue this process until all four of the cylinders have been used. Remove oil from the bore and inspect. Replace unserviceable 20-inch barrel.

- (3) Repair slightly damaged threads on the adjusting sleeve with a swiss file. If sleeve is unserviceable and cannot be repaired, replace it.
- (4) Replace dented, deformed, or stripped receiver extension.
- (5) If adjusting sleeve lock and screw are beyond repair, replace them (DEPOT MAINTENANCE ONLY).

d. Assembly and Installation.

- (1) Slide adjusting sleeve lock in its aperture in the receiver extension (fig. 22).
- (2) Place the 20-inch cylinder-bored barrel in a soft-jawed vise and screw the receiver extension on the barrel. Using a wrench, tighten the receiver extension, as shown in figure 23, until the draw marks on the lower left side of barrel and extension are properly alined.

Caution: The serial number on the receiver extension and receiver are to correspond. When replacing barrel and extension, transfer serial number of receiver to barrel extension in line with and adjacent to serial number on receiver. Exercise caution to prevent crushing the receiver extension during stamping operation (DEPOT MAINTENANCE ONLY).

- (3) Screw the adjusting sleeve on the 20-inch barrel until it is seated against the receiver extension (fig. 22). Back the adjusting sleeve off the barrel until the first serrations on the adjusting sleeve are alined with the adjusting sleeve lock. Push the adjusting sleeve lock against the serrations in the adjusting sleeve.
- (4) Install the adjusting sleeve lock screw (fig. 22).
- (5) Install the barrel group as described in paragraph 43d.

e. Functional Check.

- (1) If 20-inch barrel and extension are loose on receiver, disengage barrel and receiver; remove adjusting sleeve lock screw; slide

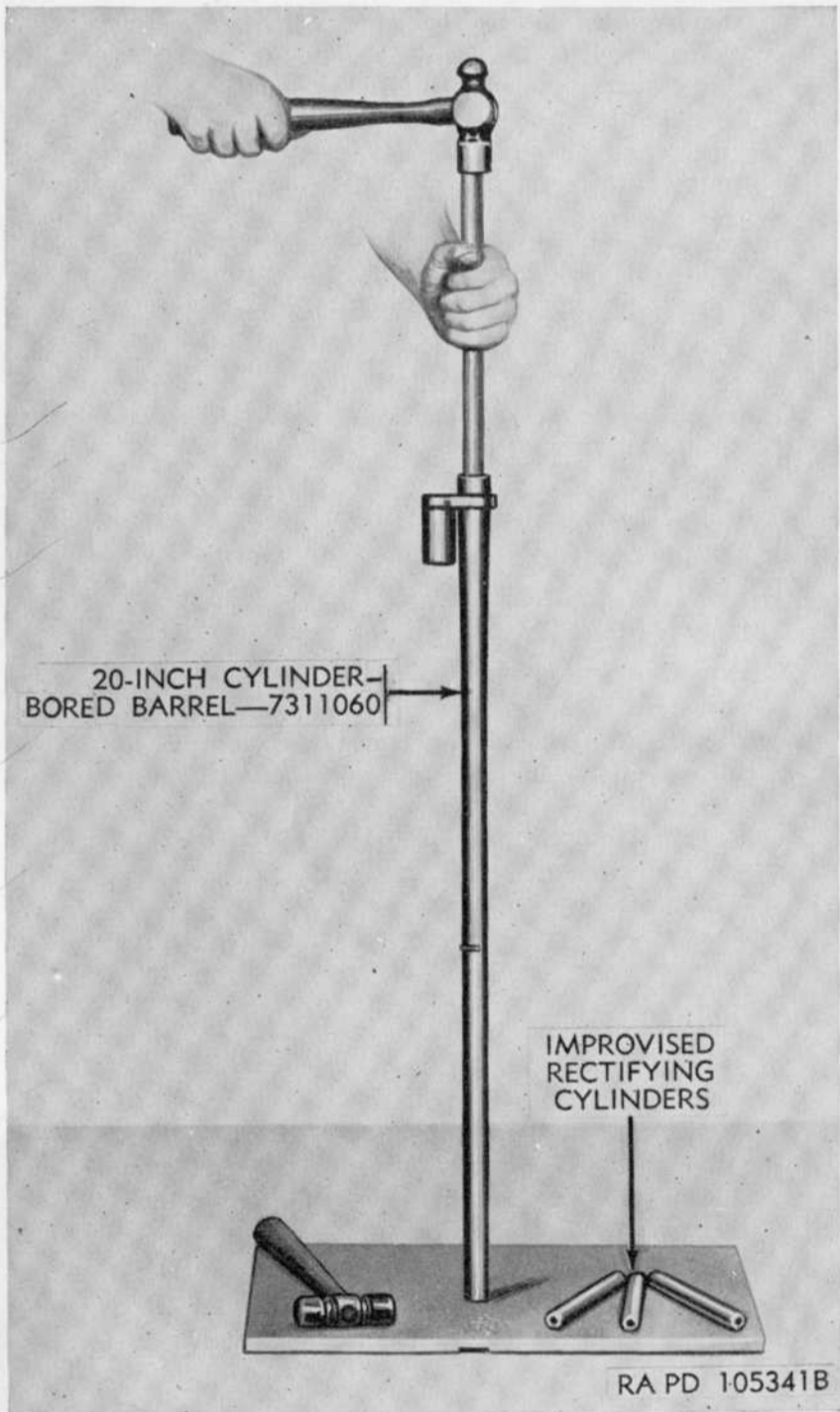


Figure 24. Removing dents in barrel.

adjusting sleeve lock back; turn sleeve; slide lock back into position; install adjusting sleeve lock screw; and connect barrel and receiver.

- (2) If adjusting sleeve has been moved back to the last notch, replace standard adjusting sleeve with heavy or extra heavy draw adjusting sleeve.
- (3) Barrel extension is to seat on receiver; end of barrel is to seat on chamber ring; and adjusting sleeve lock is to seat in the first notch of heavy or extra heavy draw adjusting sleeve.

39. Trigger Guard Group

a. Removal and Disassembly (fig. 26).

- (1) Remove the trigger guard group (fig. 25) as described in paragraph 35b.
- (2) Press trigger lock into firing position and pull the trigger to release the hammer.
- (3) Unscrew the carrier pivot. Lift the carrier assembly out of its seat in the trigger guard and remove the carrier spring. If replacement of the cartridge guide with rivet is necessary, remove it with a suitable drift. If replacement is required, then the carrier plunger screw may be removed and the carrier plunger spring and carrier plunger may be withdrawn from the carrier.

Note. The carrier pivot has a left hand thread.

- (4) Compress the hammer spring and retain it compressed by passing the straight end of the carrier spring through the small hole in the hammer spring guide rod.
- (5) Raise the front end of the action slide lock assembly, uncovering the end of the hammer pin, and with a suitable drift, drive the hammer pin out to the right.
- (6) Remove the hammer, hammer spring, and guide rod from the trigger guard. Slide the spring off the rod. If replacement is necessary, the hammer and guide rod may be separated by removing the hammer spring guide rod with a suitable drift.
- (7) Raise the rear section of the action slide lock and, with a suitable drift, remove the trigger pin to the right.
- (8) Raise the trigger out of the trigger guard and remove the trigger spring from its seat in the trigger.
- (9) Use a small screwdriver and unscrew the action slide lock pivot through the hole in the bottom of the cutout portion on the right side of the trigger guard.

- (10) Remove the action slide lock assembly. If replacement is required, remove the two action slide lock springs with a suitable drift.
- (11) Push the trigger lock to the right. Through the little hole in the left side of the trigger lock, insert the straight end of the carrier spring to depress the trigger lock plunger and spring. Push the trigger lock further to the right and then remove the carrier spring from the hole. Push the trigger lock into the trigger guard and remove the trigger lock plunger, trigger lock plunger spring, and trigger lock.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.

Note. The bend in the hammer spring guide rod is there to provide clearance when the hammer is cocked and is not an abnormal condition.

- (2) Inspect the carrier assembly to see that the cartridge guide with rivet is securely riveted to the carrier and also to see that both parts are not broken, bent, out of shape.
- (3) Check the carrier plunger to see that it operates correctly. Inspect the engaging nose of the trigger and its seat on the hammer. These surfaces should be positive in order to obtain positive retention of the hammer by the trigger when the ham-

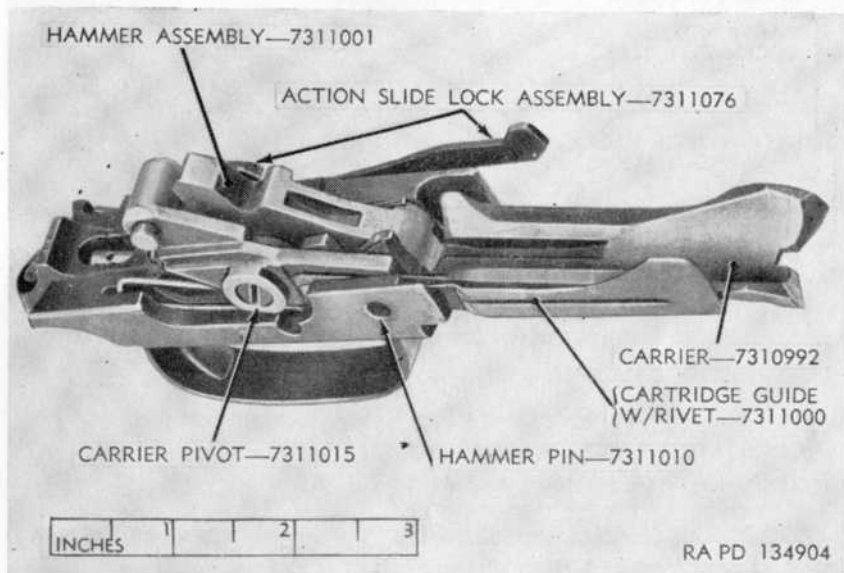


Figure 25. Trigger guard group for Winchester shotgun M12.

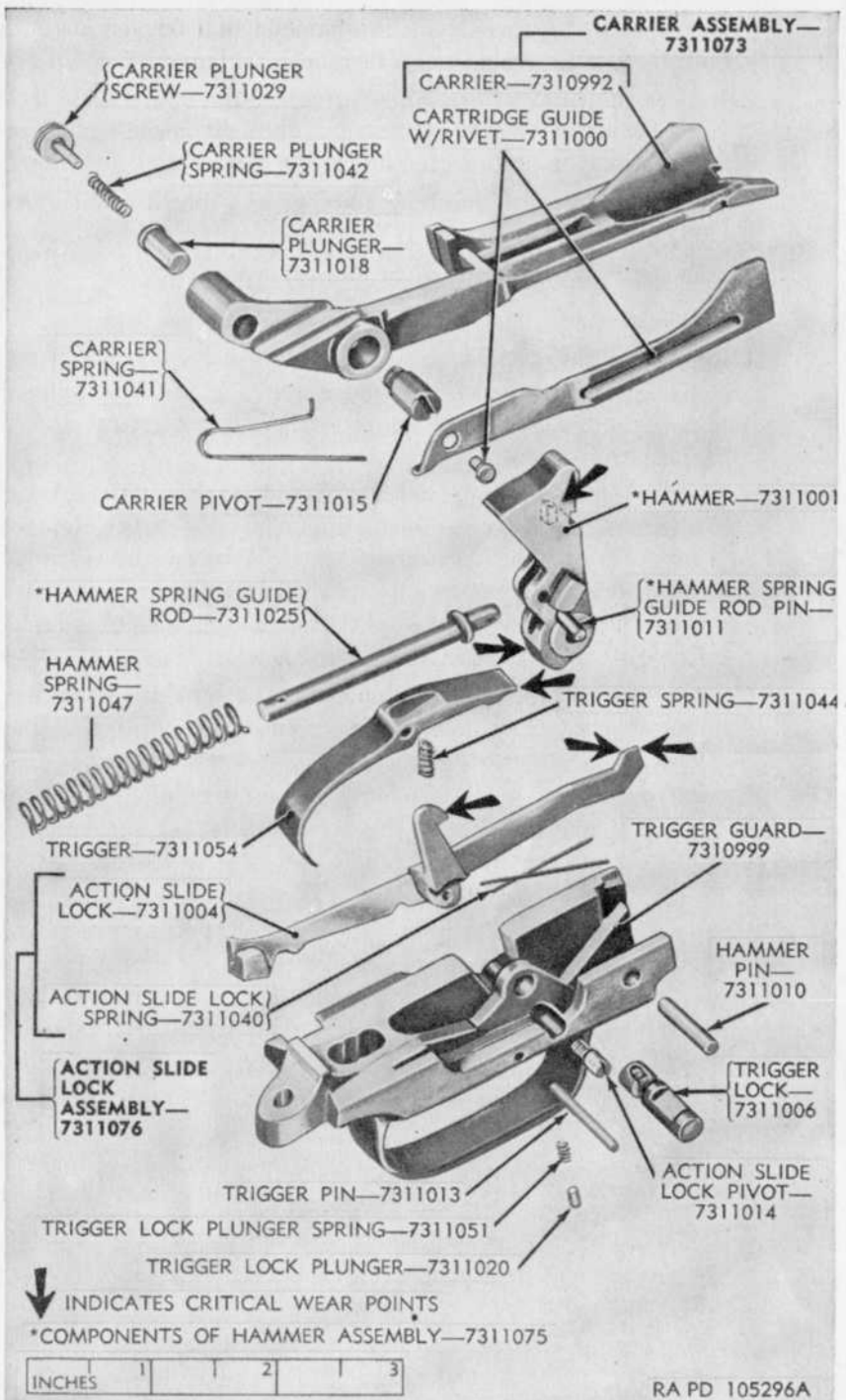


Figure 26. Trigger guard group—exploded view.

mer is cocked. Check both the hammer and trigger for burs and to see if they are broken or otherwise damaged.

- (4) Inspect the forward camming surface of the action slide lock and contour of the hook. The two straight springs must be firmly staked in place on the side of the lock.
- (5) Inspect the trigger guard for burs, cracks, breaks, and other damage.
- (6) Inspect all springs for deformation, kinks, and set.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burs and rust as explained in paragraph 27*e* and *f*. Remove foreign matter from shell seat of the carrier assembly.
- (2) Tighten the rivet which holds the cartridge guide to the carrier, if it is loose. Remove bends and kinks from the guide. Replace unserviceable carrier pivot and spring. Replace the cartridge guide with rivet, if it is unserviceable; if the carrier is unserviceable, replace the whole carrier assembly.
- (3) If carrier plunger does not operate correctly, remove carrier plunger, screw, and spring from carrier and replace unserviceable parts.
- (4) When engagement of hammer and trigger is faulty, replace both parts. If trigger pull is light, stone the nose of the trigger in such a manner that a sharper angle is formed with the upper surface of the trigger. Replace unserviceable trigger spring and hammer spring.
- (5) Remove foreign matter from the sear notch and from the safety aperture in trigger and replace unserviceable trigger, trigger lock, trigger pin, trigger lock plunger, and trigger lock plunger spring. Remove foreign matter from slots in trigger lock.
- (6) Replace action slide lock assembly, if action slide lock is unserviceable. Replace springs and action slide lock pivot, if they are missing or broken.
- (7) Replace trigger guard, if found to be unserviceable (DEPOT MAINTENANCE ONLY).
- (8) If the hammer is beyond repair, replace the hammer assembly. Replace hammer spring guide rod, hammer pin, and hammer spring guide rod pin, if beyond repair.

d. Assembly and Installation (fig. 26).

- (1) Insert the trigger lock plunger spring and trigger lock plunger in their recess on the underside of the trigger guard. Insert the trigger lock in its hole in the right-hand side of the trigger

guard; depress the trigger lock plunger; and push the trigger lock into position underneath the trigger lock plunger.

- (2) If the action slide lock springs have been removed, install them and stake them in place. Place the action slide lock assembly in position on the left side of the trigger guard. Insert the action slide lock pivot through the access hole on the right side of the guard; and, using a narrow screwdriver, screw the pivot in place.
- (3) Spread the last coil of the trigger spring sufficiently so that it will be retained in the trigger. Place the trigger in position in the guard by inserting it through the top of the guard in order to align the hole in the trigger with the hole in the guard. Place the end of a screwdriver in the hammer spring guide rod hole in the guard and depress the trigger so as to align the hole. Insert the trigger pin. While assembling the hammer, place cam on left side of hammer in between the ends of the slide lock spring.
- (4) Place the hammer spring guide rod, curve down, in the slot in the hammer and insert the hammer spring guide rod pin. Stake the pin in place.
- (5) Slide the hammer spring onto the guide rod and slide the end of the rod into its hole in the trigger guard. Compress the spring until the hole in the guide rod appears; then insert the carrier spring in the hole to keep the spring compressed. Align the holes in the hammer and trigger guard. Insert the hammer pin. Remove the carrier spring. Stake the hammer pin in two places on the left side of the guard.
- (6) Install the carrier plunger, carrier plunger spring, and carrier plunger screw in the carrier.
- (7) Place the cartridge guide in position on the side of the carrier and insert the cartridge guide rivet. Peen rivet in place and remove all of the rivet that protrudes beyond either side of the carrier.
- (8) Place the carrier spring and carrier assembly in position on the trigger guard. Secure in place with the carrier pivot.

Note. The carrier pivot has left hand threads.

- (9) Install the trigger guard group (fig. 25) as described in paragraph 43c.

e. Functional Check.

- (1) Check to see that carrier and action slide lock assemblies pivot freely. In the event improper function of assembly is noted, honing and stoning is necessary.

Caution: Only the minimum amount of metal must be removed for proper mating of these components.

- (2) Cock the hammer and check operation of trigger lock. Move trigger lock to firing position and check operation of trigger.
- (3) Cock hammer and press upward on the rear end of the slide lock. The engagement of the slide lock hook with the lug on the hammer should be such that no more than one-third of the engagement face of the hammer lug is contacted by the hook, whereas, if too much of the lug is engaged and lug is rough, this will result in *TRIGGER CREEP*; peening the engaging surface of the action slide lock hook usually will correct this condition. If the hook does not drive far enough to engage and hold the lug, file the surface of the hook until it will make the proper contact. If the hook is too high to engage the lug at all, disassemble the hammer and trigger and file the front end of the trigger slightly. Take no more than a few file strokes, then assemble and check the adjustment. If the hook lies below the lug, a longer trigger must be substituted. Try several new triggers until one of the right length is found.

Warning: The proper functioning of the trigger guard group is of the utmost importance to the proper operation and functioning of the shotgun and to the safety of the operator.

40. Breech Bolt Group

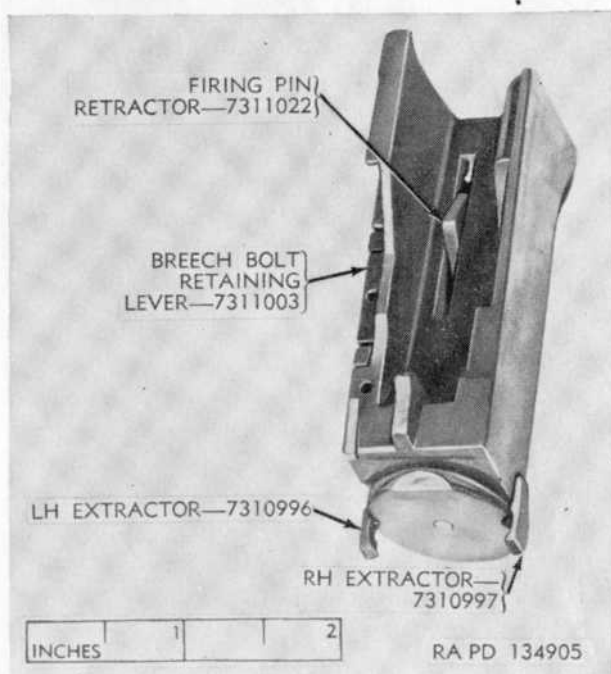


Figure 27. Breech bolt group for Winchester shotgun M12.

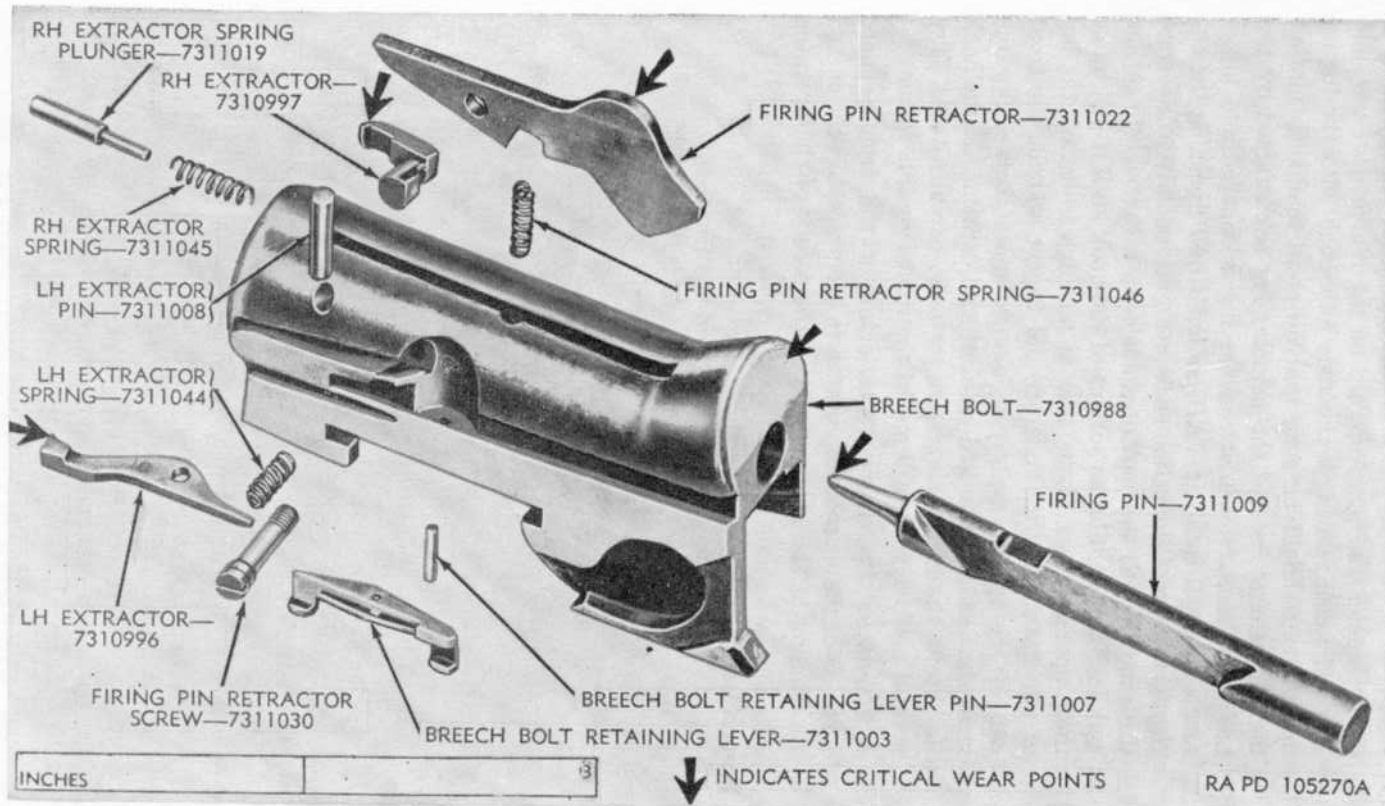


Figure 28. Breech bolt group—exploded view.

a. Removal and Disassembly (fig. 28).

- (1) Remove the breech bolt group (fig. 27) as described in paragraph 35c.
- (2) Insert a small screwdriver between the right hand extractor and the right hand extractor spring plunger. Force the plunger back into its recess and lift out the right hand extractor. Remove the right hand extractor plunger and spring.
- (3) Drive the left hand extractor pin out from the bottom of the bolt to the top, using a suitable drift. Remove the left hand extractor and the left hand extractor spring.
- (4) Drive out the breech bolt retaining lever pin with a suitable drift. Remove the breech bolt retaining lever.
- (5) Unscrew the firing pin retractor screw, while holding the firing pin retractor spring compressed. Remove the firing pin retractor, the firing pin retractor spring, and the firing pin.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) The rear top locking surface of the breech bolt must be full and clean. Inspect the camming ring aperture in the side of the breech bolt, whether it is smooth, burred, or worn oversize.
- (3) Inspect striker end of firing pin for wear. Assemble firing pin in bolt and see whether it protrudes from face of bolt when it is in fired position. See that pin moves freely in bolt.
- (4) Inspect extractor claws. Breakage occurs most frequently in the left hand extractor.
- (5) Inspect breech bolt retaining lever whether friction retains it in the position in which it is set.
- (6) Inspect all springs for deformation, kinks, and set.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burrs and rust as explained in paragraph 27e and f. Remove foreign matter from the breech bolt firing pin aperture and from the breech bolt camming aperture. Check firing pin protrusion (table V).
- (2) If the breech bolt retaining lever pivots too freely in its seat, remove, then insert a small screwdriver in the slot, and increase the width until the pivot action is resisted slightly by friction.
- (3) If the right hand extractor spring plunger, the right hand extractor, or spring is beyond repair, replace it.

- (4) Replace unserviceable left hand extractor or left hand extractor spring.
- (5) Replace unserviceable left hand extractor pin.
- (6) Replace unserviceable firing pin, firing pin retractor, firing pin retractor spring, or screws.
- (7) If the lever, the breech bolt retaining lever pin and breech bolt are unserviceable, replace them.

d. Assembly and Installation (fig. 28).

- (1) Slide the firing pin into the breech bolt, with the flat side of the pin to the left. Allow the point of the firing pin to protrude slightly beyond the face of the breech bolt.
- (2) Insert the firing pin retractor spring in its slot in the top of the breech bolt and place the firing pin retractor in the slot.
- (3) Aline the corresponding holes in the firing pin, firing pin retractor, and breech bolt. Install the firing pin retractor screw.

Note. Depress the firing pin retractor to see that it pivots freely and place the firing pin retractor screw in position.

- (4) Insert the breech bolt retaining lever in its seat and secure with the breech bolt retaining lever pin.
- (5) Insert the left hand extractor spring in its seat in the bolt. Position the left hand extractor and secure with the left hand extractor pin. Stake the pin in place.
- (6) Insert the right hand extractor spring and plunger in their holes in the front face of the breech bolt. Depress the plunger with a small screwdriver and slide the right hand extractor into its aperture.
- (7) Install the breech bolt group (fig. 27) as described in paragraph 43b.

e. Functional Check.

- (1) Depress the firing pin retractor. The firing pin should be released so that it can be moved to its forward position. Release the firing pin retractor. This action should cam the firing pin back to its previous position and retain it in that position.
- (2) See that the spring action of the extractors is positive.
- (3) The fit of the breech bolt retaining lever should be stiff enough so that it will not fall by its own weight. However, it should work smoothly though stiffly.

Warning: The proper functioning of the breech bolt group is of the utmost importance to the proper operation and functioning of the shotgun and to the safety of the operator.

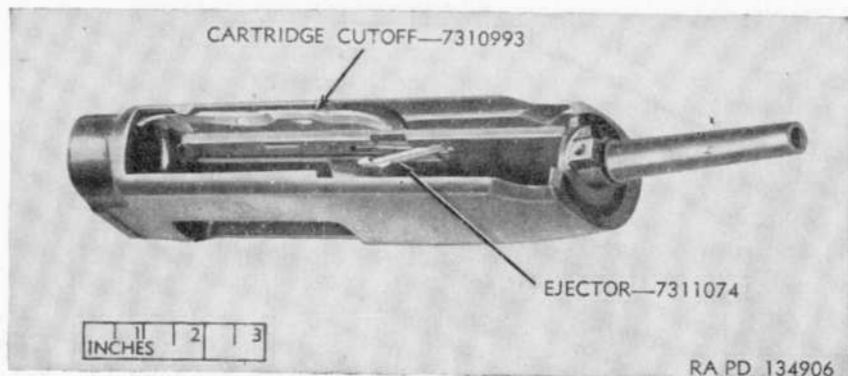


Figure 29. Receiver group for Winchester Shotgun M12.

41. Receiver Group

a. Removal and Disassembly (fig. 30).

- (1) Remove the receiver group (fig. 29) as described in paragraph 35d.

Note. Do not remove any part of the receiver assembly unless repair or replacement is necessary (DEPOT MAINTENANCE ONLY).

- (2) Grip the receiver shank in a soft-jawed vise and turn the receiver with a large adjustable wrench.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction, for burs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Inspect the interrupted threads inside the receiver for burs and distortion.
- (3) Examine the breech bolt locking notch in the top of the receiver to see if it is clean-cut and not battered or rounded.
- (4) Examine all tapped holes, slots, and guideways for burs and wear.
- (5) Inspect cartridge cutoff for deformation which may cause failure to feed.
- (6) Inspect shank for stripped threads.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burs and rust as explained in paragraph 27e and f. Remove foreign matter from cartridge cutoff seat in receiver.
- (2) If receiver shank, ejector, and cartridge cutoff are beyond repair, replace them (DEPOT MAINTENANCE ONLY).

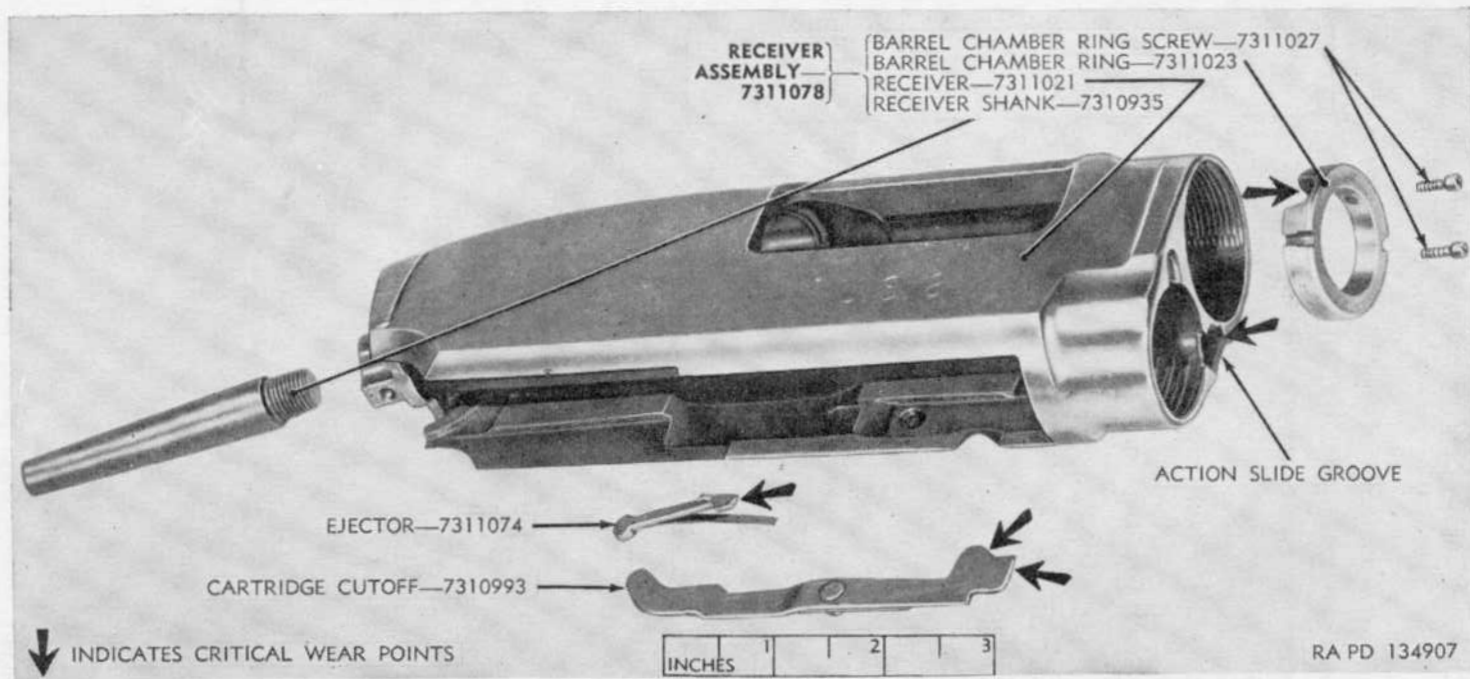


Figure 30. Receiver group—exploded view.

- (3) Chamber ring will not be removed when refinishing receiver.

Note. If receiver is unserviceable or proper headspace cannot be obtained by selective assembly of breech bolt or barrel, replace complete weapon, as no receiver or chamber ring replacement is authorized.

d. Assembly and Installation (fig. 30).

- (1) Screw the receiver shank into the receiver and tighten with a wrench.
- (2) Install the receiver group (fig. 29) as described in paragraph 43a.

42. Butt Stock Group

a. Removal and Disassembly (fig. 31).

- (1) Remove the butt stock group as described in paragraph 35d.
- (2) Unscrew the two stock swivel base screws and remove the stock swivel base.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Inspect all screw holes in stock to see that threads are not stripped.
- (3) Inspect stock for splits and cracks. Check butt plate for cracks.
- (4) Inspect stock swivel base for functioning and see that the swivel is not broken or deformed.
- (5) Check all screws for stripped threads.

c. Repair.

- (1) Replace all broken, worn, or otherwise unserviceable parts. Replace all missing parts. Remove burrs and rust as explained in paragraph 27e and f.
- (2) Repair butt stock as described in paragraph 29. If butt stock and stock swivel base are beyond repair, replace the butt stock assembly.

d. Assembly and Installation (fig. 31).

- (1) Install the stock swivel base on the butt stock with the two stock swivel base screws.
- (2) Install the butt stock group as described in paragraph 43a.
- (3) Replace unserviceable butt stock bolt and washer.
- (4) Replace unserviceable butt plate and butt plate screws.

43. Assembly of Groups

a. Receiver and Butt Stock Groups (fig. 17).

- (1) Aline butt stock and receiver in their proper positions.

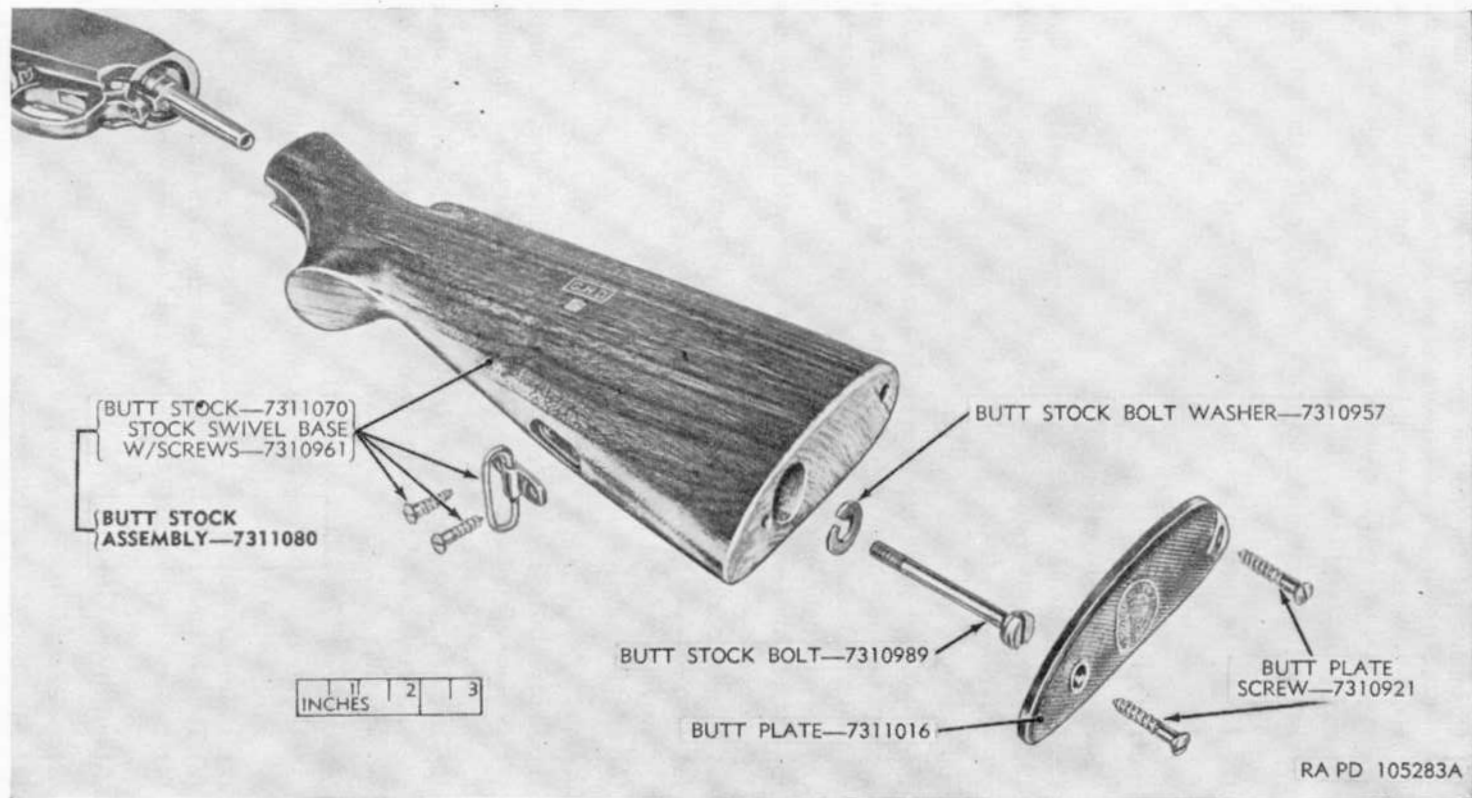


Figure 31. Butt stock group—exploded view.

- (2) Place butt stock bolt washer on butt stock bolt and install them to secure butt stock to receiver.
- (3) Set butt plate on rear of stock and secure with two butt plate screws.

b. Breech Bolt Group (fig. 17).

- (1) With receiver bottom side up, drop the breech bolt group, rounded face down and extractors forward, into the rear of the receiver. Push forward to locked position and, with a screwdriver or similar tool, depress the forward end of the breech bolt retaining lever positioned in the left side of the bolt. Slide bolt fully forward.
- (2) With breech bolt fully forward in its locked position, insert the ejector into its aperture in the left inner wall of the receiver to the rear of the breech bolt so that the disk shaped head of ejector is to the rear and that the spring is towards the receiver. Press down into aperture until head is flush with inner face of receiver.
- (3) Insert cartridge cutoff into its aperture in lower left inner wall of the receiver, just to the rear of magazine opening, so that the enlarged curved end is forward and fitted into mating groove in the receiver. Make sure the cylindrical stud fits into its pivot hole in the receiver. The cutoff should lie flush in its groove when assembled. The cutoff is liable to fall out until the trigger guard group is in place.

c. Trigger Guard Group (fig. 17).

- (1) With the breech bolt placed in the receiver and in its forward and locked position, install the trigger guard group in the receiver.
- (2) With the hammer cocked, grasp the guard by the bow and insert the forward end of the guard downward and forward at a slight angle into the receiver. Mate the forward end of the guard with the receiver, and then press down the rear end until it slides into the receiver to the point where the screw holes in guard and receiver align. When properly mated, guard should position easily. Do not force.
- (3) Install guard screw.

d. Barrel and Magazine and Action Slide Groups (fig. 16).

- (1) Install barrel group into receiver and turn one-quarter turn counterclockwise to engage interrupted threads of barrel with those on receiver.
- (2) Engage action slide bar with breech bolt through the action slide bar aperture in receiver and install threaded end of magazine tube into the receiver extension and receiver so that the

arrow on magazine tube is facing the left wall of the receiver. Turn magazine tube one-quarter turn counterclockwise to engage interrupted threads on magazine tube with those on receiver. Aline arrow on magazine tube with the arrow on the receiver extension.

e. *Bayonet Band Assembly* (fig. 16).

- (1) Drive the bayonet band onto the muzzle end of the barrel so that the lug on the forward end of the magazine plug fits into the hole in the rear end of the bayonet band and so that the three screw holes in the bayonet band are alined with the corresponding slots on bottom of the barrel.
- (2) Install the three bayonet band screws.

Section IV. STEVENS SHOTGUNS M520-30 AND M620A

44. Disassembly Into Groups

a. *Bayonet Band Assembly* (fig. 32 or 33).

- (1) Unscrew and remove the three bayonet band screws.
- (2) Drive bayonet band assembly off muzzle end of the barrel.

b. *Barrel, Magazine, and Action Bar Group* (fig. 32 or 33).

- (1) Push action bar assembly forward slightly to release slide plunger spring pressure, press up slide lock release at left of trigger, and pull action bar fully to the rear. This action will move the sliding breech to the rear and free the extractors from the barrel head grooves.
- (2) Unscrew the magazine until the magazine nut lugs have been disengaged from the slots in both the receiver and the barrel head.
- (3) Slide barrel head down (from top of receiver) and out of the receiver about one-eighth inch or as far as it will move. This movement disengages the rear end of the action bar from the slide.
- (4) Pull the action bar group all the way forward so that the rear end of the action bar clears the receiver. Then slide the barrel, magazine, and action bar group down and out of the receiver.

c. *Sliding Breech and Slide Group* (fig. 34 or 35).

- (1) Unscrew and remove action stop screw.
- (2) Slide the sliding breech and slide forward in receiver by tapping the forward end of the receiver with a wooden block. If locking block enters aperture in receiver, press down on block until clear and pull breech and slide forward. If the shell stop

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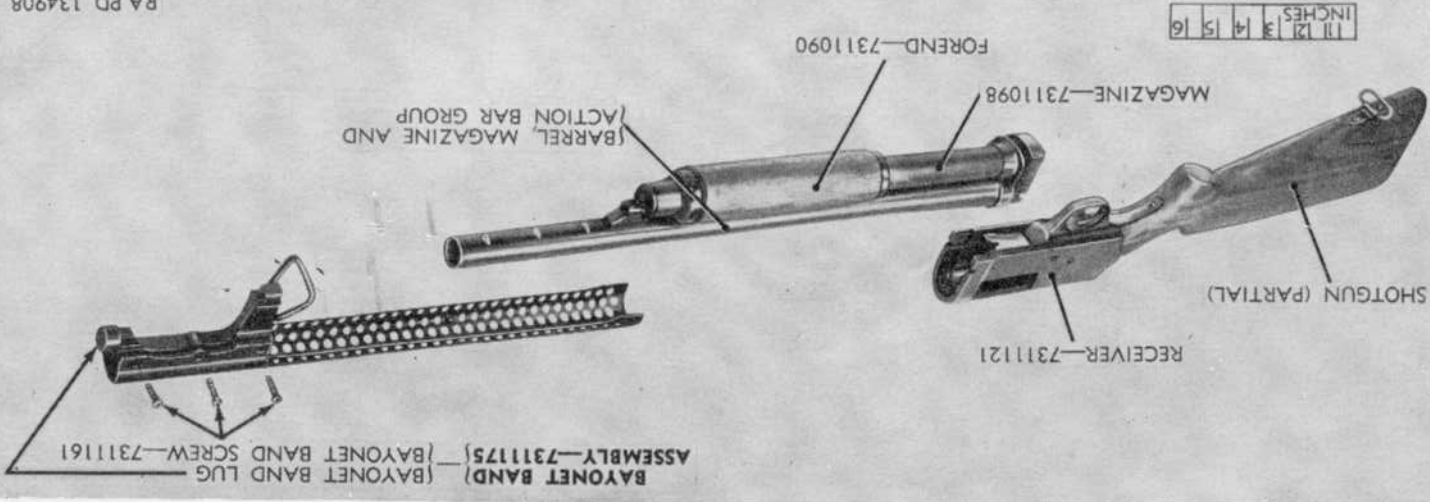


Figure 82. Muzzle end of Stevens shotgun M520-30—partially exploded view.

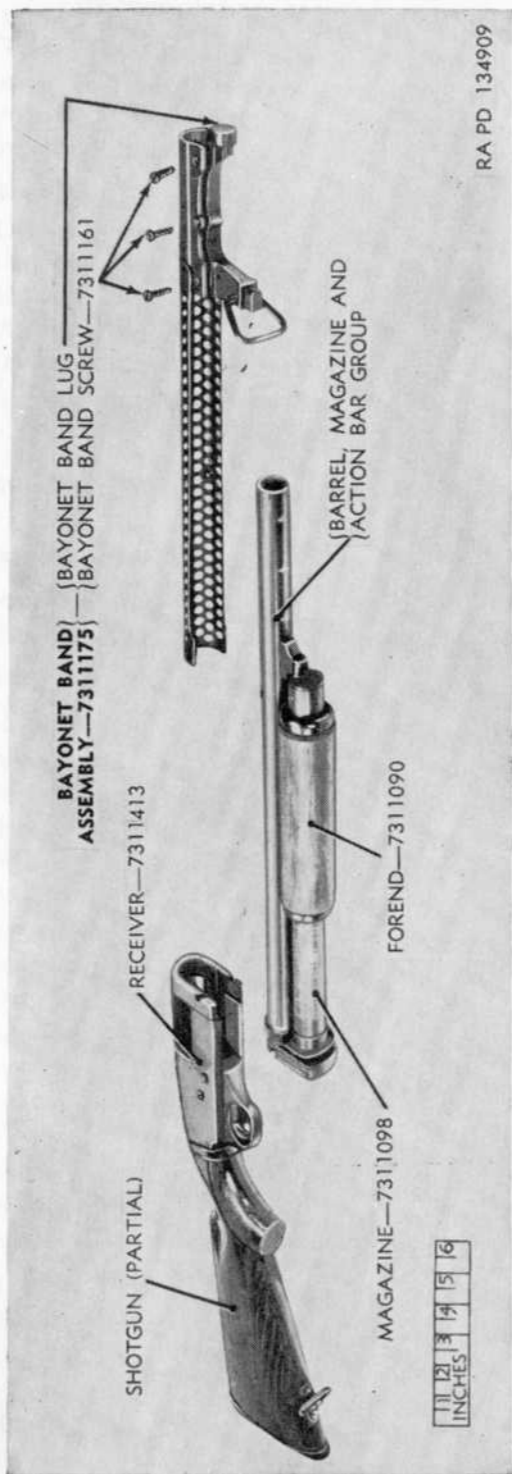


Figure 33. Muzzle end of Stevens shotgun M620A—partially exploded view.

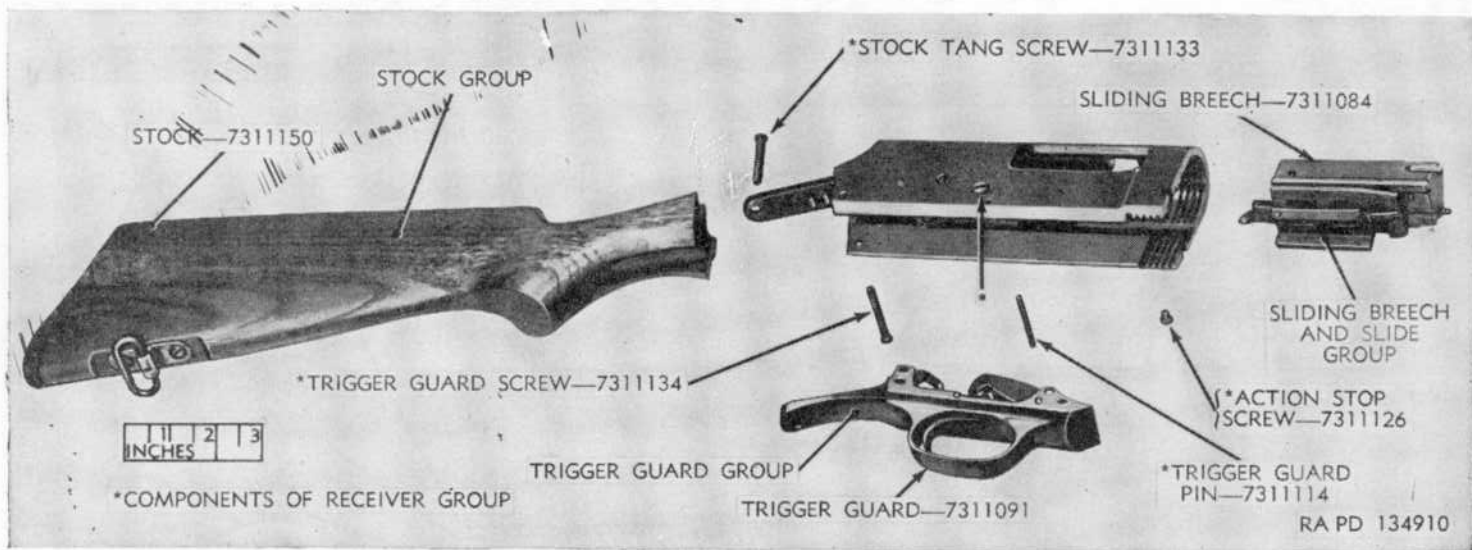


Figure 34. Breech end of Stevens shotgun M520-30—partially exploded view.

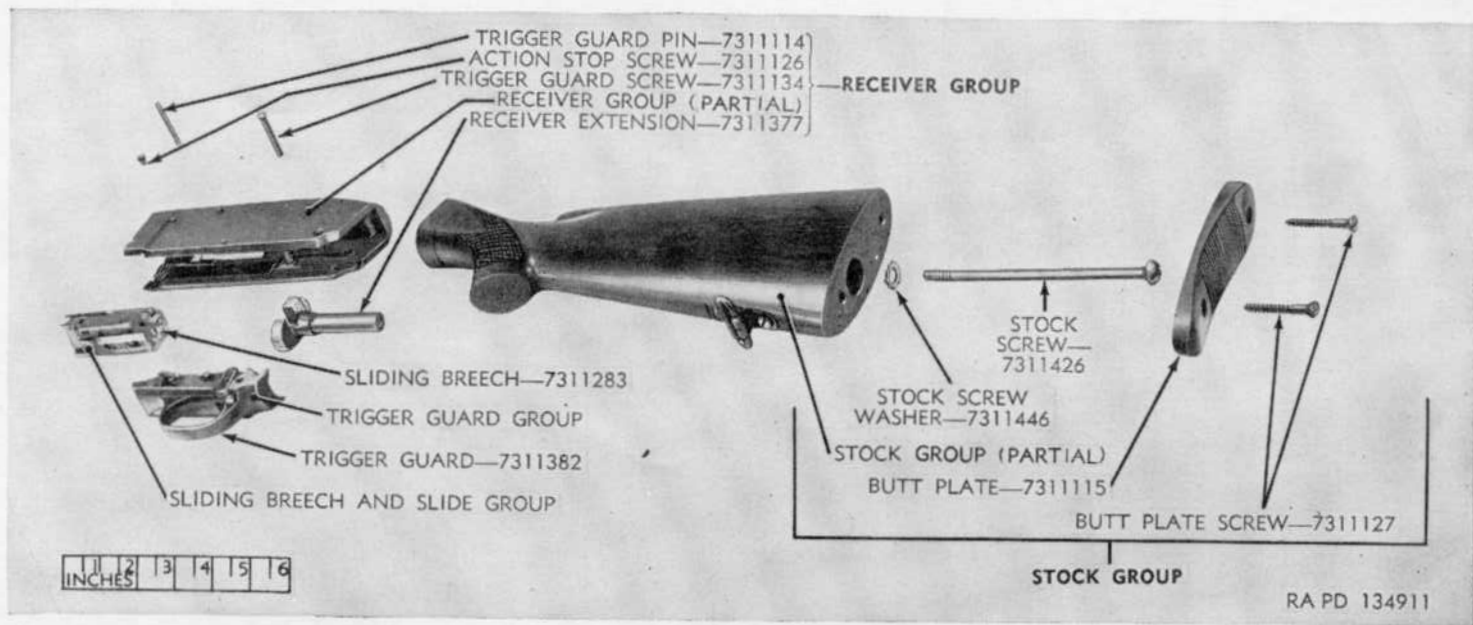


Figure 35. Breech end of Stevens shotgun M620A—partially exploded view.

interferes with withdrawal, press the stop against the receiver wall and pull breech and slide forward and out of the front of the receiver.

d. Stock Group.

(1) *For the shotgun M620A only (fig. 35).*

- (a) Unscrew and remove the two butt plate screws and remove butt plate.
- (b) Unscrew stock screw, located in butt end of stock, from receiver extension.
- (c) Remove stock from receiver extension by pulling stock to the rear and away from receiver. Turn stock on end and shake out stock screw washer.

(2) *For the shotgun M520-30 only (fig. 34).*

- (a) Unscrew and remove stock tang screw from engagement with the receiver tang.
- (b) Pull stock to the rear and away from receiver. Loosen trigger guard screw, if stock removal is difficult.

e. Trigger Guard and Receiver Groups (figs. 34 and 35).

- (1) Move hammer to cocked position. This precaution will minimize danger of damaging slide lock release spring.
- (2) Remove the trigger guard screw and trigger guard pin, located on the lower left end of the receiver, that secure the trigger guard group to the receiver.
- (3) Pull the group downward and out of receiver. Watch for the slide lock release assembly which may fall out when the trigger guard is removed.
- (4) In the shotgun M620A only, the receiver extension will then drop out of its receiver grooves.

45. Bayonet Band Assembly

a. Removal and Disassembly (fig. 18).

- (1) Remove bayonet band assembly as described in paragraph 44a.
- (2) If front sight requires repair, remove it with a pair of pliers.
- (3) If the bayonet band swivel requires repair, remove it by separating its sides and drawing the swivel out of the band holes.

b. Inspection.

- (1) Inspect all components for damage, deformation, and excessive wear that might cause either malfunction or interference with free action of mating parts; and inspect all parts for burrs, rust, and foreign matter in recesses. Check for missing parts.
- (2) Check bayonet band lugs and band barrel hole for burrs.

- (3) Check welded connecting bayonet band and hand guard for security and cracks adjacent to the welded area. Check for dents in hand guard.
- (4) Examine bayonet band swivel to determine if it is free-swinging, bent, broken, or otherwise damaged or if it is missing.
- (5) Check bayonet band screws and guard screw holes for stripped threads.
- (6) Check front sight to see if it is missing.

c. Repair.

- (1) Replace all broken, worn, missing, or otherwise unserviceable replaceable parts as indicated in (2) through (7) below. Remove burrs and rust as explained in paragraph 27e and f.
- (2) Repair stripped threads in bayonet band screw holes with a thread restorer; remove burrs from bayonet band lugs and from band barrel hole.
- (3) Remove small dents from hand guard and weld loose hand guard and bayonet band connection.
- (4) Replace bayonet band assembly, if hand guard is too loose or excessively deformed, or bayonet band lugs are sheared off and cannot adequately be repaired.
- (5) Clean out aperture for swivel to make swivel swing freely. If slightly out of shape, straighten it or replace.
- (6) If bayonet band screws are beyond repair, replace them.
- (7) If front sight is unserviceable, replace.

d. Assembly and Installation (fig. 18).

- (1) If removed, screw front sight into bayonet band. Be sure threads are properly mated, as the front sight is made of soft metal and the threads are easily stripped.
- (2) If the bayonet band swivel has been removed, spread the sides and snap back in place on bayonet band.
- (3) Install the bayonet band assembly on the shotgun as described in paragraph 51e.

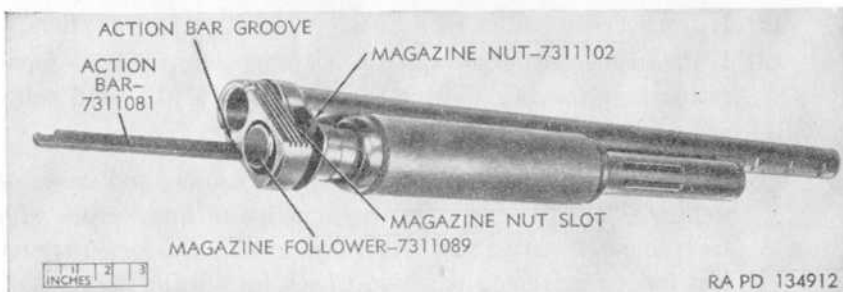


Figure 36. Barrel, magazine, and action bar group for both Stevens shotguns.

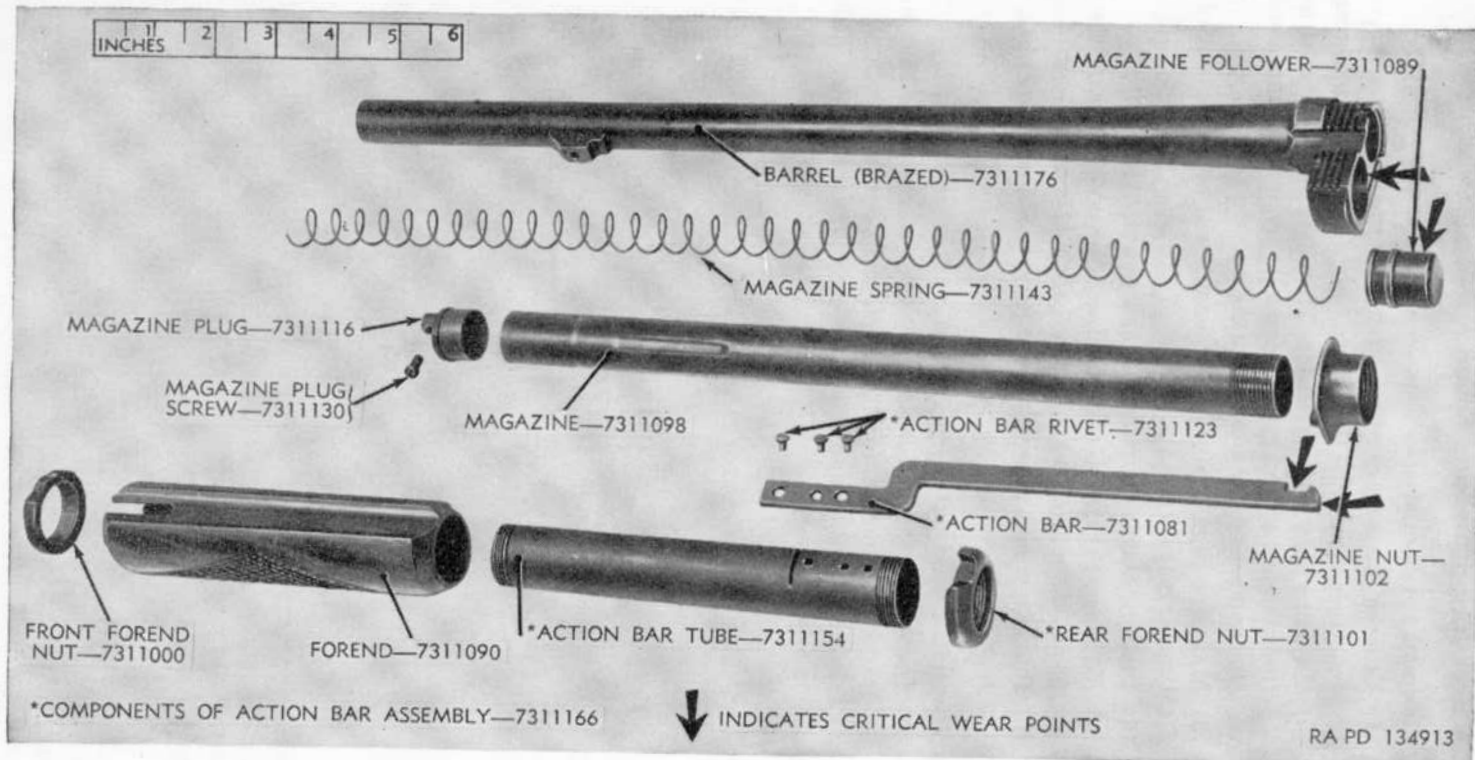


Figure 37. Barrel, magazine, and action bar group—exploded view.

46. Barrel, Magazine, and Action Bar Groups

a. Removal and Disassembly (figs. 36 and 37).

- (1) Unscrew the magazine plug screw from the barrel lug.
- (2) Pull magazine slightly away from the barrel to disengage magazine plug from barrel lug. Then ease group forward, away from the pressure of the magazine spring, and withdraw magazine and action bar group from the barrel.
- (3) Magazine plug, spring, and follower will now drop out of the tubular magazine.
- (4) Unscrew magazine from magazine nut.
- (5) Remove the forend and the front forend nut, using the improvised front forend nut wrench (figs. 11 and 38).
- (6) Punch out and remove three action bar rivets, tube, bar, and rear forend nut.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction, for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.

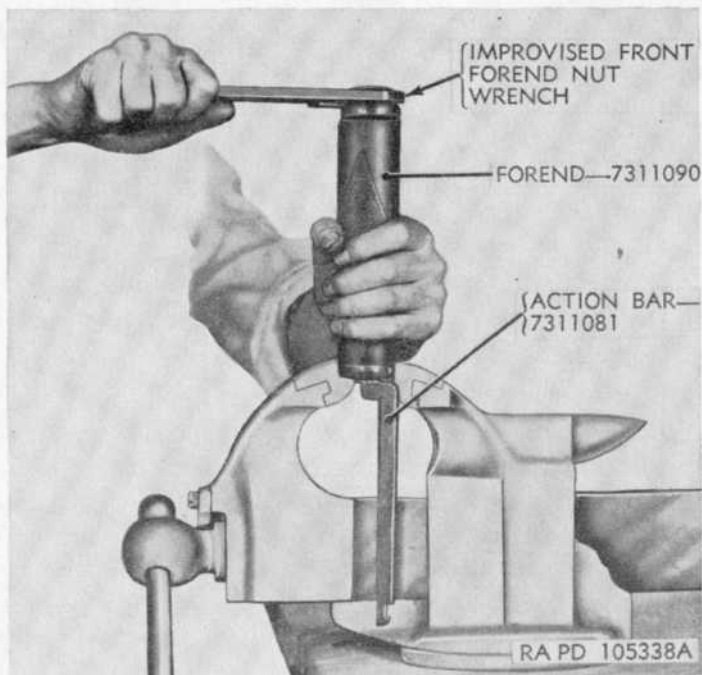


Figure 38. Removing or installing front forend nut from action bar tube.

- (2) Check threads on barrel lug, magazine plug screw, magazine, magazine nut, front and rear forend nuts, and action bar tube for wear and burs.
- (3) Check slot on rear end of action bar for excessive wear.
Warning: The wear on this slot greatly affects the operation of the weapon by causing the action bar to stick or by causing it to fail to cam the breech bolt into the locked position. The latter malfunction is a danger to the safety of the operator.
- (4) Check magazine follower for dents and other damage. See that follower moves freely in tube.
- (5) Check magazine, plug, action bar tube, rivet, rear and front forend nuts, and magazine nut for dents and other damage.
- (6) Check magazine for deformation, kinks, and set.
- (7) Check forend for splits and cracks.
- (8) Check barrel mating grooves, action bar groove, and magazine nut slots in breech end of barrel for excessive wear, burs, and other damage.
- (9) Inspect the chamber and bore of the barrel for rust, dents, leading, cracks, and bulges. Rust usually appears in dark irregular patches, while leading shows in dull gray streaks.
- (10) Check headspace as described in paragraph 20.

c. Repair.

- (1) Replace all broken, worn, or otherwise unserviceable parts, and replace all missing parts in a manner listed in (2) through (13) below. Remove burs and rust as explained in paragraph 27*e* and *f*.
- (2) Replace magazine plug screw, if stripped threads are beyond repair or if found otherwise unserviceable.
- (3) If magazine spring is found to be unserviceable, replace.
- (4) Dents in the magazine follower may be removed with the aid of a mandrel. If unserviceable, replace.
- (5) Replace unserviceable magazine plug.
- (6) Dents and other deformation in the magazine may be removed by the use of improvised rectifying cylinders similar to those used for the barrel ((12) below). Remove foreign matter from the magazine and, if stripped threads in magazine and magazine nut are beyond repair, replace.
- (7) Remove bends and twists in the action bar by straightening it in a vise. Dents may be removed from the action bar tube by means of improvised rectifying cylinders similar to those used for the barrel ((12) below). Repair stripped threads in rear

forend nut by chasing in a lathe. If slot in action bar is worn excessively, if dents cannot be removed from action bar tube, or if rear forend nut is unserviceable, replace action bar assembly.

- (8) If action bar rivets are unserviceable, replace.
- (9) Replace forend, if cracked or split beyond repair.
- (10) If stripped threads cannot be repaired, replace front forend nut.
- (11) Remove rust and leading from barrel bore with a wad of fine steel wool on the end of a cleaning rod. Push the wool the full length of the bore each time, but do not rotate or scrub the bore, or the barrel will become scratched and this will hasten fouling.
- (12) Remove small dents from barrel by using one of the four improvised rectifying cylinders (figs. 9 and 39). Clean the barrel thoroughly to remove any foreign matter which may scratch the barrel. Coat the bore and the cylinders with a film of engine oil (OE-30).

Note. If the 0.723-inch size cylinder passes the dent without contact, use a larger size cylinder.

The oil acts as a cushion between the bore and cylinder. Insert the 0.723-inch diameter cylinder from the breech end and slide it down until it contacts the dented area. Insert a hard wooden dowel or brass rod in the breech end, length to suit, and tap the end of the dowel to produce a snug fit between the bore and the cylinder. Tap the exterior of the barrel at the dent with a plastic hammer. Continue to drive the cylinder through the bore, alternately tapping both the exterior of the barrel and the dowel until the cylinder passes the dent. Remove the rectifying cylinder from the breech end. Coat the next larger cylinder with oil and insert in breech end and proceed as above. Continue this process until all four of the cylinders have been used. Remove oil from the bore and inspect.

- (13) If either the barrel lug or the barrel is beyond repair, replace the brazed barrel (DEPOT MAINTENANCE ONLY).

d. Assembly and Installation (figs. 36 and 37).

- (1) Screw and tighten rear forend nut on action bar tube until internal slot in the nut aligns with action bar rivet holes on tube.
- (2) Aline action bar rivet holes with those in tube by placing the rivet hole end of the action bar, with countersunk end of holes facing upward, through slot in the rear forend nut and over holes in tube. By retaining the countersunk end of rivet holes upward on action bar, the proper assembly of the action bar slot is assured. Insert action bar rivets through both bar and

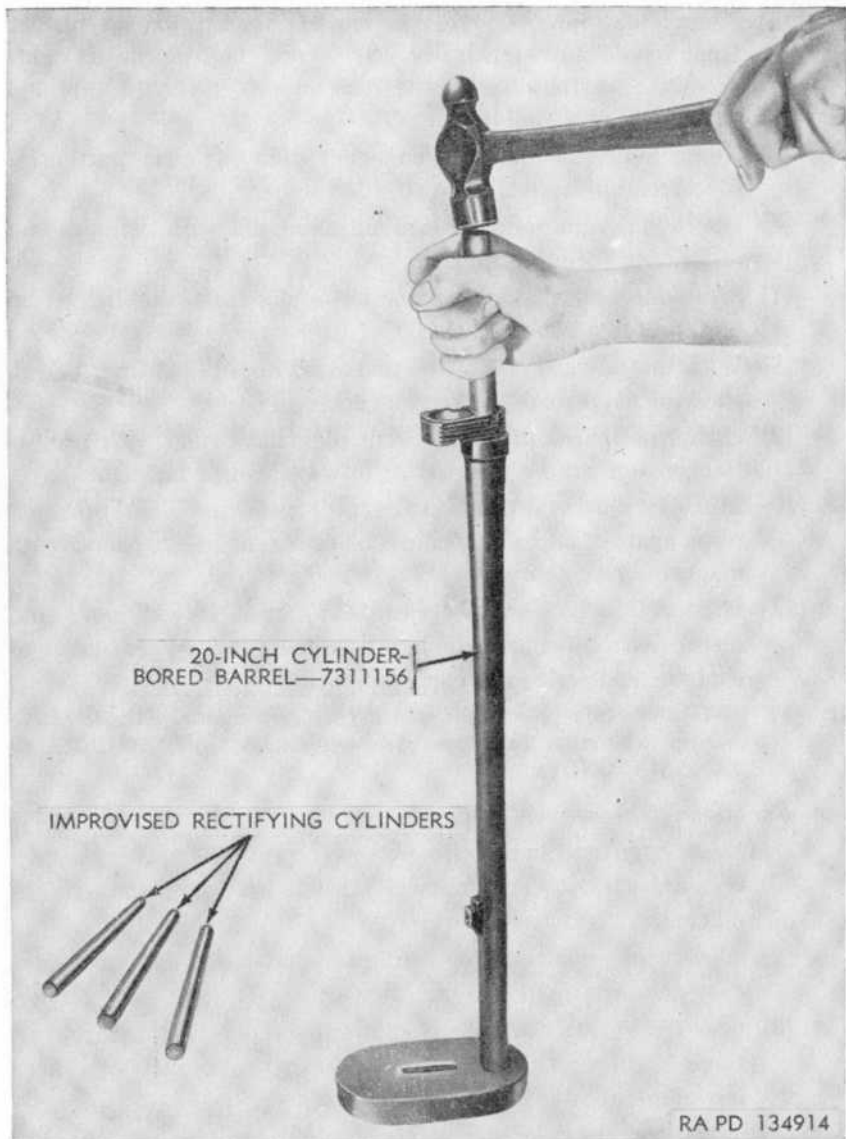


Figure 39. Removing dents from barrel.

tube and use a peen and an anvil to flatten rivet heads. Make certain there is a tight fit between the tube and bar and there are no projecting edges inside the tube which can interfere with the sliding fit between the tube and the magazine.

- (3) Slide the forend, with external slot for barrel in line with that of the assembled forend nut and with internal slot for action bar facing action bar, over the tube and action bar and into cutout in rear forend nut.

- (4) Screw front forend nut on action bar tube, using improvised front forend nut wrench (fig. 38). When the front nut is tightened, the barrel slots on the rear and front forend nuts and on the forend should be alined.
- (5) Insert magazine nut into engaging slots on lower portion of breech end of barrel.
- (6) Insert magazine follower into magazine nut with the open end of follower facing the muzzle.
- (7) Screw magazine into magazine nut and slide assembled action bar and forend on magazine.
- (8) With the forward end of the magazine disengaged from barrel, slide the magazine spring in magazine.
- (9) Compress magazine spring with plug until plug with projection on top can be inserted in forward end of magazine.
- (10) Move forward end of magazine until magazine plug projection rests against barrel lug and fasten magazine to barrel with magazine plug screw.
- (11) Slide action bar group forward as far as it will move and install barrel, magazine and action bar group on remainder of shotgun as described in paragraph 51*d*.

Note. When replacing the barrel, transfer the serial number of the receiver to barrel in the bottom of recess for action bar (DEPOT MAINTENANCE ONLY).

e. Functional Check.

- (1) Push in on magazine follower to compress the spring; release pressure slowly. The follower must move freely through the magazine.
- (2) Work the action bar group with a reciprocating action. A free, easy action, without binding, is necessary.
- (3) Check engagement of barrel and receiver along mating grooves; there should be a tight fit, with no play permitted between barrel and receiver.
- (4) When barrel has been replaced, shotgun is to be proof-fired as described in paragraph 31 (DEPOT MAINTENANCE ONLY).

47. Sliding Breech and Slide Group

a. Removal and Disassembly.

- (1) Remove sliding breech and slide group (fig. 40) from remainder of shotgun as described in paragraph 44*c*.
- (2) With drift pin, drive firing pin stop pin from right to left out of the sliding breech (fig. 42). The firing pin can then be re-

moved from rear of breech and the spacer and locking block can be removed from the top of the breech (fig. 42).

- (3) Drive out the two extractor pins from top to bottom of the sliding breech and remove left and right extractors, left extractor spring, right extractor plunger spring, and the right extractor plunger (fig. 42).
- (4) Drive out slide plunger pin, while holding plunger compressed, from bottom to top of the slide and remove slide plunger and spring (fig. 41).

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Inspect slide plunger spring, left extractor spring, and right extractor plunger spring for kinks or bends.
- (3) Inspect slide plunger for wear or deformation.
- (4) Inspect sliding surfaces of slide for wear and burrs; the locking lug in the slide lock lug at the rear of the slide must be clean-cut and not rounded or burred.
- (5) Inspect locking block and sliding breech spacer for wear in the sliding surfaces and for cracks or breaks.

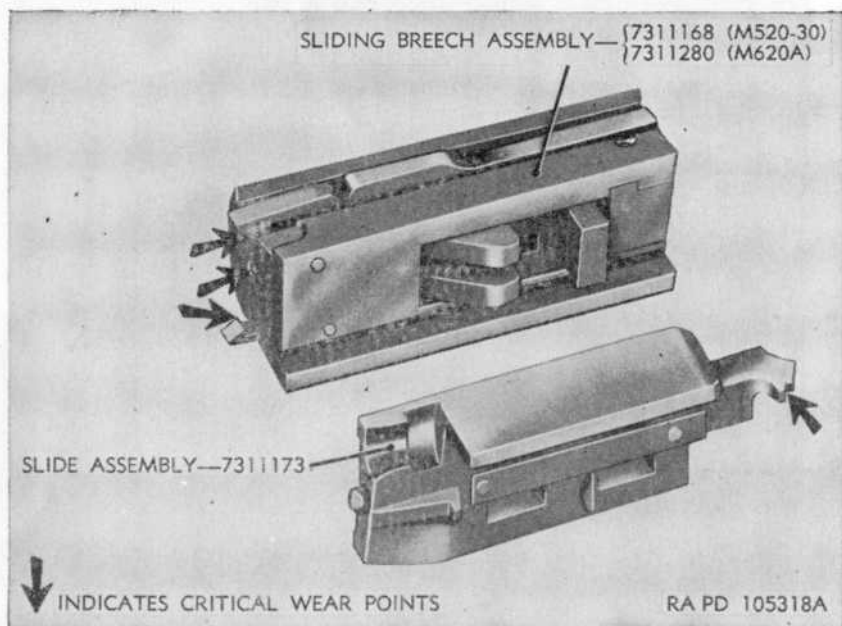


Figure 40. Sliding breech and slide groups for both Stevens shotguns.

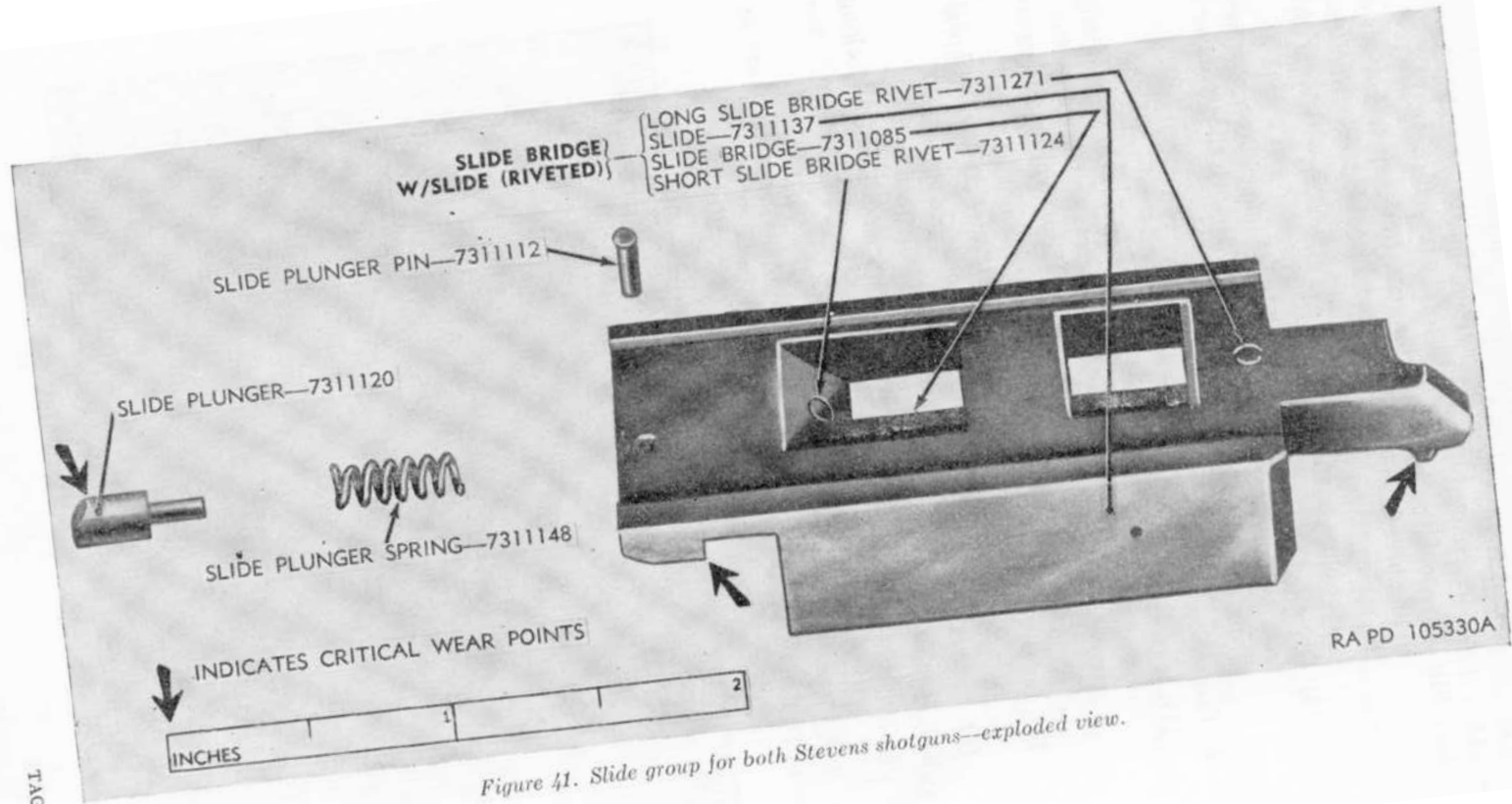


Figure 41. Slide group for both Stevens shotguns—exploded view.

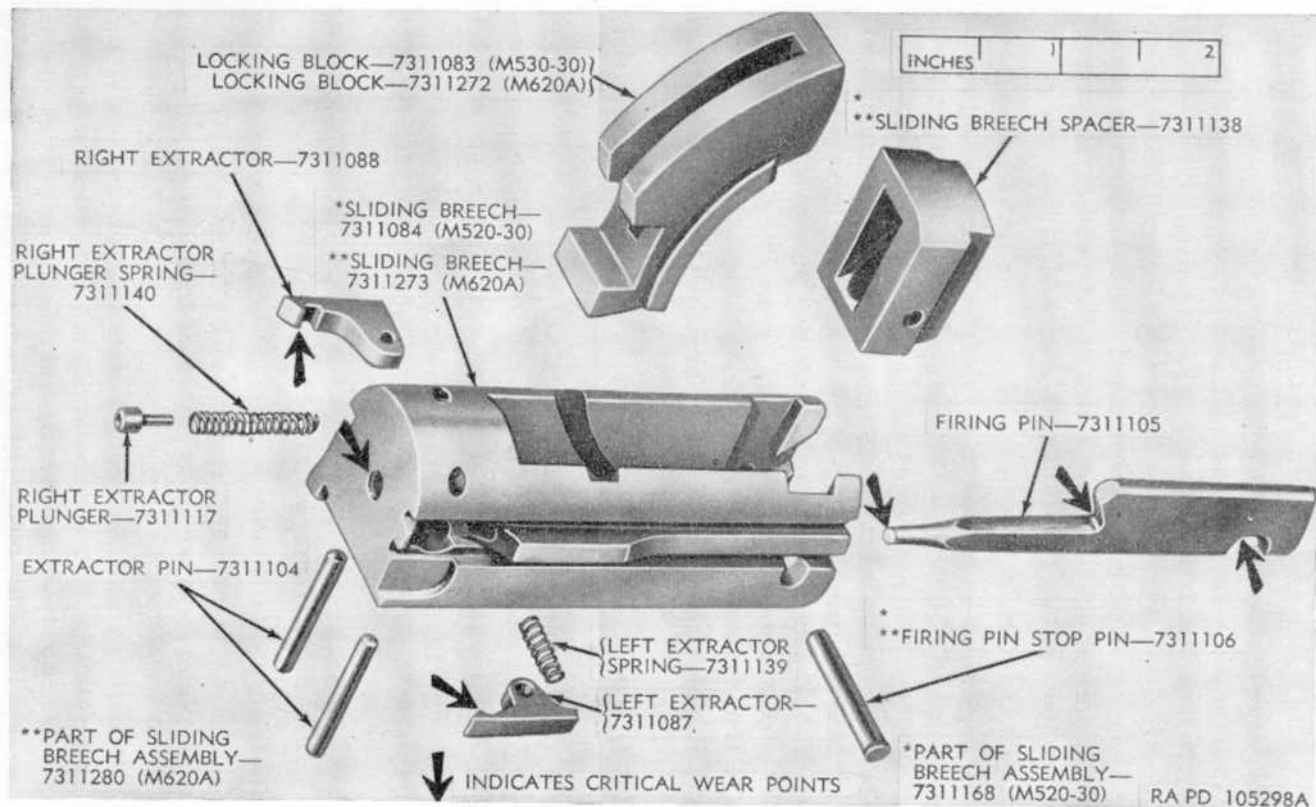


Figure 42. Sliding breech group for both Stevens shotguns—exploded view.

- (6) Examine the striker end of firing pin for breakage, reduction in length due to peening or for wear. Assemble firing pin in sliding breech and see whether it protrudes from face of breech when it is in fired position. See that pin moves freely in breech.
- (7) Inspect extractors for rounded or broken claws.
- (8) Inspect the sliding breech for wear, dents, or cracks in its various mating surfaces.
- (9) Check to see that firing pin protrusion is from 0.065 inch minimum to 0.093 inch maximum and that indentation on primer at time of function-firing is at least 50 percent of the spherical contact surface of the firing pin.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts as listed in (2) through (9) below. Replace all missing parts. Remove burs and rust as explained in paragraph 27*e* and *f*.
- (2) Clean foreign matter from the sliding breech camming aperture and from firing pin aperture in sliding breech; however, if the sliding breech and spacer are beyond repair, replace sliding breech assembly.
- (3) If unserviceable, replace the locking block.
- (4) Replace unserviceable slide plunger, slide plunger pin, and spring.
- (5) If slide, bridge, and rivets are beyond repair, replace slide assembly.
- (6) Replace unserviceable left and right extractors.
- (7) If firing pin and firing pin stop pin are beyond repair, replace.
- (8) Replace unserviceable extractor pins and right extractor plunger.
- (9) Replace bent or kinked left extractor and right extractor plunger springs.
- (10) The firing pin protrusion must be within the limits given in *b*(9) above or firing pin will be rejected.

d. Assembly and Installation.

- (1) Insert slide plunger spring and slide plunger (fig. 41) in hole in slide; compress spring with plunger until slide plunger pin can be inserted from top of slide.
- (2) Insert left extractor spring in hole on the upper left side of breech (fig. 42); compress spring with left extractor until extractor pin can be inserted from the bottom of the breech. Insert right extractor plunger spring and plunger in hole in front of breech (fig. 42); compress spring and plunger with a small screwdriver until plunger head is below hole face. Hold-

ing plunger in this position, insert right extractor in its groove in breech and install extractor pin from the bottom through hole in both the breech and the right extractor (fig. 42).

- (3) Slide locking block in the radial grooves in breech and insert sliding breech spacer in its mating grooves in breech (fig. 42). Insert firing pin from the rear through spacer, block, and breech and install firing pin stop pin from left to right of breech (fig. 42). Make certain all four pins assembled do not project to interfere with operation.
- (4) Install sliding breech and slide group (fig. 40) on shotgun as described in paragraph 51c.

e. Functional Check.

- (1) Press in on slide plunger to check smoothness of action.
- (2) Slide the locking block through its grooves in the sliding breech several times. This motion must be free without sticking or binding. Push the locking block so that it extends above the top of the breech and reciprocates the firing pin. Hold the pin in the forward position and move the locking block down as far as it will move. The block must cam the firing pin back into the sliding breech so that it does not protrude.

Warning: The proper functioning of the sliding breech and slide group is of the utmost importance to the proper operation and functioning of the shotgun and to the safety of the operator.

- (3) Check whether the left and right extractor springs work properly and the extractors move in and out smoothly without sticking.
- (4) When the sliding breech has been replaced, shotgun is to be proof-fired as described in paragraph 31 (DEPOT MAINTENANCE ONLY).

48. Stock Group

(figs. 43 and 44)

a. Removal and Disassembly.

- (1) *Stock group for Stevens shotgun M520-30* (fig. 43).
 - (a) Remove stock group from shotgun as described in paragraph 44d(2).
 - (b) Unscrew and remove two butt plate screws and butt plate.
 - (c) Unscrew and remove two butt swivel bracket screws, the butt swivel, and butt swivel bracket.
- (2) *Stock group for Stevens shotgun M620A* (fig. 44).
 - (a) Remove stock group from shotgun as described in paragraph 44d(1).

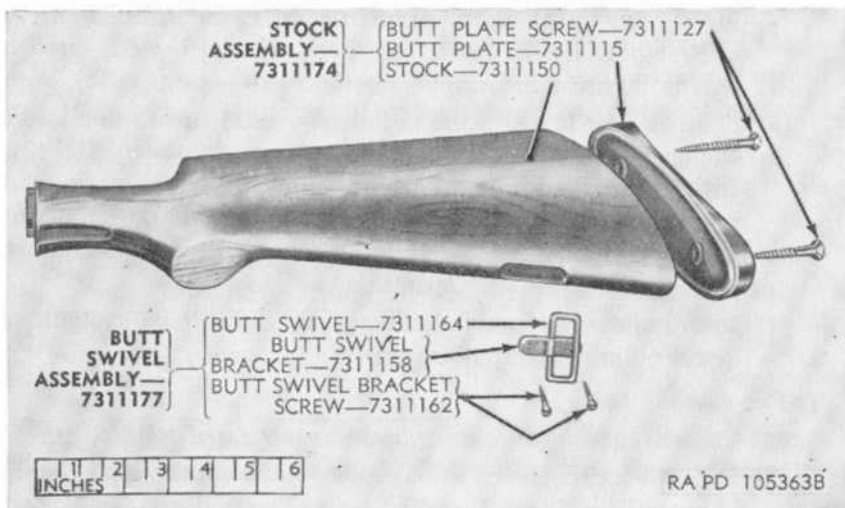


Figure 43. Stock group for Stevens Shotgun M520-30—exploded view.

(b) Unscrew and remove two butt swivel bracket screws, the butt swivel bracket, and the butt swivel.

b. Inspection.

- (1) Check all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, deformation, and for free action with mating parts. Check for missing parts.
- (2) Check screw holes in stock to see that threads are not stripped.
- (3) Inspect stock for splits and cracks.
- (4) Check butt plate for cracks.
- (5) Inspect butt swivel bracket and butt swivel for proper functioning and for cracks, burrs, and bends.
- (6) Inspect wood screws for damaged threads and heads.
- (7) Inspect stock screw for stripped threads and damaged and worn heads (M620A only).
- (8) Inspect stock screw washer for damaged hole and teeth (M620 only).

c. Repair.

- (1) Replace all broken, worn, or otherwise unserviceable parts as listed in (2) through (6) below. Replace all missing parts. Remove rust and burrs as explained in paragraph 27e and f.
- (2) Repair stock as described in paragraph 29.
- (3) If stock is beyond repair, replace stock assembly.

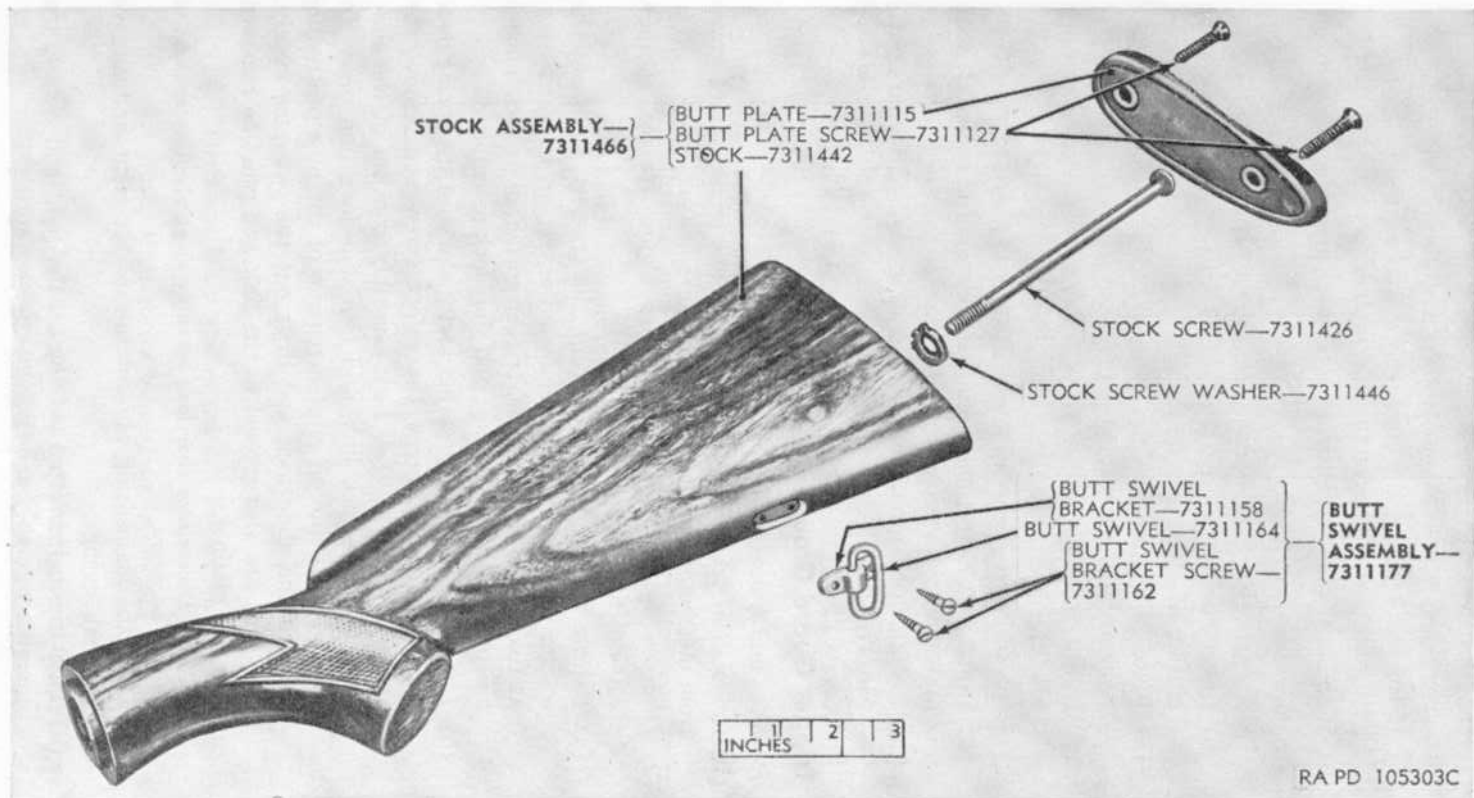


Figure 44. Stock group for Stevens shotgun M620A—exploded view.

- (4) If either butt swivel bracket, screws, or butt swivel are unserviceable, replace the butt swivel assembly.
 - (5) If the stock screw, the stock screw washer, the butt plate, or butt plate screw is beyond repair, replace.
 - (6) If the butt plate or butt plate screw is unserviceable, replace.
- d. *Assembly and Installation.*

(1) *Stock group for Stevens shotgun M520-30 (fig. 43).*

- (a) Insert butt swivel and butt swivel bracket in their recess on bottom of stock and retain with two butt swivel screws.
- (b) Place butt plate with its holes aligned with those in end of stock and tighten with two butt plate screws.
- (c) Install stock group on shotgun as described in paragraph 51b(2).

(2) *Stock group for Stevens shotgun M620A (fig. 44).*

- (a) Insert butt swivel and butt swivel bracket in recess of stock and retain with two butt swivel bracket screws.
- (b) Install stock group on shotgun as described in paragraph 51b(1).

49. Trigger Guard Group

a. *Removal and Disassembly.*

- (1) *Removal of trigger guard group.* Remove trigger guard group from the shotgun as described in paragraph 44e.
- (2) *Disassembly of trigger guard group for Stevens shotgun M520-30 (figs. 45 and 46).*
 - (a) Release the hammer by pulling the trigger. Drift out the trigger pin, holding a finger over the trigger, trigger spring, and sear. Lift out trigger, trigger spring, slide lock release assembly, slide lock spring, and slide lock assembly.
 - (b) Lift out sear and sear spring and make sure the spring does not shoot out. Unscrew the safety screw and remove the safety lever. The slide lock assembly consists of the slide lock, the slide lock link, and two slide lock link pins. To replace parts, file off riveted portion of the pins protruding through the slide lock and drift out the two pins evenly. The pins are also riveted to the link and must be removed in a like manner.

Note. Disassemble slide lock assembly only, when replacement of parts is necessary.

- (c) Drift the mainspring pin out toward the right and remove the mainspring.
- (d) Drift the hammer pin out toward the right and remove the hammer assembly and slide lock release spring.

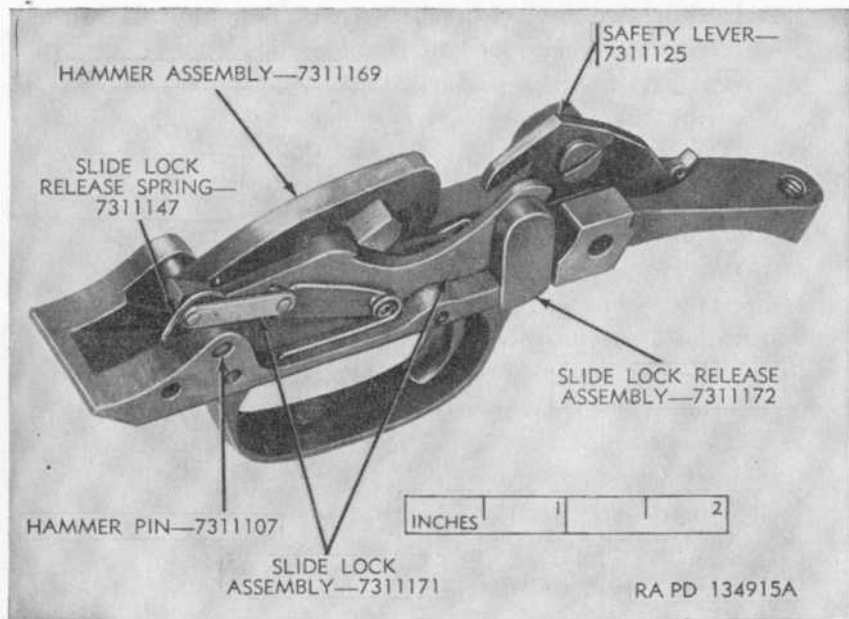


Figure 45. Trigger guard group for Stevens shotgun M520-80.

(3) *Disassembly of trigger guard group for Stevens shotgun M620A (figs. 47 and 48).*

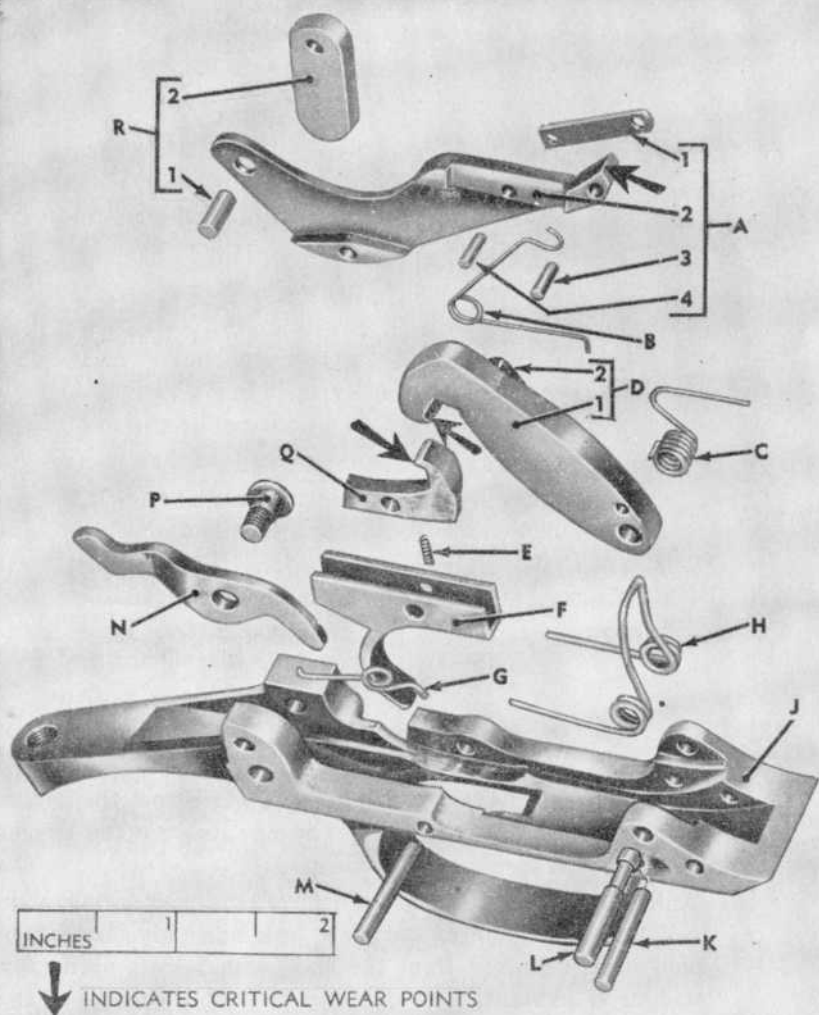
- (a) Pull the trigger to release the hammer. Drift out the trigger pin, holding a finger over the trigger. Remove the trigger and slide lock spring.
- (b) Drift out the slide lock pin. Remove sear, sear spring, slide lock release assembly, and slide lock assembly. Disengage slide lock assembly from the slide lock release spring by pushing it forward. The slide lock assembly consists of the slide lock, the slide lock link, and the two slide lock link pins. To disassemble, file off riveted portion of the pins protruding through the slide lock and drift out the two pins evenly. The pins are riveted to the slide lock link and must be removed in a similar manner.

Note. Disassemble the slide lock assembly only when replacement of parts is necessary.

- (c) Drift the main spring pin out toward the right and remove the mainspring.

Note. Although the hammer and mainspring pins may be driven out from either side, they are more readily driven out toward the right.

- (d) Drift the hammer pin out toward the right and remove the hammer assembly and the slide lock release spring.



INDICATES CRITICAL WEAR POINTS

- | | | | |
|----|-------------------------|----|-------------------------|
| A— | {SLIDE LOCK | F— | TRIGGER—7311153 |
| | {ASSEMBLY—7311171 | G— | TRIGGER SPRING—7311149 |
| 1— | {SLIDE LOCK | H— | MAINSRING—7311099 |
| | {LINK—7311094 | J— | TRIGGER GUARD—7311091 |
| 2— | SLIDE LOCK—7311095 | K— | (MAINSRING) PIN—7311109 |
| 3— | {LONG SLIDE LOCK | L— | HAMMER PIN—7311107 |
| | {LINK PIN—7311270 | M— | (TRIGGER) PIN—7311109 |
| 4— | {SHORT SLIDE LOCK | N— | SAFETY LEVER—7311125 |
| | {LINK PIN—7311110 | P— | SAFETY SCREW—7311131 |
| B— | {SLIDE LOCK SPRING— | Q— | SEAR—7311135 |
| | {7311056 | R— | {SLIDE LOCK RELEASE |
| C— | {SLIDE LOCK RELEASE | | {ASSEMBLY—7311172 |
| | {SPRING—7311147 | 1— | {SLIDE LOCK RELEASE |
| D— | HAMMER ASSEMBLY—7311169 | | {PIN—7311111 |
| 1— | HAMMER—7311092 | 2— | {SLIDE LOCK RELEASE— |
| 2— | HAMMER LUG—7311097 | | {7311122 |
| E— | SEAR SPRING—7311145 | | |

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Figure 46. Trigger guard group for Stevens shotgun M520-30—exploded view.

- (e) Unscrew the safety plunger screw. Carefully remove the safety plunger and safety plunger spring. Turn the trigger guard on its side and permit the safety to drop out.

b. *Inspection.*

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Inspect catches on hammer, trigger, and sear for roundness, burrs, and deformation. Check for unduly enlarged pin holes and loose or rounded toothed hammer lug.
- (3) Check for looseness in riveted connection between slide lock, slide lock link, and pins. Check forward engaging face of slide lock link for excessive wear or damage.
- (4) Examine trigger guard for enlarged retaining pin holes and for worn or damaged receiver extension machined slot in rear of guard.
- (5) Inspect slide lock release and pin for dents and burrs.

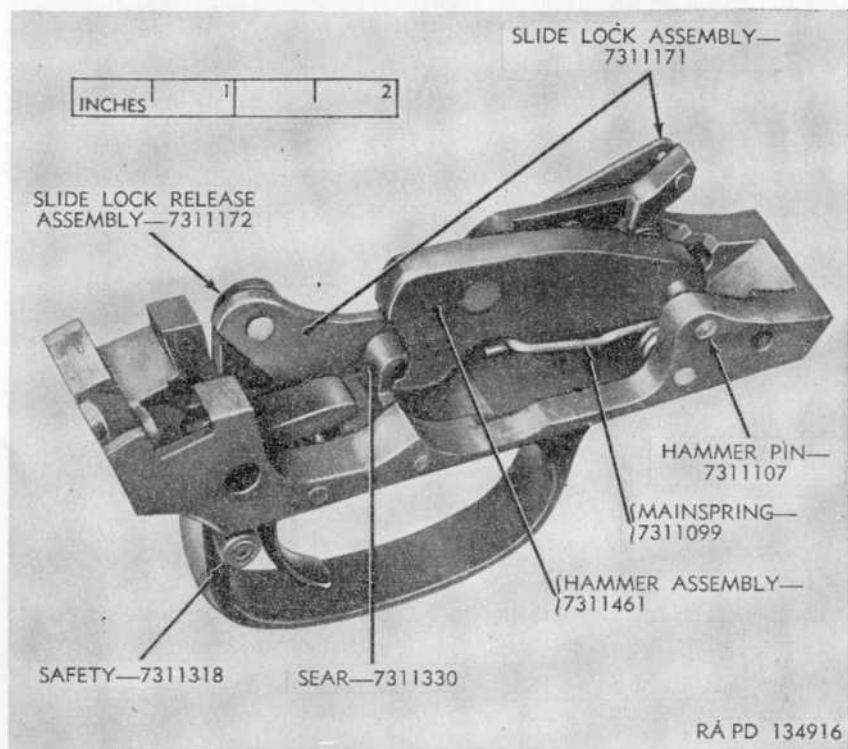


Figure 47. Trigger guard group for Stevens shotgun M620A.

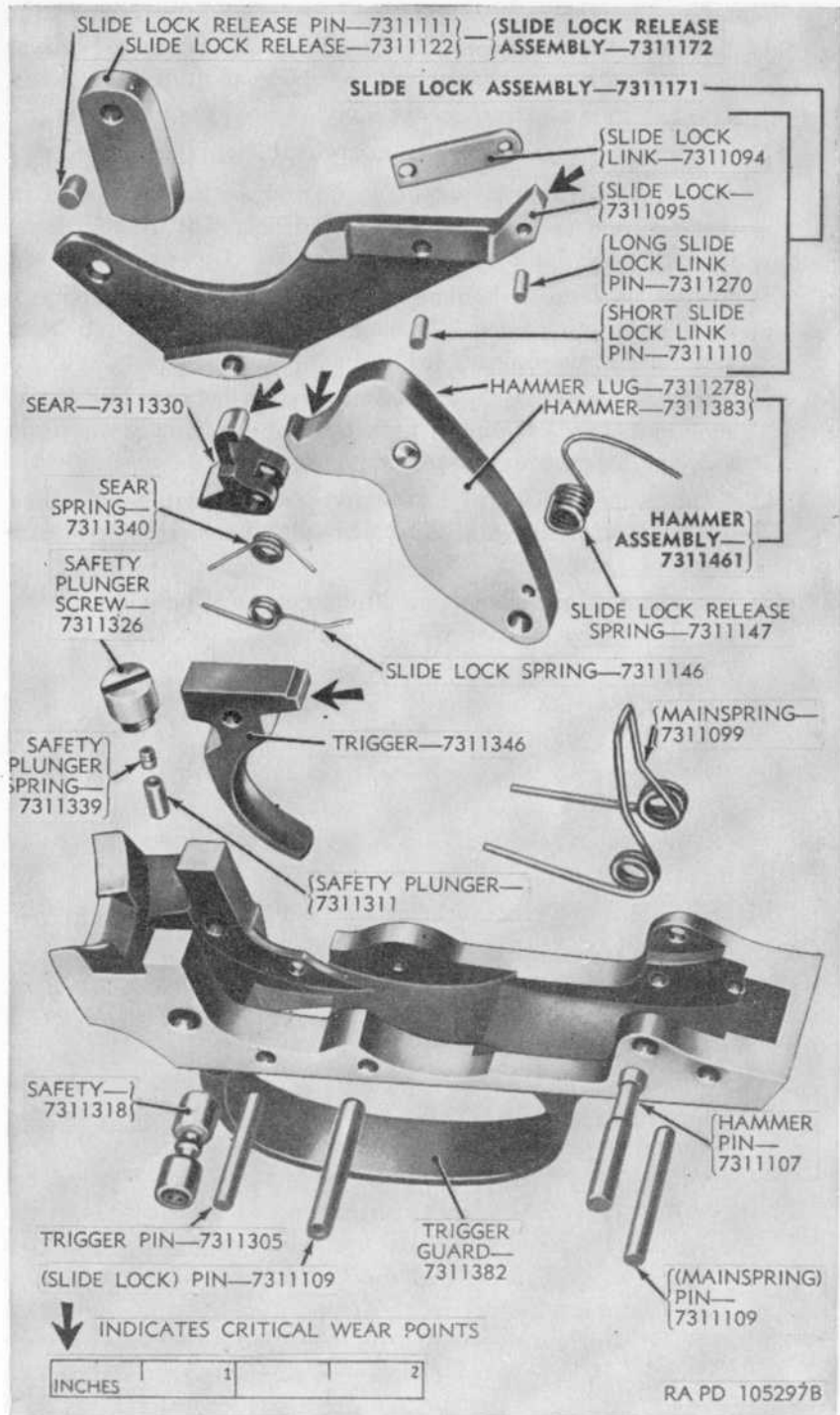


Figure 48. Trigger guard group for Stevens shotgun M620A—exploded view.

c. Repair.

- (1) Replace all broken, worn, or otherwise unserviceable parts as listed in (2) through (12) below. Replace all missing parts. Remove burs and rust as explained in paragraph 27*e* and *f*.
- (2) If hammer or hammer lug is unserviceable, replace the hammer assembly.
- (3) If slide lock or slide lock link is beyond repair, replace slide lock assembly.
- (4) If short or long slide lock link pin is unserviceable, replace.
- (5) If slide lock release or pin is beyond repair, replace the slide lock release assembly.
- (6) For the Stevens shotgun M620A only, remove foreign matter from slots in safety and, if slide lock pin, safety, safety plunger, safety plunger screw, or safety plunger spring is unserviceable, replace.
- (7) For the Stevens shotgun M520-30 only, if the trigger spring is beyond repair, replace.
- (8) For the Stevens shotgun M520-30 only, if the safety lever or safety screw is unserviceable, replace.
- (9) Clean foreign matter from the safety aperture and from sear notch in trigger; however, if the trigger, trigger pin, or trigger guard is beyond repair, replace.
- (10) If trigger guard is beyond repair, replace (DEPOT MAINTENANCE ONLY).
- (11) If mainspring, mainspring pin, or slide lock spring is beyond repair, replace.
- (12) If hammer pin, slide lock release spring, or sear spring is unserviceable, replace.

d. Assembly and Installation.

- (1) *Assembly of trigger guard group for Stevens shotgun M520-30* (figs. 45 and 46).
 - (a) Start the hammer pin through the trigger guard from the right so that the annular groove around the pin is nearest the left side of the guard when fully driven in.
 - (b) Push the pin through the hammer and slide lock release spring. Insert the short, turned end of the spring into the hole in the hammer. Place the mainspring in the guard so that the straight ends of the spring point to the rear, with the hammer nesting in the loop; align the holes through guard and spring; and drive the mainspring pin through from right to left.
 - (c) Start the trigger pin through the guard from the right. With the hooked end of the trigger spring caught over the rear

part of the trigger, align the spring and trigger with the trigger pin hole in the guard and push the pin in far enough to hold the part in place. Assemble the sear spring to the sear and insert the assembly in the channel in the trigger, with the hook facing the rear and the trigger pin hole in alignment; drive the trigger pin through the sear.

- (d) Hook the U-shaped end of the slide lock release spring over the forward rivet of the link on the left forward end of the slide lock and bring the slide lock assembly backward and downward until the trigger pin holes are aligned. Drive the trigger pin on through the assembly until flush with right side of guard, securing the release spring, trigger, trigger spring, sear, and slide lock with one pin. Assemble the square, turned end of the slide lock spring in its hole in the left side of the guard and catch the other or hooked end under the rear rivet of the link on the slide lock.
 - (e) Assemble the safety lever by means of its screw to the guard, with its longer end to the rear and the hooked end up. Tighten the screw securely. Assemble the slide lock release assembly to the hole in the slide lock assembly.
- (2) *Assembly of the trigger guard group of Stevens shotgun M620A (figs. 47 and 48).*
- (a) Insert the safety in its seat, with the red painted end to the left. Assemble the safety plunger spring and safety plunger into the safety plunger screw, with the rounded end of the plunger out. Screw the assembly into its hole in the trigger guard.
 - (b) Start the hammer pin through the guard from right to left so that the annular groove around the pin is nearest the left side of the guard when fully driven in place.
 - (c) Push the pin through the hammer and the slide lock release spring. Insert the short turned end into the hole in the hammer. Place the mainspring in the guard so that the straight ends of the spring point to the rear, with the hammer nesting in the loop; align the holes through guard and spring; and drive the mainspring pin through from right to left.

Caution: Exercise care not to bend the slide lock release spring in assembling or slide lock will not function properly to block slide in forward position or to lock hammer in rearward position.

- (d) Start the slide lock pin into its hole from the right. Nest the sear spring in the sear, with the straight ends to the rear

and the hook of the sear facing forward; align so that slide lock pin is driven through to secure the parts.

(e) Hook the slide lock release spring over the forward link pin on the forward left extremity of the slide lock assembly and swing the lock back and down until the pin hole in the lock aligns with those in the receiver. Drive the slide lock pin on through to pin the sear, sear spring, and slide lock to the guard. Place the trigger through the guard with the forward end bearing on the sear and drive the trigger pin from the right side of the guard just through the trigger. Locate the slide lock spring along the left side of the trigger, with its longer bent-up end resting on the slide lock; push down until the hole through the spring aligns with the pin; and drive the pin on through the guard. Insert slide lock release assembly.

(f) Install trigger guard group on shotgun as described in paragraph 51a.

e. Functional Check.

(1) Make certain all parts work together without sticking or binding.

(2) Move safety to ON and OFF positions several times to check for smooth action. Cock hammer far enough for sear to engage hammer, but not far enough to allow slide lock and hammer to engage. Move safety to the right for Stevens shotgun M620A or forward for Stevens shotgun M520-30 and attempt to pull the trigger. The trigger must release the engaged sear and hammer. Move safety to the left for Stevens shotgun M620A and rearward for Stevens shotgun M520-30 and pull the trigger. The trigger releases the hammer, allowing it to return to fired position. Cock the hammer again until the hammer lug and slide lock slot are locked. Press forward end of slide lock assembly down. This releases the locking surfaces from each other and the hammer is caught by the sear which will not allow it to go forward until the trigger is pulled.

(3) Check engagement of the slide lock and slide assemblies in the locked and unlocked position (figs. 49 and 50). When the slide is fully forward, the slide lock must block the slide by interposing its forward end against the rear projecting lug on the slide. Engagement of these parts may be observed, if the sliding breech and slide and the trigger guard are installed in the receiver without the lifter and the parts manipulated back and forth from locked to unlocked position. The angle of the mating parts must coincide.

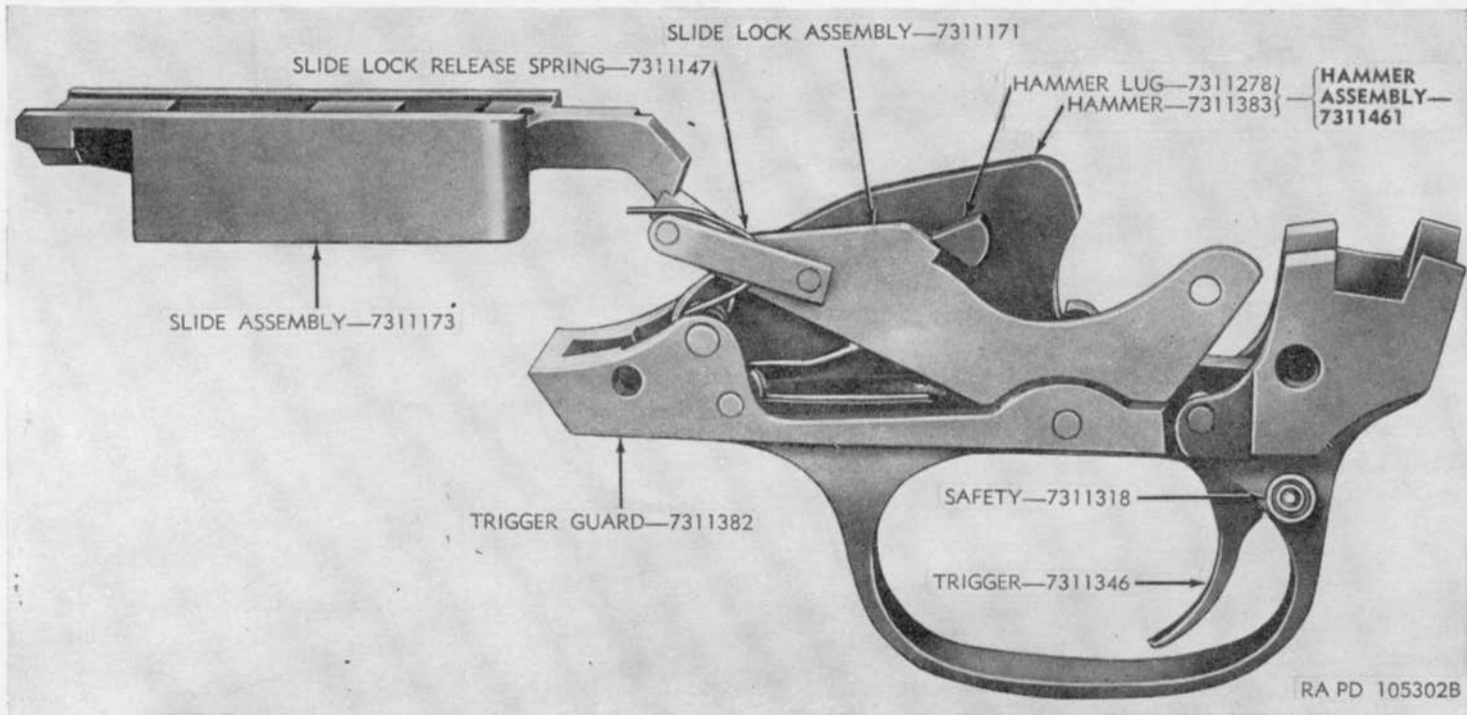


Figure 49. Slide and trigger guard group in battery position—hammer unlocked, slide blocked.

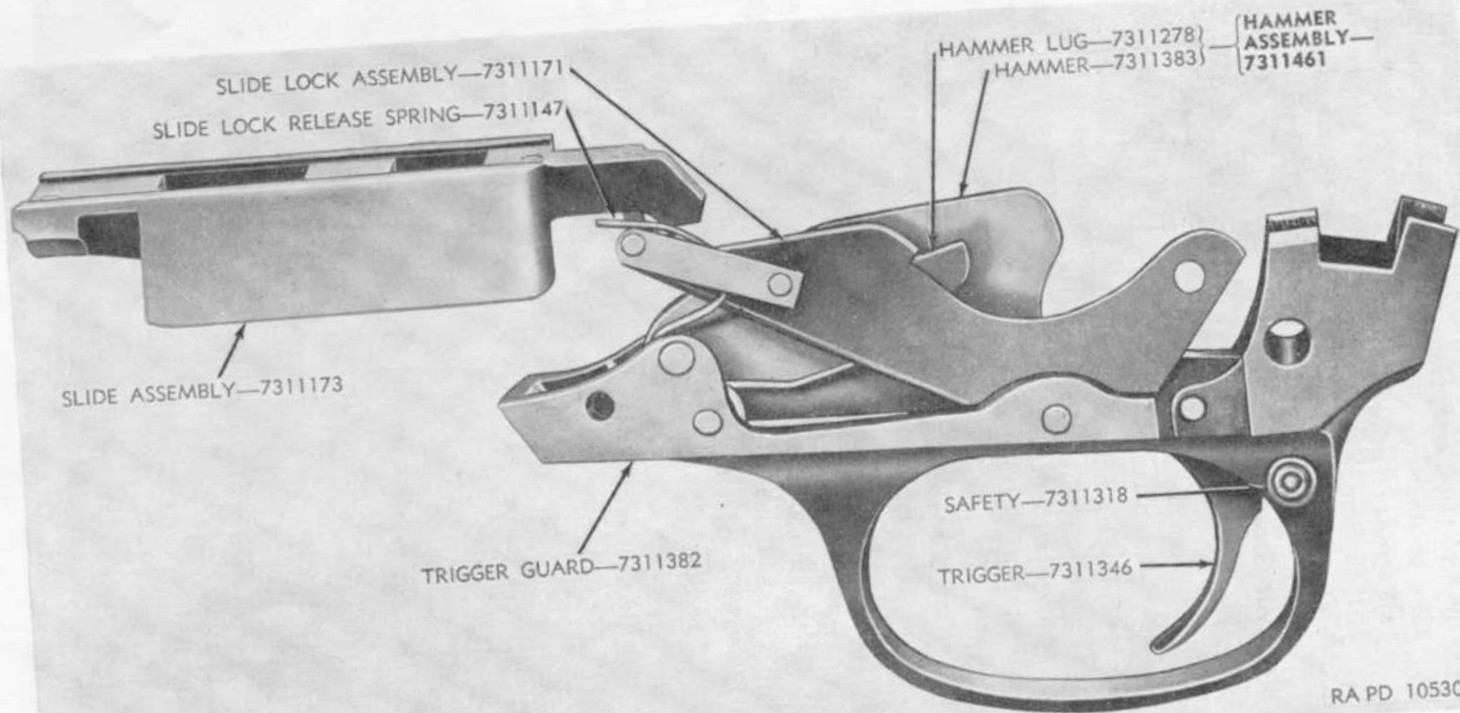


Figure 50. Slide and trigger guard group out of battery position—hammer locked, slide unblocked.

- (4) Check for trigger creep; sear and hammer must release without perceptible creep; burs, rough areas, and unmating surfaces must be stoned or unmating parts replaced by selective fit.

Warning: The proper functioning of the trigger guard group is of the utmost importance to the proper operation and functioning of the shotgun and to the safety of the operator.

50. Receiver Group

a. *Removal and Disassembly* (figs. 51 and 52 or 53 and 54).

- (1) Slide lifter assembly off its screw shoulder inside the receiver and remove from receiver.
- (2) Do not disassemble the lifter assembly unless part replacement is necessary. To disassemble, drift out the lifter pawl pin which is staked in the lifter. Remove the lifter, lifter pawl, lifter pawl plunger, and lifter pawl plunger spring and lifter screw.
- (3) On the Stevens shotgun M620A, slide the receiver extension from the extension slot in the upper rear of the receiver.
- (4) Unscrew the shell stop screw and remove the shell stop.
- (5) The lifter spring is anchored loosely by its pin on the end of the spring into the rear right of the receiver. Push spring out with a small drift.
- (6) Unscrew the ejector screw and remove the ejector.
- (7) On the Stevens shotgun M520-30, compress the safety thumbpiece plunger and spring in order to permit the safety thumbpiece to slide out of slot in receiver tang. Remove thumbpiece and pry out spring and plunger.

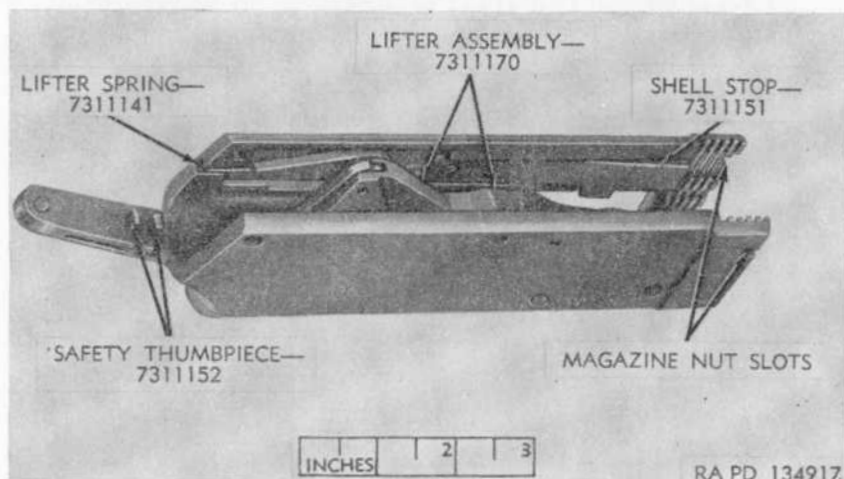


Figure 51. Receiver group for Stevens shotgun M520-30.

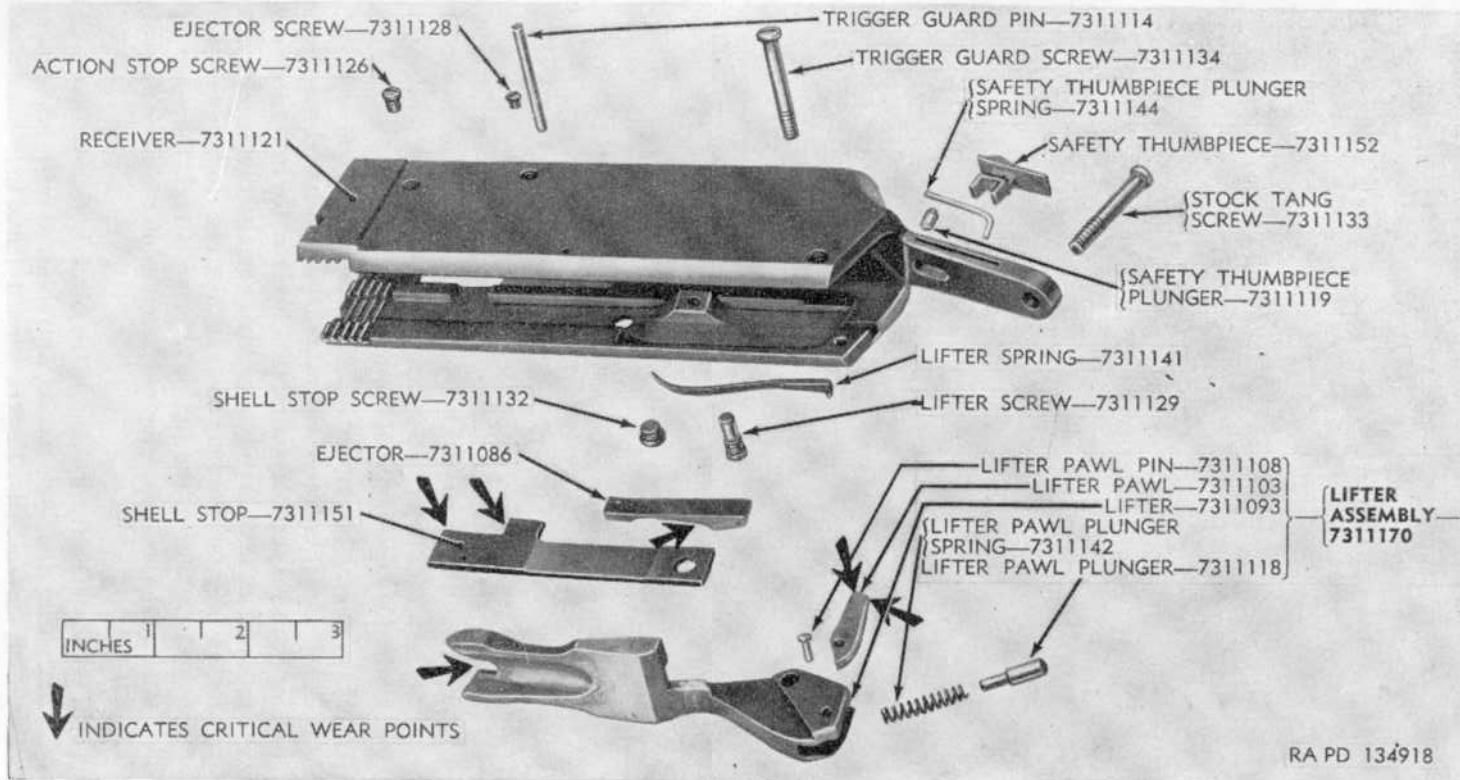


Figure 52. Receiver group for Stevens shotgun M520-30—exploded view.

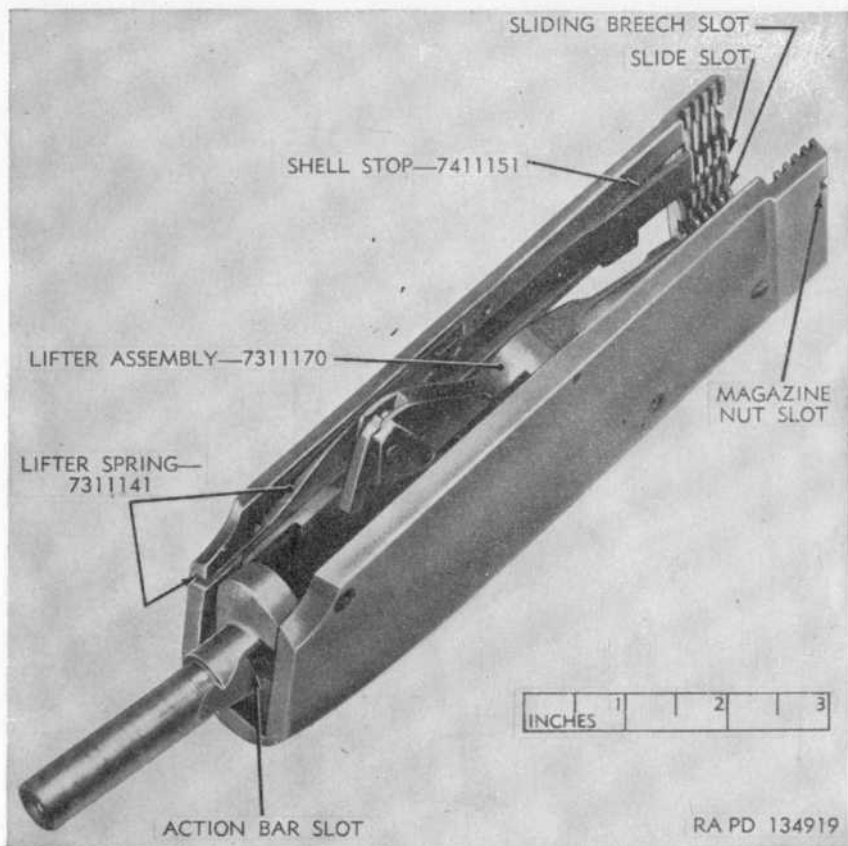


Figure 53. Receiver group for Stevens shotgun M620A.

b. Inspection.

- (1) Inspect all parts for damage and excessive wear that might cause malfunction; check for burrs, rust, or foreign matter in recesses, and deformation and free action with mating parts. Check for missing parts.
- (2) Make a general inspection of the receiver inside and outside. Check sliding surfaces, clearance cuts, and barrel head grooves for burrs. Assemble barrel to receiver to test looseness in grooves. A new barrel assembly, when available, serves as a better gage for checking wear in receiver. Inspect the locking block aperture in the top of receiver. Check the receiver extension slot in upper rear of receiver of the Stevens shotgun M620A.
- (3) Test the effective locking of the block by partial assembly of the parts; the best results are obtained with shotgun completely assembled. Inspect tapped holes and pin holes for

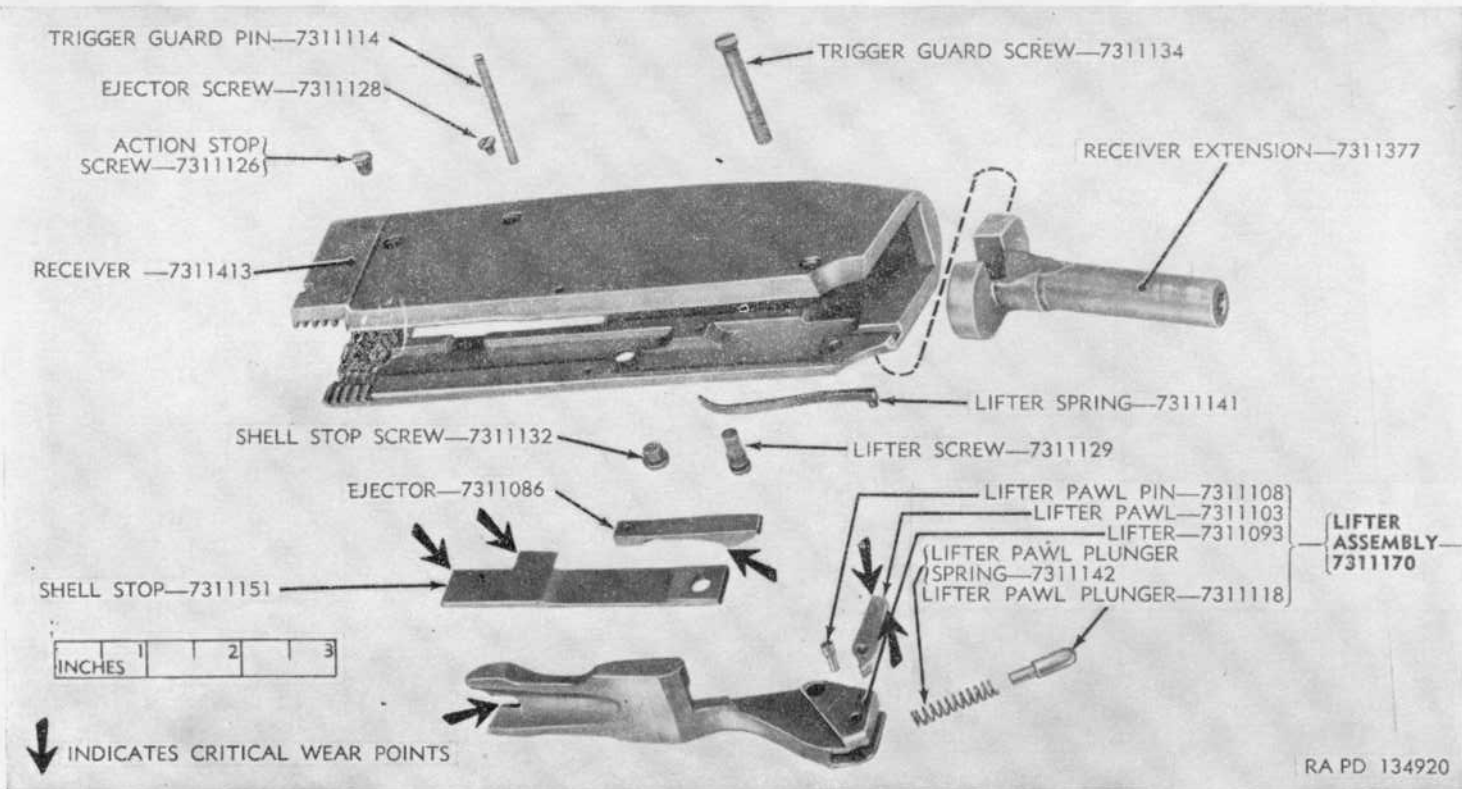


Figure 54. Receiver group for Stevens shotgun M620A—exploded view.

excessive wear. Examine stock screw threads in receiver extension and try receiver extension in receiver extension slots of Stevens shotgun M620A receiver.

- (4) Lifter spring and shell stop must not be set or weak.
- (5) Inspect lifter assembly and components for excessive wear and damage to mating surfaces.
- (6) Inspect ejector for excessive wear of damage to its projecting rubbing surface near the rear of the ejector.

c. Repair and Rebuild.

- (1) Replace all broken, worn, or otherwise unserviceable parts as listed in (2) through (11) below. Replace all missing parts. Remove burrs and rust as explained in paragraphs 27*e* and *f*.

Note. If receiver is unserviceable, replace complete weapon as no receiver replacement is authorized (DEPOT MAINTENANCE ONLY).

- (2) Remove foreign matter from shell seat of the lifter assembly, if lifter is unserviceable, replace lifter assembly (DEPOT MAINTENANCE ONLY).
- (3) If lifter pawl, pin, plunger, and spring are beyond repair, replace.
- (4) For the Stevens shotgun M620A only, if the receiver extension is unserviceable, replace.
- (5) For the Stevens shotgun M520-30 only, if the safety thumbpiece is beyond repair, replace.
- (6) For the Stevens shotgun M520-30 only, if safety thumbpiece plunger, spring, or stock tang screw is beyond repair, replace.
- (7) Remove foreign matter from the shell stop seat in the receiver, and if shell stop and screw are unserviceable, replace.
- (8) If ejector and ejector screw are unserviceable, replace.
- (9) If trigger guard screw and trigger guard pin are unserviceable, replace.
- (10) If lifter spring and lifter screw are beyond repair, replace.
- (11) If action stop screw is beyond repair, replace.

d. Assembly and Installation (figs. 51 and 52 or 53 and 54).

- (1) On the Stevens shotgun M520-30 only, insert and compress safety thumbpiece plunger spring and plunger to permit thumbpiece to enter slot in receiver projection. Slide thumbpiece in slot with finger grip forward and release spring and plunger to lock thumbpiece.
- (2) On the Stevens shotgun M620A only, insert the receiver extension, with clearance cut for the action bar facing to the left, into the extension slot in the upper rear of the receiver.

- (3) Seat ejector squarely in receiver groove, with the screw hole forward, and tighten ejector screw securely.
- (4) Insert and compress lifter pawl plunger and spring in hole in lifter, place lifter pawl in lifter slot until holes aline and, with plunger bearing against pawl point, insert pin and stake pin in place. Screw lifter screw in place in right side of receiver. Slide lifter assembly over lifter screw, with lifter pawl to the rear. Insert round end of lifter spring in hole in right rear of receiver, make certain remainder of spring nests in slot in receiver, and insert other end of spring under lifter tooth.
- (5) Seat shell stop squarely in receiver groove, with the screw hole to the rear, and screw shell stop screw in securely.

e. Functional Check.

- (1) Check tension and movement of lifter pawl. The pawl must move freely.
- (2) Check tension of shell stop and lifter spring.

51. Assembly of Groups

a. Receiver and Trigger Guard Groups (figs. 34 and 35).

- (1) Make certain the hammer is cocked to prevent damaging slide lock release spring and then insert trigger guard group in aperture in bottom rear of receiver until trigger guard pin and screw holes in the receiver and the trigger guard are alined. Be sure receiver extension is seated in grooves in both receiver and trigger guard before pushing trigger guard to final position.
- (2) Drift trigger guard pin through both the receiver and the trigger guard.
- (3) Drift trigger guard screw through clearance hole in left side of receiver and in trigger guard until the screw enters the tapped hole in right side of receiver and tighten screw.

b. Stock Group (figs. 34 and 35).

- (1) *Assembly of the stock group of the Stevens shotgun M620A (fig. 35).*
 - (a) Insert stock screw, with stock screw washer against screw head, through hole running from rear to front in stock. Screw a few threads of stock screw into tapped hole in protruding receiver extension and then slide stock into mating grooves in rear of receiver. Tighten stock screw securely.
 - (b) Place butt plate on rear end of stock so that holes on stock and on butt plate are alined and so that outside contour of plate is symmetrical with that of stock.
 - (c) Insert butt plate screws in holes in butt plate and stock and tighten them.

(2) *Assembly of stock group of Stevens shotgun M520-30 (fig. 34).*

- (a) Before installing stock on receiver, make certain that the safety thumbpiece is engaged with the safety lever in trigger guard group.
- (b) Place butt plate on rear end of stock, so that holes on stock and butt plate are alined and so that outside contour of the plate is symmetrical with that of the stock. Insert butt plate screws in holes in butt plate and stock and tighten securely.
- (c) Insert stock between receiver and trigger guard projections and against the rear face of the receiver and check engagement of stock counterbored grooves on top and bottom of the stock with these projections and for alinement of the stock tang screw holes in each of the projections and through the stock. In the event of interference between projection and stock, remove trigger guard screw to allow trigger guard projection to move.
- (d) Insert stock tang screw and tighten securely.
- (e) Install trigger guard screw and tighten securely.

c. *Sliding Breech and Slide Group (M520-30 and M620A).*

- (1) Place slide assembly, with slide lock engaging lug to the rear and with the two locking block apertures facing up, on the flat underside of the sliding breech group. Make certain that protruding guide of slide engages with matching groove in breech and that locking block slides out of aperture, located at the top of the breech, when slide is moved forward and breech is held stationary.
- (2) Slide sliding breech and sliding group, with round surface up, extractors forward, and the slide blocking lug to the rear, into the front top end of the receiver. Make certain that the protruding guides on both the breech and slide mate with the corresponding grooves in the receiver.
- (3) When sliding the group to the rear of the receiver, push on the slide rather than on the breech. This precaution will prevent the locking block from moving into the aperture in the receiver. Shell stop must be depressed into receiver to allow slide to clear it and slide lock release must be pushed up to allow slide to move to the rear without interference of the slide lock.
- (4) Screw action stop screw into left upper side of the receiver.

d. *Barrel, Magazine, and Action Bar Group (figs. 32 and 33).*

- (1) Push the action bar group all the way forward, so that the rear end of the action bar will clear the receiver.
- (2) Slide the barrel, magazine, and action bar group up and into the front end of the receiver. Make certain that guides and

grooves on barrel head mate with similar guides and grooves inside the receiver.

- (3) When the barrel head is fully engaged in receiver, the action bar groove in the receiver will align with that in the barrel head. Push action bar group all the way to the rear. This movement will engage the action bar slot with the slide lug and the slide will now reciprocate with the action bar group.
- (4) With the barrel head completely engaged, the magazine nut grooves in barrel head and receiver will now be aligned. Screw the magazine until the magazine nut lugs are securely engaged in receiver and barrel head grooves. This movement will lock receiver and barrel together.

e. Bayonet Band Assembly (figs. 32 and 33).

- (1) Drive the bayonet band over the muzzle of the barrel so that the three screw holes in the bayonet band are aligned with the corresponding slots on the bottom of the barrel.
- (2) Screw three bayonet band screws through bayonet band and under the barrel.

CHAPTER 5

FINAL INSPECTION

Section I. RETURN TO USER

52. General

a. Final acceptance of materiel repaired in maintenance shops for return to user depends largely upon the care exercised during repair procedures. It is, therefore, important that the in-process inspections in chapter 4 be carefully performed during repair.

b. Materiel turned in for repair may be assumed to have defects caused by use or neglect. Inspection after repair is directed to wearing surfaces, parts that might crack or break due to high stress or fatigue, and evidence of corrosion. The defects do not evidence themselves by uniform reduction in a given dimension but show up as a chipped edge, a partially worn surface, or an eccentric hole.

53. Specific Inspection Procedure

Inspection of the riot-type 12-gauge Stevens shotguns M520-30 and M620A and Winchester shotgun M12 will include the following:

- a.* A thorough check of appearance of the weapon.
- b.* A check of the operation of the weapon, paying particular attention to required parts.
- c.* An examination to insure proper lubrication (par. 26*e*).
- d.* A function-firing test, if a new or repaired barrel has been installed (par. 30).
- e.* Application of pertinent field maintenance procedures (pars. 16 through 20).
- f.* Repair standards in table V.

54. Inspection of Weapons to Accompany Troops Overseas

Standards apply to materiel in the hands of troops alerted for over-sea duty. Serviceable materiel will be inspected in accordance with standards set forth in paragraphs 21 and 22.

Section II. RETURN TO STOCK

55. General

a. Final inspection for return to stock requires that the rebuilt weapons approximate new materiel. Materiel that has been rebuilt contains many used parts that may function correctly for a given period. Even if the dimensions of such parts are worn considerably below new part tolerances, functioning and interchangeability will not be adversely affected and the parts are consequently acceptable. Consequently, the inspection of materiel after rebuild will differ from the inspection procedure used in the manufacturing plant in that attention will be directed to wearing surfaces, parts that might crack or break, and evidence of corrosion. These defects do not evidence themselves by uniform reduction in a given dimension, but show up as a chipped edge, partially worn surface, or an eccentric hole.

b. A gage used in manufacturing is a means of comparing an unknown dimension with a known one to judge whether a part comes within requirements of drawings and specifications. After a part is worn through use, the change in dimension is more easily detected in many cases by comparing with adjacent surfaces. Visual inspection, therefore, is far more applicable in these cases and gaging is limited to those dimensions that are critical and that may be advantageously measured rather than compared. Inspection of noncritical parts is limited to appearance and the presence of cracks or flaws. Tolerances for noncritical parts are for manufacturing purposes only and for insuring interchangeability and are not to be used in final inspection for rebuild.

56. Specific Procedures

a. A careful check of in-process inspection procedures must be made during repair and/or rebuild, as provided in chapter 4, since final acceptance of the assembled weapon depends upon the care taken during in-process inspection.

b. This phase of inspection must be coordinated, in so far as possible, with the rebuild standards given in table V. Weapons not up to standards will be processed and inspected.

c. Upon completion of the inspection, shotguns will be properly cleaned and lubricated (par. 26) and the correct rust preventative applied before being boxed.

d. All shotguns will be function-fired as specified in paragraph 30 before storage.

Table V. Inspection Guide for Shotguns

Point to be inspected	Final inspection—field maintenance	Final inspection—depot maintenance
Finish	Exposed surface will have a dull finish and will be free of bends and cracks.	Approximate new finish.
Headspace and timing	Check headspace.	Check headspace. 0.072 in. min 0.090 in. max
Trigger pull	5 lb min 8 lb max	5 lb min 8 lb max
Barrel	Used barrels must pass a visual inspection. Must exhibit no looseness between barrel and the receiver.	Each gun is to be equipped with a new barrel unless condition of the old barrel approximates that of a new one. Used barrels must pass a visual inspection. Must exhibit no looseness between barrel and the receiver.
Sliding breech or breech bolt group	Bolt will be free of burs on its various operating surfaces. Firing pin hole will be free of carbon and corrosion. Extractor will be free of burs and shell engaging lugs will not have a feather edge. Extractor plunger spring will have adequate tension on plunger. Slide must not be broken or deformed. Slide lug must function properly. Check firing pin protrusion: min 0.065 in. max 0.093 in.	Bolt will be free of burs on its various operating surfaces. Firing pin hole shall be free of carbon and corrosion. Extractor will be free of burs and shell engaging lugs will not have a feather edge. Extractor plunger spring will have adequate tension on plunger. Slide must not be broken or deformed. Slide lug must not be worn excessively. Check firing pin protrusion: min 0.065 in. max 0.093 in.
Trigger guard group	Will not bind or have excessively loose fit in receiver. Sear, hammer, and trigger must not be cracked or deformed and all trigger creep must be removed.	Will not bind or have loose fit in receiver. Sear, hammer, and trigger must not be cracked or deformed and all trigger creep must be removed.
Receiver group	Receiver will be free of burs on its operating surfaces. Lifter or carrier must not bind. Shell stop and ejector must be properly seated in slots within the receiver.	Receiver will be free of burs on its operating surfaces. Lifter or carrier must not bind or be excessively loose. Shell stop and ejector must be properly seated in slots within the receiver.

Table V. Inspection Guide for Shotguns—Continued

Point to be inspected	Final inspection—field maintenance	Final inspection—depot maintenance
Bayonet band assembly	Assembly must slide over muzzle end of barrel readily. Connection between guard and band must be tight. Swivel must be free of dents and bends and must be free swinging. Front sight must not be loose fitting nor protrude through the inside of band assembly.	Assembly must slide over muzzle end of barrel readily. Connection between guard and band must be tight. Swivel must be free of dents and bends and must be free swinging. Front sight must not be loose fitting nor protrude through the inside of band assembly.
Magazine and action bar group or action slide group	Group must fit without forcing between barrel head and barrel lug. Follower must be free of dents and must slide in magazine. Action bar tube must slide over magazine. Forend or action slide handle must not have cracks or splits.	Group must fit without forcing between barrel head and barrel lug. Follower must be free of dents and must slide in magazine. Action bar tube must slide over magazine. Forend or action slide handle must not have cracks or splits.
Stock group or butt stock group	Group must slide readily into the rear end of the receiver. Butt plate or stock must not have cracks sufficient to weaken these components. Butt swivel must be free swinging and must not have cracks or bends. Screw holes must not be stripped.	Group must slide readily into the rear end of the receiver. Butt plate or stock must be free of cracks other than those that have been properly repaired. Butt swivel must be free swinging and must not have cracks or bends. Screw holes must not be stripped.

APPENDIX

REFERENCES

1. Publication Indexes

Consult DA pamphlets of the 310-series and DA Pam 108-1 frequently for latest changes or revisions of references given in this appendix and for new publications relating to materiel covered in this technical manual.

2. Supply Manuals

a. Destruction to Prevent Enemy Use.

Ammunition Explosives, Bulk Propellants, and Explosive Devices.....	SM 9-5-1375
Fuzes and Primers.....	SM 9-5-1390
Pyrotechnics, Military, All Types.....	SM 9-5-1370

b. General.

Index of Supply Manuals—Ordnance Corps.....	DA Pam 310-29
Index of Technical Manuals, Technical Regulations, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.....	DA Pam 310-4
Introduction	ORD 1
Military Publications Index of Blank Forms.....	DA Pam 310-2

c. Repair and Rebuild.

Abrasives, Adhesives, Cleaners, Preservatives, Recoil Fluids, Special Oils, and Related Items.....	ORD 3 SNL K-1
Miscellaneous Hardware	ORD 5 SNL H-2
Shop Set, Small Arms, Field Maintenance.....	ORD 6 SNL J-8, Sec 6 (41-S-2990-300).
Soldering, Metallizing, Brazing, and Welding.....	ORD 3 SNL K-2
Materials; Gases and Related Items.	
Special Tool Sets for Small Arms and Automatic Weapons (SNL Groups A & B).....	ORD 6 SNL J-12
Tool Set, Small Arms Repairman.....	ORD 6 SNL J-10, Sec 2 (Ordnance) (MOS 0903).

d. Weapon

Shotguns	ORD (*) SNL B-9
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(*) See DA Pam 310-29, Index of Supply Manuals—Ordnance Corps, for published types of manuals of the Ordnance section of the Department of the Army supply manual.

3. Forms

The following forms pertain to this materiel:

- DA Form 5-22, Unserviceable Part Identification Tag
- DA Form 9-71, Locator and Inventory Control Card
- DA Form 9-77, Job Order Register
- DA Form 9-78, Job Order
- DA Form 9-79, Parts Requisition
- DA Form 9-80, Job Order File
- DA Form 468, Unsatisfactory Equipment Report
- DA Form 828, Job Time Ticket—Individual
- DA Form 829, Rejection Memorandum
- DA Form 865, Work Order
- DA Form 866, Consolidation of Parts
- DA Form 867, Status of Modification Work Order
- DD Form 6, Report of Damaged or Improper Shipment

4. Other Publications

a. Camouflage.

- Camouflage, Basic Principles..... FM 5-20
- Camouflage of Individuals and Infantry Weapons..... FM 5-20A

b. Decontamination.

- Decontamination TM 3-220
- Defense Against CBR Attack..... FM 21-40

c. Destruction to Prevent Enemy Use.

- Explosives and Demolitions..... FM 5-25
- Ordnance Service in the Field..... FM 9-5

d. General.

- Common Classification Code..... AR 711-50
- Inspection of Ordnance Materiel in the Hands of Troops..... TM 9-1100
- Reports of Malfunctions and Accidents..... SR 700-45-6
 - Involving Ammunition and Explosives
 - (During Training or Combat).
- Unsatisfactory Equipment Report..... AR 700-38
 - (Reports Control Symbol CSGLD-247 (R2)).
- Accident Reporting SR 385-10-40

e. Operation.

- Shotguns, All Types..... TM 9-285

f. Repair.

- Cleaning and Black Finishing of Ferrous Metals..... TM 9-1861
- Instruction Guide: Welding Theory and Application..... TM 9-2852
- Lubrication TM 9-2835

Maintenance Responsibilities and Shop Operation.....	AR 750-5
Ordnance Maintenance and General Supply in the Field.....	FM 9-10
Ordnance Maintenance: Materials Used for Cleaning,.....	TM 9-1007
Preserving, Abrading, and Cementing Ordnance	
Materiel and Related Materials Including	
Chemicals, Lubricants, Indicators, and	
Hydraulic Fluids.	
Repair and Replacement of Parts for.....	SB 9-117
Commercial Shotguns.	
<i>g. Shipment and Storage.</i>	
Army Shipping Document.....	TM 38-705
Instruction Guide: Ordnance Preservation, Packaging,.....	TM 9-1005
Packing, Storage and Shipping.	
Report of Damaged or Improper Shipment.....	AR 700-58
Marking of Oversea Supply.....	SR 746-30-5
Ordnance Storage and Shipment Chart, Group B.....	TB 9-OSSC-B
Major Items and Major Combinations of Group B.	
Packaging of Small Arms Materiel With Volatile.....	TB ORD 623
Corrosion Indicator (VCI).	
Preservation, Packaging, and Packing of Military.....	TM 38-230
Supplies and Equipment.	

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By Order of *Wilber M. Brucker*, Secretary of the Army:

MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

Official:

HERBERT M. JONES,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

CNGB	Br Svc Sch
ASA	PMST Sr Div Ord Units
Technical Svc, DA	Ord Ammo Comd
Ord Bd	Gen Depots
USCONARC	Ord Sec, Gen Depots
USARADCOM	Ord Depots
OS Maj Comd	Port of Emb (OS)
OS Base Comd	Trans Terminal Comd
Log Comd	Army Terminals
MDW	OS Sup Agencies
Armies	Ord PG
Corps	Ord Arsenal
Div	Mil Dist
Ord Gp	Ord Proc Dist
Ord Bn	MAAG
Ord Co	Mil Mis
Ft & Camps	JBUSMC
Svc Colleges	JUSMAG (Greece)
	Fld Comd, AFSWP

NG: State AG; Units—Same as Active Army.

USAR: None.

For explanation of abbreviations used, see AR 320-50.