

Technical Manual
No. 9-1005-211-34

HEADQUARTERS,
DEPARTMENT OF THE ARMY
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PISTOL, CALIBER .45, AUTOMATIC, M1911A1

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. scope

a. This manual is published for the information and guidance of personnel responsible for direct and general support maintenance of the caliber .45 automatic pistol M1911A1. It contains information on maintenance which is beyond the scope of tools, equipment, or supplies normally available to using organizations.

b. This manual contains a description of and procedures for disassembly, inspection, repair and assembly of the caliber .45 automatic pistol M1911A1. The appendix contains a list of current references, including supply manuals, technical manuals and other available publications applicable to the materiel. The maintenance allocation charts are contained in TM 9-1005-211-12P/2. TM 9-1005-211-35P contains a list of repair parts and special tools.

c. TM 9-1005-211-12P/2 contains a listing of operator and organizational maintenance repair parts and special tools.

d. Lubricating instructions for the materiel are contained in paragraph 23 of this manual.

e. The direct reporting of errors, omissions and recommendations for improving this equipment manual by the individual user, is authorized and encouraged. DA Form 2028 will be used for reporting these improvements. This form may be completed using pencil, pen or typewriter. DA Form 2028 will be completed by the individual using the manual and forwarded direct to:

Commanding General
Headquarters
U. S. Army Weapons Command
ATTN: AMSWE-SMM-P
Rock Island Arsenal
Rook Island, Illinois 61202

f. This manual differs from TM 9-2951-1 dated 19 July 1957 as follows:

(1) Adds pertinent information on:

- Barrel and slide group
 - Receiver group
 - Cartridge magazine
 - Troubleshooting
 - Trigger pull test
 - Trigger pull correction
 - Hand function test.
- (2) Revises information on:
- Special tools and equipment
 - Improvised tools
 - Direct and general support maintenance.
- (3) Deletes specific maintenance instructions for caliber .45 automatic pistol M1911.

2. Direct and General Support Maintenance Allocation

The publication of instructions for complete disassembly is not to be construed as authority for the performance by direct and general support maintenance units of those functions which are restricted to depots and arsenals. In general, the prescribed maintenance responsibilities will be reflected in the maintenance allocation chart in TM 9-1005-211-12P/2. Supply of parts listed in the depot guide column of TM 9-1005-211-35P will be made direct and general support maintenance only when the emergency nature of 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 their compilation, maintenance, and use. Records, 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.

b. Authorized Forms. The forms generally applicable to units maintaining this materiel are listed in the appendix. For a listing of these forms, refer to DA Pam 310-2. For instructions on use of these forms, refer to TM 38-750.

c. Field Reports of Accidents.

- (1) **Injury to personnel or damage to materiel.** The reports necessary to comply with requirements of the Army safety program are prescribed in detail in AR 385-40. 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 immediately be discontinued. In addition to any applicable reports required in (1) above, details of the accident or malfunction will be reported as prescribed in AR 700-1300-E.

d. Report of Unsatisfactory Equipment or Materials. Any deficiencies detected in the equipment covered herein which occur under the circumstances indicated in AR 750-5 should be reported immediately in accordance with applicable instructions in cited regulations.

e. Equipment Improvement Recommendations. Deficiencies detected in the equipment or materials should be reported using the Equipment Improvement Recommendation section of DA Form 2407.

Section II. DESCRIPTION AND DATA

4. Description

a. The caliber .45 automatic pistol, M1911A1 (figs. 1 and 2) is a recoil-operated, magazine-fed, self-loading hand weapon. It contains an inertia-type firing pin that makes it impossible for the firing pin to discharge or touch the primer, except on receiving the impact of the hammer. The action of the recoil spring forces the slide forward, feeding a live cartridge from the magazine into the chamber. The weapon is now ready to fire again.

b. The pistol is designed to fire caliber .45 cartridge ball ammunition and the magazine holds seven cartridges. The upper cartridge is stripped from the magazine and forced into the chamber by the forward motion of the slide. The pistol will fire once at each squeeze of the trigger and when the last cartridge, in the magazine, has been fired the slide remains open. The rate of fire is limited only by the ability of the operator to insert the magazine and to squeeze the trigger.

C. The M1911 pistols still available in

the field will be maintained using M1911A1 repair parts.

d. For convenience of maintenance and replacement of repair parts, the M1911A1 pistol is divided into groups and components as indicated in figure 3.

5. Tabulated Data

a. Weights.

Weight of pistol with magazine (empty) 2.437 lb
Weight of loaded magazine with 7 rounds (approximate). 0.481 lb
Weight of empty magazine. 0.156 lb

b. Trigger Pull.

Pistols, new or repaired 5 to 6-1/2 lb

c. Barrels.

Diameter of bore. 0.45 in.
Number of grooves 6
Length of barrel 5.03 in.
Length of rifling (min.) 4.118 in.

Rifling, L.H. one turn in 16 in.
Depth of grooves 0.003 in.

d. Pistol, General.

Length (overall) 8-5/8 in.
Cooling system air
Height of front sight above
axis of **bore** **0.5597** in.
Sight radius 6.481 in.

e. Ballistics.

Chamber pressure
(maximum) 17,000 psi
Muzzle velocity
(maximum) 830 fps
Maximum range 1500 meters
Maximum effective
range 50 meters



ORD F2020

Figure 1. Caliber .45 automatic pistol M1911A1 - right front view.

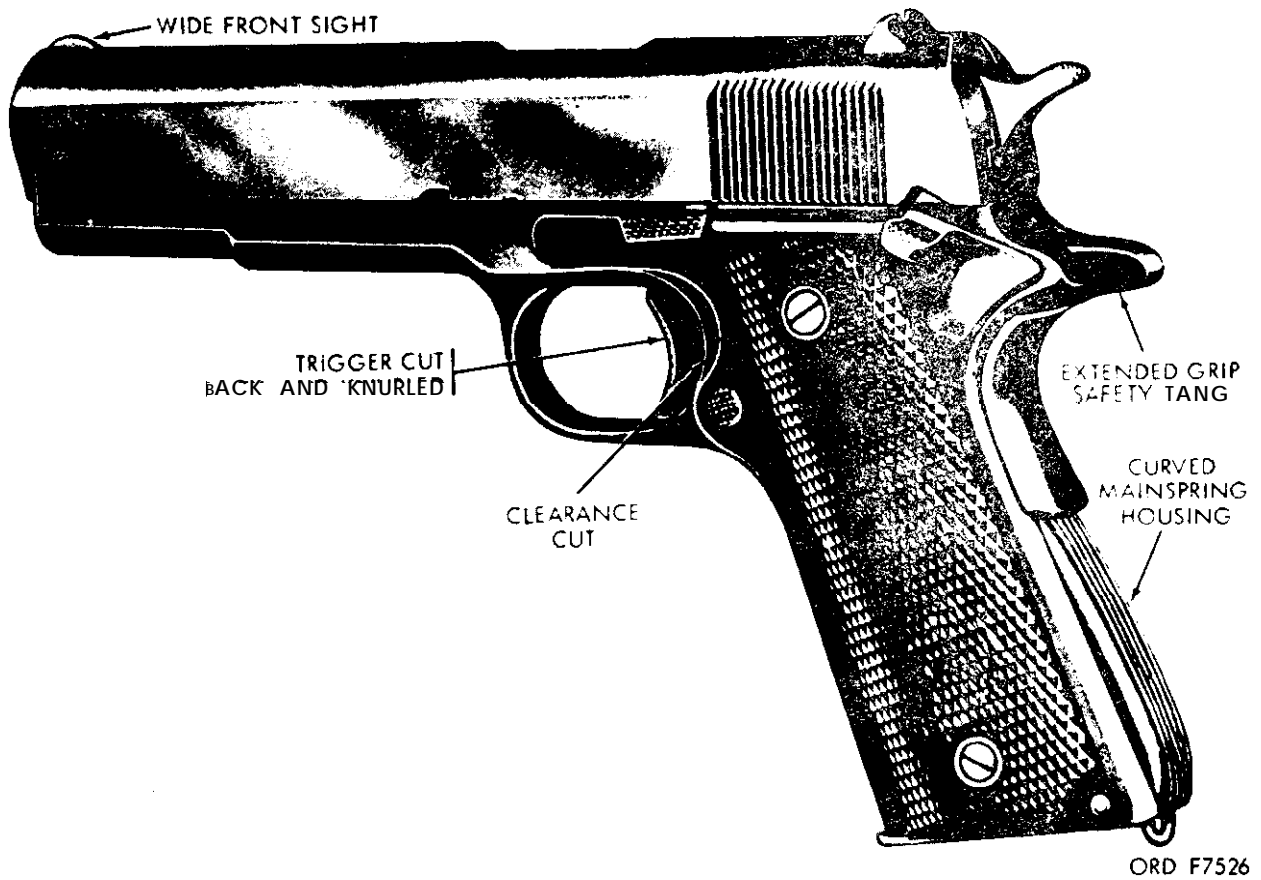


Figure 2. Caliber .45 automatic pistol M1911A1 -- left rear view.

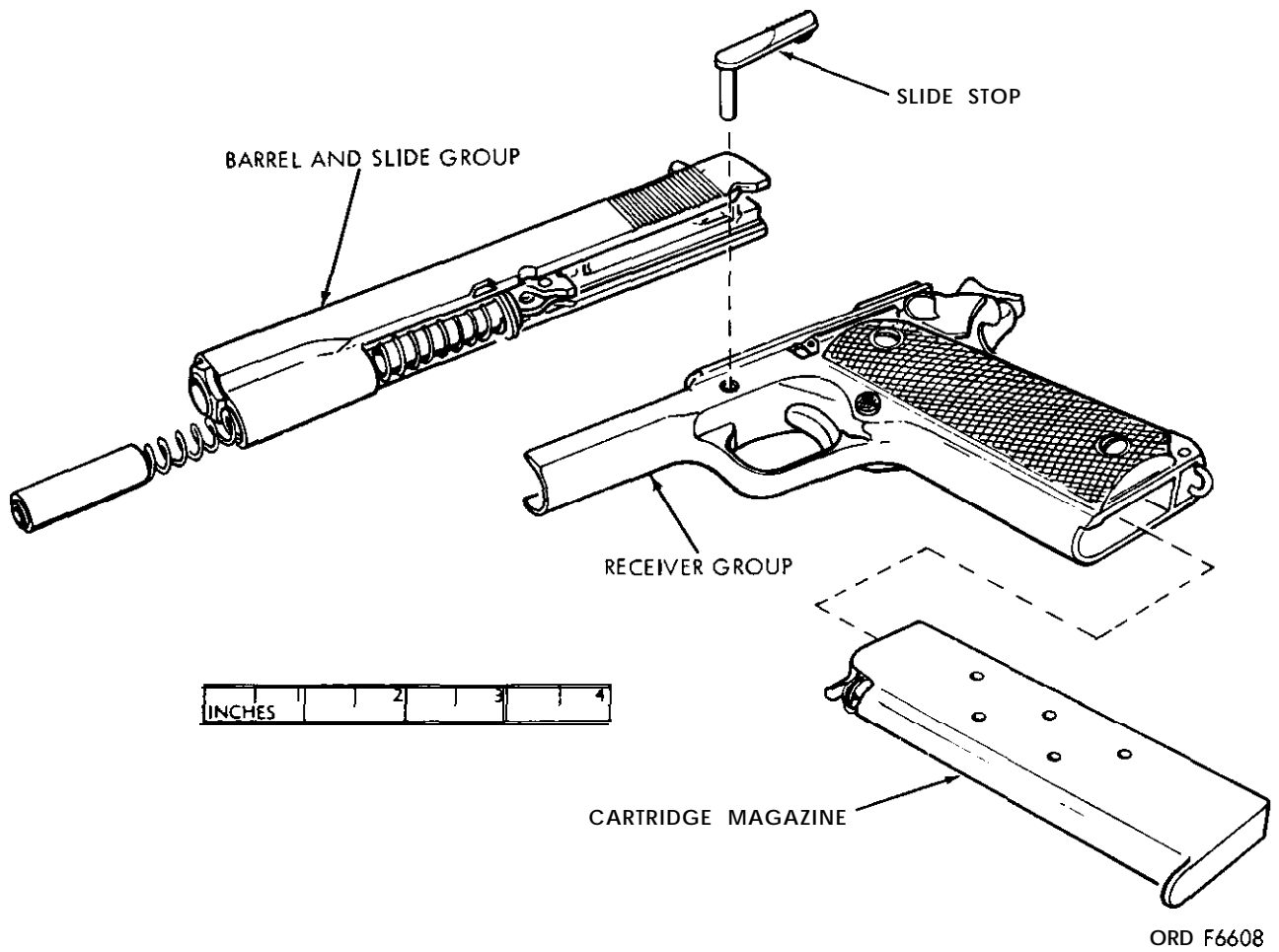


Figure 3. Caliber .45 automatic pistol M1911A1- exploded view.

CHAPTER 2

PARTS, SPECIAL TOOLS, AND EQUIPMENT

6. General

Tools and equipment and maintenance parts over and above those available to the using organization are supplied to direct and general support maintenance units for maintaining and repairing the materiel.

7. Maintenance Ports

Maintenance parts are listed in TM 9-1005-211-35P, which is the authority for requisitioning replacements.

8. Common Tools and Equipment

Standard and commonly used tools and equipment having general application to this materiel are authorized for issue by tables of allowances and tables of organization and equipment.

9. Special Tools and Equipment

Special tools and equipment (table 1) and tool sets or hits are listed in and authorized for issue in TM 9-1005-211-35P. This tabulation contains only those special tools and equipment necessary to perform the operations described in this technical manual, is included for information only, and is not to be used as a basis for requisitions.

Table 1. Special Tools and Equipment

Item	Identifying No.	Reference		Use
		Fig.	Para.	
BRUSH, CLEANING, SMALL ARMS: M5 bore.	5504036	4	19b	To clean barrel bore and chamber.
FIXTURE, MEASURING, TRIGGER PULL:	7274758	5, 36	400	To check trigger pull.

Item	Identifying No.	Reference		Use
		Fig.	Para.	
HOLSTER, PISTOL: M1916, hip (black).	7791466	6	-	To carry pistol on right hip.
ROISTER, PISTOL: M7, shoulder (black).	7791527	6	-	To carry pistol under left arm.
ROD, CLEANING, SMALL ARMS: cal..45, M4.	5564102	4	19b	Used with brush 5504036 to clean barrel bore and chamber.

10. Improvised Tools

The list of improvised tools in table 2 applies only to personnel performing direct and general support maintenance on the pistol. Illustrations giving dimensioned details are included to enable personnel to fabricate the tools if desired. The chief value of these tools is for maintenance personnel engaged in repairing a large number of weapons. The following data is for information only.

Table 2. Improvised Tools

Item	Reference		Use
	Fig.	Para.	
FIXTURE, riveting front sight.	7, 8, 21	32j	To rivet front sight in place on the slide.
TOOL, staking bushing.	9, 32	37b	To stake bushing in receiver.
TOOL, staking plunger tube.	10, 31	37b	To stake plunger tube in receiver.

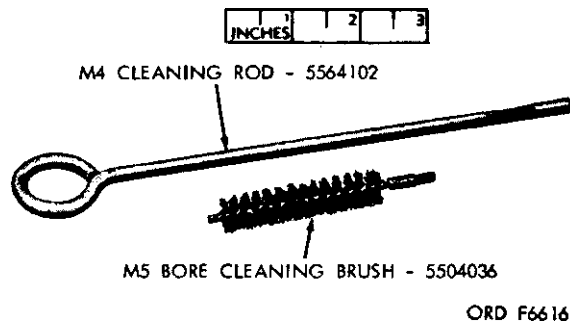


Figure 4. Special tools and equipment.

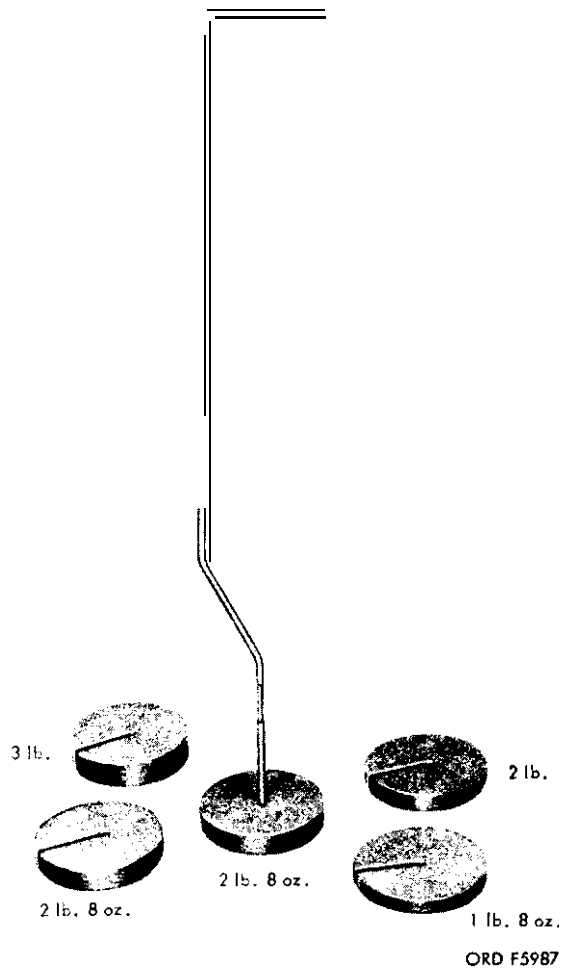


Figure 5. Trigger pull measuring fixture 7274758.

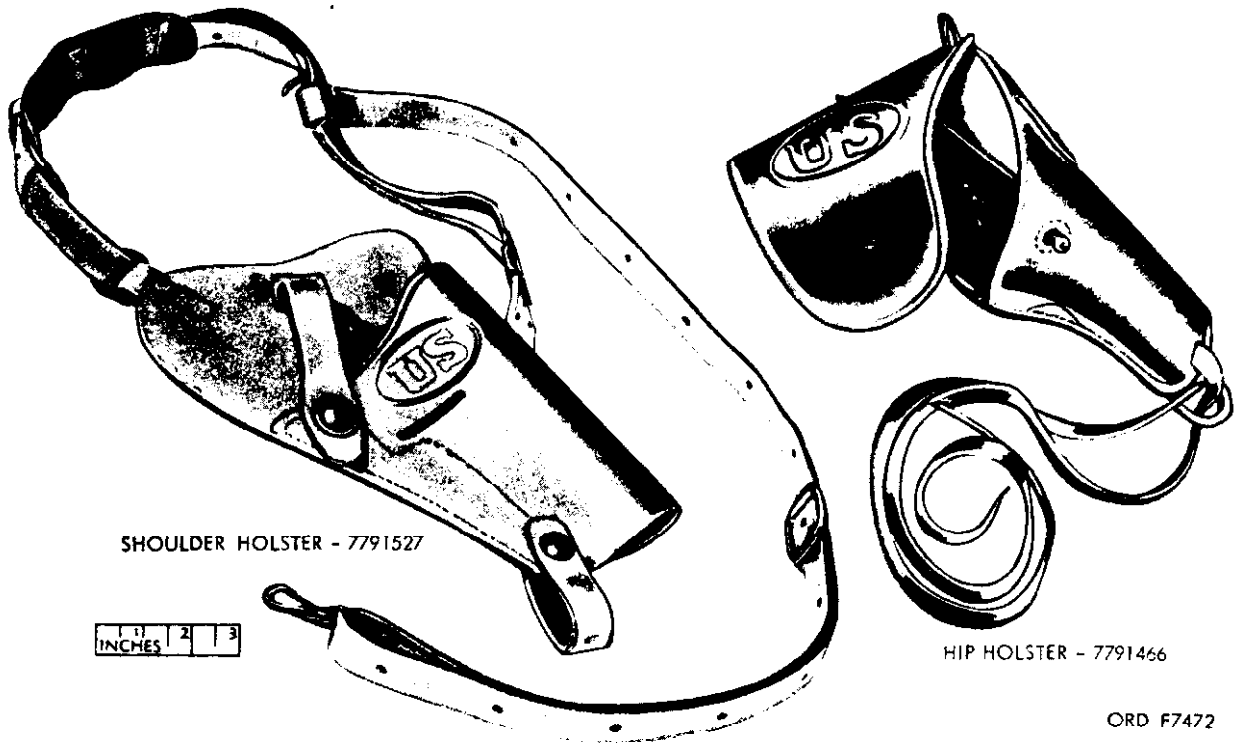
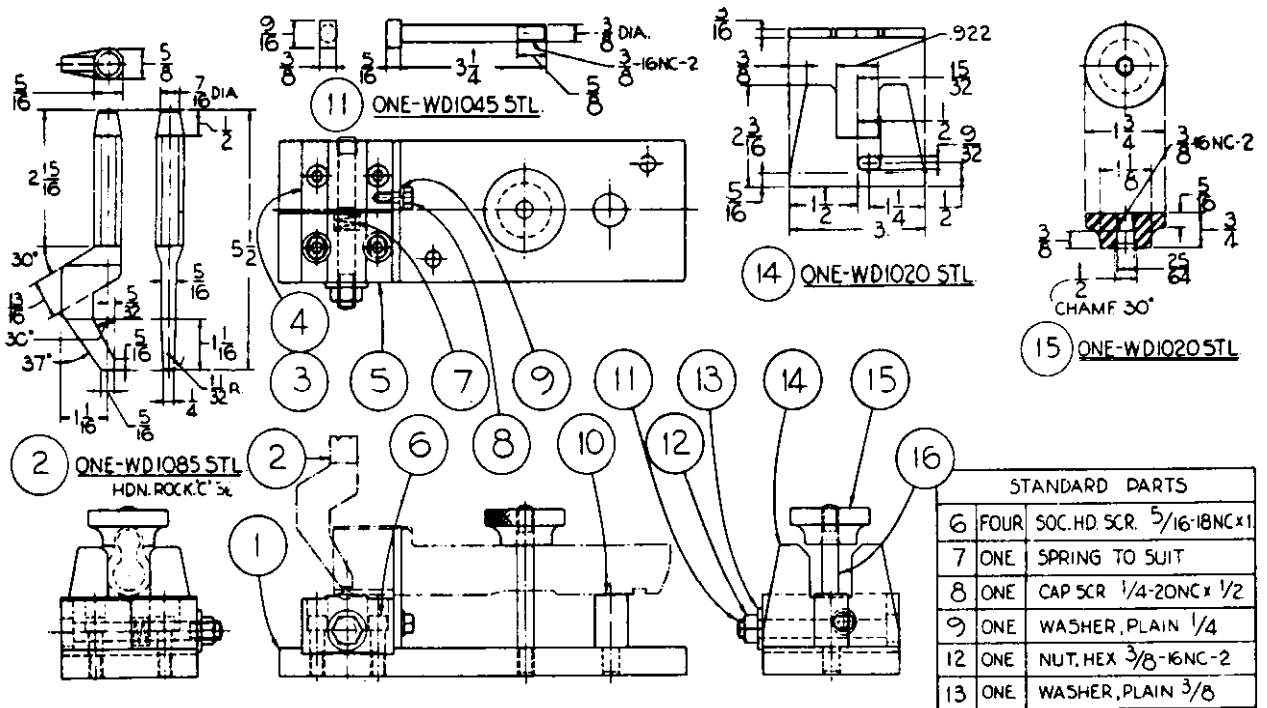


Figure 6. Hip and shoulder holsters.



STANDARD PARTS	
6	FOUR SOC. HD. SCR. 5/16-18NCx1
7	ONE SPRING TO SUIT
8	ONE CAP SCR 1/4-20NCx 1/2
9	ONE WASHER, PLAIN 1/4
12	ONE NUT, HEX 3/8-16NC-2
13	ONE WASHER, PLAIN 3/8

SHEET 1 OF 2

RA PD 91773

Figure 7. Improved fixture for riveting front sight (1 of 2).

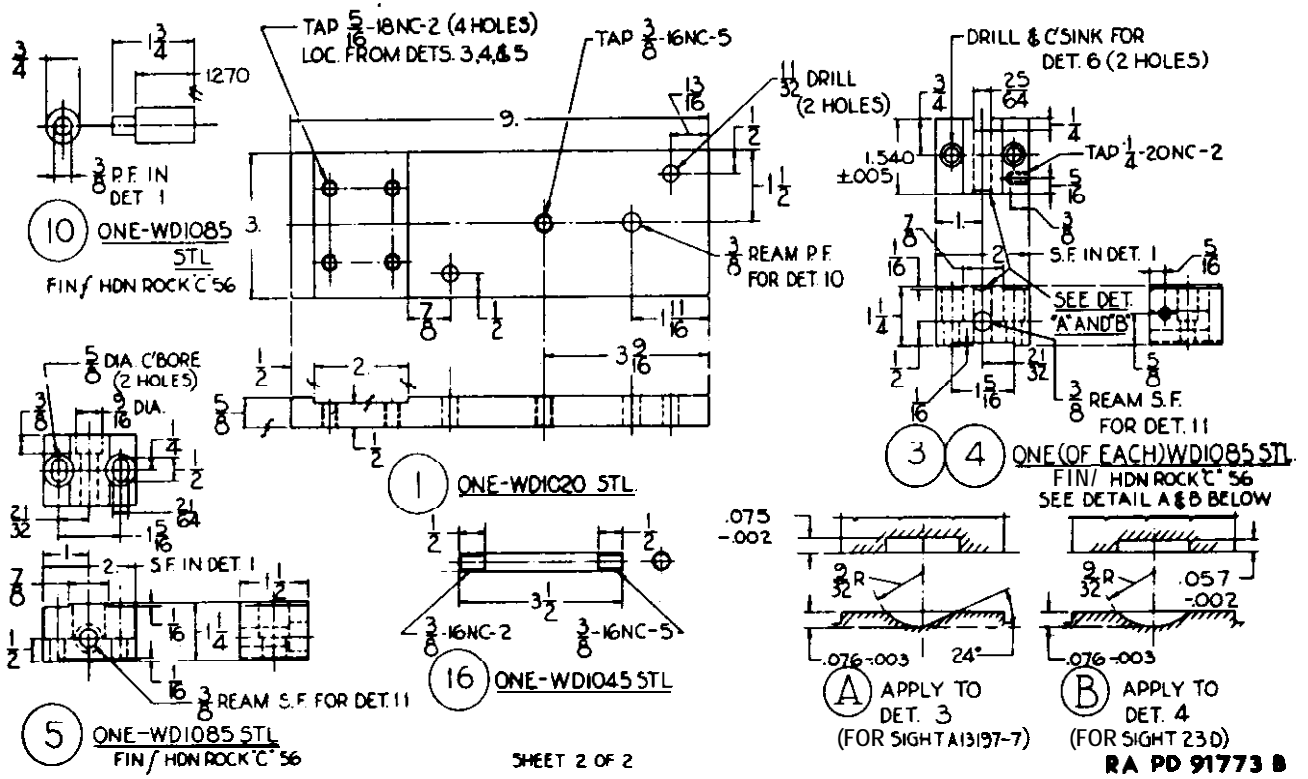


Figure 8. Improved fixture for riveting front sight (2 of 2).

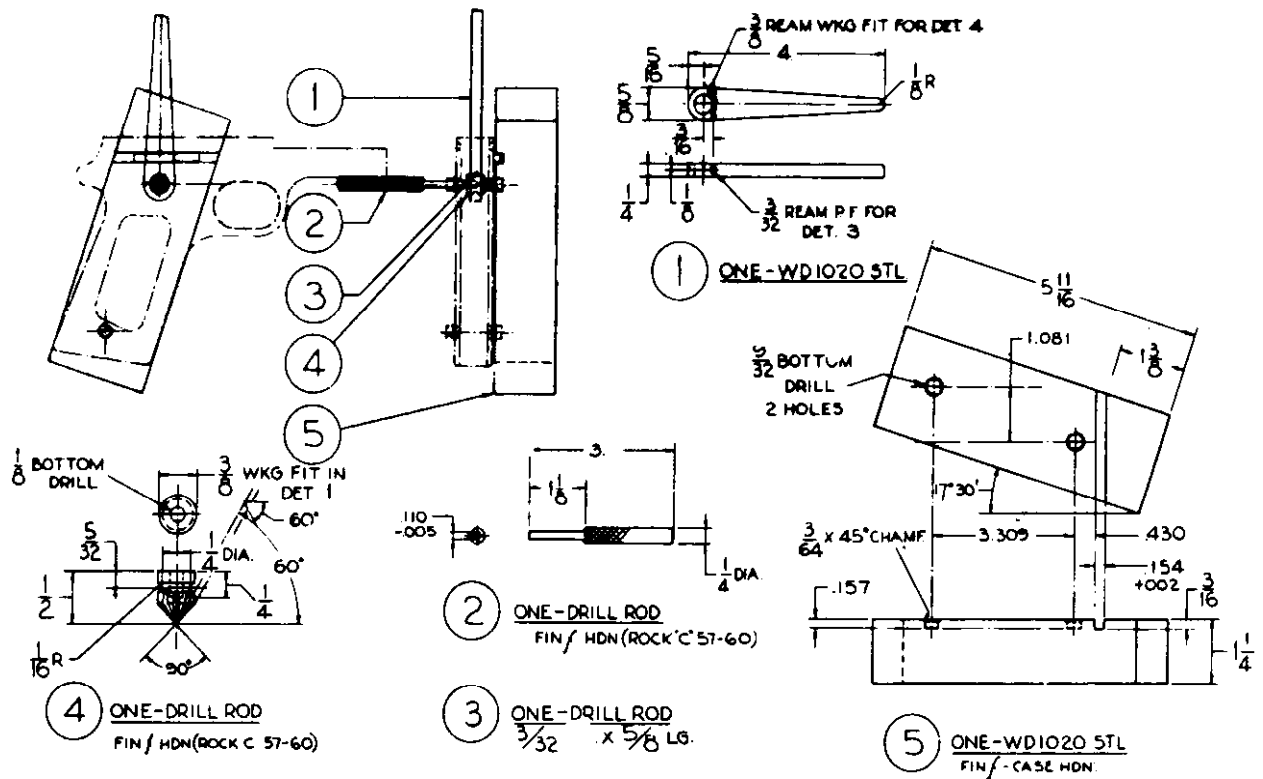


Figure 9. Improved tool for staking bushing.

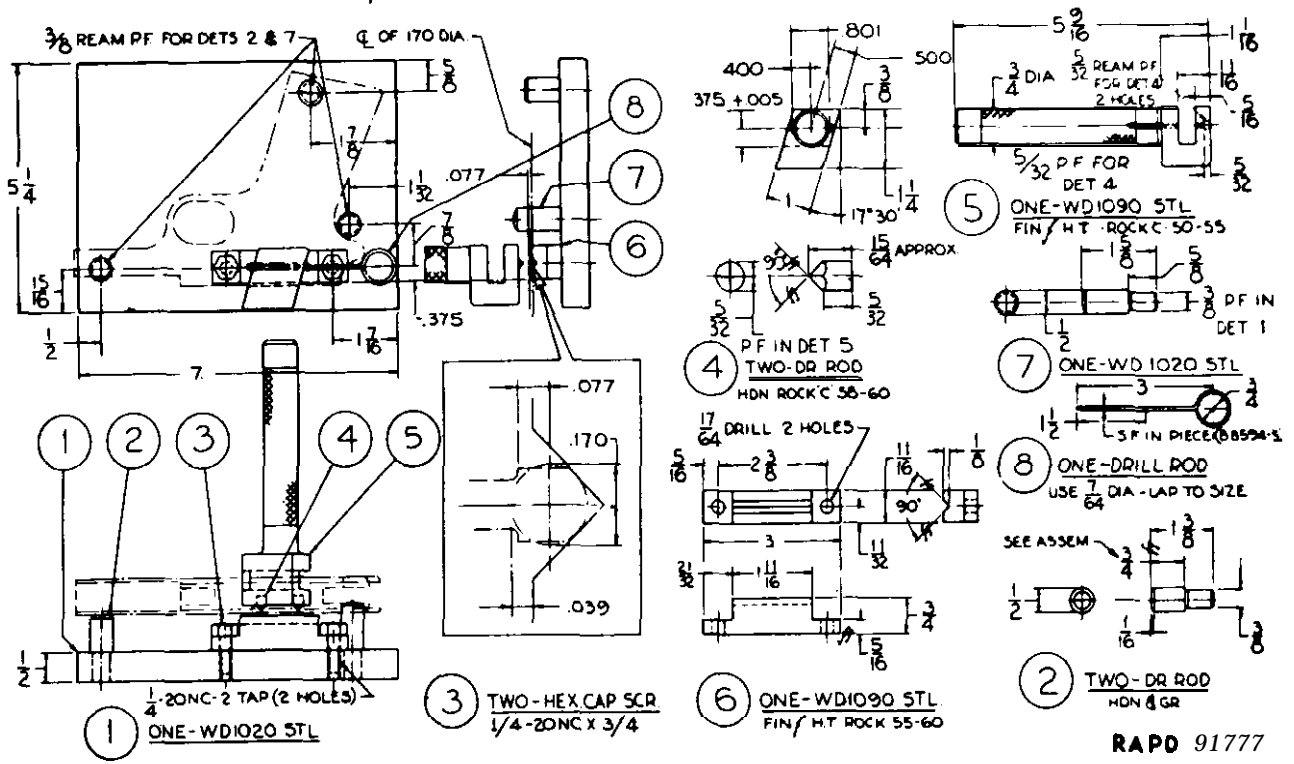


Figure 10. Improvised tool /or slaking plunger tube.

CHAPTER 3

INSPECTIONS

Section I. GENERAL

11. Scope

This chapter provides specific instructions for the inspection by maintenance personnel of materiel in the hands of troops in the field, in Ordnance shops, and in alerted units scheduled for overseas duty. Troubleshooting information is incorporated wherever applicable as a normal phase of inspection.

12. Purpose of Inspection

Inspections are made for the purpose 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.

13. Categories of Inspection

In general, three categories of inspection are performed by direct and general support maintenance personnel.

a. *Inspection of Materiel in the Hands of Troops.*

- (1) **Spot check inspection.** This is an inspection performed on a percentage of materiel in order to ascertain the adequacy and effectiveness of organizational maintenance and supply. Included within this scope is inspection of equipment to detect incipient failures before un-serviceability occurs; inspection to ascertain the availability and use of technical and supply manuals and lubrication orders; inspection to determine the accuracy of records, authorized levels of equipment and supplies, practice of supply economy, preservation and safekeeping of tools, availability of repair parts and supplies, and knowledge

of the proper procedures for requisitioning supplies and equipment and follow-up thereon.

- (2) **Command maintenance.** Command maintenance inspections will be performed, at least, annually. The purpose of the inspection is to ascertain the serviceability of equipment, to predict maintenance and supply requirements, and to determine the adequacy of facilities and effectiveness of procedures. Information obtained during the inspection should indicate future requirements for depot maintenance and for replacement, as well as disclose immediate needs for maintenance and application of modification work orders. During inspection, correction of deficiencies will be made on the spot when practical. For additional information relative to these inspections and the forms to be used therewith, refer to AR 750-E.

b. *Ordnance Shop Inspection.*

- (1) **Initial inspection.** This is an inspection of materiel received in Ordnance shops for the purpose of determining the degree of repair and parts requirement. This includes determination of modification work orders to be applied.
- (2) **In-process inspection.** This is performed in the process of repairing the materiel, to insure that all parts conform to the prescribed repair standards, that the workmanship is in accordance with approved methods and procedures, and that deficiencies not disclosed by the initial inspection are found and corrected.
- (3) **Final inspection.** This is an acceptance inspection performed by

a final inspector after repair has been completed, to insure that the materiel is acceptable for return to user or storage.

c. Preembarkation Inspection of Materiel in Units Alerted for Oversea Movement. 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**.

Section II. INSPECTION PROCEDURES

14. General

Warning: Before starting an inspection, be sure to clear the weapon. Do not actuate 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 work area.

a. 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.

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

15. Inspection of Materiel in the Hands of Troops

a. General. Refer to AR 750-8 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 inspection, the inspector will accomplish the following:

(1) 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 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.

- (2) 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.
- (3) See that all authorized modifications have been applied, that no unauthorized alterations have been made, and that no work beyond the authorized scope of the unit is being attempted. Check the index in DA Pam 310-4 and the current MWO files for any MWO's printed after this publication.
- (4) Instruct the using personnel in proper preventive-maintenance procedures where found inadequate.
- (5) Check on completeness of the organizational maintenance allowances and procedures for obtaining replenishment.
- (6) Check serial number stamped on weapon for legibility.
- (7) Note general appearance. Check exterior of materiel for missing or broken parts.
- (8) Check storage conditions of general supplies and ammunition.
- (9) Initiate a thorough report on materiel on "deadline", with reasons

therefore, for further appropriate action.

- (10) Report to the responsible officer any carelessness, negligence, unauthorized modification, or tampering. This report should be accompanied by recommendations for correcting the unsatisfactory condition.

b. Specific. The specific groups and assemblies to be inspected for serviceability are listed in TB ORD 587 and also are applicable to preembarkation inspection.

c. Safety Tests. Perform the following safety tests as indicated in (1) through (4) below.

- (1) **Safety test (fig. 11).** With the pistol unloaded, cock the hammer and press the safety upward into the safe (locked) position. Grasp the grip so the grip safety is depressed and squeeze the trigger tightly three or four times. If the hammer falls, the safety must be replaced.
- (2) **Grip safety test (fig. 12).** With the pistol unloaded, cock the hammer and without depressing the grip safety point the pistol downward and squeeze the trigger three or four times. If the hammer falls because the grip safety is depressed by its own weight, the grip safety may be corrected by replacing sear spring.
- (3) **Half-cock position test (fig. 13 and 14).** With the pistol unloaded, draw

back the hammer until the sear engages the half-cock position notch. Then squeeze the trigger. If the hammer falls, the hammer or sear must be replaced or repaired. Draw the hammer back nearly to full cock, and then let thumb slip off hammer. The hammer **should fall only to the half-cock notch.** Replace hammer when it falls past the half-cock position.

- (4) **Disconnecter test.**

- (a) With the pistol unloaded, cock the hammer. Push the slide group 1/4-inch to the rear (fig. 15) and hold in that position while squeezing trigger. Let slide group go

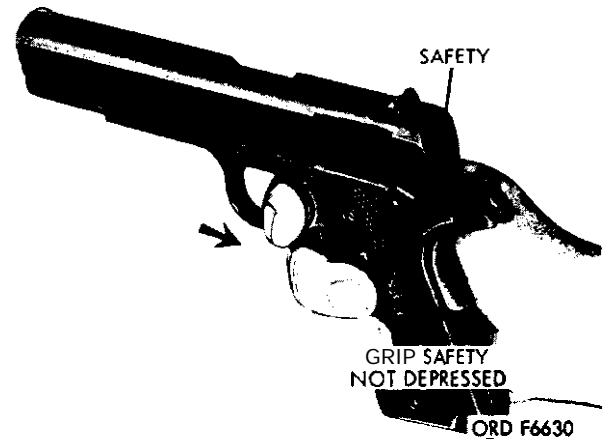


Figure 12. Grip safety test.

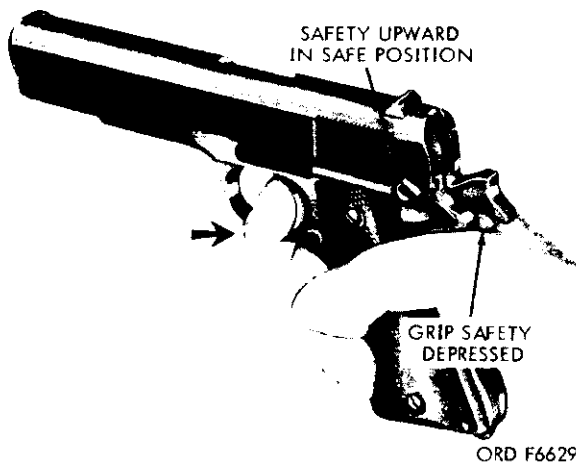


Figure 11. Safety test.

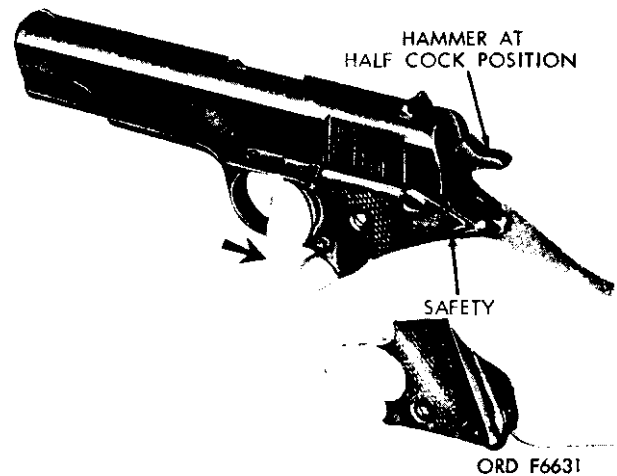


Figure 13. Half-cock position test (1 of 2).

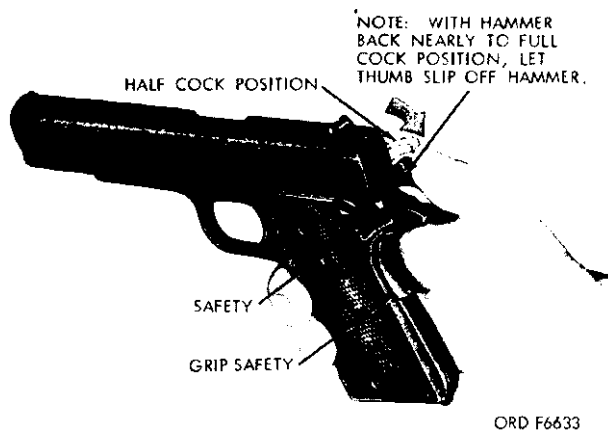


Figure 14. Half-cock position test (2 of 2).

forward, maintaining pressure on trigger. If the hammer falls, the disconnecter is worn and must be replaced.

- (b) Pull the slide group rearward until slide stop is engaged (fig. 15). Squeeze trigger and release slide group simultaneously. The hammer should not fall. If it does, replace the disconnecter.
- (c) Release the pressure on the trigger and then squeeze it. The hammer should then fall (fig. 15).

If it does not fall, check the sear spring for weakness. Also check for a faulty disconnecter which would prevent hammer from falling. The disconnecter should prevent the release of the hammer unless the slide group is in forward position, safely interlocked. This also prevents the firing of more than one shot at each squeeze of trigger.

16. Ordnance Shop Inspections

a. Initial Inspection. Inspection procedures outlined in paragraphs 14 and 15 apply also to initial shop inspection. If materiel received in shops is not tagged to indicate the nature of the repair, steps should be taken to determine the cause of unserviceability and the estimate of parts required.

b. Troubleshooting. Table 3 lists malfunctions, probable causes, and corrective actions. For troubleshooting within the scope of operator and organizational maintenance, refer to pertinent operator's and organizational maintenance manuals, covering materiel contained herein.

Table 3. Troubleshooting

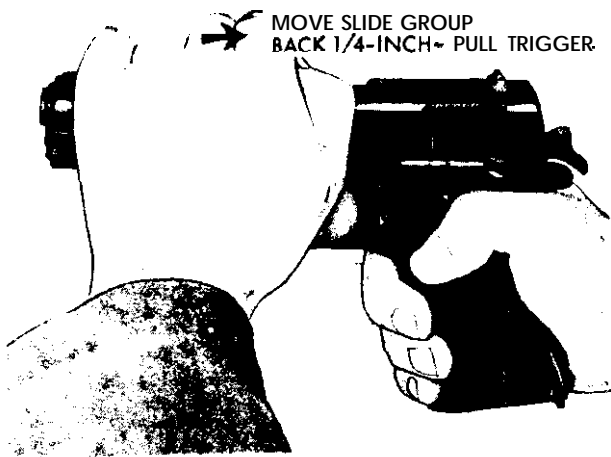
Malfunction	Probable cause	Corrective Action
FAILURE TO FEED. The top cartridge in the magazine is not properly positioned.	Dirty or dented magazine -- Weak or broken magazine spring. Worn or broken magazine catch. Improper assembly, magazine spring backwards.	Clean magazine if dirty. Replace magazine if dented. (para. 25, fig. 16). Replace magazine. (para. 25, fig. 16). Replace magazine catch. (para. 370, fig. 30). Assemble spring correctly. (para. 27).
FAILURE TO CHAMBER.	Bent magazine follower---- (Obstruction or dirty chamber. Weak recoil spring -----	Replace magazine. (para. 25, fig. 16). Clean chamber. (para. 19b). Replace recoil spring. (para. 32 f, fig. 18).
FAILURE TO LOCK. The barrel locking ribs do not interlock with the locking recesses in the slide.	Lack of lubrication of operating parts. Burred or dirty barrel locking ribs or locking recesses. Weak recoil spring -----	Apply oil to parts, lightly. (para. 23b). Stone rough edges, clean barrel locking ribs. (para. 32a). Replace recoil spring. (para. 32f, fig. 18).
FAILURE TO FIRE. The hammer falls but the primer of the cartridge is not ignited.	Broken barrel link----- Broken firing pin ----- Bent or broken hammer strut.	Replace link. (para. 32d, fig. 19). Replace firing pin. (para. 32e, fig. 20). Replace strut. (para. 37e, fig. 27).

Table 3. Troubleshooting – Continued

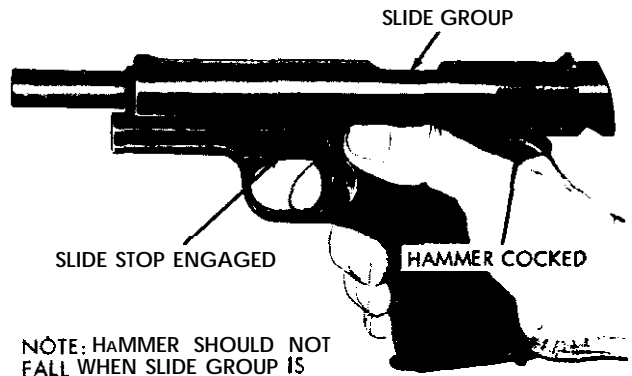
Malfunction	Probable cause	Corrective Action
<p>FAILURE TO UNLOCK. The barrel locking ribs do not disengage from the recesses in the slide.</p> <p>FAILURE TO EXTRACT. The cartridge case is not removed from the chamber.</p> <p>FAILURE TO EJECT. The cartridge case is not ejected from the pistol.</p> <p>FAILURE TO COCK.</p> <p>MISCELLANEOUS. Two shots or more fired in succession by one trigger squeeze. Hammer jumps out or fails to cock.</p>	Weak mainspring -----	Replace mainspring. (para. 37k, fig. 28).
	Broken barrel link-----	Replace barrel link. (para. 32d, fig. 20).
	Broke,, pin-----	Replace pin. (para. 32d, fig. 20).
	Broke,, barrel link lugs---	Replace barrel. (para. 32b, fig. 20).
	Broken or worn extractor---	Replace extractor. (para. 32g, fig. 20).
	Dirty or pitted chamber ---	Clean chamber if pitting in chamber is excessive. Replace barrel. (para. 32b, fig. 20).
	Faulty extractor, does not position the cartridge case for ejection.	Replace extractor. (para. 32g, fig. 20).
	Broke,, ejector -----	Replace ejector. (para. 37b, fig. 32).
	Worn cock notch-----	Replace hammer. (para. 37d, fig. 23).
	Worn sear -----	Replace sear. (para. 37f, fig. 30).
Defective sear spring ----	Replace spring. (para. 37g, fig. 29).	
Worn or broken disconnecter,	Replace disconnecter. (para. 31h, fig. 30).	
Worn cock notch-----	Replace hammer. (para. 37d, fig. 29).	
	Hammer and sear pin assembled from wrong side of receiver.	Assembly hammer and sear pin correctly. (para. 33, figs. 23 and 29).

c. In-Process Inspection. Detailed instructions for in-process inspection of the materiel are contained in the repair chapter together with applicable repair instructions.

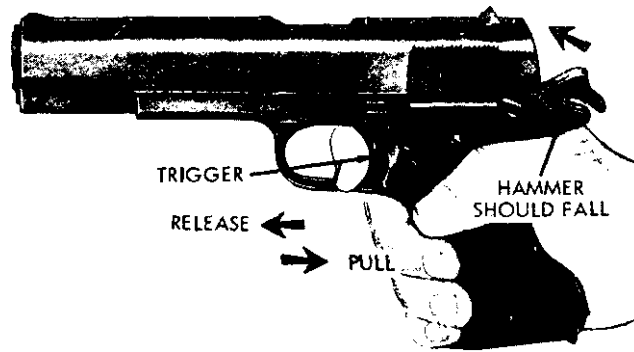
d. Final Inspection. Detailed instructions for final inspection of materiel in direct and general support maintenance shops are contained in chapter 6.



POSITIONING SLIDE GROUP TO DETERMINE IF
DISCONNECTOR IS WORN.



SLIDE GROUP IN REARWARD POSITION, PREPARING TO
RELEASE SLIDE STOP.



SLIDE GROUP IN FORWARD POSITION PRIOR TO TESTING
HAMMER.

ORD F7630

Figure 15. Disconnector test.

CHAPTER 4

GENERAL MAINTENANCE

17. General

This chapter provides the **necessary instructions** on the general maintenance procedures to follow. The **following methods** and procedures given in this chapter are to be carefully observed during repair operations. This chapter includes the disassembly and assembly procedures, replacement of parts, use of tools, cleaning, **finished** surfaces, removal of **burs**, and **instructions** on lubrication.

18. General Repair Methods

a. Disassembly and Assembly Procedures.

- (1) In disassembling a unit, remove the major subassemblies and assemblies whenever possible. Subassemblies may be disassembled, as necessary, into **individual** parts.
- (2) During assembly, subassemblies should be assembled first, then installed to form a complete unit. Lubricate all component parts lightly before assembling.
- (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 and assembly operations to a **minimum**.

b. Replacement of Parts.

- (1) When assembling a unit, replace all pins when necessary. Replace grip screws or bushings when damaged.
- (2) All springs will be replaced if they are broken, bent, cracked or if they fail to **function** properly.
- (3) **If** a required new part is not available, a reconditioned used part may be substituted. Such reconditioned used parts will be examined carefully to determine their serviceability.

c. Use of Tools

- (1) Care must be exercised to use tools that fit and are suitable for the task to be performed in order to avoid unnecessary mutilation of parts and/or damage to tools.
- (2) Special tools are listed in **table 1** and are provided for the **maintenance** of the materiel. These tools will be used only for the purpose for which they are intended.
- (3) Keep tools clean and work with clean parts. Normal rules of good housekeeping must be observed.

19. Cleaning

a. As assemblies are removed and disassembled, component items should be placed in a wire basket and cleaned thoroughly of all grease, oil, water and dirt, using dry cleaning solvent (SD). Dry thoroughly with clean wiping cloths and oil lightly using general purpose lubricating oil (PL special).

b. Clean the barrel bore, chamber, and all parts that come in contact with powder residues, using solvent cleaning compound (PD 126). Cleaning rod **M4**, 5564102 (fig. 4) and small arms cleaning brush **M5**, 5504036 (fig. 4) are used to clean the barrel bore. Saturate brush with PD 126 and run through barrel. Remove brush, clean the rod, insert two swabs in slot of rod and dry the bore thoroughly or until swabs appear clean after running through bore. Then use one swab saturated with PL special to oil inside of bore lightly and **all** exterior surfaces to prevent corrosion or rust.

c. On those component parts **which** contain a hard carbon residue, it may be necessary to clean these parts with carbon removing compound (P-C-111A). Cleaning instructions are **as** follows:

Warning: Avoid **skin** contact. The compound should be washed off thoroughly with running water if it comes **in** contact with

the skin. A good lanolin base cream, after exposure to compound, is helpful. The use of gloves and protective equipment is recommended.

- (1) Using a suitable container, fill with fresh compound.
- (2) Before soaking components remove loose grease; dirt and oil from parts as indicated in paragraph 19a. Immerse parts, containing carbon residue, in container.
- (3) Allow barrel to soak for 2 hours or until all traces of carbon have been removed.
- (4) Rinse with water, kerosene, or solvent. To effectively remove carbon, brush with a stiff bristle brush under running water.
- (5) Wipe the parts dry and oil.

Note: P-C-111A is considered a supplement for use in direct end general support maintenance levels only in extreme cases and not as a substitute for PD 126.

d. Clean receiver, using dry cleaning solvent (SD).

e. On components that contain an accumulation of light rust, use a clean cloth moistened with PD 126. If this does not suffice, use crocus cloth. Make certain it does not scratch or alter the finished surfaces. Remove all dirt and abrasives; oil surfaces before assembling parts.

f. **New** material and component parts, received from storage for immediate use, may have heavy accumulations of grease. Place material or components in wire basket and lower in vapor degreasing vat or wash in dry cleaning solvent (SD). Dry thoroughly as indicated in paragraph 19a and oil. Lubricate as specified in paragraph 23b.

g. For cleaning instructions of Ordnance materiel, refer to TM 9-208-1.

20. General Precautions in Cleaning

a. Dry cleaning solvent (SD) is flammable and should not be used near an open flame. Fire extinguishers should be readily available when using these materials. In addition, they evaporate quickly and have a drying effect on the skin. When used without rubber gloves, they may cause

cracks in the skin, and in the case of some individuals, a mild irritation or inflammation. Use only in well-ventilated places.

b. The use of diesel fuel oil, gasoline or benzene (benzol) for cleaning the weapon is prohibited.

c. Store solvent cleaning compound (PD 126) in a warm place, if practical. Do not dilute or add antifreeze.

Note: Sandblasting is permissible on nonworking surfaces for removal of dirt and rust.

21. Finished Surfaces

a. All treated surfaces will be refinished to match the appearance of new parts.

b. For detailed information on finished surfaces, refer to TM 9-1861.

22. Removal of Burs, Screwheads and Working Surfaces

a. During the entire life of the pistol, polishing and stoning are necessary to relieve friction and to remove burs caused by usage. Burs on screwheads and like surfaces should be removed with a fine file or stone. Burs on such working surfaces as the receiver sliding rails, receiver housing areas and bearings should be removed with a file or stone and polished with crocus cloth.

Caution: Care will be exercised to stone or file evenly and lightly and not remove more metal than absolutely necessary to maintain correct contours. Critical dimensions of parts or assemblies must not be altered in any way that would affect the functioning or interchangeability of parts.

b. Rough spots caused by scores, galling, gouges and rust pits will be smoothed to enable all parts to operate normally. The finish of the repaired component will be approximately that of the original finish.

23. Lubrication

a. Make certain all metal parts are cleaned and dried thoroughly in accordance with instructions contained in paragraph 19.

b. All metal parts **will** be lubricated by applying a light coat of general purpose lubricating oil (PL special). As a part of all assembly and installation operations,

lubricate sliding surfaces to reduce **fric-**
tion and assure free movement.

c. Lubrication and preservation **mate-**
rials are listed in TM **9-1005-211-12P/2.**