DEPARTMENT OF THE ARMY TECHNICAL MANUAL

### DS, GS, AND DEPOT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOL LISTS FOR

PERISCOPE, TANK: XM47 6650-788-5464)

This copy is a reprint which includes current pages from Changes 1 through 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY

1966

HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, D.C., 7 August 1972

> BRUCE PALMER, JR. General. United States Army

Acting Chief of Staff

### Direct Support, General Support, and Depot Maintenance Manual Including Repair Parts and Special Tools List PERISCOPE, TANK: M47 (6650-788-5464)

TM 9-6650-221-35, 21 April 1966, is changed as follows:

1. The new or changed material in this change is indicated by a vertical bar opposite the appendix title (Appendix B).

2. New or revised illustrations are indicated by a vertical bar adjacent to the identification number.

3. Remove old pages and insert new pages as indicated below:

Remove page B-1 through B-8 Insert page B-1 through B-37

4. File this change sheet in front of the manual for reference purposes.

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS Major General, United States Army The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-41 (qty rqr block No. 76) Direct and General Support Maintenance Requirements for Periscope.

CHANGE No. 3

HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, D.C., *3 January 1972* 

> W.C. WESTMORELAND General, United States Army,

Chief of Staff

### Direct Support, General Support, and Depot Maintenance Manual Including Repair Parts and Special Tools List for PERISCOPE, TANK: M47 (6650-788-5464)

TM 9-6650-221-35, 21 April 1966, is changed as follows:

1. Change XM551 Vehicle to read "M551 Vehicle" throughout the manual.

2. New or changed material is indicated by a vertical bar in the margin of the page. Revised illustrations are indicated by a letter adjacent to the identification number.

3. Remove old pages and insert new pages as indicated below.

Remove pages	Insert pages
6-1, 6-2	6-1, 6-2
6-5 through 6-8	6-5 through 6-8
6-13 through 6-16	6-13 through 6-16
6-19, 6-20	6-19, 6-20
B-5 through B-8	B-5 through B-8

4. File this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS, Major General, United States Army The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-41 (qty rqr block no. 76) Direct and General Support Maintenance requirements for Periscope.



HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, D.C., 28 September 1971

### Direct Support, General Support, and Depot Maintenance Manual Including Repair Parts and Special Tools List For PERISCOPE, TANK: M47

### (6650-788-5464)

TM 9-6650-221-35, 21 April 1966, is changed as follows:

- 1. Change the title to read as shown.
- 2. Change Periscope XM47 to read, "Periscope M47" throughout the manual.
- 3. Remove old pages and insert new pages as indicated below.
- 4. New or changed material is indicated by a vertical bar in the margin of the page.
- 5. Added or revised illustrations are indicated by a letter adjacent to the WE number.

Remove pages	Insert pages
1-1 through 1-5	1-1 through 1-5
4-1	4-1
5-1 through 5-4	5-1 through 5-4
B-3, B-4	B-3. B-4
B-7, B-8	B-7. B-8

6. File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS, Major General, United States Army The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-41 (qty rqr Block No. 76). Direct/General Support requirements for Periscope.



**W.C. WESTMORELAND** General, United States Army, Chief of Staff TECHNICAL MANUAL

No. 9-6650-221-35

### HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, D.C., 20313, *21 April 1966*

### PERISCOPE, TANK: XM47

(6650-906-7944)

		Para	agraph	Page
CHAPTER	1.	INTRODUCTION		
Section	I.	General	1-1	1-1
	II.	Description and data	1-5	1-5
CHAPTER	2.	TOOLS AND EQUIPMENT	2-1	2-1
CHAPTER	3.	INSPECTION		
Section	Ι.	General	3-1	3-1
	II.	Inspection in the using position	3-3	3-1
	III.	Shop inspection	3-8	3-2
CHAPTER	4.	TROUBLESHOOTING		
Section	I.	General	4-1	4-1
	II.	Troubleshooting procedures	4-3	4-1
CHAPTER	5.	REPAIR		
Section	I.	General	5-1	5-1
	II	Repair	5-6	5-1
CHAPTER	6	EQUIPMENT ISSUED WITH TANK PERISCOPE XM47		
Section	Ι.	Description	6-1	6-1
	II.	Repair of mount assembly 6650-906-7944	6-3	6-5
	III	Repair of washer, pump, and reservoir assembly 8589793	6-6	6-7
	IV	Repair of wiper assembly 650-906-7943	6-10	6-10
CHAPTER	7.	PROCESSING AND PACKAGING	7-1	7-1
APPENDIX	I.	REFERENCES	A-1	
	II.	REPAIR PARTS AND SPECIAL TOOL LISTS	B-1	
INDEX			I-1	

i

### Section I. GENERAL

### 1-1. Scope

a. This publication contains instructions for the repair of periscope, tank M47, 6650-788-5464, and associated equipment, by direct support (DS), general support (GS), and depot shops.

These instructions are used in conjunction b. with and are supplementary to those in the operator's and organizational maintenance manual for armored reconnaissance-airborne assault vehicle, M551. Instructions for operation, lubrication, and operator's and maintenance (including installation removal procedures, as well as tests and adjustments after installation) are contained in TM 92350-230-12. It may be necessary to refer to this manual for complete procedures.

### 1-2. Comments

Report errors, omissions, and recommendations directly to the Commanding Officer, Frankford, Arsenal, ATTN: AMSWE-MAF W3100, Philadelphia, Pa. 19137 on DA Form 2028.

### **1-3.** Maintenance Allocation and Parts

The maintenance allocation chart in TM 9-2350230-12 and repair parts and tools listed in appendix II allocates maintenance responsibilities.

### 1-4. Forms, Records, and Reports

*a.* Authorized Forms. The forms are listed in DA Pamphlet 310-2 and TM 38-750.

*b. Report of Accidents.* The necessary reports are prescribed in AR 385-40.

*c.* Equipment Improvement Recommendations (EIR). Use the Equipment Improvement Recommendation section of DA Form 2407.

### Section II. DESCRIPTION AND DATA

### 1-5. Description

a. General. Periscope M47 (figs. 1-1 and 1-2) is a unity-power daylight periscope that provides a 50-degree horizontal and 14-degree vertical field-of-view. Periscope M47 is used in conjunction with the M551 Vehicle and consists of head assembly 6650-9067941 and body assembly 10513620. A functional description and operating instruction for periscope are provided in TM 92350-230-12.

*b. Optical Scheme.* Two prisms and an optical instrument window (fig. 1-3) comprise the optical components of periscope XM47. Prism 8599693 is located in head assembly 6650-906-7941 and deflects a forward line of sight through optical instrument window 6650-902-9741 of body assembly 10613620 to prism 8599694. Prism 8599694 displays the field-of-view to the operator.

### c. Head Assembly 6650-906-7941.

(1) Head assembly 6650-906-7941 contains prism 8599693 (fig. 1-2) which is mounted in the head and sealed against water penetration. The bottom the head is open but is provided with a gasket for sealing when joined with body assembly 10613610.

(2) Two mounting holes (fig. 1-2) are provided on the head for engaging the plungers of mount assembly 6650-906-7944. Mount assembly 6650906-7944 is required for assembling head assembly 6650-906-7941 to body assembly 10513620.

### d. Body Assembly 10513620.

(1) Body assembly 10513620 is a sealed unit, filled with nitrogen gas, that receives the reflected line-of-sight from the head assembly 6650-9067941. Optical instrument window 6650-902-9741 (fig. 1-1) is enclosed in a sealed frame and is mounted on the top of the body.



Figure 1-1. Periscope, tank, M47, 6650-788-5464.



Figure 1-2. Periscope, tank, M47, 6650-788-5464.

Prism 8599694 is located at the bottom of the body and is also sealed.

(2) Valve assembly 8201751 (fig. 1-1), located on the side of the body, is used for purging and charging the body with nitrogen gas. Machine thread

plug 4730-684-4401 and gasket 533083 9573 (fig. 1-2) are located on the rear of the body and are removed for purging operations.



\_,

Figure 1-3. Periscope M47 - optical diagram.

(3) Two catches (fig. 1-1 and 1-2), engage corresponding strikes on mount assembly 6650-9067944 when mounting body assembly 10513620. The identification plate (fig. 1-2) for Periscope M47 is mounted on body assembly 10513620 and contains the serial number of the unit.

### 1-6. Data

a. Optical Characteristics.

Power Field-of-view	
	14 vertical
b. Weight.	
Head assembly	5.5 lb
Body assembly	4.25 lb
c. Size	
Width	10.125 in.
Overall height	9.625 in.
Maximum depth	3.625 in.

which are necessary to perform the operations described in this manual. Special tool sets of a general nature are authorized by TA and TOE. Special tools peculiar to this

equipment are authorized in appendix II.

### 2-1. Common Tools and Equipment

Standard and commonly used tools and equipment having general application to this materiel are authorized for issue by TA and TOE.

### 2-2. Special Tools and Equipment

Table 2-1 lists the special tools and equipment

			References		
Nomenclature	Federal stock no.	Part no.	Fig.	Para	Use
ADAPTER, NITROGEN FILLING:	4931-507-5453	7680682	5-3	5-11	Connects regulator 1240-558- 0922 to nitrogen tank.
HOSE, ASSEMBLY:	4931-508-5546	8572413	5-3	5-11	Used with test gage assembly 4931-546-9773
HOSE ASSEMBLY, RUBBER:	49-561-0713	8572414	5-3	5-11	Connects regulator 1240-558- 0922 to periscope XM47.
REGULATOR, HELIUM PRESSURE:	1240-558-0922	5580922	5-3	5-11	Used to control the flow of nitrogen during purging and charging operations.
SEALING COMPOUND GUN, HYDRAULIC: INJECTION	4931-508-5428	6721501			Used for injecting non-curing sealing compound Type I, class I, MIL-S-11030
TANK, NITROGEN:	6830-264-9086		5-3	5-11	Container with dry nitrogen gas used in purging and charging operations.
TEST, GAGE	4931-546-9773	8572412	5-3	5-11	Used with hose assembly 4931-508-5546 to check internal pressure during purging and charging operations.

### INSPECTION

### Section I. GENERAL

### 3-1. Scope

This chapter sets forth inspection of periscope XM47 in the using position and in maintenance shops.

### 3-2. Purpose

Inspection is performed primarily, (1) to determine completeness, (2) to determine the nature of unserviceability,. (3) to determine the work, repair parts, and supplies required to return the materiel to serviceability, (4) to ensure that work in process is being performed properly, and (5) to ensure that completed work complies fully with serviceability standards.

### Section II. INSPECTION IN THE USING POSITION

### 3-3. General

In general, periscope XM47 will be considered serviceable if it is complete and all deficiencies have been corrected ensuring operation in accordance with serviceability standards.

### 3-4. Using Position

Inspection in the using position refers to the inspection performed by maintenance personnel when periscope is mounted in position on the XM551 vehicle. Inspection of periscope removed from the end item is set forth in paragraphs 3-8 through 3-11.

### 3-5. Modification Work Orders (MWO)

All applicable modification work orders will be applied. DA Pamphlet 310-4 contains the MWO index and equipment records DA Form 2408-5 or DA Form 2409 list MWO's applied.

### **3-6.** General Inspection

*a.* Note general appearance as an indication of the condition of the materiel and the type of treatment it has received.

*b.* Check exterior of materiel and accessible parts for dented surfaces, bent or broken parts, missing parts, moisture or corrosion, and other evidence of damage or misuse which might indicate a need for repair. *c*. Inspect all sealed portions of the materiel to determine whether sealing is complete.

d. Inspect identification plate for legibility.

*e*. Inspect for bare spots or damaged' finish which expose metal surfaces and lead to corrosion.

*f.* The two catches on the body assembly must operate smoothly without binding or rough motion and must properly engage the strikes on the mount assembly.

*g*. The equipment must be clean and free from dirt and grit.

*h.* Refer to the Basic Issue Items List in TM 9-2350-230-12 and check for completeness of repair parts, tools, and equipment.

### **3-7.** Inspection of Optical Components

*a.* The prism on the body assembly must be free from scratches, pits, dirt, and chips that will interfere with or affect the optical performance of the instrument.

*b.* When sighting through the instrument, the field-of-view must be clear with no signs of fogging.

### 3-8. General

This section sets forth the procedure to be followed by maintenance shops in performing inspection of periscope XM47 when removed from the end item and turned in to the shop for repair.

### 3-9. Initial Inspection

The inspection procedures outlined in paragraphs 3-3 through 3-7 should be followed when periscope XM47 is initially received in the shop.

### 3-10. Sealing

Determine integrity of all seals with soap and water solution as specified in 5-11a(10).

### 3-11. Inspection of Optical Components

a. Head Assembly. When looking through the head assembly of the periscope there shall be no objectional dirt smears, scratches, digs, condensate or fungus growth. Chips and fractures are permitted provided they are stoned or ground and do not extend more than 1/4-inch beyond the clear aperture. In all cases prime emphasis should be placed on performance of the periscope rather than the optical appearance, unless the latter definitely indicates poor workmanship.

*b.* Body Assembly. When looking directly through the viewing prism of the body assembly, all optical surfaces must be free from dirt, digs, condensate or fungus growth. Scratches are acceptable provided they are ground or stoned. Cement separations must not extend more than 1/4-inch from edge of aperture.

### Section I. GENERAL

### 4-1. Purpose

Troubleshooting is a systematic isolation and remedy of malfunction and defective components by means of symptoms and tests. Close adherence to the procedure covered herein will materially reduce the time required to locate trouble and restore the equipment to normal operation. *Caution:* Operation of materiel without a preliminary examination can cause further damage to a faulty component. Exercise care during troubleshooting, to avoid further damage.

### 4-2. General

For troubleshooting procedures performed by organizational maintenance, refer to TM 9-2350230-12.

	Malfunction	Probable cause	Corrective action	Lowest maintenanc e category
1.	Poor visibility	Chipped, scratched or otherwise damaged optical instrument window 6650-902-9741 (3, fig. 5- 2) in body assembly 10513620.	Replace optical instrument window (para 5-7).	Depot
2.	Pressure cannot be maintained in body assembly 10513620	a. Defective valve assembly 8201751 (7. fig. 5-2).	a. Disassemble and repair vale assembly (para 5-9)	DS
		<ul> <li>b. Faulty machine thread plug 5365684-4401 (8. fig. 5-2) or gasket 5330-683-9573 (19 fig. 5-2).</li> </ul>	<ul> <li>Replace machine thread plug and/or gasket i para 5-10.</li> </ul>	DS
		c. Faulty sealing around optical instrument window 6650-902- 9741 (3. fig. 5-2).	Remove. replace. and reseal optical instrument window (para 5-7).	DS
3.	Head assembly does not attach securely to mount assembly 6650906-7944.	Faulty catch(es) 1240-191-9213 (6, fig. 5-2).	Replace catch(es) para 5-8).	DS

### Table 4-1. Troubleshooting

### Section II. TROUBLESHOOTING PROCEDURES

### 4-3. General

The troubleshooting procedure described in this section is one of determining the cause of the malfunction and taking the necessary action.

### 4-4. Troubleshooting

Table 4-1 describes the troubleshooting procedure.

### **CHAPTER 5** REPAIR

### Section I. GENERAL

#### 5-1. Scope

This chapter contains instructions for the repair of periscope M47.

Note. This manual contains exploded-view illustrations which depict the complete disassembly of This should not be construed as the materiel. authority to disassemble the materiel beyond that required to perform operations authorized on the MAC or to replace parts other than those authorized in the applicable columns in appendix II.

#### 5-2. **Parts Replacement**

In subsequent repair paragraphs, replacement of authorized parts damaged beyond repair is understood.

### Section II. REPAIR

#### 5-6. General

The paragraphs that follow set forth the procedures to replace authorized repair parts and to perform purely maintenance operations not involving repair parts replacement. Refer to Appendix II for a list of authorized repair parts.

#### 5-7. **Replacement of Optical Instrument Window** 6650-902-9741

Removal. Disassemble items 1, 2, and 3 (fig. a. 5-2).

Inspection. Inspect the general condition of b. the frame and housing to ensure that neither has been dented, bent or otherwise deformed. Inspect the optical instrument window for scratches, chips, or other damage that would impair its optical performance.

Cleaning. Scrape the surface of the frame C. and the housing to remove all traces of the old sealing compound and then wipe the complete surface with a cloth moistened with dry cleaning solvent, 6850-336-8170.

Caution: Take particular care during any scraping operations to avoid nicking or gouging the surface of the frame or housing.

#### 5-3. General Maintenance Procedures

TM 9-254 presents general maintenance procedures that are most often required in repairing fire control materiel.

#### 5-4. Rescinded

#### 5-5. Cleaning

Refer to TM 9-208-1 for procedures most often required in cleaning fire control materiel.

Repair and Reclamation. A window having d. chips or fractures may be reclaimed by stoning or grinding if the chips and fractures do not extend '4-inch beyond the clear aperture. Refer to TM 9-254 for instructions on stoning and grinding optical components.

Assembly. To assemble the window, frame, е. and housing, proceed as follows:

*Note.* The key numbers shown in parentheses refer to figure 5-2.

(1) Apply a bead of sealing compound, MIL-S11031, 8030-275-8110 to the frame (2) and install window (3) into position.

(2) Clean any excess sealing compound from the window before installing the frame.

(3) Install frame (2) on housing (17) and secure with eight screws (1), applying a small amount of sealing compound, MIL-S-11031, to threads and under the head of each screw.

#### 5-8. Replacement of Catch 1240-191-9213

Removal. Disassemble items, 4, 5, and 6 а. (fig. 5-2).

> h Inspection.

(1) Inspect the hinge pin and the latching member for proper alinement.



Figure 5-1. Head assembly 6650-906-7941 - exploded view.

1-Screw, machine no. 2-56 UNC-2A, 1/8 lg (8) MS51959-1
2-Frame 10513623
3-Window, optical instrument: 6650-902-9741
4-Screw, machine, no. 6-32 NC, 5/16 lg (4) 5305-054-665
5-Washer, lock; helical split, no. 6 (4) 5310-043-1754
6-Catch: (2) 1240-191-9213
7-Valve assembly 8201751

A-Cap, tire valve 2640-507-9260
B-Valve, inside air check: 1240-535-7706
C-Stem 8201752

8-Plug, machine thread: 5365-684-4401

Figure 5-2. Body assembly 10513620 - exploded view.

<sup>9-</sup>Gasket: 5330-683-9573
10-Screw, machine, no. 2-56 UNC-2A. 1/8 lg (2) MS51959-1
11-Clip (2) 10513622-1
12-Screw, machine, no. 2-56 UNC-2A. 1/8 lg (2) MS51959-1
13-Clip 10513629
14-Prism 8599694
15-Screw, machine, pan hd cross recess no. 2 NC, 1/8 (2) MS35216-1
16-Plate, identification 10513621
17-Housing 10513617



Figure 5-2. - Continued.

(2) Inspect for wear on the hinge pin and/or distortion of the latching member.

*c.* Installation. Assemble in sequence, items 6, 5, and 4 (fig. 5-2).

### 5-9. Repair of Valve Assembly 8201751

a. Removal. Remove item 7 (fig. 5-2).

b. Disassembly. Disassemble in legend sequence.

*c. Inspection.* Inspect the parts of the valve assembly for obvious wear, deterioration or other signs of unserviceability. Pay particular attention to the condition of the valve and insure that it operates smoothly, is free of corrosion, and the rubber seats are not worn. Inspect the valve stem and cap for worn threads or burrs on the threads.

*d.* Assembly. Assemble items in reverse legend sequence (7, fig. 5-2).

*e. Installation.* Install item 7 applying a small amount of sealing compound, MIL-S-10031, to the threads of the stem.

### 5-10. Replacement of Machine Thread Plug 5365-684-4401 and Gasket 5330-683-9573

a. Removal. Remove items 8 and 9 (fig. 5-2).

*b.* Inspection. Inspect the general condition of the gasket and the machine thread plug. Check the gasket for wear, cuts, breaks, or other signs of unserviceability that would result in leakage. Inspect the threads of the machine thread plug for excessive wear or burrs.

c. Installation. Install items 9 and 8 (fig. 5-2).

### 5-11. Test and Adjustment

*a. Purging and Charging Body Assembly 1051-3599.* Remove cap plug (7A fig. 5-2), plug and gasket (9). Purge and charge body assembly (fig. 5-3).

## Note. The key numbers shown in parentheses refer to figure 5-3 unless otherwise indicated.

(1) Remove threaded protective cover from the valve outlet of the dry nitrogen tank (1) and momentarily open the valve to clear foreign matter from the valve seat.

(2) Check the nitrogen filling adapter (2) for cleanliness and proper sealing of gasket. Attach adapter to cylinder valve, and then attach helium pressure regulator (3) to adapter.

(3) Remove cap from the low pressure port of the regulator; connect hose assembly (4) to low pressure port of the regulator.

(4) Rotate valve of pressure regulator fully counterclockwise to close regulator.

(5) Open valve of nitrogen tank slowly until cylinder pressure is registered on high pressure gage; indication shall not be less than 100 psi.

## *Note.* If pressure indicated is less than 100 psi, obtain and use a replacement tank.

(6) Slowly rotate valve of pressure regulator clockwise until approximately 5 psi is registered on the low pressure gage. Check free end of hose assembly for free flow of nitrogen for approximately I/2-minute; then, rotate valve of pressure regulator fully counterclockwise to stop the flow of nitrogen.

(7) Connect free end of hose assembly to valve of body assembly.



Figure 5-3. Typical setup for purging and charging periscope XM47.

(8) Slowly rotate valve of the pressure regulator clockwise until low pressure gage indicates 5 psi. Allow the nitrogen to flush the assembly for 5 minutes.

(9) Install gasket (9, fig. 5-2) and machine thread plug (8) securely in housing assembly.

(10) Apply a water and soap solution around optical elements, the valve, the plug and check for leaks.

(11) .Reduce the pressure to 1 psi by slowly rotating valve of the pressure regulator counterclockwise. Charge for two minutes.

b. Final Test.

(1) Rotate valve of pressure regulator fully counterclockwise to stop the flow of nitrogen. Close the valve of the nitrogen cylinder and remove the hose from the valve of the charged assembly.

(2) Connect hose assembly (5) to dial indicating pressure gage (6).

(3) Connect the free end of the hose with pressure gage to the valve of the charged assembly and check and record the pressure indicated on the test

gage. The indicated pressure should be 0.5 to 1.0 psi. After approximately 30 minutes, the internal pressure should not drop more than 0.1 psi.

### Section I. DESCRIPTION

### 6-1. General

Equipment issued with periscope M47 includes mount assembly 6650-906-7944, seal assembly 10513439, washer, pump, and reservoir assembly 8589793 and wiper assembly 6650-906-7943. The relationship of this equipment on the M551 vehicle is shown in figure 6-1.

### 6-2. Specific

There are three mount assemblies, seal assemblies, and wiper assemblies, and one washer pump, and reservoir assembly provided for each M551 vehicle. Each combination of mount, seal, and wiper assembly accommodates one periscope. All three periscopes are serviced by the one washer, pump, and reservoir assembly.

*a.* The mount assemblies are secured to the inside of the vehicle turret beneath a cutout provided for mounting the periscope.

*b*. The seal assemblies are mounted on the outside of the turret and provides protection against the entry of water and other foreign matter.

*c*. The washer, pump and reservoir assembly is mounted completely inside the turret and serves the three wiper assemblies through tubing from the reservoir.

*d*. The wiper assemblies are electrically operated and drive wiper blades through 160° of sweep across the exposed optical surfaces.



Figure 6-1. Equipment issued with periscope M47.



Figure 6-2. Wiper assembly 6650-906-7943 - gearing diagram.



Figure 6-3. Wiper assembly 6650-906-7943-wiring diagram.



Figure 6-4. Wiper assembly 6650-906-7943-schematic diagram.

### Section II. REPAIR OF MOUNT ASSEMBLY 6650-906-7944

### 6-3. Inspection

a. General.

(1) Note general appearance as an indication of the condition of the materiel and the type of treatment it has received.

(2) Check exterior of materiel and accessible parts for dents or breaks, missing parts or moisture or corrosion.

(3) The equipment must be clean and free from dirt.

(4) Refer to Basic Issue Items List in TM 9-2350-230-12 and check for completeness of repair parts, tools, and equipment.

b. Specific.

(1) Inspect plunger on each side of mount for ease of operation; there should be no burrs or obstruction.

(2) Inspect the junction of mount assembly and turret for bends, cracks, or breaks.

(3) Determine that strikes properly engage catches on head assembly.

### 6-4. Troubleshooting

Table 6-1 lists troubleshooting procedures for mount assembly 6650-906-7944. Refer to TM 9-2350-230-12

for operator's and organizational level troubleshooting procedures for the mount assembly.

Malfunction	Probable cause	Corrective action	Lowest maintenance category
1. Plunger does not operate smoothly	a. Plunger 10513473 needs lubricating	a. Disassemble, clean, and lub-	DS
		ricate the plunger (para 6-5).	
	b. Defective helical compression spring 5340-912-5826 (para 6-5).	b. Replace helical compression Spring (para 6-5).	DS
<ol> <li>Body assembly does not securely fasten to mount</li> </ol>	Bent strike 10513474 (3, fig. 6-5)	Replace strike.	DS

### Table 6-1. Mount Assembly Troubleshooting

## 6-5. Replacement of Helical Compression Spring 5340-912-5826

*a. Disassembly.* Disassemble items 1 through 5 (fig. 6-5).

*b. Inspection.* Inspect the general condition of the disassembled parts. The plunger should fit firmly but be free to move smoothly in the mounting hole. The helical

compression spring should be free from breaks or other damage.

*c.* Cleaning. Clean the plunger and mounting hole with solvent in accordance with TM 9-208-1 to remove all



- 1 Screw, machine: no. 6/0-40 UNF, 5/16 lg (8) 5305-057-0523
- 2 Washer, lock: helical split, no. 6 (8) 5310-933-6395
- 4 Spring, helical compression: (2) 5340-912-5826
- 5 Plunger (2) 10513473 6 Mount 10513630

3 Strike (2) 10513474

Figure 6-5. Mount assembly 6650-906-7944 - exploded view.

traces of lubricant. Wipe the mount down with a cloth moistened with dry cleaning solvent, 6850-336-8170.

*d. Lubrication.* Lubricate the plunger and mounting hole with a light coating of aircraft and instruction grease, MIL-G-23827, 9150-261-8298, prior to assembly.

*e. Assembly.* Assemble items in sequence 5 through 1 (fig. 6-5).

*f. Testing.* Test the assembled mount assembly by inserting it on a head assembly and checking for proper engagement of the plunger on each side.

### Section III. REPAIR OF WASHER, PUMP, AND RESERVOIR ASSEMBLY 8589793

6-7

### 6-6. Inspection

a. General.

(1) Note general appearance as an indication of the condition of the materiel and the type of treatment it has received.

(2) Check exterior of materiel and accessible parts for dents, leaks or missing parts or corrosion.

(3) The equipment must be clean and free from dirt.

(4) Refer to Basic Issue Items List in TM 9-2350-230-12 and check for completeness of repair parts, tools and equipment.

b. Specific.

(1) Reservoir assembly 1260-944-5128. Inspect the reservoir for leaks at the outlet tube and for proper fitting of tubing over the outlet tube. Check the cap for proper fit on the filling port and insure that the cap has not been bent or otherwise distorted. Inspect the reservoir for secure mounting and ensure that all mounting hardware is used and in the proper place.

(2) Washer pump 1260-944-5127. Inspect the washer pump for leaks. Check the tubing connection to the pump to ensure that the tubing is not split and that it is secure over each fitting. Check the washer pump for proper and secure mounting.

(3) Check valve assembly 8589808. Inspect the check valve for leaks. Check the tubing connections

to the valve to ensure that the tubing is not split and that each tube is securely fitted over its corresponding fitting. Check for proper and secure mounting.

(4) Tubing and tees. Inspect all tubing for breaks, splits, or other evidence of damage that would render it unserviceable. All connections should be secure and tight over the tees and component fittings.

### 6-7. Performance Test

a. Check to ensure that the reservoir is filled with liquid.

b. Depress the bellows to activate the washer pump and note that liquid is dispersed from the tubing of all washers.

c. There should be no erratic action from any of the washers and the pump should cycle each time it is depressed.

### 6-8. Troubleshooting

Table 6-2 lists troubleshooting procedures for washer, pump, and reservoir assembly 8589793. Refer to TM 9-2350-230-12 for operator's and organizational level troubleshooting procedures for the washer, pump, and reservoir assembly.

Malfunction	Probable cause	Corrective action	Lowest maintenance category
<ol> <li>Cleaning fluid is not distributed to individual washers or any of the washers when washer pump is activated.</li> </ol>	a. Tubing defective, blocked or not properly connected between reservoir and malfunctioning washer(s).	<ul> <li>a. Check tubing for proper connection to reservoir fitting and check valve assembly fitting. Tighten either connection if necessary. Inspect tubing for holes or a break. Replace tubing (para 6-9).</li> </ul>	DS
	b. Stopped-up reservoir outlet	<ul> <li>b. Disconnect tubing from reservoir outlet fitting and observe that liquid flows from the reservoir. Replace reservoir assembly (para 6-9).</li> </ul>	DS
	c. Defective washer pump 1260- 944-5127 (18, fig. 6-6).	c. Disconnect tubing 8589761-14 from check valve assembly 8589809 and tubing 8589761-12 from tee 4730- 905-9796. Insert tubing 8589761-14 into a container of water by depressing the bellows. Water should flow from tubing 8589761-12 when the pump is operated. Replace pump (para 6-9).	DS
<ol> <li>Bellows must be operated several times to obtain output from washers</li> </ol>	a. Defective check valve assembly 8589809 (15, fig. 6- 6).	a. Operate bellows of pump several times until liquid is being distributed by washers. Disconnect tubing from check valve and inspect check valve fitting for leakage. Replace check valve assembly.	Depot
	b. Defective washer pump 1260- 944-5127 (18, fig. 6-6).	b. Proceed as specified in 1c above.	DS

### Table 6-2. Washer, Pump, and Reservoir Assembly Troubleshooting

- 1 Cap 8589803
- 2 Tubing, rubber 8589761-16
- 3 Tubing, rubber 8589761-14
- 4 Tubing, rubber 8589761-12
- 5 Tubing, rubber 8589761-10
- 6 Tee, hose: 4730-905-9796
- 7 Tubing, rubber 8589761-11
- 8 Tubing, rubber 8589761-9
- 9 Tee, pipe: 4730-905-9066
- 10 Tubing, rubber 8589761-3
- 11 Screw, cap, socket head: ¼-20 UNF-3A, ½ Ig, 5305-052-9329
- 12 Washer, lock, no. 1/4, 5310-582-5677
- 13 Washer, flat, no. 10, 5310-933-8121

14 Clip 8589915

- 15 Check valve assembly 8589808
- 16 Screw, cap, socket head: 1/4-20 UNF-3A, ½ lg 5305-052-9329
- 17 Washer; lock: no. 1/4, 5310-043-5862
- 18 Pump, washer 6650-944-5127
- 19 Nut, self-locking, 1/4-20 UNF-3A MSS51968-2
- 20 Washer, lock, no. 1/4 MS35337-82
- 21 Screw, cap, socket head: 1/4-20 UNF-3A, ½ Ig 5305-958-7667
- 22 Washer, flat, no. 10 (2) MS15795-810 23 Bracket 10512002
- 24 Reservoir 10516814

Figure 6-6. - Continued.



Figure 6-6. Washer, pump, and reservoir assembly 8589793 - exploded view.

## 6-9. Repair of Washer, Pump and Reservoir Assembly 8589793

*a. Removal.* Disassemble items in legend sequence (fig. 6-6).

b. Inspection.

(1) Inspect the cap for dents, wear, or other signs of unserviceability. Inspect the seal inside the cap for excessive wear that will cause leakage.

### Section IV. REPAIR OF WIPER ASSEMBLY 6650-906-7943

### 6-10. Inspection

a. General.

(1) Note general appearance as an indication of the condition of the materiel and the type of treatment it has received.

(2) The equipment must be clean and free from dirt and grit.

(3) Refer to the Basic Issue Items List in TM 9-2350-230-12 and check for completeness of repair parts, tools and equipment.

b. Specific.

(1) Inspect the condition of the rubber on the wiper blade, checking for cracks, breaks, or other signs of deterioration.

(2) Ensure that the wiper blade assembly is securely mounted on the housing drive shaft.

(3) Check the spring tension of the arm assembly to. ensure that the wiper blade is properly pressed against the prism.

(4) Inspect the housings and cover assembly for cracks, breaks, or other faulty conditions.

(2) Inspect all rubber tubing for splits, breaks, or deterioration. Inspect the tees for breaks or dirt in the ports.

(3) Inspect the exterior of the pump checking the bellows for excessive wear, the outlet fitting for damage, and the body for bent mounting feet.

*c. Installation.* Assemble items in reverse legend sequence (fig. 6-6).

(5) Check the condition of the motor wiring to ensure that the wires are not bare, loose, or broken.

(6) Check the receptacle for bent or broken pins and for secure mounting to the cover assembly.

### 6-11. Performance Test

a. Operate the assembly to insure that the blade operates through a full stroke of 160° and that it zeroes (returns to the end of the stroke) when shut off.

b. Check to insure that the blades do not smear or scrape the prism.

c. Insure that the washer output properly disperses cleaning fluid to the prism.

### 6-12. Troubleshooting

Table 6-3 lists troubleshooting procedures for -wiper assembly 6650-906-7943. Refer to TM 9-2350-230-12 for operator's and organizational level troubleshooting procedures for the wiper assembly.

Table 6-3. Wiper Assembly Troubleshooting

Malfunction	Probable cause	Corrective action	Lowest maintenance category
1. Wiper smears prism	Defective periscope wiper blade 6650-924-5876 (1, fig. 6-8).	Replace blade (para 6-13).	DS

Malfunction	Probable cause	Corrective action	Lowest maintenance category
2. Wiper motion rough or	a. Defective ball bearing in erratic gear train.	<ul> <li>a. Inspect ball bearing and make necessary replacement (para 6- 14).</li> </ul>	DS
	b. Defective gear in gear train.	<ul> <li>Inspect components of the gear train and make any needed replacement.</li> </ul>	Depot
	<ul> <li>c. Clutch assembly 10516819(7, fig. 6- 12) loose on motor shaft.</li> </ul>	c. Tighten screw (1, fig. 6-13) to tighten clutch assembly on shaft.	DS
3. Wiper blade fails to zero	a. Faulty actuator 6650-904-5877 (4, fig. 6-12).	a. Replace actuator (para 6-15).	DS
	b. Faulty sensitive switch5930-583- 6582, (5, fig6-12).	<ul> <li>b. Replace sensitive switch(para 6- 16).</li> </ul>	DS
4. Wiper motors does not operate	a. Faulty semiconductor de- vice 5960- 883-4798 (6, fig. 6-12).	a. Replace semiconductor device (para 6-17).	DS
·	b. Faulty gear case motor3010-906- 6317 (15, fig. 6-12).	<ul> <li>b. Replace gear case motor(para 6-19).</li> </ul>	DS
	c Faulty connection or pin on electrical receptacle connector 5935-881-7775.	<ul> <li>Check connections to connector and pins for damage. Replace connector(para 6-18).</li> </ul>	DS

### 6-13. Replacement of Wiper Blade Assembly 6650-924-5875

a. Removal. Disassemble items 1 and 2 (fig. 6-7). b. Inspection. Inspect the wiper blade for deteriorated rubber, cuts, or gouges. Check to ensure that the spring of the arm assembly is operable and that it exerts force against the wiper blade.

*c. Installation.* Assemble in sequence items 2 and 1 (fig. 6-7).

### 6-14. Replacement of Ball Bearings 8589768

- a. Disassembly.
  - (1) Disassemble items 1 through 6 (fig. 6-7).
- (2) Disassemble items 1 through 14 (fig. 6-10).

*b.* Inspection. Inspect the condition of each of the ball bearings for wear, damage, or other signs of unserviceability. Check each of the gears for missing

teeth, excessive wear, or burrs. Check the fit of the bearing and gears on the shaft for excessive side play.

c. Installation.

(1) Assemble in sequence items 14 through 1 (fig. 6-10).

(2) Apply a light coating of aircraft and instrument grease. MIL-G-23827 9150-261-8298, to the teeth of each of the gears.

(3) Apply a small amount of instrument lubricating oil, MIL-L-6085 9150-223-4129, to each of the ball bearings.

(4) Assemble in sequence items 6 through 1 (fig. 6-7).

### 6-15. Replacement of Actuator 6650-924-5877

a. Removal.

(1) Disassemble items 7 through 10 (fig.6-7).



Figure 6-7. Wiper assembly 10513436 - partial exploded view.

- 1 Setscrew: no. 4 UNF-3A, 1/8 lg 5305851-2287
- 2 Wiper blade assembly: 6650-924-5875
- Screw, machine, no. 2 UNC-2A, 3/16 lg MS51959-2 3
- 4 Housing assembly 8589901
- 5 Screw, machine, no. 2 UNC-2A, 1/4 lg (5)
- MS51959-3
- Support assembly 10513487 6
- Screw, machine, No. 6 UNC-2A, 1 /2 lg (3) 7 MS51957-36



3 Pin 10514634

4 Arm assembly 8589905 5 Pivot 8589861

Figure 6-8. Wiper blade assembly 6650-924-5875 exploded view.

- 8 Washer, lock: no. 6 (4) 5310-043-1754
- 9 Screw, machine, no. 6, pan hd cross recess (2) MS51957-31
- 10 Washer, lock no. 6 (2) MS35337-31
- Housing assembly 8589875 11
- 12 Cover assembly 10516820
- Figure 6-7. Continued.

(2) Disassemble items 1 through 5 (fig. 6-12). b. Inspection. Inspect the actuator for any distortion that would prevent correct mounting of the actuator for tripping of the sensitive switch.

c. Installation.

(1) Assemble, in sequence, items 5 through 1 (fig. 6-12).

(2) Assemble, in sequence, items 10 through 7 (fig. 6-7).

#### Replacement of Sensitive Switch 5930-583-6-16. 6582

a. Removal.

(1) Disassemble items 7 through 10 (fig. 6-7).

(2) Disassemble items 1 through 5 (fig. 6-12).

b. Inspection. Depress the switch plunger and observe that it operates smoothly. Inspect the case for cracks, broken terminals, or damage that may render it unserviceable.

c. Installation.

(1) Assemble, in sequence, items 5 through 1 (fig. 6-12).

(2) Assemble, in sequence, items 10 through 7 (fig. 6-7).

### 6-17. Replacement of Semiconductor Device 5945-400-5256

- a. Removal.
  - (1) Disassemble items 7 through 10 (fig. 6-7).
  - (2) Unsolder and remove item 6 (fig. 6-12).



1 Setscrew, no. 2-56 UNC-3A, 3/32 lg 10513511 2 Seat 8620836 3 Retainer 10513644 4 Packing, preformed: 5330-905-9175 5 Bearing 8689768

7 Bearing 8689768 8 Tube 8589925 9 Housing 10513476 10 Pin MS16555-601

Figure 6-9. Housing assembly 8589901 - exploded view.

### b. Installation.

(1) Install item 6 (fig. 6-12) by soldering, carefully noting the polarity.

# *Note.* Refer to the wiring diagram (fig. 6-3) for determining the correct polarity of the semiconductor device.

(2) Assemble in sequence, items 10 through 7 (fig. 6-7).

### 6-18. Replacement of Electrical Receptacle Connector 5935-881-7775

### a. Removal.

(1) Disassemble items 7 through 10 (fig. 6-7).

(2) Unsolder the wires from the connector, item 18 (fig. 6-12).

(3) Disassemble items 16 through 18 (fig. 6-12).

*b. Inspection.* Inspect the connector for bent or broken pins, cracked insulation, and defective threads. *c. Installation.* 



Figure 6-10. Support assembly 105134S7 - exploded view.



Figure 6-11. Housing assembly 85889875 - exploded view.
(1) Assemble, in sequence, items 18 through 16 (fig. 6-12).

(2) Connect the wiring to the connector in accordance with the wiring diagram (fig. 6-3).

(3) Assemble, in sequence, items 10 through 7 (fig. 6-7).

## 6-19. Replacement of Gear Case Motor 3010-906-6317

a. Removal.

(1) Disassemble items 7 through 10 (fig. 6-7).

(2) Unsolder and disconnect the two wires from the noise-suppression filter, item 12 (fig. 6-12).

(3) Disassemble items 7, 12, 13, 14, 15 (fig. 6-12).

*b.* Inspection. Inspect the motor for exterior damage, burned, broken, or bare wires, and a bent or broken shaft. Inspect the radio-suppression filter for similar exterior damage.

c. Installation.

(1) Assemble, in sequence, items 15, 14, 13, 12 and 7 (fig. 6-12).

(2) Attach and solder the two wires to the terminals of the radio-suppression filter, item 12 (fig. 6-12) in accordance with the wiring diagram (fig. 6-3).

(3) Assemble, in sequence, items 10 through 7 (fig. 6-7).

6-17



Figure 6-12. Cover assembly 10516820.

- 1 Screw, machine: no. 2 UNC-2A, 5/8 Ig (2) 5305-054-5642
- 2 Nut: no. 2 NC-2B (2) 5310-938-2013
- 3 Washer, lock: no. 5/8 (2) 5310-543-
- 4 Actuator: 6650-924-5877
- 5 Switch, sensitive: 5930-583-6682
- 6 Semiconductor device: diode 5945-400-5256
- 7 Clutch assembly 10516819
- 8 Terminal (2) 5940-539-0511
- 9 Screw, machine: no. 2 UNC-2A, 5/8 lg (2) 5305-054-5648
- 10 Nut, no. 4 NC-2B (2) MS 35649-244
- 11 Washer, lock: no. 4 (2) 5310-058-2949
- 22 Cover 8589874

- 12 Noise suppression filter (vendor's item furnished with item 15)
- 13 Screw, machine: no. 6-32 UNC-2A, 5/ 16 lg (4) -0.54-6651
- 14 Washer, lock: no. 2 (4) 5310-043-1754
- 15 Motor, gear case: 3010-906-6317
- 16 Screw, machine: no. 4-40 UNC-2A, 5/16 lg (4) 5305-054-5648
- 17 Washer, lock: no. 2 (4) 5310-058-2949
- 18 Connector, receptacle, electrical: 5935-881-7775
- 19 Gasket 5330-905-9174
- 20 Plate 8589882
- 21 Grommet: rubber 5325-286-6047

Figure 6-12. - Continued.



Figure 6-13. Clutch assembly 10516819-exploded view.



1 Seal 10513459 2 Plate 10549726

Figure 6-14. Seal assembly 6650-106-4461 - exploded view.

## 7-1. General

After the components of periscope XM47 have been repaired, inspected, declared serviceable and reassembled, the processing and packaging procedures of this chapter should be followed to assure that serviceability will be maintained.

## 7-2. Optical Components

Cover all prisms or optical elements with at least four thicknesses of neutral lens tissue and secure in place with water-resistant, pressure-sensitive adhesive tape. Cover the lens tissue with cellulosic cushioning materiel and secure in place with pressure-sensitive tape.

## 7-3. Final Packaging of Periscope XM47

Final packaging of periscope XM47 shall be in accordance with MIL-P-14232/P8589700, packaging level "A" and packing level "C."

# 7-4. Final Packaging of Mount Assembly and Seal Assembly

Final packaging and packing, level "C", shall be MIL-P-14232/P10513443 for the mount assembly and MIL-P-14232/P10513439 for the seal assembly.

# 7-5. Final Packaging of Washer, Pump and Reservoir Assembly and Wiper Assembly.

Final packaging and packing, level "C" shall be MIL-P-14232/P8589793 for the washer, pump and reservoir assembly and MIL-P-14232/P10513436 for the wiper assembly.

## A-1. Supply Manuals

The following Department of the Army Supply Manuals pertain to repair and overhaul of this materiel:

Brushes, Paint, Sealers, and Adhesives	SM 5-1-C5-1
Fire Control Maintenance and Repair Shop Specialized Equipment:	SM 9-4-4931-J40
Tool Set, Depot Maintenance, Supplementary Tools, Fixtures and	
Equipment (4931-798-7583).	
Fire Control Maintenance and Repair Shop Specialized Equipment	SM 9-4-4931-J51
Tool Set, Field and Depot Maintenance, General Purpose, Special	
Tools (4931-574-6433).	
Fire Control Maintenance and Repair Shop Specialized Equipment	SM 9-4-4931-J48
Tool Set, Special Depot Maintenance, Optical Cleaning, Coating	
Cementing and Decementing (4931-535-7827).	
Fire Control Maintenance and Repair Shop Specialized Equipment	SM 9-4-4931-J52
Wrench Set, Spanner, Field and Depot Maintenance: Tubr, Dble-	
End Concave Inserted Blade; Set of 76 Wrenches (4931-580-0012).	
Fuels, Lubricants, Oils, and Waxes	SM 10-1-C4-1
Hardware and Abrasives	SM 9-1-C5300
Shop Set Field Maintenance: Instrument and Fire Control Basic	SM 9-4-5180-B06
(5180-754-0740).	
Tool Kit, Fire Control Repairman (5180-357-7735)	SM 9-4-5180-A61
Tool Kit, Instrument Repairman's (5180-357-7743)	SM 9-4-5180-A62
A-2. Other Publications	
a. General	

Accident Reporting and Records	AR 385-40
Ordnance Direct Support Service	FM 9-3
Ordnance General and Depot Support Service	FM 9-4
The Army Equipment Record System and Procedures	TM 38-750

## b. Maintenance.

Cleaning of Ordnance Materiel	TM 9-208-1
General Maintenance Procedures for Fire Control Materiel	TM 9-254
Grease, Aircraft and Instrument (For Low and High Temperature)	MIL-G-23827
Lubricating Oil, Instrument, Aircraft, Low Volatility	MIL-L-6085
Lubrication of Ordnance Materiel	TM 9-273
DS, GS and Depot Maintenance Manual Including Repair Parts and	TM 9-6650-222-35
Special Tool Lists for Periscope, Tank: XM48 (6650-762-9336).	
Operator's and Organizational Maintenance Manual Armored Recon- naissance-Airborne Assault Vehicle: FT, 153MM, XM651.	TM 9-2350-230-12

A-1

Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists for Turrent, Elevating and Traversing Systems, Cupola, Gun-Launcher and Fire Control For Armored Reconnaissance-Airborne Assault Vehicle: FT, 152MM, XM551 (2350-873-5408).

Painting Instructions for Field Use Sealing Compound, Adhesive Curing (Polysulfide Base) Sealing Compound, Non-curing (Polysulfide Base)	. TM 9-213 . MIL-S-11031 . MIL-S-11030
<i>c.</i> Operations. Auxiliary Sighting and-Fire Control Equipment Northern Operations Operation and Maintenance of Ordnance Materiel in Extreme Cold Weather, 0 ° to -65 F.	. TM 9-575 . FM 31-71 TM 9-207
<i>d.</i> Shipment and Storage. Paper, Lens, Tissue, Antitarnish Wrapping Parts, Equipment and Tools for Ordnance Materiel, Packaging of	. MIL-P-13988 . MIL-P-14232/8589700
	MIL-P-14232/P10513443 MIL-P-14232/P10513439 MIL-P-14232/P8589793 MIL-P-14232/P10513436
Preservation, Methods of Preservation, Packaging and Packing	. MIL-P-116 . AR 700-15

A-2

## **APPENDIX B**

#### **REPAIR PARTS AND SPECIAL TOOLS LISTS**

This Appendix is Current as of 28 June 1972

## Section I. INTRODUCTION

## B-1. Scope

This appendix lists repair parts, special tools, and support equipment required for the performance of direct support, general support, and depot maintenance of the periscope M47.

#### B-2. General

These repair parts and special tools lists are divided into the following sections:

a. Repair Parts List-Section II. A list of repair parts authorized at the direct support, general support, and depot maintenance levels for the performance of maintenance. This list also includes parts which must be removed for the replacement of the authorized parts. This list is composed of functional groups in ascending numerical sequence with parts in each group listed in figure and item number sequence.

*b.* Special Tools List-Section III. A list of test and support equipment authorized for the performance of maintenance at the direct support, general support, and depot levels.

*c.* Federal Stock Number and Reference Number Index-Section IV. A list, in ascending numerical sequence, of all Federal stock numbers appearing in the listings followed by a list, in alphanumeric sequence, of all reference numbers appearing in the listings. Federal stock numbers and reference numbers are crossreferenced to each illustration figure and item number.

#### **B-3. Explanation of Columns**

The following provides an explanation of columns found in the tabular columns.

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) Source code. This code indicates the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are:

Code Explanation

- PA Item procured and stocked for anticipated or known usage.
- PB Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply systems.
- PC Item procured and stocked for anticipated or known usage and which otherwise would be coded PA except that it is deteriorative in nature.
- PD Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfitting. Not subject to automatic replenishment.
- PE Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities
- PF Support equipment which will not be stocked but which will be centrally procured on demand.
- MO Item to be manufactured or fabricated at organizational level.
- MF Item to be manufactured or fabricated at direct support level.
- MH Item to be manufactured or fabricated at general support level.
- MD Item to be manufactured or fabricated at depot maintenance level.

- Code Explanation
- AO Item to be assembled at organizational level.

AF Item to be assembled at direct support.

- AH Item to be assembled at general support.
- AD Item to be assembled at depot maintenance level.
- XA Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
- XB Item is not intended for procurement and is not stocked. If not available through salvage, requisition it.
- XC Installation drawing, diagram, instruction sheet, or field service drawing, that is identified by a manufacturer's part number.

(2) *Maintenance codes.* Indicates the levels of maintenance authorized to use and repair support items.

(a) *Use code.* This code indicates the lowest maintenance level authorized to remove, replace, and use the support item. Use codes are:

Code	Explanation
С	Used to denote crew or operator maintenance

 performed within organizational maintenance.
Support item is removed, replaced, and used at the organizational level of maintenance.

- F Support item is removed, replaced, and used at direct support.
- H Support item is removed, replaced, and used at general support.
- D Support item is removed, replaced, and used at depot only.

(b) *Repair code.* This code indicates whether the item is to be repaired, and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). Repair codes are:

Code Explanation

- O The lowest maintenance level capable of complete repair of the support item is the Organizational level.
- F The lowest maintenance level capable of complete repair of the support item is Direct Support.
- H The lowest maintenance level capable of complete repair of the support item is General Support.

Code

Explanation

- D The lowest maintenance level capable of complete repair of the support item is the Depot level.
- Z Nonrepairable.

(3) *Recoverability Codes.* This code indicates the disposition action on unserviceable items. Recoverability codes are:

Code Explanation

- Z Nonrepairable item. When unserviceable, condemn and dispose at the level authorized to replace the item.
- F Repairable item. When uneconomically repairable, condemn and dispose at (direct support level.
- H Repairable item. When uneconomically repairable, condemn and dispose at general support level.
- D Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
- L Repairable item. Repair, condemnation and disposal not authorized below depot/specialized repair activity level.
- A Item requires special handling or condemnation procedure because of specific reasons (i.e., precious metal content, high-dollar value, critical material or hazardous material). Refer to appropriate manuals,/directives for specific instructions.

*b.* Federal Stock Number. This column lists the Federal stock number assigned to the item and will be used for requisitioning purposes.

*c. Description.* This column lists the Federal item name and a minimum description required to identify the item. The last line indicated the reference number followed by the applicable Federal Supply Code for Manufacturer (FSCM) in parentheses. The FSCM is used as an element in item identification to designate manufacturer or distributor or Government Agency; etc., and is identified in SB 708-42.

*d.* Unit of Measure (U/M). This column lists the standard or basic quantity by which the listed item is used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in., pr; etc., and is the basis used to indicate quantities and allowances in subsequent columns. When the unit of measure differs

differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

e. Quantity Incorporated in Unit. This column lists the quantity of the item used in the breakout shown in the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A V appearing in this column in lieu of a quantity indicates that no specific quantity is applicable; e.g., shims, spacers; etc.

f. 30-Day DS/GS Maintenance Allowances.

(1) The repair parts, indicated by asterisk (\*) entries in separate allowance column(s), for DS and GS represents those parts authorized for use at that category of maintenance and will be requisitioned on an as required basis.

(2) Allowance quantities are indicated in the special tools list section for special tools, TMDE, and other support equipment.

g. Depot Maintenance Allowances Per 100 Equipments. This column indicates that the item identified with an asterisk (\*) are authorized to be requisitioned as required.

*h. Illustration.* This column is divided as follows:

(1) Figure Number. This column indicates the figure number of the illustration on which the item is shown.

(2) Item Number. This column indicates the callout number used to reference the item on the illustration.

## **B-4.** Special Information

a. Action change codes indicated in the left-hand margin of the listing page denote the following:

N-Indicates an added item.

C-Indicates a change in data.

R-Indicates a change in FSN only.

b. To maintain disassembly sequence in this manual, a number in parentheses will be displayed immediately to the right of the callout number on the illustration.

## B-5. How to Locate Repair Parts

*a*. When Federal stock number or reference number is unknown:

(1) First. Using the table of contents, determine the functional or subfunctional group within which the repair part belongs; i.e., head assembly, body assembly, mount assembly; etc. This is necessary since illustrations are prepared for functional and subfunctional groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional or subfunctional group to which the repair part belongs.

*(3) Third.* Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Fourth. Using the repair parts listing, find the functional or subfunctional group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference number is known:

(1) First. Using the index of Federal stock numbers and reference numbers find the pertinent Federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in ascending alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(2) Second. Using the repair parts listing, find the functional or subfunctional group of the repair part and the illustration figure number and item number referenced in the index of Federal stock numbers and reference numbers.

## 6. Abbreviations

Abbreviations	Explanation
amp	amperage
blt	bolt
cres	corrosion-resistant steel
dp	depth
ea	each
fl	flat
gl	glass

Abbreviations	Explanation
h	high
hdw	hardware
hex	hexagon
hex soch	hexagonal socket head
hlel	helical
id	inside diameter
intl	internal
1	long
lkg	locking
mscr	machine screw
mtg	mounting
muw	music wire
NEF	National extra fine (thread)
oa	over-all
od	outside diameter
plstc	plastic
pnh	pan head
psvt fnsh	passivated finish
r	right
rbr	rubber
rec	recessed
rnd	round
scr	screw

Abbreviations	Explanation
skt	socket
stl	steel
synth	synthetic
t	teeth
thk	thick
UNC	Unified coarse thread
UNF	Unified fine thread
w	wide
v	voltage

#### B-7. Reporting of Equipment Publication Improvements

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to: Commanding Officer, Frankford Arsenal, ATTN: AMSWE-MAF-W3100,

Philadelphia, PA 19137.

Actn ch code	(1)	(2)	ral Description nber Ref. No. & FSCM	(4) Unit	(5) Qty inc. in unit	(6) 30-Day DS maint alw			(7) 30-Day GS maint alw			(8) Dep maint	(9) Illust	
	SMR code	Federal stk number		of meas		(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per (a) 100 Fig. equip No.	(a) Fig. No.	(b) Itm No.
С	PA-OZ-Z	6650-906-7941	HEAD ASSEMBLY 10513625 HEAD ASSEMBLY: Tank peri- scope	ea	1	*	*	*	*	*	*	*	B-1	1
	XA		SCREW: Machine MS51957-2 (96906)		4								B-1	2
	XA		CLIP: 10513622-2 (19200).		2								B-1	3
	XA		CLIP: 10513628 (19200).		1								B-1	5
	XA		PRISM: Head assembly 8599693 (19200).		1								B-1	6
	XA		GASKET: 10513627 (19200).		1								B-1	7
	XA		HOUSING: Head 10513626 (19200).		1								B-1	8



Figure B-1. Head assembly 10513625 - exploded view.



Figure B-2. Body assembly 10518620-exploded view.

Actn	(1)	(1) (2) (3)	(4)	(5) (6) 30-Day DS maint alw			3 r	(7) 0-Day naint a	GS Iw	(8) Dep maint	(9) Illust			
ch code	SMR code	Federal stk number	Description	of meas	inc. in	(a) 1- 20	(b) 21-	(c) 51-	(a) 1- 20	(b) 21-	(c) 51-	alw per 100	(a) Fig.	(b) Itm
			Rei. No. & FSCM		unit	20	50	100	20	50	100	equip	NO.	NO.
	ХА		BODY ASSEMBLY 10513620 SCREW: Machine MS51959-1 (96906).		10								B-2	1
	XA		FRAME:		1								B-2	2
С	PA-FZ-Z	6650-902-9741	WINDOW: Optical instrument gl, 0.332 thk 2.645 w, 7.051 1 8599692 (19200)	ea	1	*	*	*	*	*	*	*	B-2	3
С	PA-FZ-Z	5305-054-651	SCREW: Machine pnh, cres, psvt fnsh, NO. 6-32UNC-2A, 5/16 1 MS51957-77 (96906)	ea	4	*	*	*	*	*	*	*	B-2	4
С	PA-FZ-Z	5310-929-6395	WASHER: Lock split, hlcl r lkg, cres, psvt fnsh, No.6 scr size MS35338-136 (96906).	ea	4	*	*	*	*	*	*	*	B-2	5
С	PA-FZ-Z	1240-191-9213	CATCH: 10516029-3 (19200).	ea	2	*	*	*	*	*	*	*	B-2	6
С	PA-FZ-Z	2640-507-9260	CAP: Tire valve 8200055 (19200).	ea	1	*	*	*	*	*	*	*	B-2	7
Ν	PA-FZ-Z	2640-060-3543	VALVE CORE: MS51377-2 (96906).	ea	1	*	*	*	*	*	*	*	B-2	8
С	PA-FZ-Z	2640-114-1096	VALVE STEM: MS51607-1 (96906)	ea	1	*	*	*	*	*	*	*	B-2	9
Ν	PA-FZ-Z	1240-464-4792	STRAP: 10516567 (19200)	ea	1	*	*	*	*	*	*	*	B-2	10
С	PA-FZ-Z	4730-684-4401	PLUG: Machine thread cres, psvt fnsh, 3/8-32NEF-2B, 0.166 thk 0.270 oal 8574881 (19200).	ea	1	*	*	*	*	*	*	*	B-2	11
С	PA-FZ-Z	5330-683-9573	GASKET: Synth rbr, 0.370 id, 3/16 od, 0.625 thk 8574642 (19200)	ea	1	*	*	*	*	*	*	*	B-2	12
	XA		CLIP:		2								B-2	14
	ХА		10513622-2 (19200). SCREW: Machine MS51957-2 (96906).		4								B-2	15

Actn	(1)	(2)	(3)	(4)	(5) Otv	3	(6) 80-Day naint a	DS Iw	3	(7) 80-Day maint a	GS Iw	(8) Dep maint	(9    1	€) Just
ch code	SMR code	Federal stk number	Description Ref. No. & FSCM	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
	ХА		BODY ASSEMBLY 10513620- Continued WASHER: Lock MS35338-134 (96906)		4								B-2	16
	MD-FZ-Z		PLATE: Identification 11727687 (19200).	ea	1							*	B-2	17
	XA		PRISM: Body assembly 8589694 (19200).		1								B-2	18
_	XA		HOUSING: Body 10513617 (19200).		1								B-2	19

Acto	(1)	(2)	(3)	(4)	(5)	3 r	(6) 0-Day I naint a	DS Iw	3 r	(7) 0-Day naint a	GS Ilw	(8) Dep	(9 	)) ust
ch code	SMR code	Federal stk number	Description of mea	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
С	PA-FZ-Z	5305-057-0523	MOUNT ASSEMBLY 10513443 SCREW: Machine pnh, cross-rec, cres, psvt fnsh No. 6-40UNF-2A, 5/16 1	ea	8	*	*	*	*	*	*	*	B-3	1
С	PA-FZ-Z	5310-929-6395	MS51958-27 (96906). WASHER: Lock split, hlcl, r lkg, cres, psvt fnsh 0.250 od, 0.031 thk, No. 6 scr size MS35338-136 (96906).	ea	8	*	*	*	*	*	*	*	B-3	2
Ν	PA-FZ-Z	5340-111-5289	STRIKE: 10542040 (19200)	ea	2	*	*	*	*	*	*	*	B-3	3
С	PA-FZ-Z	5340-912-5826	SPRING: Helical compression mum 0.033 diam, 0.781 1, 14 coil 10513456 (19200).	ea	2	*	*	*	*	*	*	*	B-3	4
Ν	PA-FZ-Z	5340-903-7157	PLUNGER: Cres, 0.218 id, 0.540 1 10513473 (19200).	ea	2	*	*	*	*	*	*	*	B-3	5
С	PA-FZ-Z	5305-225-9443	SCREW: Cap, socket head hex skt, cres, psvt fnsh, 5/16 24UNF-3A, 11 (mtg hdw) MS16996-32 (96906)	ea	4	*	*	*	*	*	*	*	B-3	6
С	PA-FZ-Z	5310-974-6623	WASHER: Lock split hlcl r lkg, cres, psvt fnsh, 0.151 id, 0.239 od, 0.031 thk, 5/16 blt size (mtg hdw)	ea	4	*	*	*	*	*	*	*	B-3	7
-	XA-		MOUNT: 10513630 (19200).		1								B-3	8



Figure B-3. Mount assembly 10513443 - exploded view.





Figure B-4. Washer, pump, and reservoir assembly 8589793 - exploded view.

	(1)	(2)	(3)	(4)	(5)	3	(6) 0-Day [	os	3	(7) 60-Day	GS	(8)	(9	9)
Actn				Unit	Qtv	r	maint al	w		maint a	lw	Dep maint	Illu	ist
ch	SMR	Federal	Description	of	inc.	(a)	(b)	(C)	(a)	(b)	(C)	alw per	(a)	(b)
code	code	Sik number	Ref. No. & FSCM	meas	unit	20	50	100	20	50	100	equip	Fig. No.	No.
			WASHER, PUMP, AND RESER-											
	ХА		CAP: Reservoir		1								B-4	1
	ХА		TUBING: Rubber		1								B-4	2
	ХА		TUBING: Rubber 8580761 14 (10200)		1								B-4	3
	ХА		TUBING: Rubber 5503761 42 (19200)		1								B-4	4
	ХА		TUBING: Rubber 550761 10 (10200)		1								B-4	5
С	PA-FZ-Z	4730-905-9796	TEE: Hose	ea	1	*	*	*	*	*	*	*	B-4	6
	ХА		TUBING: Rubber		1								B-4	7
	ХА		TUBING: Rubber		1								B-4	8
Ν	PA-OZ-Z	4730-115-3741	TEE: Pipe	ea	1	*	*	*	*	*	*	*	B-4	9
	ХА		TUBING: Rubber		1								B-4	10
С	PA-OZ-Z	5305-052-9329	SCREW CAP: Socket Head	ea	2	*	*	*	*	*	*	*	B-4	11
			nex skt, cres, No. 1/4-28UNF- 3A, 1/2 1 (mtg hdw)											
С	PA-FZ-Z	5310-933-8121	WASHER: Lock	ea	3	*	*	*	*	*	*	*	B-4	12
			od, 0.057 thk, 1/4 bit size											
0		5040 500 5077	(mtg naw) MS35338-139 (96906).			*		*	+			*	54	10
C	PA-FZ-Z	5310-582-5677	wASHER: Hat rnd, 1/4 scr size (mtg hdw)	ea	2			~	-				В4	13
	PA-OZ-Z		MS 15795-810 (96906). CLIP:	ea	1	*	*	*	*	*	*	*	B-4	14
Ν	PA-OZ-Z	4820-836-7555	8589915 (19200). CHECK VALVE ASSEMBLY: 8589808 (19200).	ea	1	*	*	*	*	*	*	*	B-4	15
		I I	B-	15 <sup> </sup>	I			l				I		

Actn	(1)	(2)	(3)	(4) Unit	(5) Otv	3 r	(6) 0-Day [ naint al	DS Iw	3 r	(7) 0-Day naint a	GS Iw	(8) Dep maint	(9    1	9) ust
ch	SMR	Federal	Description	of	inc.	(a)	(b)	(c)	(a)	(b)	(c)	alw per	(a)	(b)
code	code	Stk number	Ref. No. & FSCM	meas	in unit	1- 20	21- 50	51- 100	1- 20	21- 50	51- 100	equip	Fig. No.	No.
			WASHER, PUMP, AND RESERVOIR ASSEMBLY 8589793-Continued											
С	PA-OZ-Z	1260-944-5127	PUMP: Washer 8589809 (19200).	ea	1	*	*	*	*	*	*	*	5	18
Ν	PA-OZ-Z	5310-768-0319	NUT: Self-locking No. 1/4-28 UNF-2B, 7/16 w MS51968-2 (96906).	ea	1	*	*	*	*	*	*	*	5	19
С	PA-FZ-Z	5305-958-7667	SCREW CAP: Socket head hex skt, cres, No. 1/4-28UNF- 3A, 3/4 I (mtg hdw) MS16996-23 (96906).	ea	3	*	*	*	*	*	*	*	5	21
	XA		BRACKET:		1								5	23
С	PA-OZ-Z	1260-944-5128	RESERVOIR ASSEMBLY: 10516821 (19200).	ea	1	*	*	*	*	*	*	*	5	24

	(1)	(2)	(3)	(4)	(5)	3 n	(6) 0-Day I naint al	DS Iw	3	(7) 0-Day naint a	GS Iw	(8) Dep	(9    1	9) ust
Actn ch code	SMR code	Federal stk number	Description	Unit of meas	Qty inc. in	(a) 1-	(b) 21-	(c) 51-	(a) 1-	(b) 21-	(c) 51-	alw per 100	(a) Fig.	(b) Itm
			Ref. No. & FSCM		unit	20	50	100	20	50	100	equip	No.	No.
С	PA-FZ-Z	5305-225-9443	WIPER ASSEMBLY 10549760 SCREW: Cap, socket head hex cres, psvt fnsh, 5/16- 24UNF-3A, 11 (mtg hdw)	ea	2	*	*	*	*	*	*	*	B-5	1
С	PA-FZ-Z	5310-974-6623	MS16996-32 (96906). WASHER: Lock split hIcl It, r Ikg, cres, psvt, 0.575 od, 0.066 thk, No. 5/16	ea	2	*	*	*	*	*	*	*	B-5	2
N	PA-OZ-Z	5305-068-8139	SCF SIZE (mtg hdw) MS35338-140 (96906). SETSCREW: hex skt, 1/2 op, cres, psvt fnsh No. 4-48UNF-3A, 3/16 1	ea	1	*	*	*	*	*	*	*	B-5	3
С	PA-00-Z	6650-924-5875	MS510474 (96906). WIPER BLADE ASSEMBLY: 10516816 (19200).	ea	1	*	*	*	*	*	*	*	B-5	4
	ХА		MS51959-2 (96906). SCREW: Machine MS51959-3 (96906).		5								в-э В-5	5 6
	XA		HOUSING ASSEMBLY: 10549752 (19200).		1								B-5	7
	XA		10549753 (19200). SCREW: Machine		3								в-э В-5	9 10
С	PA-FZ-Z	5310-929-6395	MS51957-36 (96906). WASHER: Lock split hIcl It, r Ikg, cres, psvt fnsh 0.141 id, 0.250 od, 0.031 thk, No.6 scr size MS35338,136 (96906)	ea		*	*	*	*	*	*	*	B-5	11
	XA		SCREW: Machine MS51957-31 (96906).		2								B-5	12
	ХА		HOUSING ASSEMBLY: 8589875 (19200).		1								B-5	14
	XA		COVER ASSÈMBLÝ: 10549762 (19200).		1								B-5	15



Figure B-5. Wiper assembly 10549760-partial - exploded view.

tn	(1)	(2)	(3)	(4)	(5) Otv	30 n	(6) 0-Day I naint al	DS Iw	3	(7) 0-Day maint a	GS Iw	(8) Dep maint	؛) ۱۱۱۱	9) ust
h de	SMR code	Federal stk number	Description Ref. No. & FSCM	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
2	PA-OZ-Z XA XA XA XA	6650-924-5876	WIPER BLADE ASSEMBLY 10516816 WIPER BLADE: Periscope 8589833 (19200) RING: Retaining MS16624-1012 (96906). PIN: Grooved headed 10513634 (19200). ARM ASSEMBLY: 8589905 (19200). PIVOT: 8589861 (19200).	ea	1 1 1 1 1	*	*	*	*	*	*	*	B-6 B-6 B-6 B-6 B-6	1 2 3 4 5



Figure B-6. Wiper blade assembly 10516816 - exploded view.

Actn	(1)	(2)	(3)	(4)	(5) Otv	3 r	(6) 0-Day I naint a	DS Iw	3 1	(7) 0-Day naint a	GS Iw	(8) Dep maint	؟) ۱۱۱۱	9) ust
ch code	SMR code	Federal stk number	Description	of meas	inc. in	(a) 1-	(b) 21-	(c) 51-	(a) 1-	(b) 21-	(c) 51-	alw per 100	(a) Fig.	(b) Itm
			Ref. No. & FSCM		unit	20	50	100	20	50	100	equip	No.	No.
Ν	PA-FZZ	5305-843-2841	HOUSING ASSEMBLY 10549752 SETSCREW: No. 2-56UNC-3A, 3/321 MS51021-1 (96906).	ea	1	*	*	*	*	*	*	*	B-7	1
	XA		SEAT:		1								B-7	2
	XA		8620836 (19200). RETAINER: 10513644 (19200).		1								B-7	3
С	PA-FZ-Z	5330-905-9175	PACKING: Preformed synth rbr, 0.144 id, 0.070 thk 8589770 (19200).	ea	1	*	*	*	*	*	*	*	B-7	4
	XA		BEARING: Ball, annular 8589769 (19200)		2								B-7	5
	XA		GEAR:		1								B-7	6
	XA		TUBE: 2520025 (10200)		1								B-7	8
	ХА		HOUSING: 10549739 (19200)		1								B-7	9
Ν	PA-FZ-Z	5315-817-0889	PIN: Straight, headless MS16555-601 (96906).	ea	1							*	B-7	10



Figure B-7. Housing assembly 10549752 - exploded view.

Actn	(1)	(2)	(3)	(4)	(5) Otv	3 n	(6) 0-Day I naint al	DS Iw	3 r	(7) 0-Day naint a	GS Iw	(8) Dep maint	) (! 	}) µst
ch code	SMR code	Federal stk number	Description Ref. No. & FSCM	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
	ХА		SUPPORT ASSEMBLY 10549753 PIN: Tapered, plain		1								B-8	1
	ХА		BEARING: Ball, annular		4								B-8	2
	ХА		8589768 (19200). SHAFT: 10512477 (10200)		1								B-8	3
	ХА		GEAR:		1								B-8	4
Ν	PA-FZ-Z	3020-783-7659	GEAR: 10513648 (19200)	ea	2	*	*	*	*	*	*	*	B-8	5
	ХА		PIN: 10516178-4 (19200)		2								B-8	7
	ХА		GEAR: 10513646 (19200)		1								B-8	8
	ХА		SHAFT: 10549737 (19200)		1								B-8	12
	ХА		SUPPORT: 10513476 (19200).		1								B-8	14



Figure B-8. Support assembly 10549753 - exploded view.

	(1)	(2)	(3)	(4)	(5)	3	(6) 0-Day I	DS	3	(7) 0-Day	GS	(8) Don	) 	9) Vot
Actn	CMD	Fadaral	Description	Unit	Qty	(-)		w (a)	(-)		IW 	maint		
cn code	code	stk number	Description	meas	inc.	(a) 1-	(D) 21-	(c) 51-	(a) 1-	(D) 21-	(c) 51-	aiw per 100	(a) Fig.	(b) Itm
			Ref. No. & FSCM		unit	20	50	100	20	50	100	equip	No.	No.
С	PA-FZZ	5305-054-5648	HOUSING ASSEMBLY 8589875 SCREW: Machine pnh, cross-rec, cres, psvt fnsh No. 4-40UNC-2A, 5/16 1	ea	3	*	*	*	*	*	*	*	B-9	1
С	PA-FZ-Z	5310-933-8118	MS51957-14 (96906). WASHER: Lock split hIcl It, r Ikg, cres, psvt fnsh, 0.204 od, 0.025 thk, No. 4 scr size	ea	3								B-8	2
	XA		MS35338-135 (96906). SUPPORT: 9589870 (10200)		1								B-9	3
Ν	PA-FZ-Z	5315-702-9650	PIN: Straight, headless 1/16x1/4 1 MS16555 602 (06006)	ea	2	*	*	*	*	*	*	*	B-9	4
	ХА		BEARING: Ball, annular 8589883 (19200)		1								B-9	5
	ХА		PIVOT: Pinned 10516818 (19200)		1								B-9	6
	XA		PIN:		1								B-9	7
	XA		PIVOT:		1								B-9	8
	ХА		SHAFT:		1								B-9	9
	ХА		DRIVER: Pinned		1								B-9	10
Ν	PA-FZ-Z	5315-806-7039	PIN: Straight, headless	ea	1	*	*	*	*	*	*	*	B-9	11
	ХА		GEAR:		1								B-9	12
	ХА		DRIVER:		1								B-9	13
	ХА		BEARING: Ball, annular		1								B-9	14
Ν	PA-FZ-Z	5315-817-0889	PIN: Straight, headless	ea	1	*	*	*	*	*	*	*	B-9	15
	ХА		MS1655-601 (96906). HOUSING: 8589873 (19200).		1								B-9	16
-														



Figure B-9. Housing assembly 8589875 - exploded view.



Figure B-10. Cover assembly 10549762 - exploded view.

	(1)	(2)	(3)	(4)	(5)	3	(6) 0-Day [	os	3	(7) 0-Day	GS	(8)	(9	9)
Actn				Unit	Qtv	r	naintal	w	r	naint a	lw	Dep maint	IIIı	ust
ch code	SMR code	Federal stk number	Description	of meas	inc. in	(a) 1- 20	(b) 21-	(c) 51-	(a) 1- 20	(b) 21-	(c) 51-	alw per 100	(a) Fig.	(b) Itm
			Rei. No. & FSCM		unit	20	50	100	20	50	100	equip	NO.	NO.
С	PA-FZ-Z	5305-054-5642	COVER ASSEMBLY 10549762 SCREW: Machine pnh, cross-rec, cres, psvt fnsh, No. 2-56UNC-2A, 5/8 1 MSE1057 8 (06006)	ea	2	*	*	*	*	*	*	*	B-10	1
С	PA-FZ-Z	5310-938-2013	NUT: Plain, hexagon mscr cres, psvt fnsh No. 2-56UNC-2B, 3/16 w	ea	4	*	*	*	*	*	*	*	B-10	2
С	PA-FZ-Z	5310-543-4652	WASHER: Lock fl intl t, cres, psvt fnsh, 0.200 od, 0.015 thk, No. 2 blt size MS35333-69 (96906)	ea	4	*	*	*	*	*	*	*	B-10	3
С	PA-FZ-Z	6650-924-5877	ADAPTER: Switch actuator stl, 7/32 h, 21/23 w, 1 11/16 1 8589869 (19200).	ea	1	*	*	*	*	*	*	*	B-10	4
С	PA-FZ-Z	5930-583-6582	SWITCH: Sensitive plstc, 250 v. 5 amp, 23/64 h, 1/4 w, 25/32 1 8602590 (19200).	ea	1	*	*	*	*	*	*	*	B-10	5
Ν	PA-FZ-Z	5305-068-5412	SCREW: Cap, socket head hex hd, cres, psvt fnsh, No. 2-56UNC-3A, 1/2 1 MS16995-4 (96906).	ea	1	*	*	*	*	*	*	*	B-10	6
С	PA-FZ-Z	5310-928-2690	WASHER: Lock split hlcl, lt, r lkg, cres, psvt fnsh, 0.094 id, 0.172 od, 0.020 thk, No. 2 scr size MS35338-134 (96906)	ea	1	*	*	*	*	*	*	*	B-10	7
	ХА		RANK:			1								B-10
8			10549745 (19200)											
	XZ		CLAMP: 10513447 (19200).		1								B-10	9
С	PA-FZ-Z	5940-539-0511	TERMINAL: Stud 10513438 (19200)	ea	1	*	*	*	*	*	*	*	B-10	10
Ν	PA-FZ-Z	5305-054-5638	SCREW: Machine pnh, cross-rec, cres, psvt fnsh, No. 2-56UNC-2A, 5/161 i 40 MS51957-4 (96906). o	ea	2	*	*	*	*	*	*	*	B-10	11

	(-)	(2)	(3)	(4)	(5)	3	(6) 0-Day [	os	3	(/) 0-Day	GS	(8)	e) (9	9)
Actn				Unit	Qty	r	naint al	w	r	naint a	alw	Dep maint		ust
ch :ode	SMR code	Federal stk number	Description	of meas	inc. in	(a) 1-	(b) 21-	(c) 51-	(a) 1-	(b) 21-	(c) 51-	alw per 100	(a) Fig.	(b) Itm
			Ref. No. & FSCM		unit	20	50	100	20	50	100	equip	No.	No.
			COVER ASSEMBLY 10549762-											
			Continued											
Ν	PA-FZ-Z	5945-872-0571	RELAY: Armature	ea	1	*	*	*	*		*	*	B-10	14
<u> </u>			10549795 (19200).		*	*	*	*	*	*	*	*	B 10	15
C	PA-FZ-Z	5305-054-5646	phh, cross-rec, cres, psvt fnsh, No. 4-40UNC-2A, 5/16 1	ea									D-10	15
			MS51957-14 (96906).											
С	PA-FZ-Z	5310-934-9748	NUT: Plain, hexagon cres, psvt fnsh, No. 4-40I INC-2B	ea	2	*	*	*	*	*	*	*	B-10	16
			MS35649-244 (96906).											
С	PA-FZ-Z	5310-933-8118	WASHER: Lock	ea	6	*	*	*	*	*	*	*	B-10	17
			0.204 od, 0.025 thk, No. 4 scr size											
			MS35338-135 (96906).											
	XA		NOISE SUPPRESSION FILTER: (furnished with Motor,		1								B-10	18
-			3010-906-6317).											
С	PA-FZ-Z	5305-054-6651	SCREW: Machine	ea	4	*	*	*	*	*	*	*	B-10	19
			No. 6-32UNC-2A, 5/16 1											
			MS51957-27 (96906).											
С	PA-FZ-Z	5310-929-6395	WASHER: Lock	ea	4	*	*	*	*	*	*	*	B-10	20
			split, nici, it, r ikg, cres, psvt fnsh 0.141 ID. 0.250 od. 0.031											
			thk, No. 6 scr size											
			MS35338-136 (96906).											
С	PA-FZ-Z	3010-906-6317	GEARCASE: Motor	ea	1	*	*	*	*	*	*	*	B-10	21
C	PA-F7-7	5935-846-2175	10513631 (19200). CONNECTOR: Recentacle	63	1	*	*	*	*	*	*	*	B-10	24
U		0000 040 2110	electrical MS3112-E-8-4P (96906).	- Cu										27
С	PA-FZ-Z	5305-905-9174	GASKET:	ea	1	*	*	*	*	*	*	*	B-10	25
			synth rbr, 0.031 thk, 0.875 w, oa, 0.875 1, 4 blt holes											
	VA		MS51007-1 (96906).										D 10	00
	ХA		8589882 (19200).		1								B-10	20

PA-FZ-Z	5325-286-6047	GROMMET: rbr, 1/8 id	ea	1	*	*	*	*	*	*	*	B-10	27
XA		MS35489-1 (96906). COVER: 8589874 (19200).		1								B-10	28

С

Actn	(1)	(2)	(3)	(4)	(5) Otv	30-I ma	(6) Day E int al	os w	3 1	(7) 0-Day ( naint a	GS Iw	(8) Dep maint	(9 Illu	ı) Ist
ch code	SMR code	Federal stk number	Description Ref. No. & FSCM	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
N	PA-OZ-Z	5305-267-8952	SEAL ASSEMBLY 10549727 SCREW: Cap, hexagon head cres, psvt fnsh, No. 1/4-28UNF-2A, 1/21 MS90727-3 (96906)	ea	11	*	*	*	*	*	*	*	B-11	1
	ХА		PLATE:		1								B-11	2
	ХА		SEAL: 10513459 (19200).		1								B-11	3


Figure B-11. Seal assembly 10549727 - exploded view.

B-33

## Section II. REPAIR PARTS LIST

Actn	(1)	(2)	(3)	(4) Unit	(5) Qtv	3 r	(6) 0-Day I naint al	DS Iw	3 r	(7) 0-Day ( naint a	GS Iw	(8) Dep maint	(9 IIIu	9) Ist
ch code	SMR code	Federal stk number	Description Ref. No. & FSCM	of meas	inc. in unit	(a) 1- 20	(b) 21- 50	(c) 51- 100	(a) 1- 20	(b) 21- 50	(c) 51- 100	alw per 100 equip	(a) Fig. No.	(b) Itm No.
			TOOLS AND EQUIPMENT											
С	PA-OF-F	6650-906-7944	MOUNT: Telescope assembly 10513443 (19200).	ea	3	*	*	*	*	*	*	*	B-12	1
N	PA-OZ-Z	6650-059-3675	SEAL ASSEMBLY: 10549727 (19200).	ea	3	*	*	*	*	*	*	*	B-12	2
		AO	WASHER, PUMP, AND RESER- VOIR ASSEMBLY: 8589793 (19200).	ea	1								B-12	3
N	PA-FF-F	6650-135-9044	WIPER ASSÈMBLY: 10549760 (19200).	ea	1	*	*	*	*	*	*	*	B-12	4

B-34



Figure B-12. Tools and equipment.

B-35

#### Section IV. FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

Federal stock number cross-reference to figure number and item number

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
1240-191-9213	2	6	5310-929-6395	4	2
1240-464-4792	2	10	5310-929-6395	6	11
1260-944-5127	5	18	5310-929-6395	11	20
1260-944-5128	5	24	5310-933-8118	10	2
2640-060-3543	2	8	5310-933-8118	11	17
2640-507-9260	2	7	5310-933-8121	5	12
3010-906-6317	11	21	5310-934-9748	11	16
3020-783-7659	9	5	5310-938-2013	11	2
4730-115-3741	5	9	5310-974-6623	4	7
4730-684-4401	2	11	5310-974-6623	6	2
4730-905-9796	5	6	5315-702-9650	10	4
4820-836-7555	5	15	5315-806-7039	10	11
5305-052-9329	5	11	5315-817-0889	8	10
5305-054-5638	11	11	5315-817-0889	10	15
5305-054-5642	11	1	5325-286-6047	11	27
5305-054-5648	10	1	5330-683-9573	2	12
5305-054-5648	11	15	5330-905-9175	8	4
5305-054-6651	2	4	5340-111-5289	4	3
5305-054-6651	11	19	5340-903-7157	4	5
5305-057-0523	4	1	5340-912-5826	4	4
5305-068-5412	11	6	5930-583-6582	11	5
5305-068-8139	6	3	5935-846-2175	11	24
5305-225-9443	4	6	5940-539-0511	11	10
5305-225-9443	6	1	5945-872-0571	11	14
5305-267-8952	12	1	6650-059-3675	3	2
5305-843-2841	8	1	6650-135-9044	3	4
5305-905-9174	11	25	6650-902-9741	2	3
5305-958-7667	5	21	6650-906-7941	1	1
5310-543-4652	11	3	6650-906-7944	3	1
5310-582-5677	5	13	6650-924-5875	6	4
5310-768-0319	5	19	6650-924-5876	7	1
5310-928-2690	11	7	6650-924-5877	11	4
5310-929-6395	2	5			

## Reference number cross-reference to manufacturer's code, figure number, and item number

Reference		Figure	Item	Reference		Figure	Item
No.	FSCM	Ňo.	No.	No.	FSCM	Ňo.	No.
MS15795-810	96906	5	13	MS35338-135	96906	10	2
MS16565-601	96906	8	10	MS35338-135	96906	11	17
MS16555-601	96906	10	15	MS35338-136	96906	2	5
MS16555-602	96906	10	4	MS35338-136	96906	4	2
MS16555-604	96906	10	11	MS35338-136	96906	6	11
MS16624-1012	96906	7	2	MS35338-136	96906	11	20
MS16995-4	96906	11	6	MS35338-139	96906	5	12
MS16996-21	96906	5	11	MS35338-140	96906	4	7
MS16996-23	96906	5	21	MS35338-140	96906	6	2
MS16996-32	96906	4	6	MS35489-1	96906	11	27
MS16996-32	96906	6	1	MS35649-224	96906	11	2
MS24692-3	96906	9	1	MS35649-244	96906	11	16
MS3112-E-8-4P	96906	11	24	MS51007-1	96906	11	25
MS35333-69	96906	11	3	MS51021-1	96906	8	1
MS35338-134	96906	2	16	MS51047-8	96906	6	3
MS35338-134	96906	11	7	MS51377-2	96906	2	8

Reference		Figure	Item	Reference		Figure	Item
No.	FSCM	No.	No.	No.	FSCM	No.	No.
MS51957-14	96906	10	1	10549737	19200	9	12
MS51957-14	96906	11	15	10549739	19200	8	9
MS51957-2	96906	1	2	10549745	19200	11	8
MS51957-2	96906	2	15	10549750	19200	9	4
MS51957-27	96906	2	4	10549752	19200	6	7
MS51957-27	96906	11	19	10549753	19200	6	, q
MS51957-31	96906	6	12	10549758	19200	8	õ
MS51957-36	96906	6	10	10549760	19200	3	4
MS51957-4	96906	11	10	10549762	19200	6	15
MS51057-8	96906	11	1	10549702	19200	11	1/
MS51059 27	06006	1	1	11727697	10200	) )	17
MS51950-27	90900	4	1	9200055	19200	2	7
MS51909-1	90900	2	5	8200033	19200	2	10
MS51959-2	90900	0	5	0574042	19200	2	14
MO54000 0	96906	0	0	0074001	19200	2	10
MO00707 0	96906	5	19	8589694	19200	2	18
MS90727-3	96906	12	1	8589761-10	19200	5	5
10513438	19200	11	10	8589761-11	19200	5	(
10513443	19200	3	1	8589761-12	19200	5	4
10513447	19200	11	9	8589761-14	19200	5	3
10513456	19200	4	4	8589761-16	19200	5	2
10513473	19200	4	5	8589761-3	19200	5	10
10513476	19200	9	14	8589761-9	19200	5	8
10513477	19200	9	3	8589768	19200	8	5
10513617	19200	2	19	8589768	19200	9	2
10513618	19200	5	6	8589768	19200	10	14
10513622-2		1	3	8589770	19200	8	4
10513622-2	19200	2	14	8589793	19200	3	3
10513623	19200	2	2	8589803	19200	5	1
10513625	19200	1	1	8589808	19200	5	15
10513626	19200	1	8	8589809	19200	5	18
10513627	19200	1	7	8589833	19200	7	1
10513628	19200	1	5	8589861	19200	7	5
10513630	19200	4	8	8589866	19200	10	8
10513631	19200	11	21	8589867	19200	10	9
10513634	19200	7	3	8589868	19200	10	13
10513644	19200	8	3	8589869	19200	11	4
10513646	19200	9	8	8589870	19200	10	3
10513648	19200	9	5	8589873	19200	10	16
10516029-3	19200	2	6	8589874	19200	11	28
10516178-2	19200	10	7	8589875	19200	6	14
10516178-4	19200	9	7	8589882	19200	11	26
10516567	19200	2	10	8589883	19200	10	
10516816	19200	6	4	8589905	19200	7	4
10516817	19200	10	10	8589906	19200	10	12
10516818	19200	10	6	8589915	19200	.0	14
10516821	19200	5	24	8589925	19200	R	 Я
10542040	19200	4	27	8599692	19200	2	3
10542166	19200	5	q	8599693	19200	<u>~</u> 1	6
10542244	19200	5	23	8602590	19200	11	5
10549727	19200	2	20	8620836	19200	2 2	2
100-0121	13200	5	2	0020000	13200	U	2

B-37

	Paragraph	Page
Accident reports (See Report of accidents)		
Actuator:		
Inspection	6-15 <i>b</i>	6-13
Installation	6-15 <i>e</i>	6-13
Removal	6-15 <i>a</i>	6-11
Adapter, nitrogen filling 4931-508-	0.00	• • •
5453	5-11	5-4
Adjustment and test (See Test	0 11	0.1
and adjustment)		
Armored Reconnaissance Airborne		
Assault Vehicle: XM551	1- <i>1b</i>	1-1
Authorized forms	1-4 <i>a</i>	1-1
Ball bearings:		
Inspection	6-14 <i>b</i>	6-11
	6-14 <i>c</i>	6-11
Disassembly	6-14 <i>a</i>	6-11
Bearings ball (See Ball bearings)	0 T Tu	0.11
Blade assembly:		
Inspection	6-13 <i>b</i>	6-11
Installation	6-13 <i>c</i>	6-11
Removal	6-13 <i>a</i>	6-11
Catch:	0.00	• • •
Inspection	5-8 <i>b</i>	5-4
	5-8 <i>c</i>	5-4
Removal	5-8 <i>a</i>	5-4
Characteristics, optical (See Opti-		•
cal characteristics).		
Cleaning	5-5	5-1
Comments, technical manual	1-2	1-1
Common tools and equipment	2-1	2-1
Compression spring, helical (See		
Helical compression spring)		
Data	1-6	1-5
Depot Maintenance Work Require-		
ments (DMWR)	1-1 <i>a</i>	1-1
Description of periscope:		
Body assembly	1-5 <i>d</i>	1-3
General	1-5 <i>a</i>	1-1
Head assembly	1-5 <i>c</i>	1-1
Optical scheme	1-5 <i>b</i>	1-1
Electrical receptacle connector:		
Inspection	6-18 <i>b</i>	6-14
Installation	6-18 <i>c</i>	6-14
Removal	6-18 <i>a</i>	14
Equipment Improvement Recom-		
mendations EIR)	1-4 <i>c</i>	1-1
•		

	Paragraph	Page
Equipment issued with tank peri-		-
General description	6-1	6-1
Specific description	6-2	6-1
Mount assembly	6-22	6-1
Soal assembly	6-26	6-1
Washer nump and reconvoir	0-20	0-1
accombly	6.20	61
Winer accembly	0-2e	6 1
Forme outborized (See outbor	6-2 <i>0</i>	0-1
ized forms)		
Forms, records, and reports:	1-4	1-1
Gear case motor:		
Inspection	6-19 <i>b</i>	6-17
Installation	6-19	6-17
Removal	6-19 <i>a</i>	6-17
General inspection of periscope	3-6	3-1
Gun, injection hydraulic 4931-508-		
5428	5-7 <i>e</i> (1)	5-1
Helical compression spring:		
Assembly	6-5 <i>e</i>	6-7
Cleaning	6-5 <i>c</i>	6-6
Disassembly	6-5 <i>a</i>	6-6
Inspection	6-5 <i>b</i>	6-6
Lubrication	6-5 <i>d</i>	6-7
Testing	6-5 <i>f</i>	6-7
Helium pressure regulator (See		
Regulator: helium pressure)		
Hose assembly 4931-508-5546	5-11	5-4
Hose assembly rubber 4931-561-	••••	•
0713	5-11	5-4
Inspection:	• • •	•
Scope	3-1	3-1
Using position	3-4	3-1
Inspection shop	3-9	3-2
Inspection, onlical components:	3-7	3-1
Body assembly	3-11h	3-2
Head assembly	3-112	3-2
Instrument window, ontical (See	0114	02
Optical instrument window)		
Machine thread plug:		
Inspection	5-10h	5-1
Inspection	5 100	54
Pomoval	5-100	5-4
Maintonanco allocation and natto	0-10a 1.2	0-4 4 4
Maintenance anotation and parts	1-3	1-1
	,	
Organizational maintenance	)	

	Paragraph	Page
Modification Work Orders (MWO)	3-5	3-1
Motor, gear case ( <i>See</i> Gear case		
Mount accombly:		
Concrat increation	630	6 5
Specific inspection	0-3a 6.26	0-5 6 5
Traublashasting	6-3D	0-0 6 5
Nitre see filling a cleater (Occ	6-4	6-9
Nitrogen ming adapter (See		
Adapter, hitrogen hilling).		
Nitrogen tank (See Tank, nitrogen)	4.0	4 -
Optical characteristics	1-6 <i>a</i>	1-5
Optical component inspection (See		
Inspection, optical component).		
Optical Instrument window:	<b>- - -</b>	- 4
Assembly	5-7 <i>e</i>	5-1
Cleaning	5-70	5-1
	5-7 <i>b</i>	5-1
Removal	5- <i>1a</i>	5-1
Repair and reclamation	5-7d	5-1
Organizational maintenance	4-2	4-1
Packaging and processing (See		
processing and packaging)		
Painting	5-4	5-1
Parts replacement	5-2	5-1
Processing and packaging:		
Final packaging of mount assem-		
bly and seal assembly	7-4	7-1
Final packaging of periscope	7-3	7-1
Final packaging of washer, pump		
and reservoir assembly and		
wiper assembly	7-5	7-1
General	7-1	7-1
Optical Components	7-2	7-1
Receptacle connector, electrical (Se	е	
Electrical receptacle connector)		
Records, forms and reports (See		
Forms, records and reports)		
Regulator, helium pressure 1240-		
558-0922	5-11	5-4
Repair (See Also specific items):		
Scope	5-1	5-1
Replacement, parts (See Parts re-		
placement)		
Report of accidents	1-4 <i>b</i>	1-1
Reports, records and forms (See		
Forms, records and reports)		
Scope of technical manual	1-1	1-1
Sealing	3-10, 3-	-2, 5-5
	5-11 <i>a</i> (10)	
Semiconductor device:		
Installation	6- <i>17b</i>	6-14
Removal	6-17 <i>a</i>	6-13
Sensitive switch:		
Inspection	6-16 <i>b</i>	6-13
Installation	6-16 <i>c</i>	6-13
Removal	6-16 <i>a</i>	6-13
Serviceability standards	3-3	3-1

I	Paragraph	Page
Shop inspection (See inspection, sho	p)	
Size	1-6	1-5
Special tools and equipment	2-2	2-1
Standards, serviceability (See Serv-		
iceability standards)		
Switch, sensitive (See Sensitive		
switch)		
Tables:		
Mount assembly troubleshooting		
(table 6-1)	6-4	6-6
Special tools and equipment		
(table 2-1)	2-2	2-1
Troubleshooting (table 4-1)	4-4	4-1
Washer, pump, and reservoir as-		
sembly troubleshooting (table6-2)	6-8	6-8
Wiper assembly troubleshooting		
(table 6-3)	6-12	6-10
Tank. nitrogen 6830-264-9086	5-11	5-4
Technical manual comments (See		•
Comments, technical manual)		
Technique, maintenance (See		
Maintenance technique)		
Test and adjustment:		
Final test	5-11b	5-5
Purging and charging body as-	0 110	00
sembly	5-11 <i>a</i>	5-4
Test gage assembly 4931-546-9773	5-11	5-4
Thread plug machine (See Ma-	011	5 4
chine thread plug)		
Tools and equipment common (See		
Common tools and equipment)		
Tools and equipment, special (See		
Special tools and equipment, special (See		
Traublashasting:		
Brooduro	1 1	11
Purposo	4-4	4-1
Value accombly:	4-1, 4-3	4-1
	5 04	5 A
Assembly	5-90 5 0b	5-4 5-4
Disassembly	5-9D	5-4 5-4
	5-90	5-4
Removal	5.00	5-4
Weeher nump and recervoir accomb	0-9 <i>a</i>	5-4
Concret increation	iy.	67
General Inspection	6-6 <i>a</i>	0-7
Installation	6-90	0-10
Performance test	6-7	6-7
Removal	6-9 <i>a</i>	6-7
Specific inspection	6-6 <i>D</i> ,	6-7
The life design of	6-9 <i>D</i>	07
I roubleshooting	6-8	6-7
vveignt	1 <b>-6</b> 0	1-5
vviper assembly:	0.40	0.10
General inspection	6-10 <i>a</i>	6-10
Performance test	6-11	6-10
Specific inspection	6-10 <i>b</i>	6-10
I roubleshooting	6-12	6-10

Official:

HAROLD K. JOHNSON, General, United States Army, Chief of Staff.

#### J. C. LAMBERT, *Major General, United States Army, The Adjutant General.*

Distribution:

To be distributed in accordance with DA Form 12-41 requirements for Direct and General Support Maintenance for Periscope.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1985 0 - 461-202 (20058)

()			MINUME WITH THIS PUBLICATION?
	THE DOP FOR OUT	N JOT DOWN THE E ABOUT IT ON THIS M, CAREFULLY TEAR IT FOLD IT AND DROP IT HE MAIL!	TEBENT
UBLICATI	ION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
		16 I	
PAINTED N	AME. GRADE OR TITLE, AND	TELEPHONE MUMBER SIG	I MERE:

PIN: 028037-000

This fine document...

Was brought to you by me:



# Liberated Manuals -- free army and government manuals

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap "watermarks" and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to liberatedmanuals.com, so that free manuals come up first in search engines:

<A HREF=<u>http://www.liberatedmanuals.com/</u>>Free Military and Government Manuals</A>

Sincerely
Igor Chudov
<u>http://igor.chudov.com/</u>
Chicago Machinery Movers