

**TECHNICAL MANUAL
OPERATOR'S, UNIT,
DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL**

**FIREFIGHTING TRUCK,
100 FT AERIAL LADDER,
1000 GPM
(NSN 4210-01-290-8755)**

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TECHNICAL MANUAL

NO. 5-4210-233-14&P-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 15 DECEMBER 1992

TECHNICAL MANUAL

Operator's, Unit, Direct Support and General Support Maintenance Manual

FIREFIGHTING TRUCK, 100 Fr AERIAL LADDER, 1000 GPM NSN 4210-01-290-8755

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

This manual is divided into two volumes:

Volume 1, TM 5-4210-233-1 4&P-1 consists of Chapters 1 through 5 and Index.

Volume 2, TM 5-4210-233-1 4&P-2 consists of Chapter 6, Appendixes A through J and Index

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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HOW TO USE THIS MANUAL

ARRANGEMENT. This manual is divided into six chapters. The purpose of each chapter is Listed below.

Chapter 1 - INTRODUCTION. Provides the user with information about standard data required in all manuals. It also familiarizes the user with the truck and related equipment.

Chapter 2 - OPERATING INSTRUCTIONS. Presents instructions needed by the operator and crew to effectively and efficiently operate the truck.

Chapter 3 - OPERATOR MAINTENANCE INSTRUCTIONS. Presents the necessary information for the operator to keep the truck and its components in good running condition.

Chapter 4 - UNIT MAINTENANCE. Presents the necessary procedures and instructions to perform maintenance tasks allocated to Unit Maintenance.

Chapter 5 - DIRECT SUPPORT MAINTENANCE. Presents the necessary procedures and instructions to perform maintenance tasks allocated to Direct Support Maintenance.

Chapter 6 - GENERAL SUPPORT MAINTENANCE. Presents the necessary procedures and instructions to perform maintenance tasks allocated to General Support Maintenance.

An alphabetical subject index has been included at the rear of this manual to improve reader access to the required information.

EXPLANATION OF NUMBERING SYSTEM.

Text. The information in this manual is numbered sequentially for easy access of data.

Example: 2-1.
The first number indicates the chapter number.

The second number (following the hyphen) indicates the paragraph number within that chapter.

Example: 2-1.1
The third number (following the period) indicates the subordinate paragraph number within a particular paragraph

Page and Table Numbers. All pages and tables are numbered sequentially within each chapter.

LOCATION OF NUMBERS.

Text. Numbers appear above and to the left of the related text.

Pages. Page numbers appear at the bottom right-hand corner for odd-numbered pages or the bottom left-hand corner for even-numbered pages.

Tables. Table numbers appear directly above the related table.

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GENERAL SUPPORT MAINTENANCE

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SECTION I. REPAIR PARTS, SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT

- a. Common Tools and Equipment. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.
- b. Special Tools, TMDE and Support Equipment. Special Tools, TMDE and Support Equipment are listed in Appendix B.
- c. Repair Parts. Repair parts are listed and illustrated in Appendix F of this manual.

SECTION II. MAINTENANCE OF THE FIRE TRUCK

- d. The following paragraphs provide detailed General Support Maintenance Instructions.

6-2. CURB SIDE PUMP DISCHARGE MANIFOLD

This task covers:

- a. Removal
- b. Installation

c. Follow-on Maintenance

TOOLS REQUIRED

Tool Kit, General Mechanics, Automotive
(Appendix B, Section III, Item 1)

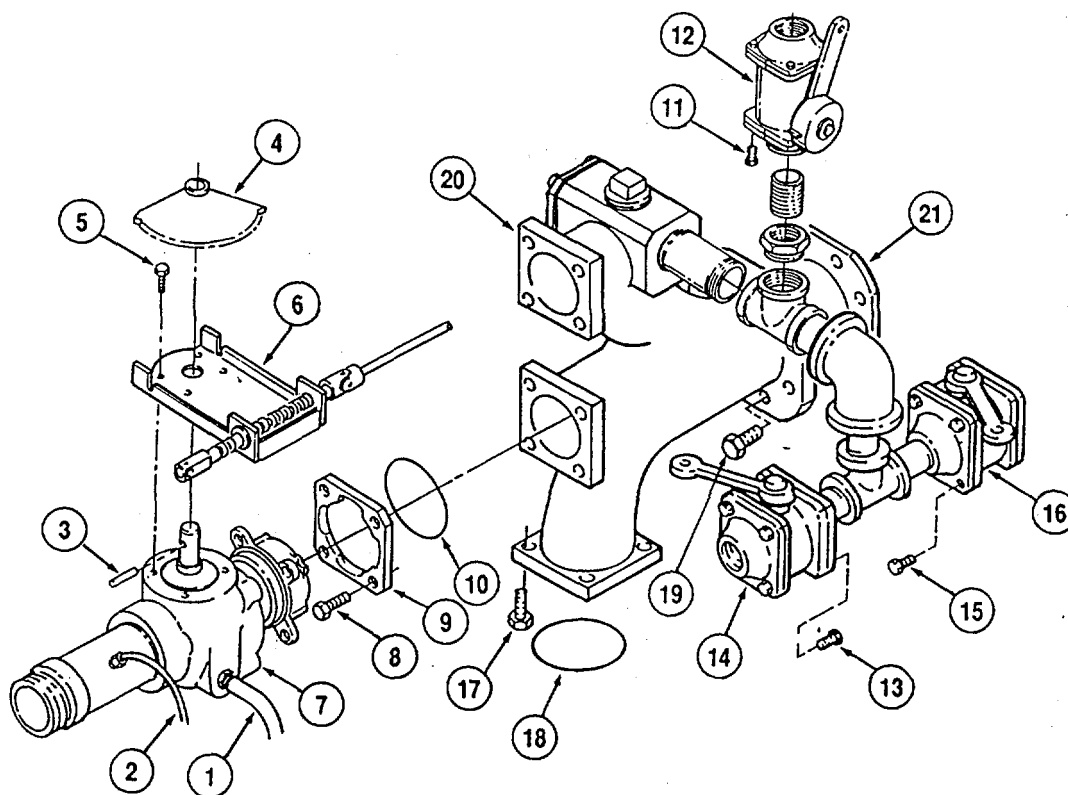
MATERIALS/PARTS REQUIRED

Tags, Identification (Item 32, Appendix E)
Gasket (Figure 31, Appendix F)
O-rings (Figure 14, Appendix F)
O-rings (Figure 12, Appendix F)
O-rings (Figure 22, Appendix F)

EQUIPMENT CONDITION

Main Engine Shutdown (see para 2-12.)
APU Shutdown (see para 2-16.)
Batteries Disconnected (see para 4-114.)
Curbside Operators Panel Removed
(see para 4-26.)

a. Removal



- (1) Tag and disconnect two drain valve hoses (1).
- (2) Tag and disconnect two pressure gauge hoses (2).
- (3) Remove two roll pins (3) to lift off two sector gears (4).

NOTE

Note position of sector gears to install them correctly during installation.

6-2. CURB SIDE PUMP DISCHARGE MANIFOLD - Continued

- (4) Remove eight bolts (5) to remove two valve control assemblies (6) from tops of discharge valves (7).

NOTE

Leave valve control assemblies connected to actuating linkage.

- (5) Remove four bolts (8) on each valve mounting flange (9). Remove two valves (7) with mounting flanges (9).
- (6) Turn each valve (7) counterclockwise 1/4 turn and remove them from valve mounting flanges (9). Remove and discard O-rings (10).
- (7) Remove bottom four bolts (11) from #1 crosslay valve (12).
- (8) Remove four bolts (13) from water valve (14).
- (9) Remove four bolts (15) from flush valve (16).
- (10) Remove four bolts (17) from relief valve connection. Remove and discard O-ring (18).
- (11) Remove eight bolts (19) securing discharge manifold (20) to pump body. Remove and discard gasket (21).

NOTE

Install piping and plugs on new manifold as needed.

b. Installation.

- (1) Using new gasket (21) attach discharge manifold (20) to pump body with eight bolts (19). Torque to 85 lb ft (115 N-m).
- (2) Using new O-ring (18), replace four bolts (17) to attach discharge manifold (20) to relief valve connection.
- (3) Using new O-ring, replace four bolts (15) to connect flush valve (16).
- (4) Using new O-ring, replace four bolts (13) to connect water valve (14).
- (5) Using new O-ring, replace four bottom bolts (11) to connect #1 crosslay valve (12).
- (6) Using new O-rings (10), replace two discharge valves (7) and valve mounting flanges (9) (turn valves 1/4 turn clockwise in valve mounting flanges).
- (7) Replace four bolts (8) in each valve mounting flange (9) to secure two discharge valves (7).
- (8) Replace two valve control assemblies (6) and attach them to discharge valves with eight bolts (5).
- (9) Replace two sector gears (4) in same positions they were in prior to removal and secure them with two roll pins (3).
- (10) Reconnect two pressure gauge hoses (2).

6-2. CURB SIDE PUMP DISCHARGE MANIFOLD - Continued

- (11) Reconnect two drain valve hoses (1).

c. Follow-on Maintenance.

- (1) Install curb side operator panel (see para 4-26).
- (2) Connect batteries (see para 4-114).

6-3. STREET SIDE PUMP DISCHARGE MANIFOLD

This task covers:

- a. Removal
- b. Installation

c. Follow-on Maintenance

TOOLS REQUIRED

Tool Kit, General Mechanics, Automotive
(Appendix B, Section III, Item 1)

EQUIPMENT CONDITION

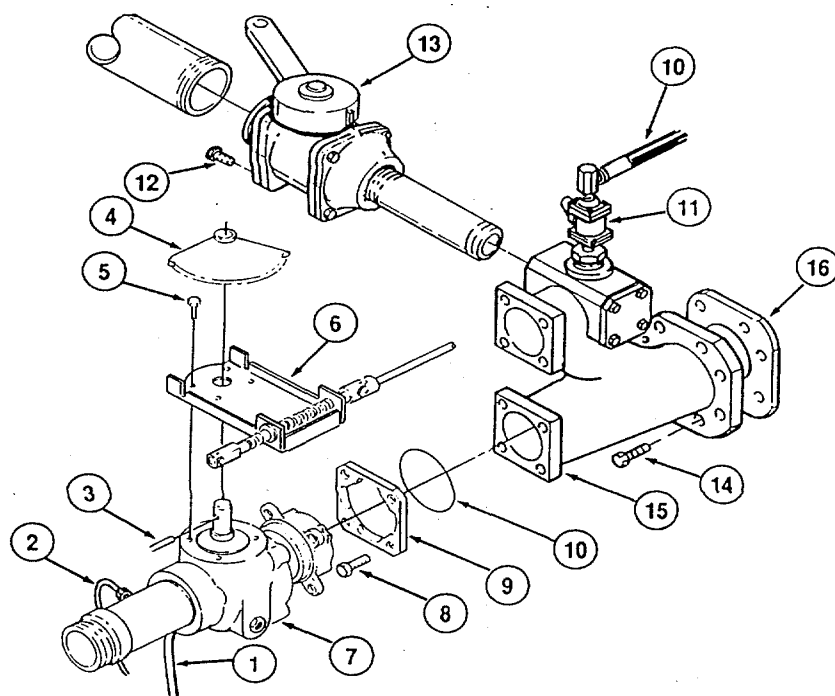
Main Engine Shutdown (see para 2-12.)
APU Shutdown (see para 2-16.)
Batteries Disconnected (see para 4-114.)

MATERIALS/PARTS REQUIRED

Tags, identification (Item 32, Appendix E)
Gaskets (Figure 31, Appendix F)
O-rings (Figure 15, Appendix F)

a. Removal.**NOTE**

Access to street side pump discharge manifold can be made from beneath truck. If further disassembly of pump is required street side operator's panel should be removed (see para 4-25).



- (1) Tag and disconnect two drain valve hoses (1).
- (2) Tag and disconnect two pressure gauge hoses (2).
- (3) Remove two roll pins (3) to lift off two sector gears (4).

6-3. STREET SIDE PUMP DISCHARGE MANIFOLD - Continued

NOTE

Note position of sector gears to install them correctly during installation.

- (4) Remove eight bolts (5) to remove two valve control assemblies (6) from tops of discharge valves (7).

NOTE

Leave valve control assemblies connected to actuating linkage.

- (5) Remove four bolts (8) on each valve mounting flange (9). Remove two valves (7) with mounting flanges (9).
- (6) Turn each valve (7) counterclockwise 1/4 turn and remove them from valve mounting flanges (9). Remove and discard O-rings (10).
- (7) Disconnect 1 inch hose (10) from tank fill/recirculation valve (11).
- (8) Remove four bolts (12) from #2 crosslay valve (13).
- (9) Remove eight bolts (14) securing discharge manifold (15) to pump body. Remove and discard gasket (16).

NOTE

Install piping and plugs on new manifold as needed.

b. Installation.

- (1) Using new gasket (16), attach discharge manifold (15) to pump body with eight bolts (14). Torque to 85 lb ft (115 N.m).
- (2) Using new O-ring, replace four bolts (1 2) to connect #2 crosslay valve (13).
- (3) Reconnect 1 inch hose (1 0) to tank fill/recirculation valve (11).
- (4) Using new O-rings (10), replace two discharge valves (7) and valve mounting flanges (9) (turn valves 1/4 turn clockwise in valve mounting flanges).
- (5) Tighten four bolts (8) in each valve mounting flange (9) to secure two discharge valves (7).
- (6) Replace two valve control assemblies (6) and attach them to discharge valves (7) with eight bolts (5).
- (7) Replace two sector gears (4) in same positions they were in prior to removal and secure them with two roll pins (3).
- (8) Reconnect two pressure gauge hoses (2).
- (9) Reconnect two drain valve hoses (1).

c. Follow-on Maintenance.

- (1) Connect batteries (see para 4-114).

6-4. STREET SIDE PUMP SUCTION MANIFOLD

This task covers:

- a. Removal
- b. Installation

- c. Follow-on Maintenance

TOOLS REQUIRED

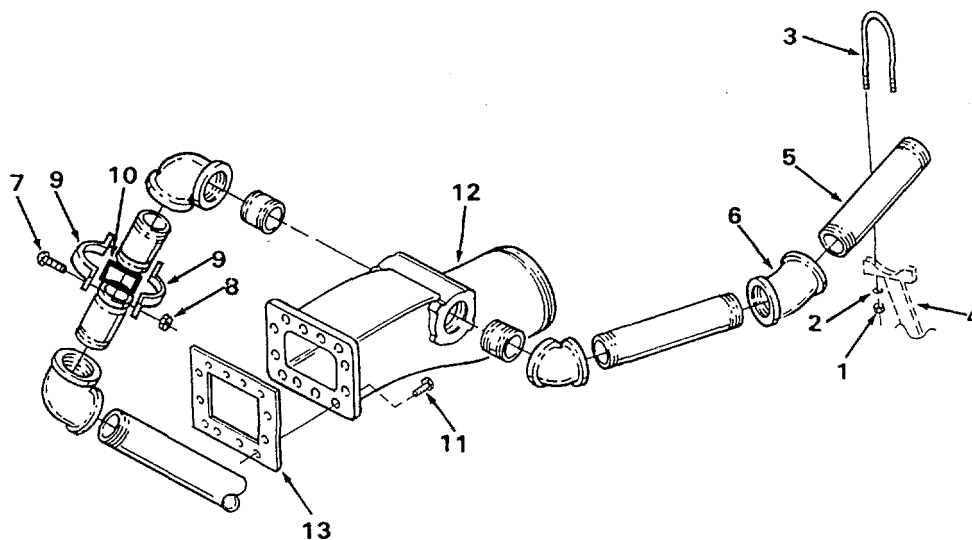
Tool Kit, General Mechanics, Automotive
(Appendix B, Section III, Item 1)

EQUIPMENT CONDITION

Main Engine Shutdown (see para 2-12.)
APU Shutdown (see para 2-16.)
Batteries Disconnected (see para 4-114.)

MATERIALS/PARTS REQUIRED

Tags, identification (Item 32, Appendix E)
Gasket (Figure 31, Appendix F)
Gasket (Figure 16, Appendix F)

a. Removal.

- (1) Remove two nuts (1) and washers (2), and U-bolt (3) from rear auxiliary suction clamp (4).
- (2) Use large pipe wrench to remove pipe (5) from elbow (6).