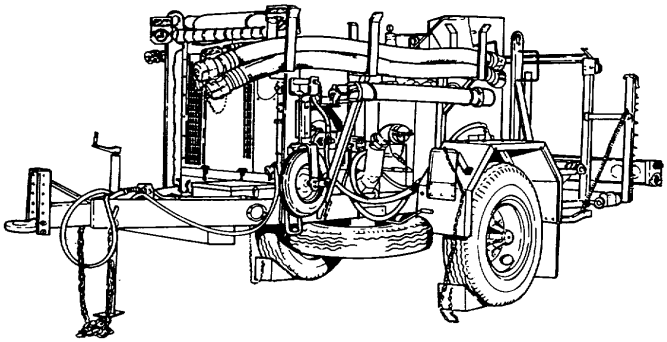
TECHNICAL MANUAL

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



**DISTRIBUTOR,
LIQUID BITUMINOUS
SEAMAN-MAXON, INC.**

MODEL BIT

NSN 3895-01-344-5480

Contract Number DAAE07-90-C-1450

Approved for public release; distribution is unlimited.

**HEADQUARTERS, DEPARTMENT OF THE ARMY
27 FEBRUARY 1996**

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Current as of 5 Dec1995

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, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-IM-MMAA, Warren, MI 48397-5000. A reply will be furnished to you. You may also provide DA form 2028-2 information to TACOM via datafax or e-mail. TACOM's datafax number for AMSTA-IM-MMAA is: (810) 574-6323 and the e-mail address is: amsta-im-mmaa@cc.tacom.army.mil.

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HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Distributor, Liquid Bituminous, NSN 3895-01-344-5480. Listed below are some of the special features that have been included to help locate and use the needed information.

A front cover Table of Contents is provided for quick reference to chapters and sections that will be used often.

Warning, caution and note headings, subject headings, and certain other essential information, is printed in bold type to make them easier to see.

The maintenance tasks describe what must be done to the distributor before starting the task, and what must be done to return the distributor to operating condition after the task is finished.

The appendices are located at the end of the manual. They contain a reference guide to other manuals, guidelines to reading the Maintenance Allocation Chart (MAC), a list of expendable supplies and materials, and other material for maintaining the distributor.

In addition to text, there are exploded-view illustrations showing you how to take the part off and put it on. Cleaning and inspection procedures are also included, when required.

Chapters 1 and 2 of this manual are directed at the crew/operator of the distributor. These chapters include an overall description of the distributor and discuss the controls and indicators, their location and use, and the instructions for operation of the distributor under different circumstances.

Chapter 3 of this manual covers crew/operator lubrication, preventive maintenance checks and services, and basic troubleshooting. Crew/operator maintenance is also covered in this chapter.

Chapter 4 of this manual covers unit maintenance including troubleshooting and maintenance procedures.

Chapter 5 of this manual covers direct support and general support maintenance including troubleshooting and maintenance procedures.

FOLLOW THESE GUIDELINES WHEN USING THIS MANUAL

The operator must read through this manual and become familiar with the contents before attempting to operate the distributor.

Read all WARNINGS and CAUTIONS before performing any procedure.

The equipment conditions found in the maintenance procedures are of a general nature and the mechanic may be able to perform only certain tasks within a procedure to accomplish the equipment condition.

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

a. Type of Manual This manual is used for operation and maintenance of the Liquid Bituminous Distributor.

b. Model Number and Equipment Name. Distributor, Liquid Bituminous, NSN 3895-01-344-5480, produced by Seaman-Maxon Company of Wisconsin, Model BIT (See Figures 1-1, 1-2, and 1-3).

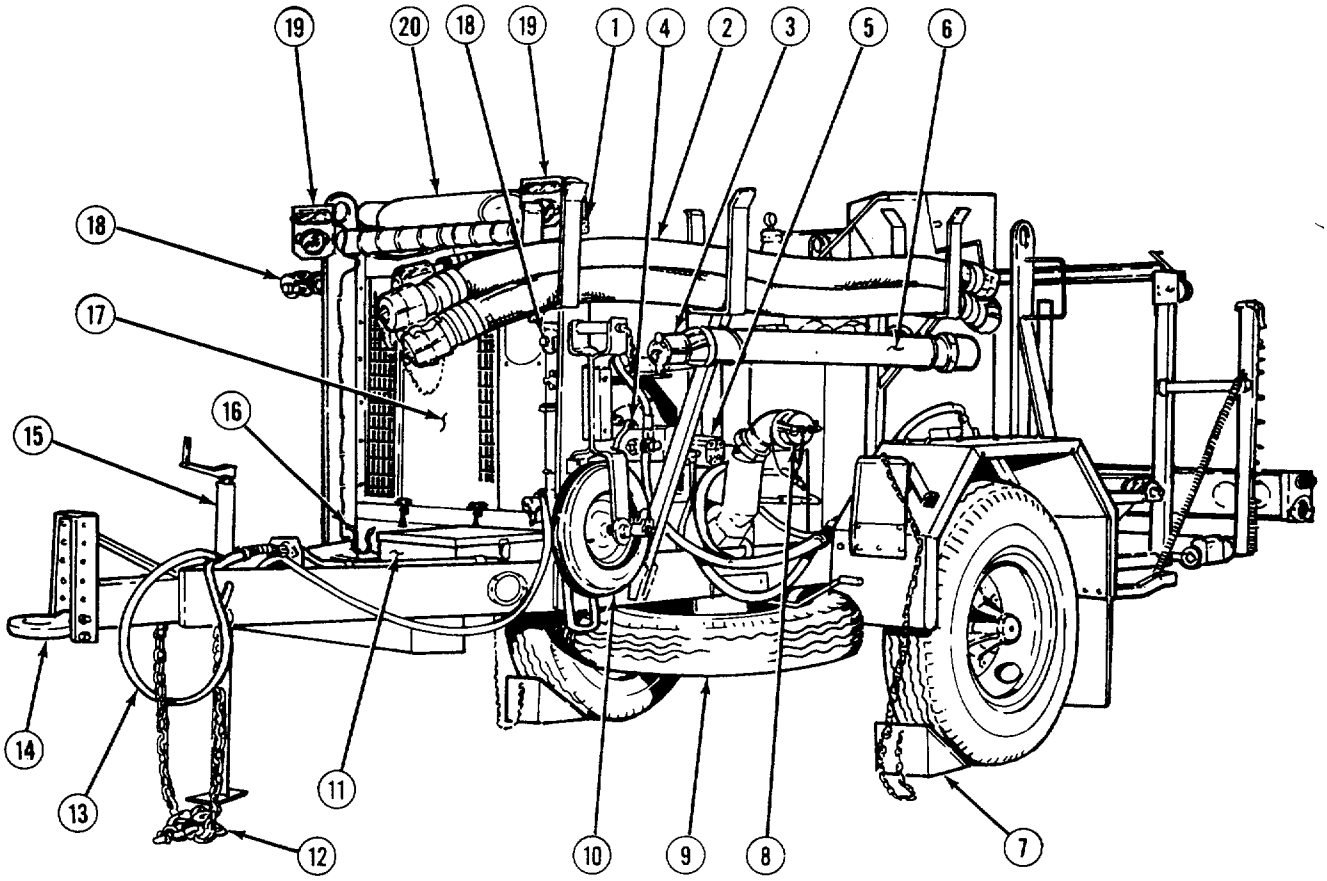
c. Purpose of Equipment. The Liquid Bituminous Distributor, hereinafter referred to as the distributor, is designed to spray asphaltic material, hereinafter referred to as material, over roadways or in preparation for paving roadways.

1-2. MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS).

1-3. DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE.

Command decision, according to the tactical situation, will determine when the destruction of the vehicle will be accomplished. A destruction plan will be prepared by the using organization unless one has been prepared by a higher authority. For general destruction procedures for this equipment, refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (U.S. Army Tank-automotive and Armaments Command).

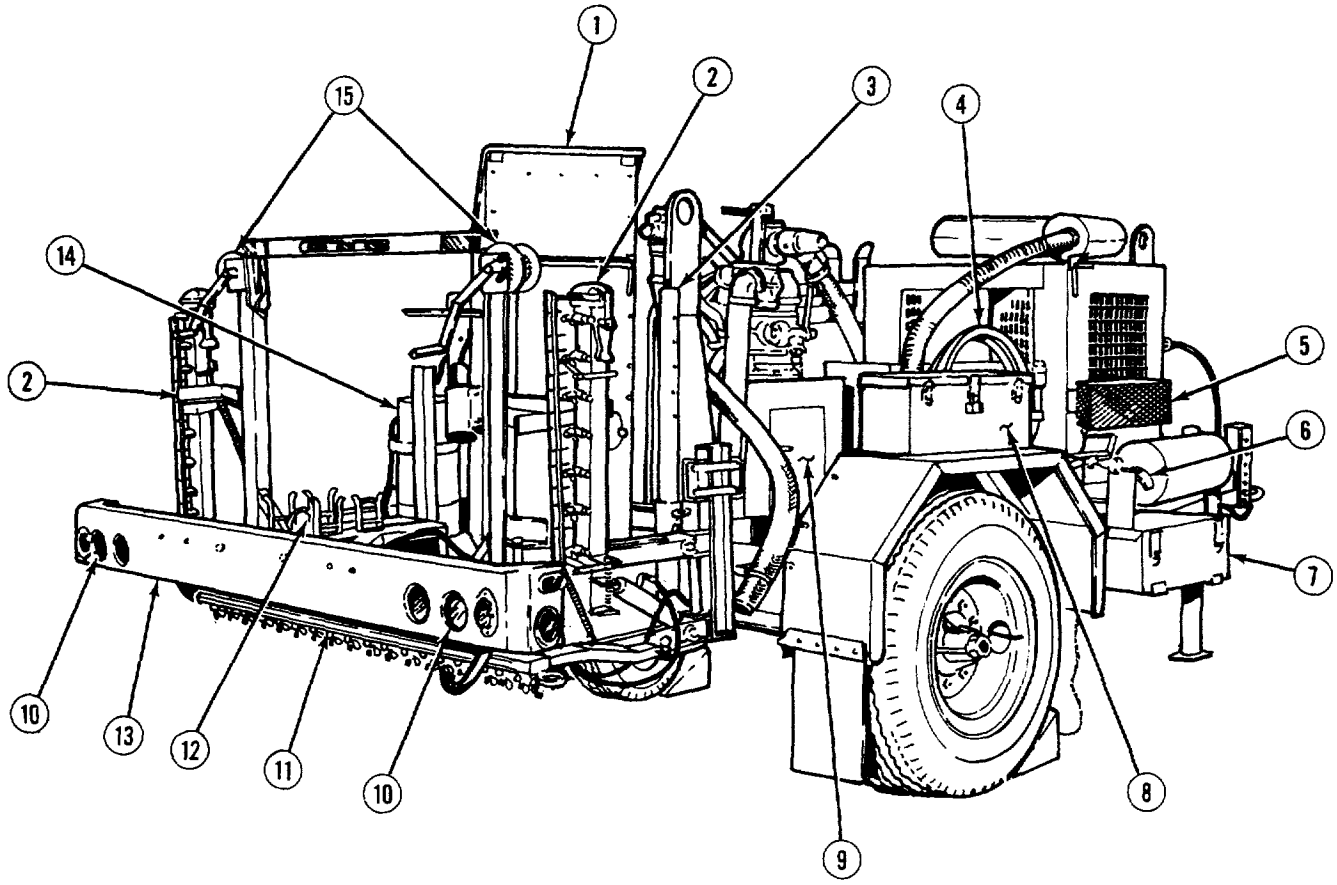


1. Air Cleaner
2. Bituminous Hose
3. Inlet Port
4. Variable Hydraulic Pump
5. Fixed Hydraulic Pump
6. Transfer Pipe
7. Wheel Chocks
8. Outlet Port
9. Spare Tire
10. Fifth-wheel
11. Battery Box
12. Safety Chains
13. Intervehicular Electrical Cable
14. Lunette
15. Jackstand
16. 3-inch Adaptors (Hose Couplers)
17. Engine Compartment
18. Air Gladhands
19. Clearance Lights
20. Muffler/Exhaust

Figure 1-1. Distributor, Liquid Bituminous - Right Front View

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

Refer to Chapter 4, Section VI, for unit preparation for storage or shipment.

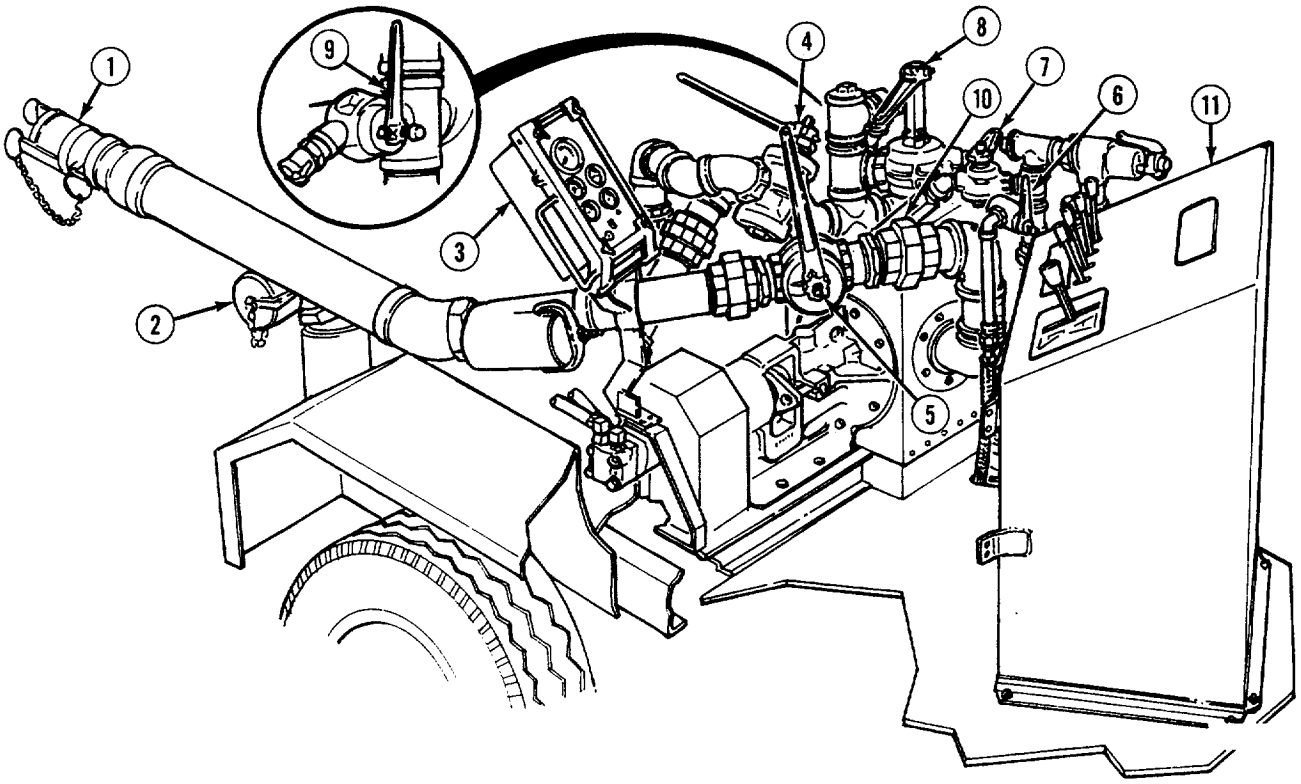


1. Control Console
2. Permanent Spraybar Extension
3. Extension Jacks
4. Hand Spray Hose
5. Hydraulic Oil Cooler
6. Hand Spray Wand
7. Storage Box
8. Tool Box
9. Bituminous Pump
10. Tail/Brake Lights
11. Spraybar
12. Spraybar Extension Storage Brackets
13. Rear Bumper
14. Portable Torch
15. Right/Left Winches

Figure 1-2. Distributor, Liquid Bituminous - Left Rear View

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your distributor needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF368 (Product Quality Deficiency Report). Mail it to us at: Commander, U. S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-IM-MMAA, Warren, Michigan 48397-5000. A reply will be furnished to you. You may also provide DA form 2028-2 information to TACOM via datafax or e-mail. TACOM's datafax number for AMSTA-IM-MMAA is: (810) 574-6323 and the e-mail address is: amsta-im-mmaa@cc.tacom.army.mil.



1. Inlet Port
2. Outlet Port
3. Instrument Panel
4. Valve #1 (V1)
5. Valve #2 (V2)
6. Valve #3 (V3)
7. Valve #4 (V4)
8. Valve #5 (VS)
9. Valve #6 (V6)
10. Flushing Check Valve
11. Control Console

Figure 1-3. Distributor, Liquid Bituminous - Operator's Platform

1-6. WARRANTY INFORMATION.

For warranty information, see commercial manufacturer's warranty.

1-7. LIST OF ABBREVIATIONS.

All abbreviations used in this manual conform to MIL-STD-12 and its amendments.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

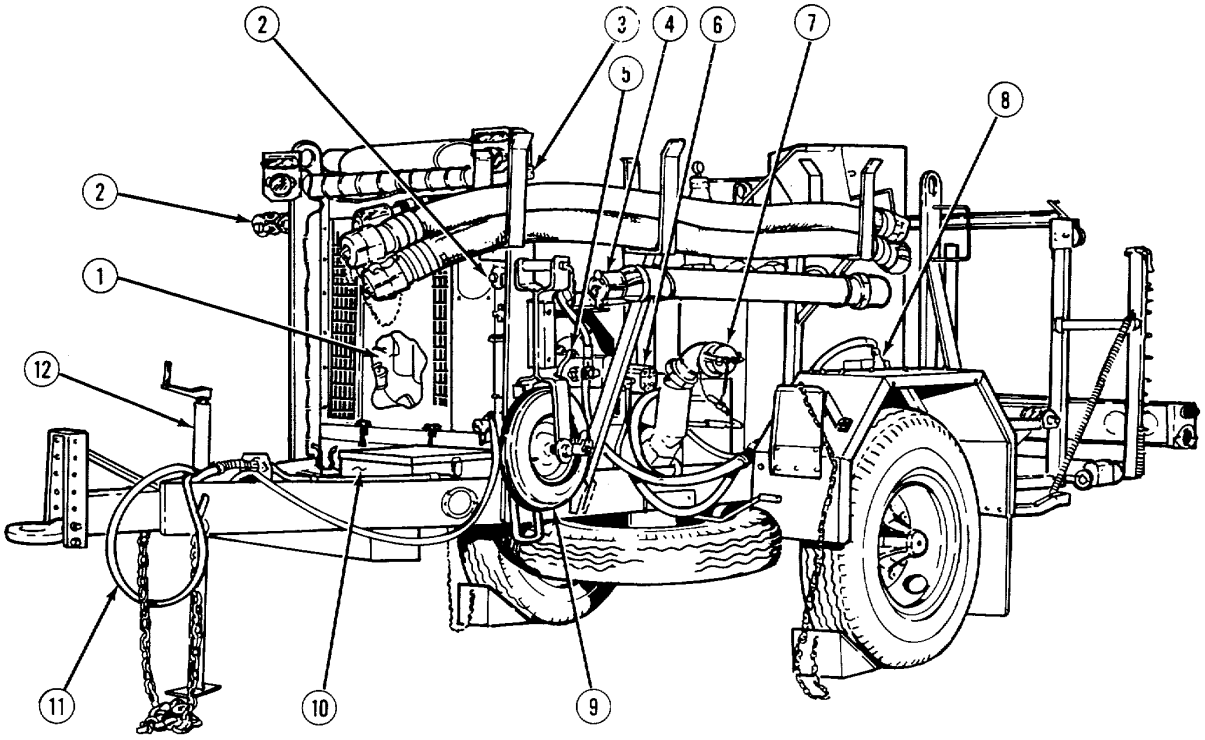


Figure 1-4. Distributor, Liquid Bituminous - Major Components (Sheet 1 of 3)

1. Engine. Diesel engine, which provides 69 hp (51 kilowatt hours) @ 2100 RPM, powers the distributor systems.
2. Air Gladhands. Gladhands provide connection to tow vehicle air system.
3. Air Cleaner. Air cleaner filters out dust and debris from the air induction system.
4. Inlet Port. Inlet port accepts bituminous material from supply source.
5. Variable Hydraulic Pump. Variable hydraulic pump provides power to the hydrostatic motor.
6. Fixed Hydraulic Pump. Fixed hydraulic pump provides power to the valve bank and cylinders.
7. Outlet Port. Outlet port returns bituminous material from distributor to supply source.
8. Hydraulic Motor. Powered by hydraulic pumps, hydraulic motor drives bituminous pump.
9. Fifth-wheel. Fifth-wheel attaches to tow vehicle to indicate feet travelled per minute.
10. Battery Box. Two batteries provide cranking power to start the engine.
11. Intervehicular Electrical Cable. Cable connects to tow vehicle to provide electrical power to distributor.
12. Jackstand. Jackstand maintains distributor in a level position during non-use.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).

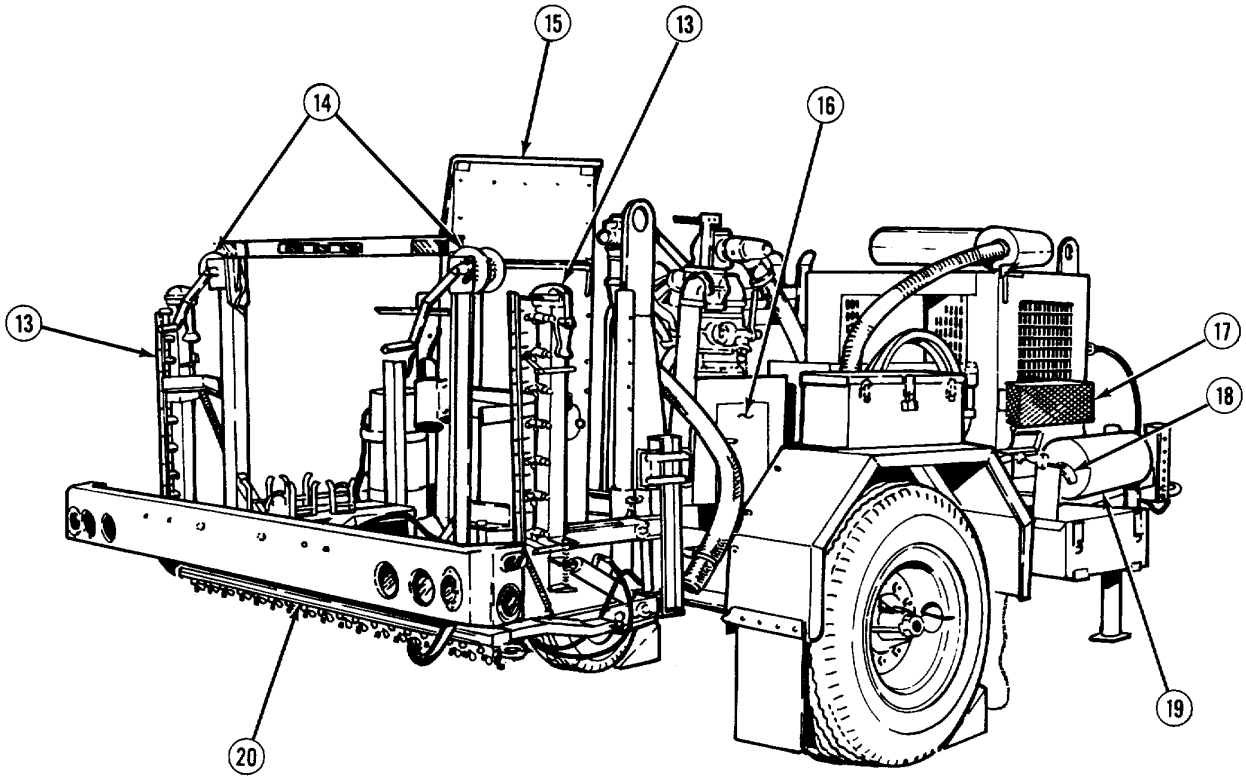


Figure 1-4. Distributor, Liquid Bituminous - Major Components (Sheet 2 of 3)

13. Permanent Spraybar Extensions. Permanent extensions are part of spraybar, but need not always be used. When extensions are positioned up, material does not circulate through them.

14. Winches. Winches provide manual adjustment of spraybar height.

15. Control Console. Control console houses all controls for hydraulic system, bituminous pump, and engine throttle.

16. Bituminous Pump. Bituminous pump pumps material through the bituminous system.

17. Hydraulic Oil Cooler. Oil cooler cools hydraulic system fluid.

18. Hand Spray Wand. Hand Spray Wand is used to spray areas that are difficult to reach with spraybar.

19. Air Tank. Air tank is a reservoir for pressurized air to operate braking system.

20. Spraybar. Spraybar, when opened, allows application of asphaltic, bituminous material on the road surface.

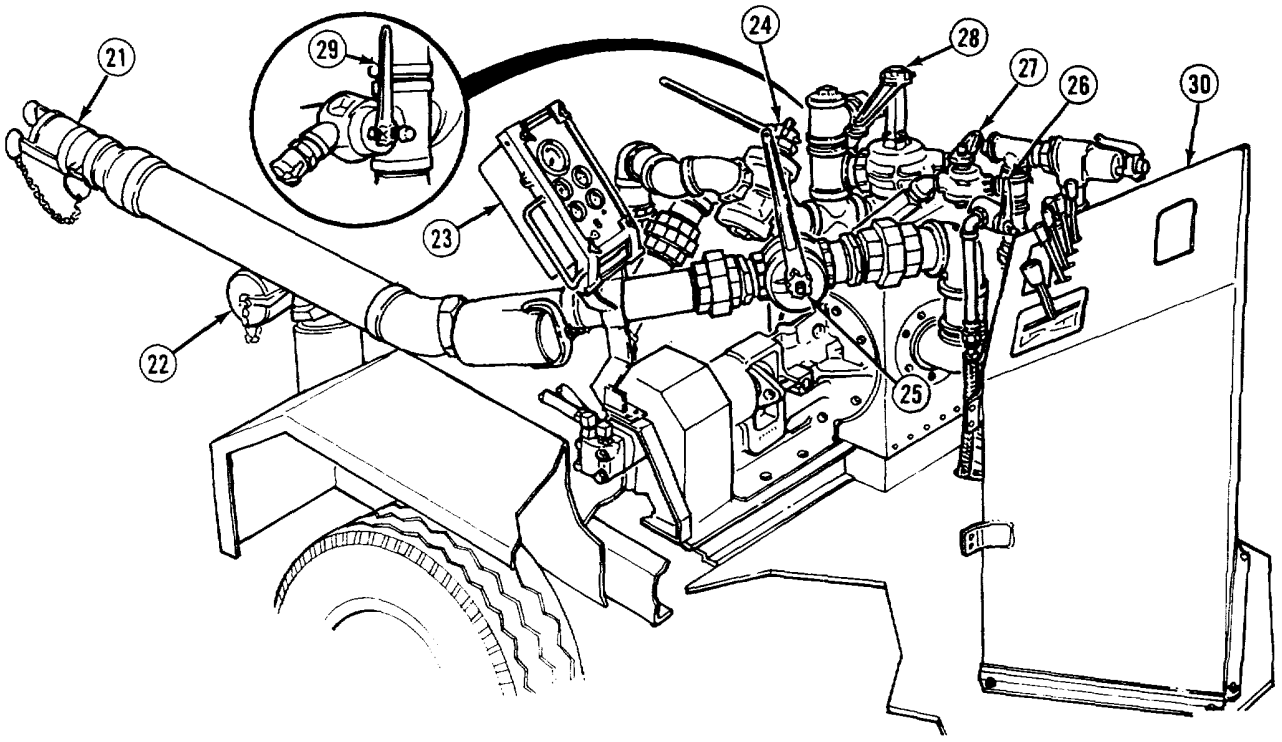


Figure 1-4. Distributor, Liquid Bituminous - Major Components (Sheet 3 of 3)

21. Inlet Port. Inlet port connects, by hose, to supply tank to receive material.

22. Outlet Port. Outlet port connects, by hose, to supply tank to discharge excess material.

23. Instrument Panel. Instrument contains operational gages.

24. Valve #1 (V1). Valve #1 is used to direct flow of material to spraybar, bituminous pump, or supply tank.

25. Valve #2 (V2). Valve #2 is used to direct flow of material from supply tank to bituminous system.

26. Valve #3 (V3). Valve #3 is used during spraybar suckback operations.

27. Valve #4 (V4). Valve #4 is used during pump and spraybar flushing.

28. Valve #5 (V5). Valve #5 is used during pump and spraybar flushing and to circulate material through spraybar.

29. Valve #6 (V6). Valve #6 is used to direct flow of material for hand spray and hand spray suckback operation.

30. Control Console. Control console contains engine throttle and hydraulic controls.