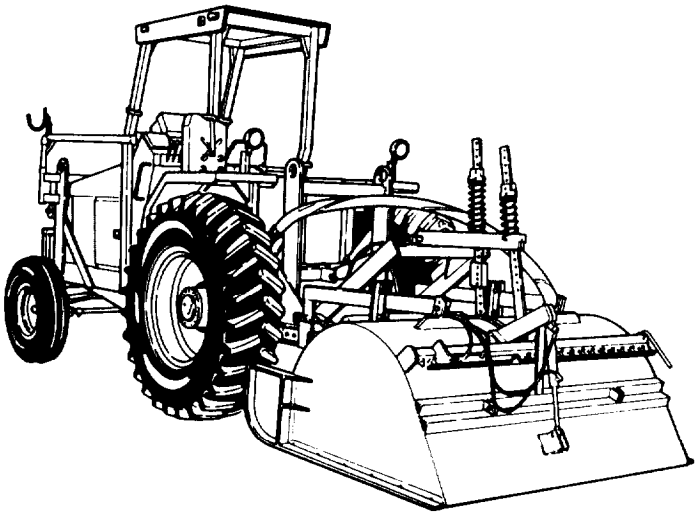
TM 5-3895-369-14

TECHNICAL MANUAL

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



MIXER, ROTARY TILLER

SEAMAN-MAXON, INC.

MODEL TO730H-KEG

NSN

3895-01-331-8560

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TECHNICAL MANUAL

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *14 August 1992*

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

FOR

MIXER, ROTARY TILLER
SEAMAN-MAXON, INC.
T0730H-KEG
NSN 3895-01-331-8560

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 Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Mixer, Rotary Tiller NSN 3895-01-331-8560. 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 are printed in bold type to make them easier to see.

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

The appendixes 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 mixer.

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 mixer. These chapters include an overall description of the mixer and discuss the controls and indicators, their location and use, and the instructions for operation of the mixer 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 mixer.

Read ail 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

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Section I. GENERAL INFORMATION

1-1. SCOPE.

a. ***Type of Manual.*** This manual is used for operation and maintenance of the Mixer, Rotary Tiller.

b. ***Model Number and Equipment Name.*** Mixer, Rotary Tiller, NSN 3895-01-331-8560, produced by Seaman-Maxon Company of Wisconsin, Model TO730H-KEG. (See Figures 1-1 and 1-2).

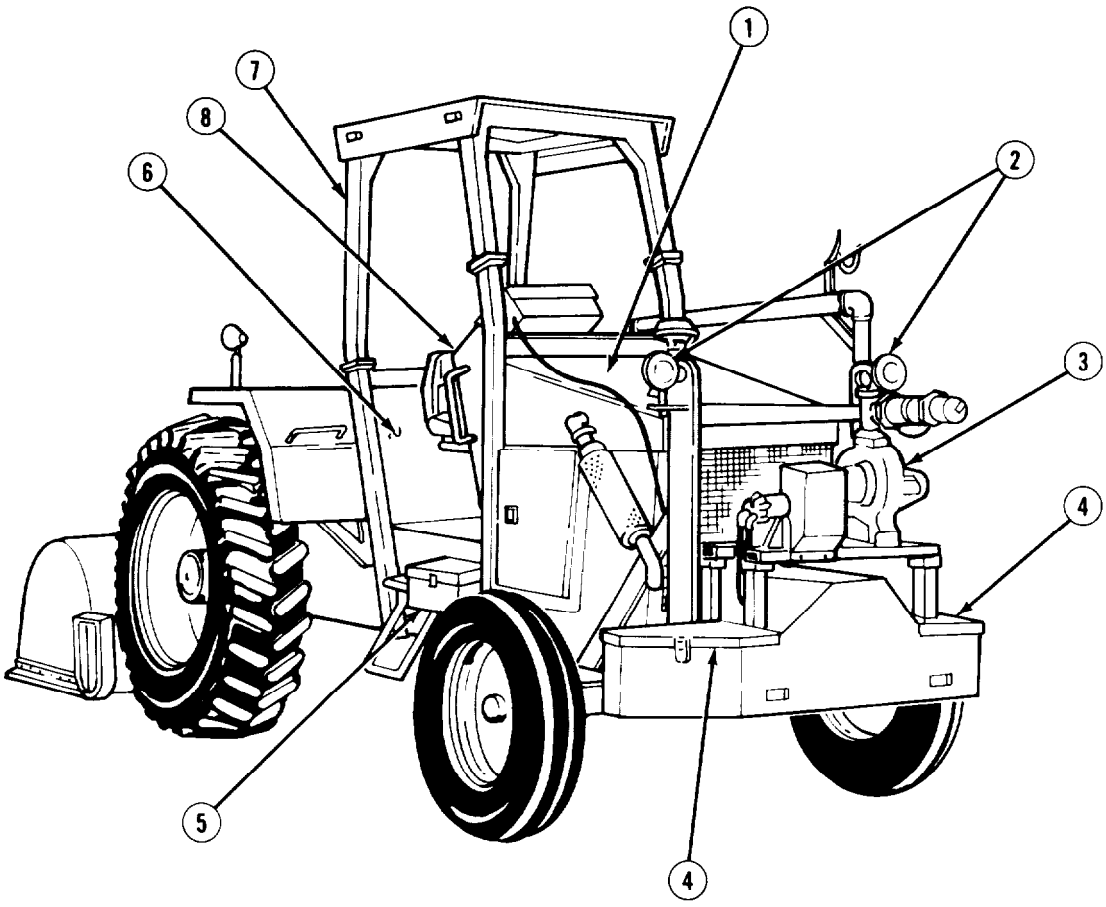
c. ***Purpose of Equipment.*** The Mixer, Rotary Tiller, hereinafter referred to as the vehicle, is designed to stabilize soil in preparation for the application of pavement material.

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 Command).



1. Engine Compartment
2. Front Floodlights
3. Additive Pump
4. Tool Boxes
5. Auxiliary Battery
6. Fuel/Hydraulic Tank
7. Rollover Protective Structure
8. Operator's Area

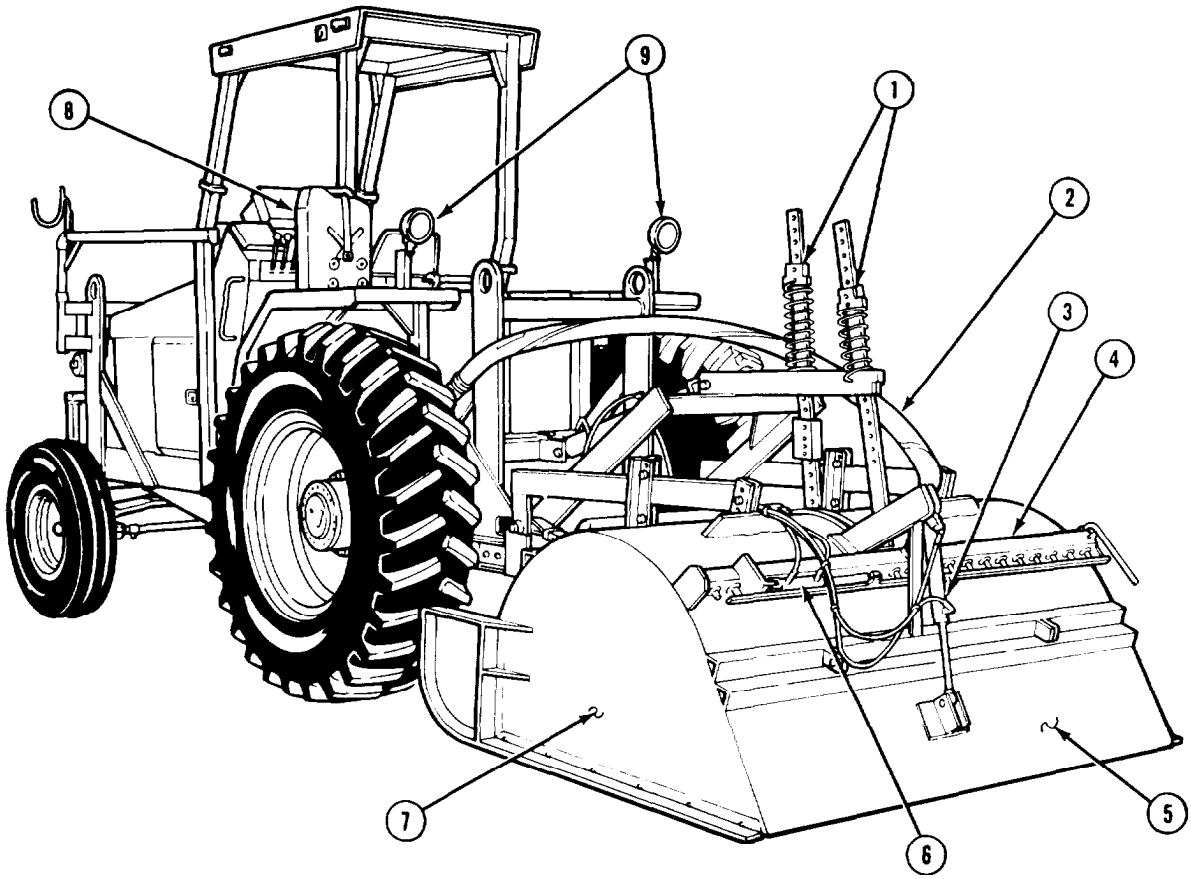
Figure 1-1. Mixer, Rotary Tiller - Right Front View

1-4. WARRANTY INFORMATION.

For warranty information see commercial manufacturers warranty.

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

If your vehicle 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 SF 368 (Quality Deficiency Report). Mail it to us at Commander, U. S. Army Tank-Automotive Command, ATTN: AMSTA-QRD, Warren, Michigan 48397-5000. A reply will be furnished to you.



1. Rotor Depth Controls
2. Additive System Hose
3. Tailboard Cylinder
4. Spray Bar
5. Tailboard
6. Spray Bar Cylinder
7. Rotor Assembly
8. Fuel Can
9. Rear Floodlights

Figure 1-2. Mixer, Rotary Tiller - Left Rear View

1-6. LIST OF ABBREVIATIONS.

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

1-7. PREPARATION FOR STORAGE OR SHIPMENT.

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

Section II. EQUIPMENT DESCRIPTION AND DATA

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

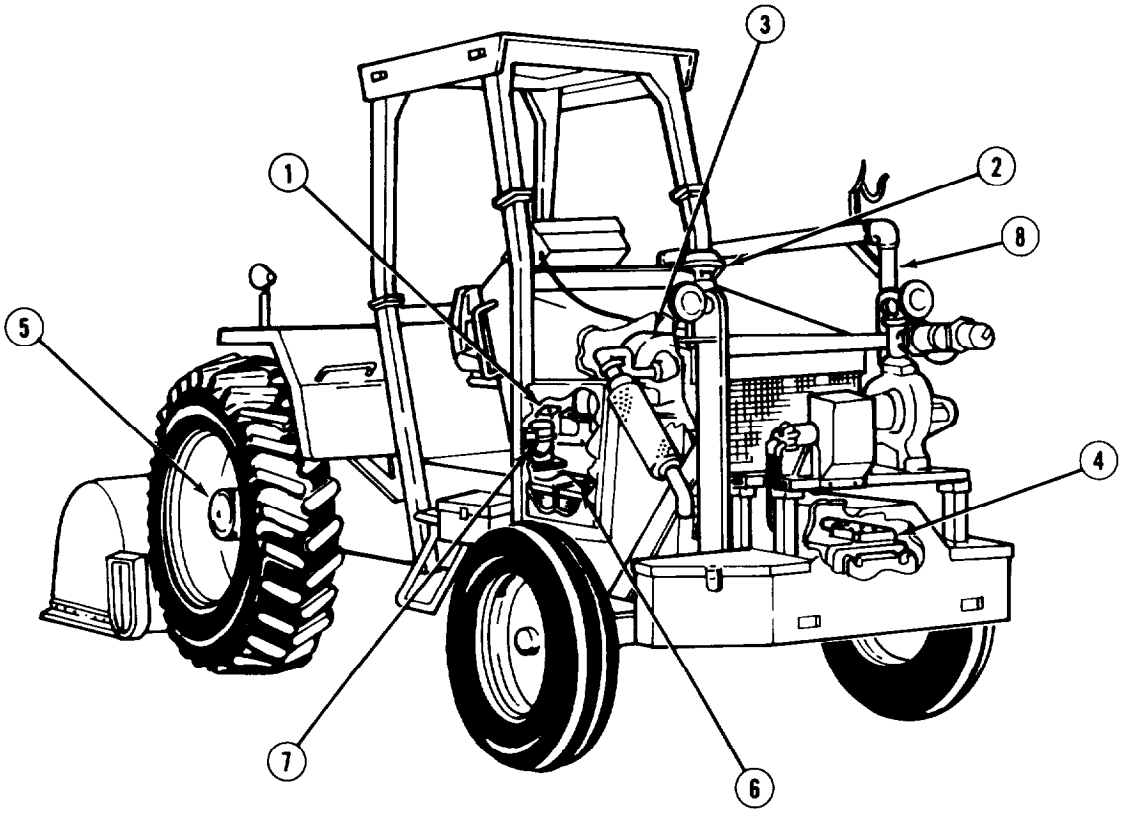


Figure 1-3. Mixer, Rotary Tiller - Major Components (Sheet 1 of 2)

Engine. Diesel engine (1) provides 152 hp (113 kilowatt) to drive the hydrostatic transmission, rotor, and accessories.

Air Cleaner. Air cleaner (2) filters out dust and debris from the air induction system.

Turbocharger. Turbocharger (3) provides increased horsepower by forced air induction.

Hydrostatic Pump. Half of hydrostatic transmission, the hydrostatic pump (4) hydraulically powers the hydrostatic motor.

Wheel Ends (Planetary). Wheel ends (5) increase the power ratio at the rear wheels.

Batteries. Batteries (6) provide cranking power to start the engine.

Emergency Steering Motor. Emergency steering motor (7) provides steering capabilities if the engine becomes inoperative.

Swing Boom. Swing boom (8) supports additive system feed host from support vehicle.

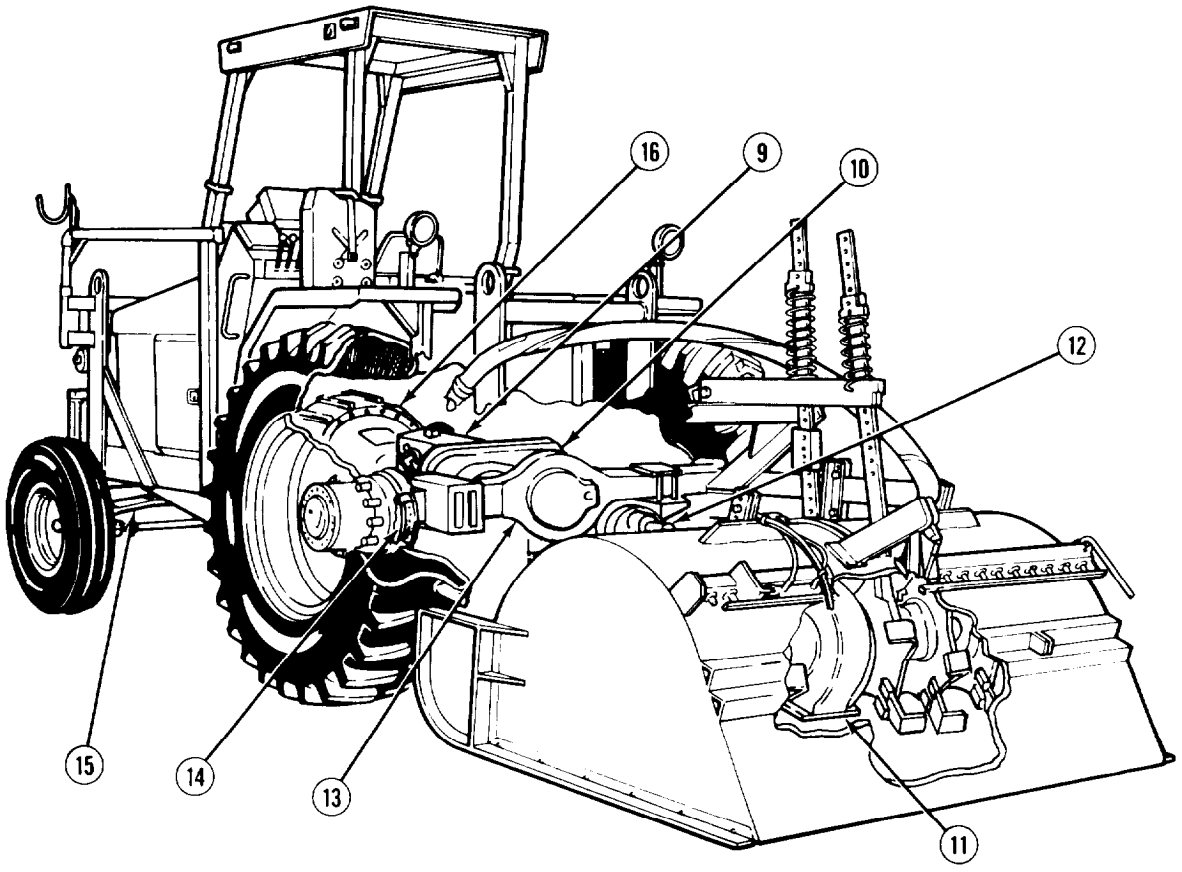


Figure 1-3. Mixer, Rotary Tiller - Major Components (Sheet 2)

Hydrostatic Motor. Half of the hydrostatic transmission, the hydrostatic motor (9) powers the 2-speed range box and rear axle.

2-Speed Range Box. 2-speed range box (10) allows operation at speeds from 0-6 mph (0-9 kph) in LOW range and 0-17 mph (0-27 kph) in HIGH.

Rotor Drive Assembly. Rotor drive assembly (11) drives the rotor in preparing ground surface for paving.

Pillow Block. Pillow block (12) transmits power from clutch assembly to rotor drive assembly (11).

Rear Axle. Rear axle (13) powers the rear wheels to drive thevehicle.

Rear Brakes. Rear brakes (14) stop the vehicle from travelling.

Front Axle. Front axle (15) provides vehicle steering capabilities.

Clutch Assembly. Clutch assembly (16) transmits power from the engine to the rotor drive assembly (11) through drive shafts.

1-9. SAFETY, CARE, AND HANDLING.

The following are significant hazards and safety recommendations.

a. Refueling vehicle. Refueling vehicle is a normal operating condition. Shut off engine and do not smoke when filling tank

b. Debris thrown from rotor assembly when tailboard is raised. This is a normal operating condition. Do not go behind vehicle until rotor assembly has been shut off.

1-10. EQUIPMENT DATA.

Table 1-1 contains the equipment data that applies to the vehicle.

Table 1-1. Equipment Data

General Specifications	
Type	Mixer, Rotary Tiller
Model	TO730HXEG
Length	265 in. (72.4 m)
Height	121 in. (33 m)
Width	% in. (26.24 m)
Weight	14,980 lb (6800.92 kg)
Fuel:	Diesel
Tires:	
Size	
Front	9.50 x 20 - 8 ply
Rear	18.4 x 34 - 8 ply
Pressure	
Front	40 psi
Rear	20 psi
Speed Range	
LOW	0-6 mph (0-9 kph)
HIGH	0-17 mph (0-27 kph)
Maximum Mixing Speed	8 mph (12 kph)
Engine Specifications	
Type	Diesel
Rating	152 hp (113 kilowatt)
Manufacturer	Cummins
Model	6BT5.9
Number of Cylinders	6
Total Displacement	359 cu.in. (5.9 I)
Operating rpm range	1800-2000 rpm
Idle Speed	1100-1150 rpm
Bore	4 02 in. (102 mm)
Stroke	4.72 in. (120 mm)
Compression Ratio	17.5:1
Firing Order	1-5-3-6-2-4
Air Cleaner	Dry paper element, replaceable.