

TECHNICAL MANUAL

**DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
FOR**

**CRANE, WHEEL MOUNTED:
20-TON AT 10-FOOT
RADIUS, 2 ENGINES, DIESEL ENGINE DRIVEN,
4x4 AIR TRANSPORTABLE**

**HARNISCHFEGGER CORP. MODEL M320RT
(NSN 3810-00-275-1167)**

This copy is a reprint which includes current pages from Change 1.
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HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1977

TECHNICAL MANUAL

HEADQUARTERS

DEPARTMENT OF THE ARMY

No. 5-3810-295-34

WASHINGTON, DC, 30 September 1977



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DRIVEN, 4 X 4 AIR TRANSPORTABLE
HARNISCHFEGER CORP. MODEL 320RT
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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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PART ONE GENERAL CHAPTER 1 INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains instructions for the use of Direct Support and General Support personnel maintaining the model M320RT Rough Terrain Crane. It provides instructions for maintenance, as specified in the Maintenance Allocation Chart (MAC) which is beyond the scope of Operator/Crew or Organizational Maintenance personnel.

b. This manual is divided into three parts. Part one covers description and data. Part two covers repair instructions for the crane upper (revolving frame) portion of the truck crane. Part three contains instructions for repair of the carrier or truck portion of the crane. Maintenance personnel should read the instructions

contained in the manual prior to repairing the equipment.

NOTE

In this manual reference to the crane or upper portion of the vehicle and reference to the revolving frame are one and the same.

c. All publications applicable to this manual are listed in appendix A.

1-2. Forms and Records

Maintenance records and reports which are used by maintenance personnel at all levels are listed and prescribed in TM 38-750.

Section II. DESCRIPTION AND DATA

1-3. Description

a. A general description of the model M320RT rough terrain crane and information pertaining to the identification plates and equipment operating instructions are also contained in TM 5-3810-295-12.

b. Descriptions of specific components and assemblies pertinent to direct, general support personnel are detailed in this manual.

1-4. Tabulated Data

a. General Maintenance data pertinent to direct and general support personnel is included in this paragraph. TM 5-3810-295-12 includes additional data and should be referred to as required.

b. Tabulated Data

(1) Truck crane.

Manufacturer Harnischfeger Corporation
Model M320RT
Design Rough Terrain

(2) Carrier engine.

Manufacturer Cummins Engine Company
Model V903
Type Diesel
Bore 5.5 in
Stroke 4.75 in
Total displacement 903 cubic in
Compression 16.5: 1
Number of cylinders 8
Governor speed 2600 rpm, full load
Idle speed 625 ± 25 rpm
Horse power 269 at 2600 rpm, full load
500 ft.85° F.

Oil pressure (rated speed) 40 to 65 pounds per square inch

Oil pressure (idle speed) 5 to 25 pounds per square inch

Ignition timing 21.0° before top dead center

Cooling Liquid

Rotation at flywheel end counter clockwise

Firing order 1-5-4-8-6-3-7-2

Injection tappet clearance 0.010-in minimum

Intake Valves 0.012 in (hot or cold)

Exhaust Valves 0.025 in (hot or cold)

Electrical system 24 V

(3) Upper engine

Manufacturer Detroit Diesel Allison
Model 5043-7200 (4-53)

Type Diesel

Bore 3.875 in

Stroke 4.5 in

Total displacement 212/Cubic in

Number of cylinders 4

Governor speed 2250 rpm full load

Idle speed 550 i rpm

Horse power 97 HP at 2250 rpm, full load

Oil pressure (rated speed) 40-60 PSI (30 psi Min)

Oil pressure (idle speed) 5-7 psi

Rotation at flywheel end counter clockwise

Firing order 1-3-4-2

Injector tappet clearance

Intake valves None

Exhaust valves 0.025 inch (cold) 0.023 inch (hot)

Electrical system 24 V