

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT

MAINTENANCE MANUAL

TRUCK, LIFT, FORK, DIESEL ENGINE

PNEUMATIC TIRED WHEELS, ROUGH

TERRAIN, 10,000 LB CAPACITY,

24 INCH LOAD CENTER

PETTIBONE-MULLIKEN MODEL RTL10

ARMY MODEL MHE 199, FSN 3930-903-0899

PETTIBONE-MULLIKEN MODEL RTL10-1

ARMY MODEL MHE 215, FSN 3930-465-5869

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1971

TECHNICAL MANUAL }
 No. 10-3930-243-34 }

HEADQUARTERS
 DEPARTMENT OF THE ARMY
 WASHINGTON, D.C., 3 June 1971

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

These instructions are published for the use of direct support and general support personnel maintaining the Pettibone-Mulliken Model RTL10 and Model RTL10-1 forklift trucks. They provide information for the maintenance of the equipment which is beyond the scope of the tools, equipment, personnel, or supplies normally available to using organizations.

1-2. Forms and Records

a. DA forms and records used for equipment

maintenance will be only those prescribed in TM 38-750.

b. Report 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 General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120.

Section II. DESCRIPTION AND DATA

1-3. Description

A general description of the forklift truck, the location and description of the identification and instruction plates, and information on the difference in models are contained in TM 10-3930-243-12. Paragraphs throughout the manual will indicate difference between the two models by applicable model numbers. The repair and maintenance instructions for direct support and general support maintenance personnel are described in the appropriate sections of this manual.

1-4. Tabulated Data

a. *General.* This paragraph contains overhaul data pertinent to direct and general support maintenance personnel.

b. *General*

Manufacturer Pettibone-Mulliken Corp.
Models RTL10 and RTL10-1
Length 203 in.
Width 106 in.
Height 133 in.
Shipping weight 34,500 lbs.
cube. 1505-0 ft.
Load center 24 in.
Drawbar pull 19,000 lbs.
Maximum fording depth ... 5 ft. to crest of wave
Capacity 10,000 lbs.

c. *Engine.*

Manufacturer Detroit Diesel Engine Div.,
General Motors Corp.
Mode 5063-5200
Beads 53

Type V
Cylinders 6
Cycle 2
Bore. 3.875 in.
Stroke 4.5 in.
Compression ratio (nominal) 17 to 1
Displacement 318.6 cu. in.
Firing order 1L-3R-3L-2R-2L-1R
Rotation Clockwise
Idle speed. 500 to 600 rpm
Governed speed (no load) . . 3010 rpm
Oil pressure..... 40 to 60 psi at 2800 rpm
Minimum oil pressure 30 psi

d. *Generator.*

Manufacturer, Delco-Remy (Model RTL10)
Part No, 1117495
Rating 24 V, DC
Manufacturer Prestolite (Model RTL10-1)
Part No... .. GHA4808UT
Rating 24 V, DC

e. *Generator Regulator.*

Manufacturer, Delco-Remy
Part No. 1118656
Rating 24 V, DC, 25amp
Ground „ „ Negative

f. *Starter.*

Manufacturer Delco-Remy
Part No 1113847
Rating 24 V, DC

g. *Transmission with Torque Converter.*

Manufacturer Allison Div., General Motors
Corp.
Model CRT 3531-1

Type Torque converter and planetary gear
 Converter model TC350
 Speeds 3 forward and 3 reverse
 Output shafts 2 wheel drive or 4 wheel drive
 Oil pressures, full throttle converter outlet:
 Stall 25 psi min.
 No load 65 psi max.
 Main, stall 150-160 psi (approx.)
 Lubrication 15-30 psi
 Oil temperature:
 Normal 180-210°F.
 Maximum 250° F.

h. Brake Hydraulic Pump.

Manufacturer Borg-Warner
 Part No. PD2-2-55-ERS-2-L01
 Rating, each section 6 gpm at 2800 rpm and 1800 psi

Rotation (viewed from drive end). CCW

i. Steering Hydraulic Pump.

Manufacturer Borg-Warner
 Part No. MHD3-23EH5-1R01
 Rating 30 gpm at 2800 rpm and 1800 psi

Rotation (viewed from drive end). CW

j. Main Hydraulic Pump.

Manufacturer Borg-Warner
 Part No. MHD3-3-28-12-EZ5-1R01
 Rating at 2800 rpm and 1600 psi
 Large section 35 gpm
 Small section 15 gpm

Rotation (viewed from drive end). CW

k. Hydraulic Cylinders (Model RTL10).

(1) Extension cylinder.

Manufacturer Cascade Mfg. Co.
 Part No. 4C621455A
 Inside diameter 4½ in.
 Stroke 445/8 in.

(2) Lift cylinder.

Manufacturer Cascade Mfg. Co.
 Part No. 4C621442A
 Inside diameter 6 in.
 Stroke 32 3/4 in.

(3) Lock cylinder, crab steering.

Manufacturer Cascade Mfg. Co.
 Part No. 4C900092
 Inside diameter:

 Large 3.280-3.282 in.
 Small 2.780-2.782 in.

(4) Lock cylinder, 2 wheel steering.

Manufacturer Cascade Mfg. Co.
 Part No. 4C900118
 Inside diameter:
 Large 333/4 in.
 Small 3¼ in.

(5) Lock cylinder, 4 wheel steering.

Manufacturer Cascade Mfg. Co.
 Part No. 4C900057
 Inside diameter:
 Large 3.280-3.282 in.
 Small 2.780-2.782 in.

(6) Oscillation cylinder, front.

Manufacturer Cascade Mfg. co.
 Part No 4C621508AC621508A
 Inside diameter 4 ¾ in.
 Stroke 7 3/16 in.

(7) Oscillation cylinder, rear.

Manufacturer Cascade Mfg. co.
 Part No. 4C621519B
 Inside diameter 4 ¾ in.
 Stroke 10 9/16 in.

(8) Side Shift cylinder.

Manufacturer Cascade Mfg. Co.
 Part No 4C621467A
 Inside diameter 4 ¼ in.
 Stroke 34 ½ in.

(9) Slave cylinder.

Manufacturer Cascade Mfg. co.
 Part No 4C621386U
 Inside diameter 6 ½ in.
 Stroke 245 /8 in.

(10) Steering cylinder.

Manufacturer Cascade Mfg. co.
 Part No. 4C621479A
 Inside diameter 3 in.
 Stroke 6 7/8 in.

(11) Tilt cylinder.

Manufacturer Cascade Mfg. Co.
 Part No. 6 ½ in.
 Stroke. 33 in. 33 in.

(12) Fan disconnect cylinder (Model RTL10).

Manufacturer Cascade Mfg. Co.
 Part No 2C900031
 Inside diameter 1.5-1.505 in.
 Stroke 2 2 in.

l. Hydraulic cylinders (Model RTL10-1).

(1) Lift cylinder.

Manufacturer PM Corp.
 Part No. F10801
 Stroke 323/4 in.
 Diameter, 6 in.

(2) Extension cylinder.

Manufacturer PM Corp.
 Part No F10802
 Stroke 445/8 in.
 Diameter, 4 ½ in.

(3) Tilt cylinder.

Manufacturer PM Corp.
 Part No. F10804
 Stroke 33 in.
 Diameter 6 ½ in.