
TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL
FOR
TRUCK, LIFT, FORK GED, SOLID RUBBER
TIRED WHEELS, 4000 LBS CAPACITY
100 AND 180 INCH LIFT

ARMY MODEL MHE-231

ALLIS CHALMERS MODELS ACC40-24PS100 and ACC40-24PS180

(NSN 3930-00-490-7814) (100 IN.)

(NSN 3930-00-556-4955) (180 IN.)

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For your convenience, preaddressed DA Forms 2028-2 are included as final pages of this manual.

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CHAPTER 1 INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual contains information necessary for the Maintenance of Truck, Lift, Fork, Solid Rubber Tired Wheels, 4000 pound capacity by Direct Support and General Support Maintenance personnel as allocated by the Maintenance Allocation Chart.. The manual provides information on the maintenance of the equipment which is beyond the scope of tools, equipment, personnel or supplies normally available to Operator and Organizational Maintenance.

1-2. Maintenance Forms and Records

Maintenance Forms and Records that are required for use are explained in TM 38-750.

1-3. Equipment Serviceability Criteria

This equipment is not covered by an ESC.

1-4. Destruction of Army Material to Prevent Enemy Use

Procedures to be used for destruction of equipment to prevent enemy use are defined in TM 750-244-3.

1-5. Administrative Storage

Refer to TM 740-90-1 for instructions pertaining to administrative storage of the fork lift truck.

Section II. DESCRIPTION

1-6. Description

A general description of the Fork Lift Truck and information pertaining to identification plates are contained in TM 10-3930-630-12. A more detailed description of components and assemblies is contained in the applicable sections of this manual.

1-7. Differences in Models

Two models of the fork lift truck are covered in this manual, Allis-Chalmers models ACC40-24PS100 and ACC40-24PS180. The only difference between the two is the mast and lift cylinders. The ACC40-24PS100 can lift 4,000 pounds (1812.0 kg) to a height of 100 inches (2540.0 mm), employs a single cluster cylinder, and can be tilted 10° to the rear and 3° forward. The ACC40-24PS180 can lift 4, 000 pounds (1812.9 kg) to a height of 180 inches (4572.0 mm), employs a cluster cylinder and a single lift cylinder, and can be tilted 5.5° to the rear and 3° forward. All differences affecting maintenance of the trucks or components will be covered in the applicable paragraphs.

1-8. Identification and Tabulated Data

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

b. *Identification.* The lift truck has two identification plates mounted on the right front of the truck.

(1) *Army data plate.* This plate includes the type of truck, type of tires and model number. It also includes the contract number, serial and registration numbers, national stock number, and capacity.

(2) *Shipping plate.* The shipping plate includes capacity of lift, shipping weight and wheel loading weights. It also shows the center of gravity and applicable heights and distances for important parts of the truck.

c. Engine

Make	Continental Motors
Part Number	F13508019
Valve arrangement	Valve in block
Number of cylinders	4
Firing order	1-3-4-2
Stroke	4.375 in. (111.1 mm)
Bore	3.000 in. (76.2 mm)
Piston displacement	135 cu. in. (221 cm3)
Compression ratio	7.2:1
Idle speed	400-600 rpm
Under load speed	2000 rpm
No load speed	2350-2450 rpm
Main bearings	3
Connecting rod bearings	4

d. Steering Gear Valve.

Make	Vickers
Part number	206-1092-001
Type	Hydraulic

e. Hydraulic Pump.

Make	Tyrone Hydraulics
Part number	GPA2-115ADFD
Operating pressure	1900-2000 psi (133.7-140.6 kg/cm2)
Drive	Engine crankshaft

f. Hydraulic Control Valve.

Make Vickers

Part number

CM11N02R20TDL21BZ02

Sections 2

g. Distributor.

Make Prestolite

Part number 1BT4701C

Voltage 12

Rotation Clockwise

Type

Grounded

Timing range 31-34 deg.

Point gap 0.022 in. (0.55 mm)

h. Starter.

Make Delco-Remy

Part number 1107245

Voltage 12

Rotation Clockwise

Speed (minimum) 5500 rpm

i. Alternator.

Make Delco-Remy

Part number 110578

Voltage 12

Amperage output (at 2000 rpm) .. 22 amps

Amperage output (at 5000 rpm) .. 33 amps

Amperage output (hot) 37 amps

Ground Negative

Rotation

Counterclockwise

j. Transmission.

Make Warner Gear

Part number 10-01-000-002

Table 1-1.

Repair and Replacement Standards

Type Single speed

Operation Torque converter

Drive Engine flywheel

1-9. Abbreviations

The following metric abbreviations appear in this manual. The list below will enable the user to understand their meaning.

c	centigrade
cm	centimeter
kg	kilogram
m	meter
mm	millimeter
N•m.	Newton meter

1-10. Repair and Replacement Standards and Torque Specifications

a. Repair and replacement standards applicable to components of the fork lift truck are shown in table 1-1.

b. Specific torque specifications applicable to components of the fork lift truck are shown in table 1-2.

c. Standard torque specifications are shown in table 1-3.

Point of Measurement	New Parts		Fit, Tolerance or Wear Limit
	Min	Max.	
Engine:			
Pistons:			
Outside Diameter	3.100	3.105	
Cylinder Diameter	3.125	3.127	3.135
Piston Pin			
Hole Diameter	0.859	0.859	
Ring Groove Width:			
Top	0.080	0.081	0.083
Second	0.0955	0.0956	0.0985
Third	0.0955	0.0956	0.0985
Fourth	0.188	0.188	0.0191
Piston Fit			0.003
Piston Rings:			
Width:			
Top	0.077	0.078	0.075
Second	0.093	0.094	0.091
Third	0.093	0.094	0.091
Fourth	0.184	0.188	0.182
Gap Clearance:			
Top	0.008	0.018	
Second	0.008	0.018	
Third	0.008	0.018	
Fourth	0.015	0.055	
Side Clearance:			
Top	0.002	0.004	
Second	0.0015	0.0035	
Third	0.0015	0.0035	
Fourth	0.000	0.005	