
TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DS,
AND GS MAINTENANCE MANUAL**

TRUCK, FORK LIFT; GASOLINE ENGINE DRIVEN; PNEUMATIC TIRES;

6000-LB CAPACITY; 173-IN. LIFT

(BAKER MODEL FJF-060, ARMY MODEL MHE-210)

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**Operator's, Organizational, DS,
and GS Maintenance Manual**

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SECTION I

INTRODUCTION AND GENERAL DESCRIPTION

1-1. INTRODUCTION.

1-2. This handbook contains operation, service and repair instructions for Model FJF-060, 6000-pound, pneumatic tired, gasoline engine powered fork lift truck with power shifted transmission.

1-3. The fork lift truck covered in this handbook is designed to lift loads up to a height of 173 inches. Being equipped with pneumatic tires, this truck is suitable for outdoor use on normally firm terrain; as found in warehouse yards. The Model FJF-060 is not designed as a rough terrain vehicle.

1-4. PURPOSE OF EQUIPMENT.

1-5. Model FJF-060 is a nontactical fork lift truck designed for the handling and warehousing of materials. In its capacity as a self-contained, rider-type, mechanized piece of handling equipment, the fork lift truck is completely equipped to lift loads up to a 6000-pound capacity at a 24 inch load center (the load center is measured from the heel of the fork), for transporting loads from one area to another, and for depositing and stacking loads, both indoors and outdoors.

1-6. GENERAL DESCRIPTION.

a. The truck is powered by a Hercules Model QDX-56 gasoline engine equipped for radio interference suppression and fungus proofed. The engine mounted hydraulic pump powers the lifting and tilting of the boom, and the power steering. Drive power for the truck is supplied to the two dual front wheels through a torque converter and single ratio transmission to a double reduction drive axle. Refer to Section II, Table of Specifications for additional data covering the overall truck, its major components and accessories.

b. Handling of materials is accomplished by a two pronged 40 inch fork on an upright boom lift. The boom can be tilted three degrees forward to ten degrees backward as required by the nature of the load or operation. Maximum height to which a load can be raised is specified in paragraph 1-3. Turning radius of the truck is 104 inches. Speed of the vehicle is limited by an engine governor to 12-1/2 miles per hour. An

overhead guard is provided to protect the operator against falling objects. Steering of the two rear wheels is hydraulic power assisted.

1-7. DETAILED DESCRIPTION.

1-8. ENGINE ASSEMBLY.

a. General. A six cylinder, four-cycle, in-line, "L"-head engine assembly is used to power the fork lift truck. The engine has a displacement of 236.7 cubic inches and develops 65 brake horsepower at 2400 rpm. Accessories mounted on and normally considered part of the complete engine assembly are the generator and pulley assembly, starting motor, water pump, fuel pump, governor, carburetor and distributor. The engine assembly complete with mounts, radiator and accessories, in conjunction with the single-speed torque converter transmission, propeller shaft and power axle assembly, forms an integrated unit generally referred to as the drive line or drive train assembly.

b. Cylinder numbering. The engine cylinders are numbered consecutively from one to six, starting at the rear, or fan end, of the engine. The bellhousing end of the engine is toward the front of the truck, and right and left sides are those seen when viewing the engine from the vehicle rear. The fork lift truck is a front-wheel drive vehicle, therefore the fan end, normally the front of the engine, is at the rear of the vehicle.

c. Engine lubrication system. The lubricating system of the engine assembly is the forced feed type to all main and connecting rod bearings. This is accomplished by means of a gear type pressure pump. The oil pump is driven by a suitable gear arrangement at the center of the camshaft. The pump picks up oil from the center sump of oil pan and delivers it to a drilled passage in the engine block. From here the oil flows through various leads to main bearings. From the main bearings the oil flows through suitable drilled holes in the crankshaft to connecting rod bearings. Valve tappets, valve stems, and cylinders are lubricated by a mist of oil thrown off by the main and connecting rod bearings.

d. Oil filter. A replaceable-element oil filter is mounted on the right-hand side of the crankcase. The oil filter is of the by-pass type, a constant flow of pressure oil being directed to and from the oil filter body assembly through flexible inlet and outlet hoses.

1-9. FUEL SYSTEM.

a. The fuel system consists of an air cleaner, fuel tank, fuel pump, governor and carburetor, together with control linkages, interconnecting lines and fittings.

b. Air cleaner assembly. An oil-bath type air cleaner is mounted above the left-hand side of the engine on the engine cowl. The air cleaner provides filtered air for the carburetor assembly.

c. Fuel tank assembly. A 10.4 gallon, welded steel tank, provided with a tank unit float assembly and shut-off cock is mounted on the right side of the truck frame. The fuel tank is connected with tubing directly to the fuel pump.

d. Fuel pump assembly. A diaphragm-type fuel pump is mounted on the left side of the engine assembly and is actuated by a rocker arm that contacts an eccentric on the engine camshaft to deliver fuel to the updraft carburetor assembly.

e. Carburetor assembly. An updraft carburetor is mounted on the left center side of the engine. The carburetor consists of a die cast main body assembly containing fuel metering parts such as the idle tubes, main well tubes, main jets, floats and fuel inlet valve.

f. Governor assembly. The governor assembly, located at the fan end of the engine, is of the mechanical type and operates in conjunction with the carburetor assembly. The purpose of the governor assembly is to regulate engine speed under variable loads to protect the engine against inadvertent overspeeding. The governor does not limit the power output of the engine: when loaded, the engine receives as much fuel as needed for the load. When unloaded, the engine is protected against overspeed damage.

1-10. COOLING SYSTEM.

a. General. The engine assembly uses a pressure-type liquid cooling system consisting of a rear mounted radiator, water pump, thermostat, water manifold, bypass lines, drive belt and fan assembly.

b. Radiator assembly. The radiator assembly is composed of a fin-and-tube type core with internal torque converter heat exchanger, pressure-type cap, overflow tube and drain cock.

c. Water pump assembly. A centrifugal-type water pump and pulley assembly is mounted on the rear of the engine assembly and driven by belt from the crankshaft

pulley. The water pump draws coolant from the radiator and pumps it into water jackets which extend the full length of the cylinders.

d. Water outlet pipe, thermostat and by-pass line. The water outlet pipe is mounted on the rear end of the cylinder head. A bellows-type thermostat internally mounted in the water outlet pipe contains a restriction valve which prevents free return of the coolant to the radiator upper area at temperatures below 177 deg F. With the thermostat valve closed, coolant is returned directly to the water pump inlet through a bypass line. This bypass line enables the coolant to circulate through the engine assembly until the coolant temperature exceeds 177 deg F. The thermostat valve starts to open at this temperature and is fully open at 182 deg F. permitting free circulation of the coolant to the radiator.

e. Fan assembly. A fan assembly and pulley adapter are attached to the water pump pulley. With the engine in operation, the fan assembly pushes cooling air through the radiator core.

1-11. IGNITION SYSTEM.

a. General. The ignition system is a conventional 12 volt battery supplied system and consists of a distributor assembly, ignition coil, spark plugs and cable assemblies and radio interference components.

b. Distributor assembly. The distributor assembly is mounted on the rear of the engine cylinder block and gear-driven by the engine camshaft. The distributor is fully automatic for control of the timing. A radio noise suppression bypass capacitor is connected between the ignition coil positive terminal and ground. The only internal adjustment provided is the point opening. Proper engine timing is obtained by rotating the distributor in its mounting.

c. Spark plugs and cables. Six spark plugs are installed along the centerline of the cylinder head assembly. Each spark plug is shielded with a rubber cover. Six cables connect the spark plugs to the high-tension outlets of the distributor.

1-12. STARTING AND CHARGING SYSTEM.

a. General. The starting and charging system consists of a starting motor, generator and pulley assembly, generator regulator, radio interference components and a 12-volt battery.

b. Starting motor assembly. The starting motor is located on the lower right side of the engine assembly. The starting motor is a 12-volt, 4-pole, 4-brush unit. The motor drive assembly, mounted on the armature shaft, is provided with a pinion which is shifted by screw action to engage the starter with the flywheel ring gear. When