

820 Series Diesel Tractors



SERVICE MANUAL 820 Series Diesel Tractors

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ENGLISH



SERVICE MANUAL FOR JOHN DEERE DEALERS

820 DIESEL TRACTOR SERIES

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Section 10

DESCRIPTION, OPERATION, AND SPECIFICATIONS

Group 5

DESCRIPTION

The John Deere "820" Series diesel-engine-powered tractor, is a heavy-duty five-bottom plow tractor. The engine develops approximately 67-1/2 horsepower at the belt and approximately 61-3/4 at the drawbar.

The tractor is of standard-tread design with provision made to widen the rear wheel tread 4 inches with 34-inch tires or 8 inches with 26-inch tires. This is an advantage when operating in unusually muddy conditions.

The tractor has six forward speeds and one reverse speed.

The features of the tractor are described briefly in the following paragraphs. Full description of each of the assemblies is given in the various sections throughout this manual.

SERIAL NUMBERS.

Each tractor bears a serial number located on the right-hand side of the main case just in front of the belt pulley.

The Powr-Trol valve housing and hydraulic remote cylinders also bear serial numbers.

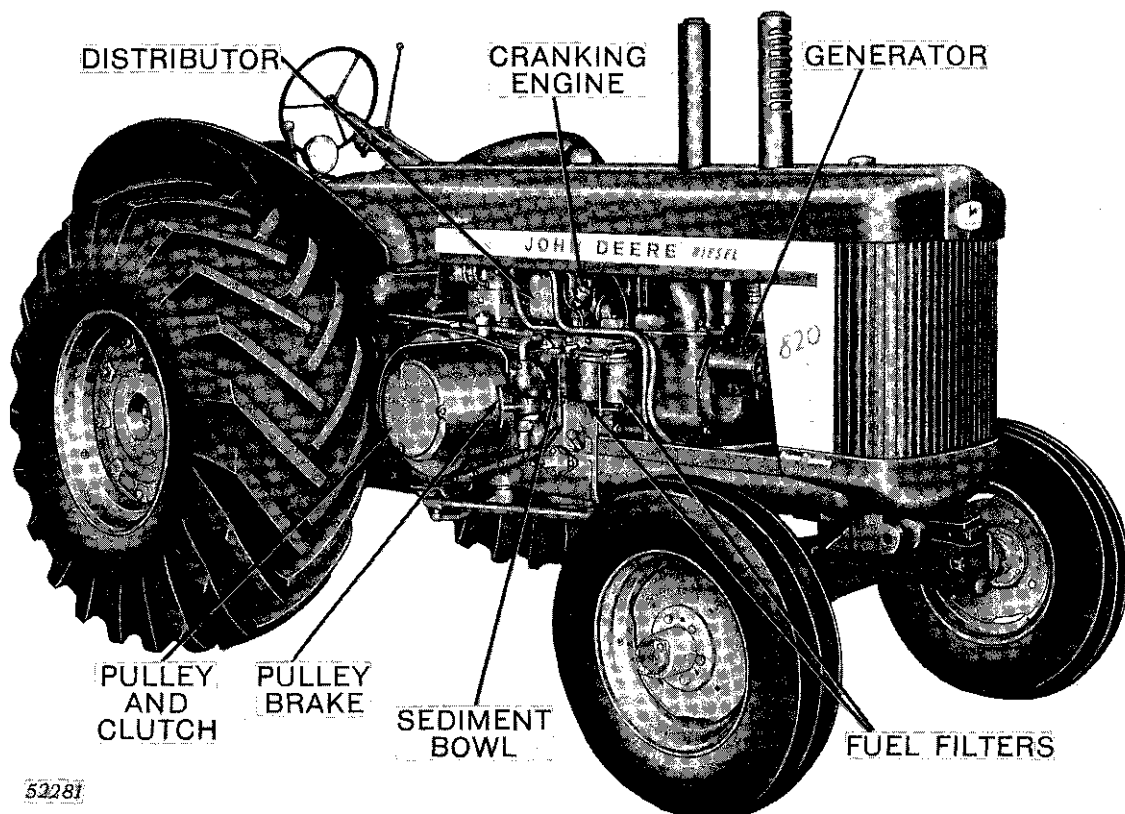


Figure 10-5-1—John Deere "820" Series Diesel Tractor—Pulley Side

DIESEL ENGINE.

The tractor is powered by a four-stroke cycle, two-cylinder, valve-in-head, horizontal, cross-mounted full diesel engine with a displacement of 471-1/2 cubic inches. The bore is 6-1/8 inches, the stroke is 8 inches, and the rated load speed is 1125 rpm.

The crankshaft is supported in three main bearings. Rotation is counter-clockwise when viewed from the flywheel side. The oiling system is of the force-feed pressure type with a full-flow oil filter. Engine speeds are controlled by a fly-weight type governor. Full automatic crankcase ventilation is provided by clean air drawn through the cranking engine air cleaner.

CRANKING ENGINE.

The diesel engine is cranked by means of a four-cylinder V-type gasoline engine having a 2-inch bore, 1-1/2-inch stroke and a rated load speed of 4500 rpm. Engine speed is controlled by a variable-speed centrifugal-type governor. The en-

gine is equipped with a separate oil pump to assure pressure lubrication of moving parts.

The engine is also equipped with a water pump and thermostat. By-pass cooling assures quick warm-up for greater efficiency, particularly in cold weather.

The cranking engine fuel system consists of a 1-quart gasoline tank mounted underneath the tractor cowl, and down-draft carburetor. Clean air is assured by a separate oil-wash-type air cleaner. A 6-volt battery, coil and distributor furnish ignition. The distributor contains two sets of points and associated parts—one set for each bank of cylinders. The distributor has no spark advance mechanism.

CRANKING ENGINE CRANKING.

The cranking engine is cranked by means of a 6-volt automotive-type electric motor. The motor is equipped with a Bendix engaging mechanism and a solenoid switch which is activated by a push button on the tractor dash. The ignition switch is also located on the dash.

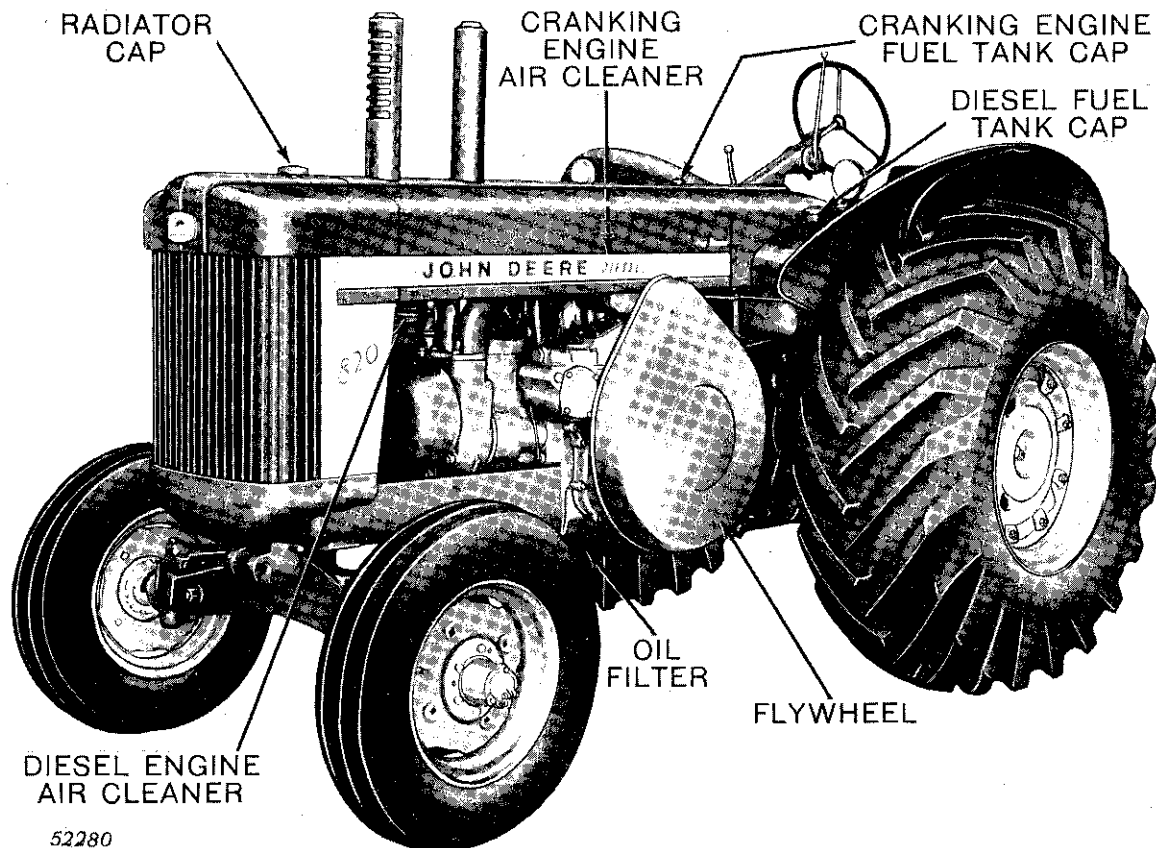


Figure 10-5-2—John Deere "820" Series Diesel Tractor—Flywheel Side

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