

John Deere

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MODEL:

2000 Series Tractors

Volume 1 of 2

**SERVICE
MANUAL**



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JD-S-SM2036

SERVICE MANUAL

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JOHN DEERE 2000 SERIES WHEEL TRACTORS

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Section 10

DESCRIPTION AND SPECIFICATIONS

Group 5 DESCRIPTION

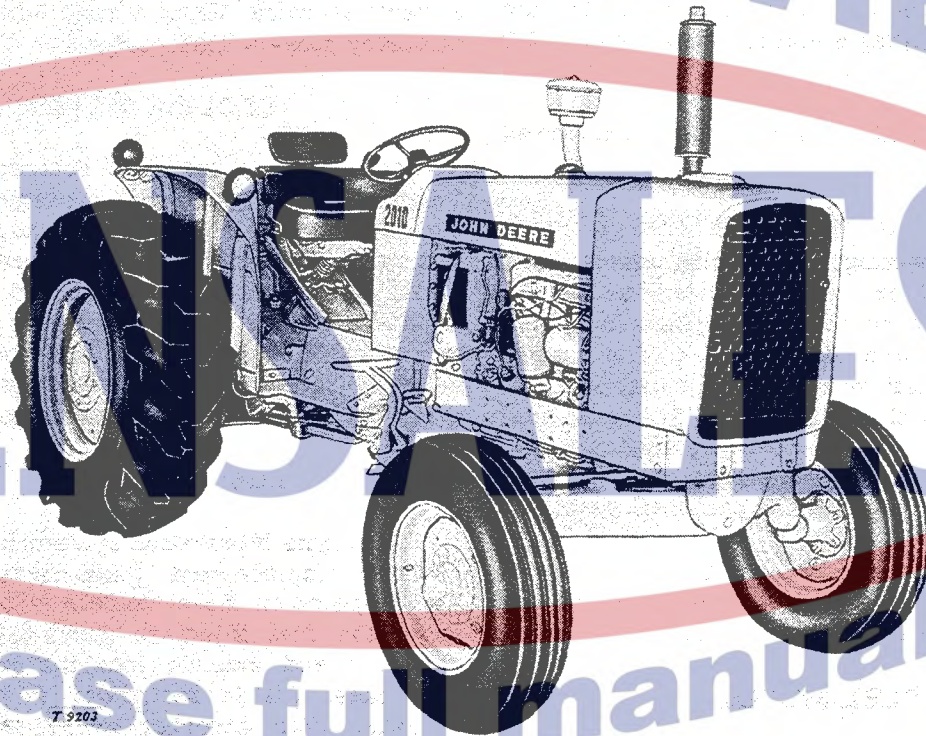


Fig. 10-5-1—Right Side View of John Deere 2010 Wheel Tractor

The John Deere 2010 Wheel Tractor is a low-built, general-purpose, industrial tractor. Features are described briefly in the paragraphs which follow.

DIESEL ENGINES

Each diesel tractor is powered by a vertical, 4-cylinder, valve-in-head, fuel injection, four-stroke cycle, internal combustion engine. A bore of 3-7/8 inches and a stroke of 3-1/2 inches give a piston displacement of approximately 165 cubic inches.

The compression ratio of the diesel engine is 19 to 1.

Crankshaft rotation is clockwise when viewed from the front.

The engine has replaceable precision-type main and connecting rod bearing inserts. All bearings and other parts of the engine are lubricated by a force-feed and splash-type system with an oil filter having a replaceable paper-type filter element. The crankcase is ventilated by means of a vent tube attached to the rocker arm cover and discharging below the crankcase flange. Engine speeds and injection timing are controlled by the fuel injection pump.

Group 10**SPECIFICATIONS**

PERFORMANCE		Diesel	Gasoline	Constant mesh - Manual sliding gear with 8 forward speeds and 4 reverse speeds. Helical Gears. (Travel speeds are shown on next page.)
Nebraska Test No.	799	800		
Max. drawbar pull	4553 lbs.	4596 lbs.		
Tractor weighing	6392 lbs.	6310 lbs.		
Max. drawbar pull without ballast	3356 lbs.	3239 lbs.		
Max. PTO horsepower	46.67	46.86		
Max. drawbar horsepower	41.40	40.82		
Rim pull (pounds)	Gear			
	1st	4020	3991	
	2nd	3735	3713	
	3rd	3147	3187	
	4th	2303	2271	
	5th	1780	1825	
	6th	1255	1235	
	7th	1026	1027	
	8th	--Not Tested--		
ENGINE				CAPACITIES (U.S. Standard Measures)
Flywheel horsepower (SAE corrected)	52.0	52.0		Fuel tank 16 gals.
Torque, max., at 1500 rpm (SAE corrected)	124.5 ft-lbs.	119.0 ft-lbs.		Engine crankcase (including filter) 5 qts.
Torque, at 2500 rpm (SAE corrected)	109.3 ft-lbs.	109.3 ft-lbs.		Cooling system 3 gals.
Number of cylinders.	4	4		Air cleaner cup To mark
Bore and stroke.	3-7/8 x 3-1/2 in.	3-5/8 x 3-1/2 in.		Transmission case:
Displacement in cubic inches	165	145		H-L-R 27 qts.
NACC or AMA horsepower rating for tax purposes	24.03	21.03		Constant mesh 32 qts.
Intake valve clearance (cold)	0.012 in.	0.012 in.		Final drive cases (each) 1 gal.
Exhaust valve clearance (cold)	0.018 in.	0.018 in.		FINAL DRIVES (-29010)
Compression ratio	19 to 1	7.9 to 1*		Gear reduction ratio in first gear (engine to axle) (Constant Mesh transmission) -- 131 to 1
Slow-idle (rpm)	800 rpm	600 rpm		Gear reduction ratio in 8th gear (engine to axle) (Constant Mesh transmission) -- 18 to 1
Fast-idle (rpm)	2650 rpm	2700 rpm		Gear reduction ratio in first gear (engine to axle) (H-L-R transmission) -- 150.4 to 1
Working speed range (rpm)	1500 to 2500 rpm	1500 to 2500 rpm		Gear reduction ratio in 8th gear (engine to axle) (H-L-R transmission) -- 20.8 to 1
Engine clutch:				FINAL DRIVES (29011-Up)
Constant mesh	11-inch, single disk			Gear reduction ratio in first gear (engine to axle) (Constant Mesh transmission) -- 143 to 1
H-L-R	10-inch, single disk			Gear reduction ratio in 8th gear (engine to axle) (Constant Mesh transmission) -- 20 to 1
TRANSMISSION				Gear reduction ratio in first gear (engine to axle) (H-L-R transmission) -- 164.3 to 1
H-L-R - Hydraulic assist with 8 forward speeds and 4 reverse speeds. Wet clutches.				Gear reduction ratio in 8th gear (engine to axle) (H-L-R transmission) -- 22.7 to 1
				ELECTRICAL SYSTEM
				Battery (dry) voltage (nominal) 12 volts
				Battery specific gravity - full charge 1.250 (plus or minus 0.010)
				Battery terminal grounded positive
				Generator regulation voltage regulator
				IGNITION SYSTEM (Gasoline)
				Type battery-distributor
				Distributor point gap 0.022 in.
				Spark Plugs:
				Size 14 mm
				Gap 0.025 in.

*9.0 to 1 for high altitude pistons

Section 20

TRACTOR SEPARATION

Group 5

SEPARATING FRONT END SUPPORT FROM ENGINE

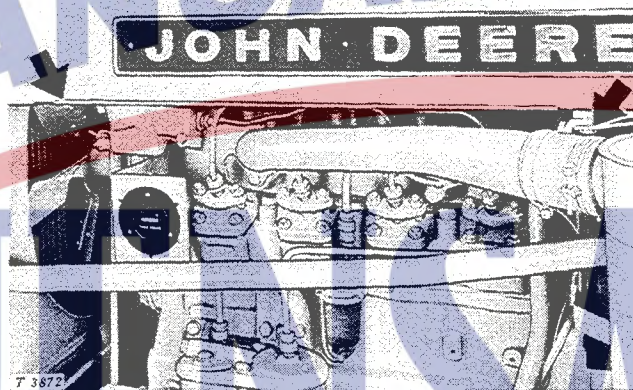


Fig. 20-5-1—Hood Attaching Points

Remove fuel tank cap and vertical muffler. Disconnect light leads if tractor is so equipped. Remove cap screws attaching heat shield to hood.

Loosen hex. nuts on the eyebolts attaching the front of the hood to the grille.

Remove the hex. nuts, washers, and cap screws attaching rear of hood to the battery support and lift off hood.



Fig. 20-5-2—Side Frame Attaching Screws

Remove the two cap screws attaching rear of each side frame to the clutch housing. Remove the three cap screws attaching the front of each side frame to the front end support. Pull side frames free from dowels.



Fig. 20-5-3—Disconnecting Radiator

1. Drain radiator and disconnect water inlet and outlet hoses.

2. Remove the hex. nuts securing radiator brace rods to the fuel tank bracket.

3. Disconnect fuel tank vent line.

Remove grille screen. Remove the four machine screws attaching radiator baffle to grille housing. Disconnect drag link socket assembly from steering spindle arm and free the socket assembly from the baffle (Fig. 20-5-4).



Fig. 20-5-4—Disconnecting Drag Link

Disconnect the power steering lines from the block connector on the right-hand side of the tractor. Cap ends of lines to prevent oil runoff.

Position JDG-2-A separating stand, with wheel, on the clutch housing. Insert a shim between housing and separating stand and attach to the clutch housing with cap screws. Adjust wheel to the floor (Fig. 20-5-5).

Place a wooden block between the front end support and axle on each side.

Remove radiator cap and attach a chain around grille housing and attach to a chainhoist as shown in Fig. 20-5-5.

NOTE: Place a wooden block between the rear, underside of the grille housing and the chain to prevent damage to the grille housing during separation.

Remove the four cap screws attaching the front end support to the engine block and roll front end free of engine.

ASSEMBLY

Position the front end support in line with the mounting points of the engine and install the four attaching cap screws. Tighten cap screws to 170 foot-pounds.

Secure the radiator brace rods to the fuel tank bracket with lock washers and hex. nuts.

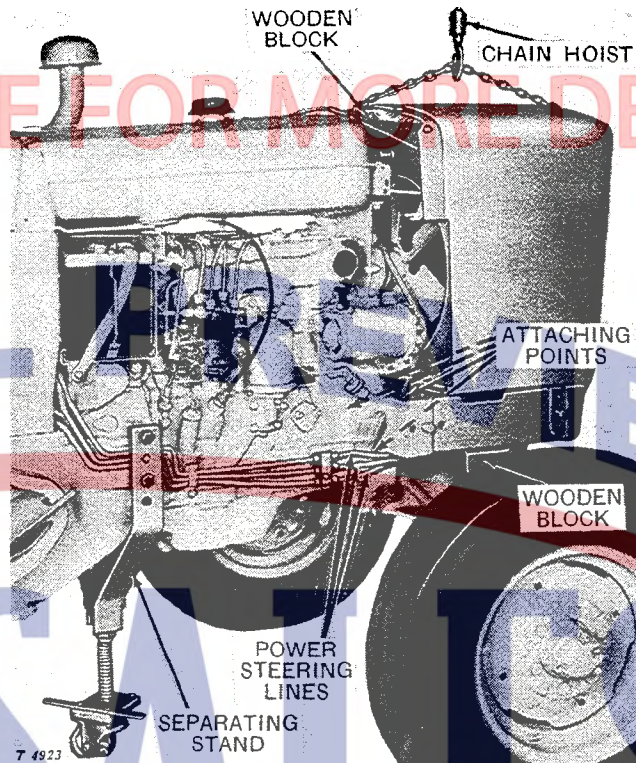


Fig. 20-5-5—Removing Front End Assembly

Remove chain from grille housing and install radiator cap.

Connect the power steering lines to the block connector on the right-hand side of the tractor.

Position radiator baffle on drag link socket assembly and attach baffle to the grille housing.

Connect the drag link socket assembly to the steering spindle arm and secure with the lock washer and hex. nut.

Connect the radiator inlet and outlet hoses.

Connect the fuel tank vent line.

Install hood and connect light leads.

Install vertical muffler if so equipped.

Remove separating stand.

Install side frames. Torque cap screws at rear of front end support and rear of side frame to 170 foot-pounds. Torque the front side frame cap screws to 85 foot-pounds.

Fill cooling system with clean soft water or anti-freeze solution as required.

Group 10

SEPARATING ENGINE FROM CLUTCH HOUSING

Remove hood (Group 5).

Remove heat shield.

Remove side frames (Group 5).

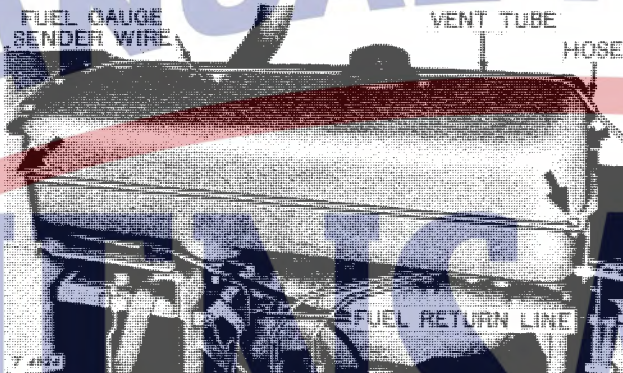


Fig. 20-10-1—Fuel Tank Attaching Points (Diesel Illustrated)

Disconnect fuel gauge wire at fuel gauge sender. (Fig. 20-10-1).

Drain fuel tank and disconnect fuel tank to fuel strainer line and fuel return line on diesel tractors.

Close fuel shut-off and disconnect fuel line on gasoline tractors.

Disconnect fuel tank vent tube from hose to vent tube extension at the front of the fuel tank.

Remove the four cap screws attaching fuel tank to the front and rear fuel tank support brackets and remove tank.

Remove grille screen. Remove the hex, nut and lock washer from socket assembly. Disconnect socket assembly from steering spindle arm. Remove the four machine screws attaching radiator baffle to grille housing and free the shield from the socket assembly (Fig. 20-10-2).

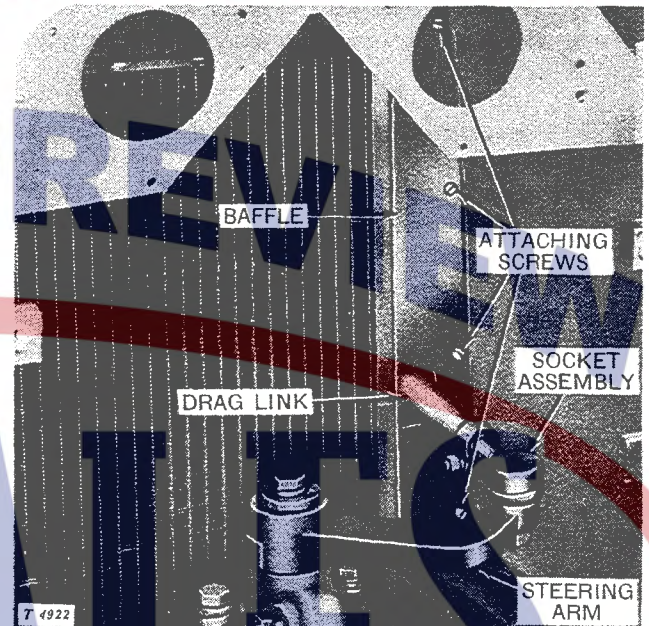


Fig. 20-10-2—Disconnecting Drag Link

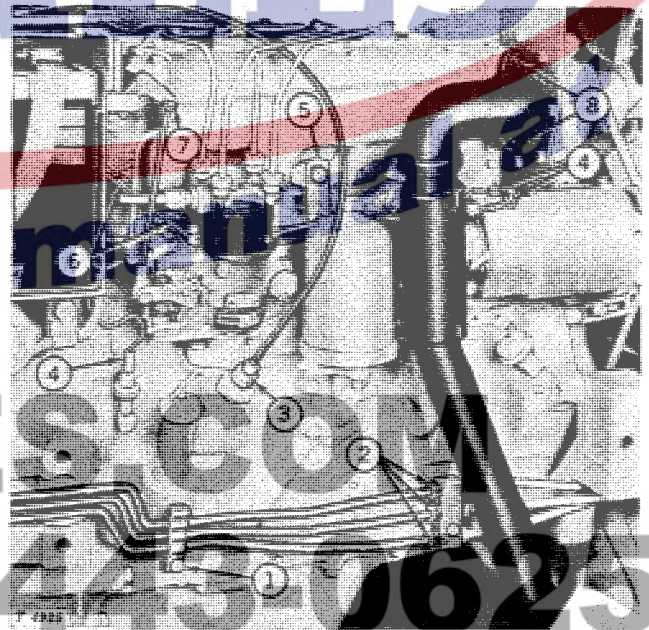


Fig. 20-10-3—Disconnecting Wiring and Linkage
(Right Side of Engine)