John Deere 2010 Crawler Tractors (Serial No. 42001-UP)

JOHN DEERE

OPERATORS MANUAL

John Deere 2010 Crawler Tractors
(Serial No. 42001-UP)

OMT19256 A4 English

John Deere Dubuque Works
OMT19256 A4

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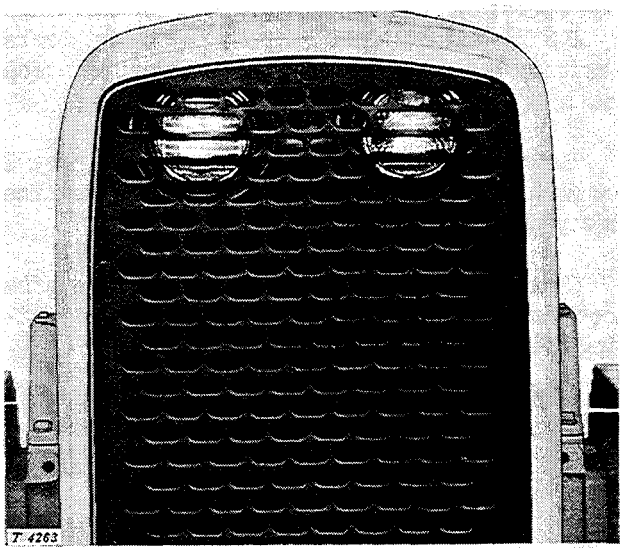
ENGLISH

LIGHTS

The lights on your tractor are designed to give the maximum amount of safety and convenience when operating at night or during other periods of low visibility.

FRONT LIGHTS

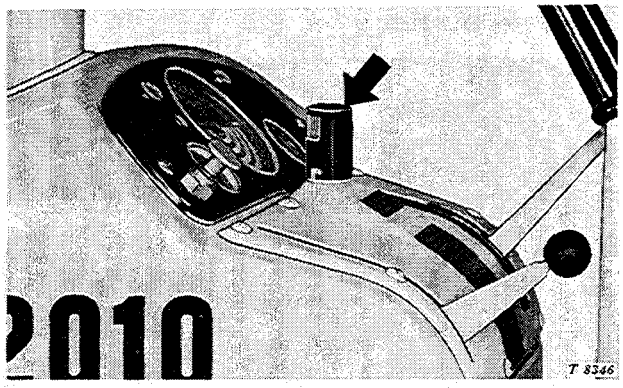


Your tractor may be equipped with grille-mounted sealed-beam headlights.

REAR LIGHTS

A combination rear flood light, mounted on the left rear of the seat, is available for illuminating drawn equipment at night. It also serves as a warning light when traveling on the highway at night.

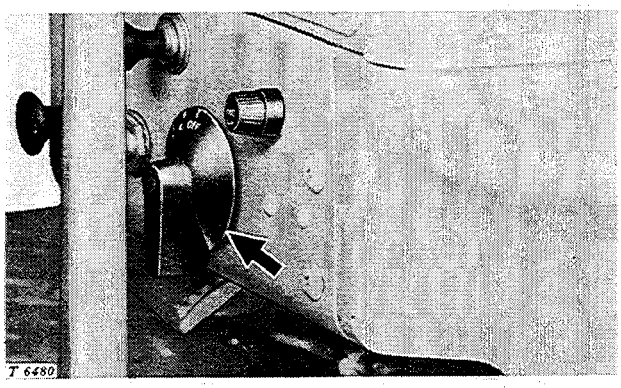
DASH LAMP



Dash Lamp

The dash lamp, which has an adjustable opening, illuminates the tractor instrument panel.

LIGHT SWITCH



Light Switch

All lights are controlled by the light switch. The switch has four positions as follows:

"OFF" - All lights off.
"L" - Bright front lights and white rear light on.
"B" - Bright front lights and red rear light on.
"D" - Dim front lights and red rear light on.

The starter switch must be in the "ON" position for lights to operate.

EQUIPMENT WARNING LAMP

The equipment warning lamp is plugged into the electrical outlet socket at the left rear of the transmission cover and installed on the equipment. The lamp will be turned on as long as it is plugged into the socket, regardless of whether or not the ignition switch is turned on.

This lamp (which glows red to the rear and amber to the front) mounts securely on the left-hand side of drawn equipment. This lamp may be equipped with a flasher, available from your John Deere dealer.

ELECTRICAL OUTLET SOCKET

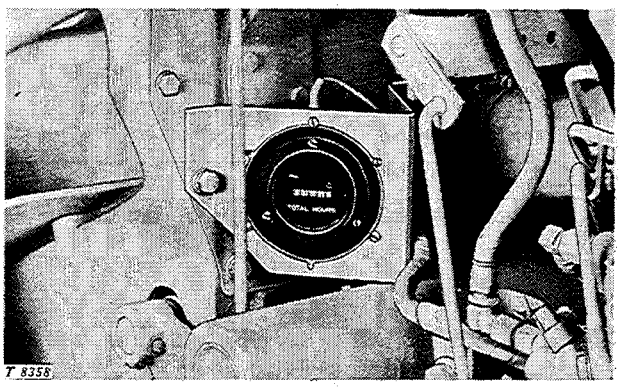
The outlet socket, a source of 12-volt, d-c electrical power, is used for plugging in the equipment warning lamp, other auxiliary lights, or electrical service equipment. It is located on the left rear of the transmission cover.

LUBRICATION AND PERIODIC SERVICE

Effective lubrication is the most important step toward low upkeep cost, long life, and satisfactory service. Without oil and grease you can ruin important working parts of your tractor in a very short time.

The engine has one of the finest lubricating systems it is possible to design. Do not handicap it by using an oil of doubtful quality. It pays to buy only nationally known brands of oil.

The intervals at which the various working parts should be checked, lubricated, serviced, or adjusted are based on hours of operation.



Use the electric hour meter to determine when periodic services are required. The electric hour meter, which operates whenever the starter switch is one, shows the accumulated hours of operation.

BREAK-IN PERIOD

During the period of engine break-in, follow the special lubrication procedures given on page 6. Be sure to change the breaking-in oil and crankcase filter element at the interval specified during this period. At the end of the first 50 hours, replace the H-L-R transmission oil filter (page 28) at the end of the first 200 hours, clean the transmission-hydraulic system oil filter (page 29).

LUBRICATION AND SERVICE INTERVALS

The lubrication and service periods are daily or every 10 hours, every 50 hours, every 200 hours, every 600 hours, every 1200 hours, and every spring and fall season. These intervals are based on operation under normal conditions. When operating under unusual conditions, such as excessive heat, cold, or dust, the tractor should be checked and serviced at more frequent intervals.

The chart on the following pages is a condensed list of components to be serviced at each interval and the service to be performed. Detailed instructions for performing each service are given on the pages which follow the chart. Each item in the chart is numbered with the corresponding detailed procedure bearing the same number.

26. INJECTION PUMP (Diesel)

Timing of the injection pump and fuel injectors is also vital to efficient fuel system operation. See your John Deere dealer for this service.

27. SPARK PLUGS (Gasoline)

At least every 600 hours, service the spark plugs for better engine operation. See page 37.

28. CARBURETOR (Gasoline)

Clean inlet strainer. See page 34.

29. ENGINE VALVES

See your John Deere dealer for this service.

30. BRAKES

Check brake pedals for adjustment. See page 44.

31. AIR INTAKE HOSES

Check clamps on hoses which connect air cleaner and engine. Tighten hose clamps where necessary to prevent dirt from entering engine. Inspect hoses for cracks or rotting.

32. ENGINE SPEEDS

Warm up engine and use tachometer on dash to check engine speeds:

Diesel Engines

Throttle Positions	*Load Speed*	*No Load Idle Speed*
Down	. . . . .	800 rpm
Offset	Engine stop	Engine stop
Up	2500 rpm	2650 rpm

Gasoline Engines

Throttle Positions	*Load Speed*	*No Load Idle Speed*
Down	. . . . .	600 rpm
Up	2500 rpm	2700 rpm

If engine speeds need adjustment or if you doubt the accuracy of the tachometer, consult your John Deere dealer.

33. FUEL SEDIMENT BOWL (Gasoline)

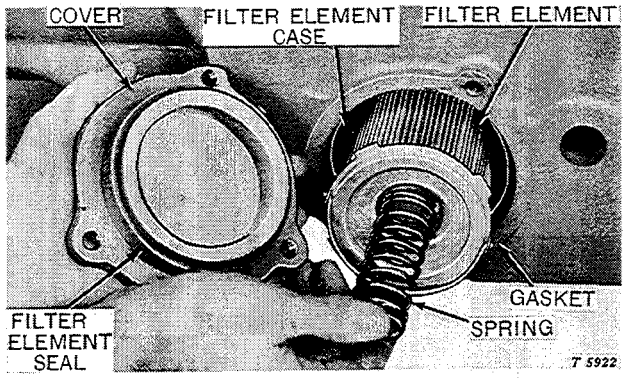
Close fuel shut-off valves. Remove sediment bowl. Clean bowl and screen. See page 34.

Take all possible precaution to keep lubricants clean. This will save you money in long life for your tractor.

34. TRANSMISSION-HYDRAULIC SYSTEM

NOTE: This oil filter element is not used on tractors with H-L-R transmission unless the tractor is equipped with a hydraulic system.

Service the transmission-hydraulic system as follows: Warm up tractor. Stop engine, remove two drain plugs (see Item 35) and drain oil into a clean container.



Transmission and Hydraulic System Oil Filter

Remove cover from right front wall of transmission case and pull out filter assembly. Wash filter element in solvent or diesel fuel, using a bristle brush (not a wire brush). Rinse in clean solvent or diesel fuel and flush with water under pressure, and dry with compressed air. Check seal on end of filter for wear or damage. If seal is leaking or if element is damaged, replace filter. Reinstall element, seal inward. Hold spring in cup of filter and install cover with new gasket and seal. Secure with three cap screws.

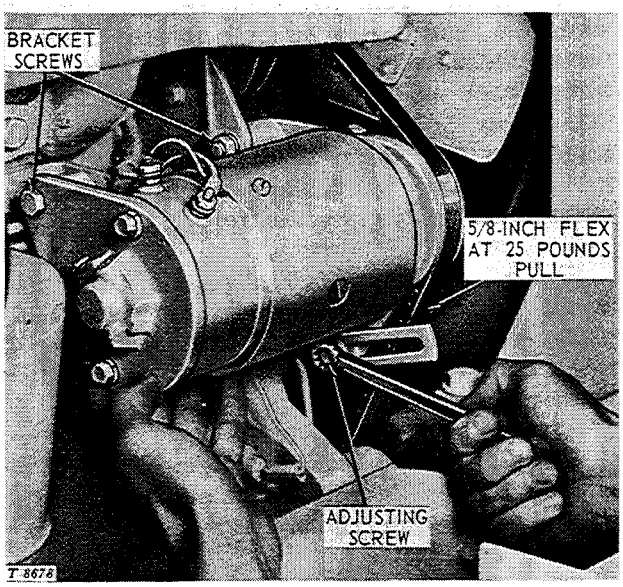
NOTE: Transmission-hydraulic oil may be reused at the end of the 600 hour filter element cleaning unless oil is extremely dirty. Oil should be changed every 1200 hours (see Item 35).

Reinstall drain plugs and refill system. Check oil level (see Item 16) and add sufficient John Deere Type 303 Special Oil to bring oil up to the "SAFE" area. After filling system, operate tractor and all hydraulic equipment, then recheck oil level. Do not overfill.

GENERATOR

The generator (shown below) provides electrical current for maintaining the storage battery in a fully charged condition and for all the other electrical requirements of the tractor.

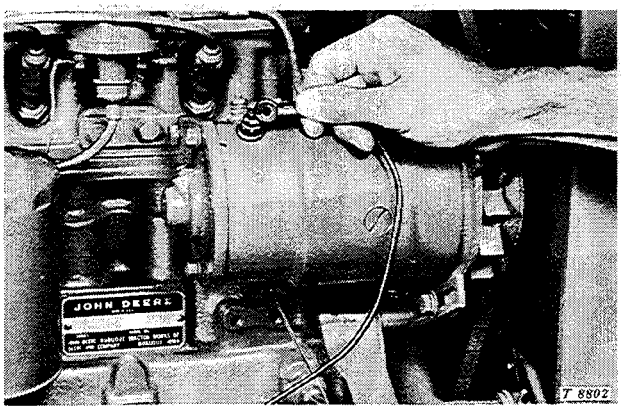
ADJUSTING GENERATOR BELT TENSION



Check generator belt tension every 200 hours. With the generator bracket and adjusting cap screws loose, force the generator away from the engine until the belt has 5/8-inch flex at 25 pounds pull. Retighten all cap screws.

POLARIZING THE GENERATOR

Be sure to polarize the generator after connecting the generator, regulator, starter, or battery. Do this before starting the engine. This will avoid reversing polarity, which can cause burned-out regulator points, a run down battery, or a burned-out generator.



Polarize the generator by removing hood and momentarily touching a wire to both the "GEN" and "BAT" terminals of the regulator (or from battery terminal on starter to "A" terminal on generator as shown at left below).

STARTER

The engine is cranked by means of a 12-volt electric starter, located on the left-hand side of the engine. It is built to carry a big load for a short period of time. The electrical connection between starter and battery is made by a solenoid switch mounted under the starter.

CAUTION: When starting the engine, never hold the key switch in start position for more than 30 seconds at a time. If the engine does not start within 30 seconds, allow at least two minutes for proper cooling of the starter. Be sure to pause a few seconds after a false start to make certain that the starter has stopped completely before another start is attempted.

If the starter responds normally when the switch is operated, it can usually be considered in good condition. However, periodic checking of the starter and its electrical connections may be necessary.

CHECKING CAUSES OF SLUGGISH STARTER OPERATION

If the starter fails to operate or operates sluggishly, defects other than in the starter may be the cause. The battery may be run down or there may be some condition in the engine that is throwing a heavy burden on the starter.

Check the specific gravity of the battery with a hydrometer and make sure that all wiring connections are clean and tight.

Dirty, loose, or corroded cables and wires will cause the starter to operate sluggishly, because they create high resistance which reduces voltage to the starter. Such conditions also permit arcing which quickly burns and pits the connections.

A tight engine, or oil of heavy viscosity, place an added burden on the starter. Use crankcase oil of the proper viscosity. Low temperatures also hamper starter performance due to decreased battery output and increased viscosity of crankcase oil.

If the above checks fail to improve the operation of the starter, see your John Deere dealer.

ENGINE RUNS IRREGULARLY OR STALLS FREQUENTLY

Possible Cause	Possible Remedy
Low coolant temperature	If water temperature gauge is not normal ("N") range, see "Below normal engine temperature." Page 50.
Clogged fuel filter (diesel)	Replace first-stage filter element and bleed system. Pages 28 and 32.
Water, dirt, or air in fuel system	Drain, flush, and refill. Bleed system (diesel). Pages 31 and 33.
Dirty or faulty injectors (diesel)	See your dealer.
Improper carburetor setting	See "Adjusting the Carburetor," page 33.
Improper spark plug electrode spacings	Space spark plug electrodes to .025-inch. See page 36.
Irregular spark	Dirty plugs or points. Page 36.

LACK OF ENGINE POWER

Engine overloaded	Reduce load or shift to lower gear.
Too high viscosity oil in crankcase	Drain and fill crankcase with oil of proper viscosity and quality. Page 25.
Intake air restriction	Clean air cleaner. Page 22.
Clogged fuel filter (diesel)	Replace first-stage filter element and bleed system. Pages 28 and 32.
Improper hitching of implement	See implement operator's manual for proper hitching.
High altitude operation	Engines lose horsepower with increased altitude. Use proper type of fuel for high altitude. Page 17.
Overheated engine	See "Engine overheats" (below).
Improper valve clearance	See your John Deere dealer for this service.
Dirty or faulty injectors (diesel)	See your dealer.
Injection pump or distributor out of time	Check timing. See your John Deere dealer for this service.
Carburetor adjusted too lean	Adjust. See "Adjusting Carburetor," page 33.
Unsatisfactory fuel	Change to better grade fuel. Page 17.
Dirty points or spark plugs	Clean and gap. Page 36.
Obstruction in fuel system	See "Gasoline Fuel System," page 33.

ENGINE OVERHEATS

Engine overloaded	Shift to lower gear or reduce load.
Low coolant level	Fill radiator with coolant to the proper level. Check hoses and radiator for leaks or loose connections. Page 34.
Dirty radiator core or grille screen	Remove all foreign matter from exterior of radiator core and grille screen.
Loose or defective generator belt	Adjust belt tension. Replace worn belt. Page 39.
Cooling system limed up	Drain and flush cooling system. Page 34.
Defective temperature gauge	Check water with thermometer. Have serviceman replace gauge if defective. (To overheat, an engine must use water. Check water level.)
Defective radiator pressure cap	Replace cap.