2010 Row-Crop Utility LP-Gas Tractor

JOHN DEERE

OPERATORS MANUAL

2010 Row-Crop Utility LP-Gas Tractor

OMT14691 F1 English

John Deere Tractor Works
OMT14691 F1

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operation

Operating the engine

Starting the engine

(1) Perform the following checks and services before starting the engine for the first time each day:

(a) Check the engine crankcase oil level—see page 52.

(b) Check the radiator coolant level—see page 66.

(c) Check air cleaner oil and service the air cleaner oil when the dirt level exceeds 3/8-inch—see page 52.

(d) Grease drag link—see page 52. Grease brake linkage—see page 53. Grease front rockshaft bearings when in use—see page 53.

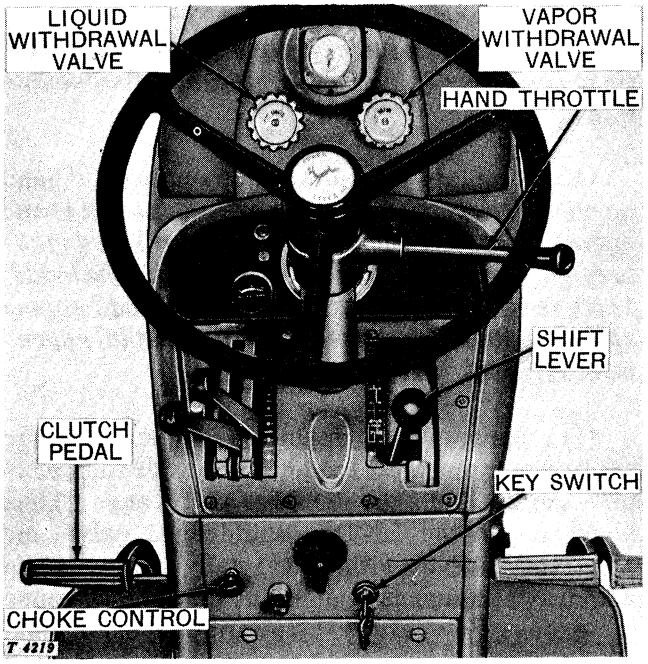
(2) Place the shift lever is "PARK" (see page 14) and depress the clutch pedal to decrease drag on the engine.

(3) Advance the hand throttle to provide a speed slightly faster than slow idle.

(4) Open the VAPOR withdrawal valve slowly. If the valve is opened too fast, it may cause the excess flow valve to close and prevent normal flow of vapor. If this happens, close the VAPOR withdrawal valve and slowly re-open it.

(5) Turn the key switch clockwise one-eighth turn. The generator and oil pressure tel-lights should glow. If either tel-light fails to glow, turn off the key switch and determine the cause.

(6) Turn the key switch clockwise one-quarter turn to start the engine.



NOTE: Due to the heavy amperage required from the battery whenever the starter is used and due to the heat generated in the starter, it is advisable to limit the length of time the starter is used to 1/2 minute. A two minute rest period is then recommended to permit the battery to restore to a more satisfactory charge. This rest period will also allow the heat to escape from the starter. Turn key switch to vertical (off) position during rest period.

(7) In cold weather, if engine does not start immediately, pull the choke control outward full distance; then, push in slowly after engine starts.

(8) With engine running and hand throttle in full open position (throttle to right), oil pressure tel-light should go out. If tel-light glows bright red after engine has been running 10 seconds ignition should be turned off at once and the cause of reduced oil pressure determined.

Tires

Properly inflated tires are important to the operation of your tractor. The amount of air pressure to be carried in the front and rear tires depends upon the implement used with the tractor and the amount of ballast employed.

Under-inflated tires break easily and wear out rapidly. Over-inflated tires reduce traction and increase wheel slippage. Keep the tires inflated according to the recommendations in the following charts.

FRONT TIRES

Tire Size	Ply	Inflation Pressure: With towed or rear-mounted implement	With light front mounted implement	With heavy front-mounted implement
6:00 x 16	4	28 lbs.	32 lbs.	Do not use
6:00 x 16	6	28 lbs.	32 lbs.	48 lbs.
6:50 x 16	6	28 lbs.	32 lbs.	44 lbs.
7:50 x 15	6	28 lbs.	32 lbs.	36 lbs.

REAR TIRES

Tire Size	Ply	Inflation Pressure: With little ballast or no rear mounted implement	With moderate ballast or light rear mounted implement	With maximum ballast or heavy rear mounted implement
12.4 x 28	4	14 lbs.	14 lbs.	Do not use
13.6 x 28	4	14 lbs.	14 lbs.	14 lbs.
14.9 x 28	6	14 lbs.	16 lbs.	18 lbs.

Ballast

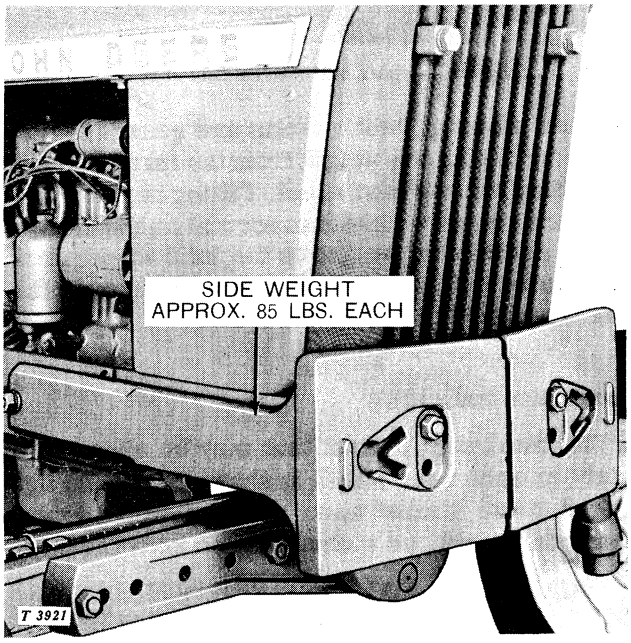
The performance of your tractor can be improved under certain conditions by adding or reducing the ballast at the front end or at the rear wheels.

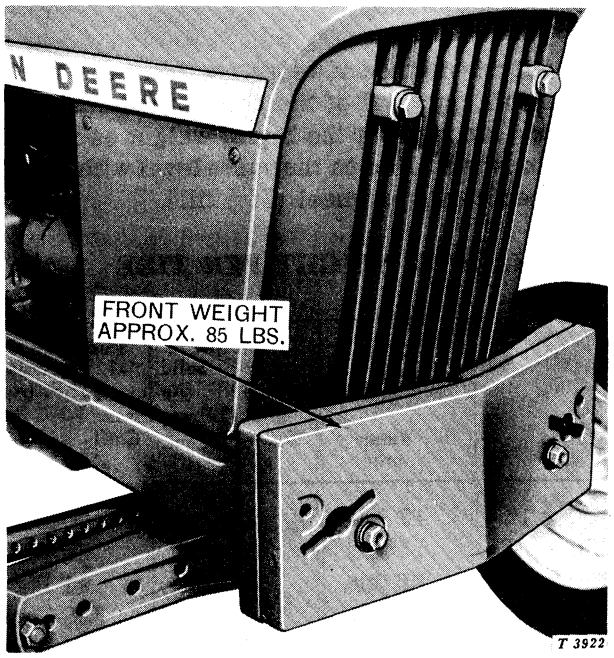
Front end and side weights

When operating with a heavy rear mounted implement, or when operating on hilly terrain, front end and side weights may be installed to maintain adequate stability.

The two side weights fit on the left-hand and right-hand sides and extend around to the front end. Up to 8 front end weights may be added. Each of the weights, available from your John Deere dealer, weighs approximately 85 pounds.

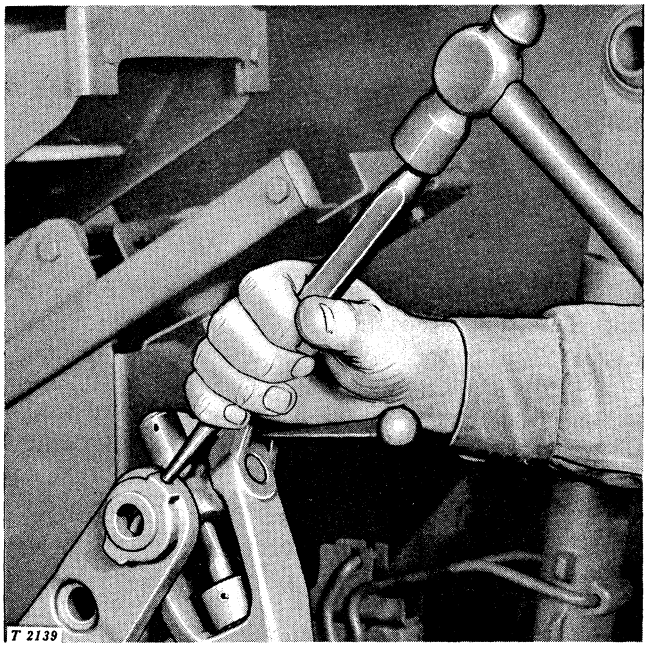
The side weights must be installed first. Attach them at the front and side with the round bolts and screws provided.





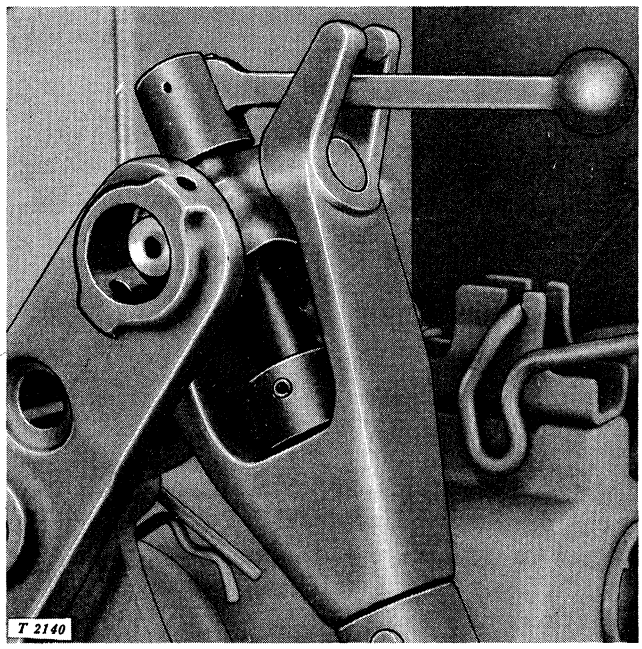
Removing the universal 3-point hitch

Detach the front end of each draft link from the tractor by removing cotter pin and slotted nut.



Removing roll pin

Detach the top end of each lift link from the rockshaft arms by driving out roll pin and removing bushing from outside of each attaching bracket. Then force each lift link body to the outside. This permits the draft links and lift links to be removed.



Bushing removed

Detach the center link from the tractor by removing the spring locking pin and pulling out center link attaching pin. Then pull the center link out of the transport bracket.

Vertical adjustment

The drawbar hitch point can be raised or lowered to obtain maximum traction for variable land conditions and variable heights of hitch points on drawn implements.

To raise or lower the drawbar hitch point on a tractor with offset drawbar, remove the drawbar, turn it over, and reinstall it.

If the drawbar is placed too high, the drawn implement may pull down on the rear of the tractor and raise the front end, causing loss of steering control. If the drawbar is placed too low, it will tend to raise the rear wheels, causing wheel slippage and loss of power at the drawbar.

Horizontal adjustment

The crossbar has a series of holes used for locking the drawbar in one of a number of fixed horizontal or lateral positions. Locking pins, dropped into the holes on either side of the drawbar, hold it in place.

Attaching implement to drawbar

To attach the implement to the drawbar, simply remove the implement hitch pin, line up the implement and drawbar hitches, insert the pin, and lock it in operating position.

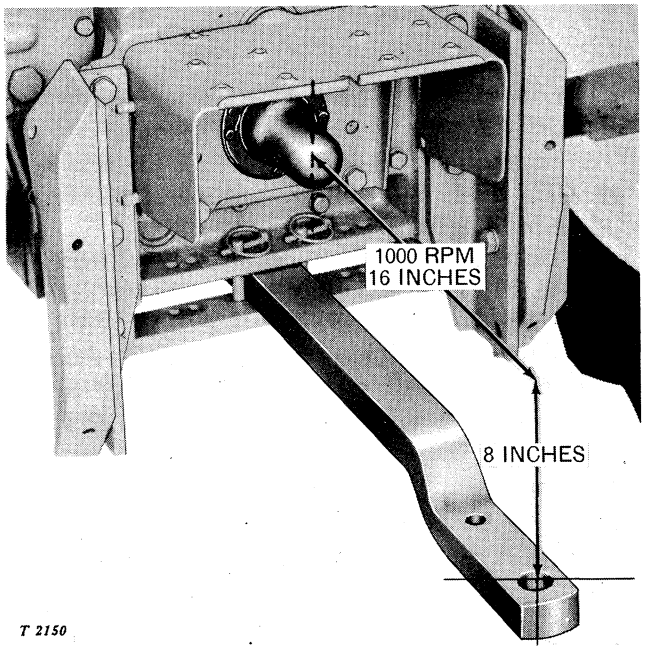
CAUTION: After attaching a heavy load to the drawbar, engage the clutch slowly. Do not start with a jerk.

Relation between drawbar and powershaft

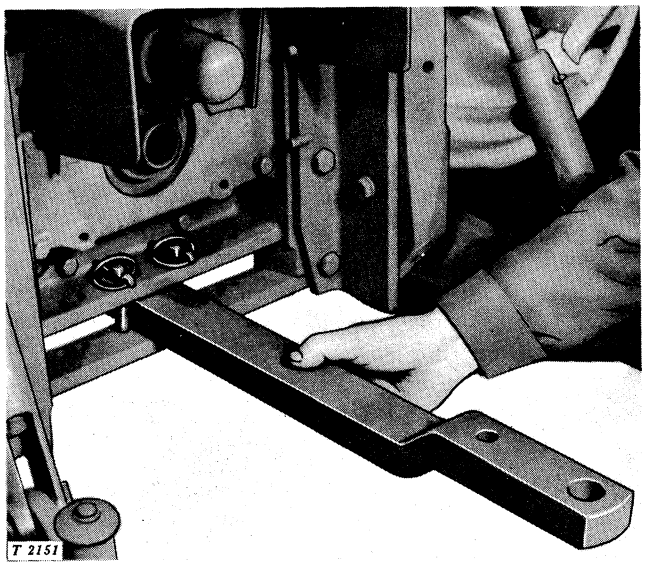
When powershaft is used, set swinging drawbar in line vertically with center of powershaft and lock it in position by inserting drawbar locking pins on either side of drawbar.

The drawbar conforms to ASAE-SAE standards.

For 1000 rpm PTO operation, the end of the drawbar should be swung down so that there is approximately 8 inches of clearance between the top of the drawbar and the center of the PTO stub shaft. The drawbar should be locked 16 inches directly to the rear of the PTO stub shaft.



Drawbar positioned for 1000 rpm PTO-driven implements



Positioning drawbar for 540 rpm operation

For 540 rpm PTO operation, the tractor drawbar should be set lengthwise so that the hole in the end of the drawbar is 14 inches directly behind the end of the powershaft. The top of the drawbar should be approximately 8 inches below the centerline of the PTO stub shaft.

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.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For your convenience, use the Mini-Manual located behind the cowl access panel as a handy reminder of the proper lubrication and service intervals. To open cowl access panel turn the two fasteners 1/4 turn, pull outward and lift up to remove.

Use the speed-hour meter on the instrument panel to determine when periodic services are required. The speed-hour meter, which operates whenever the engine is running, shows the accumulated hours of operation. Page 1 of the Mini-Manual provides space to record the speed-hour meter reading when services are performed.

Break-in period

During the period of engine break-in, follow the special lubrication procedures given on page 12. Be sure to change the breaking-in oil and crankcase filter element at the interval specified during this period.

Lubrication and service intervals

The lubrication and service periods are daily or every 10 hours, every 200 hours, every 400 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.

To replace the element, remove the cover with gasket and seal from the right front wall of the transmission housing. Remove the spring, filter element cap, and filter element from the filter element case. Install a new filter element. Install cap and spring. Replace the filter element seal and cover gasket. Install and tighten the filter cover.

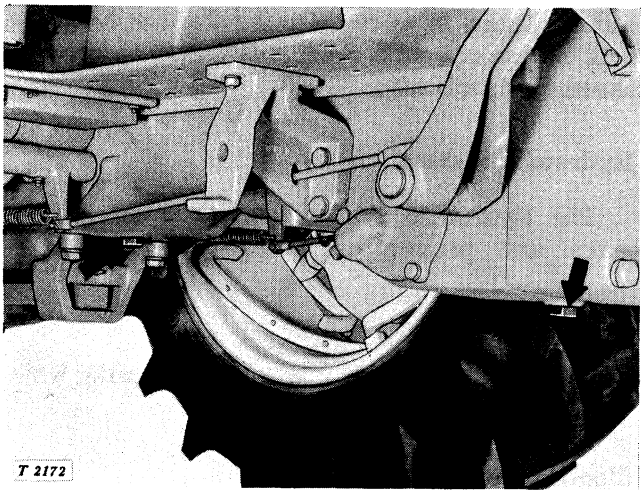
1200 hour service

25. Front wheel bearings

Remove the front wheels and clean the hub and spindle to remove dirt and old grease. Pack the front wheel bearings with SAE multipurpose grease (page 75) and install the front wheels on the tractor. Adjust the front wheel bearings as outlined on page 74.

26. Transmission and hydraulic system

The transmission and Hydraulic System oil should be drained every 1200 hours.



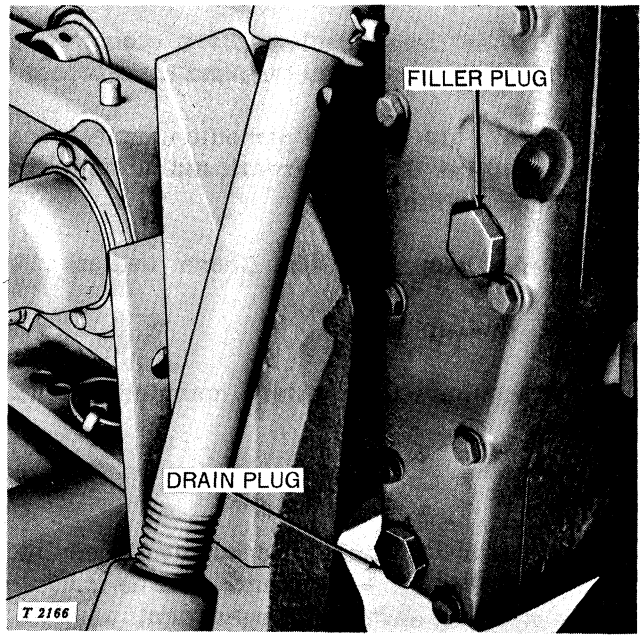
Transmission drain plugs

To drain the transmission case, warm up the tractor engine. Stop engine and then remove the two drain plugs illustrated above. Replace the drain plugs.

Add either John Deere Special Oil or SAE 10W -30 crankcase oil, bringing the oil level to the level of the filler hole (page 55). Total capacity of the system is 8 U. S. gallons.

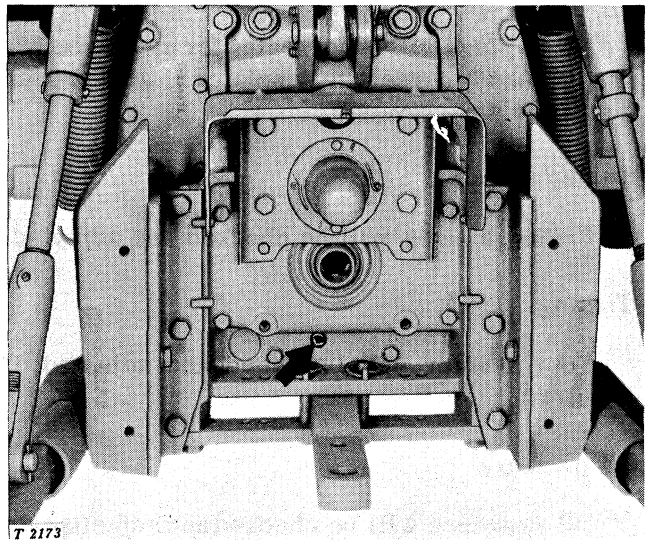
Operate tractor and all hydraulic functions. Then recheck level of oil.

27. Final drive housings



The two final drives on this tractor should be drained every 1200 hours. Drain the old oil and refill each final drive with 1 U. S. gallon of John Deere Special Oil or SAE 10W-30 crankcase oil.

28. PTO housing



PTO housing drain plug

Every 1200 hours the PTO housing should be drained and flushed out with cleaning solvent. Fill to the oil level hole with John Deere Special Oil or SAE 10W-30 crankcase oil as shown on page 56.

Cleaning Battery

Keep the battery clean by wiping it off with a damp cloth at the end of every 200 hours of operation or whenever dirt appears excessive.

If corrosion is present around the terminal connections, remove it with a stiff bristle brush and wash the terminals with an ammonia solution or a solution consisting of 1/4-pound of baking soda added to one quart of water. Be sure the vent plugs are tight to prevent cleaning solution from entering the cells.

After cleaning, flush the outside of the battery, the battery compartment, and surrounding areas of the tractor with clear water. Examine the vent holes in each battery cap to make sure they are open.

Cold Weather Battery Service

During cold weather, it is particularly important to keep the electrolyte in the battery at the proper level and to keep the battery fully charged. Otherwise the battery is apt to freeze. Check the electrolyte level and specific gravity of the battery.

Battery failures occur more frequently in cold weather. This is due to the heavy draw imposed on the battery while the starter is in use and because the engine may not have been run long enough for the generator to recharge the battery fully.

Freezing weather will have little damaging effect on a fully-charged, properly filled battery.

Installing Battery

Place the battery in the compartment and tighten the battery hold-down clamps securely so the battery cannot bounce around in the compartment. Do not tighten the clamps too tightly. To do so may cause the battery case to buckle and the cell plates to crack.

Connecting Battery

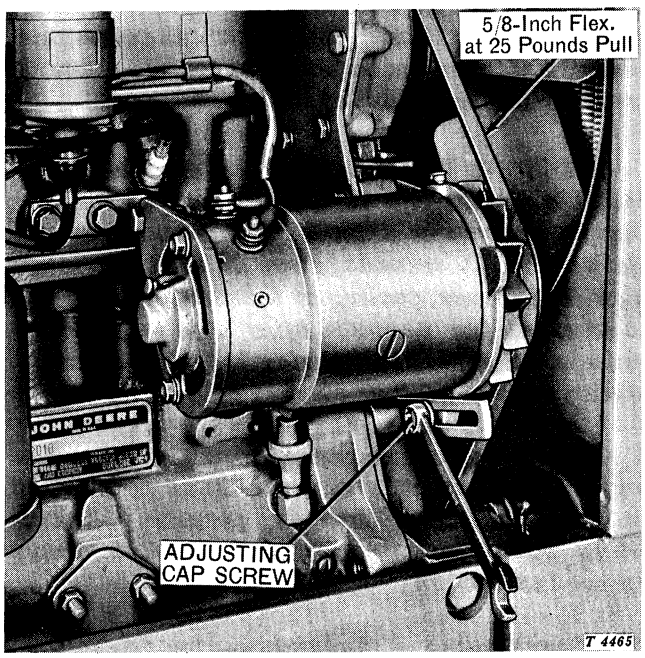
Before attaching the battery cables and ground straps, make sure that the terminals on the battery are thoroughly clean. Dirt and corrosion between the terminals and connectors create high electrical resistance and permit arcing which quickly burns and pits the terminals and connectors. Coat the terminals and connectors with vaseline mixed with baking soda to retard corrosion.

Generator

The generator, located behind the radiator on the right-hand side of the tractor, 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

Tension of the generator belt should be checked after every 200 hours of operation or whenever tension appears to be incorrect.



With the generator bracket cap screw and the generator adjusting cap screw loose, force the generator away from the engine until there is a 5/8-inch flex at 25 pounds pull on one side of the belt.

Engine uses too much oil

Possible cause	Possible remedy
Crankcase oil too light.	See lubrication chart, page 48.
External leaks.	Check gaskets and plugs. Replace if necessary.

Engine oil pressure too high or too low

Improper viscosity of oil.	See lubrication chart, page 48.

Spark plug fouling

Wrong heat range plug.	Replace with plugs recommended by your John Deere dealer. Set to proper gap as recommended on page 65.
Low engine temperature.	Check operation of thermostat.

Fuel system

Converter freezes up when engine is cold

Running on liquid fuel before engine is warmed up.	See "Starting the Engine," page 9.
Leaking converter low-pressure valve. (Odor of escaping gas should be apparent when ignition switch is turned on. Also, an audible hiss might be heard at the convertor.)	Beware of sparks and flame. Have serviceman check and correct.

Converter freezes up during normal operation

Defective water pump.	Have serviceman check and correct.
Defective thermostat.	Replace thermostat.
Restrictions in water piping or converter.	Have serviceman check and correct.
Running on liquid fuel before engine is warmed up.	See "Starting the Engine," page 9.

Frost on withdrawal valve

Closed excess-flow valve.	Close withdrawal valve to reset excess-flow valve, then open withdrawal valve slowly. See page 9.

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