JOHN DEERE 1010 ROW-CROP UTILITY GASOLINE TRACTOR

JOHN DEERE

OPERATORS MANUAL

JOHN DEERE 1010 ROW-CROP
UTILITY GASOLINE TRACTOR

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9. The generator tel-light will glow "red" for a few seconds after ignition is turned on during cranking, and after engine has fired. If tel-light continues to glow after engine has been running 10 seconds, the battery is discharging and the cause of the trouble should be determined.

NOTE: The tel-light may glow continuously with engine speed at slow idle. This is normal and does not indicate malfunction unless tel-light continues to glow after increased acceleration.

10. Regulate engine speed by using hand throttle.

NOTE: The governor is adjusted to run engine at correct speed when tractor leaves factory—600 rpm slow idle, 1900 rpm for full load, 2100 rpm fast idle, 2500 rpm full load engine speed in overtravel, and 2700 rpm fast idle speed in overtravel.

Cold weather starting

For greater starting efficiency in cold weather, conform to factory recommendations for gasoline and crankcase oil as listed on pages 36 and 40.

The oil used in the air cleaner should be the same as that used in the engine. Do not dilute the oil in the air cleaner.

The battery should be brought to full charge (page 59) so that maximum cranking speed can be obtained.

Tractor warm up period

Before putting your tractor on full load or into high gear, be sure it is warmed up sufficiently. Oil will then circulate freely, preventing excessive wear on piston rings, cylinders, and bearings. Do not race engine during warm-up period. This wastes fuel and causes extreme wear on engine parts.

Engine idling

Avoid unnecessary engine idling. Prolonged engine idling may cause the engine coolant to fall below its normal range. This in turn causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of lacquer or gummy deposits on valves, pistons, and piston rings. It also promotes rapid accumulation of engine sludge.

When the tractor is to remain idle for a considerable length of time, stop the engine.

Engine speeds

The tractor engine is designed to operate at speeds ranging from 1500 rpm to 2500 rpm. These are variable governed speeds, and the engine can be operated at any speed between the two extremes to meet various working conditions.

Full load SAE standard PTO speed is 1900 rpm. Use this speed when operating the power take-off or belt pulley. Slow idle is 600 rpm.

In addition, an engine speed of 2500 rpm is provided to save you time when traveling on highways or on smooth-surfaced roads.

Using hand throttle

Use the hand throttle to select slow idle or any of the variable governed speeds. Moving the lever counter-clockwise increases engine speed; moving the lever clockwise decreases engine speed.

Move the throttle clockwise as far as it will go to obtain slow idle. To obtain the 1900 rpm engine speed, pull throttle counter-clockwise to the first stop. Placing the throttle halfway between slow idle and 1900 rpm gives the 1500 rpm speed. Engine speeds between 1500 and 1900 rpm may be selected by moving the lever between these two positions.

To obtain working speeds above 1900 rpm, pull out on the throttle knob and move throttle counter-clockwise as far as it will go. This is the 2500 rpm position. Engine speeds between 1900 and 2500 rpm may be selected by moving the throttle between these two positions.

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

"OFF" Light off.

"L" Bright front lights and white rear light on.

"B" Bright front lights and red rear light on.

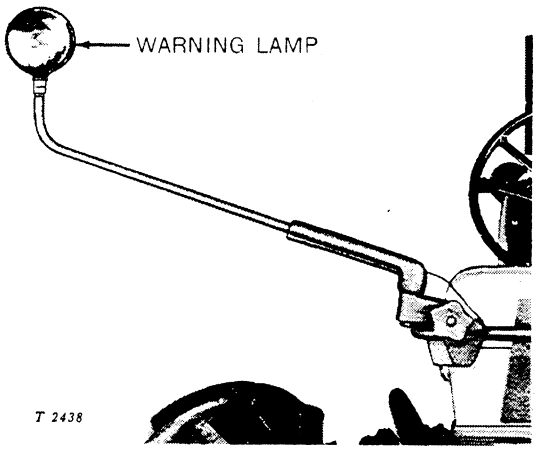
"D" Dim front lights and red rear light on.

Driving at night

When driving on a public road at night or during other periods of low visibility, warning lamps will help prevent possible accidents. Your John Deere dealer can supply you with a rear-warning light. In addition, an implement warning lamp is available for use on drawn implements.

Tractor warning lamp

During normal tractor operation, this lamp mounts on the left-rear of the seat frame. When desired, the lamp may be equipped with a flasher, available from your John Deere dealer.

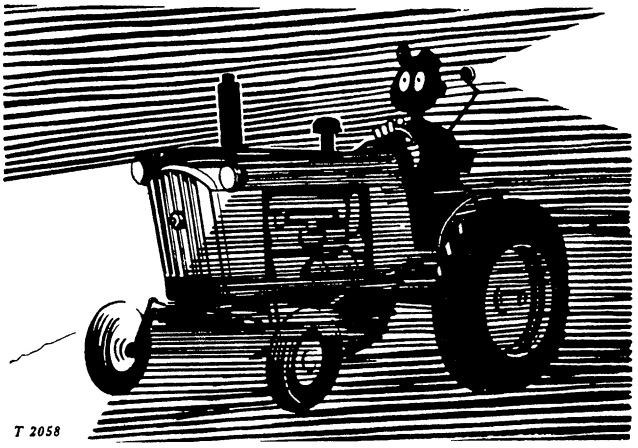


When traveling on the highway at night or during periods of low visibility, the mast may be swung to a position at the left-hand side of the tractor. To change the position of the mast, loosen the position adjusting knob, and move the mast to the desired position. Tighten the knob to lock the mast.

Implement warning lamp

The implement warning lamp is plugged into the electrical outlet socket at the rear of the tractor and installed on the implement. The lamp will be turned on as long as it is plugged into the socket, regardless of whether or not the tractor engine is running.

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



Use warning lights when driving at night

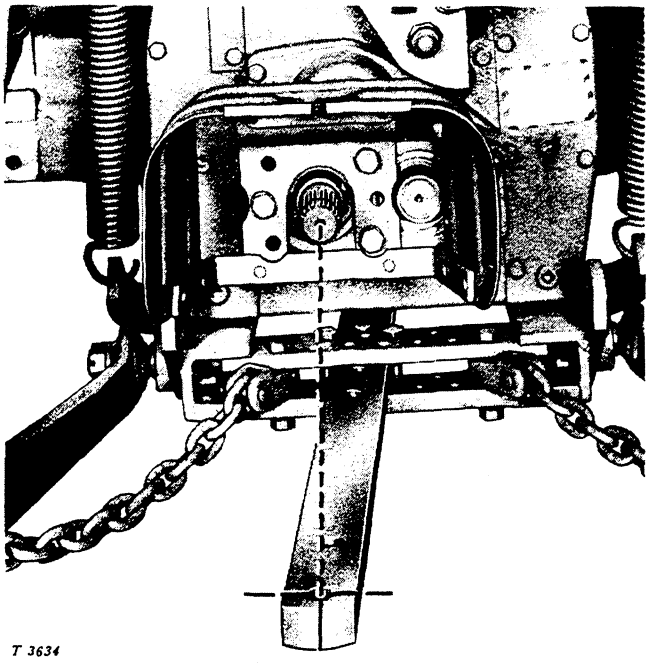
Electrical outlet socket



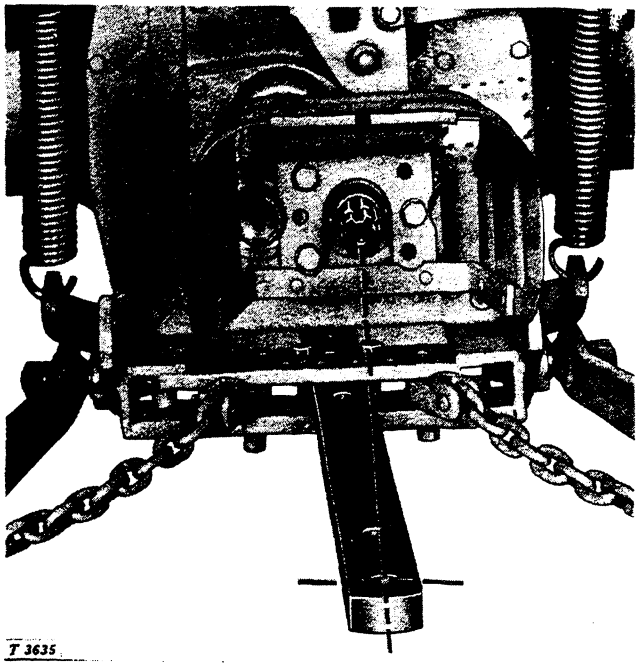
This socket, a source of 12-volt, d-c electrical power, is used for plugging in the implement warning lamp, other auxiliary lights, or electrical service equipment. It is located conveniently on the right rear of rockshaft housing.

Remove left cowl panel to inspect fuse located inside cowl.

Relationship between drawbar and powershaft



Drawbar in 1000 rpm position



Drawbar in 540 rpm position

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

The drawbar conforms to ASAE-SAE standards.

When using the powershaft in the 1000 rpm position, extend the drawbar so that the hitch point is 16 inches from the end of the powershaft.

The tractor drawbar should be set lengthwise so that the hole in the end of the drawbar is 14 inches behind the end of the powershaft, when using the powershaft in the 540 rpm position.

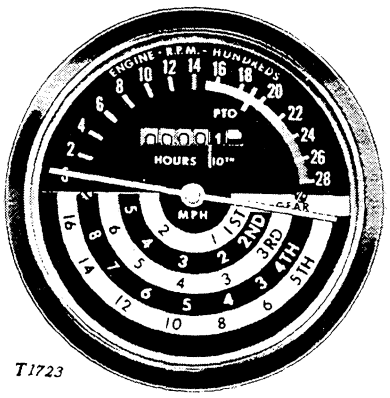
Possible damage to the universal joints on the drawn implement will be avoided if the above simple adjustments are made before the implement is attached to the tractor.

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 of your tractor should be checked, lubricated, serviced, or adjusted are based on hours of operation.



Speed-hour meter

Use the speed-hour meter on the instrument panel to determine when periodic services are required. The speed-hour meter, which operates when ever the engine is running, shows the accumulated hours of operation.

Break-in period

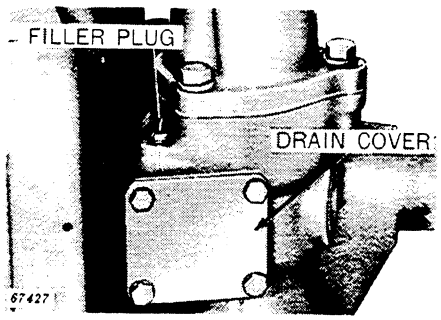
During the period of engine break-in, follow the special lubrication procedures given on page 10. Be sure to change the breaking-in oil and crankcase filter element at the interval specified during this period.

Lubrication and service intervals

The lubrication and service periods are daily or every 10 hours, every 100 hours, every 200 hours, every 400 hours, every 600 hours, and annually. 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.

29. Power steering cylinder housing



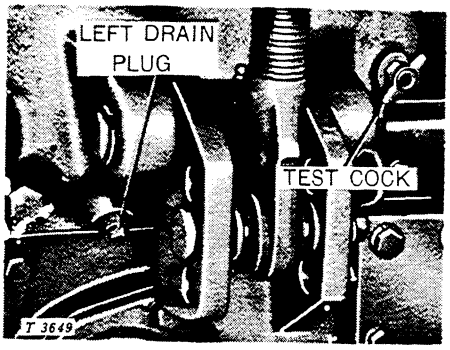
Power steering cylinder housing

On tractors with power steering, remove hood and grille panel. Drain oil from power steering cylinder housing by removing cover on right rear side. Replace cover and fill housing to level of filler hole with SAE 80 multipurpose lubricant.

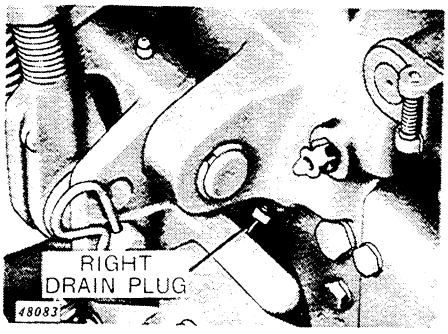
30. Hydraulic system

At the end of every 600 hours of operation, drain the oil in the hydraulic system.

To drain oil, remove drain plugs from rockshaft housing and allow oil to drain.



Hydraulic system test cock and left drain plug



Hydraulic system right drain plug

Flush out all old oil by filling system with cleaning solvent. Operate control lever a few times with engine operating. Shut off engine and remove drain plugs allowing cleaning solvent to drain. With coil lead to distributor removed, operate starter, allowing mixture to be forced from hydraulic pump and lines. Remove as much of the cleaning solvent as possible before adding new oil.

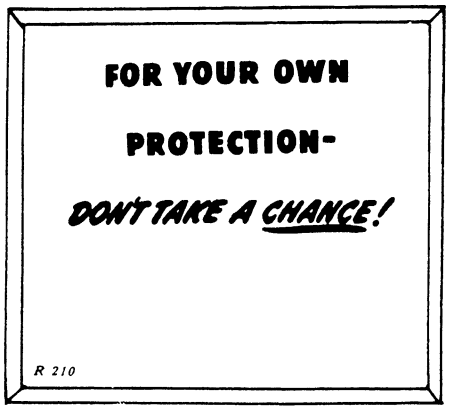
Fill system with a good quality of canned SAE 5W-20 oil. Capacity is 4-1/4 U.S. quarts. If tractor is equipped with power steering, add an extra quart of oil.

Oil will run out of test cock when unit is properly filled.

Hydraulic system cold weather service

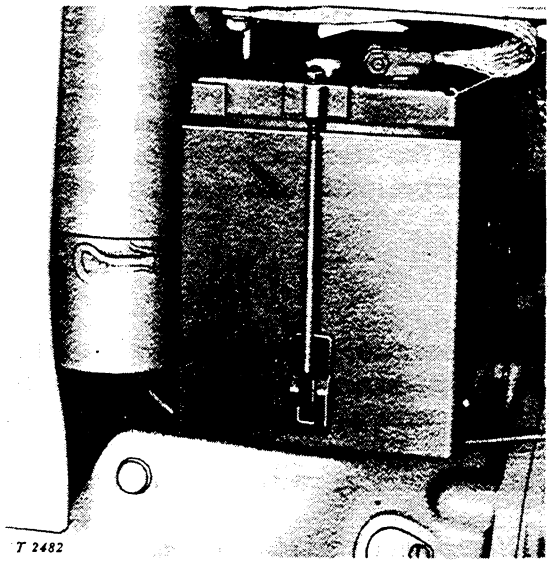
The oil in the hydraulic system may be diluted as follows during cold weather operation. Completely drain the hydraulic system and crank engine with starter to remove all oil from hydraulic pump and lines. Pour 2 pints of kerosene in the hydraulic reservoir at filler opening. Add 2 quarts of SAE 5W-20 oil and operate engine for approximately one minute to fill hydraulic pump and lines. Then add additional SAE 5W-20 oil at filler opening until oil runs out of oil level cock.

NOTE: Dilute oil only as recommended. If operation is too slow, drain one quart of diluted mixture, and add one quart of SAE 5W-20 oil to reduce dilution.



Electrical system

Battery



Battery

The battery is located in a compartment just ahead of the air cleaner.

To remove battery unscrew the two hex. nuts and lock washers securing battery clamp rod to battery clamp. Pull down on battery tray extension and slide battery out for servicing.

The battery must be kept free of corrosion around terminal connections. Battery connections must be kept clean as well as tight. A thorough coating of pertroleum jelly on each terminal connection will greatly aid in retarding accumulation of corrosion.

When replacing a battery use only a 12-volt high-level, 66-plate, SAE 2SHA agricultural-type with a minimum capacity of 56 ampere-hours. The AABM group symbol for this battery is 24SH.

For further battery service or battery replacement, see your John Deere dealer.

Dangers connected with batteries.

The battery on your tractor stores enough energy to cause severe damage if it is released suddenly in the form of a spark or short circuit. A wrench or other tool carelessly laid across exposed terminals or cables can cause a spark of sufficient intensity to create a fire hazard, burn tools, melt cables, or cause other damage or injury.

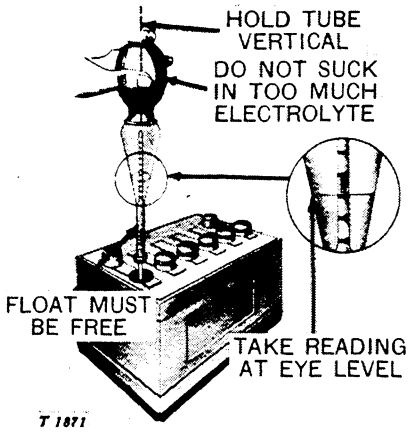
CAUTION: When working with any part of the electrical system, remember that all exposed metal parts are "ALIVE." To avoid injury or damage, disconnect the grounded cable from battery. Also, disconnect ground cable when making adjustments on the engine or other moving parts. This will prevent accidental operation of the starter or engine.

Keep all sparks or open flames away from the battery as gas given off by the battery electrolyte is highly flammable.

Checking electrolyte level.

Check the level of the electrolyte (acid and water solution) in the battery after every 200 hours of operation or whenever deemed necessary. Fill the battery cells, when necessary, to the bottom of the filler neck. When it is necessary to add water, use distilled water if it is available. If distilled water is not available, use only clean water that does not have a high mineral content.

Checking specific gravity.



Specific gravity of electrolyte should be checked with an accurate hydrometer before adding water. If liquid level is too low to check, add water, run engine for a few minutes—permitting water and electrolyte to mix—then check. Specific gravity should not go below 1.225 which is half charge. When fully charged, reading will be 1.240 to 1.260.

NOTE: Because temperature affects batteries, some manufacturers specify lower specific gravity level for a battery for tropical areas. Specific gravity reading on a full-charged tropical battery will be between 1.210 and 1.230.

3-point hitch, load-and-depth control, and hydraulic system

Insufficient load response

Possible cause	Possible remedy
Implement not level.	Level implement. Page 22.
Implement not trailing correctly.	Adjust. See implement operator's manual.

Excessive load response

Excessive "suck" in implement.	Adjust. See implement operator's manual.
Implement not trailing correctly.	Adjust. See implement operator's manual.

Insufficient transport clearance

Lift links too long.	Shorten lift links. Page 22.
Center link too long.	Shorten center link. Page 22.
Implement not level.	Level implement. Page 22.
Implement improperly adjusted.	See implement operator's manual.

Hitch fails to lift

Excessive load on hitch.	Adjust auxiliary springs on implement.
Low oil level in hydraulic system.	Check oil level (page 43) and add oil, if necessary.

Hitch fails to lower or lowers slowly

Oil viscosity incorrect.	Drain and fill hydraulic system with proper oil. Page 49.

Noisy hydraulic pump

Oil viscosity incorrect.	Drain and fill the system with oil of the proper viscosity. Page 49.
Low oil supply.	Fill system with oil to correct level. Page 43.

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