OM

Operator's Manual

John Deere
JD 450
Crawler Loader

John Deere Dubuque Works
OM-T23810 Issue F5

LITHO IN U.S.A.

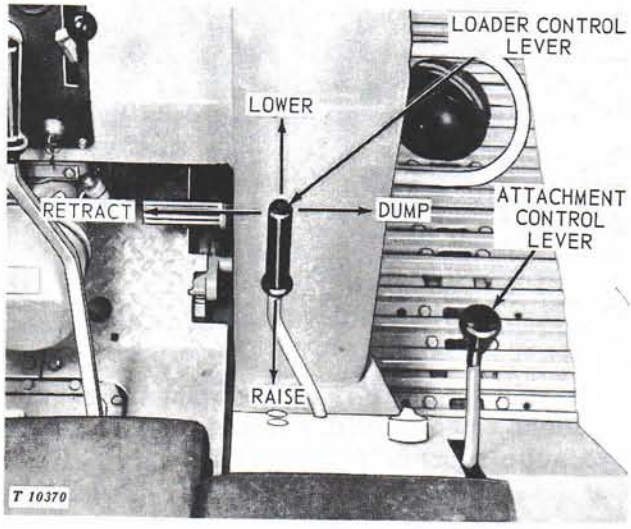
OPERATING THE BOOM AND BUCKET

CAUTION: Before operating the loader hydraulic controls for the first time, run the engine for fifteen minutes to be sure all foreign matter has been picked up by the reservoir filter.

The JD450 Crawler Loader is hydraulically-controlled and can be operated whenever the engine is running. A single control lever operates both the boom and the bucket.

When the cylinders have been fully extended or retracted, the valve control lever should be immediately returned to the neutral position. Holding the control in power position after the cylinder has completed its stroke will cause oil to bypass through the relief valve and become overheated.

BOOM AND BUCKET CONTROL



Raising or Lowering the Boom

The boom is operated by moving the control lever either forward or rearward. Pushing the lever forward lowers the boom and pulling it rearward raises the boom.

If the operator releases the control lever at any time during normal loader operation, it will automatically return to neutral, holding the boom in the position reached at that time.

Float Position

When the lever is pushed all the way forward to float position, it will stay in this position until manually released. In the float position, the boom is free to move up or down as the bucket follows the contour of the ground. This feature is especially useful when leveling ground since the operator's hands are free to operate the crawler.

Dumping or Retracting the Bucket

Moving the control lever right or left operates the bucket. Pushing the lever to the right dumps the bucket and pulling it to the left retracts the bucket.

When released, the bucket control lever will always return to neutral, holding the bucket in the position reached at that time.

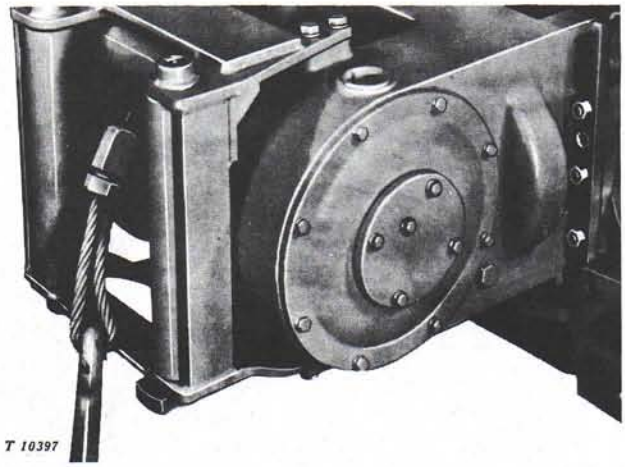
The speed of dumping or retracting the bucket can be controlled by the distance the control lever is moved. Moving the lever all the way right engages the valve regenerating circuit and dumps the bucket in the shortest possible time.

For most accurate control and maximum power of the bucket cutting edge move the control lever only partially to the right.

When retracting the bucket, maximum power is obtained by moving the lever all the way left.

WINCH

Your crawler loader may be equipped with a John Deere No. 3325 Power Winch. This winch is driven from the rear of the crawler loader and has a separate hydraulic control.



No. 3325 Power Winch

The Power Winch affords increased convenience and ease of operation. A self-contained hydraulic pump combined with a spool type control valve provides the force required to actuate the clutch and brake mechanism with a minimum of operator effort.

To operate the winch, start the engine (page 4) and allow it to warm up properly. Adjust the engine speed from 1500 rpm to 2500 rpm. The winch may be operated at any speed in this range.

Since the winch is driven by the powershaft, the winch drive or PTO lever must be engaged before the winch can be operated (see page 18).

WINCH CONTROL LEVER

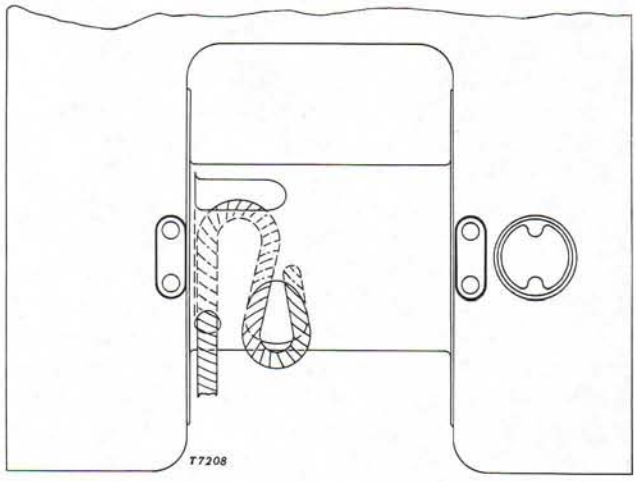
The winch control lever is located on the side of the operator's seat. The lever has three positions: Hold, Wind, and Unwind.

When the control lever is in the center position, the winch is in the "HOLD" position. In this position, the winch brake prevents the cable drum from rotating.

To release the cable, move the control lever rearward to the "UNWIND" position. This allows the cable drum to "free-spool" and unwind by the "line-pull." The control lever will remain in the "UNWIND" position until released when it will automatically return to the "HOLD" position.

To wind in the cable, push the lever forward to the "WIND" position. The winch will continue to wind until the lever is released. The engine speed can be varied between 1500 rpm and 2500 rpm to regulate the winch wind-in speed. When the control lever is released, the lever will return to the "HOLD" position.

ATTACHING CABLE TO WINCH DRUM



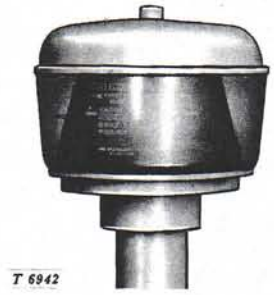
Attaching Cable to Winch Drum

Thread cable through winch drum, fold end of cable back into drum, and pound it in.

WINCH DRAWBAR

When the crawler loader is equipped with a winch, a special drawbar is used. This drawbar is in a fixed position and has no lengthwise or swinging adjustments. It can be used to tow a trailing log arch or for other towing operations.

9. PRE-CLEANER



Pre-Cleaner Attachment

Check the pre-cleaner and empty it if the accumulation of foreign material is up to the mark on the plastic bowl.

NOTE: Under extremely dusty and trashy conditions, it will be necessary to remove and clean the unit more often. Never allow the pre-cleaner to become clogged with foreign material.

10. RADIATOR

Check the level of coolant in the radiator daily. Coolant should be maintained at a level midway between the radiator core and filler neck. Add permanent type antifreeze if cold weather is anticipated.

CAUTION: Do not remove radiator filler cap until the coolant temperature is below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

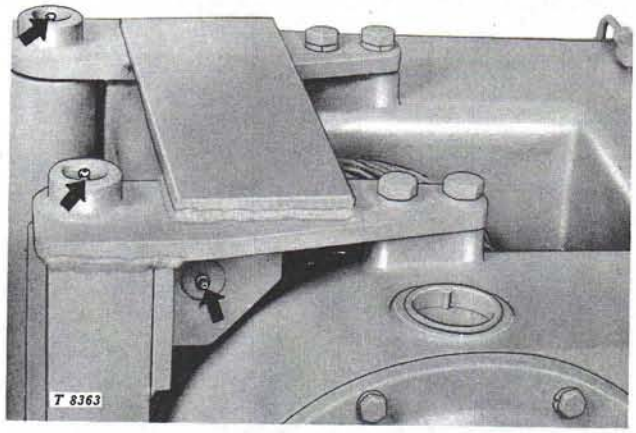
11. FUEL TRANSFER PUMP SEDIMENT BOWL

Check sediment bowl for water or dirt deposits daily. If servicing is necessary refer to page 40 or 42.

12. FUEL FILTER SEDIMENT BOWLS (DIESEL)

Drain any water or dirt deposits daily. See page 40.

13. WINCH FAIRLEAD



Winch Fairlead Grease Fittings

If your winch is equipped with a fairlead attachment, lubricate the fittings on the top and side rollers daily with two strokes of grease gun containing SAE multipurpose grease.

14. LOADER HYDRAULIC SYSTEM

Hydraulic System Oil Level Window

Oil level should be half-way up in oil level window with the bucket on the ground. If necessary, add type of oil recommended in service chart on page 24 until level reaches half-way up in window indicator.

SERVICE

The instructions on the following pages will help you keep your crawler loader performing efficiently and economically. For additional service and genuine parts, consult your John Deere dealer.

SUPPORTING LOADER

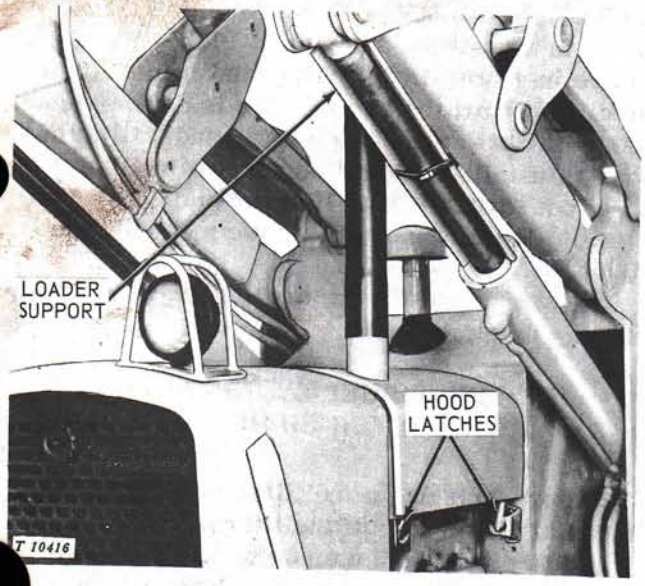
It is desirable, in servicing some of the crawler loader components, to raise the boom to its full height. Be absolutely certain the boom is then supported before working underneath it. This can be accomplished by three different methods, as follows:

1. Cut a piece of angle iron (4 x 4-inch stock or larger) to a length of 24 inches. Attach it to the boom cylinder piston rod between the rod end and the cylinder barrel, being careful to avoid damaging the piston rod. Be sure the angle iron is large enough to rest against the cylinder barrel and not against the head casting. See picture below.

2. Use prop under cross member to support boom.

3. Chain bucket to hoist or overhead beam.

REMOVING HOOD



Hood Latches and Loader Support

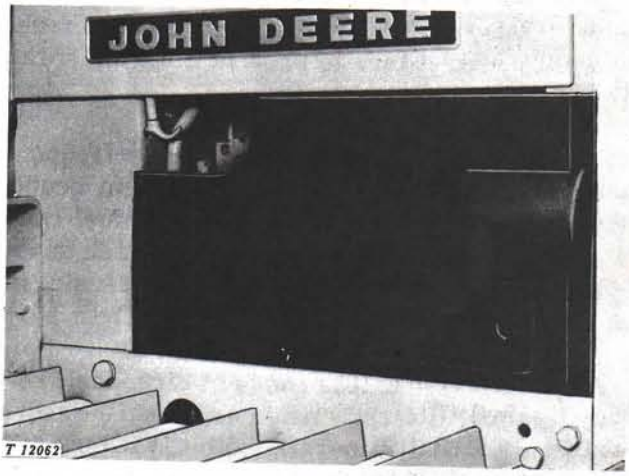
CAUTION: See "SUPPORTING LOADER" above before attaching support to hydraulic cylinder.

Remove the muffler exhaust stack and the air cleaner pre-cleaner. Pull down the two spring-loaded latches on each side of the hood, release them, and lift off hood.

REMOVING GRILLE

To remove the grille, unscrew the knob on the top center of grille, then lift out grille.

REMOVING ENGINE SIDE SHIELDS



Engine Side Shield

Remove the side shield by taking out the two cap screws on the rear of the side shield. Then pull shield out of slots in grille housing.

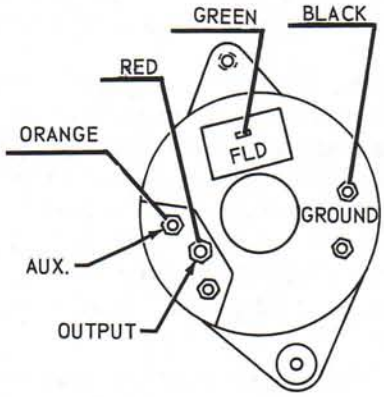
REMOVING INSTRUMENT PANEL

To inspect or replace faulty gauges or warning lamps, it may be necessary to loosen or remove the instrument panel. To loosen panel, remove the four hex. head screws securing it to the cowl. When raising panel, be careful to do it slowly to avoid damaging or pulling loose the wiring. It is not necessary to remove wiring connector from bracket at air cleaner extension unless the panel is to be removed. If the panel must be removed, it is also necessary to remove choke control or shut-off knob and hand throttle knob.

When reinstalling panel, tighten screws so that rubber spacers allow 1/16-inch clearance between loader frame and instrument panel.

ALTERNATOR AND REGULATOR

The alternator (shown below) is located at the right front of the engine and provides electrical current for charging the battery (or batteries) and for all the other electrical requirements of the tractor. The regulator controls the voltage output of the alternator and connects or disconnects the alternator from the batteries.



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Alternator Connections (Motorola Shown)

The alternator and regulator are designed for a long trouble-free service life, and provide a high charging rate at low engine speeds.

PRECAUTIONS FOR ALTERNATOR AND REGULATOR

When the batteries are connected, observe the precautions listed here. Failure to observe them will probably result in damage to the alternator, regulator, or both.

1. Disconnect the battery ground strap from the battery when working on or near the alternator or regulator. This will prevent damage that might occur if the switch was accidently turned on.

2. NEVER ATTEMPT TO POLARIZE THE ALTERNATOR OR REGULATOR. NEVER ground a terminal or connect a jumper wire to any regulator terminal.

3. If either the alternator or regulator wiring is disconnected, be sure that it is properly connected BEFORE the batteries are connected (see illustration). Check wiring before connecting batteries as follows: With ignition and light switches "off", and positive (+) terminals of batteries connected, MOMENTARILY TAP the negative battery strap to negative battery terminal. No arcing should occur. If arcing occurs, DO NOT MAKE CONNECTION. Re-check entire wiring system connections, make corrections and repeat the same test.

4. The alternator field terminal or the field circuit between the alternator and the regulator must never be grounded under any circumstances.

5. The alternator output terminal or the output circuit between the alternator and the regulator must never be grounded under any circumstances.

6. Never, under any circumstances, disconnect or connect any alternator or regulator wires with batteries connected or with alternator operating.

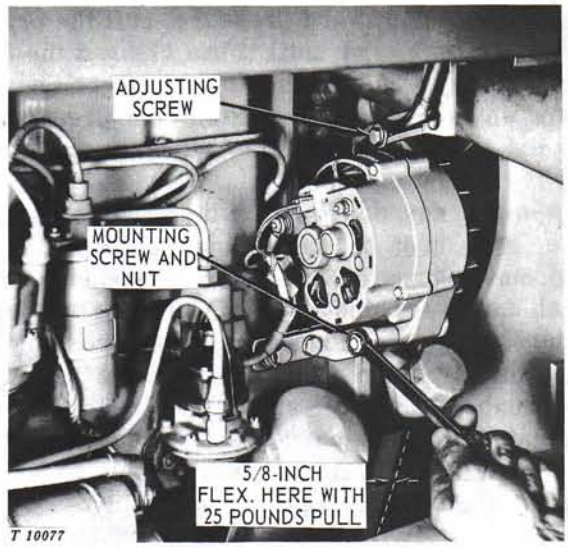
7. Always connect batteries or a booster battery in the correct polarity. This is a negative grounded electrical system. A battery charger should not be used as a booster to start the tractor.

CAUTION: Disconnect positive battery terminals when charging batteries in tractor. Disconnect negative ground straps when electric arc welding on tractor or equipment.

ALTERNATOR CONNECTIONS

If for any reason the alternator wires are disconnected, connect them as shown in the illustration at left.

ADJUSTING ALTERNATOR BELT TENSION



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Adjusting Alternator Belt Tension

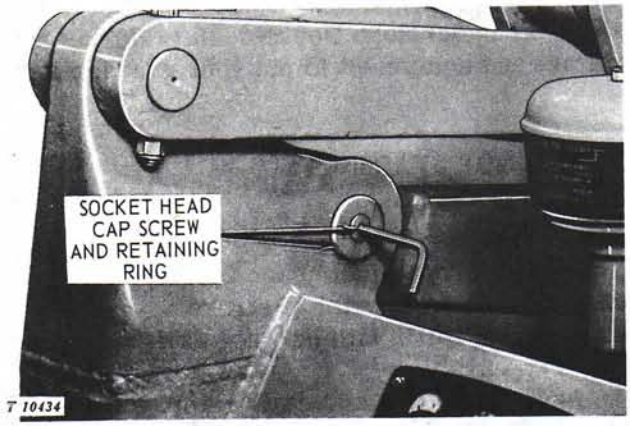
Check alternator belt tension every 250 hours of operation. With the alternator bracket and adjusting cap screw loose, force the alternator away from the engine until the belt has 5/8-inch flex at 25 pounds pull on one side of the belt.

CAUTION: Do not pry on the rear half of the alternator housing as this may damage the assembly screws.

BOOM ALIGNMENT

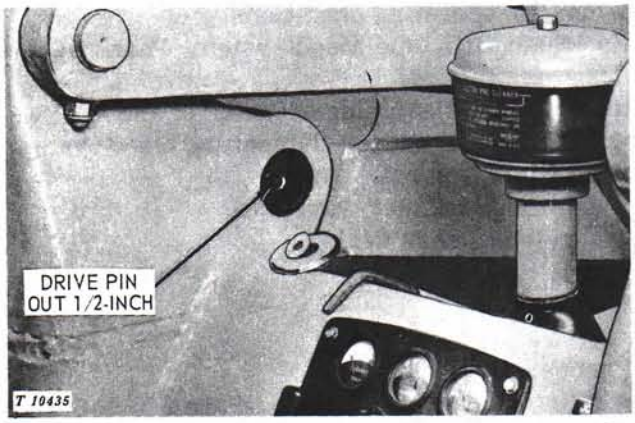
The loader boom is attached to the loader frame with eccentric pins, making several boom adjustments available.

To adjust the boom, proceed as follows:

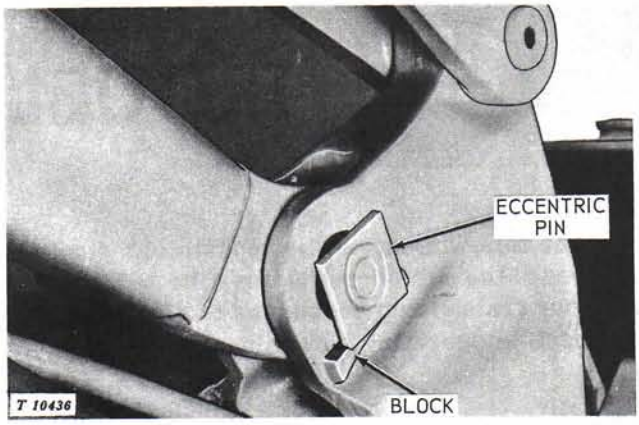


Raise the loader boom five feet and secure with a hoist.

Remove the socket head cap screws and retaining washers.



Drive the eccentric pins out 1/2 inch to clear retaining blocks.



Turn the eccentric pins until the proper adjustment is made. Drive the pins in place and secure with retaining washers and socket head cap screws.

By turning the eccentric pins so the offset portion of one is facing forward and the other facing to the rear, approximately 1/2 inch of side adjustment is possible.

NOTE: A lesser degree of adjustment is possible by turning the pins so the offset portions are only 90 degrees apart instead of 180 degrees.

The eccentric pins are in a neutral position when the offset portions of both pins face the same direction. With the offset facing to the rear of the crawler loader, maximum boom height can be reached. With the offset facing front, maximum digging depth can be reached.