

# JOHN DEERE JD444, JD544B AND JD644B LOADERS (EUROPEAN VERSION)



## OPERATORS MANUAL JOHN DEERE JD444, JD544B AND JD644B LOADERS (EUROPEAN VERSION)

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JOHN DEERE USINE DE SARAN  
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LITHO IN THE U.S.A. (REVISED)  
ENGLISH





# To the Operator

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Your new machine was carefully designed and manufactured to give years of dependable service. To keep it running efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need — whether it is operation, lubrication, or service.

Read the Contents to learn where each section is located. Use the alphabetical index for fast reference.

Note that throughout this manual, directions left-hand and right-hand are determined by facing in the direction of loader forward travel.

Record your loader serial numbers in the spaces provided on page 62. Your dealer needs this information to give you prompt efficient service when you order parts. If your loader requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts - accept no substitutes.

The warranty on this machine appears on your copy of the purchase order which you received from your dealer when you purchased the loader.



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

# JOHN DEERE JD 444, JD 544-B AND JD 644-B LOADERS

## PREDELIVERY SERVICE CHECKS

Delivered by: \_\_\_\_\_

Owner's Name \_\_\_\_\_

Dealer \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

To insure proper loader operation and performance, your John Deere dealer has satisfactorily performed the following predelivery service checks.

- Check operation of all controls and instruments
  - Light operation
  - Seat operation
  - Boom and bucket control lever operation
  - Auxiliary control lever operation
  - Transmission shift lever operation
  - Dash gauges and indicator lights
  - Service brake action - bleed if necessary
  - Parking brake
  - Fire extinguisher if equipped
  - Clutch control operation
- Make all necessary adjustments
  - Fan and alternator belt tension
  - Accumulator action
  - Bleed fuel system
  - Check and adjust engine speeds
- Check all fluid levels
  - Fuel tank
  - Radiator
  - Engine crankcase
  - Hydraulic system reservoir
  - Differential housings
  - Transmission
- Check and lubricate, if necessary, all grease fittings
- Check tire pressure and adjust tire pressure to operating pressure
- Check and clean, if necessary, all components listed below
  - Engine crankcase vent tube
  - Air intake hoses
  - Fuel pump screen
  - Pre-cleaner, if equipped
  - Air cleaner filter elements
  - Fuel filter
  - Transmission breather
  - Wire mesh suction filter
- Check electrical system
  - Batteries
  - Charging system
- Check hydraulic system
  - Check boom cycle time
  - Check steering cycle time (lock-to-lock)
- Check for fluid leakage
  - Cooling system
  - Hydraulic system
  - Fuel system
  - Air intake system
  - Lubrication system
  - Transmission
- Check torque
  - Wheel retaining cap screws
  - Upper pivot pin stop nut
  - Transmission front output shaft retaining nut
  - All accessible hardware
- Check overall loader appearance
  - Clean up loader
  - Touch up any paint chips or scratches

### SERIAL NUMBERS (RECORD)

Loader Serial Number.....

Transmission Serial Number.....

Engine Serial Number.....

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## AFTER-SALE SERVICE CHECKS

The following after-sale service checks will be performed by your dealer at a mutually agreeable time within the warranty period after the loader has been "run in"-usually after 50 to 100 hours of machine operation.

Any questions that have arisen or any specific problems that you have incurred should be related to your dealer at this time. The information he has will allow more efficient and carefree loader operation.

- Check operation of all controls and instruments
  - Light operation
  - Seat operation
  - Boom and bucket control lever operation
  - Auxiliary control lever operation
  - Transmission shift lever operation
  - Dash gauges and indicator lights
  - Service brake action
  - Parking brake
  - Fire extinguisher, if equipped
  - Clutch control operation
- Make all necessary adjustments
  - Fan and alternator belt tension
  - Accumulator action
  - Bleed fuel system
  - Check and adjust engine speeds
- Check all fluid levels
  - Radiator
  - Engine crankcase
  - Hydraulic system reservoir
  - Differential housings
  - Transmission
- Check and lubricate, if necessary, all grease fittings
- Check tire pressure
- Change all filters
  - Engine crankcase oil filters
  - Loader reservoir return filters
  - Transmission filter
  - Steering oil filter
- Check and clean, if necessary, all components listed below
  - Engine crankcase vent tube
  - Air intake hoses
  - Fuel tank pump screen
  - Pre-cleaner, if equipped
  - Air cleaner filter elements
  - Fuel filter
  - Transmission breather
  - Wire mesh suction filter
- Check electrical system
  - Batteries
  - Charging system
- Check hydraulic system
  - Check boom cycle time
  - Check steering cycle time (lock to lock)
- Check for fluid leakage
  - Cooling system
  - Hydraulic system
  - Fuel system
  - Air intake system
  - Lubrication system
  - Transmission
- Check torque
  - Wheel retaining cap screws
  - Upper pivot pin stop nut
  - Transmission front output shaft retaining nut
  - All accessible hardware



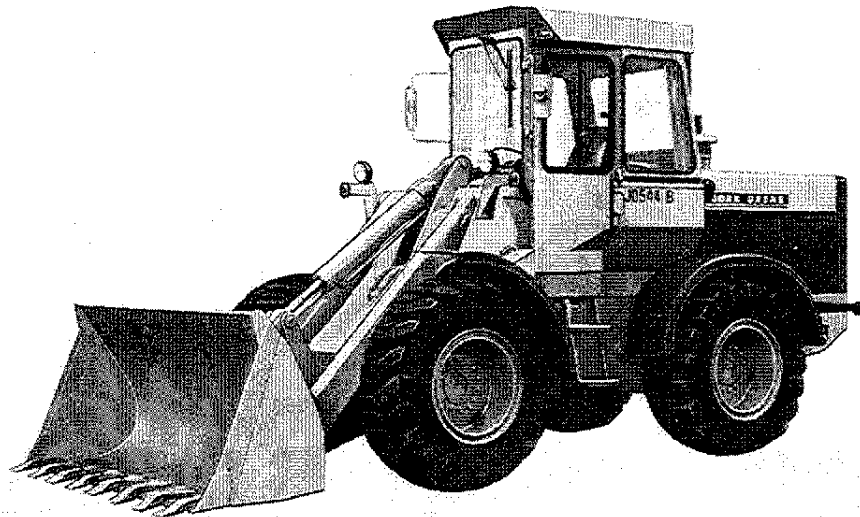
# Contents

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CD 5218



CD 4904




CD4903



# Safety Rules

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 The safety of the operator is a prime consideration in the design of this machine. Guards, shields, and other safety features are built in wherever possible. However, reports on accidents show that careless use of machinery causes a high percentage of accidents. You can avoid many accidents by observing the safety rules on these pages. Study these rules carefully and enforce them on the job.

Never leave the machine unattended with the engine running.

Only the operator should be on the loader when it is running.

Lower the bucket to the ground when the loader is unattended.

Do not use the steering wheel as a handhold when getting on and off the loader.

Drive slowly over rough ground or on hillsides, and reduce speed when turning.

Keep loading areas as level as possible.

Do not allow anyone to work under a raised bucket unless it is properly supported.

Increase the power gradually when pulling a heavy load or when driving out of a ditch or excavation.

Before getting off the loader, lock the range selector in the neutral position and apply the parking brake.

Turn the radiator cap slowly to relieve pressure before removing it. Add coolant only when the engine is idling or stopped.

Follow recommendations on page 17 whenever it becomes necessary to tow the loader.

Park the loader on level ground or across the slope.

Stay clear of hinged area if engine is running or steering wheel is being moved. Even with engine off, moving steering wheel on accumulator-equipped machines may cause rapid pivot of wheels and frames.

Connect lock bar to both frames when working around the frame pivot area.

Do not operate the engine in a closed garage or shed.

Do not use the loader as a battering ram.

Never lower a loaded bucket with the control lever in the float position.

When driving on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard check local governmental regulations. Lights and devices may be obtained from your John Deere dealer.

Disconnect the battery ground strap before working on the electrical system and before welding on any part of the loader.

Never attempt to start or operate the loader except from the operator's station.

#### 4 Safety Rules

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Shut off the engine before refueling. Never smoke while filling the fuel tank.

Watch bucket direction at all times. Keep your eyes on load and face or look in the direction the machine is traveling.

Never lift the bucket over the ground crew. Never swing the bucket over a truck cab.

Never transport a load with bucket fully raised. The nearer to the ground the bucket is held, the better the stability, especially on slopes or when turning the machine. For travel, keep the bucket about 15 inches off the ground and tipped back to afford maximum visibility.

Be sure all tire rim parts are correctly assembled and interlocking before inflating tires. Use an inflation cage, safety cables, or some other device during inflation.

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your John Deere dealer or a qualified tire repair service.

Keep hands, floors, and controls free from water, grease, and mud to insure non-slip control.

Do not allow anyone to ride in the bucket or on the outside of the machine, or hitch a ride in any other manner.



T 15007

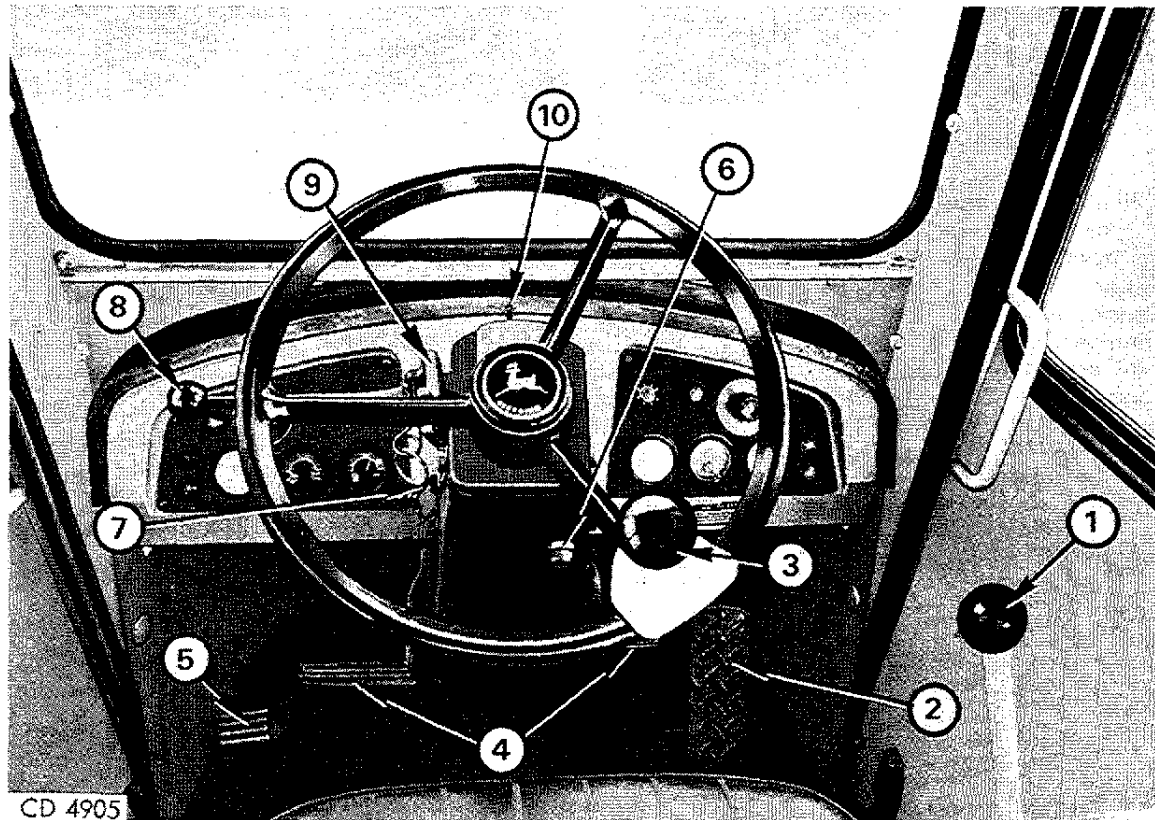


**CAUTION: Never allow riders on the moving loader.**



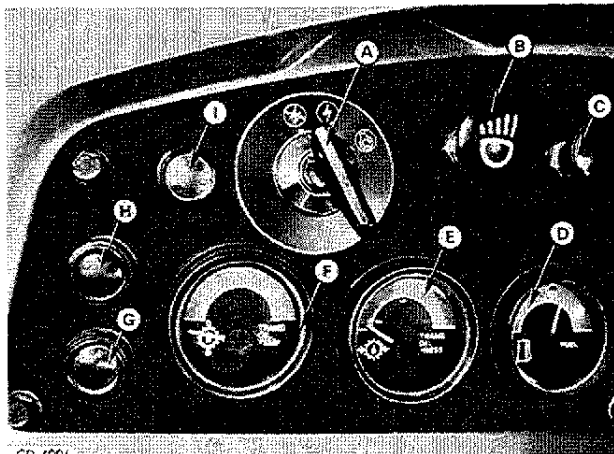
# Controls and Instruments

For safe and efficient operation, first become familiar with the location and purpose of all controls and instruments. Study the next few pages carefully, regardless of your previous experience.



- 1 Boom - Bucket Control Lever
- 2 Throttle
- 3 Wheel Spinner
- 4 Brake Pedals
- 5 Parking Brake Pedal (German version)

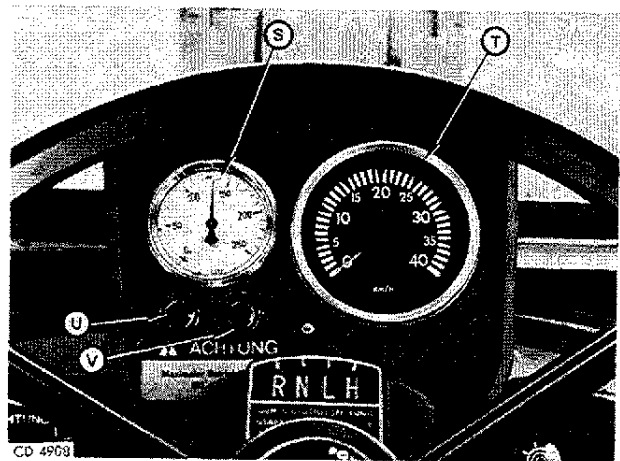
- 6 Windshield Washer Button
- 7 Turn Signal
- 8 Shift Lever
- 9 Shift Lever and Steering Wheel Lock
- 10 Range Indicator



CD 4906

L.H. Instrument Panel

- A Main and Start Key Switch
- B Work Lights
- C Parking Brake Release Button (German version)
- D Fuel Gauge
- E Transmission Oil Pressure Gauge
- F Transmission Oil Temperature Gauge
- G Parking Brake Indicator Light (Red)
- H Turn Signal Indicator Light (Green)
- I Engine Air Cleaner Indicator Light



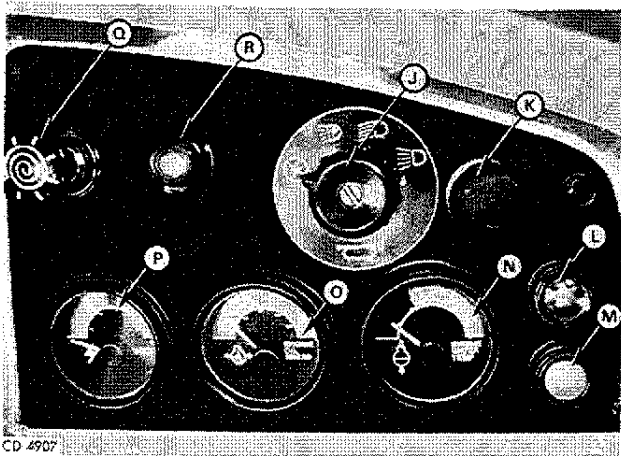
CD 4908

Special Equipment for Germany only

- S Hydraulic Brake Pressure Gauge
- T Speedometer
- U Brake Pressure Indicator Light
- V Steering Pressure Indicator Light

### GAUGES AND INDICATORS

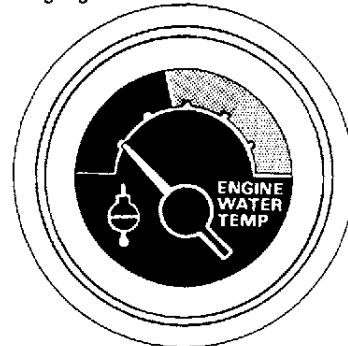
When operating the loader, check the engine coolant temperature gauge, the transmission temperature gauge, the transmission oil pressure gauge, the voltmeter and the engine oil pressure gauge.



CD 4907

R.H. Instrument Panel

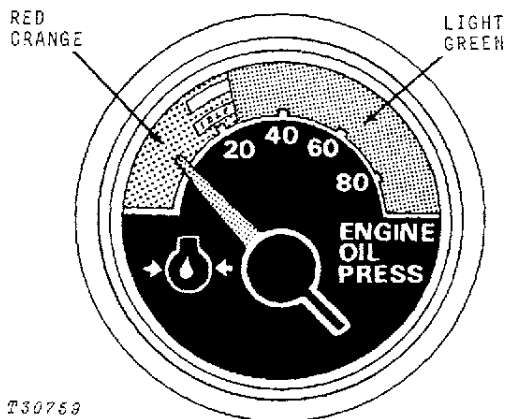
- J Light and Horn Switch
- K Starting Aid Button
- L Hydraulic Filter Indicator Light (Orange)
- M High Beam Indicator Light (Blue)
- N Engine Coolant Temperature Gauge
- O Engine Oil Pressure Gauge
- P Voltmeter
- Q Cigaret Lighter
- R Hazard Warning Light (Red)



T30897N

Engine Coolant Temperature Gauge

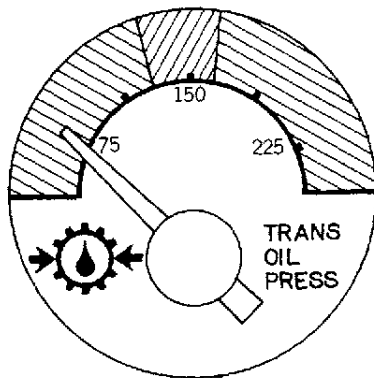
The engine coolant temperature gauge indicates the coolant temperature in the cooling system. Normal operating temperature is indicated by the green zone on the dial. If above 107° C (224° F) (indicated by the red-orange zone on the dial), stop engine and determine the cause.



T30759

Engine Oil Pressure Gauge

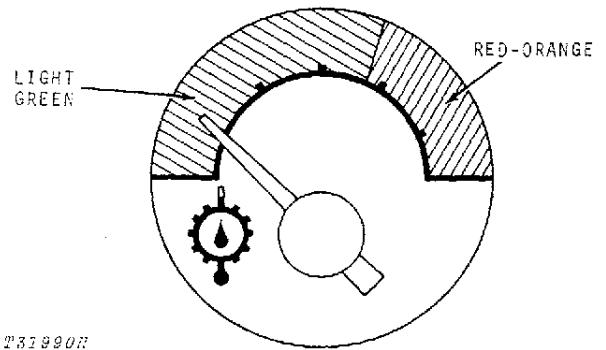
During normal operations the indicator hand should be in the green zone on the dial. If the indicator hand goes into the red-orange zone, stop the loader and check the engine oil level. If oil level is not low, check for restrictions in oil lines or incorrect viscosity oil.



T32733N

Transmission Oil Pressure Gauge

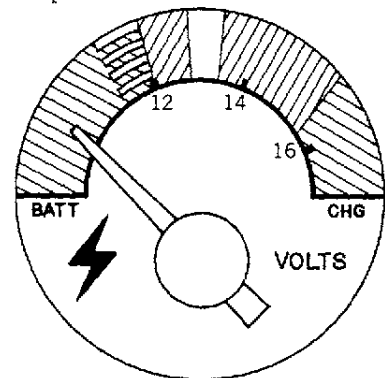
During normal operations, the indicator hand should be in the green zone on the dial. If the indicator hand is in the right red-orange zone, there is excess pressure in the transmission. If the indicator hand drops into the left red-orange zone there is low pressure. If hand is in either zone, stop the loader and determine the cause.



T31990R

Transmission Temperature Gauge

The transmission temperature gauge indicates the temperature of the lubricating oil in the transmission. If indicator hand enters the red-orange zone, operate in a lower gear or speed. If hand remains in the red-orange zone, check transmission oil level. Do not continue loader operation with hand in the red-orange zone.



T32734N

Voltmeter

The voltmeter indicates the voltage of the battery and/or the electrical system.

When the key switch is on and the engine is off, the indicator should be in the lower left green zone. If indicator is not in this zone, trouble shoot the electrical system.

When the engine is running, the indicator should move to and stay in the right green zone. If the indicator moves out of this "operating zone," trouble shoot the electrical system.

### Reservoir Return Filter Indicator Light

During normal operations the indicator light is off. Whenever the filter indicator light glows during loader operations, replace the reservoir return filter.

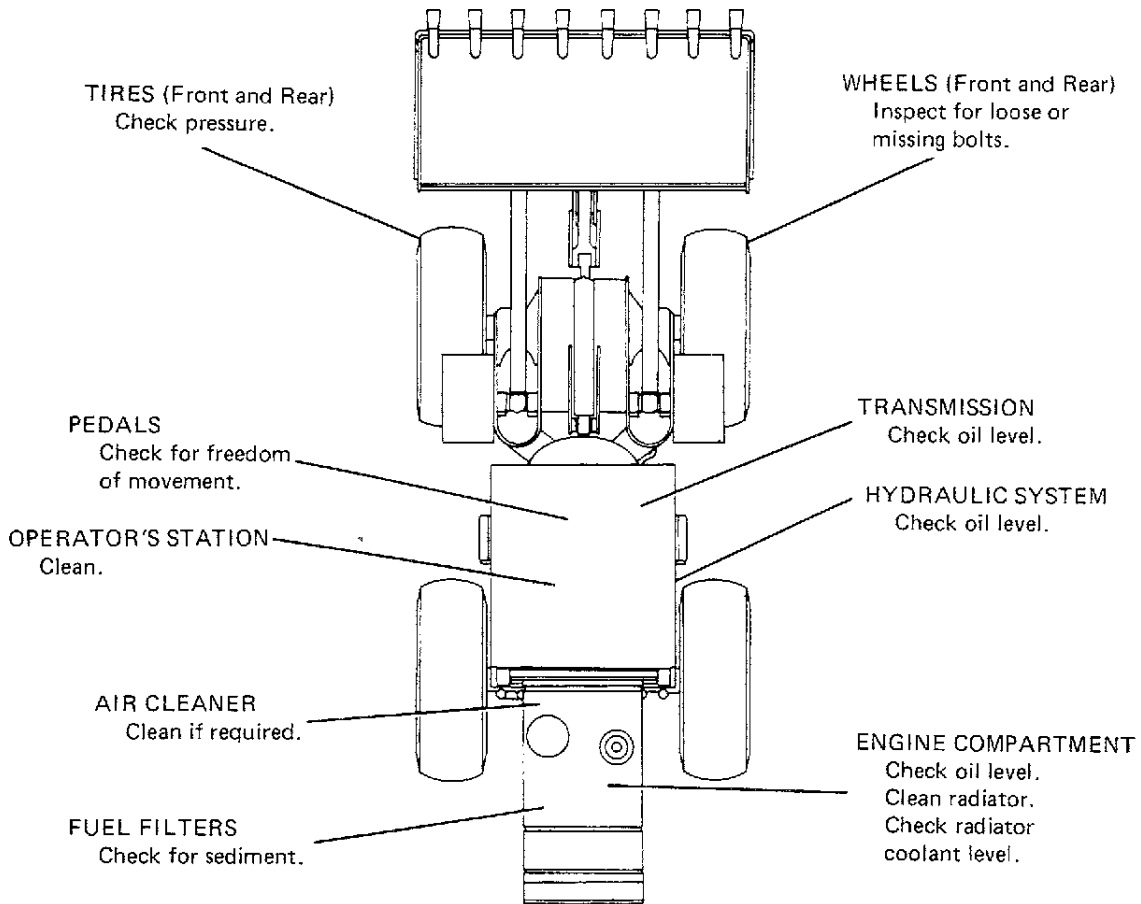
*NOTE: During initial operation with cold hydraulic oil, the indicator light may glow. However, the light should go out after the oil warms up.*



# Pre-Start Inspection

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The following walk-around checks are recommended before start-up. Check for fluid leakage and loose hardware during inspection.



T47692N



# Operation

Complete instructions for safe and efficient operation are given on the following pages. Follow these instructions carefully to take full advantage of the time and labor-saving features built into all John Deere equipment.

## OPERATING THE ENGINE

### WARM-UP PERIOD

Warm up engine before operating under full load. Oil will then circulate freely, preventing excessive wear on piston rings, cylinders, and bearings. Do not race the engine or idle it during warm-up period.

It is good practice to operate the loader under a lighter load than normal for the first 30 minutes.

### ENGINE IDLING

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

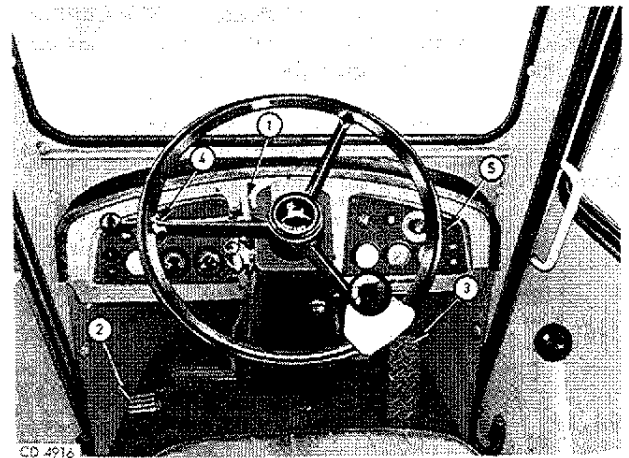
### ENGINE SPEEDS

The loader is equipped with a variable speed engine controlled by a foot throttle. For maximum efficiency from the loader engine and torque converter transmission combination, operate the engine between 2000 and 2400 rpm. Maximum continuous power at full load is obtained at 2200 rpm.

### STARTING THE ENGINE



**CAUTION:** Never start the engine unless you are in the operator's seat.



*Engine Starting Controls*

**IMPORTANT:** Do not attempt to start the loader by towing. To do so will damage transmission parts.

1. Lock transmission shift lever in neutral with steering wheel.
2. Keep parking brake applied.
3. Depress throttle approximately half way.
4. Turn the key switch clockwise, push it and turn again to crank the engine.
5. Use cold weather starting aids as necessary.

To avoid overheating the starter, do not crank the engine for more than 20 seconds at a time. Wait two minutes between attempts. If engine will not start, see page 56.

After engine starts, adjust speed to half throttle. Observe all gauges. If they indicate abnormal operation, stop the engine and determine the cause. It may be necessary to increase engine speed momentarily to reach alternator "kick-in" speed.

In cold weather, warm the engine for five minutes at half throttle before applying a load. **This warm-up period is especially important for turbocharger-equipped engines.** Do not race or idle engine during warm up.

### COLD WEATHER STARTING AIDS

To assist in cold weather starting, several aids are available. These aids are effective at low temperatures only when the engine is otherwise operating satisfactorily. They will not correct such deficiencies as low battery charge, crankcase oil of too high viscosity, and high electrical resistance.

*NOTE: A John Deere battery charger is available to assist in starting the engine in cold weather. See page 52 for operating precautions.*

#### Ether Starting Fluid Adapter

**CAUTION:** Ether starting fluid is highly flammable. Do not puncture or incinerate starting fluid containers. Do not store starting fluid containers in loader cab.

The loader is equipped with an ether starting aid to inject atomized starting fluid directly into the engine air intake system. The ether starting aid container and bracket are located inside the right-hand engine side shield on the JD 644-B loader and inside the left-hand engine side shield on JD 444 and JD 544-B loaders. The ether starting aid is electrically activated by a button on the right-hand control panel.

**IMPORTANT:** To avoid engine damage, crank engine with starter one or two revolutions before depressing starting fluid button. Depress starting fluid button only while the engine is cold and cranking.

Push down on the starting fluid button to inject atomized starting fluid directly into the engine air intake system.

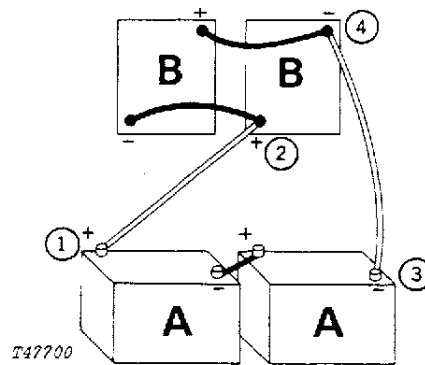
*NOTE: Ether starting fluid will be injected continually into the engine whenever the button is depressed. The loader must be in neutral before the ether is injected into the engine.*

**IMPORTANT:** To prevent dust, dirt and other foreign matter from entering the engine, keep the ether starting aid container in location at all times.

Pressurized containers of starting fluid are available from your John Deere dealer. Store starting fluid containers where they will not be subject to extreme cold or warm temperatures. For best results, store fluid at room temperatures.

#### Booster Batteries

Connect the positive (+) terminal of the booster battery to the positive terminal of the loader battery and the negative (-) terminal to the negative ground. Make positive terminal connection at battery and use insulated jumper cable connectors.



A – Loader Batteries      B – Booster Batteries

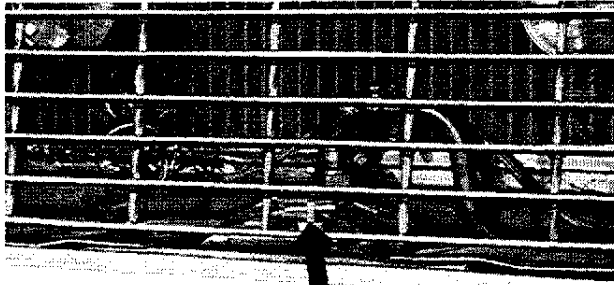
**IMPORTANT:** Batteries are **NEGATIVE** grounded. Reversing the polarity in battery connections will result in damage to the electrical system.

#### Engine Coolant Heater

A 1000-watt, 115-volt electrical coolant heater can be installed on the JD 644-B Loader engine. The heater circulates heated coolant for fast starts in extremely cold weather.

**CAUTION:** To prevent accidental electrical shocks, always use a grounded cord to connect coolant heater to power source. Never cut off the third safety ground prong from the plug on the heater's cord. Do not use an adapter to connect the heater plug to a two-wire extension cord or ungrounded wall socket unless the plug is properly grounded.

**Hydraulic Pump Shut-Off Screw**  
(Standard Machine Shown)



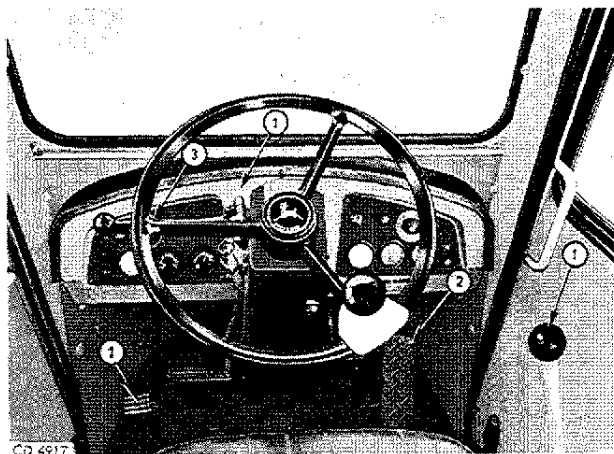
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Engine cranking speed may be increased by shutting off the engine-mounted hydraulic pump. Turn the shut-off screw in until resistance is felt. Turn screw in one more turn.

After the engine is running, back the shut-off screw all the way out.

*NOTE: Oil will leak past the pump shut-off screw if it is not backed all the way out against the internal stop.*

**STOPPING THE ENGINE**



1. Stop the unit and lower bucket to the ground. Lock the shift lever in neutral with one of the steering wheel spokes and apply the parking brake.

**CAUTION:** Do not run the engine in an enclosed shed or garage. Make sure there is plenty of ventilation.

2. Cool the engine gradually by running it at half throttle for 2 or 3 minutes before stopping. Sudden cooling of a hot engine causes extreme contraction of parts and may damage the engine. Should engine stall when at operating temperature, restart immediately to prevent "temperature soaking" of the turbocharger (if equipped).

3. Turn the key switch to the OFF position.

*NOTE: If engine will not stop because of an electrical failure, do the following: With key switch turned off, disconnect control rod from injection pump throttle arm and back out slow idle stop. Press arm rearward until engine shuts off. See your John Deere dealer for repair of the electrical system.*

**CAUTION:** Before dismounting from loader, discharge the power steering oil accumulator by turning steering wheel in both directions several times. Accidental injury may occur if this precaution is not observed.

Connect lock bar to both frames when working around the frame pivot area.

**LOADER BREAK-IN PERIOD**

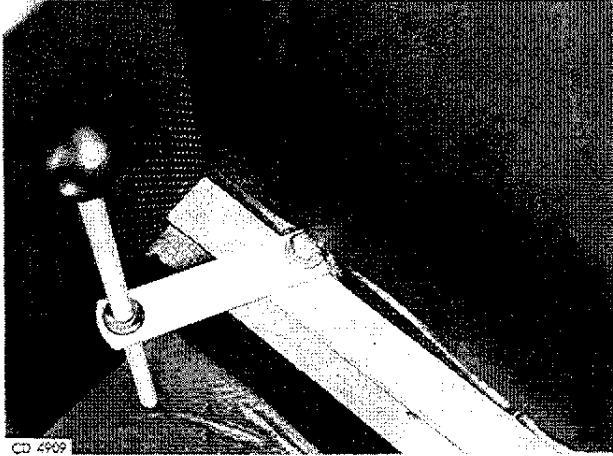
The first 100 hours is the loader "break-in" period. During break-in, observe these rules:

- (a) Operate at normal load.
- (b) Avoid light loads.
- (c) Avoid prolonged engine idling.
- (d) Check crankcase oil level periodically.

Drain crankcase and replace engine oil filter after the 100-hour break-in. Fill crankcase with recommended oil. See page 27.

## DRIVING THE LOADER

### REAR AXLE DISCONNECT

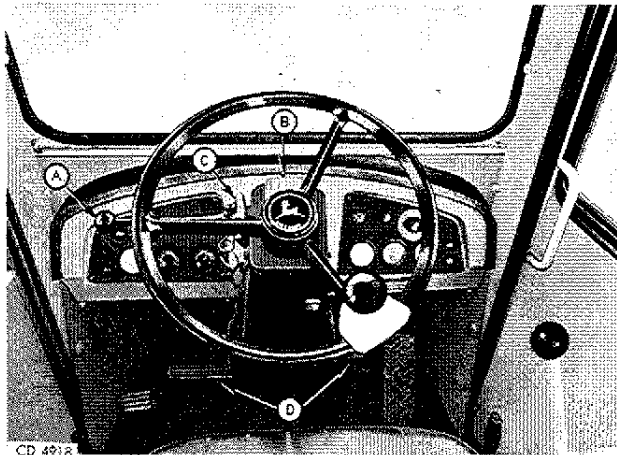


Rear Axle Disconnect Lever

The loader may be equipped with a rear axle disconnect. This option assures maximum transport speeds. Push down on lever located behind the seat to engage rear axle and pull up to disengage rear axle.

**IMPORTANT:** Do not engage or disengage the rear axle with the loader in motion. Pivot the loader frame slowly from side to side while engaging or disengaging the axle.

### SHIFTING RANGES



A — Shift Lever  
B — Range Indicator

C — Neutral Latch  
D — Brake Pedals

The shift pattern is shown on top of the steering column. Range selection is accomplished with the shift lever located on left side of steering column.

**CAUTION:** Before releasing parking brake, be sure engine is running, foot brake is operational and neutral latch is secured with its pin to the shift lever.

**NOTE:** This machine is equipped with a clutch control valve, making it possible to disconnect the transmission clutches by depressing the brake pedal. See page 16 for clutch control operating information.

#### Shifting Instructions:

1. Shifting between Low (L) and Reverse (R) may be done at any engine speed.
2. Shifting between Low (L) and High (H) may be done at any engine speed. Shifting from High (H) to Low (L) may be done at any speed below top speed in Low (L). The shift lever must be raised toward the steering wheel when shifting from Low (L) to High (H).
3. Shifting from Neutral (N) to High (H) or Reverse (R) to High (H) should not be done at engine speeds above approximately 1000 RPM. Do not shift to High (H) with unit moving in reverse.



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### REVERSE WARNING SWITCH

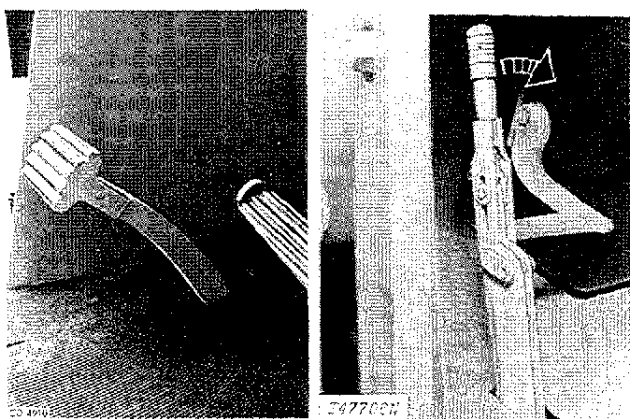
The loader may be equipped with a reverse warning alarm switch option. This allows the operator to install a reverse warning horn which will sound whenever the loader is put into reverse gear.

### NO-SPIN DIFFERENTIAL

Your loader is equipped with a "No-Spin" front axle assembly. The front drive wheels remain locked, providing full power to each wheel under varying tractive conditions.

However, during turns or when operating on uneven terrain, an overriding clutch within the differential automatically unlocks, providing the necessary differential action.

### PARKING BRAKE



German version

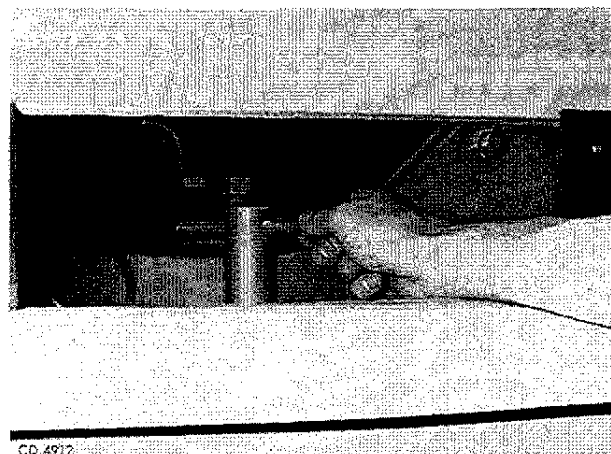
Standard version

Use the parking brake whenever the loader is not in operation. Lock transmission shift lever in neutral before applying the brake. On machines specially designed for Germany, pull the release cable button on the dash to disengage the parking brake; then push it back. Standard machines are equipped with a lever. A flashing buzzer warns the operator whenever the parking brake is applied.

### POWER STEERING AND BRAKES

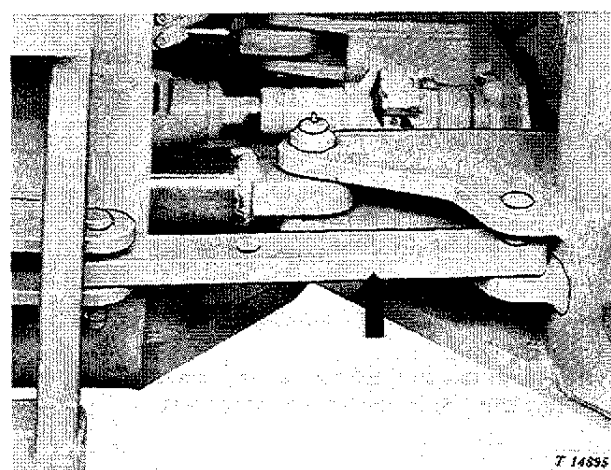
The loader is equipped with hydraulic power steering and brakes. An accumulator in the brake and steering circuits provides a small amount of pressure oil to stop the loader in case the engine stops.

### DRAWBAR



The drawbar is the hitch point for all drawn equipment.

### FRAME LOCKING BAR



The frame locking bar is used to prevent the frames from accidentally pivoting.

**CAUTION:** Do not work around frame hinge area without first securing frames with locking bar.

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