

# 2940 Tractor (Serial No. 4300001-)



JOHN DEERE

## OPERATORS MANUAL

2940 Tractor  
(Serial No. 4300001-)

OMRW16857 K1 English

John Deere Waterloo Works  
OMRW16857 K1

LITHO IN U.S.A.  
ENGLISH





# To the Purchaser

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We appreciate the confidence you have shown in John Deere and your John Deere dealer for the purchase of this equipment.

We want you to have the best performance from your new machine. To accomplish this, your dealer will perform a Predelivery Inspection and will familiarize you with the proper and safe operation of this machine.

After the machine has operated the first 50 to 100 hours, you should contact your dealer and arrange an appropriate date at which the After-Sale Inspection will be performed. This inspection should not be done later than 100 operating hours after the machine has been delivered to you. It will be performed most effectively in the workshop of your dealer.

## **IMPORTANT WARRANTY INFORMATION**

The warranty on this tractor appears on your copy of the purchase order which you should have received from your dealer when making your purchase. This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty.

Warranty and field improvements are a part of John Deere's product support program for customers who operate and maintain their equipment as described in this manual. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.



**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.**

To assure safe operation of this machine, read the Safety Rules on the first pages of this manual.

**IMPORTANT! Your operator's manual contains the international standardized SI metric measurement system.**

Right-hand and left-hand sides of this machine are determined by facing in the direction of forward travel.

Record the serial numbers of your tractor and engine on page 108 of this manual and provide this information to your dealer when ordering spare parts.

*All information, illustrations, and specifications contained in this operator's manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.*



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# Safety

## PLAN AHEAD —prevent accidents



Power take-off guards, shields, and other safety features are built into the tractor whenever possible. However, investigation of thousands of accidents shows that careless use of machinery causes a high percentage of accidents. You can avoid many accidents by observing the rules for safety given here. Study these rules carefully and insist that they be followed by those working with you and for you.

Only one person — the operator — should be permitted on the tractor when it is in operation. Never allow a person to ride on the drawbar.

Before starting engine:

- Place rockshaft control lever in forward (equipment lowered) position.
- Place selective control levers in neutral.
- Place PTO lever in off position.

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

Never operate the tractor engine in a closed building.

Since loose clothing might catch in moving parts, always keep sleeves, jackets, or other clothing relatively tight and belted.

Provide a first-aid kit for use in case of accident.

It is a good practice to have a fire extinguisher mounted to your tractor. Be sure that the extinguisher is properly maintained and be familiar with its proper use. It is available from your John Deere dealer.

If your tractor is equipped with Sound-Gard body or Roll-Gard, use a seat belt under almost all operating conditions.

Use of seat belt without a rollover protective device is not recommended.

Under no circumstances modify structural members of Sound-Gard body or Roll-Gard by welding on additional parts, drilling holes, grinding, etc.

When driving out of a ditch, gully, or up a steep hillside, engage the clutch slowly. Be prepared to disengage the clutch promptly should the front wheels rise off the ground. Observe the same precautions if the rear wheels become mired in soft ground or drop in a hole. Back the tractor out of these situations.

Do not drive near the edge of a ditch or gully.

The rate of tractor travel on hillsides and curves should always be such that there is no danger from tipping.

Be careful to prevent the tractor from tipping sideways if it strikes a hole, ditch, or other irregularity, especially when operating on hillsides.

Front wheel drive greatly increases traction. Extra caution is needed on slopes. Compared to 2-Wheel Drive, a front wheel drive tractor maintains traction on steeper slopes, and it's easier to approach stability limits.

Keep a firm grip on the steering wheel at all times when speed is increased.

Reduce speed before turning quickly or applying brakes. Couple the brake pedals together when traveling at high speeds. Always drive slowly over rough ground. Drive at speeds slow enough to insure your safety.

Always keep the tractor in gear when going down steep hills or grades.

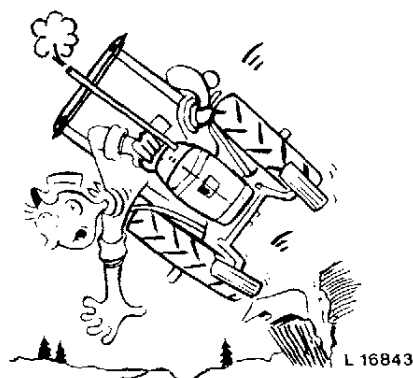
When pulling heavy towed loads at road speeds, use extreme caution and avoid hard braking applications. When descending steep grades, select a gear low enough to maintain control with minimum braking.

Towed loads that weigh more than twice the weight of the tractor should have brakes. If not, reduce speed and avoid inclines.

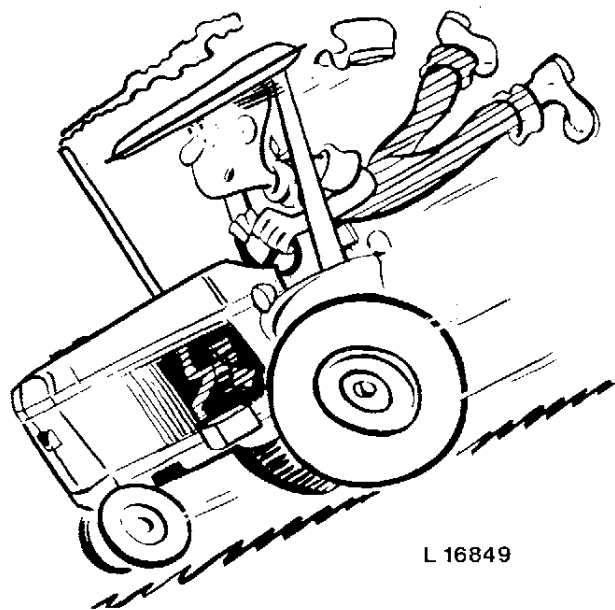
When hitching drawn equipment to the drawbar, back the tractor past the clevis. Then move forward so that, in making the connection, the tractor will be moving away from the equipment.

When hitching a heavy towed load to the tractor, always hitch to the drawbar. When using a chain, attach it to the drawbar and be sure to take up the slack in the chain slowly.

Front ballast may be required for stability and steering control when implement is attached.



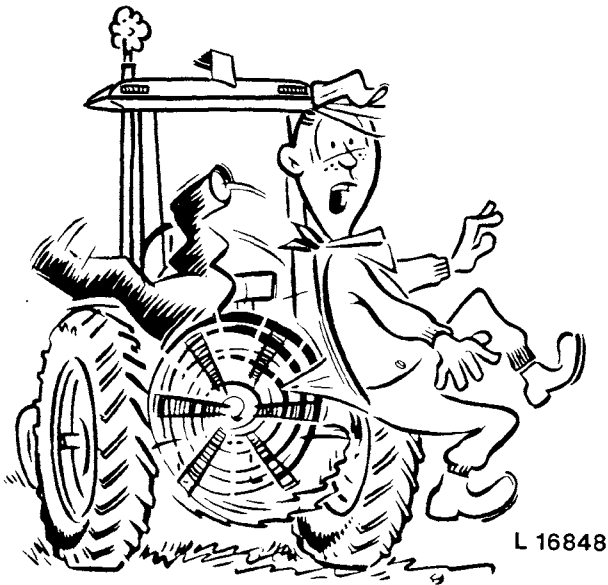
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## 4 Safety



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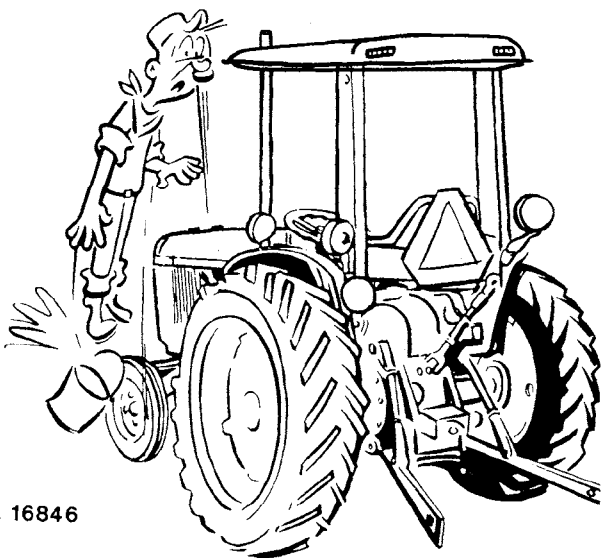
All power equipment should be operated only by those who are responsible and delegated to do so.

If a PTO-driven implement is attached, make sure powershaft shields are installed. After the PTO is disengaged, the driven equipment may not stop rotating immediately.

Disengage PTO, place transmission in neutral, set handbrake, and shut off tractor engine before working on equipment.

Do not leave an implement in the raised position when it is not in use. Always lower implement to the ground when tractor is parked.

Whenever the tractor is stopped, set handbrake before dismounting.



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Add coolant to the radiator only when the engine is stopped or slowly idling. If possible let engine cool before removing cap. To avoid being scalded when the pressure-type filler cap is being removed, turn the cap slightly to the stop to relieve pressure before removing the cap.

Do not oil, grease, or adjust the tractor while it is in motion or while the engine is running.

Do not attempt to make adjustments or repairs while tractor is running unless specifically recommended.

When servicing front-wheel drive equipped tractor, with rear wheels supported off ground and engine running, always support front wheels in a similar manner. Loss of electrical power or transmission-hydraulic system pressure will engage front driving wheels, pulling rear wheels off support if front wheels are not raised.

When driving the tractor on a highway, use lights for adequate warning to the operators of other vehicles. Check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

Before using booster batteries, read instructions on page 13.

To avoid sparks when charging a battery, turn battery charger off before making connections or disconnections.

Before making adjustments on engine or electrical system, disconnect battery ground cable from both batteries. This prevents sparks which create a dangerous fire and explosion hazard and may cause damage or personal injury.

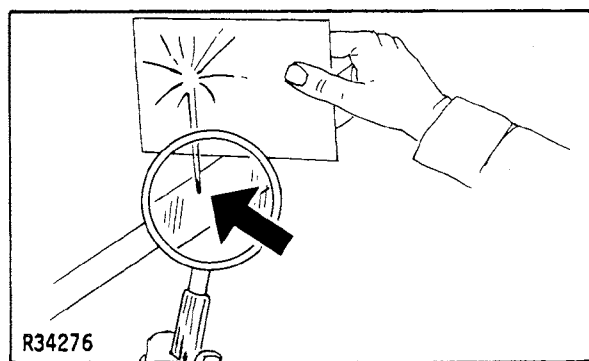
Use caution in handling any type of tractor fuel. Never refuel the tractor when the engine is hot or running. Do not smoke while filling the fuel tank or servicing the fuel system.

Escaping hydraulic oil or diesel fuel 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.

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.

Detailed tire mounting instructions, including necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, which is available from your John Deere dealer.



*Pin Hole Leak*

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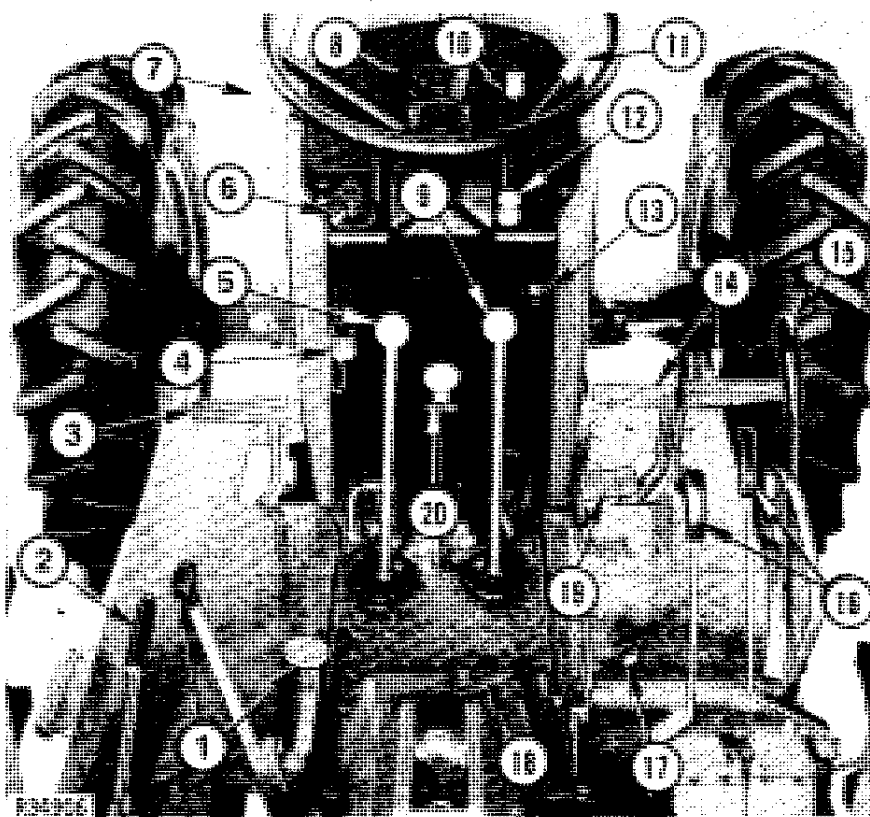


# Controls and Instruments

Before attempting to operate your new tractor, become familiar with location and purpose of controls and instruments. Study the next few pages carefully, regardless of your previous tractor experience.

## CONTROLS

(Tractors without Sound-Gard Body)



1—Differential Lock  
(Lever and Pedal)  
2—Handbrake Lever  
3—Clutch Pedal  
4—Starting Fluid Adapter  
5—Range Shift Lever  
6—Light Switch

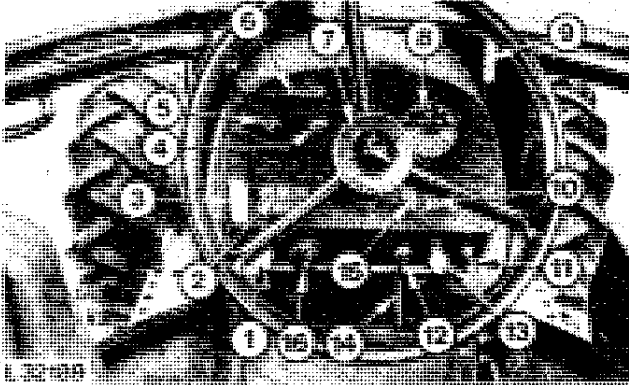
7—Hi-Lo  
8—Instrument Cluster  
9—Gear Shift Lever  
10—Front-Wheel Drive Switch  
11—Hand Throttle  
12—Engine Shut-Off Knob  
13—Key Switch

14—Brake Pedals  
15—Rockshaft Control Lever  
16—Selective Control Valve Levers  
17—Rockshaft Selector Lever  
18—Rate-of-Drop Lever  
19—Foot Throttle  
20—PTO Control Lever

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# CONTROLS

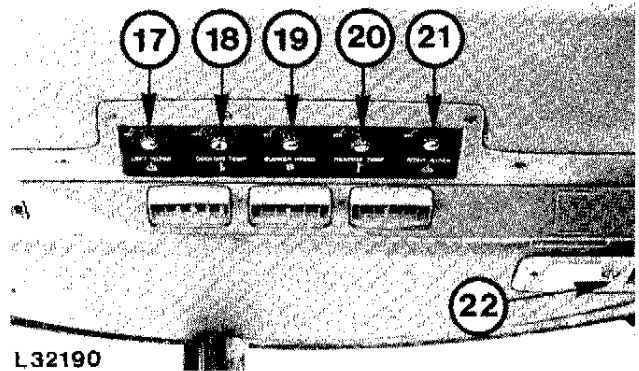
(Tractors with Sound-Gard Body)



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- 1—Starting Aid Switch
- 2—Control Light Panel
- 3—PTO Clutch Lever
- 4—Coolant Temperature Gauge
- 5—Fuel Gauge
- 6—Turn Signal Control
- 7—Steering Wheel Telescope Release

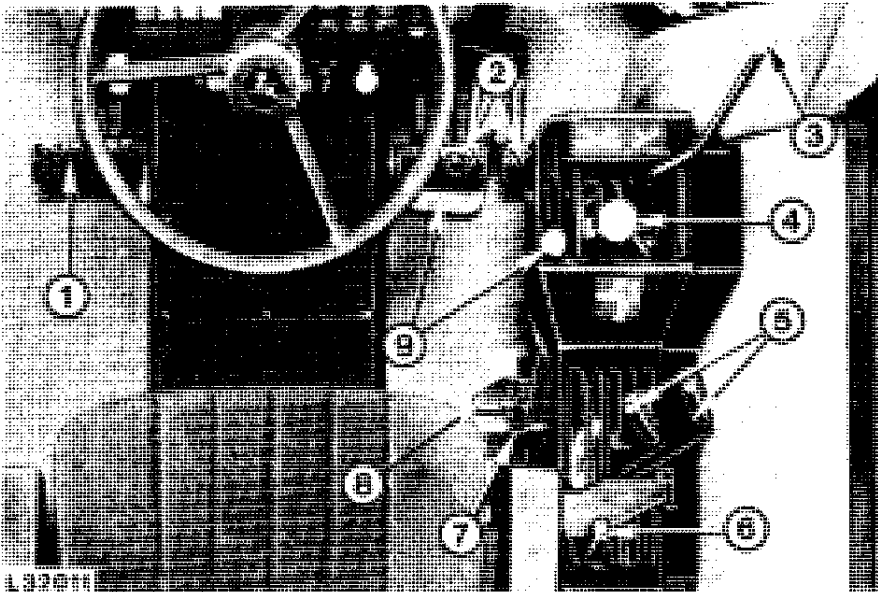
- 8—Speed-Hour Meter
- 9—Handbrake Lever
- 10—Dimmer Switch
- 11—Cigarette Lighter
- 12—Key Switch
- 13—Engine Shut-Off Knob
- 14—Steering Wheel Tilt Release



L32190

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- 15—Switch for Work Light
- 16—Light Switch
- 17—Left Wiper Switch
- 18—Air Conditioning Control
- 19—Blower Switch
- 20—Heater Control
- 21—Right Wiper Switch
- 22—Switch for Dome Lamp



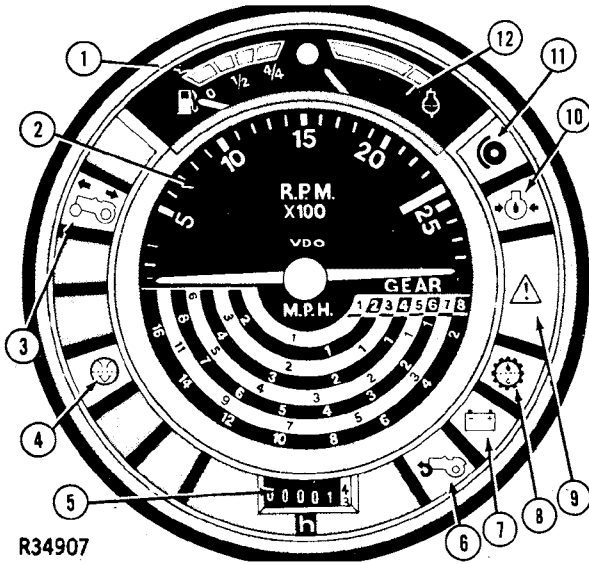
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- 1—Clutch Pedal
- 2—Brake Pedals
- 3—Range Shift Lever
- 4—Gear Shift Lever
- 5—Selective Control Valve Levers
- 6—Rockshaft Control Lever
- 7—Rockshaft Selector Lever
- 8—Differential Lock Pedal
- 9—Hand and Foot Throttle

## INSTRUMENT CLUSTER

(Tractors without Sound-Gard Body)



Air cleaner, alternator, engine oil pressure and transmission oil pressure indicator lamps should glow as key switch is turned on. If not, check for burnt-out bulb or blown fuse. Replace defective bulb or blown fuse.

Indicator lamps should go out as soon as the engine is running.

1. Fuel gauge shows amount of fuel in tank, from "full" (4/4) to "empty" (0). Never run fuel tank completely dry, otherwise you will have to bleed air from the fuel system.
2. Engine and tractor speed gauge shows engine speed and tractor speed for the gear engaged.
3. Whenever warning lamps are on, warning lamp indicator will blink.
4. If air cleaner indicator lamp glows with engine running, air cleaner element must be cleaned or replaced.
5. Hour meter shows number of engine operation hours in full and tenths of hours.
6. Front wheel drive indicator lamp glows when front wheel drive is engaged.
7. If alternator indicator lamp glows with engine running, check for loose alternator connections, condition and tension of V-belt or defective alternator or regulator. If necessary have electrical system checked by your John Deere dealer.
8. If transmission oil pressure indicator lamp glows during tractor operation, stop tractor and check transmission/hydraulic oil level. Should indicator lamp glow and oil level is correct, oil filter may be clogged. Replace filter.
9. Warning light blinks when indicator lamp 7, 8 or 10 glows or when range shift lever is moved with handbrake applied.
10. If engine oil pressure indicator light glows with engine running, shut-off engine and check oil level.
11. Handbrake indicator lamp glows when handbrake is applied and main switch is turned on. Handbrake warning horn will sound if handbrake is set and tractor is placed in gear.
12. Should the coolant gauge needle move into red zone, engine is overheating. Immediately reduce load or shift to a lower gear. Should needle remain in red zone, shut-off engine and determine cause of overheating.

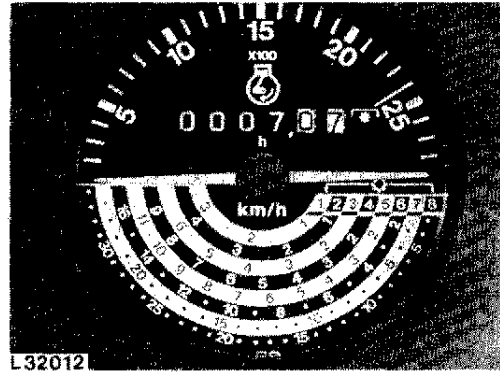
## INSTRUMENTS

### (Tractors with Sound-Gard Body)

#### Speed-Hour Meter

Engine and tractor speed gauge shows engine speed and tractor speed for the gear engaged.

Hour meter shows number of engine operation hours.



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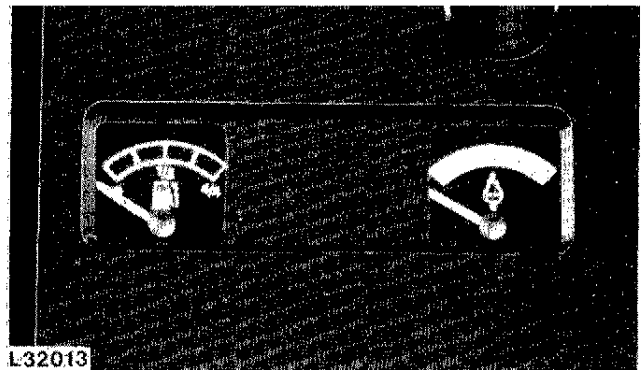
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#### Fuel Gauge

Fuel gauge shows amount of fuel in tank from "full" (4/4) to "empty" (0). Never run fuel tank completely dry, otherwise you will have to bleed air from the fuel system.

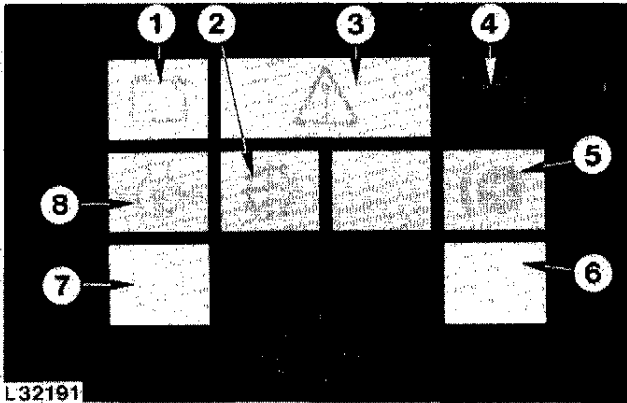
#### Coolant Temperature Gauge

Should the coolant gauge needle move into red zone, engine is overheating. Immediately reduce load or shift to a lower gear. Should needle remain in red zone, shut-off engine and determine cause of overheating.



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L32013



### Control Light Panel

Air cleaner, alternator, engine oil pressure and transmission oil pressure indicator lamps should glow as soon as main switch key is turned on. If lamp fails to glow, check for burnt-out bulb or blown fuse.

Indicator lamps should go out as soon as the engine is running.

1. If alternator indicator lamp glows with engine running, check for loose alternator connections, condition and tension of V-belt or defective alternator or regulator. If necessary have electrical system checked by your John Deere dealer.
2. If transmission oil pressure indicator lamp glows during tractor operation, stop tractor and check transmission/hydraulic oil level. Should indicator lamp glow and oil level is correct, oil filter may be clogged. Replace filter.
3. Warning light blinks when indicator lamp 1, 2, or 8 glows or when range shift lever is moved with handbrake applied.
4. The high-beam indicator lamp glows when the headlights are switched to "high-beam".
5. Handbrake indicator lamp glows when handbrake is applied and main switch is turned on. Handbrake warning horn will sound if handbrake is set and tractor is placed in gear.
6. Front wheel drive indicator lamp glows when front wheel drive is engaged.
7. If air cleaner indicator lamp glows with engine running, the air cleaner element must be cleaned or replaced.
8. If engine oil pressure indicator light glows with engine running, shut-off engine and check oil level.



# Operation

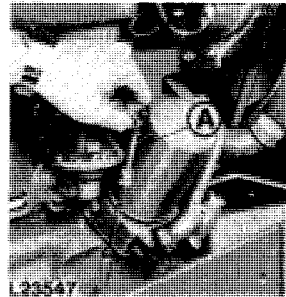
**IMPORTANT:** If the engine is to be run for a short time without battery (using a slave battery for starting), always leave the key switch on until engine has been stopped by means of the engine shut-off knob. Do not raise engine speed above 1000 rpm. Also, use additional current (lights) while engine is running. Insulate battery end of disconnected starter cable properly to avoid damage to both alternator and regulator.

## PRE-OPERATION CHECKS

### Oil Level in Engine Crankcase

Be sure oil level is between two marks on dipstick. Add oil as necessary. See page 62.

A—Dipstick

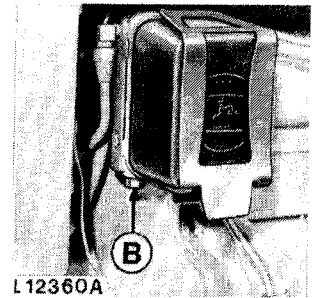


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### Fuel Filter

Drain all water and sediment deposits from filter.

B—Drain Plug



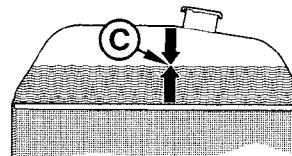
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### Radiator Coolant Level

Coolant should be maintained at a level midway between radiator core and filler neck.

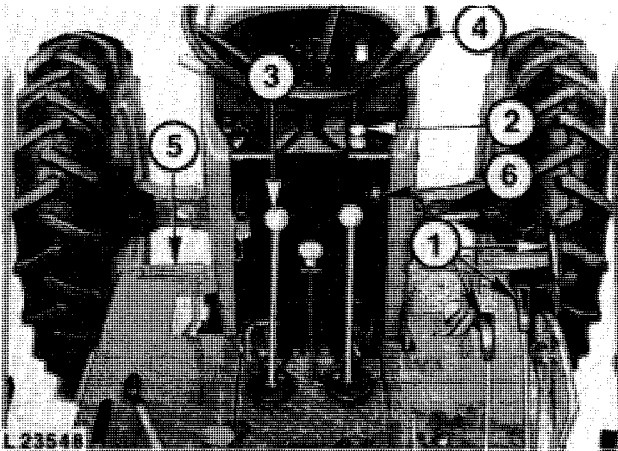
C—Coolant Level



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## STARTING THE ENGINE



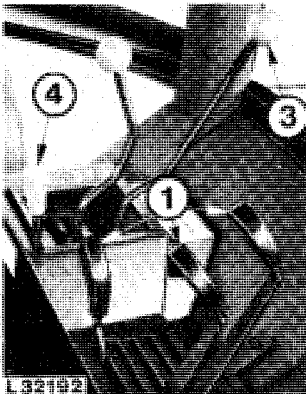
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**CAUTION:** Before starting engine, make sure there is plenty of ventilation. Never operate engine in a closed building.

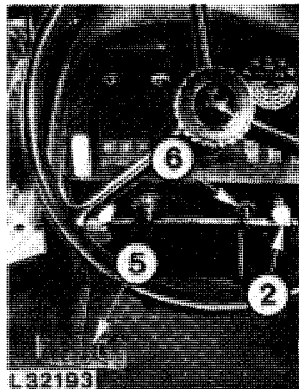
1. Rockshaft control lever in "equipment - lowered" position and selective control valve lever in "neutral".
2. Push engine shut-off knob all the way in.
3. Place range shift lever in neutral position.
4. Place hand throttle lever approximately 1/3 of travel.
5. Depress clutch pedal.
6. Turn key switch clockwise to last position. Keep key engaged until engine starts. As soon as engine starts release starter key.

**IMPORTANT:** If engine does not start within 20 seconds, release starter key and wait at least one minute before trying again.

7. Run engine for one to two minutes at approximately 1200 rpm. When temperature is below 32°F (0°C) increase time to two to four minutes.



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## COLD WEATHER STARTING AIDS

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

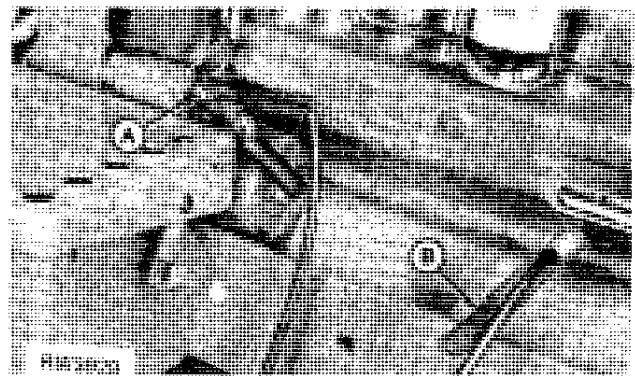
### Booster Batteries

Starting engine in cold weather can be made easier by connecting an additional 12-volt battery in parallel with the tractor battery.

**⚠ CAUTION: Gas given off by batteries is explosive. To avoid injury or battery damage, avoid sparks near the batteries.**

Use jumper cables to connect positive (+) lead of booster battery to starter terminal (A). Connect negative lead (B) of booster battery to a good ground on tractor frame away from tractor battery.

**IMPORTANT: The batteries on your tractor are NEGATIVE grounded only. Reversed polarity in battery or alternator connections will result in damage to electrical system.**



A—Positive Lead to Starter Terminal  
B—Negative Terminal to Ground

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### Engine Coolant Heater

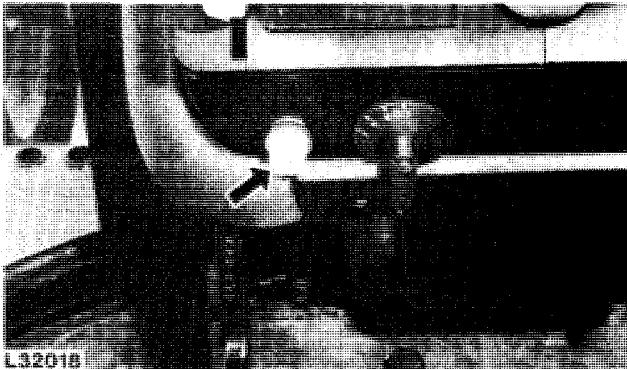
A 1000-watt, 115-volt electrical coolant heater can be installed on the engine. Heater can be plugged into any 115-volt electrical source.

**⚠ CAUTION: To avoid shock, always use three wire heavy-duty electrical cord equipped with 3 prong connectors. If a 2 to 3 contact adapter is used at the wall receptacle, always connect the green wire to a good ground.**

### Diesel Starting Fluid

**⚠ CAUTION:** 1. Ether starting fluid is highly flammable. Do not use near fire, sparks, or flames. Read cautionary information on container.

2. Before discarding used starting fluid containers, empty them completely in a well ventilated area, at a good distance from sparks or open fire.

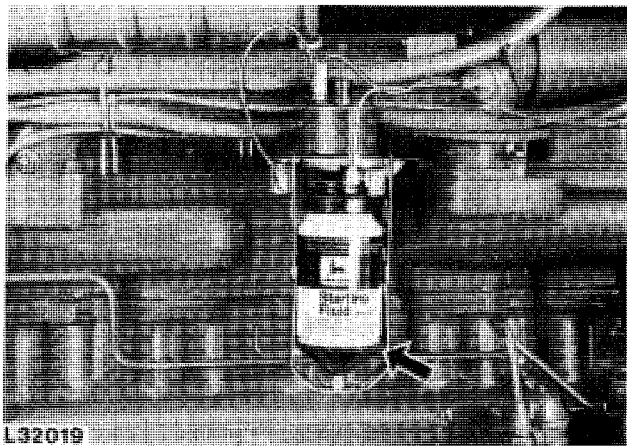


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### Electrically Operated Aid

Inject starting fluid by depressing button on dash.

**IMPORTANT:** To avoid engine damage, inject fluid only in small amounts and only while the engine is turning. Do not depress button longer than one second at a time.



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Pressurized cans of starting fluid are available from your John Deere dealer. To install a new can, remove safety cap and plastic spray button from the can. Loosen thumb wheel enough to change cans, then tighten securely.

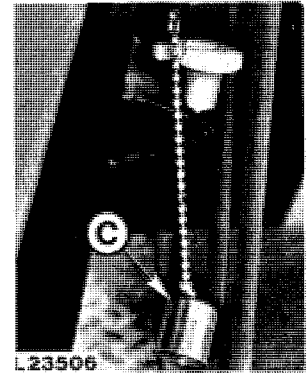
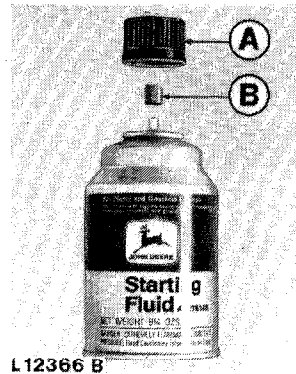
**IMPORTANT:** To avoid drawing dust into engine, always, keep a starting fluid can in position.

Protect starting fluid can from extreme heat or damage.

### Manually Operated Aid

Prepare starting fluid can by removing protective cap (A) and spray button (B). Remove cap (C) from adapter on tractor.

- A—Protective Cap
- B—Spray Button
- C—Adapter Cap



**IMPORTANT:** To avoid damage, turn engine with starter one or two revolutions before injecting starting fluid.

**Inject starting fluid only while engine is turning. Inject starting fluid intermittently, not continuously.**

Position can onto adapter and inject fluid by pushing up on can for a short period.

Relax pressure on can between "shots" of fluid. Stop injecting fluid as soon as engine starts. If engine begins to die, inject another "shot" of fluid. When engine is running smoothly, remove can from adapter and replace safety cap on can. Be sure to put cap back on adapter when not in use. This prevents dust from being drawn into engine.

Store starting fluid in a cool, dry, and protected area to prevent accidental discharge. Keep starting fluid away from extreme heat.

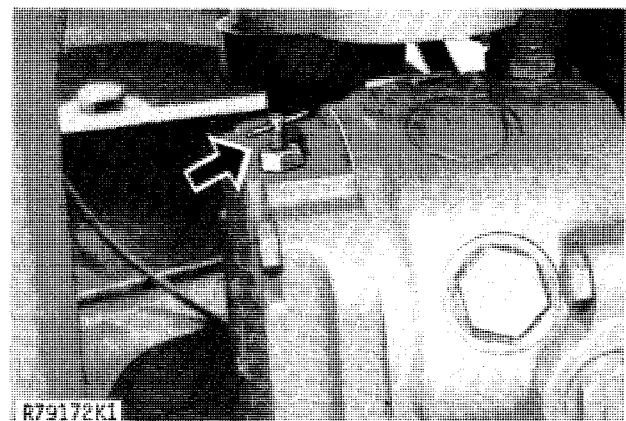


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### Hydraulic Pump Shut-Off

To increase engine cranking speed, turn screw clockwise until you feel resistance, then one more turn.

After engine has started, turn screw counterclockwise until it firmly contacts stop.



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## ENGINE WARM-UP PERIOD

Engine must have attained correct operating temperature before putting under full load. To warm up engine, run it for a few minutes with hand throttle halfway open. Thus excessive wear on piston rings, cylinders and bearings is avoided.



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## ENGINE SPEEDS

Engine working speed range is between 1400 and 2500 rpm. Within these limits engine can be put under full load. Maximum continuous power is obtained at 2500 rpm.

Operate engine at 2400 rpm to obtain SAE standard PTO speeds.

## STOPPING THE ENGINE

Stop tractor and apply handbrake. Move hand throttle to idle position and run engine for one or two minutes at slow idle speed.

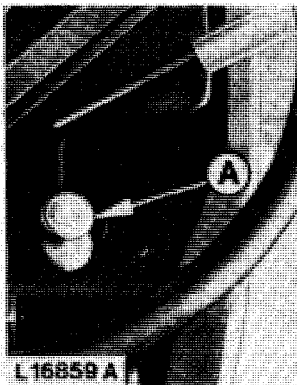
Pull engine shut-off knob (A). Push shut-off knob back in fully as soon as engine has stopped.

Before leaving tractor, lower equipment to the ground.

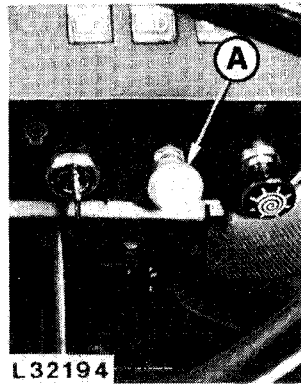
**CAUTION:** Remove starter key to prevent accidents.

**IMPORTANT:** Make sure that exhaust stack flap is closed when engine is not running. This will prevent water and dirt from entering the engine.

A—Engine Shut-Off Knob



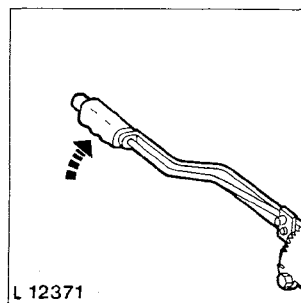
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## PARKING TRACTOR

Set handbrake when tractor is parked or when it operates stationary.



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## TOWING TRACTOR

When towing tractor, move both gear and range shift levers to neutral position.

**CAUTION:** Never tow tractor at speed greater than 15 km/h (10 mph).

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