630 GENERAL PURPOSE AND STANDARD TRACTORS GASOLINE AND ALL-FUEL

JOHN DEERE

OPERATORS MANUAL

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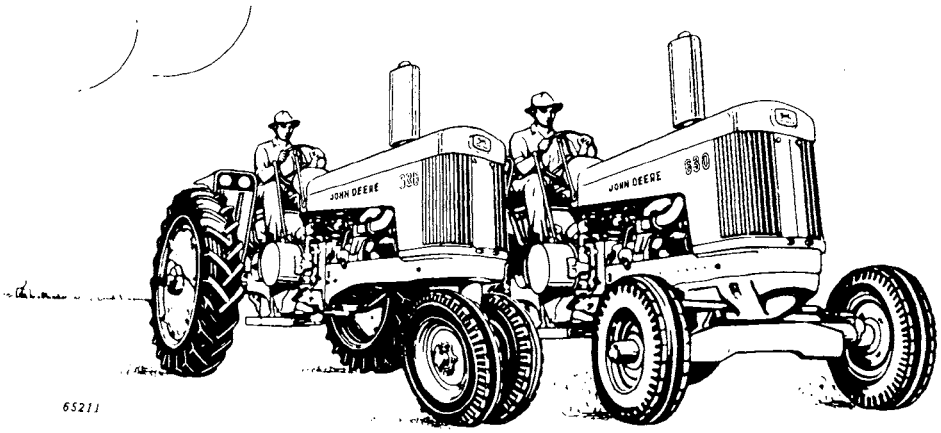

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To the Purchaser

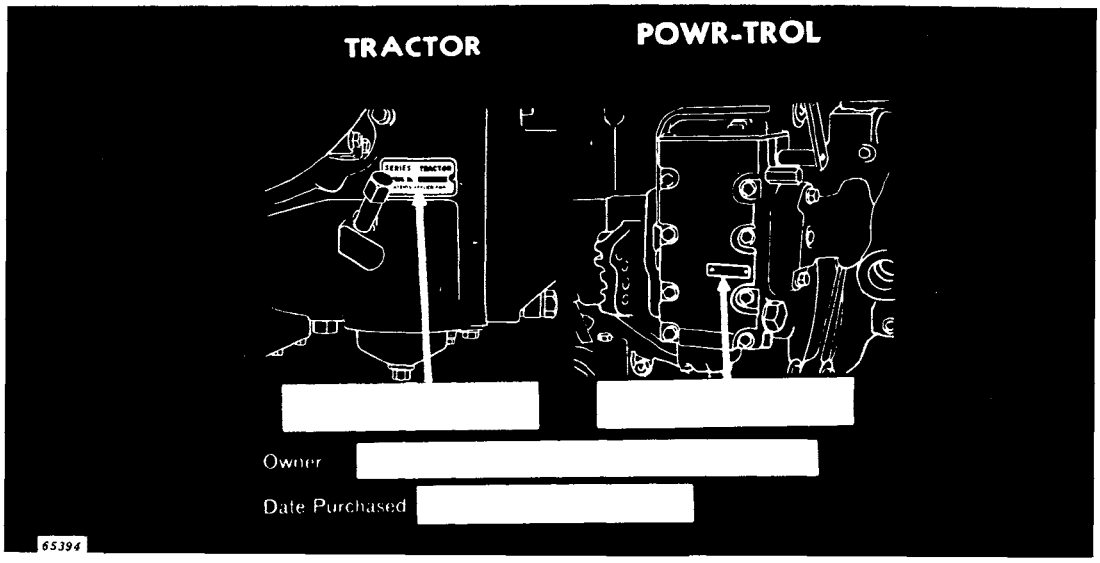
We welcome you to our ever-growing family of John Deere tractor owners. We are confident that the dependable and economical performance of your John Deere tractor will prove that you made a wise choice.

The purpose of this manual is to acquaint you with your new tractor. The manual explains how to operate and service your tractor, and how to maintain its high operating efficiency. Instructions are given clearly with the intention of making these operations as easy as possible.

Keep this manual in a convenient place for quick and easy reference. Use it as a guide whenever questions arise. You have purchased a dependable, sturdy tractor, but only by operating and caring for it properly can you expect to receive the service and long life for which it was designed.

If in the future you need new parts to replace those that may be worn, insist on genuine John Deere parts. They are exact duplicates of the originals, made from the same patterns and of the same high-quality materials.

When in need of parts, give your John Deere dealer the serial number of your tractor or hydraulic (Powr-Trol) system, depending on the parts you need. The illustration below shows you where to find these serial numbers. Obtain them from your tractor—NOW—and insert them in the spaces provided in the illustrations below.



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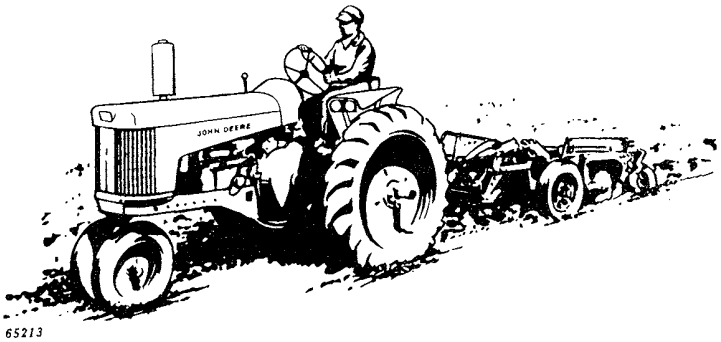

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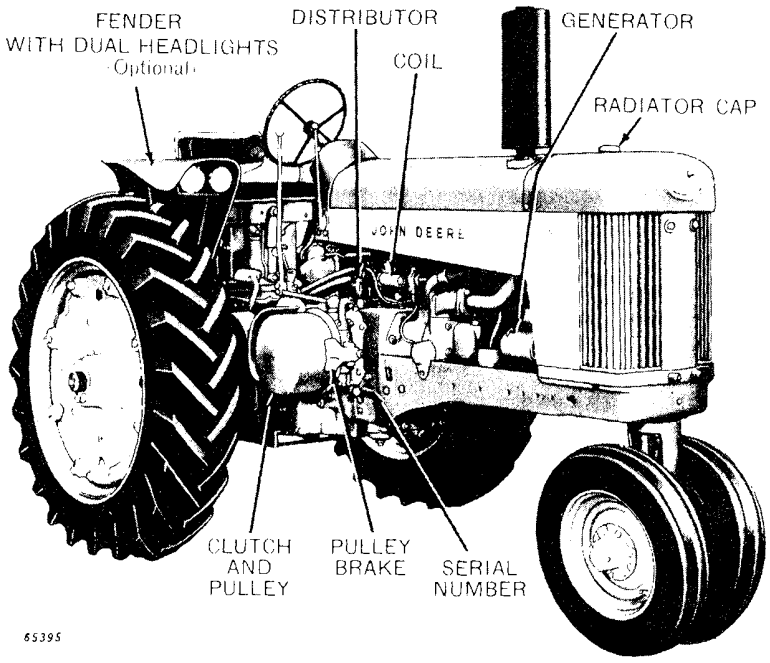
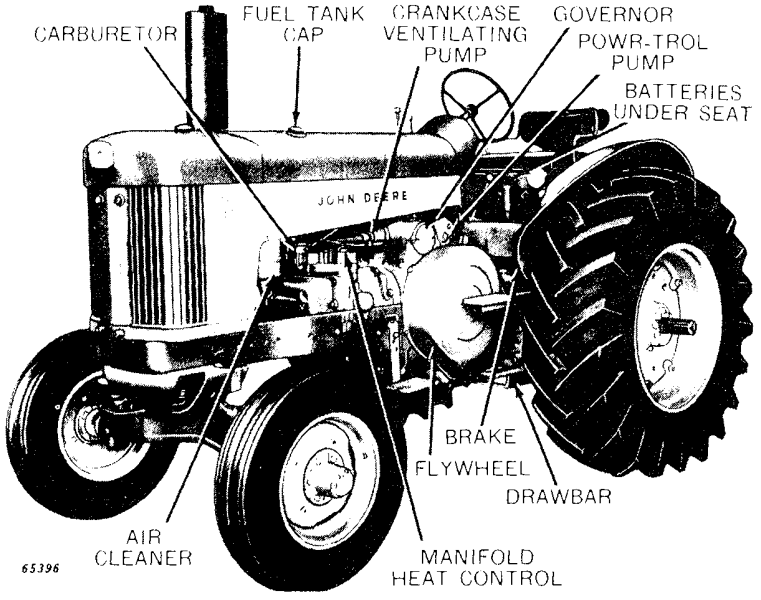
This is Your New John Deere Tractor



John Deere "630" Series General-Purpose Tractor—Pulley Side
(Serial No. 6300000-)



John Deere "630" Series Standard Tractor—Flywheel Side
(Serial No. 6300000-)

SPECIFICATIONS

PERFORMANCE:

Capacity for Work:

Four 14-inch plow bottoms or a four bottom bedder under most conditions.

Maximum Belt Horsepower:

*Gasoline	48.68
*All-Fuel	35.68

Maximum Drawbar Horsepower:

*Gasoline	44.16
*All-Fuel	32.66

CAPACITIES (U. S. MEASUREMENTS):

Gasoline Tank:	
Gasoline Tractor	22-1/4 Gals.
All-Fuel Tractor	1 Gal.
Fuel Tank (All-Fuel)	20-1/2 Gals.
Crankcase	8 Qts.
Transmission	6 Gals.
Hydraulic Powr-Trol System	11 Qts
Remote Cylinder	1 Qt.
Power Shaft Clutch	1 Gal.
Cooling System	6-1/2 Gals.
First Reduction Gear Cover	1-1/2 Qts.
Power Steering	5 Qts.

SPEEDS:

Gear	13.6-38 Tires	14-30 Tires
1	1-1/2 mph	1-1/3 mph
2	2-1/2 mph	2-1/2 mph
3	3-1/2 mph	3-1/3 mph
4	4-1/2 mph	4-1/4 mph
5	6-1/2 mph	6 mph
6	11-1/2 mph	10-1/2 mph
Reverse	3 mph	2-3/4 mph

ENGINE:

Type	Two-cylinder, cast-in-block, valves-in-head.
Engine Speeds:	
Load	1125 rpm
Fast Idle	1260 rpm
Slow Idle	600 rpm
Bore and Stroke	5-1/2" x 6-3/8"
Displacement	302.9 cubic inches
Compression Ratio	
Gasoline	6.5 to 1
All-Fuel	4.78 to 1

LUBRICATION SYSTEM:

Type	Force-feed pressure system with full flow oil filter.

FUEL SYSTEM:

Type	Gravity feed
Carburetor	Natural-draft duplex type
Air Cleaner	Oil-wash type

COOLING SYSTEM:

Type	Pressure system—centrifugal pump with engine temperature controlled by heavy-duty thermostat.

IGNITION SYSTEM:

Type	Battery-Distributor
Distributor Point Gap	.022"
Spark Plugs:	
Size	18 mm.
Spark Plug Gap	.030"

ELECTRICAL SYSTEM:

Battery Voltage	12 Volts
Generator Regulation	Voltage Regulator
Battery	Group I

CLUTCH:

Type	Hand-operated, four 10-inch dry disks.

BELT PULLEY:

Diameter	12-13/16"
Width	7-3/8"
Rpm (Load)	1125
Belt Speed (fpm)	3775

TRANSMISSION:

Type	Six speeds forward and one in reverse.
Gears	Selective-type, straight spur-cut gears, forged and heat-treated.
Bearings	Shafts operate on three roller bearings, four tapered roller bearings, and five ball bearings.

REAR AXLES:

Diameter	3-1/8"
Bearings	Four tapered roller bearings.
Types Available	Regular and long.

**Maximum h.p. corrected to 60°F. and 29.92 in. Hg. (Nebraska Tests Nos. 598 and 604)*

SPECIFICATIONS

REAR WHEELS AND TIRES:

General-Purpose.. 12.4-38, 6-ply tires on cast disk wheels. 13.6-38, 11-38 C & R, 12-38 C & R, 11-42 and 15.5-38, 6-ply tires also available.

Standard.. 14-30, 6-ply tires mounted on cast disk wheels. 13-30 and 15-30, 6-ply tires also available.

REAR WHEEL BRAKES:

Type.. Two automotive-type internal-expanding rear wheel brakes.

FRONT WHEELS AND TIRES:

General-Purpose:

Double and Adjustable Type:

Reversible for added clearance.

Bearings.. Four tapered roller bearings.

Tires..... 6.00 x 16″, 4-ply
6.00 x 16″ and 7.50 x 15″, 6-ply also available.

Single Type:

Bearings.. Two tapered roller bearings.

Tires..... 7.50 x 16″, 9.00 x 10″, 8-ply, or 11 x 12″, 12-ply.

Standard:

Bearings.. Four tapered roller bearings.

Tires.....
6.00 x 16″, 4-ply
6.50 x 18″, 4-ply
7.50 x 18″, 4-ply

	General-Purpose			Standard
	Double Front Wheel	**Single Front Wheel**	**Adjustable Tread Front Axle**	
POWER TAKE-OFF:				
Shaft Diameter	1-3/8″	1-3/8″	1-3/8″	1-3/8″
Shaft rpm	540 or 1000	540 or 1000	540 or 1000	540 or 1000
Splined End Ahead of Hitch:				
540 rpm Powershaft	14″	14″	14″	14″
1000 rpm Powershaft	16″	16″	16″	16″
Splined Shaft Above Ground	24-9/16″	26-9/16″	26-9/16″	21-7/8″
DIMENSIONS:				
Wheel-Base	90″	90-1/4″	92-1/2″	80-1/2″
Over-All Height	88-1/8″	88-1/8″	88-1/8″	81-7/16″
Height to Top of Steering Wheel	79-11/16″	79-11/16″	79-11/16″	77-1/8″
Width Over Axles	86-5/8″	86-5/8″	86-5/8″	86-5/8″
Tread Adjustment:				
Regular Rear Wheels	58-88″*	58-88″*	58-88″*	62-80″
Power Adjusted Rear Wheels	58-94″**	58-94″**	58-94″**	.....
Clearance	25-5/16″	27-5/16″	Front 24-3/16″ Rear 27-5/16″	Front 13″ Rear 25-1/4″
Turning Radius	8′ 7-1/2″	8′ 7″	14′	14′
SHIPPING WEIGHT	5858 Lbs.	5800 Lbs.	6160 Lbs.	6480 Lbs.

(Weights are for Tractors dry and with wheel equipment as shown under "Front Wheels" and "Rear Wheels.")

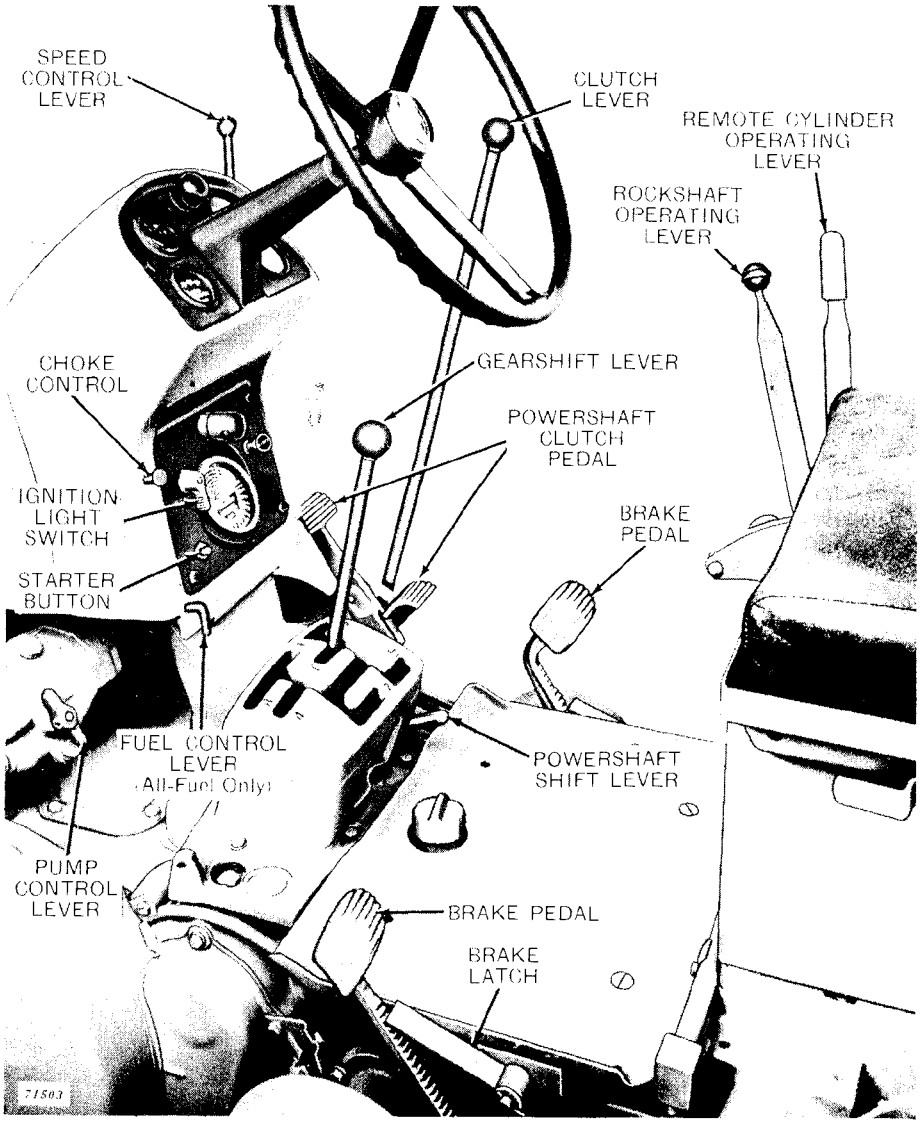
**Available with long axles providing tread of 62″ to 98″ and, with offset wheels, a tread of 58″ to 104″ is provided.*

***Power-adjusted rear wheels on long axles provide tread of 59″ to 104″.*

(Specifications and design subject to change without notice.)

CONTROLS

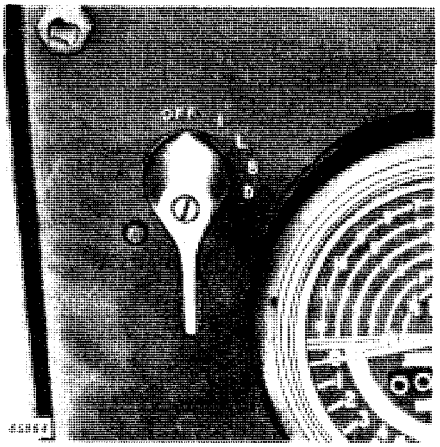
Familiarize yourself with all the controls provided for safe and easy operation of your new tractor. Regardless of your previous tractor experience, study this section covering controls carefully before you operate your tractor.



• STARTING CONTROLS •

IGNITION-LIGHT SWITCH.

A combination ignition-light switch is located on the left-hand side of the lower instrument panel. Turning the switch to any position except "OFF" turns on the ignition.

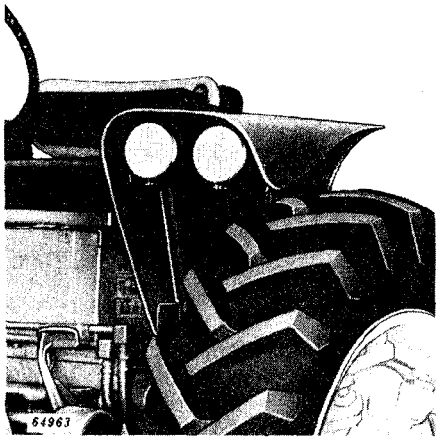


Combination Ignition-Light Switch

The lights on your tractor are designed to provide maximum use and convenience both for night work in the field and night travel on the highway.

Your tractor may have regular sealed-beam headlights, mounted on a horizontal support attached to the steering shaft support, or a general-purpose tractor may have, as optional equipment, fenders with built-in dual sealed-beam headlights which greatly increase visibility at night.

The inner lamps of the dual-lights throw strong beams far ahead of the tractor. The outer lamps are flood lights which brilliantly illuminate the ground on both sides as well as ahead of the tractor. They also serve as the "dims" when you are traveling on the highway at night.



Fender with Dual Headlights

All lights are controlled by the combination ignition-light switch which has five positions. On tractors with regular headlights the positions are:

"OFF"—Both ignition and lights off.
"I" —Ignition only.
"L" —Bright front lights and white rear light.
"B" —Bright front lights and red rear light.
"D" —Dim front lights and red rear light.

If your tractor is equipped with fender-mounted dual-lights, the switch positions provide the following:

"OFF"—Both ignition and lights off.
"I" —Ignition only.
"L" —All front lights and white rear light.
"B" —All front lights and red rear light.
"D" —Front flood lights only and red rear light.

FUEL-CONTROL LEVER (ALL-FUEL TRACTORS).

A three-way fuel control lever on All-Fuel tractors enables the operator to switch from gasoline for starting the engine to low-cost fuel for operation, or to shut off the fuel supply entirely without leaving his position at the wheel.

STARTER BUTTON.

The engine is started by the button located on the left-hand side of the lower instrument panel. Pushing the button engages the cranking motor with the flywheel and then completes the electrical circuit to the cranking motor. The starter button will not operate until the ignition-light switch is turned on. (For starting instructions see page 17.)

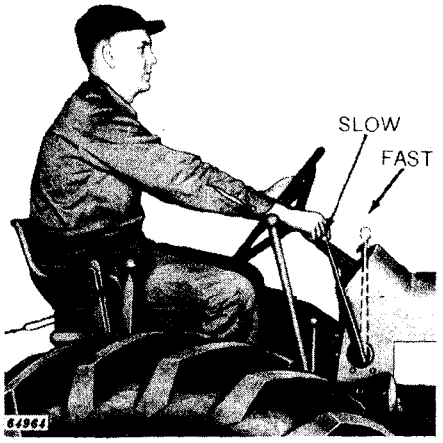
CHOKE CONTROL BUTTON.

Pulling out the choke button provides a rich mixture for the engine when starting. When button is pushed in, the choke returns to its normal position.

• OPERATING CONTROLS •

SPEED CONTROL LEVER.

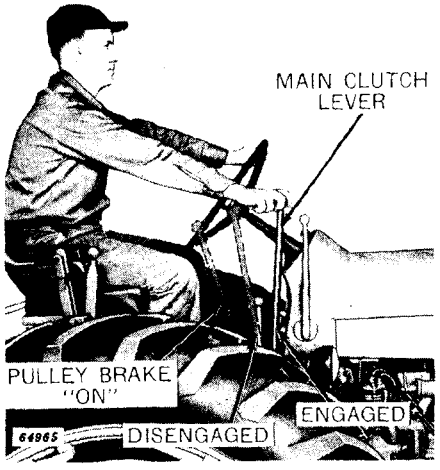
The lever mounted on the right-hand side of the hood support regulates the speed of the tractor engine. Pushing it forward opens the throttle and pulling it back closes the throttle. *NOTE: It is good practice to operate the engine whenever possible with speed control lever in the fully forward position.*



Speed Control Lever

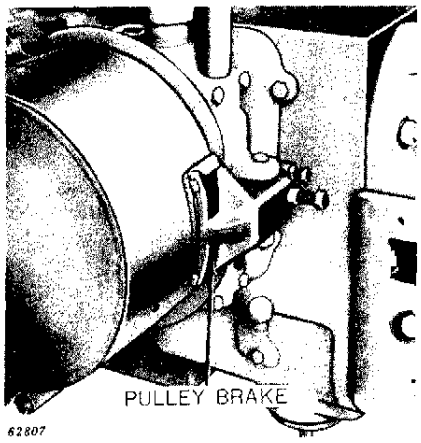
CLUTCH LEVER AND PULLEY BRAKE.

Power is applied gradually and smoothly to the drive system by slowly pushing the clutch lever forward. When the tractor picks up speed, a quick forward thrust on the lever snaps the clutch into engagement. Pull the lever back to the disengaged position to disengage the clutch.



Clutch Lever

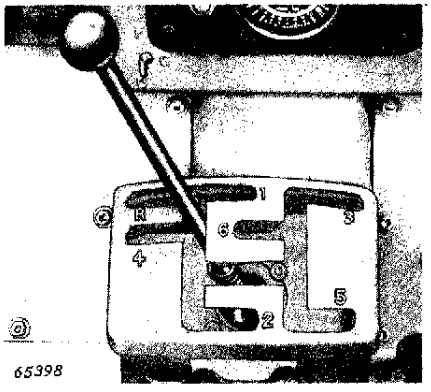
Pulling the clutch lever rearward beyond the disengaged position applies a pulley brake which stops the pulley from rotating. This permits easy shifting of the transmission gears. **CAUTION: Do not use the pulley brake to stop the tractor.**



Pulley Brake

GEARSHIFT LEVER.

The gearshift lever is used to select the proper gear, depending upon the load and speed. Familiarize yourself with the shifting before attempting to operate the tractor. The seven gearshift positions are identified on top of the quadrant.



Gearshift Lever

Select the correct gear for the particular work being done before the tractor is set in motion. Tractors operating in a low gear with a light load are wasting fuel. If the gear ratio is too high for the load the engine will labor or "lug." In this case stop the tractor and shift to a lower gear. Lugging increases engine wear. Never attempt to shift from one gear to another after the tractor is in motion.

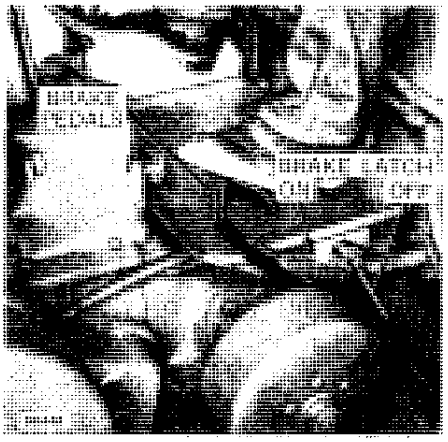
The speeds at which the tractor will travel in the various gears when the engine is operating at rated load speed (1125 rpm) are given on page 4.

BRAKES.

Individual, foot-operated brakes make possible short turns.

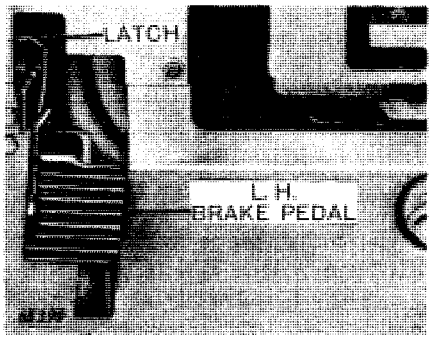
For safe stopping at high transport speeds, apply the brakes **evenly** to avoid drawing the tractor to one side.

A brake latch is conveniently, located for locking each brake when doing belt work or when holding the tractor on a hill or incline.



Brake Pedals and Latches on General-Purpose Tractors

On standard tractors, the brakes are locked by tipping the top of the pedal forward to engage the latch. The brakes are released by pressing on the heel of the pedals.

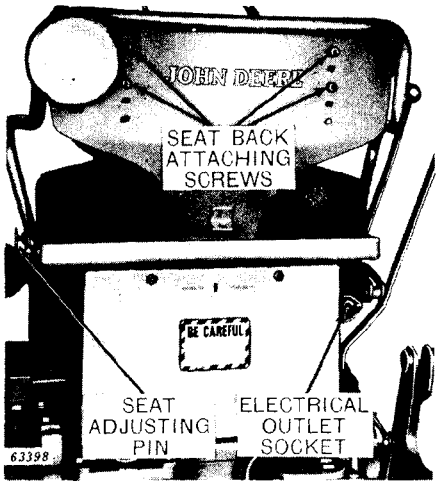


Brake Pedal and Latch on Standard Tractors

SEAT, BATTERY COMPARTMENT, AND ELECTRICAL OUTLET SOCKET.

Standard Seat.

The roomy seat adds much to operator comfort and lessens fatigue. There is an adjustment on the left-hand side for moving the seat forward and backward to suit the convenience of the operator. The back of the seat can be adjusted up or



Standard Seat

BATTERY COMPARTMENT.

The batteries are located in a compartment under the seat where they are readily accessible for periodic checking and service.

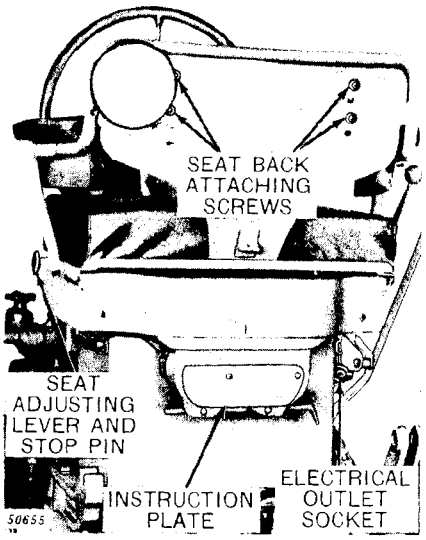
ELECTRICAL OUTLET SOCKET.

A convenient electrical outlet socket is located on the right-hand side of the battery box.

Special Float Ride Seat.

A special float ride seat having rubber torsion springs and a shock absorber is available as optional equipment. This seat has the same forward and backward adjustment and seat back adjustment as the regular seat but, in addition, the tension on the rubber springs can be adjusted to suit each rider. Adjustment is made by turning the handle located at the back of the seat. An instruction plate above the handle tells how to make the adjustment.

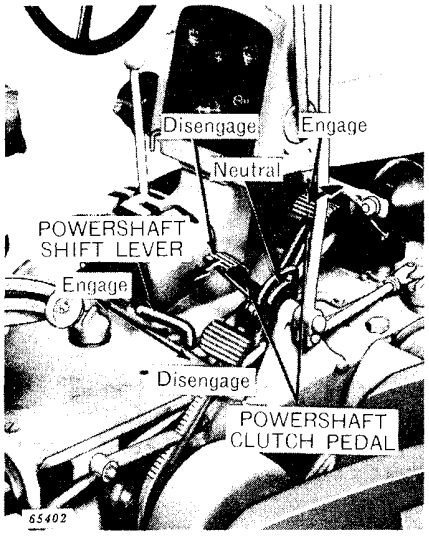
CAUTION: Do not adjust the rubber torsion springs while a rider is on the seat.



Float Ride Seat

POWERSHAFT SHIFT LEVER.

The powershaft is engaged by the powershaft shift lever located to the right of the gearshift lever. Move the lever to the left to engage the powershaft and to the right to disengage the shaft. **CAUTION: Do not engage the powershaft shift lever while the engine is running. Before engaging the lever, read the operating instructions on page 31.**



Powershaft Shift Lever and Clutch Pedal

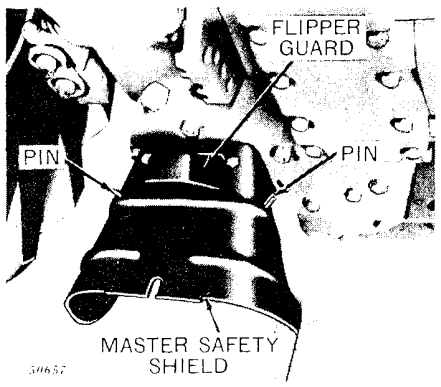
POWERSHAFT CLUTCH PEDAL.

A powershaft clutch makes it easy and convenient to start or to stop the powershaft.

The clutch is operated by a double pedal located to the right of the gearshift lever. Pushing forward on the upper pad of the double pedal engages the clutch. Pushing down on the lower pad disengages the clutch and applies a brake to keep the shaft from turning when not in use. For further information see page 31.

POWERSHAFT MASTER SAFETY SHIELD.

A master safety shield is mounted over the powershaft to protect the operator. This master shield should be removed only when it might interfere with operation of mounted integral equipment. To remove the shield, press up on the two pins protruding from the sides and lift the shield from the tractor. Replace the master shield immediately upon removal of the equipment. Install the master safety shield any time the powershaft is used.



Powershaft Master Safety Shield and Flipper Guard

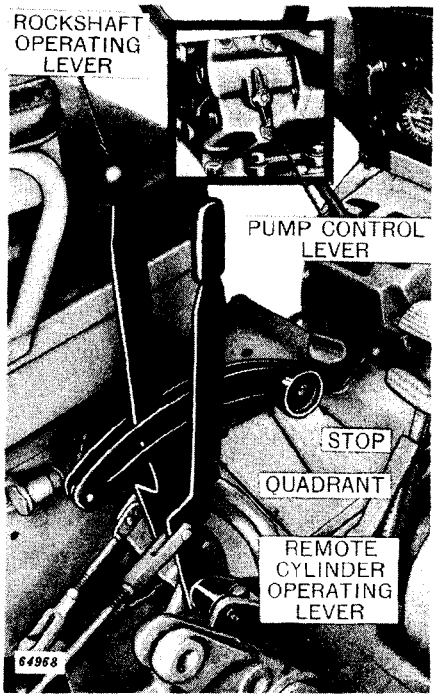
POWERSHAFT FLIPPER GUARD.

Never remove the powershaft flipper guard from the tractor. Do not operate the tractor with the end of the powershaft exposed. If the flipper guard is damaged, repair or replace it immediately.

CAUTION: Make it a rule never to dismount from the tractor without first disengaging the powershaft.

POWR-TROL PUMP CONTROL LEVER.

The hydraulic Powr-Trol pump is engaged by rotating the control lever in a counter-clockwise direction and disengaged by turning the lever in a clockwise direction. **CAUTION: Do not engage the pump while the engine is running.** It may be necessary to turn the engine over by means of the cranking motor with the ignition switch **off** to engage the gears.



Powr-Trol Pump Control Lever and Powr-Trol System Operating Levers

POWR-TROL OPERATING LEVERS.

Rockshaft Operating Lever.

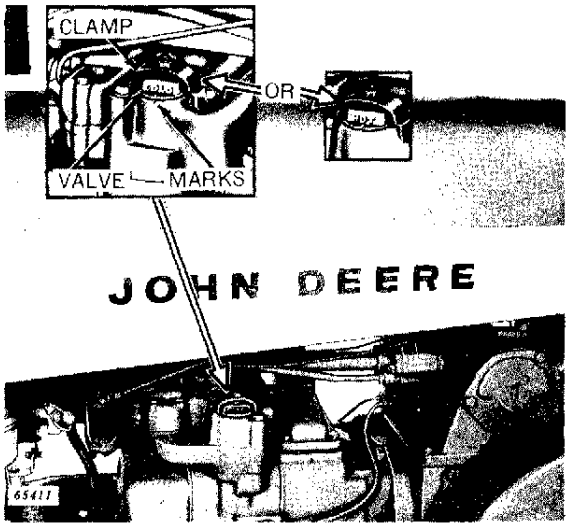
The rockshaft is operated by a lever located to the right of the seat. (A second rockshaft lever can be installed on the left-hand side of the seat if you desire it.) Moving the control lever rearward raises the implement while moving the lever forward lowers the implement. A depth-control stop on the quadrant can be set so that the implement always returns to the same working depth after it has been raised. For further information see page 36.

Remote Cylinder Operating Levers.

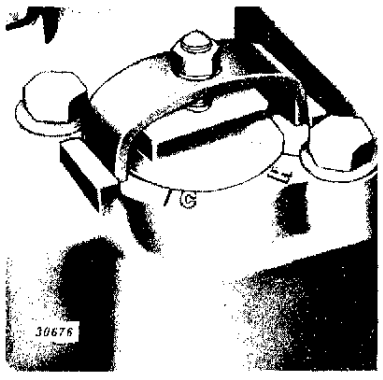
Your tractor can be equipped to operate either one or two remote hydraulic cylinders. The cylinders are operated by the outer lever or levers located beside the seat. Normally the lever or levers are on the right side but can easily be shifted to the left side if you desire to do so. Implements are lowered by moving the proper lever forward and raised by moving the lever to the rear. For further information see page 48.

MANIFOLD HEAT CONTROL VALVE.

The purpose of this control, located in the engine manifold, is to improve engine performance and efficiency in hot or cold weather by controlling the path taken by hot exhaust gases. Use of the valve is described on page 78. Generally, the valve is set at "COLD" or "C" for air temperatures above 32°F. and at "HOT" or "H" for temperatures below 32°F. For instructions on changing the position of the valve, see page 79.

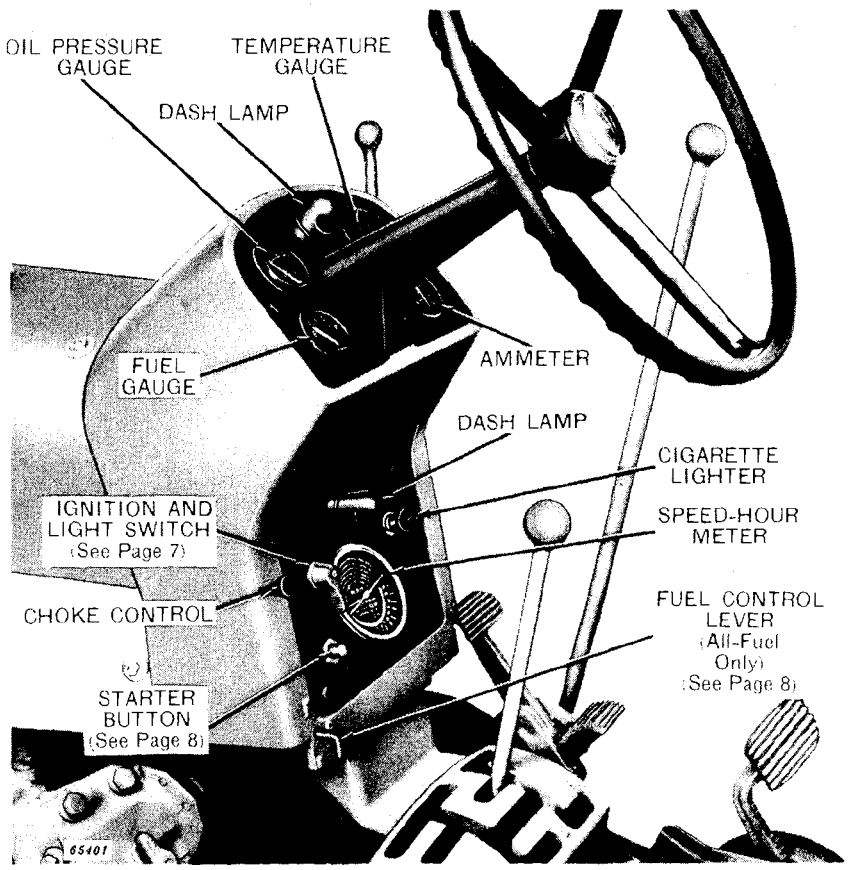


Manifold Heat Control Valve on Gasoline-Burning Tractors



Manifold Heat Control Valve on All-Fuel Tractors

• INSTRUMENT PANELS •



Instrument Panels

TEMPERATURE GAUGE.

The temperature gauge indicates the temperature of the coolant in the cooling system. Engine temperatures are controlled by a thermostat in the cylinder water outlet.

OIL PRESSURE GAUGE.

The oil pressure gauge indicates whether or not the oil pump is working. The gauge does not in any way tell the amount or condition of the oil in the crankcase. The indicator hand of the gauge should rest between the letters "M" and "H" when the engine is hot and operating at fast idle. **If the gauge does not register pressure when the engine is started, stop the engine immediately.**

AMMETER.

The ammeter indicates whether or not the generator is charging the batteries.

DASH LAMPS.

Two small lamps illuminate the instrument panels at night. They are turned on by the ignition-light switch when the main lights are turned on.

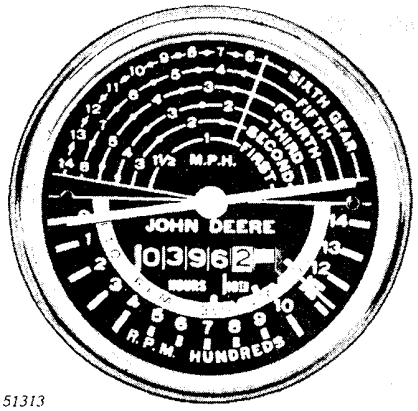
CIGARETTE LIGHTER.

A cigarette lighter (special attachment) is provided for your convenience on the lower instrument panel.

SPEED-HOUR METER.

The speed-hour meter (special attachment), located in the center of the lower instrument panel, can be used to determine the following:

	Shown On
(1) Ground Travel Speed in All Gears	Top Half of Dial
(2) Power Take-Off Shaft Speed (rpm)	White Section of Lower Dial
(3) Engine Speed (rpm)	Bottom Portion of Lower Dial
(4) Accumulated Hours of Service	Center Portion of Lower Dial



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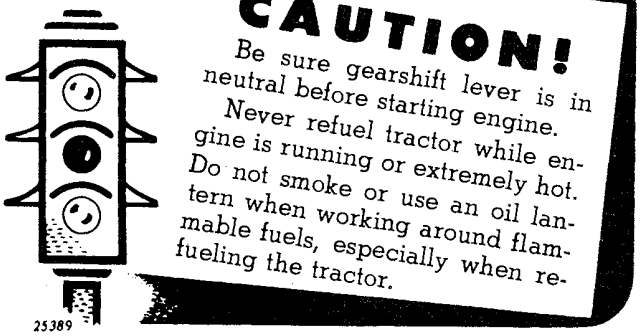
Speed-Hour Meter Dial



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OPERATING INSTRUCTIONS

The suggestions given on the following pages tell you how to take full advantage of the many features built into your new tractor and how to obtain long trouble-free service. By following the instructions, you will be able to perform your tractor work efficiently and avoid conditions likely to cause injury or damage.

• FUEL •

IMPORTANCE OF USING PROPER FUELS.

Now that you are familiar with the controls, your next consideration before starting your tractor is the type of fuel you are going to use.

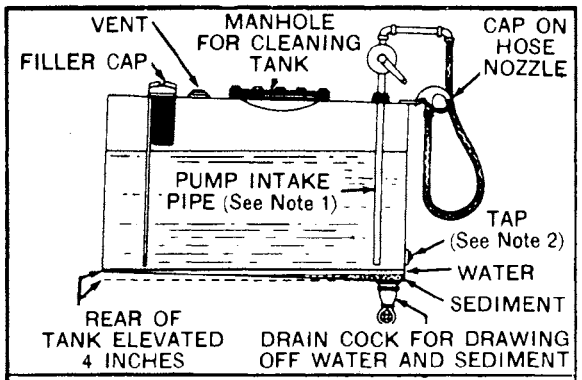
The gasoline tractor is designed to operate economically on regular grade gasoline as defined by ASTM Designation 439-55T. The gasoline should have a minimum octane number rating of 80 (Motor Method) or 86 (Research Method). The distillation range or volatility is adjusted by the petroleum producers for local climatic conditions and also for seasonal variations. Avoid carrying over gasoline purchased in one season for another season's work. For example, gasoline furnished for summer use is less volatile than that sold in the winter season and attempts to use the summer gasoline in cold weather can result in poor starting of the engine.

The All-Fuel Tractor is designed to operate on gasoline or "farm tractor fuel" as defined by ASTM Designation D-1215-54. This includes either the "Light Grade" or "Regular Grade" having ASTM distillation 10% point recovered of 401°F. maximum and a 95% point recovered of 518°F. maximum and a minimum octane number of 35 (Motor Method) or 38 (Research Method).

FUEL STORAGE.

Fuel should be stored in a convenient place outside of buildings. A fuel tank such as that illustrated below, will provide good fuel storage. If fuel drums are used, they should be located in a shady spot to prevent undue evaporation. The fuel drums should be tilted slightly toward the rear so that any metal that might flake from the inside of the drum or any other sediment will settle to the rear and will not get out of the drum through the spigot. The hose nozzle should be capped when not in use so that no dust can enter.

Be sure that drum vent plug is screwed in tightly after using it.



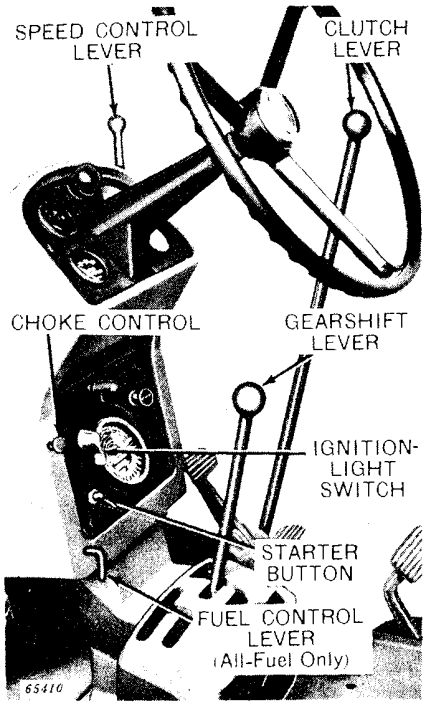
One Type of Fuel Storage Tank

• STARTING THE ENGINE •

All-Fuel Tractors Only.

(1) Close the carburetor drain cock.

(2) Turn on gasoline by setting the fuel control lever to the mark 'G."



Starting Controls

All Tractors.

(3) Set gearshift lever in neutral and pull the clutch lever back into disengaged position.

(4) In cold weather disengage the Powr-Trol pump and the power-shaft shift lever to relieve drag on cranking motor caused by cold oil.

(5) Pull speed control lever all the way to the rear. Engine will start easier if lever is not advanced.

(6) Turn ignition-light switch to "I" position.

(7) Pull out the choke button.

(8) Push the starter button.

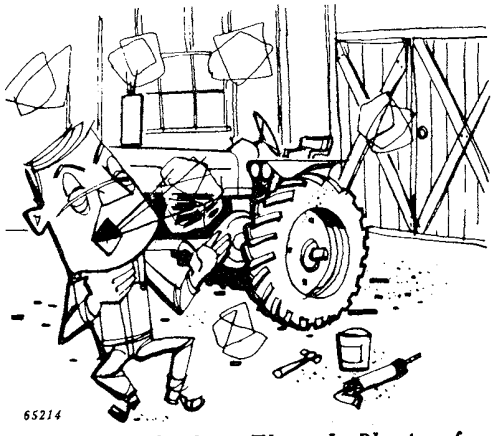
(9) As soon as engine starts, push the choke button in except during cold weather when it may be necessary to leave choke partially open for the first few minutes.

(10) Regulate engine speed by the speed control lever. The engine is set to run at the correct speed when the tractor leaves the factory: 1125 rpm for full load; 600 rpm for slow idle; and approximately 1260 rpm for fast idle. **CAUTION: Under no circumstances should the engine be operated at an idle speed over 1270 rpm.**

(11) Watch the oil pressure gauge when the engine starts. If the pointer is not between "M" and "H" when the speed control lever is pushed forward, stop the engine immediately and determine the cause of the low oil pressure.

All-Fuel Tractors Only.

(12) For satisfactory operation of the All-Fuel tractor on tractor fuel, warm up the engine before turning fuel control lever to mark "F" to switch from gasoline to tractor fuel.



Always Make Sure There Is Plenty of Ventilation Before Starting Tractor Engine

Suggest:

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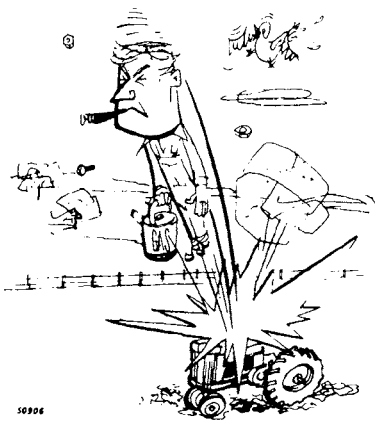
Please download this document

first, and then click the above link

to download the complete manual.

Thank you so much for reading



Never Smoke Around the Tractor When Filling the Fuel Tank

• WARM-UP PERIOD •

Before placing your tractor under full load, be sure it is warmed up to proper operating temperature. When starting to work with a cold tractor it is best to operate for about 30 minutes in a lower gear than is normally required for the load. This will give the oil a chance to circulate freely and will prevent undue wear on engine and transmission parts.

The warm-up period is particularly important when the tractor is operating in and out of dairy barns during extremely cold weather. Because of the high humidity in most dairy barns there is a tendency for moisture to collect in the crankcase. If the engine is not warm, the moisture may freeze resulting in lowered oil pressure. This condition will be reduced to a minimum during cold weather if the engine is allowed to idle for a few minutes to warm it up thoroughly before it is driven into the barn. It is also advisable to change the crankcase oil more frequently. (See page 64.)

• RUN-IN PERIOD FOR THE NEW TRACTOR •

Engine Run-In Period.

Your new tractor was shipped from the factory, with special "breaking-in" oil in the crankcase.

To be sure that all bearing surfaces will be properly lubricated, operate the tractor on a part load for the first 20 hours of operation with the "breaking-in" oil in the crankcase, then drain out the "breaking-in" oil and refill the crankcase with new oil as recommended on page 57.

Hydraulic Powr-Trol System and Powershaft Clutch Run-In Period.

The Powr-Trol system and powershaft clutch housing are also filled with "breaking-in" oil when the tractor is shipped from the factory. After 20 hours of Powr-Trol and powershaft clutch operation, drain out the "breaking-in" oil and fill the system as instructed on pages 67 and 68.

The powershaft clutch should also be checked for proper adjustment after 20 hours of powershaft operation. For instructions on checking and adjusting the clutch see page 86.

• OPERATING THE TRACTOR •

Your John Deere Tractor has six forward speeds and one reverse speed. These various speeds not only give you the flexibility and adaptability you want, but they also enable you to balance the load and the speed for maximum economy. However, if you are handling a light load and want to travel at slow speed, it is far better to put your tractor into the gear which gives you the speed you want than to use a higher gear and throttle down.