

520 Series LP-Gas Tractors (Serial No. 5208100-Up)



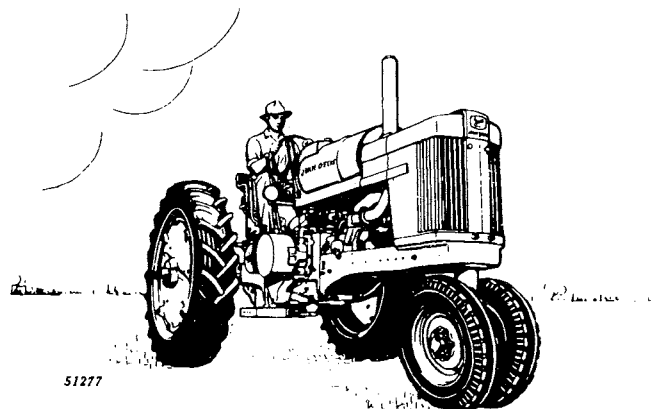
OPERATORS MANUAL 520 Series LP-Gas Tractors (Serial No. 5208100-Up)

OMR2075 E6 English

OMR2075 E6

LITHO IN U.S.A.
ENGLISH





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.

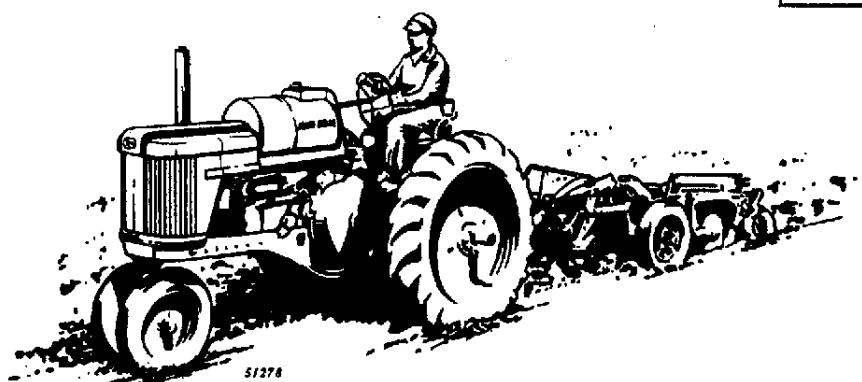
If in the future you need new parts to replace those that may be worn, insist on genuine John Deere parts. They are exact duplicates of the originals, made from the same patterns and of the same high-quality materials.

When in need of parts, give your John Deere dealer the serial number of your tractor or hydraulic system (Powr-Trol), 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.

TRACTOR	HYDRAULIC SYSTEM
Owner	
Date Purchased	

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John Deere Tractor Service Policy

**JOHN DEERE
TRACTOR
SERVICE POLICY**

OWNER'S NAME _____

ADDRESS _____

TOWN _____ STATE _____

TRACTOR SERIES _____

TRACTOR SERIAL No. _____

POWER-TRAIL SERIAL No. _____

ISSUED BY: _____

JOHN DEERE DEALER _____

TOWN _____ STATE _____

DEALER'S SIGNATURE _____

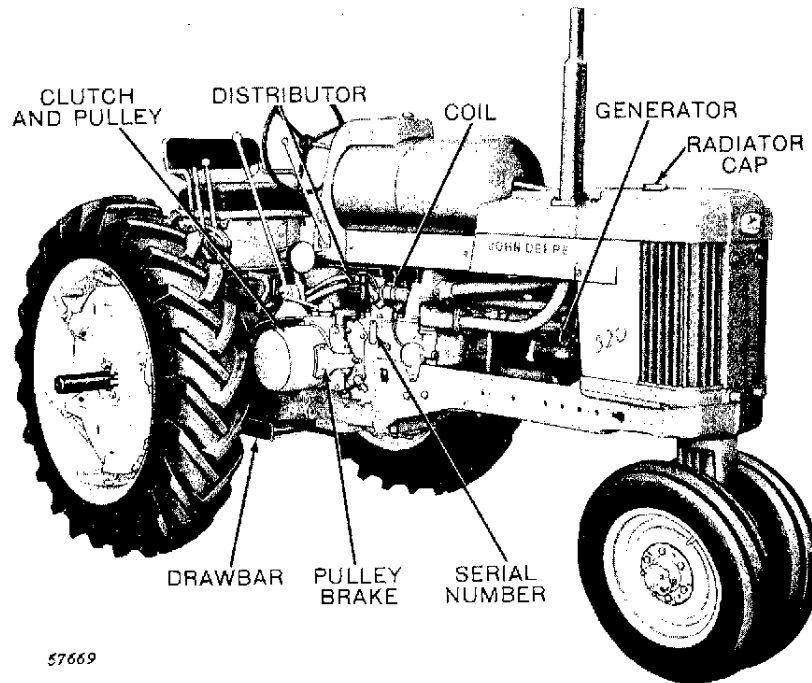


GASOLINE, ALL-FUEL, AND LP-GAS
TRACTORS

When your new tractor was delivered the John Deere dealer presented to you a copy of the Tractor Service Policy illustrated above. This policy certifies that your new John Deere Tractor was properly inspected and prepared for delivery by the dealer before he released it to you.

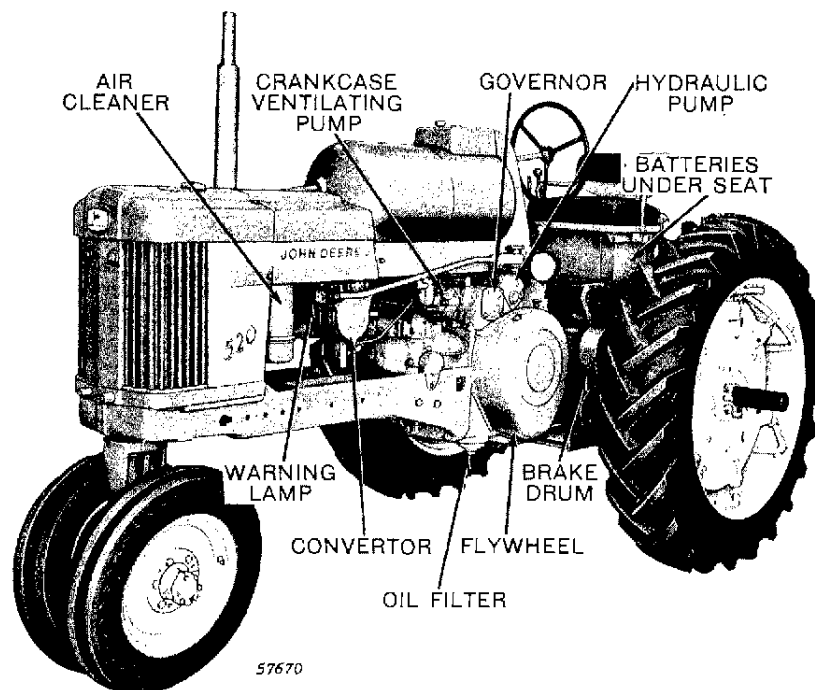
Present the policy to the dealer whenever any services which it authorizes are required. Keep the policy in a safe place for ready reference at all times.

This is Your New John Deere Tractor ³



57669

John Deere "520" Series, LP-Gas Tractor—Pulley Side
(Serial No. 5208100-)



57670

John Deere "520" Series, LP-Gas Tractor—Flywheel Side
(Serial No. 5208100-)

SPECIFICATIONS

PERFORMANCE:

Capacity for Work:

Three 14-inch plow bottoms or the equivalent under most conditions.

Horsepower:

*Maximum Belt Horsepower... 38.09

*Maximum Drawbar Horsepower... 34.17

CAPACITIES (U. S. MEASUREMENTS):

Fuel Tank (85% Full)....	24 Gals.
Crankcase.....	7 Qts.
Transmission.....	4 Gals.
Powr-Trol System.....	10 Qts.
Remote Cylinder.....	1 Qt.
Power Shaft Clutch.....	1 Gal.
Cooling System.....	4-1/2 Gals.
First Reduction Gear Cover	1 Qt.
Power Steering.....	5 Qts.

SPEEDS:

Gear	With 12.4-36 Tires
1.....	1-1/2 mph
2.....	2-1/2 mph
3.....	3-1/2 mph
4.....	4-1/2 mph
5.....	5-3/4 mph
6.....	10 mph
Reverse.....	2-1/2 mph

ENGINE:

Type..... Two-cylinder, cast-in-block, valves-in-head.

Engine Speeds:

Load..... 1325 rpm

Fast Idle..... 1460 rpm

Slow Idle..... 600 rpm

Bore and Stroke.... 4-11/16" x 5-1/2"

Displacement..... 189.8 cubic inches

Compression Ratio..... 8.75 to 1

LUBRICATION SYSTEM:

Type..... Full force-feed pressure system with full flow oil filter.

FUEL SYSTEM:

Type..... Pressure regulated.

Carburetor..... 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 (Delco-Remy)..... .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 7-inch dry disks.

BELT PULLEY:

Diameter..... 9-11/16"

Width..... 7-1/4"

Rpm (Load)..... 1325

Belt Speed..... 3360 fpm

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.

(Continued on next page)

*Maximum h.p. corrected to 60°F. and 29.92 in. hg. (Nebraska Test No. 590).

Types Available Regular and long.
Diameter Regular 2-7/8"
Long 3-1/8"
Bearings Four tapered roller
bearings.

Regular Rear Axle	12.4-36, 4-ply tires
and	on cast disk wheels.
Long Rear Axle.	13.9-36, 4-ply and
	11-38, 6-ply Cane
	and Rice tires also
	available.

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

Double and Adjustable Type:
 Reversible for added clearance.
 Bearings Four tapered roller bearings.
 Tires 5.50 x 16", 4-ply.

Bearings.....	Two tapered roller bearings.
Tires.....	6.50 x 16", 6- or 8-ply. 9.00 x 10", 8-ply.

	Double Front Wheel	Single Front Wheel	Adjustable-Tread Front Axle
POWER TAKE-OFF:			
Shaft Diameter.....	1-3/8"	1-3/8"	1-3/8"
Shaft rpm.....	529	529	529
Splined End Ahead of Hitch.....	14"	14"	14"
Splined Shaft Above Ground.....	23.5"	23.5"	23.5"
DIMENSIONS:			
Wheel-Base.....	90"	90-1/4"	92-1/2"
Over-All Width.....	86-5/8"	86-5/8"	86-5/8"
Over-All Height.....	83-3/8"	83-1/8"	83-3/4"
Height to Top of Steering Wheel.....	75-11/16"	75-11/16"	75-11/16"
Width Over Axles.....	86-5/8"	95-15/16"	95-15/16"
Tread Adjustments			
Regular Rear Wheels.....	56-88"*	56-88"*	56-88"*
Power-Adjusted Rear Wheels...	56-94"***	56-94"***	56-94"***
Clearance.....	24-3/4"	24-3/4"	Front—22-9/16" Rear—24-3/4"
Turning Radius.....	8' 7-1/2"	8' 7-1/2"	14'
SHIPPING WEIGHT.....	5250 lbs.	5160 lbs.	5520 lbs.

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

**Available with long axles providing tread of 62-1/2" to 97-3/4" and with offset wheels a tread of 56" to 104".*

****Power-Adjusted Wheels on long axles provide tread of 59" to 104".**

(Specifications and design subject to change without notice.)

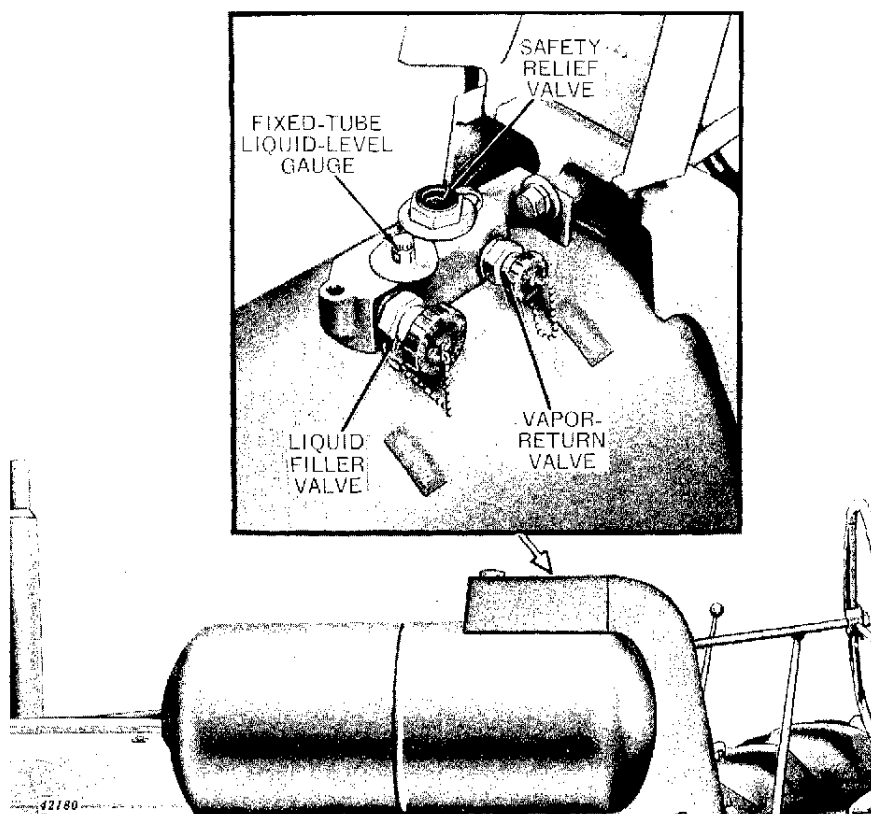
CONTROLS

Your new John Deere LP-Gas Tractor is factory-engineered to run efficiently and economically on liquefied petroleum fuels. The advantages of LP-Gas fuel are fully utilized without sacrificing the established features of John Deere Tractors. Approval of the LP-Gas equipment built into your tractor has been

granted by the Underwriters' Laboratories, Inc.

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

● LP-GAS TANK AND FILLING DEVICES ●



Fuel Tank and Filling Devices

FUEL TANK.



The fuel tank is of heavy welded steel construction with a fuel capacity of 24 gallons. *NOTE: The tank has a total volume of 28 gallons but it must never be filled with more than 24 gallons, which is 85% of its total volume, because LP-Gas expands as the temperature rises.*

Complete instructions for filling the fuel tank are given on page 17.

FILLER VALVE.

The FILLER valve, located on top of the fuel tank, is used for filling the tank. A double check valve, built into the filler valve, automatically prevents any fuel withdrawal or escape.

VAPOR-RETURN VALVE.

The VAPOR-RETURN valve, located behind the filler valve, is also used when filling the tank. This valve permits vapor to return to the storage tank, as the tractor fuel tank is being filled with liquid, thus equalizing the pressures between the two tanks and permitting easier filling. A built-in excess-flow valve automatically closes if flow through the vapor-return valve becomes excessive. This is a safety device designed to stop flow of vapor if the vapor-return line is broken or disconnected.

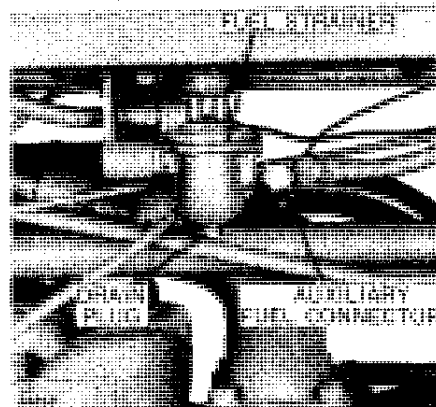
FIXED-TUBE LIQUID-LEVEL GAUGE.

This gauge, located above the filler valve, is used when the tank is being filled. By opening the gauge when the tank is partially full, a fog or mist of fuel can be seen coming from the outlet. When the tank is

85% full, the fog or mist will change to a spray of liquid fuel. During the filling process the gauge should be opened only momentarily at frequent intervals. It should never be left open to let vapor escape while liquid is being pumped into the tank. To do so is extremely hazardous and violates all fire and safety codes. Use the vapor-return valve to reduce the pressure in the tractor fuel tank.

AUXILIARY FUEL CONNECTOR.

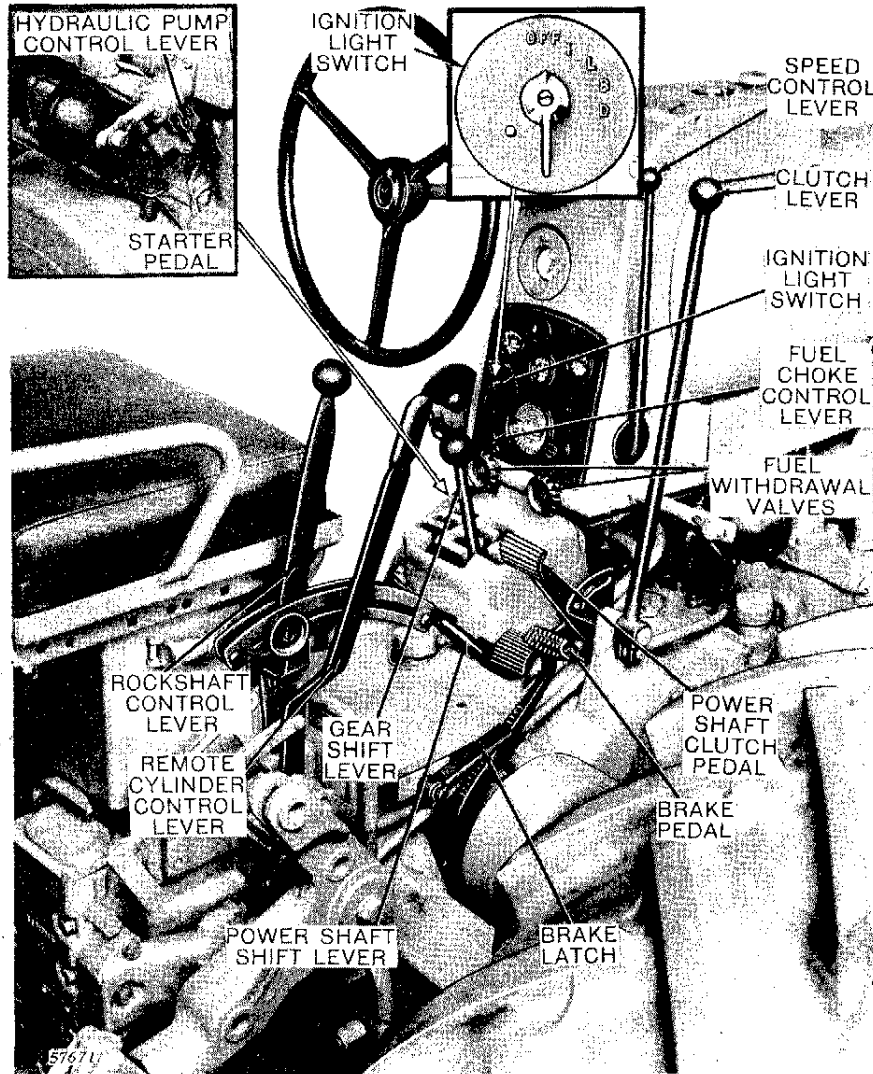
The connector at the rear of the fuel strainer provides a handy means of attaching a portable pressure tank of LP-Gas fuel if the tractor tank is empty and it is necessary to run the tractor to the fuel storage tank.



Auxiliary Fuel Connector

SAFETY RELIEF VALVE.

The safety relief valve, as its name implies, will open and permit vapor to escape if the pressure in the tank becomes too great. The valve is set to open at 312 pounds per square inch pressure. If the safety relief valve continually opens in hot weather consult your fuel dealer. He may be able to supply a different blend of fuel, especially prepared for use in hot weather.

● **STARTING AND OPERATING CONTROLS** ●*Starting and Operating Controls*

● STARTING CONTROLS ●

IGNITION-LIGHT SWITCH.

A combination ignition-light switch is located in the center of the instrument panel. Turning the switch to any position except "OFF" turns on the ignition.

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. The combination rear lamp has a bright white light for illuminating drawn implements and a red light for highway travel.

All lights are controlled by the combination ignition-light switch. The switch has five positions as follows:

- "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.

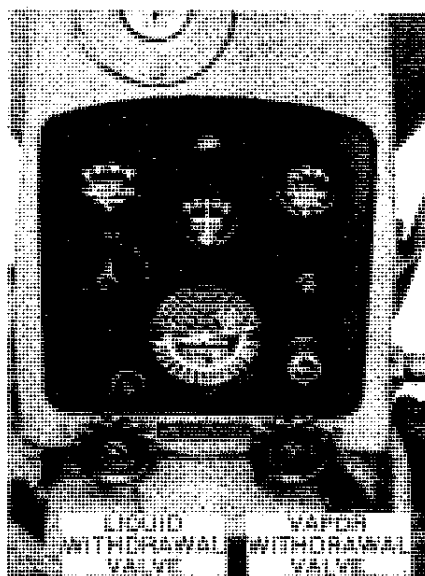
LIQUID AND VAPOR WITHDRAWAL VALVES.

These valves control the flow of fuel to the engine. The **VAPOR** valve is located on the steering shaft support, below and to the right of the instrument panel. When opened, this valve supplies vapor from the top of the fuel tank for starting the engine.

The **LIQUID** valve permits withdrawal of liquid fuel from the tank for normal operation.

Both valves are equipped with excess-flow valves which automatically close whenever the flow exceeds the normal amount used to operate the tractor. These valves must be opened slowly to prevent closing the excess flow valves. If a fuel line is acci-

dentally broken, the excess-flow valve instantly trips and permits only a small amount of gas to flow; the excess-flow valves do not shut off the flow completely. If one of the excess-flow valves closes it can be reset by closing the withdrawal valve manually.



Liquid and Vapor Withdrawal Valves

FUEL CHOKE CONTROL LEVER.

The fuel choke control lever is used as an aid in starting the engine during extremely cold weather. Pulling out on the choke lever reduces fuel flow and provides a proper starting mixture.

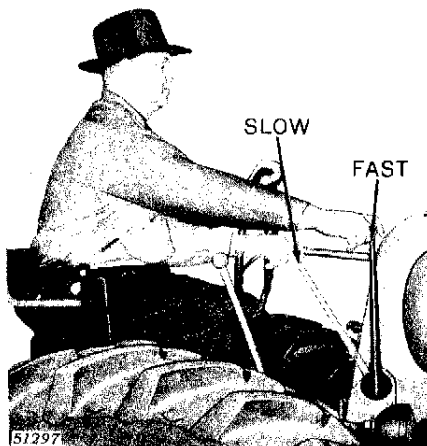
STARTER PEDAL.

The engine is started by the pedal located in convenient reach of the operator's left foot. The pedal engages the cranking motor pinion with the flywheel and also completes the electrical circuit to the cranking motor. (For starting instructions see page 19).

● OPERATING CONTROLS ●

SPEED CONTROL LEVER.

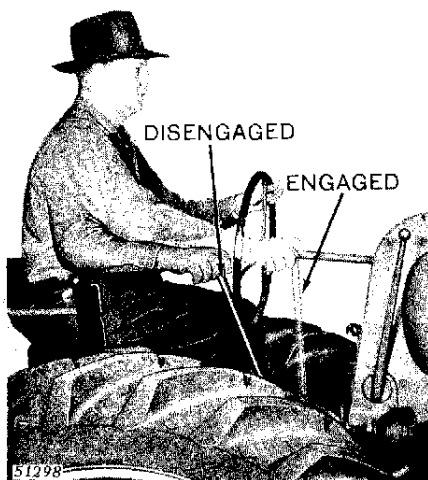
The lever mounted on the right-hand side of the hood support regulates the speed of the tractor engine. Pushing it forward opens the throttle and pulling it back closes the throttle. *NOTE: It is good practice to operate the engine whenever possible with speed control lever in the fully forward position.*



Speed Control Lever

CLUTCH LEVER AND PULLEY BRAKE.

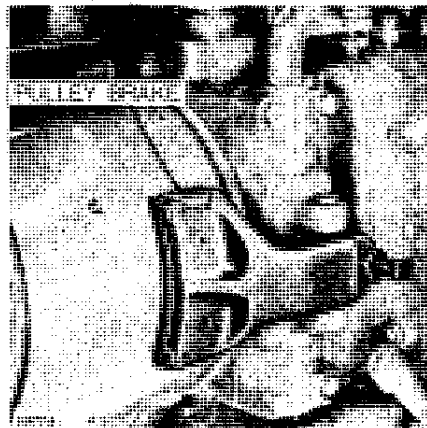
Power is applied gradually and



Clutch Lever

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 back on lever to disengage the clutch.

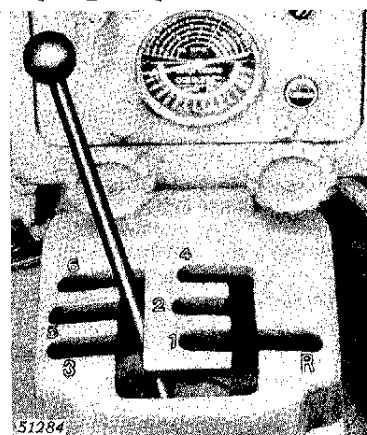
A pulley brake, which is applied when the clutch lever is pulled back, stops the pulley from rotating, permitting easy shifting of the transmission gears. *NOTE: Do not use pulley brake to stop the tractor.*



Pulley Brake

GEAR SHIFT LEVER.

The gear shift 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.



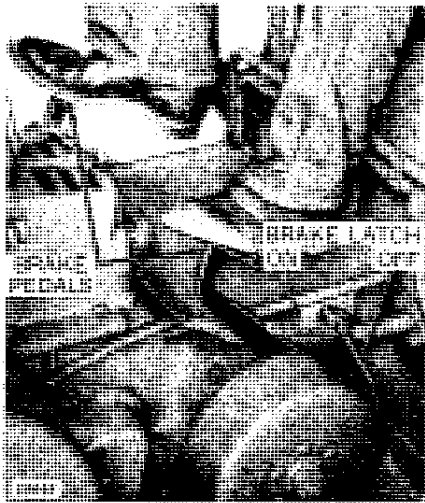
Gear Shift Lever

BRAKES.

Individual, foot-operated brakes make possible short turns.

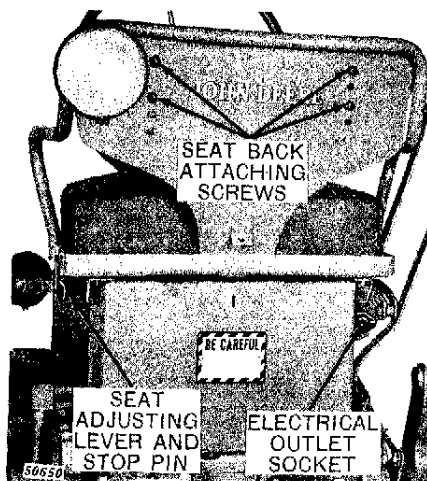
For safe stopping at high transport speeds, apply the brakes **evenly** to avoid drawing the tractor to one side.

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

SEAT, BATTERY COMPARTMENT AND ELECTRICAL OUTLET SOCKET.



Standard Seat

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 down by means of the attaching screws.

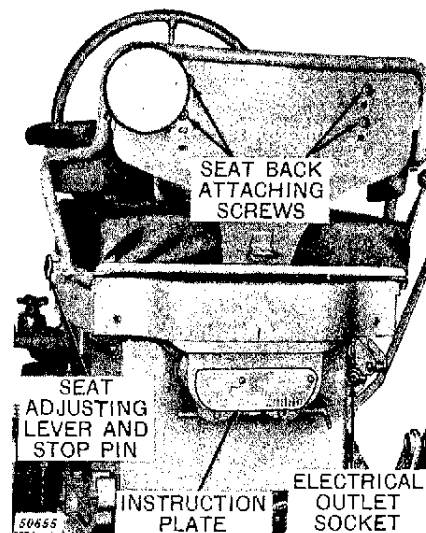
The batteries are located in a compartment under the seat where they are readily accessible for periodic checking and service.

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



Float Ride Seat

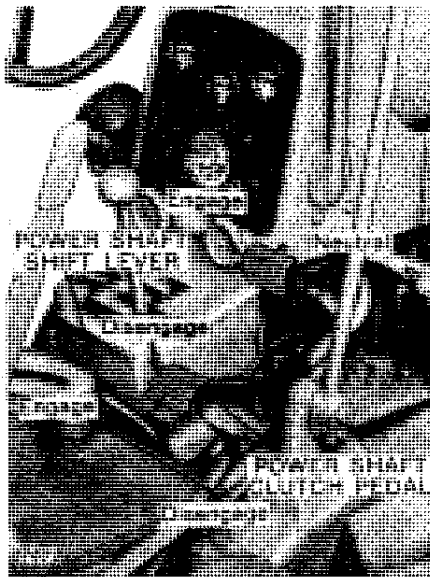
regular seat but, in addition, the tension on the rubber springs can be adjusted to suit each rider. Adjustment is made by turning the handle located at the back of the seat. An instruction plate above the handle tells how to make the adjustment.



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

POWER SHAFT SHIFT LEVER.

The power shaft is engaged by the power shaft shift lever located to the right of the gear shift lever. Move the lever to the left to engage the power shaft and to the right to disengage the shaft. **CAUTION:** Do not engage the power shaft shift lever while the engine is running. Before engaging the lever, read the operating instructions on page 32.



Power Shaft Shift Lever and Clutch Pedal

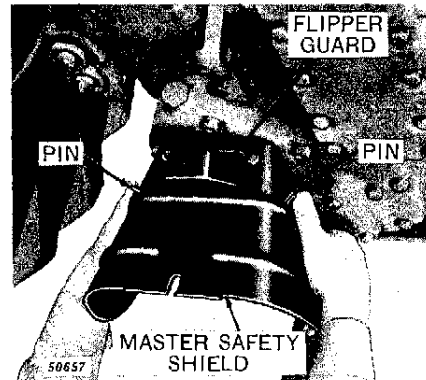
POWER SHAFT CLUTCH PEDAL.

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

The clutch is operated by a double pedal located to the right of the gear shift 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 32.

POWER SHAFT MASTER SAFETY SHIELD.

A master safety shield is mounted over the power shaft 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 power shaft is used.



Power Shaft Master Safety Shield and Flipper Guard

POWER SHAFT FLIPPER GUARD.

Never remove the power shaft flipper guard from the tractor. Do not operate the tractor with the end of the power shaft 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 power shaft.

POWR-TROL PUMP CONTROL LEVER.

The 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.

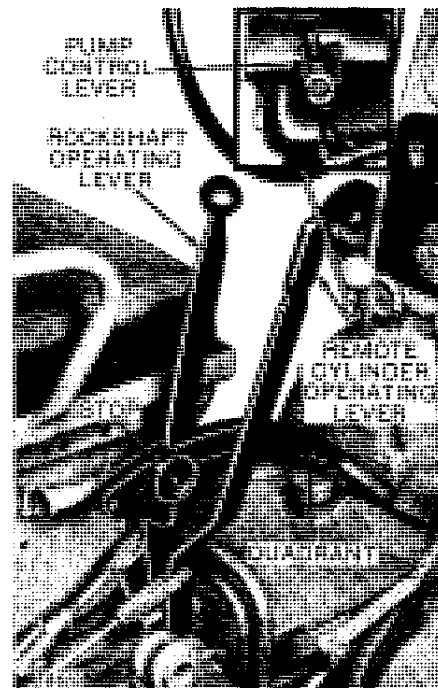
POWR-TROL OPERATING LEVERS.

Rockshaft Operating Lever.

The rockshaft is operated by a lever located to the right of the seat. 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 34.

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 to the right of the seat. Implements are lowered by moving the proper lever forward and raised by moving the lever to the rear. For further information see page 46.



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



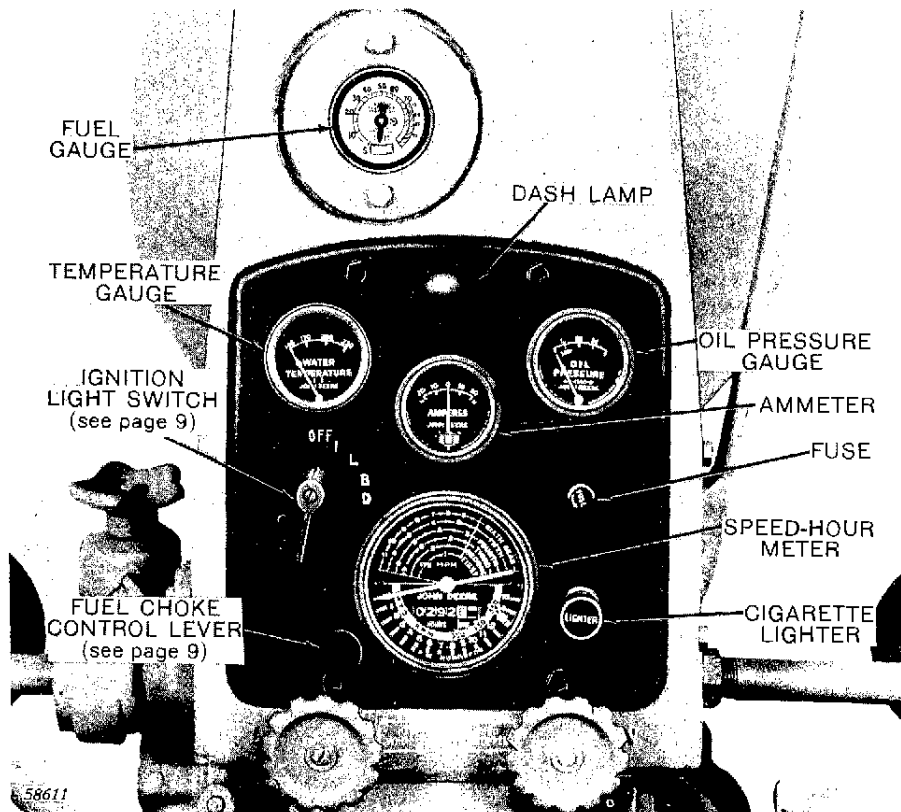
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● INSTRUMENT PANEL ●



Instrument Panel

FUEL GAUGE.

The fuel gauge, located above the instrument panel, indicates the liquid level in the fuel tank. It is calibrated to show the **percentage** of liquid fuel in the tank.

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.**

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