# 720 Diesel Tractors (Serial No. 7200000 to 7214899)

JOHN DEERE

## OPERATORS MANUAL

720 Diesel Tractors (Serial No. 7200000 to 7214899)

OMR2057 Issue G5 English

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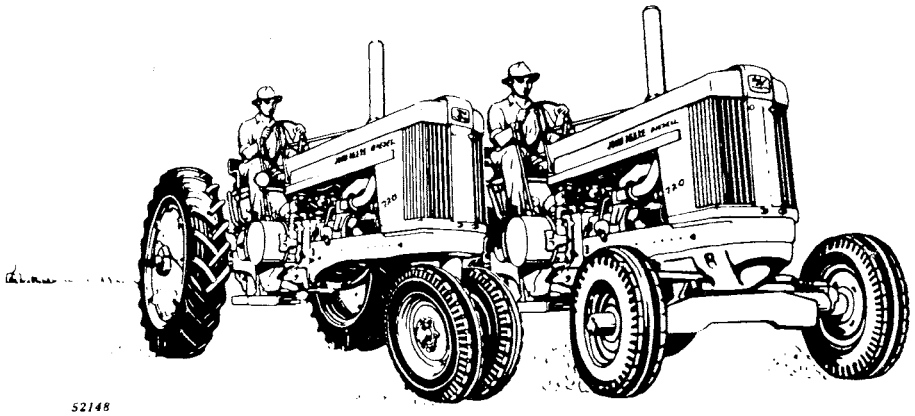

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# *To the Purchaser*

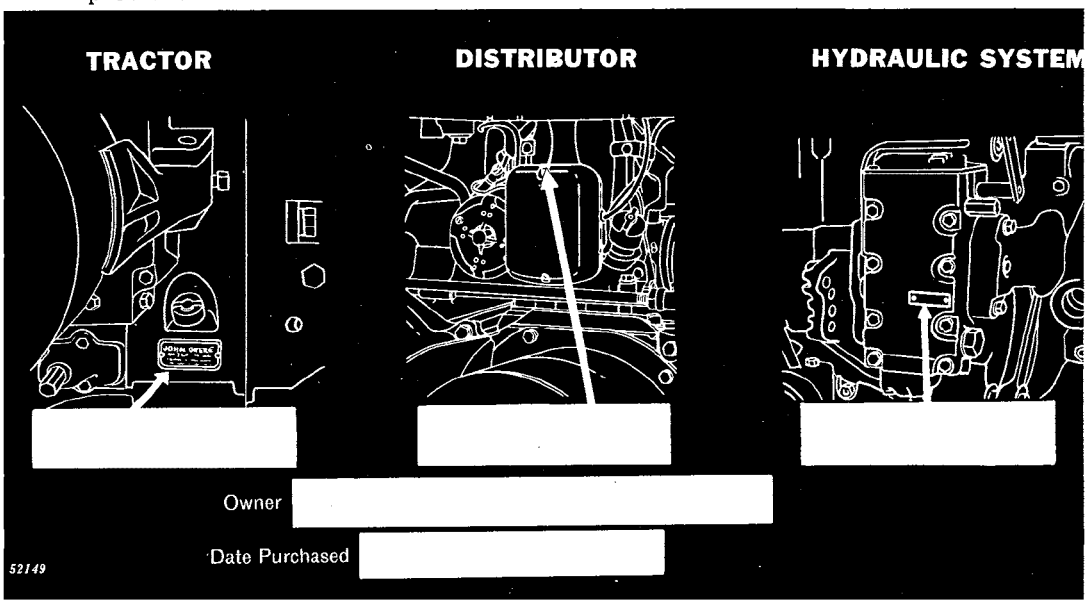
We welcome you to our ever-growing family of John Deere Tractor owners. We are confident that the dependable and economical performance of your John Deere Tractor will prove that you made a wise choice.

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, distributor, or hydraulic 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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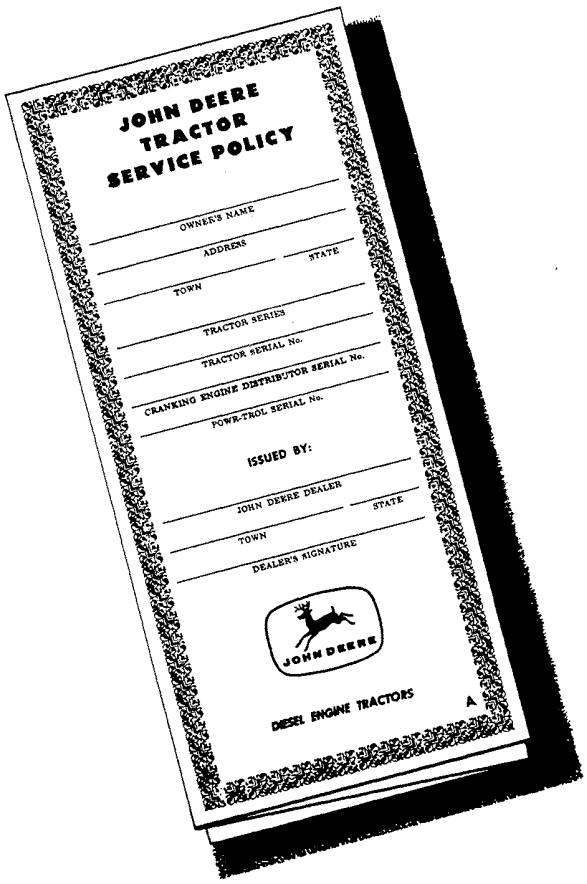
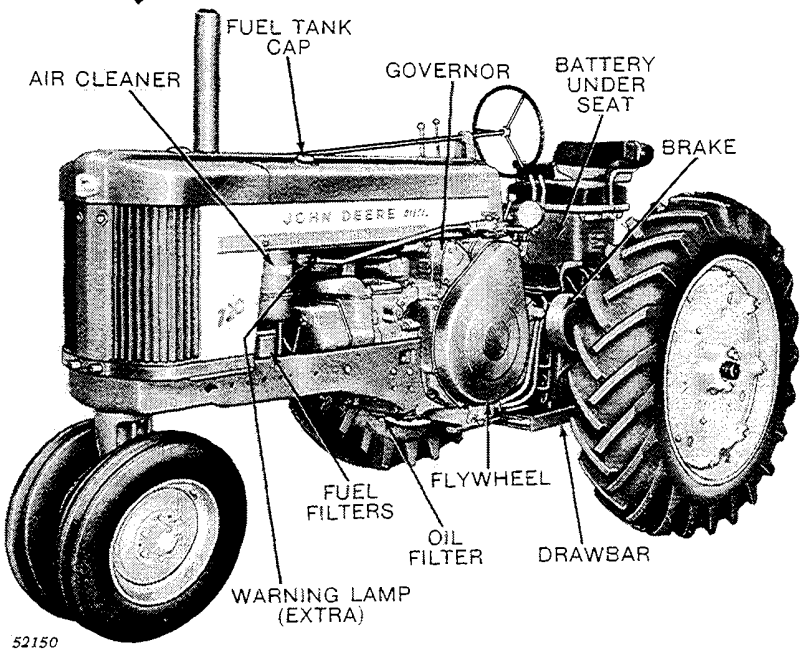
# John Deere Tractor Service Policy



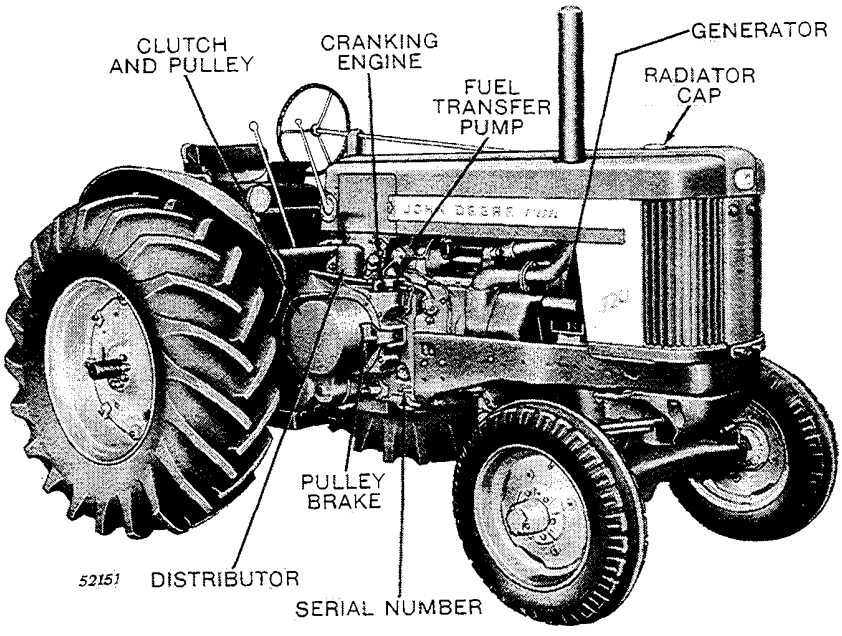

When your new tractor was delivered the John Deere dealer presented to you a copy of the Tractor Service Policy illustrated above. This policy certifies that your new John Deere Tractor was properly inspected and prepared for delivery by the dealer before he released it to you.

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




*John Deere "720" Series General-Purpose Diesel Tractor—Flywheel Side*
*(Serial No. 7200000 to 7214899)*




*John Deere "720" Series Standard Diesel Tractor—Pulley Side*
*(Serial No. 7200000 to 7214899)*

# SPECIFICATIONS

## PERFORMANCE:

**Capacity for Work:**

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

***Maximum Horsepower:**

| | |
|---|---|
| Belt | 58.84 |
| Drawbar | 53.66 |

## CAPACITIES (U. S. MEASUREMENTS):

| | |
|---|---|
| Fuel Tank | 20 Gals |
| Gasoline Tank | 1 Qt. |
| Crankcase (Diesel) | 11 Qts. |
| Transmission (Diesel) | 8 Gals. |
| Crankcase (Cranking Engine) | 1 Qt. |
| Transmission (Cranking Engine) | 1/2 Pt. |
| Hydraulic System | 13 Qts. |
| Remote Cylinder | 1 Qt. |
| Power Shaft Clutch | 4-1/2 Qts. |
| Cooling System | 7 Gals. |
| First Reduction Gear Cover | 1-1/2 Qts. |
| Power Steering Reservoir | 5 Qts. |

## SPEEDS:

| Gear | 13.6-38 Tires | 15-30 Tires |
|---|---|---|
| 1 | 1-1/3 mph | 1-1/3 mph |
| 2 | 2-1/4 mph | 2-1/4 mph |
| 3 | 3-1/2 mph | 3-1/2 mph |
| 4 | 4-1/3 mph | 4-1/3 mph |
| 5 | 5-3/4 mph | 5-1/2 mph |
| 6 | 11-1/4 mph | 11 mph |
| Reverse | 3-1/3 mph | 3-1/4 mph |

## DIESEL ENGINE:

| | |
|---|---|
| Type | Two-cylinder, cast-in-block, valves-in-head. |
| Engine Speeds: | |
| Load | 1125 rpm |
| Fast Idle | 1250 rpm |
| Slow Idle | 700 rpm |
| Bore and Stroke | 6-1/8″ x 6-3/8″ |
| Displacemnet | 376 cubic inches |
| Compression Ratio | 16 to 1 |

## CRANKING ENGINE:

| | |
|---|---|
| Type | Four-cylinder V-type valves-in-head |
| Engine Speeds: | |
| Load | 5500 rpm |
| Slow Idle | 4000 rpm |
| Fast Idle | 6000 rpm |
| Bore and Stroke | 2″ x 1-1/2″ |
| Displacement | 18.85 cu. in. |

## LUBRICATION SYSTEM:

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

## FUEL SYSTEM:

Type..... Gravity to sediment bowl. Transfer pump to filters.

Air Cleaners... Oil-wash type.

## COOLING SYSTEM:

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

## IGNITION SYSTEM (CRANKING ENGINE):

| | |
|---|---|
| Type | Battery-Distributor |
| Distributor Point Gap | .020″ |
| Spark Plugs: | |
| Size | 14 mm |
| Spark Plug Gap | .025″ |

## ELECTRICAL SYSTEM:

| | |
|---|---|
| Battery Voltage | 6 Volts |
| Generator Regulation | Voltage Regulator |
| Battery | Group I |

## CLUTCH:

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

## BELT PULLEY:

| | |
|---|---|
| Diameter | 12-7/8″ |
| Width | 7-3/8″ |
| Rpm (Load) | 1125 |
| Belt Speed (fpm) | 3790 |

## TRANSMISSION:

Type..... Six speeds forward and one in reverse.

Gears..... Selective-type, straight spur-cut gears, forged and heat-treated.

Bearings... Shafts operate on five roller bearings, six tapered roller bearings, and four ball bearings.

## REAR AXLES:

| | |
|---|---|
| Diameter | 3-1/8″ |
| Bearings | Four tapered roller bearings. |
| Types Available | Regular, long, and extra long. |

**Maximum h.p. corrected to 60°F. and 29.92 in. hg. (Nebraska Test No. 594)*

# SPECIFICATIONS

**REAR WHEELS AND TIRES:**

**General-Purpose**. 13.6-38, 6-ply tires on cast disk wheels (recommended for average field conditions). 15.5-38, 6-ply tires also available.

**Standard**..... 15-30, 6-ply tires mounted on cast disk wheels. 14-30, 6-ply and 18-26, 8-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″, 6-ply also available.

Single Type:
Bearings.. Two tapered roller bearings.
Tires..... 7.50 x 16″, 10-ply.

**Standard**

Bearings.. Four tapered roller bearings.
Tires..... 6.50 x 18″, 4-ply;
7.50 x 18″, 4-ply;
7.50 x 18″, 6-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 | 547 | 547 | 547 | 547 |
| Splined End Ahead of Hitch | 14″ | 14″ | 14″ | 14″ |
| Splined Shaft Above Ground | 25″ | 25″ | 25″ | 22-5/8″ |
| **DIMENSIONS:** | | | | |
| Wheel-Base | 91-3/8″ | 90-5/8″ | 93-7/8″ | 82-3/8″ |
| Over-All Length | 135-1/4″ | 135-1/4″ | 135-1/4″ | 130-1/4″ |
| Over-All Height | 88-1/4″ | 88-1/4″ | 88-1/4″ | 87-3/8″ |
| Height to Top of Steering Wheel | 81-1/4″ | 81-1/4″ | 81-1/4″ | 81″ |
| Width Over Axles | 86-5/8″ | 86-5/8″ | 86-5/8″ | 86-5/8″ |
| Tread Adjustments | 60-88″* | 60-88″* | 60-88″* | 62-80″ |
| Clearance | 26″ | 26″ | Front 23″<br>Rear 26″ | Front 13″<br>Rear 25-1/4″ |
| Turning Radius | 9′ 6″ | 9′ 6″ | 14′ 9″ | 14′ |
| **SHIPPING WEIGHT** | 7105 Lbs. | 7095 Lbs. | 7415 Lbs. | 7790 Lbs. |

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

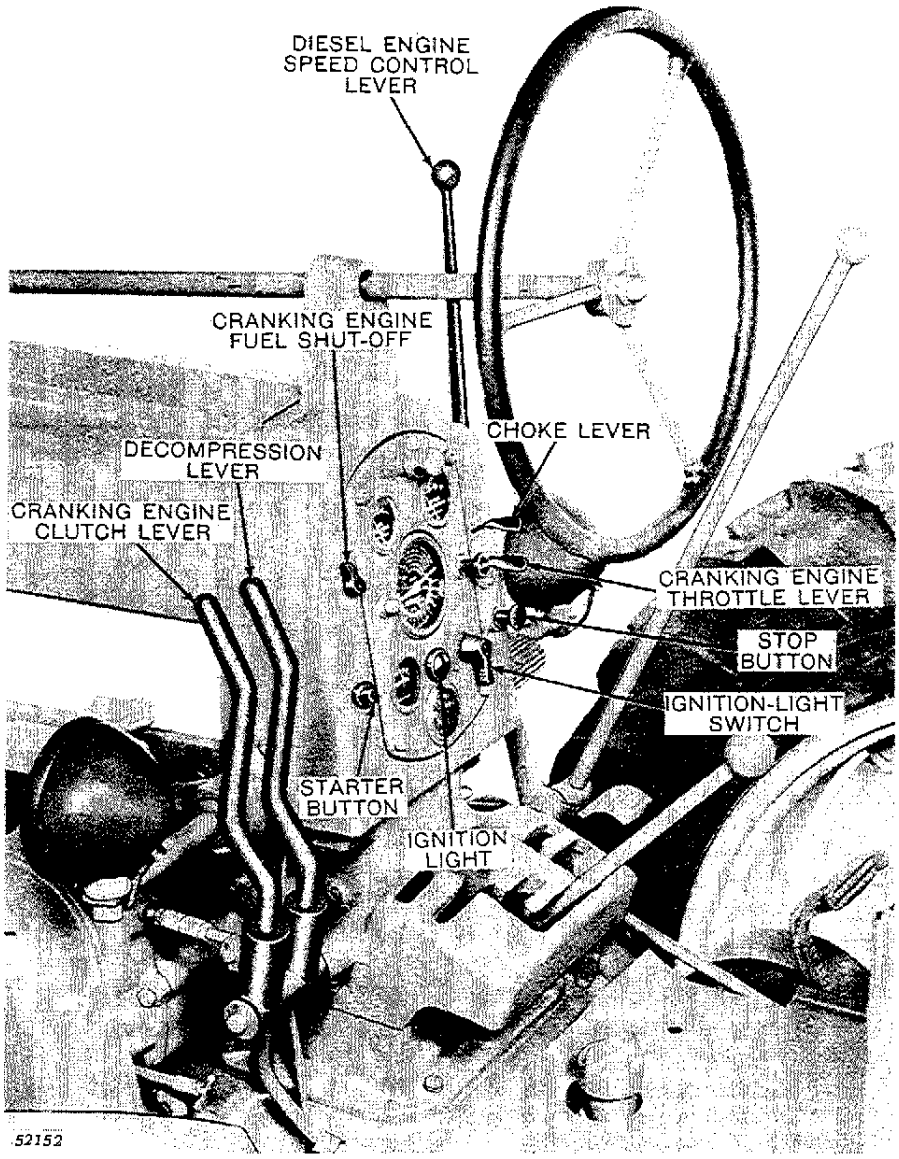
**Available with long axles providing tread of 66-1/2″ to 97-1/4″ and, with offset wheels, a tread of 60″ to 104″ is provided. Extra long axles provide a tread of 66-1/2″ to 105-1/4″ and with offset wheels, a tread of 60″ to 112″.*

*(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 •




*Starting Controls*

## • STARTING CONTROLS •

### IGNITION-LIGHT SWITCH.

A combination ignition-light switch is located on the instrument panel. Turning the switch to the "I" position turns on the ignition. At the same time the red light to the right of the switch comes on. The red light indicates that the ignition is on and reminds the operator to turn the ignition switch off after cranking engine has stopped.

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.

### CRANKING ENGINE FUEL SHUT-OFF VALVE.

The cranking engine fuel system is provided with a fuel shut-off valve to stop the cranking engine and prevent flow of fuel when the engine is not running. The valve is operated by a shut-off lever on the dash. Turning the shut-off lever two or three turns counter-clockwise opens the valve.

### CRANKING ENGINE CHOKE LEVER.

Moving the choke lever to the left provides a rich mixture for starting. When released the lever returns to the "off" position.

### CRANKING ENGINE THROTTLE LEVER.

The cranking engine throttle lever has two positions: "Start," to the right, and "run," to the left.

### STARTER BUTTON.

The starter button is used to actuate the cranking motor for starting the cranking engine.

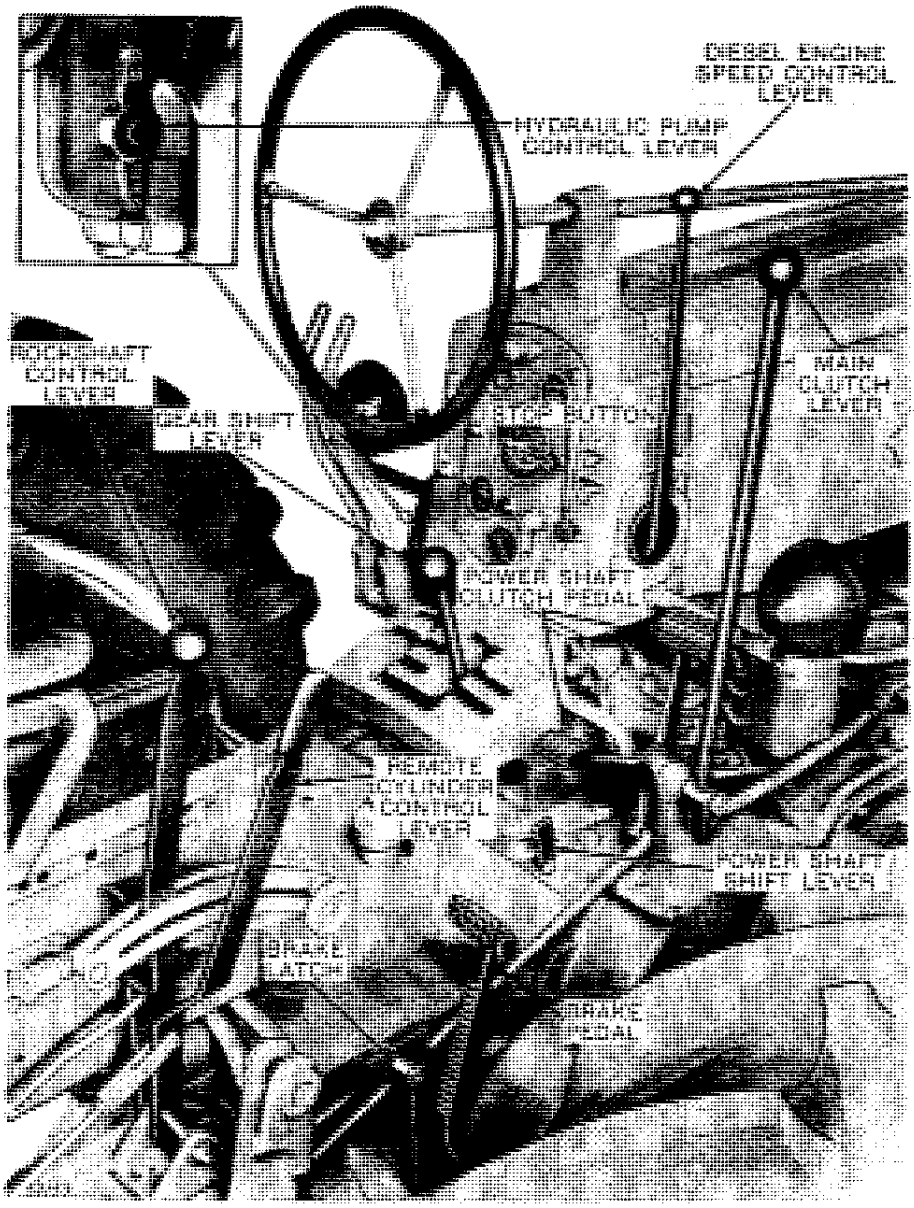
### DECOMPRESSION LEVER.

Pulling the decompression lever to the rear relieves compression in the diesel engine for starting purposes.

### CRANKING ENGINE CLUTCH LEVER.

The cranking engine clutch lever has two functions. During the first half of its travel as it is pulled to the rear it engages the cranking engine transmission pinion with the diesel engine flywheel. During the remainder of the lever travel the cranking engine clutch is engaged.

## • OPERATING CONTROLS •

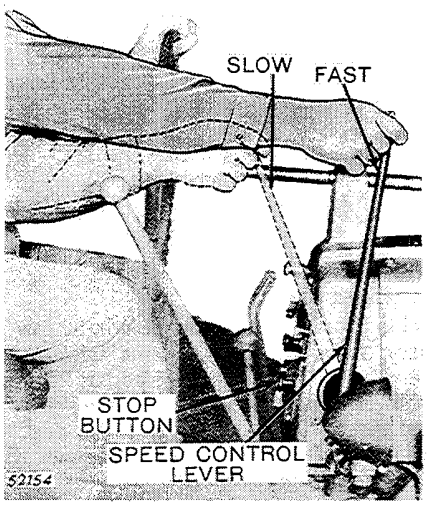



*Operating Controls*

## • OPERATING CONTROLS •

### SPEED CONTROL LEVER.

The lever mounted on the right-hand side of the hood support regulates the speed of the Diesel engine. Pushing it forward increases the speed and pulling it back decreases the speed. *NOTE: It is good practice to operate the engine with speed control lever in full forward position.*



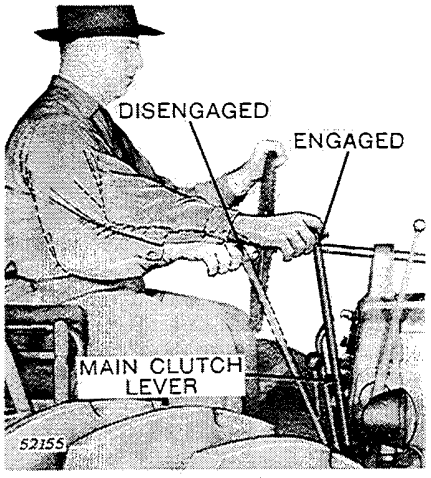

***Speed Control Lever Stop Button***

### SPEED CONTROL LEVER STOP BUTTON.

The diesel engine speed control lever stop button, located on the right-hand side of the dash, enables the operator to slow the diesel engine quickly to idle speed without danger of the engine stopping. When the button is pulled out, it allows the diesel engine speed control lever to be moved to the "stop" position which cuts off delivery of fuel to the engine by the injection pumps causing the engine to stop.

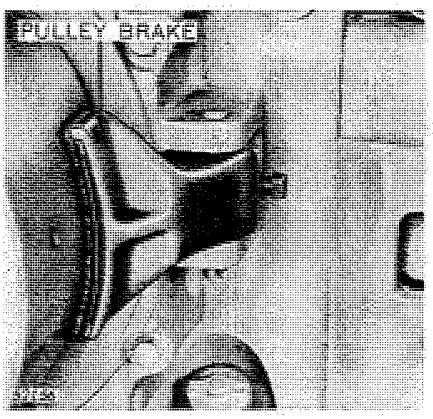
### CLUTCH LEVER AND PULLEY BRAKE.

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 back on lever to disengage the clutch.




***Clutch Lever***

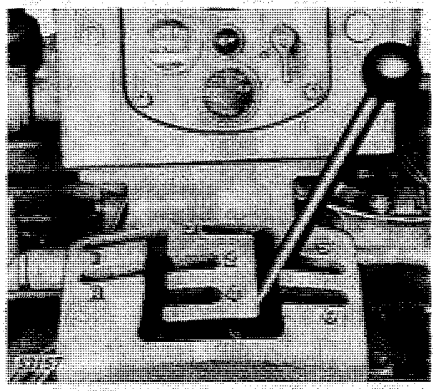
A pulley brake, which is applied when the clutch lever is pulled back, stops the pulley from rotating, permitting easy shifting of the transmission gears. *NOTE: Do not use pulley brake to stop the tractor.*




***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.



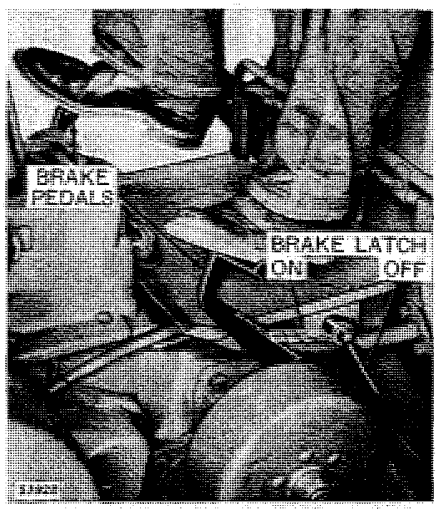
*Gear Shift Lever Positions*

## BRAKES.

Individual, foot-operated brakes make possible short turns.

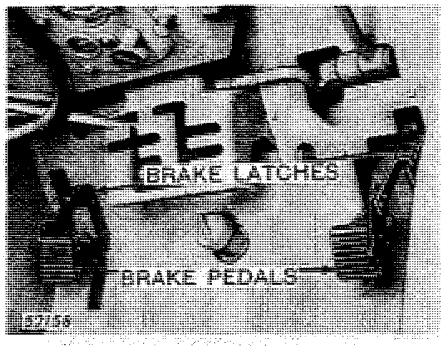
For safe stopping at high transport speeds, apply the brakes **evenly** to avoid drawing the tractor to one side.

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.

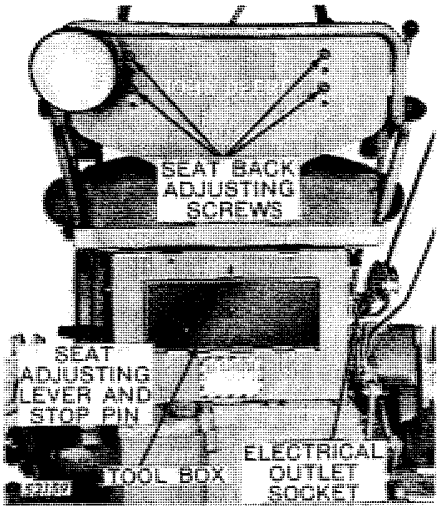



*Brake Pedal and Latch on Standard Tractors*

## SEAT, BATTERY COMPARTMENT, ELECTRICAL OUTLET SOCKET AND TOOL BOX.

### 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, Electrical Outlet Socket, Battery Compartment and Tool Box*

down by means of the attaching screws.

### Battery Compartment.

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

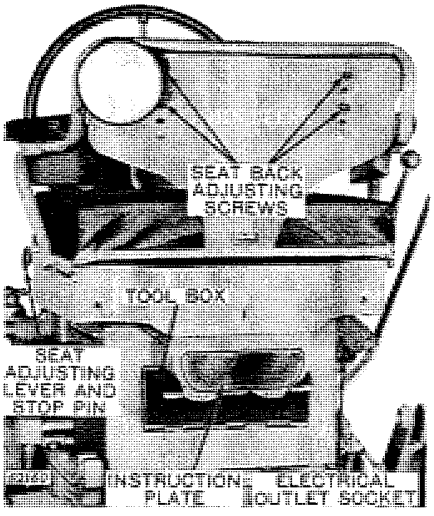
### Electrical Outlet Socket.

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.**



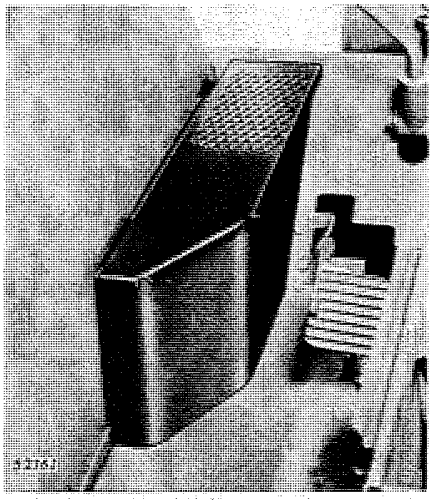

*Float Ride Seat, Electrical Outlet Socket, Battery Compartment and Tool Box*

### Tool Box.

A tool box is conveniently located to provide space for storing tools and other articles.

On General-Purpose Tractors the tool box is located under the seat and is accessible through a door in the back of the seat.

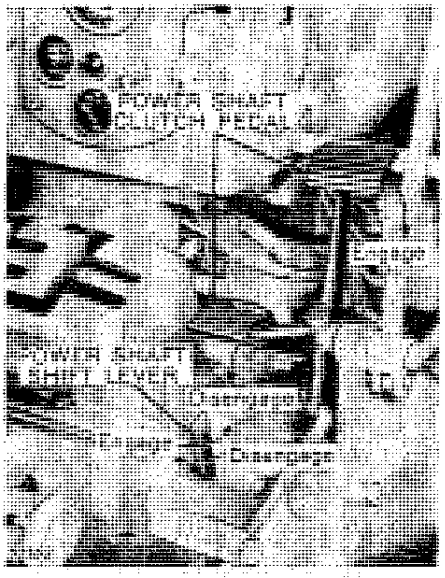
On Standard Tractors the tool box is located on the platform beside the left fender. A lid prevents loss of articles stored in the tool box.



*Tool Box on Standard Tractor*

## POWER SHAFT SHIFT LEVER.

The power shaft is engaged by the power shaft shift lever located to the right of the gear shift lever. Turn the lever counter-clockwise to engage the power shaft and clockwise 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***

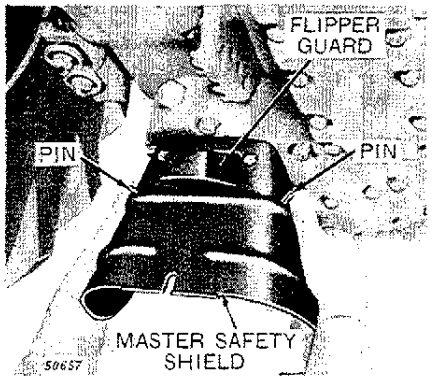
## POWER SHAFT CLUTCH PEDAL.

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

## 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.

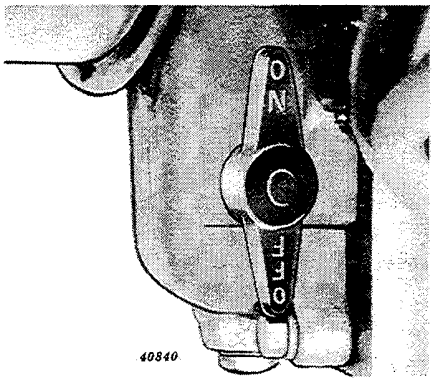
**CAUTION: Make it a rule never to dismount from the tractor without first disengaging the power shaft.**

## HYDRAULIC PUMP CONTROL LEVER.

The hydraulic pump is engaged by a control lever located below the flywheel housing.

**CAUTION: Do not engage the hydraulic pump while the engine is running. Read operating instructions on page 33.**

To engage the pump turn the control lever counter-clockwise until the word "ON" is on top, then start the Diesel engine. The pump can be disengaged while the Diesel engine is running at slow idle.

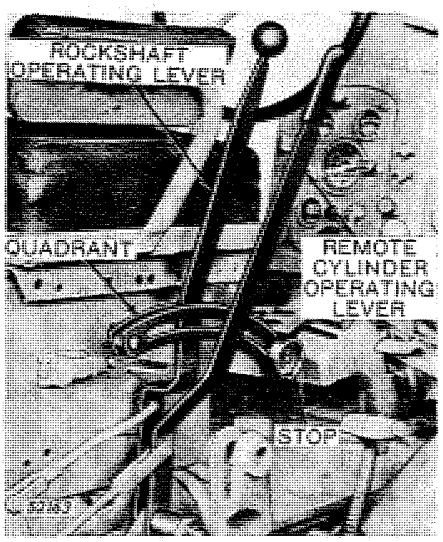



*Hydraulic Pump Control Lever*

## HYDRAULIC SYSTEM OPERATING LEVERS.

### Rockshaft Operating Lever.

The rockshaft is operated by a lever located to the right of the seat. Moving the 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 39.




*Hydraulic System Operating Levers*

### 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 34.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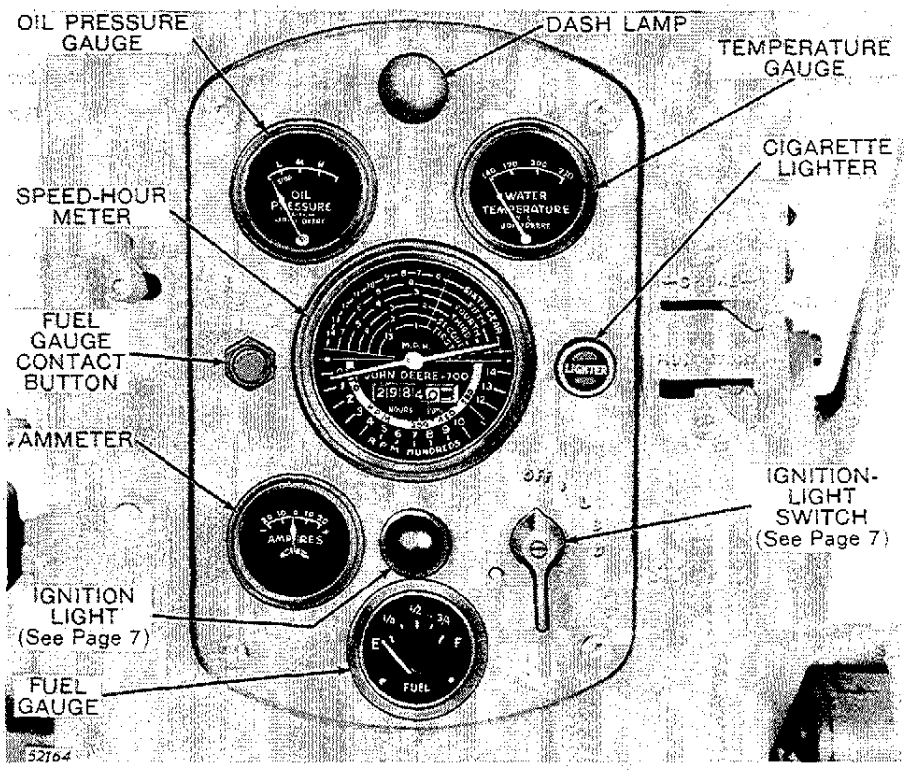
## • INSTRUMENT PANEL •




*Instrument Panel*

### TEMPERATURE GAUGE.

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

### FUEL GAUGE.

The electric fuel gauge indicates the amount of fuel in the main fuel tank. The fuel gauge does not register with the engine stopped until the contact button to the left of the speed-hour meter is pushed.