

John Deere 840 Diesel Wheel Tractor



OPERATORS MANUAL John Deere 840 Diesel Wheel Tractor

OMR21828 F5 English

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ENGLISH



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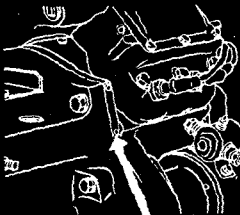
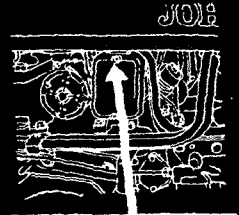
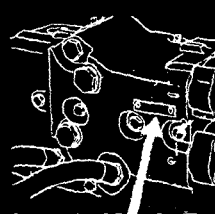
Study it carefully . . . follow the instructions it contains. You have purchased a dependable, efficient industrial tractor. By operating and caring for it according to the instructions in this manual, you will receive the service and long life for which it was designed.

Before using the tractor, thoroughly familiarize yourself with its operation and required care by reading this operator's manual. Then keep this manual in a convenient place for quick and easy reference when operating, lubricating, or servicing the tractor. Instructions are given clearly with the intention of making these operations as easy as possible.

If servicing is required other than covered in this manual, your John Deere dealer's skilled mechanics can handle every need efficiently. These servicemen, trained in the proper servicing methods, have proper tools and equipment.

If you need new parts to replace those that become worn, purchase genuine parts from your authorized John Deere dealer. You will receive exact duplicates of the originals, made from the same patterns and of the same high-quality materials.

To save time and insure efficient parts service, make a record of serial numbers in the spaces below. (*NOTE: Electrically-started tractors do not have cranking engine and distributor serial numbers.*) Then when ordering parts, provide your dealer's parts man with this information. Record the numbers NOW—save time LATER.

GASOLINE ENGINE-STARTED TRACTORS			
TRACTOR	CRANKING ENGINE	DISTRIBUTOR	HYDRAULIC SYSTEM
			
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Owner <input style="width: 80%;" type="text"/>			
Date Purchased <input style="width: 80%;" type="text"/>			

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John Deere Tractor Service Policy

The service policy which you received with your new tractor certifies that the tractor was properly inspected and prepared for delivery by your John Deere dealer. Keep this policy in a safe place and present it to the dealer whenever services which it authorizes are required.

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Hello dear friend!

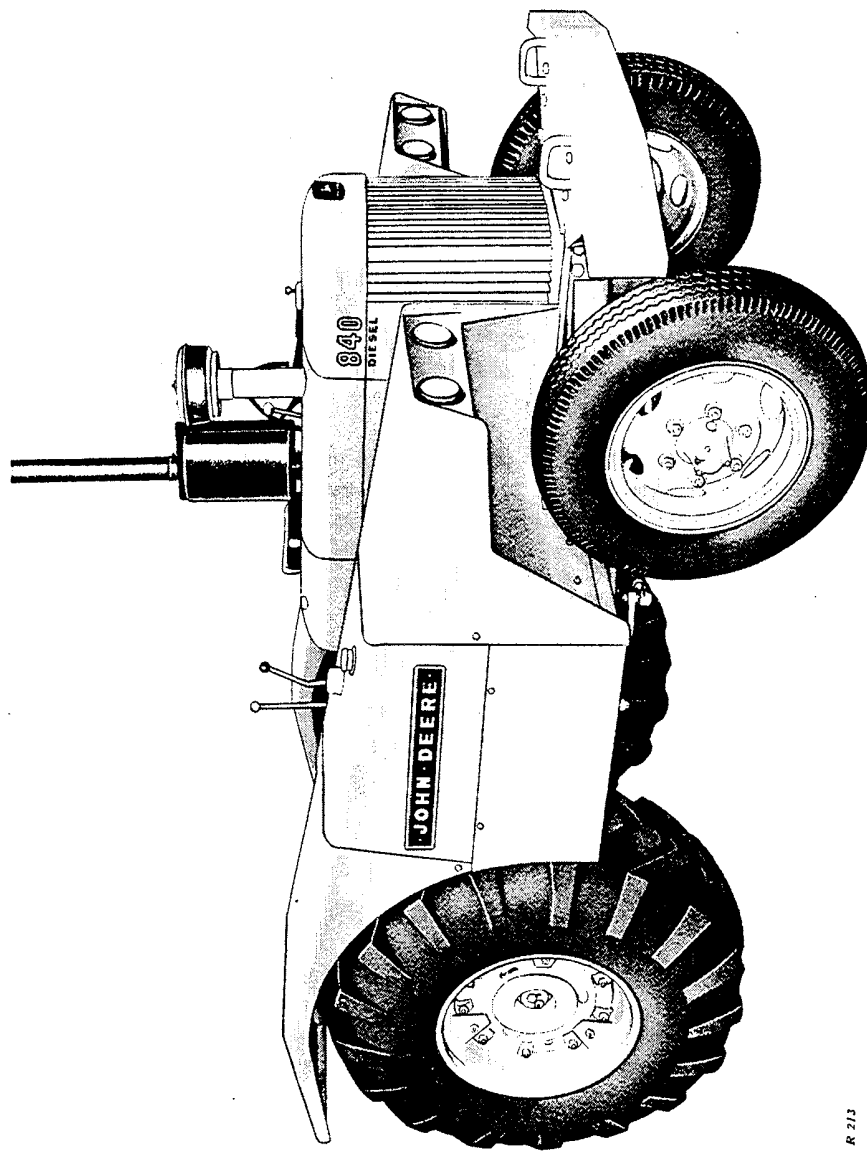
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This is Your New John Deere Tractor



*John Deere "840" Diesel Wheel Tractor—Fuel Tank and Battery
Compartment Side*

The "840" Diesel is a heavy-duty tractor designed to pull and provide power for the John Deere "400" Semi-Integral Elevating Scraper. Together the two units provide a powerful, rugged earth- and material-moving team.

When desired, the tractor can be separated from the scraper and used for pulling other types of heavy equipment, such as pneumatic rollers and sheeps-foot compactors.

The tractor's hydraulic system is utilized to operate the moving parts of the scraper. At the touch of one lever, the scraper is lowered to its work or raised to transport the load. At the touch of another lever, the sliding door retracts and the ram is moved forward to eject the load. When the lever is moved in the opposite direction, the floor is closed and the ram is retracted.

The scraper elevator is operated by the tractor power take-off shaft which delivers the full output of the powerful engine independent of the transmission, clutch, or hydraulic system. Pulling a convenient lever sets the elevator in motion. It will continue to operate at a uniform speed even though the tractor is shifted into another gear.

Power steering permits effortless steering of the heavy unit over any type of ground--mud, clay, deep sand, ruts, or rough spots. One-hand steering is possible at all times which frees the other hand to operate the controls.

The independent, foot-operated tractor brakes are hydraulically actuated. They are used separately to make extra-short turns or together to stop the tractor when it is separated from the scraper.

The scraper is equipped with big-capacity electric brakes, actuated by a lever in front of steering wheel. These brakes are used to stop the tractor and scraper.

The tractor may be purchased with a husky V-4 gasoline cranking engine for starting the Diesel engine, or, if preferred, it may be purchased with a powerful 24-volt electric cranking motor.

SPECIFICATIONS

*MAXIMUM HORSEPOWER:

Belt.....	75.60
Drawbar.....	69.66

CAPACITIES (U. S. MEASUREMENTS):

Fuel Tank.....	30-1/2 Gals.
Gasoline Tank.....	1 Qt.
Crankcase (Diesel).....	3-1/2 Gals.
Transmission (Diesel)...	3-1/4 Gals.
Crankcase (Cranking Engine).....	1-1/2 Qts.
Transmission (Cranking Engine).....	1/2 Pt.
Hydraulic System (Tractor only).....	8-1/4 Gals.
Powershaft Clutch.....	3-3/4 Qts.
Cooling System.....	8 Gals.
Power Steering Reservoir	5 Qts.

SPEEDS:

Gear	18.00-26 Tires
1st.....	1-3/4 mph
2nd.....	3-1/4 mph
3rd.....	4-1/4 mph
4th.....	5 mph
5th.....	6-1/4 mph
6th.....	11-1/4 mph
Reverse.....	2-1/2 mph

DIESEL ENGINE:

Type.....	Two-cylinder, cast-in-block, valves-in-head.
Bore and Stroke.....	6-1/8" x 8"
Compression Ratio.....	16 to 1
Displacement.....	471-1/2 cu. in.

Engine Speeds:

Load.....	1125 rpm
Fast Idle.....	1270 rpm
Slow Idle.....	750 rpm

*Sea level (calculated); maximum h.p. based on 80° F. and 29.92 in. hg. (Nebraska test No. 632).

STARTING MECHANISM:

Gasoline Engine-Started Tractor:

Type.	Four-cylinder V-type valves-in-head Gasoline Engine.
Bore and Stroke.....	2" x 1-1/2"
Displacement.....	18.85 cu. in.
Engine Speeds:	
Load.....	4500 rpm
Slow Idle.....	4000 rpm
Fast Idle.....	5000 rpm

Electrically-Started Tractor:

Type.....	24-Volt Electric Cranking Motor.
-----------	----------------------------------

LUBRICATION SYSTEM:

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

FUEL SYSTEM:

Type....	Gravity to sediment bowl. Transfer pump through filters.
Air Cleaners.....	Oil-wash type.

COOLING SYSTEM:

Type....	Pressure system. Centrifugal pump with temperature controlled by heavy-duty thermostat.
----------	---

IGNITION SYSTEM (GASOLINE ENGINE-STARTED TRACTOR):

Type....	6-Volt battery-distributor.
Distributor Point Gap.....	.020"

Spark Plugs:

Size.....	14 mm
Spark Plug Gap.....	.025"

SPECIFICATIONS

ELECTRICAL SYSTEM:

Gasoline Engine-Started Tractor:

Battery Voltage.....	6 Volts
Generator Regulation.....	Voltage Regulator
Battery.....	Group 1
Scraper Brake Controller..	6 Volts

Electrically-Started Tractor:

Battery Voltage.....	24 Volts
Generator Regulation.....	Current-Voltage Regulator
Batteries.....	Four 6-Volt, Group I-H, in Series
Lights and Accessories.....	12 Volts
Electric Cranking Motor....	24 Volts
Generator.....	24 Volts
Scraper Brake Controller...	12 Volts

CLUTCH:

Type.....	Hand-operated, eight 9-1/4" dry disks.
-----------	--

TRANSMISSION:

Type.....	Six forward speeds and one in reverse.
Gears.....	Selective type, straight spur cut gears, forged and heat-treated.
Bearings.....	Shafts operated on six tapered roller bearings.

TRACTOR BRAKES:

Type.....	Automotive-type, internal expanding. Hydraulically actuated.
-----------	--

SCRAPER BRAKES:

Type.....	Electric
-----------	----------

POWER TAKE-OFF SHAFT:

Shaft Diameter.....	1-3/8"
Shaft rpm.....	1000

HYDRAULIC SYSTEM:

Type.....	Direct engine-driven pump.
-----------	----------------------------

REAR AXLES:

Diameter.....	3-1/4"
Bearings.....	Four tapered roller bearings.

FRONT WHEELS AND TIRES:

Bearings.....	Four tapered roller bearings.
Tires.....	8.25 x 20, 10-ply

REAR WHEELS AND TIRES:

18.00-26, 10-ply on 20" rims.

TREAD WIDTHS:

Front.....	62-1/4"
Rear.....	67-1/4"

DIMENSIONS:

Wheel Base.....	85-1/4"
Over-All Height.....	103' 2"
Over-All Height Without Muffler Extension.....	81"
Height to Top of Steering Wheel.....	72"
Over-All Length (Tractor)...	12' 1"
Turning Radius (Tractor)...	15' 6"

*SHIPPING WEIGHT:

(Approx.).....	11,000 Lbs.
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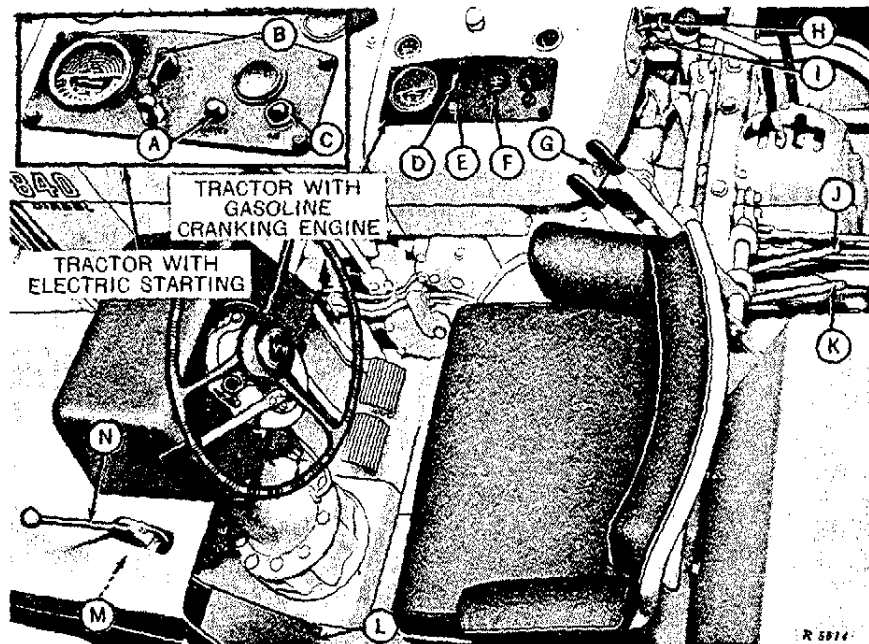
(Specifications and design subject to change without notice.)

*Weight is for tractor dry and with wheel equipment as shown under "Front Wheels" and "Rear Wheels."

CONTROLS

For safe and easy operation of your tractor and scraper, become familiar with all the controls. Regardless of your previous tractor experience, study the next few pages carefully. The location of each control is pointed out and its purpose explained. Complete information concerning proper use of the controls is given in "Operating Instructions," beginning on page 23.

• STARTING CONTROLS •



- | | |
|--|--|
| A—Starter Button | F—Starter Button |
| B—Starting and Light Switch | G—Key Switch |
| C—**Generator Red Indicator Light | H—*Cranking Engine Choke Button |
| D—Starting and Light Switch | I—*Cranking Engine Speed Control Lever |
| E—*Ignition and Cranking Engine Oil Pressure Red Indicator Light | J—Decompression Lever |
| | K—*Cranking Engine Clutch Lever |
| | L—Diesel Engine Accelerator |
| | M—Diesel Engine Stop Button |
| | N—Diesel Engine Speed Control Lever |

Starting Controls

*Tractors with Gasoline Cranking Engine only

**Tractors with Electric Cranking Motor only

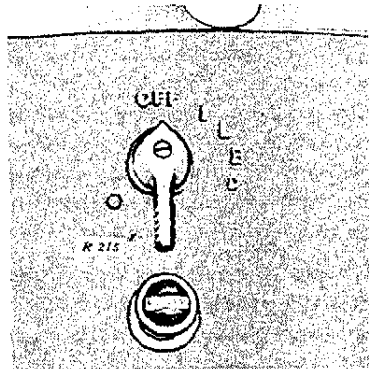
STARTING CONTROLS ON ELECTRICALLY-STARTED TRACTORS.

NOTE: For Starting Instructions see page 23.

Key Switch.

This switch is used to activate the electrical system.

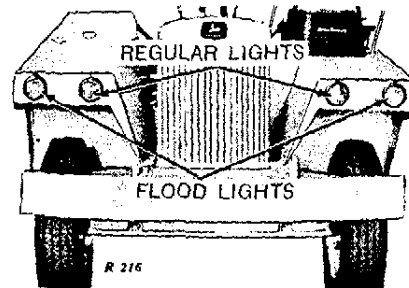
Combination Starting and Light Switch and Lights.



Combination Starting and Light Switch

Switch. A combination starting and light switch is located on the instrument panel. The switch controls the electrical circuit to the starter button as well as to the lights.

Lights. The lights on the tractor provide effective illumination for night work or travel. The dual headlights, mounted in the front of each fender, are sealed-beam units. The two inner lamps throw a strong beam far ahead of the tractor. The two outer lamps are flood lights which brilliantly illuminate the working area on both sides as well as ahead of the tractor. They also serve as the "dims" when you are traveling at night.



Dual Headlights

The rear lamp on the tractor has two elements—one is white to illuminate the area in back of the tractor for night work, the other is red for night travel.

The scraper is equipped with a red taillight which is on whenever the tractor lights are on.

Switch Positions for Electrically-Started Tractors. The five positions of the combination starting and light switch on these tractors are:

- "OFF"—Starter button inactive and lights off.
- "I" —Starter button activated. Generator red indicator light on.
- "L" —All front lights, tractor white rear light, and scraper red taillight on.
- "B" —All front lights, tractor red rear light, and scraper red taillight on.
- "D" —Front flood lights only (dims), tractor red rear light, and scraper red taillight on.

Generator Red Indicator Light.

When starting and light switch on a tractor with electric starting is turned on, the red light on the instrument panel glows. As soon as the engine starts and the generator begins to charge the batteries, the red light goes out and will stay out as long as the batteries are being charged. If the generator fails to operate properly, the red light will come on as a warning to stop the engine.

When the engine is stopped, the red light will glow as a reminder to turn off the switch.

Once the engine is started, it will continue to operate even though the starting and light switch is turned off. *However, during tractor operation the switch should be left on; otherwise neither the red light nor the fuel gauge will function.*

Starter Button.

Pushing the starter button activates the cranking motor. The starter button will not operate until the starting and light switch is turned on.

Decompression Lever.

Pushing the decompression lever down relieves compression in the engine for starting purposes.

STARTING CONTROLS ON GASOLINE ENGINE-STARTED TRACTORS.

NOTE: For Starting Instructions see page 25.

Key Switch.

This switch is used to activate the electrical system.

Combination Starting and Light Switch and Lights.

The starting and light switch and lights on these tractors are identical to those on electrically-started tractors (see preceding page). However, the switch controls the cranking engine ignition circuit as well as the electrical circuits to the starter button and lights.

Switch Positions for Gasoline Engine-Started Tractors. The five positions of the combination starting and light switch on these tractors are:

- "OFF"—Both ignition and lights off. Starter button inactive.
- "I" —Ignition only. Ignition and cranking engine oil pressure indicator red light on.
- "L" —All front lights, tractor white rear light, and scraper red taillight on.
- "B" —All front lights, tractor red rear light, and scraper red taillight on.
- "D" —Front flood lights only (dims), tractor red rear light, and scraper red taillight on.

Ignition and Cranking Engine Oil Pressure Red Indicator Light.

When the starting and light switch on a tractor with gasoline cranking engine is turned on, the red light on the instrument panel glows. The red light indicates that the switch is on and that the cranking engine oil pressure is at zero. As the cranking engine is started and oil pressure develops, the red light goes out. If the light reappears while the cranking engine is running, stop the engine immediately and determine the cause of low oil pressure.

If you do not turn off the ignition switch after the Diesel engine has started, the cranking engine will continue to run until the entire gasoline supply is consumed. The engine will then stop, the oil pressure will drop to zero, and the red light will glow as a reminder to turn the ignition switch off.

Starter Button.

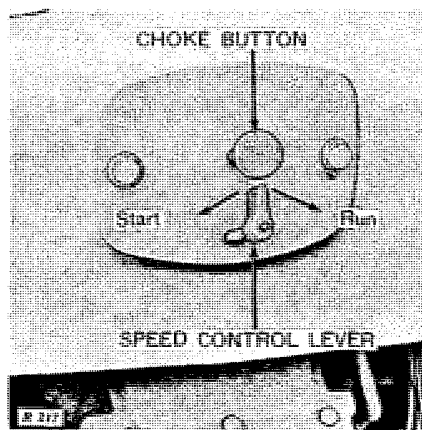
Pushing the starter button activates the electric cranking motor which engages and starts the gasoline cranking engine. The starter button will not operate until the starting and light switch is turned on.

Cranking Engine Choke Button.

Pulling the choke control button out provides a rich mixture for starting. Push choke button in for normal operation.

Cranking Engine Speed Control Lever.

This lever has two positions: "Start," when turned counter-clock-



Cranking Engine Choke Button and Speed Control Lever

wise; and "Run," when turned clockwise.

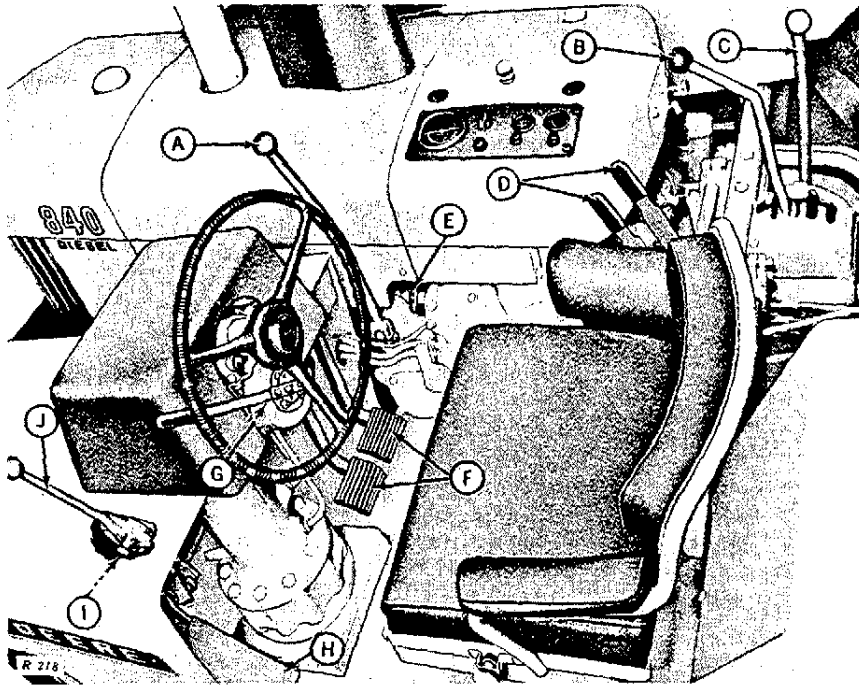
Cranking Engine Clutch Lever.

The cranking engine clutch lever has two functions. During the first half of its travel as it is pushed downward it engages the cranking engine transmission pinion with the Diesel engine flywheel. During the remainder of the lever's travel it engages the cranking engine clutch.

Decompression Lever.

This lever is pushed down to relieve compression in the Diesel engine during the starting process. After the gasoline cranking engine has been engaged with the Diesel engine and has taken up its load, the lever is released to place the Diesel engine on full compression.

OPERATING CONTROLS



- | | |
|---------------------------------|---------------------------------------|
| A — Main Clutch Lever | F — Tractor Brake Pedals |
| B — Gearshift Lever | G — Scraper Brake Lever |
| C — Powershaft Clutch Lever | H — Diesel Engine Accelerator Pedal |
| D — Scraper Operating Levers | I — Diesel Engine Stop Button |
| E — Hydraulic System Pump Lever | J — Diesel Engine Speed Control Lever |

Operating Controls

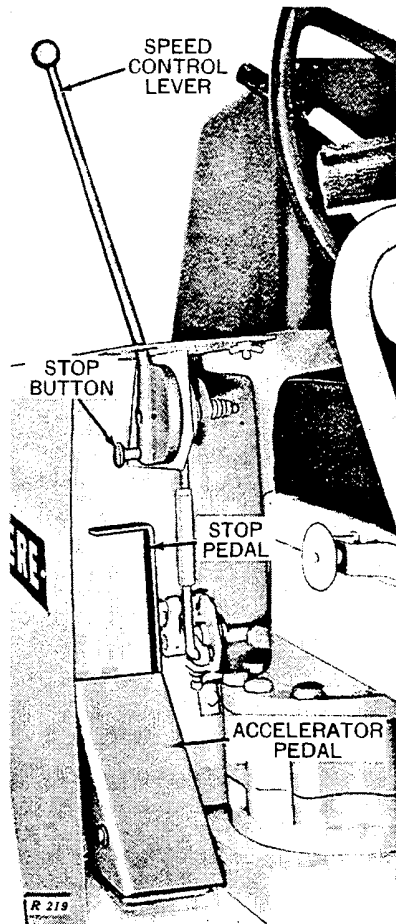
A Good Operator Is a Safe Operator

1. Reduce speed when turning or applying individual brakes.
2. Watch for obstructions. Be cautious near ditches or on steep hillsides.
3. Allow no riders unless seat is provided.
4. Never operate tractor unless powershaft is shielded.
5. Read and observe safety rules on pages 34 and 35.



SPEED CONTROL LEVER.

Engine speed is regulated by the lever within easy reach of the operator's left hand. When the lever is in the rear position against the stop button (see next column), the engine runs at slow idle speed. When the lever is completely forward, the engine runs at fast idle or normal operating speed.



Speed Control Lever, Accelerator Pedal, Stop Button, and Stop Pedal

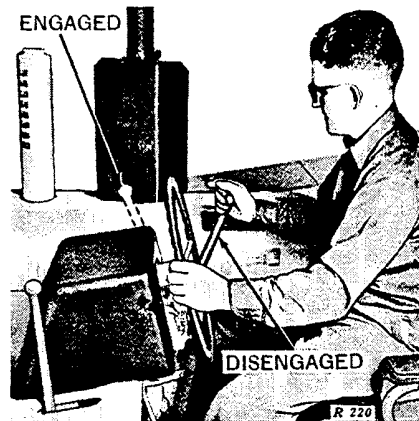
ACCELERATOR PEDAL.

If desired, speed can be increased by pressing this pedal with the left foot. When foot pressure is released, speed is reduced to that established by the position of the speed control lever.

DIESEL ENGINE STOP BUTTON AND STOP PEDAL.

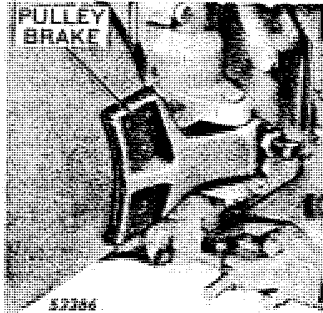
The Diesel engine is stopped by cutting off the supply of fuel to the injection pumps. This is done by pulling out on the stop button, moving the speed control lever all the way to the rear, and pressing the stop pedal, located above the accelerator, with the left foot.

When the stop button and stop pedal are in operating position, the speed control lever can be pulled quickly to the slow idle position without stopping the engine.

CLUTCH LEVER.

Clutch Lever

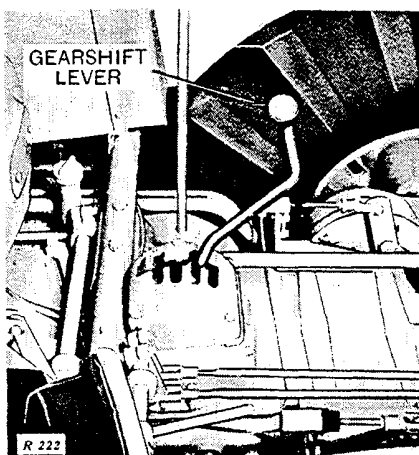
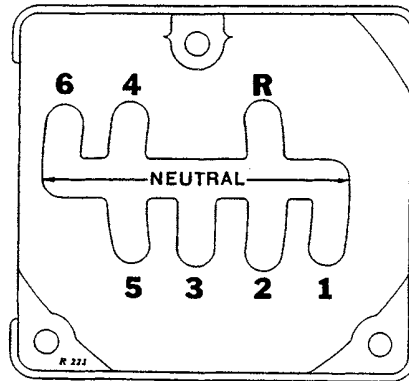
Power is applied gradually and smoothly by slowly pushing the clutch lever forward. When the tractor picks up speed, a quick forward thrust on the lever locks the clutch into engagement. Pulling back on the lever disengages the clutch.

PULLEY BRAKE.**Pulley Brake**

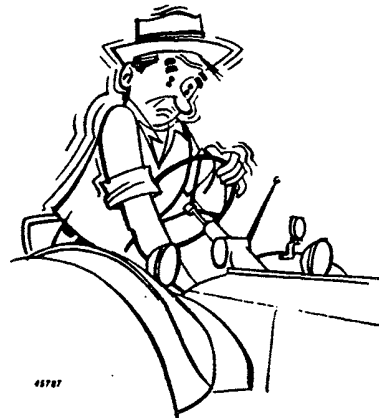
The pulley brake, which is applied when the clutch lever is pulled back, stops the pulley from rotating, permitting easy shifting of the transmission gears. *NOTE: Do not use the pulley brake to stop the tractor. To do so causes unnecessary wear on the brake lining and other parts.*

GEARSHIFT LEVER.

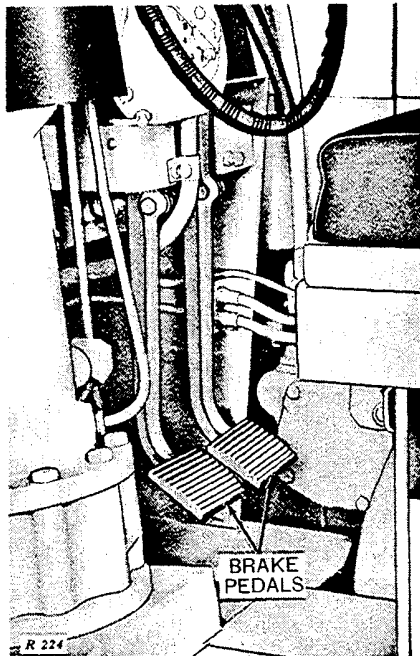
The gearshift lever is used to select the proper gear, depending on the difficulty of the work and the desired speed. Before operating the tractor, familiarize yourself with the gearshift lever positions for the six

**Gearshift Lever****Gearshift Quadrant**

forward speeds and reverse. For further information, see page 29.

**Clashing Gears Causes Unnecessary Wear****TRACTOR BRAKE PEDALS.**

Individual, foot-operated, hydraulic tractor brakes assist in making short turns to the right or left. They also stop the tractor when it is separated from the scraper. *NOTE: These brakes are not intended to slow or stop a loaded tractor-scraper unit. There is an electric brake on the scraper for this purpose.*



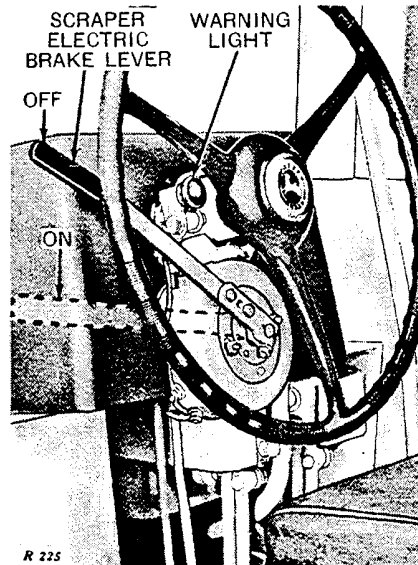
Tractor Brake Pedals

SCRAPER ELECTRIC BRAKE CONTROL LEVER.

Electric brakes on the rear wheels of the scraper are used to slow or stop the tractor-scraper unit. The brakes are applied by pushing the brake lever downward. At the same time, the red warning light glows. When hand pressure is removed, the lever returns automatically to the released position, and the red warning light goes out.

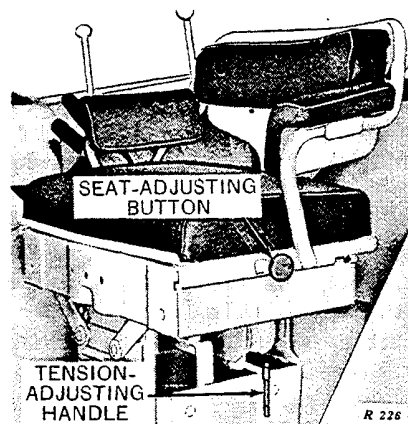
The electric brakes are not connected to, and are completely independent of, the combination starting and light switch. The brakes will operate any time the control lever is pressed as long as the batteries are connected.

For additional information, see scraper operator's manual.



Scraper Electric Brake Control Lever SEAT.

The roomy, "float ride" seat with foam rubber cushions, rubber torsion springs, and shock absorber adds much to operator comfort and lessens fatigue. The seat can be moved forward or back by pulling out on the button located on the left-hand side of the frame.



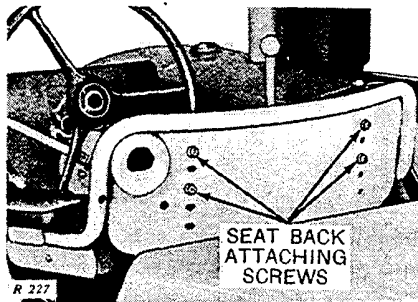
"Float-Ride" Seat

The tension on the rubber torsion springs can be adjusted to suit the weight of each operator. Adjustment is made by turning the handle on the left-hand side of the seat support—clockwise for heavy operators, counterclockwise for light operators.



CAUTION: Do not adjust the rubber torsion springs while an operator is on the seat.

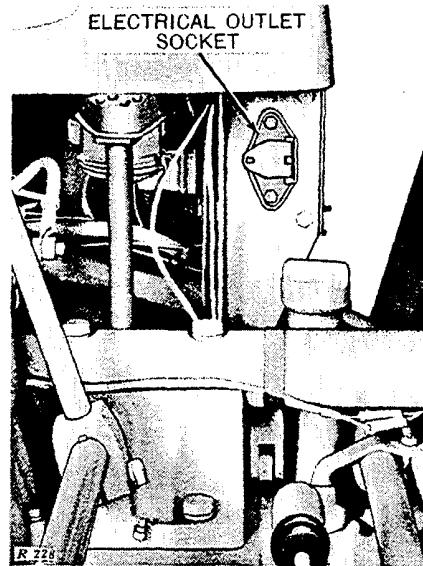
The back cushion of the seat can be shifted up or down by locating the attaching screws in one of five sets of holes in the frame.



Seat Back Attaching Screws

ELECTRICAL OUTLET SOCKET.

Electricity for operating the scraper brakes and rear warning light is supplied through the 4-hole socket located on the rear right-hand hood support. A matching plug is provided with the scraper. On gasoline engine-started tractors, the socket furnishes 6 volts; on electrically-started tractors, 12 volts. When the scraper is disconnected from the tractor, the socket can be used as a source of electricity for operating auxiliary lights or electrical equipment. A special 4-prong plug which matches the socket is available for this purpose.

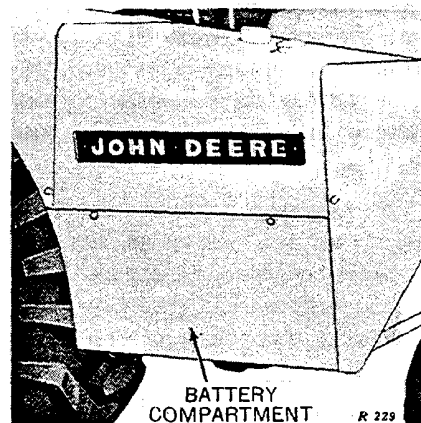


Electrical Outlet Socket

BATTERY COMPARTMENT.

Gasoline engine-started tractors have one heavy-duty, 6-volt battery located in a compartment on the right-hand side of the tractor under the Diesel fuel tank.

Electrically-started tractors have four heavy-duty, 6-volt batteries lo-



Battery Compartment



Suggest:

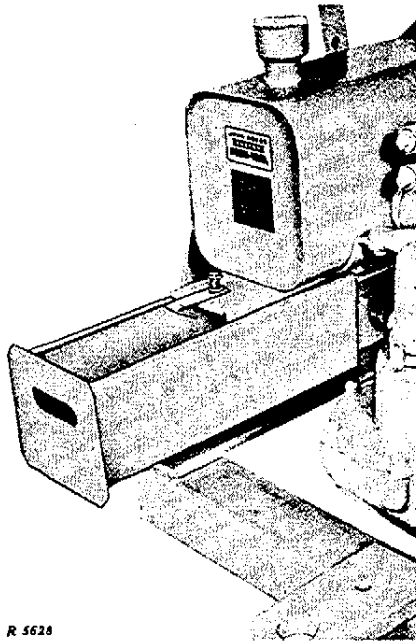
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cated in the same compartment, mounted on a sliding frame which can be pulled out onto the compartment door for easy battery service or removal. The batteries provide 24 volts for starting and 12 volts for operating the lights, accessories, and scraper brakes.

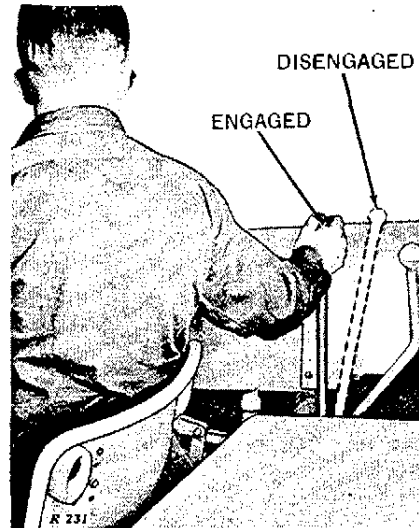
TOOL BOX.



Tool Box

A convenient tool box, under the auxiliary reservoir for the hydraulic Powr-Trol system, is large enough to store all tools normally needed for everyday maintenance.

POWERSHAFT CLUTCH LEVER.



Powershaft Clutch Lever

The scraper elevator is driven by the tractor powershaft. A special clutch in the powershaft mechanism makes it easy to set the elevator in motion without shifting gears.

Pulling the powershaft clutch lever to the left engages the clutch and sets the elevator in motion. Pushing the lever to the right disengages the clutch and stops the elevator.

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