



John Deere

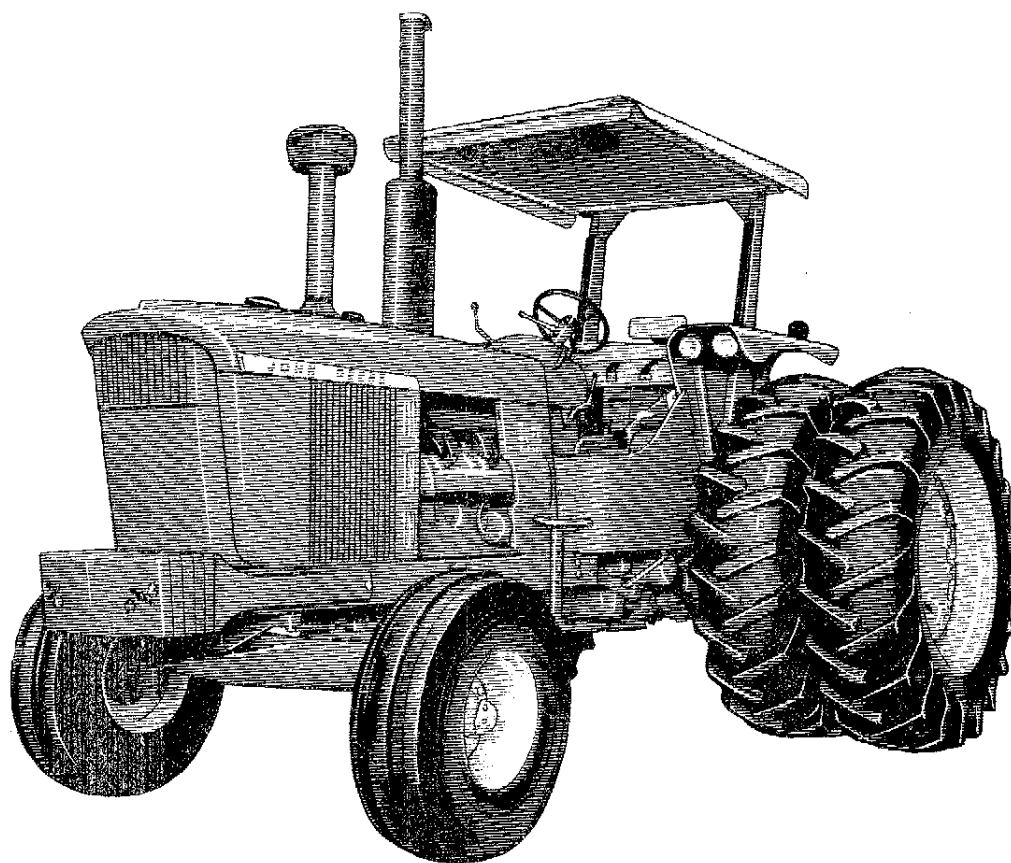
5020 Tractor

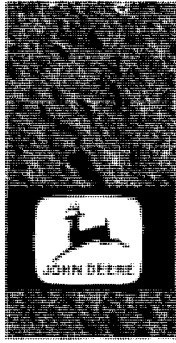
(Serial No. 30,001-up)

Operator's Manual

OM-R48276

Issue H0






TO THE PURCHASER

Your versatile new John Deere Tractor meets the exacting requirements of modern farming.

Operating ease and comfort, hydraulic power when and where you need it, the ability to match engine power and transmission speed to any job, outstanding economy and dependability, modern styling, and simplicity of lubrication and service are all special features of this great tractor.

We are confident this modern tractor, combined with equally advanced John Deere tools and implements, will help you to farm better, easier, and more profitably.

 This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

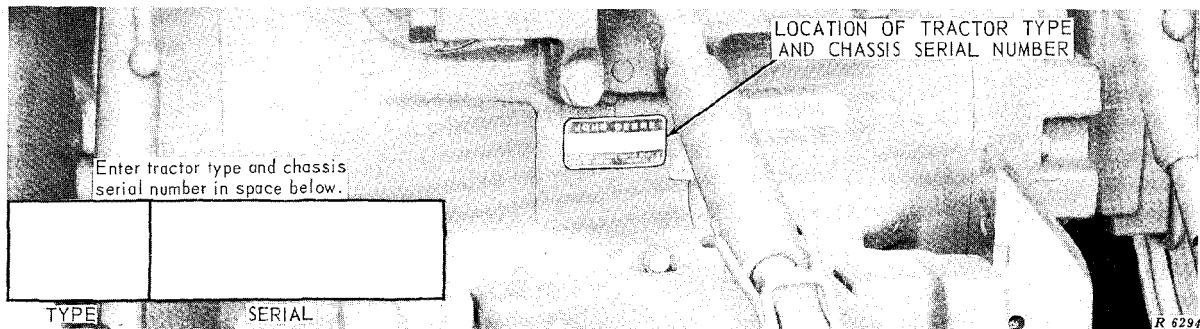
At the time the tractor was delivered, the John Deere dealer discussed with you its safe operation and proper care. However, before putting the tractor to work, read this manual. It contains complete instructions for operating the tractor, caring for it, and taking full advantage of its

many time- and labor-saving features. After reading the manual, keep it in a convenient place for quick and easy reference if questions arise concerning operation, lubrication, or service.

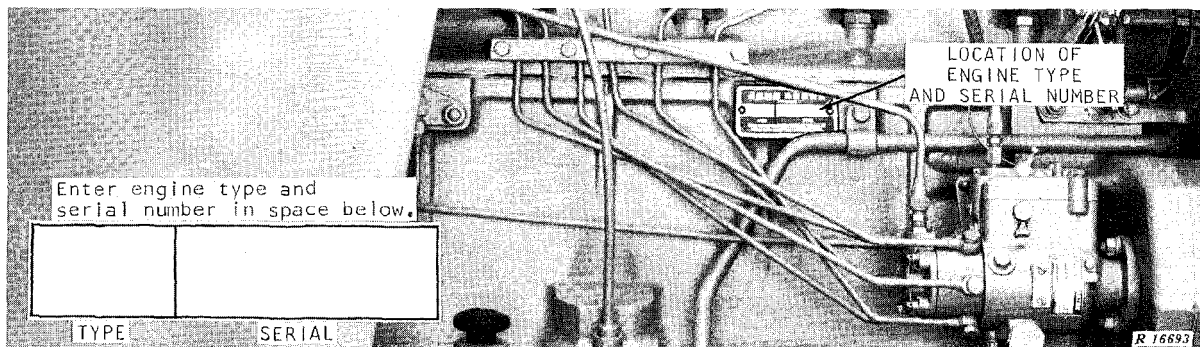
The warranty on this tractor appears on your copy of the purchase order which you should have received from your dealer when you purchased the tractor.

Your John Deere dealer wants to help you get the most value from your tractor. His skilled servicemen can handle every job efficiently. These men are trained in modern service methods; they have all necessary tools and equipment. If new parts are needed, only genuine John Deere parts will be installed. These parts are exact duplicates of the originals, made from the same patterns and of the same high-quality materials.

When in need of new parts, be prepared to furnish your dealer with the tractor type, complete tractor chassis serial number, engine type, and complete engine serial number. For ready reference, locate and record the above information in the spaces provided in the illustrations below.



Tractor Chassis Serial Number

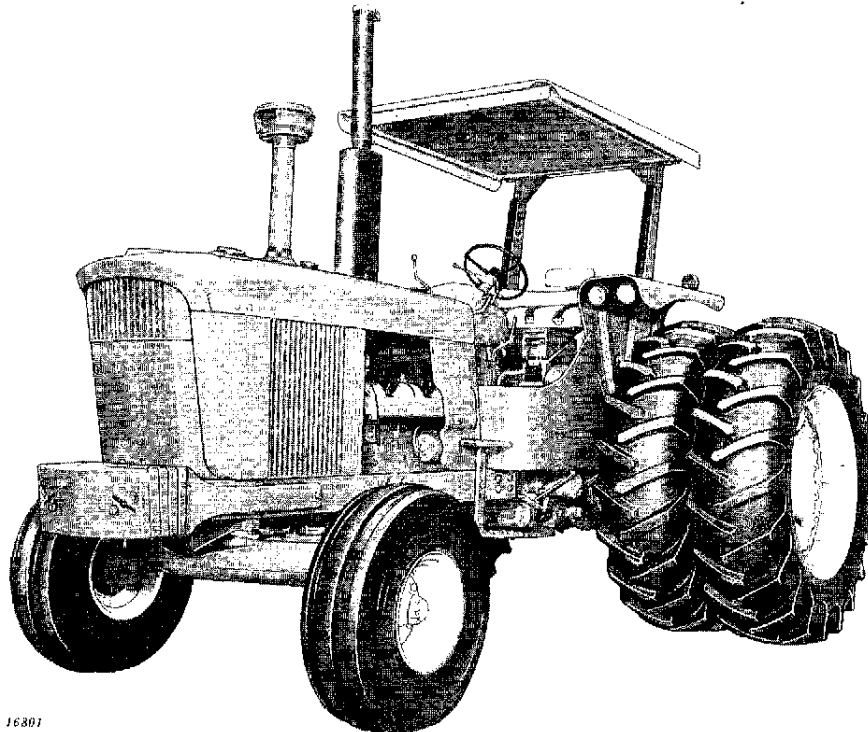


Engine Serial Number



CONTENTS

	Page
SPECIFICATIONS	2
CONTROLS AND INSTRUMENTS	4
OPERATION.	6
SAFETY RULES	32
FUELS AND LUBRICANTS	34
LUBRICATION AND PERIODIC SERVICE	36
SERVICE	44
TRACTOR CAB	55
TRACTOR STORAGE	58
TROUBLE SHOOTING	59
INDEX	66



R 16301

John Deere 5020 Row-Crop Diesel Tractor with Roll-Gard, Canopy, and Double Rear Wheels

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>



SPECIFICATIONS

***HORSEPOWER:**

Measured at the PTO 141.34

ENGINE:

Type . . . 6-cylinder, in-line, valve-in-head

Engine Speeds:

Slow idle 800 rpm

Working range 1500 to 2200 rpm

Maximum transport speed 2500 rpm

Bore and stroke 4-3/4 in. x 5 in.

Displacement 531 cu. in.

Compression ratio 16.5 to 1

Firing order 1-5-3-6-2-4

Valve clearance intake 0.018 in.

exhaust 0.028 in.

Injection pump timing TDC

CAPACITIES:

Fuel tank 68 U.S. gals.

Crankcase (with filter change). 20 U.S. qts.

Transmission-hydraulic system 16 U.S. gals.

Cooling system (add

2 U.S. qts. for cab heater) 33 U.S. qts.

**Above horsepower figure is official at 2200 engine rpm.*

GROUND SPEEDS:**

1st 1.7 mph

2nd 2.6 mph

3rd 3.5 mph

4th 4.5 mph

5th 5.6 mph

6th 7.3 mph

7th 9.4 mph

8th 15.4 mph

1st reverse 3.4 mph

2nd reverse 5.4 mph

CLUTCH: Heavy-duty, two 12-in. plates,
foot operated

LUBRICATION SYSTEM: . . . Force-feed pres-
surized with full-flow oil filter

FUEL SYSTEM:

Type Direct injection

Injection pump type Inlet metering,
distributing type

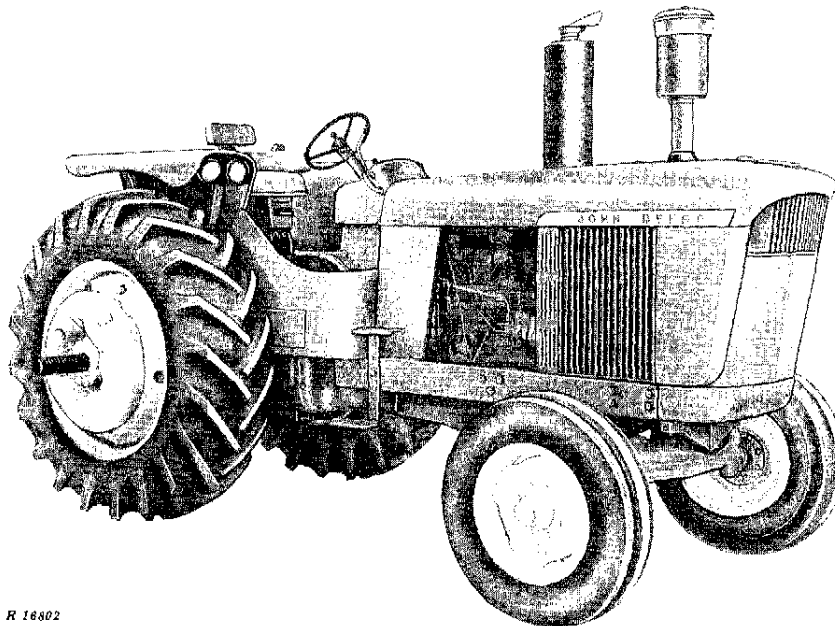
Air cleaner Dry type

COOLING SYSTEM:

Type . . . Pressurized with centrifugal pump

Engine temperature control . . . Two heavy-
duty thermostats

***Calculated at 1900 rpm engine speed with 24.5-32 tires.*



R 16802

John Deere 5020 Row-Crop Diesel Tractor

ELECTRICAL SYSTEM:

Type. 12-volt, negative grounded
 Batteries. Two 6-volt, 87-plate, 204
 ampere-hour, group 6T3A,
 tractor-type, connected in series

TRANSMISSION:

Type. Syncro-Range, constant-mesh
 Gear selections. . . 8 forward and 2 reverse
 Shifting. 4 stations, synchronized
 shifting within stations

POWER TAKE-OFF:

Type. Independent
 Speed (1900 engine rpm). 1010 rpm
 PTO ahead of drawbar hitch point. . . 16 in.
 PTO shaft above ground. 25-1/2 in.

PTO CLUTCH. Hydraulically power ac-
 tuated, hand-operated

HYDRAULIC SYSTEM:

Type. Closed center, constant pressure.
 Includes power steering, power
 brakes, and implement control.

Maximum pressure. 2250 psi

BRAKES. Hydraulically power actuated,
 disk-type operating in oil

FRONT TIRES:***

Standard. 11.00-16, 8-ply
 Row-Crop. 9.50-20, 8-ply

REAR TIRES:***

Standard. 24.5-32, 10-ply
 Row-Crop. 18.4-38, 12-ply

FRONT WHEEL TREAD. See page 12

REAR WHEEL TREAD. See page 14

DIMENSIONS:

Standard (Fixed tread front axle):

Wheel base. 104 in.
 Over-all length. 172.3 in.
 Over-all height. 98.3 in.
 Height to steering wheel. 82.4 in.
 Width. Regular wheel, 95.8 in.
 Drawbar clearance. 16 in.
 Turning radius. 12 ft. 6 in.

Row-Crop (81.5-inch tread front axle):

Wheel base. 102 to 106 in.
 Over-all length. 172.3 in.
 Over-all height. 98.3 in.
 Height to steering wheel. 82.4 in.
 Over-all width. 108.4 in.
 Turning radius. 13 ft.

TRACTOR CAB:

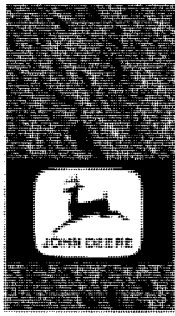
	Not Air Conditioned	Air Conditioned
Blower capacity . . .	290 cfm	560 cfm
Heater capacity . . .	20,000 btu/hr.	22,000 btu/hr.
Exterior cab height (tires at loaded radius)	107.3 in.	115.0 in.

**SHIPPING WEIGHT (With equipment for
 average field service):**

Standard 15,600 lbs.
 Row-Crop 14,480 lbs.

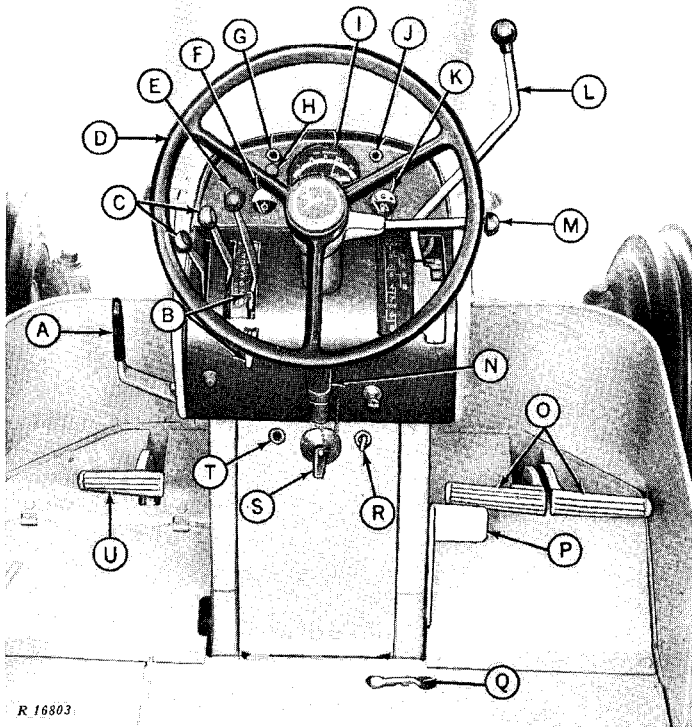
***Additional tire sizes available.

(Specifications and design subject to change without notice.)



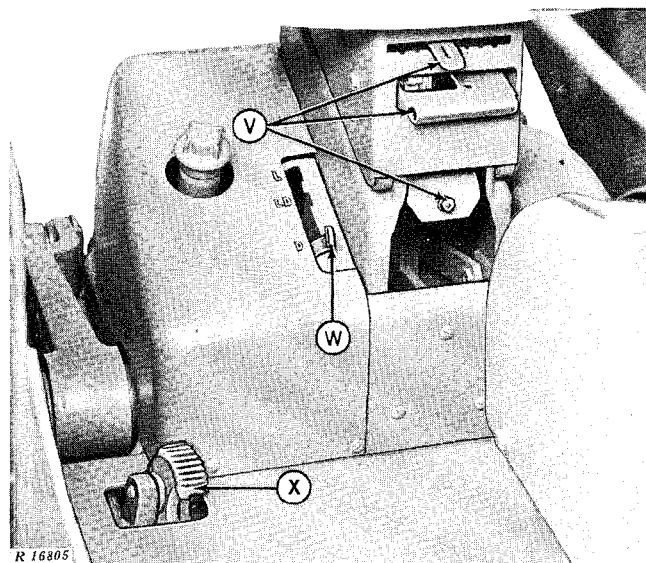
CONTROLS AND INSTRUMENTS

Before attempting to operate your new tractor, become familiar with the location and purpose of its controls and instruments. Additional information will be found on the page number following the control or instrument. Worldwide graphic symbols are used to assist identification and operation.



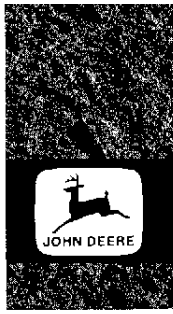
- A - PTO Clutch Operating Lever (Page 30)
- B - Rockshaft Control Lever Stop and Lock (Page 23)
- C - Remote Cylinder Operating Levers (Page 20)
- D - Steering Wheel
- E - Rockshaft Control Lever (Page 23)
- F - Coolant Temperature Gauge
- G - Alternator Indicator Lamp (Page 5)
- H - Speed Indicator Knob (Page 10)
- I - Speed-Hour Meter (Pages 10 and 36)
- J - Oil Pressure Indicator Lamp (Page 5)
- K - Fuel Gauge
- L - Gear Shift Lever (Page 10)
- M - Hand Throttle (Page 7)
- N - Ether Starting Fluid Adapter (Page 6)
- O - Brake Pedals (Page 11)
- P - Foot Throttle (Page 10)
- Q - Power Take-Off Drive Disconnect Lever (Page 30)
- R - Key Switch (Page 5)
- S - Light Switch (Page 18)
- T - Air Cleaner Indicator Light (Pages 5 and 38)
- U - Clutch Pedal (Page 5)

R 16803



- V - Seat Controls (Page 8)
- W - Rockshaft Selector Lever (Page 23)
- X - Differential Lock Operating Pedal (Page 11)

R 16805



OPERATION

Complete instructions for operating your tractor safely and efficiently are given on the following pages. By following these directions carefully, you can be sure that you are taking full advantage of the many features built into your tractor.

OPERATING THE ENGINE

PRESTARTING CHECKS

(1) Perform the following checks and services before starting the engine for the first time each day:

(a) Check the engine crankcase oil level—see page 40.

(b) Check the radiator coolant level—see page 40.

(c) If the tractor has a precleaner, check the collector bowl—see page 40.

(d) Drain contaminants from fuel filter—see page 40.

(e) Lubricate the wide-swing drawbar rollers, the front axle pivot pins, steering knuckle pins, steering bellcrank, and steering cylinder end fittings—see page 40.

STARTING THE ENGINE

NOTE: If the prevailing temperature is 40°F. or lower, it may be necessary to use a cold weather starting aid to start the engine—see next column.

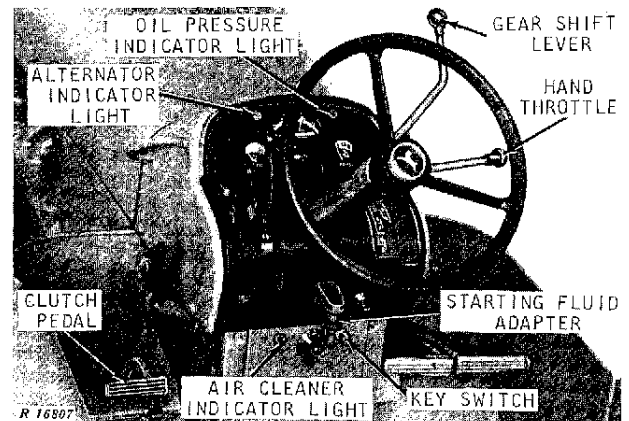
(2) Make sure that the fuel shut-off valve at the bottom of the fuel tank is open—see page 44.

(3) See that the shift lever is in the "PARK" position. Depress the clutch pedal to decrease drag on the engine.

(4) Set the hand throttle approximately 1/3 of its travel downward to the first stop.

(5) Turn the key switch clockwise to the first position. The alternator and oil pressure indicator lights should glow. Turning the key switch further to the start position should cause the air cleaner indicator light to glow and cause the alternator indicator light to go out. If any light fails to glow, turn off the key switch and determine the cause.

(6) Turn the key switch all the way to the right to start the engine. Do not operate the starter for more than 30 seconds at a time. To do so may overheat the starter. If the engine does



Starting Controls

not start the first time, wait for a minute or two before trying again. If it does not start after four attempts, see "Trouble Shooting," page 59.

If the key switch is released before the engine starts, wait until the starter and the engine stop before trying again. This will prevent possible damage to the starter.

(7) After the engine starts, the indicator lights should go out. If a light continues to glow when the engine is running, stop the engine and determine the cause.

COLD WEATHER STARTING AIDS

For cold weather starting, the tractor may be equipped with an ether starting fluid adapter or an in-block coolant heater. Other starting aids are available from your John Deere dealer.

These aids are effective at low temperatures, only when the engine is otherwise operating satisfactorily. They will not correct such deficiencies as low battery charge, crankcase oil of heavy viscosity, and high electrical resistance which may prevent the engine from starting.

Always use No. 1 diesel fuel at temperatures below 40°F.

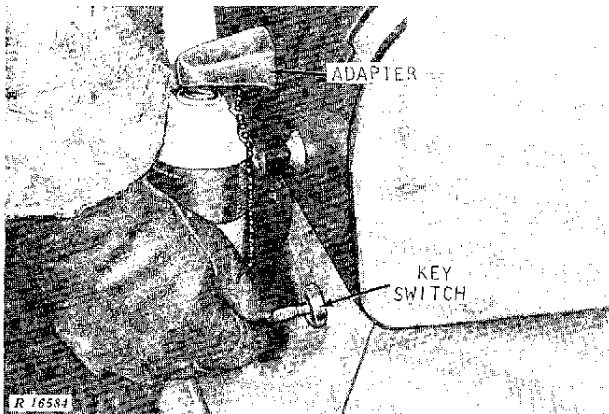
6 Operation

STARTING FLUID ADAPTER

This adapter is used to inject atomized starting fluid into the engine air intake system. Pressurized cans of starting fluid are available from your John Deere dealer.

⚠ CAUTION: Ether starting fluid is highly flammable.

To use the can of starting fluid, remove the safety cap and plastic spray button from the can. Remove the cap from the adapter and position the can under the adapter.



Injecting Starting Fluid

To inject a "shot" of starting fluid, momentarily push up on the can.

IMPORTANT: To avoid damage, turn engine with starter one or two revolutions before injecting starting fluid. Inject starting fluid only while the engine is turning.

Relax pressure on the can between "shots" of starting fluid. Stop injecting fluid after the engine starts. If the engine begins to die during the first few minutes of operation, inject another "shot" of fluid. When the engine is operating satisfactorily, remove the can from the adapter and replace the safety cap on the can.

Be sure to install the cap on the adapter when it is not in use. This will prevent dust from being drawn into the engine.

Store starting fluid cans where they will not be subject to extreme cold or warm temperatures. For best results, store fluid at room temperature.

SHUTTING OFF HYDRAULIC PUMP

If the hydraulic pump has a shut-off screw (available from your dealer), the starter speed may be increased during cold weather by shutting off the hydraulic pump so it will not build up pressure. To do so, turn the shut-off screw located on top of the pump in (clockwise) one turn with a screwdriver. Then turn the screw in by hand until resistance is felt. Turn the screw in one more turn.

After the engine has started, use a screwdriver to back the shut-off screw out against the internal stop (turn the screw counterclockwise). The pump will now build up pressure.

NOTE: Oil will leak past the shut-off screw if it is not backed all the way out against the internal stop.

CRANKCASE OIL AND TANK-TYPE COOLANT HEATERS

To facilitate cold weather starting, a 240-watt, 115-volt electrical crankcase oil heater may be installed in the engine oil pan at the lower front right-hand corner.

A 1000-watt, 115-volt coolant heater (available from your dealer) mounts in the frost plug opening on the left-hand side of the engine block. This attachment will keep the coolant warm, reducing oil drag and shortening the warm-up period.

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

ADDITIONAL BATTERIES

Cold weather starting can be made easier by connecting an additional 12-volt battery in parallel with the tractor batteries.

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

Connect a jumper cable to the POSITIVE (+) post of a 12-volt booster battery and to the POSITIVE (+) post of the tractor battery that is connected to the starter. Connect one end of the other jumper cable to the negative post of the other tractor battery that is connected to the

starter. Connect the other end of this jumper cable to the negative post of the booster battery.

NOTE: To prevent damage to the electrical system ground wire, never connect a booster battery to the tractor frame. To prevent damage to the alternator or the electrical system, be sure to connect the batteries in proper polarity.

See your John Deere dealer for additional booster battery information.

TRACTOR WARM-UP PERIOD

Always be sure the tractor is warmed up properly before operating under a full load.

A good way to do this is first to idle the engine at about 1500 rpm for 5 minutes and then operate it at about 1900 rpm for another 5 minutes.

It is good practice to operate the tractor for the first 30 minutes in a lower gear than is normally required for the load. This gives the oil a chance to circulate freely and prevents undue wear on engine or transmission parts.

ENGINE IDLING

Avoid unnecessary engine idling. Prolonged engine idling may cause the engine coolant temperature to fall below its normal range. This in turn causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of gummy deposits on valves, pistons, and piston rings. It also promotes rapid accumulation of engine sludge and unburned fuel in the exhaust system.

When the tractor is to remain idle for a considerable length of time, stop the engine.

ENGINE SPEEDS

The tractor engine is designed to operate at working speeds ranging from 1500 to 2200 rpm. The engine can be operated at any speed in the working range to meet various operating conditions. Operate the engine at 1900 rpm to obtain the SAE rated PTO speed.

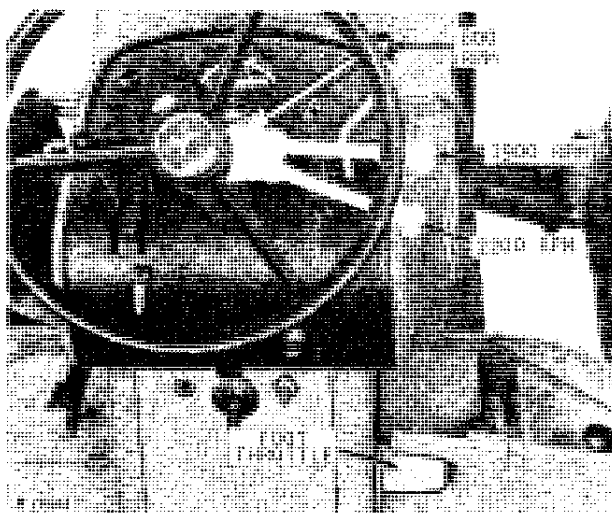
In addition, engine speeds can be varied up to 2500 rpm to save time when traveling on highways or smooth-surfaced roads.

Slow idle speed is approximately 800 rpm. To check engine speeds, see page 42.

USING HAND THROTTLE

Use the hand throttle to select slow idle or any of the variable governed speeds from 1500 to 2200 rpm.

Move the hand throttle counterclockwise as far as it will go to obtain normal slow idle speed of 800 rpm.



Range of Hand Throttle Positions

To obtain 1900 rpm load speed, move the throttle clockwise to the first stop. Placing the throttle halfway between slow idle and 1900 rpm gives the 1500 rpm speed. Engine speeds between 1500 and 1900 rpm may be selected by moving the lever between these two positions.

To obtain working speeds above 1900 rpm, pull out on the knob at the end of the hand throttle. With the knob pulled out, move the throttle clockwise as far as it will go. This is the 2200 rpm load speed position. Engine speeds between 1900 and 2200 rpm may be selected by moving the lever between these two positions.

USING FOOT THROTTLE

The foot throttle is used to obtain engine transport speeds or to raise engine speed momentarily. When the foot throttle is pushed all the way downward, the engine operates at 2500 rpm load speed.

NOTE: The foot throttle should not be used to increase the normal engine working speed.

8 Operation

STOPPING THE ENGINE

Place the shift lever in "PARK" and allow the engine to idle a few minutes. Sudden stopping of a hot engine may allow some parts to overheat momentarily and cause possible damage.

Turn the key switch counterclockwise to the off position to stop the engine.

After stopping the engine, remove the key from the switch to prevent tampering and unauthorized operation. Removing the key also prevents the switch from being accidentally left in the on (clockwise) or the accessory (counterclockwise) position and causing battery discharge.

Before dismounting, be sure all equipment is lowered to the ground, the light switch and other accessory switches are off, and the transmission is in the "PARK" position.

BREAKING IN THE ENGINE

During the first 100 hours of tractor service avoid prolonged periods of engine idling.

If the coolant temperature rises to the warning range on the gauge, shift to a lower gear to reduce the load on the engine.

Be sure to follow the special break-in lubrication instructions on page 36.

OPERATING THE TRACTOR

SEAT

The deluxe tractor seat has a steel compression spring and shock absorber to provide "float ride" suspension. The seat is also equipped with a flexibly mounted padded backrest and semi-circular foam padding which surrounds the operator.

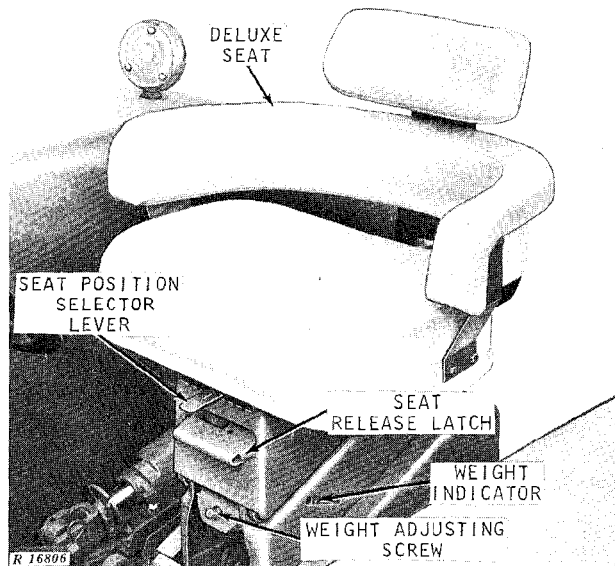
Use only warm water and mild soap to clean the seat cushions. NEVER USE SOLVENTS.

MOVING SEAT TO UPPER, REAR POSITION

To move the seat up and back, stand up and lift the seat release latch. The seat will move automatically to the upper rear position. Sit down to return the seat to the normal preset operating position.

ADJUSTING FOR HEIGHT OF OPERATOR

The normal operating position of the seat can be suited to the height of the individual operator. To make this adjustment, first move the seat to the upper, rear position. Then shift the seat position selector lever between "short" and "tall" until the pedals and levers can be operated comfortably when you are seated. The seat will always return to this position when you sit down after having moved the seat up and to the rear for standing.

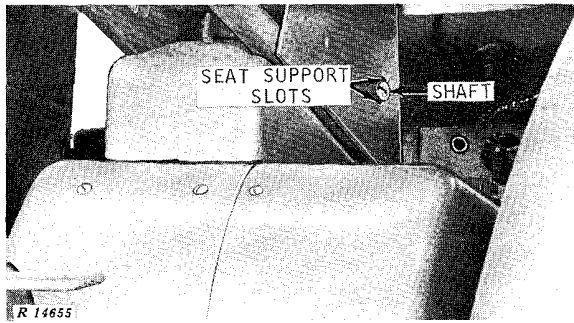


Seat Controls

ADJUSTING FOR WEIGHT OF OPERATOR

You can adjust the tension of the steel compression spring of the seat to conform to your weight. This enables the seat to "float" when the tractor is driven over rough ground. To make this adjustment, turn the weight adjusting screw clockwise or counterclockwise until the indicator on the left-hand side of the seat conforms to your weight.

ADJUSTING COUNTERBALANCE SPRING



Counterbalance Shaft

If the seat does not move fully to the rear when unlatched, adjust the counterbalance spring as follows: Push the seat to the upper, rear position. Insert a screwdriver in the slot in the counterbalance shaft and push in on the screwdriver to unlatch the shaft. Turn the shaft counterclockwise until seat action is satisfactory. Line up the latch across the end of the shaft with one of the pairs of slots in the side of the seat support and release pressure on the screwdriver.

ROLL-GARD AND SEAT BELT

A protective Roll-Gard is available as special equipment for your tractor. A canopy that fits on the top of the Roll-Gard, and seat belts are also available. See page 54 for additional information.

CAUTION: Under almost all operating conditions:

1. The use of a seat belt with the optional John Deere Roll-Gard is recommended.
2. Its use without roll-over protective equipment is not recommended.

SELECTING GROUND SPEED

The tractor has 8 forward speeds and 2 reverse speeds for each of the throttle positions that may be used. These combinations enable the operator to balance speed and power for maximum economy and allow him flexibility to meet varying working conditions. For example, for a given ground speed the operator may choose to work in a low gear at high engine speed for maximum reserve power or in a higher gear at a lower engine speed for maximum fuel economy.

Examples of the ground speeds at which the tractor will travel are shown below. Engine working speeds may be varied between 1500 rpm and 2200 rpm, and engine transport speeds may be varied up to 2500 rpm. Tractor ground speeds shown in the chart are only for engine speeds of 1500, 1900, 2200, and 2500 rpm.

NOTE: The ground speeds shown in the chart below are for a tractor-equipped with 18.4-38 or 24.5-32 rear tires with a loaded radius of 31.6 inches.

TRACTOR GROUND SPEEDS

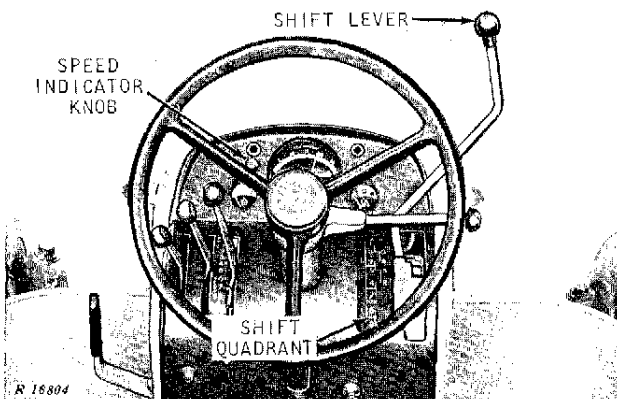
Gear	Hand Throttle Operating Range			Maximum Foot Throttle Speed 2500 rpm
	1500 rpm	*1900 rpm	2200 rpm	
1st	1.3 mph	1.7 mph	1.9 mph	2.2 mph
2nd	2.1 mph	2.6 mph	3.0 mph	3.5 mph
3rd	2.7 mph	3.5 mph	4.0 mph	4.6 mph
4th	3.5 mph	4.5 mph	5.2 mph	5.9 mph
5th	4.4 mph	5.6 mph	6.5 mph	7.3 mph
6th	5.8 mph	7.3 mph	8.5 mph	9.6 mph
7th	7.5 mph	9.4 mph	10.9 mph	12.4 mph
8th	12.2 mph	15.4 mph	17.9 mph	20.3 mph
1st reverse	2.7 mph	3.4 mph
2nd reverse	4.3 mph	5.4 mph

*1900 rpm engine speed gives the ASAE standard PTO speed.

10 Operation

Gates in the shift quadrant permit selection of the proper gear for the work to be done, as shown in the illustration. Turn the speed indicator knob on the instrument panel so that the speed-hour meter will show the correct tractor ground speed in miles per hour for the gear selected.

Avoid overloading the tractor. When this occurs, operate in a lower gear. Overloading causes undue strain on parts, eventually resulting in poor operation and unnecessary repair expense.



Shift Lever, Shift Quadrant, and Speed Indicator Knob

SHIFTING BETWEEN STATIONS

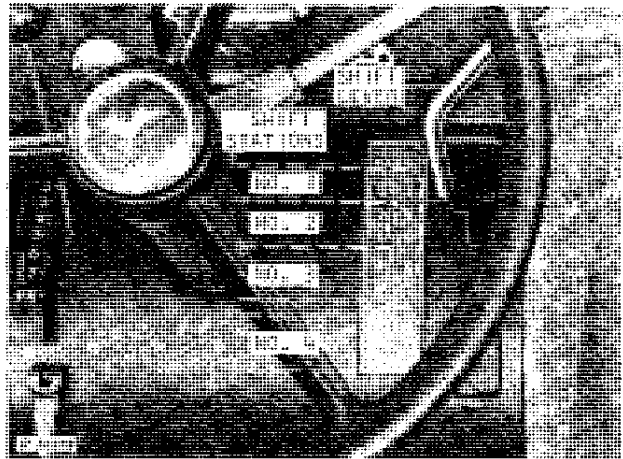
The shift quadrant has four shift stations. Stations No. 1 and 2 have two forward speeds and one reverse speed. Stations No. 3 and 4 have two forward speeds.

With the tractor stopped and the clutch pedal depressed, move the shift lever to a neutral position at the left side of the quadrant. Then move the shift lever to the station that has the desired speed. Move the lever to the right and into the speed desired.

Gradually release the clutch pedal to take up the load smoothly.

SHIFTING WITHIN STATIONS

With the clutch pedal depressed, the transmission can be shifted from one forward speed to the other forward speed within the same station while the tractor is in motion. For instance, you can shift between 1st and 3rd gears, 2nd and 5th gears, 4th and 7th gears, and 6th and 8th gears without stopping the tractor.



Gear Shift Stations

You can also shift from a forward speed to the reverse speed within the same station without stopping the tractor. However, to avoid injury and damage to the tractor, do so only at slow ground speed.

Gradually release the clutch pedal to engage the clutch.

IMPORTANT: To prevent unnecessary wear, never "ride" the clutch or brake pedals by resting the feet on the pedals.

PARKING THE TRACTOR

When the tractor is stopped for parking, for holding it on an incline, or for holding it during PTO work, move the shift lever as far as it will go forward from neutral to the "PARK" position. To shift from "PARK," move the shift lever rearward to the station desired.

IMPORTANT: Be sure the tractor is stopped before placing the shift lever in the "PARK" position.

TOWING THE TRACTOR

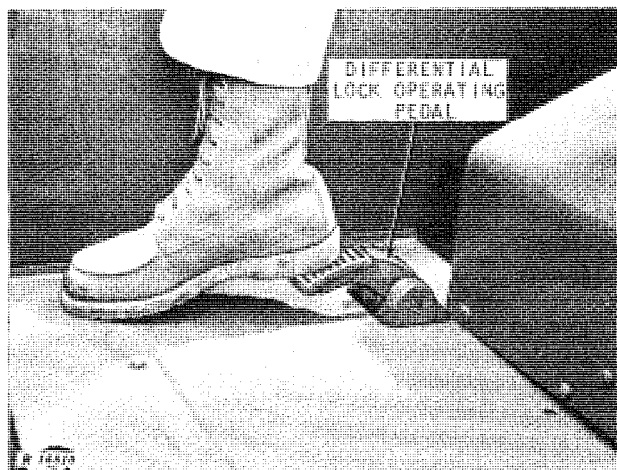
CAUTION: Never tow the tractor at high speeds. Tow the tractor with the engine running to maintain power operation of steering and brakes.

When towing the tractor, the transmission-hydraulic system should be at the "FULL" mark. If the front end is raised, add one gallon of oil for each six inches the front end is raised. Be sure differential lock is disengaged.

IMPORTANT: Always place the tow lever or shift lever in "TOW." Do not attach towing means to front wheel knuckles or steering mechanism.

DIFFERENTIAL LOCK

Your tractor may be equipped with a differential lock that will turn both rear wheels at the same speed. This prevents the usual loss of power when one wheel is slipping.

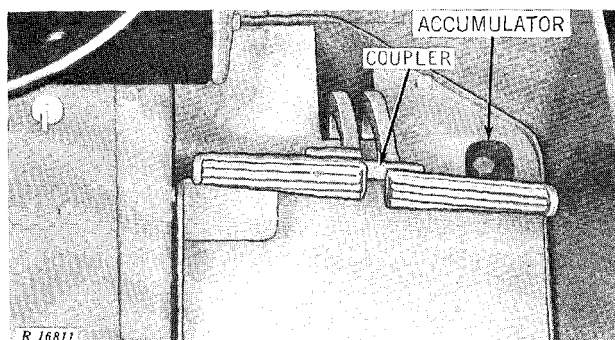


Differential Lock Operating Pedal

When one wheel starts to slip or whenever desired, engage the differential lock by depressing the operating pedal located at the right-rear side of the platform. When no longer required and before turning the tractor, disengage the differential lock by depressing one or both brake pedals. The front wheels should be in the straight ahead position when engaging or disengaging the differential lock.

CAUTION: Do not operate the tractor at high speeds or attempt to turn the tractor with the differential lock engaged.

POWER STEERING AND BRAKES



Brake Pedals Coupled Together

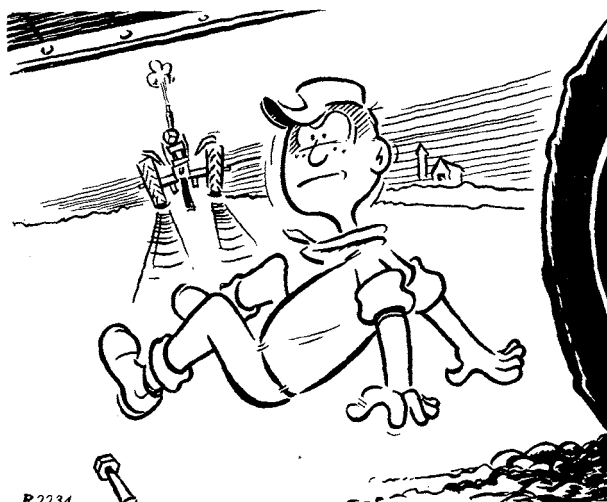
The tractor is equipped with full hydraulic power steering and power brakes so that a minimum of effort is required to operate the tractor.

The brake accumulator provides pressure oil to the brakes for several brake applications after the tractor engine is stopped.

To assist in making sharp turns, apply the brakes individually or, to stop the tractor, apply both brakes simultaneously. When traveling at high speed, couple the pedals together as shown and use a light pressure on the pedals.

TOWED LOADS

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



R2234

CAUTION: After attaching a heavy load to the drawbar, engage the clutch slowly. Do not start with a jerk.

FRONT AXLES

FRONT AXLE TREAD

The tractor front axle may be adjusted to the following front wheel treads:

Fixed tread - 69 or 71 in. (Standard only)

Adjustable tread (81-1/2 in. tread):

18.4-16.1 tire - 74, 78, 82, or 86 in.

14L-16.1 tire - 69-1/2, 73-1/2, 77-1/2, or 81-1/2 in.

11.00-16 tire - 68, 72, 76, or 80 in.

9.50-20 tire:

Wheel dish in - 64-1/2, 68-1/2, 72-1/2, or 76-1/2 in.

Wheel dish out - 69-1/2, 73-1/2, 77-1/2, or 81-1/2 in.

Adjustable tread (88 in. tread):

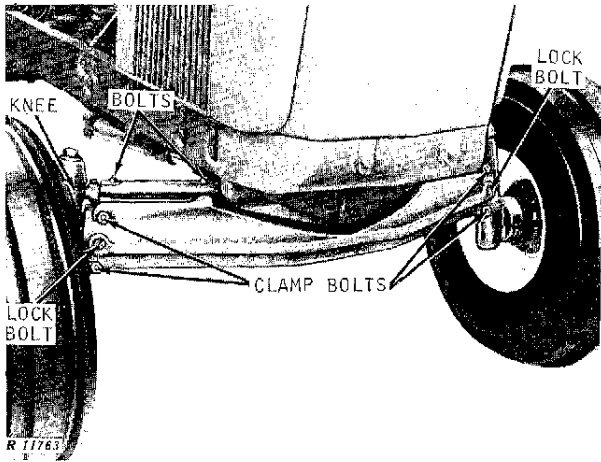
14L-16.1 tire - 76, 80, 84, or 88 in.

9.50-20 tire:

Wheel dish in - 71, 75, 79, or 83 in.

Wheel dish out - 76, 80, 84, or 88 in.

TREAD ADJUSTMENT



Front Axle Tread Adjustment

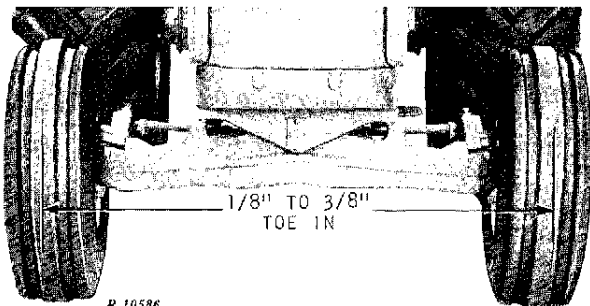
To adjust the tread width, jack up the front end of the tractor.

IMPORTANT: Do not place jack under engine oil pan.

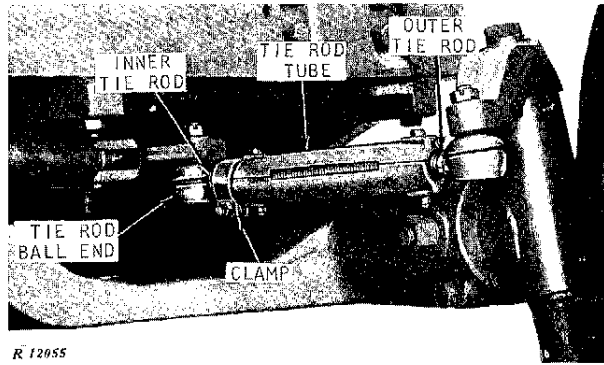
To change the adjustable front axle tread, remove the tie rod lock bolts and tie rod tube halves. Clean tie rod threads. Loosen the clamp bolts and drive the lock bolts from the front axle housing. Move the front axle knees in or out to the desired tread width. Install lock bolts and tighten clamp bolts to 300 ft-lbs torque. Install bolts in tie rods with the nuts down. Coat unpainted surfaces with rust preventative. Check toe-in.

To change the thread on fixed tread front axle or to reverse the dish of the front wheels, unbolt the wheels from the hubs, reverse the wheels, install them, and tighten to 100 ft-lbs torque.

TOE-IN ADJUSTMENT



Correct Toe-In



Toe-In Adjustment

With the front wheels in the straight ahead position and the steering bellcrank in the centered position, measure the toe-in. At axle height, the front measurement between the tires should be 1/8 to 3/8 inch less than the rear measurement.

To adjust toe-in on adjustable tread axles, loosen inner tie rod lock bolt and the tie rod clamp bolt. Remove outer tie rod lock bolt. Turn the tie rod tube to adjust the inner tie rod on the inner tie rod ball end. One turn should adjust toe-in approximately 3/8 inch. Separate the tie rod tube halves to realign the tie rod lock bolt holes. Install tie rod lock bolts with the nuts down. Recheck toe-in and if it is correct, tighten the lock bolts. Tighten the clamp in the downward position.

On fixed tread axles, loosen the tie rod clamps. Turn the tie rod tubes in or out until the toe-in is correct. Tighten the clamps in the downward position.

Tighten tie rod clamps to 35 ft-lbs torque. With properly adjusted tie rods, the tractor will turn as sharp to the left as it will to the right.

REAR WHEEL TREAD

CAUTION: Do not operate a row-crop tractor with operator's shield removed. Row-crop tractor operator's shield is designed to protect operator from tire when tire is in narrow tread position.

SINGLE REAR WHEEL ADJUSTMENT

The rear wheel tread may be adjusted by one or more of the following methods: by moving the wheel on the axle with the rack and pinion, by reversing the dish of an offset wheel on the axle,

or by changing the position of the rim on the wheel.

AXLE TYPE	WHEEL DISK DISHED IN OR OUT	RIM RING			
		CLAMP	BOLT	DISH OUT	DISH IN
<i>R 16812</i>					
REGULAR AXLE	DISH IN	60"-82"	68"-90"	67"-89"	75"-97"
	DISH OUT	88"-105"	96"-113"	95"-112"	103"-120"
LONG AXLE	DISH IN	60"-94"	68"-102"	67"-101"	75"-109"
	DISH OUT	88"-117"	96"-125"	95"-124"	103"-132"
EXTRA LONG AXLE	DISH IN	60"-100"	68"-108"	67"-107"	75"-115"
	DISH OUT	88"-123"	96"-131"	95"-130"	103"-138"

Tread Range 18.4-38 or 20.8-38 Single Tires
(63 in. Minimum Tread with 20.8-38 Tires)

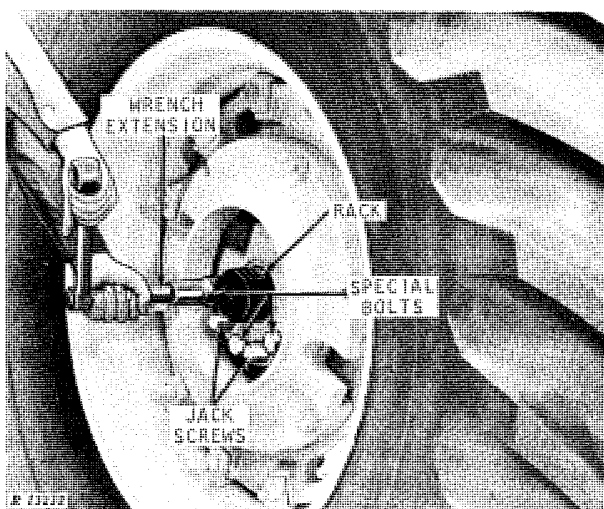
AXLE TYPE	POSSIBLE TREAD WIDTHS	
	STANDARD TRACTOR	ROW-CROP TRACTOR
REGULAR AXLE	70"-100"	70"-112"
LONG AXLE	70"-124"	70"-124"
EXTRA LONG AXLE	70"-130"	70"-130"

Tread Range for Tractors with 24.5-32 Single Tire

IMPORTANT: When using single rear tires limit tread to 110 inches or less when pulling heavy loads in 1st, 2nd, or 3rd gear.

RACK AND PINION METHOD

The rack and pinion rear wheel tread adjustment is accomplished by turning the pinion gear in the rear wheel hub. The pinion engages a rack on the axle to move the wheel in or out on the axle.



Rack and Pinion Adjustment

This adjustment can be made with up to two outside wheel weights installed. Additional weights will interfere with the turning of the pinion.

Jack up the tractor and rotate the wheel until the rack on the axle is up. Loosen the three special bolts 1/4 to 3/8 inch. To loosen the tapered sleeve, turn the two jack screws clockwise until the notches in the hex. surface are even with the wheel hub.

Turn the pinion gear to move the wheel in or out on the axle. Measure the amount the axle protrudes from the hub to maintain the same distance from the wheels to the tractor centerline. **BE SURE** that the tire or wheel weight will not rub the tractor.

After the desired tread is obtain, back out the jack screws until the ENTIRE HEX. SURFACE is exposed. Remove the special bolts, oil the threads, and install the bolts. Tighten them securely (300 ft-lbs torque). After a few hours service, **RETIGHTEN** the bolts and keep them tight.

IMPORTANT: Avoid setting wheel too close to the rear axle housing. This can damage the pinion when the hub is tightened. To avoid this, adjust the wheel to the innermost position until the pinion contacts the end of the rack. Then back up until the wheel has moved outward at least 1/4 inch. The jack screws **MUST BE FREE TO TURN** after the hub is tightened. If necessary, back the jack screws out a little further and retighten special bolts.

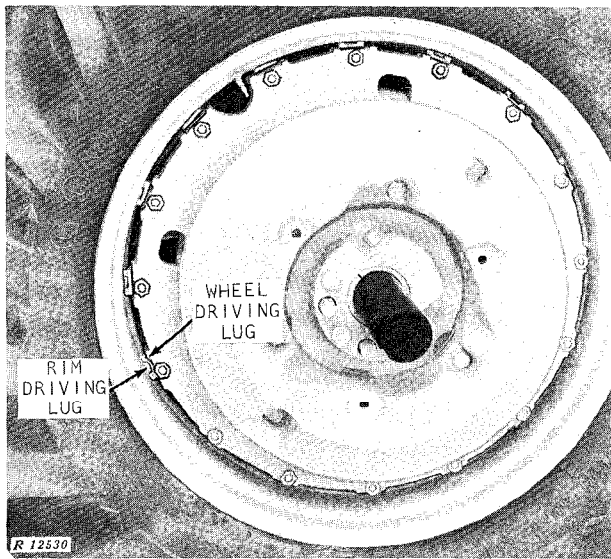
REVERSING OFFSET WHEEL ON AXLE

On tractors with offset wheels, the rear wheel tread may be changed by reversing the "dish" of the wheel. To do so, jack up the tractor and remove the wheel. Reverse the "dish" and install the wheel. Be sure to maintain the proper direction of tire rotation. Another way is to install wheel and tire on other axle. After a few hours service, retighten the special bolts and keep them tight.

CHANGING RIM POSITION ON WHEEL

On tractors that have a double rim ring, the clamps may be bolted to either side of the wheel and can engage either one of the two raised rings on the rim. This gives four possible rim positions on the wheel as shown in the tread chart.

On offset deep well rims (18.4-34 and 24.5-32 tires), two possible rim positions are obtained by reversing the offset deep well. To maintain proper direction of tire rotation, install rim and tire on other wheel. On standard tractors with



Rim Driving Lug and Wheel Driving Lug

single 24.5-32 tires, the offset rim must always be mounted in the narrow tread position.

To change the position of the rim on the wheel, jack up the tractor until there is little or no weight on the tire. Remove the rim clamps and shift the rim or wheel to the desired position. Install the clamps and tighten evenly. Be sure that each of the seven rim driving lugs engages a clamp that has a wheel driving lug as shown in the illustration.

Hammer each bolt head to seat the bolts. Retighten the clamps to 170 ft-lbs torque. Adjust both rear wheels in the same manner.

After a few hours service, RETIGHTEN the clamps and keep them tight.

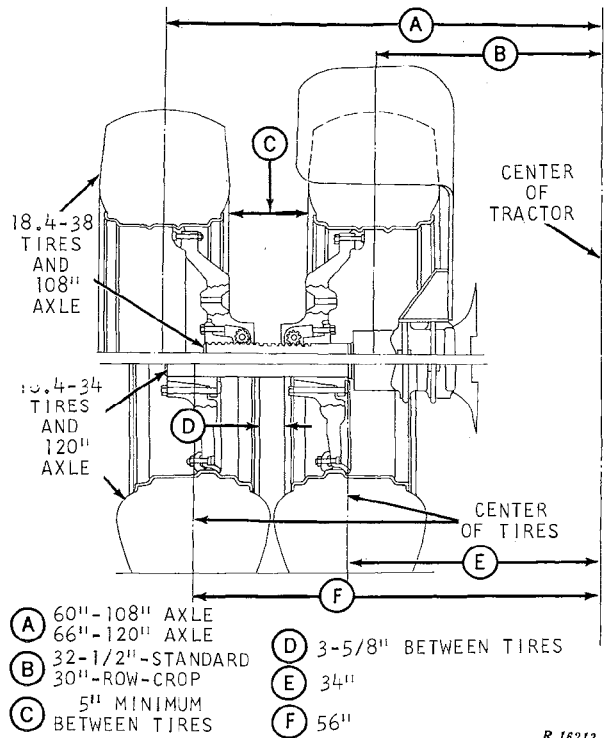
IMPORTANT: Never operate the tractor when the rim clamp nuts or hub cap screws are loose.

DOUBLE REAR WHEEL ADJUSTMENT

With 18.4-38 tires, the minimum inner tire tread is 65 inches on standard tractors or 60 inches on row-crop tractors. With 20.8-38 tires, the minimum tread is 67 inches on standard tractors or 63 inches on row-crop tractors. Maximum outer tire tread is 120 inches with 108-inch axles or 132 inches with 120-inch axles. The distance between tires should be at least 5 inches. See the upper half of the illustration.

If tractor is equipped with 18.4-34 double rear tires, set the inner tire 34 inches from center of tractor. Set the outer tire 56 inches from center of the tractor. See the wheel and tire position in the lower half of the illustration.

If tractor is equipped with 24.5-32 double rear tires, set the inner tire 34 inches from the cen-



Double Rear Wheel Tread on Tractors with 18.4 Tires

R 16212

- | | |
|------------------------------|--------------------------|
| (A) 60"-108" AXLE | (D) 3-5/8" BETWEEN TIRES |
| 66"-120" AXLE | (E) 34" |
| (B) 32-1/2"-STANDARD | (F) 56" |
| 30"-ROW-CROP | |
| (C) 5" MINIMUM BETWEEN TIRES | |

ter of the tractor and the outer tire to 65 inches. If tractor is equipped with 24.5-32 and 18.4-38 double rear tires, set the inner tire to 35 inches from the center of the tractor and the outer tire between 62 and 66 inches from the center of the tractor.

Tighten inner wheel clamps and bolts securely because the outer wheel usually must be removed to retighten them.

NOTE: When installing first outer double wheel, tractor will tip if jack is under drawbar support.

TIRES

Properly inflated tires are important to the operation of your tractor. The amount of air pressure to be carried in the front and rear tires depends upon the implement used with the tractor and the amount of ballast employed.

Keep the tires inflated according to the recommendations shown below. Under-inflated tires break and wear out rapidly. Over-inflated tires reduce traction and increase wheel slippage.

Check the tire pressure with an accurate tire gauge having 1-pound graduations. If tires contain liquid ballast, position valve stem at the top and use a special air-water gauge.

INFLATION CHARTS

FRONT TIRES		
Tire Size	Ply	Inflation Pressure
9.50-20	8	44 psi
11.00-16	8	36 psi
14L-16.1	6	24 psi
18.4-16.1	6	16 psi

REAR TIRES			
Tire Size	Ply	Inflation Pressure	
		With Little or No Added Ballast	With Max. Ballast or Heavy Rear-Mounted Implement
18.4-34*	8	16 psi	20 psi
18.4-38*	8	16 psi	20 psi
18.4-38	12	16 psi	32 psi
20.8-38	10	18 psi	22 psi
24.5-32	10	16 psi	18 psi

**Double tires only. Operating with single 8-ply tires will usually cause a severe overload on the tires and may cause a hazardous tire failure.*

BALLAST

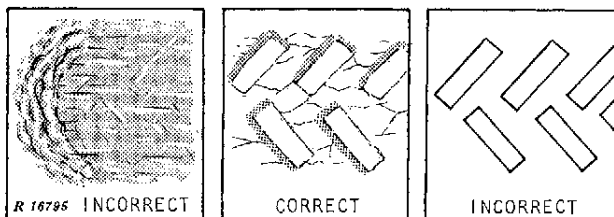
To obtain the most satisfactory performance from your tractor, it may be necessary to add or remove ballast at the tractor front end, the rear wheels, or both, to obtain the proper amount of rear wheel slippage.

REAR BALLAST

If too much ballast is used, rear wheel slippage may be eliminated altogether (as shown by the clear outline of the tread marks). The result may be a waste of power, overloading of tires and excessive soil compaction.

Use of too little ballast will allow the rear tires to slip excessively (tread marks eliminated), wasting power and creating excessive tire wear.

Field tests performed over a wide variety of soil conditions have shown that the maximum horsepower available at the drawbar occurs when rear wheel slippage ranges from 10 to 15 percent.



Tire Tread Patterns

The ideal tire tread pattern (center illustration, below at left), is one in which the dirt has been slightly broken and moved. This pattern will usually result when the tractor has been properly ballasted and operated at normal working speeds.

MEASURING SLIPPAGE

The following method can be used to measure rear wheel slip:

1. Place a reference mark on the side of tire.
2. While tractor is working, place a flag or marker on the ground when the tire reference mark comes down to the ground. Again, place a marker on the ground when 10 complete revolutions have been made.
3. Take the implement out of the ground, and drive tractor back between the 2 ground markers, noting the number of revolutions required to travel the distance. Estimate the last revolution as closely as possible.
4. Determine the percent of slip from the revolutions obtained in Step 3.

Revolutions (from Step 3)	Percent Slip
10	0
9-1/2	5
9	10
8-1/2	15
8	20
7-1/2	25
7	30

If the number of revolutions obtained from Step 3 is less than 8-1/2, weight will probably need to be added. If more than 9 revolutions were obtained, weight should be removed from the tractor.

The amount of ballast may have to be changed when the tractor is used to pull loads having different draft requirements. For example, if the tractor is used a high percent of the time pulling high draft loads (such as plowing or chiseling), it may be best to ballast for this type of operation. However, if a large amount of time is spent on light load utility type work or in higher gears, more consideration should be given to the light operation, permitting the slip to increase for the small amount of time spent on high draft work.



Suggest:

If the above button click is invalid.

Please download this document

first, and then click the above link

to download the complete manual.

Thank you so much for reading

Power and Weight Considerations

Consideration of power requirements and rear tractor weight should be made before adding or removing ballast from the rear end of tractor.

Cast-Iron Weights

On tractors with single 24.5-32 tires, large 1600 pound or 300 pound cast-iron weights are attached to the inside of the wheel. Smaller 120 pound weights may be attached to the outside of each rear wheel. After the first few hours of service, retighten 1600-pound weight-attaching screws (300 ft-lb torque) and keep them tight.

With 18.4-38 or 20.8-38 rear tires, a 500-pound weight may be attached to the concave or inside surface of the rear wheel. If additional 500-pound weights will be used on outside of wheel, attach inside weight with special screws that have threads in the head of the screw to receive the outside weight-attaching bolts.

Liquid Weights

Water and calcium chloride solution is an economical means of adding weight to the rear wheels. This solution, added in the tire inner tubes, will not damage the inner tube or tire if used in the proper proportions. The addition of calcium chloride is recommended to prevent the water from freezing.

Use of this method of weighting the rear wheels has the full approval of the tire companies. See your John Deere dealer for this service. The following chart lists the liquid weight each tire will hold when 75 percent full (filled to valve level).

LIQUID WEIGHT PER TIRE (75 PERCENT FILLED)

Tire Size	Slush-Free at 13° F.; Solid at -23° F. (Approx. 2 Lbs. CaCl Per Gal. Water)	Slush-Free at -12° F.; Solid at -52° F. (Approx. 3.5 Lbs. CaCl Per Gal. Water)	Slush-Free at -53° F.; Solid at -62° F. (Approx. 5 Lbs. CaCl Per Gal. Water)
18.4-34	874 lbs.	936 lbs.	988 lbs.
18.4-38	1034 lbs.	1113 lbs.	1174 lbs.
20.8-38	1228 lbs.	1311 lbs.	1480 lbs.
24.5-32	1620 lbs.	1742 lbs.	1850 lbs.

FRONT BALLAST

While front ballast does not contribute directly to traction on two-wheel drive tractors, it may be required for stability and steering control. In general, it is recommended that the total front weight of the tractor be as follows:

- (1) 1/2 of rear tractor weight when pulling an integral or semi-integral implement.
- (2) 1/3 of rear tractor weight when pulling towed equipment that is hitched to the drawbar.

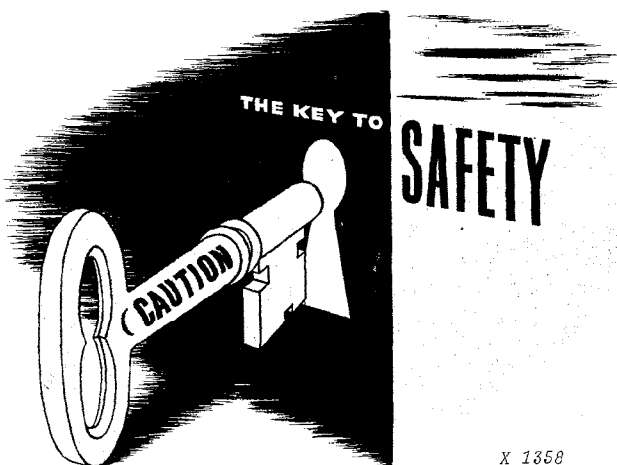
Add any additional ballast necessary for stability and safety during transport of heavy integral equipment. Front end ballast may not always maintain the required stability if the tractor is driven too fast over rough ground with heavy rear-mounted tools in the raised position. Always drive slowly under these conditions.

When the field load of towed or hitch-mounted implements exceeds the pull available in 4th gear, additional front end weight is usually required for proper control while working.

Single Front Weights

Two side weights and up to eight single front weights may be added. Each of the weights, available from your dealer, weighs 85 pounds.

The side weights are installed first. The single front weights stack on the front portions of the two side weights. Rotate each weight 180 degrees with respect to the preceding weight to line up the mounting holes.



X 1350

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>