



3010 Row-Crop Utility LP-Gas Tractor



JOHN DEERE

OPERATORS MANUAL

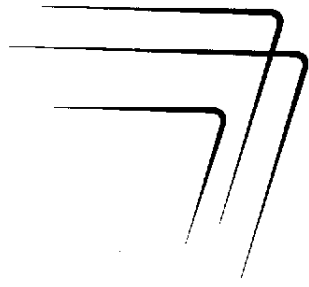
3010 Row-Crop
Utility LP-Gas Tractor

OMR28875 I0 English

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a
**NEW
GENERATION
of power**

Your new John Deere Tractor is an entirely new concept of farm power. Developed through years of design and test, built to the traditionally high standards of John Deere, this versatile tractor meets the exacting requirements of modern farming.

New 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 in this great new 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.

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 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.

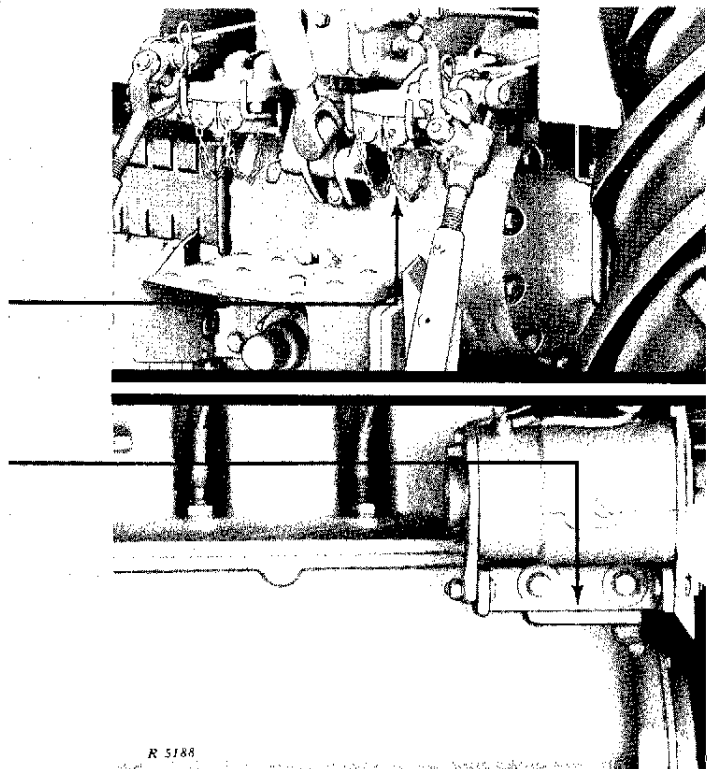
Your John Deere dealer wants to help you get the most value from your new tractor. His skilled servicemen can handle every job efficiently. These men are trained in modern service methods; they have all necessary tools and equipment. If new parts are needed, only genuine John Deere parts will be installed. 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 engine serial number, the tractor chassis serial number, and the tractor model number. The location of the serial numbers is illustrated below. For ready reference, record the numbers in the spaces provided.

FILL IN THESE SPACES

CHASSIS SERIAL NUMBER

ENGINE SERIAL NUMBER





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specifications

HORSEPOWER:*

PTO	55.39 hp
Drawbar	49.22 hp

ENGINE:

Type	4-cylinder, in-line, valve-in-head
------------	---------------------------------------

Engine speeds:

Idle for engine shut-off	450 rpm
Normal slow idle	600 rpm
Working range	1500 to 2200 rpm
Transport speeds	Up to 2500 rpm
PTO operating speed	1900 rpm
Bore and stroke	4 in. x 4 in.
Displacement	201 cu. in.
Compression ratio	9 to 1
Firing order	1-3-4-2
Valve clearance	0.015 in. intake 0.028 in. exhaust

GROUND SPEEDS:**

1st	1-3/4 mph
2nd	2-1/2 mph
3rd	3-1/4 mph
4th	4-1/4 mph
5th	5-1/4 mph
6th	7 mph
7th	8-3/4 mph
8th	14-1/2 mph
3rd reverse	3-1/4 mph
5th reverse	5 mph
7th reverse	8-1/2 mph

CAPACITIES:

Fuel tank	25 U.S. gals.
Crankcase	8 U.S. qts.

Transmission-hydraulic

system	9-1/2 U.S. gals.
Air cleaner	2-1/4 U.S. pints
Cooling system	16 U.S. qts.
Belt pulley	2-1/2 U.S. pints

CLUTCH:

Single, 11-in. plate,
motive-type, foot-op
Force-feed pressu
type with full-flow oil

LUBRICATION SYSTEM: ...

FUEL SYSTEM:

Carburetor	Single barrel, updra
Air cleaner	Oil-wash type

COOLING SYSTEM:

Type	Pressurized with ce ugal pump
------------	----------------------------------

Engine temperature con-
trol

Heavy-duty thermos:

IGNITION SYSTEM:

Distributor point gap	0.022 in.
Distributor timing	25 degrees BTDC at rpm

Spark plugs:

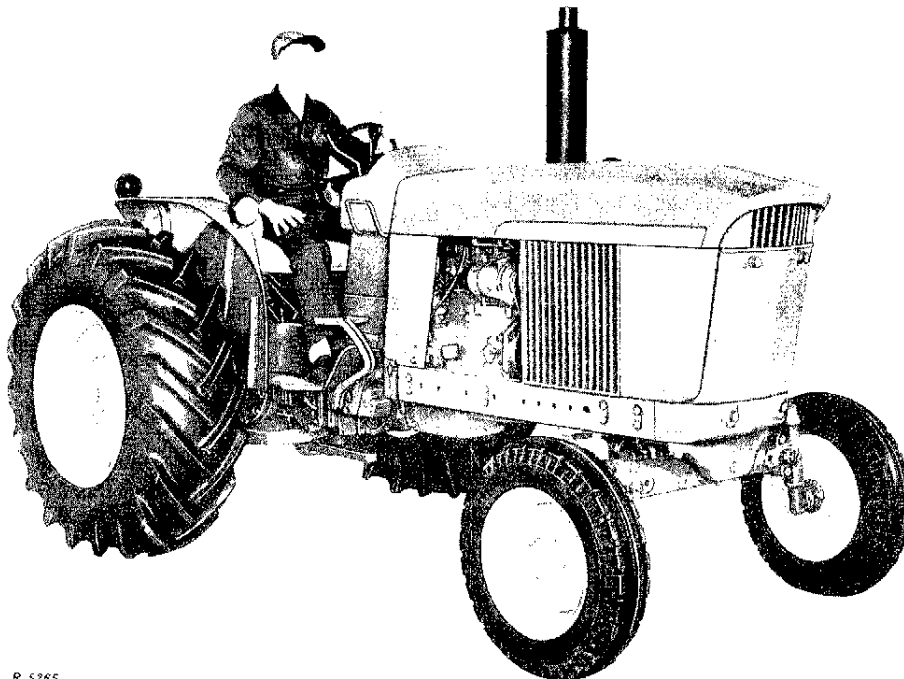
Size	18 mm.
Spark plug gap	0.015 in.

ELECTRICAL SYSTEM:

Starter, generator	12 volts
Lights, accessories	12 volts
Battery	70-ampere-hour, SAI agricultural type

*Maximum observed horsepower at 2200 engine rpm (Nebraska Test No. 764).

**Calculated at 1900 rpm engine speed only. For ground speeds at 1500 through 2500 rpm engine speeds, see page 11.



R 5265

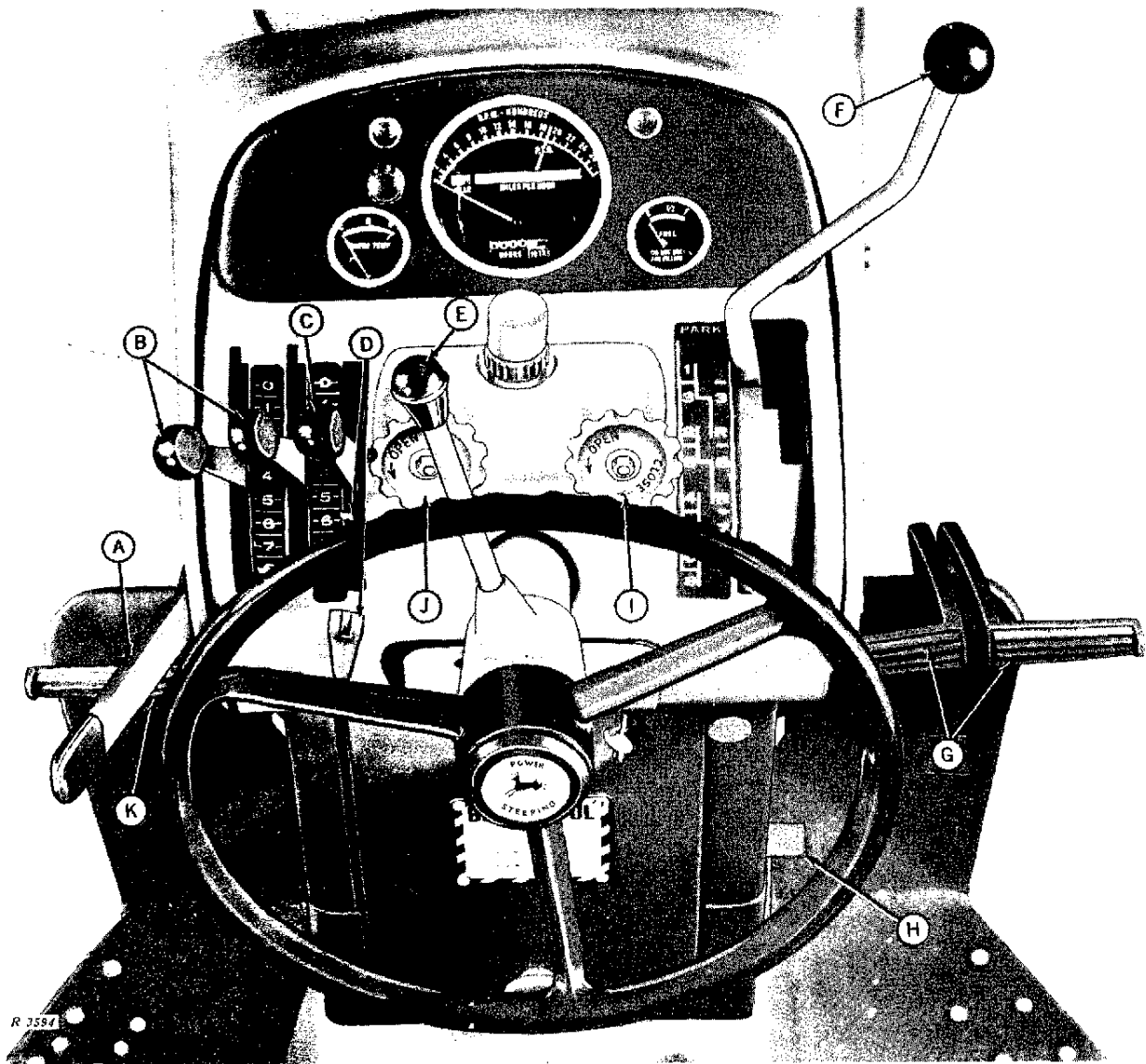
John Deere 3010 Row-Crop Utility LP-Gas Tractor with long wheelbase



controls and instruments

Before attempting to operate your new tractor, become familiar with the location and purpose of its controls and instruments. Study the next few pages carefully, regardless of your previous tractor experience.

Controls



R 3554

- A - Power take-off clutch lever
- B - Remote hydraulic cylinder operating levers
- C - Rackshaft control lever
- D - Rackshaft control lever stop and lock
- E - Shift lever

- F - Hand throttle
- G - Brake pedals
- H - Foot throttle
- I - Vapor withdrawal valve
- J - Liquid withdrawal valve
- K - Clutch pedal

A. Power take-off clutch lever

The PTO clutch lever is used to engage and disengage the power take-off shaft. The lever is located at the extreme left-hand side of the dash within easy reach of the operator.

B. Remote hydraulic cylinder operating levers

The tractor can be equipped to operate either one or two remote hydraulic cylinders. One or two operating levers for the remote cylinders are located on the left-hand side of the dash.

C. Rockshaft control lever

The rockshaft and Universal 3-Point Hitch are raised or lowered by the lever on the dash just to the left of the steering column.

D. Rockshaft control lever stop and lock

The stop and lock for the rockshaft control lever are used to give the lever an adjustable, preset rearward position.

E. Shift lever

The shift lever is used to select any one of eight forward and three reverse gear selections. It also can be placed in a "park" position and in a "tow" position.

F. Hand throttle

This lever, extending upward from the steering column, is used to select engine working speeds.

G. Brake pedals

The two brake pedals, located at the front right-hand side of the platform, activate the hydraulically-operated power brakes.

H. Foot throttle

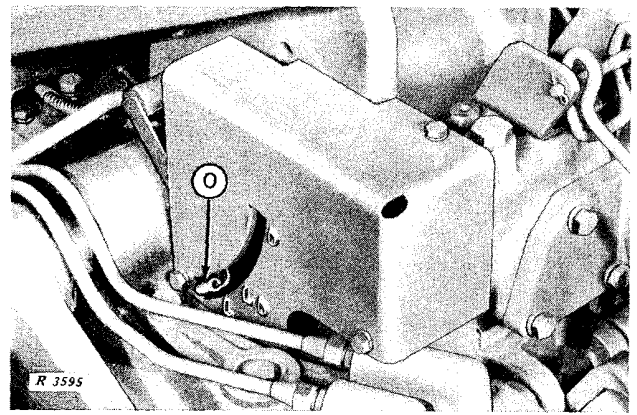
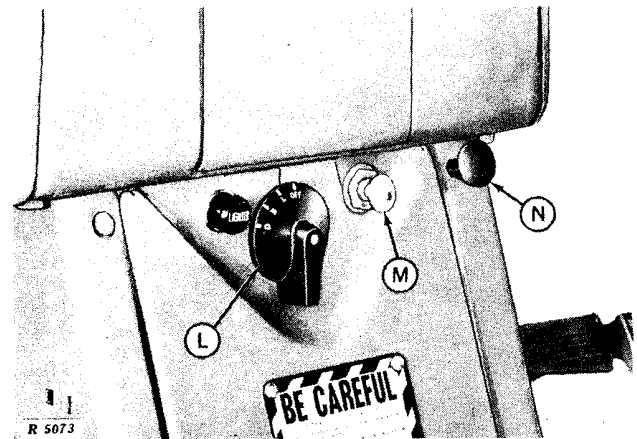
When desired, this pedal can be used instead of the hand throttle to control the engine speed.

I. Vapor withdrawal valve

The vapor withdrawal valve supplies vapor from the top of the fuel tank for starting the engine.

J. Liquid withdrawal valve

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



- L - Light switch
- M - Key switch
- N - Engine choke knob
- O - Selector lever

K. Clutch pedal

Pressing the clutch pedal, located at the front left-hand side of the platform, disengages the clutch to permit shifting gears.

L. Light switch

This switch is used to turn on all tractor lights.

M. Key switch

This switch is used to activate the electrical system and to start the engine.

N. Engine choke knob

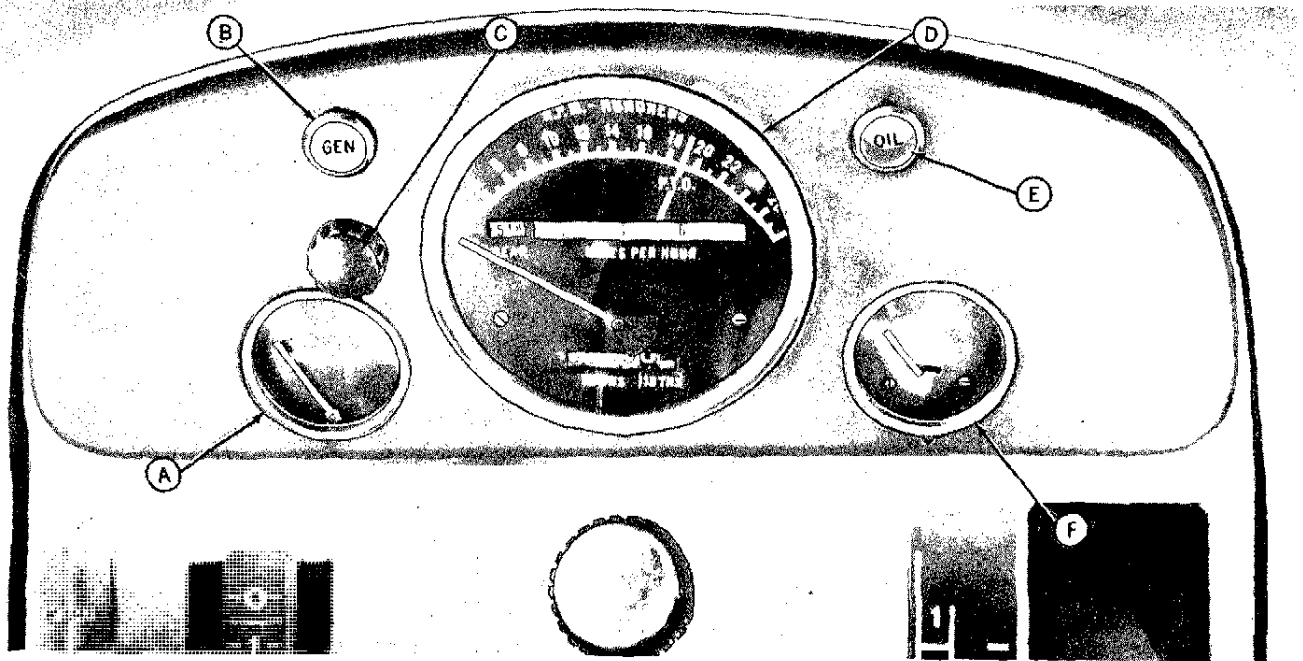
Pulling out on this knob chokes the engine to provide a richer mixture to aid in starting the engine.

O. Selector lever

This lever, located below the seat, determines the desired sensitivity of response from the rockshaft and 3-point hitch for various operating conditions.

Instruments

All instruments are conveniently grouped on the instrument panel where they may be observed easily by the operator.



A - Water temperature gauge
B - Generator indicator light
C - Speed indicator knob

D - Speed-hour meter
E - Oil pressure indicator light
F - Fuel gauge

A. Water temperature gauge

This gauge shows the temperature of the coolant in the engine cooling system. After the engine has had time to warm up, the indicator should remain in the "N" (normal) range.

B. Generator indicator light

This lamp glows red if the generator is failing to charge the batteries properly. It goes out when the generator is in satisfactory condition and is rotating fast enough to charge the batteries.

C. Speed indicator knob

This knob is turned so that the speed-hour meter will show the correct tractor ground speed in miles per hour.

D. Speed-hour meter

The speed-hour meter shows the following: (1) *Engine Speed*, in hundreds of rpm with PTO mark to show the proper engine speed for operating the power take-off; (2) *Tractor Ground Speed*, in miles per hour according to the gear in which tractor is operating; and (3) *Hours of Operation*, or accumulated engine service, in hours and tenths of hours.

E. Oil pressure indicator light

This lamp glows red when the engine oil pressure is not satisfactory. It does not indicate the condition or amount of oil in the crankcase.

F. Fuel gauge

This electrically-operated gauge shows the amount of fuel in the tank. It will not operate until the key switch is turned on.

Seat

Your tractor may be equipped with either the regular seat or an optional deluxe seat. The regular seat is cushioned by no-sag springs and foam padding, while the deluxe seat uses a steel compression spring and shock absorber to provide "Float-Ride" suspension. The deluxe seat is also equipped with a flexibly-mounted padded backrest and semi-circular foam padding which surrounds the operator.

Both seats are designed for operator comfort and excellent visibility of the working area.

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

Moving seat to upper, rear position

To move the deluxe seat up and back, stand up and lift the seat release latch. The seat will move automatically to the upper, rear position. This gives you plenty of room when you desire to drive while standing. Sit down to return the seat to normal, preset operating position.

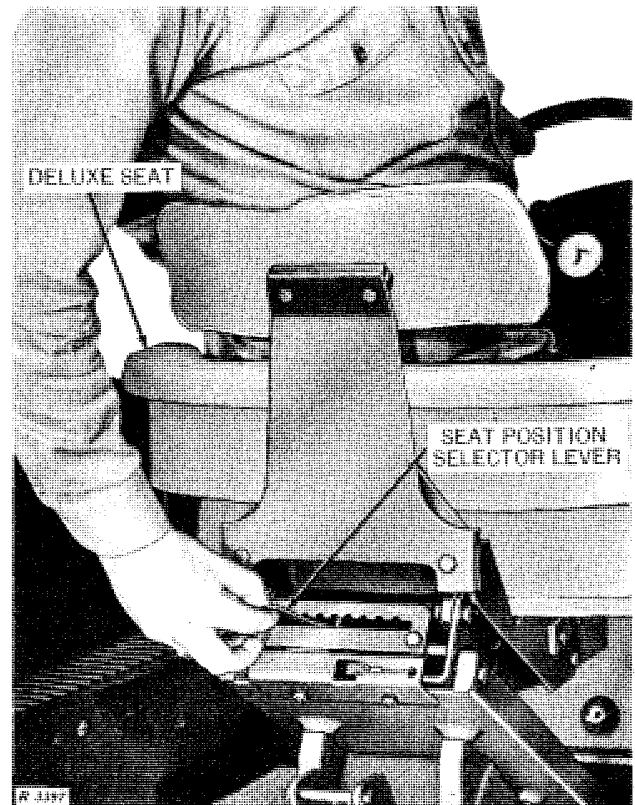
To move the regular seat out of the way for standing, lift the seat release latch and push the seat to the upper, rear position where it will latch. To return the seat to normal, preset operating position, lift the latch and allow the seat to move forward.

Adjusting for height of operator

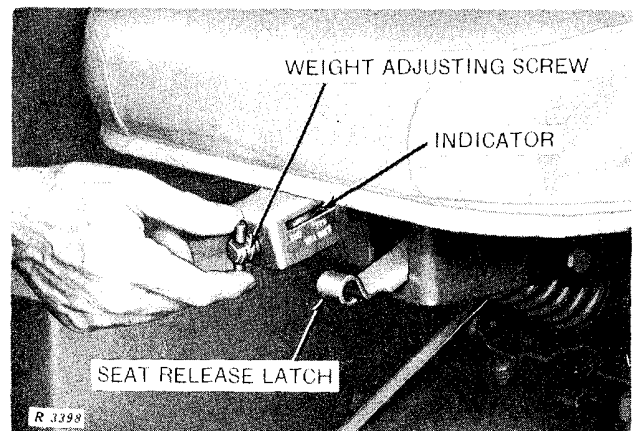
The normal operating position of the seat can be suited to the height of the individual operator. To make this adjustment, first move the seat to the upper, rear position. Then shift the seat position selector lever between "short" and "tall" until the pedals and levers can be operated comfortably when 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.

Adjusting for weight of operator (deluxe seat)

You can adjust the tension of the steel compression spring of the deluxe seat to conform to your weight. This gives the proper amount of comfort and enables the seat to "float" when the tractor is driven over rough ground. To make

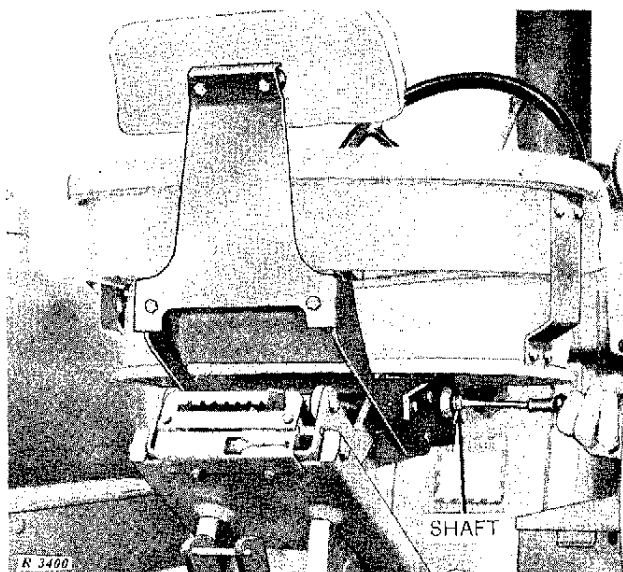


Adjusting seat for height of operator



Adjusting deluxe seat for weight of operator

this adjustment, turn the weight-adjusting screw clockwise or counter-clockwise until the indicator below the seat conforms to your weight.



Turning counterbalance shaft

Adjusting counterbalance spring (deluxe seat)

If the deluxe 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 counter-clockwise until seat action is satisfactory. Line up the latch across the end of the

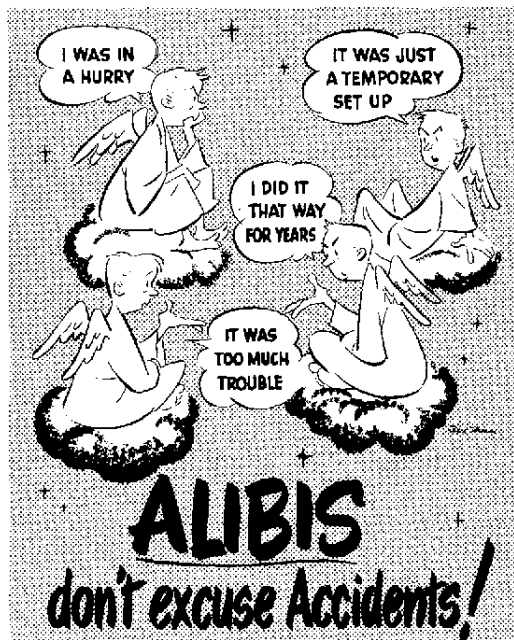
shaft with one of the pairs of slots in the side of the seat support and release pressure on the screwdriver.

Adjusting the back (regular seat)

The position of the back of the regular seat can be adjusted to suit the individual operator. To move the back up or down, remove the seat back attaching screws, move the back to the desired position, and replace and tighten the attaching screws.



Seat back attaching screws (regular seat)



CAUTION: Before starting the tractor engine, be sure there is plenty of ventilation. Never operate the tractor in a shed or garage.



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

Starting the engine

(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 53.
- (b) Check the radiator coolant level--see page 53.
- (c) Change the air cleaner oil when the dirt level exceeds 3/8 inch--see page 53.
- (d) If the tractor has a precleaner, check the collector bowl--see page 54.
- (e) Grease the front axle pivot pins and steering spindles--see page 54.
- (f) Grease the front wheel bearings if the tractor has been operated in extremely wet or muddy conditions--see page 54.

(2) Make sure the shift lever is in neutral or in the "park" position and depress the clutch pedal to decrease drag on the engine.

(3) Place the hand throttle in the slow idle (600 rpm) position, with the throttle pushed all the way to the left with the knob in.

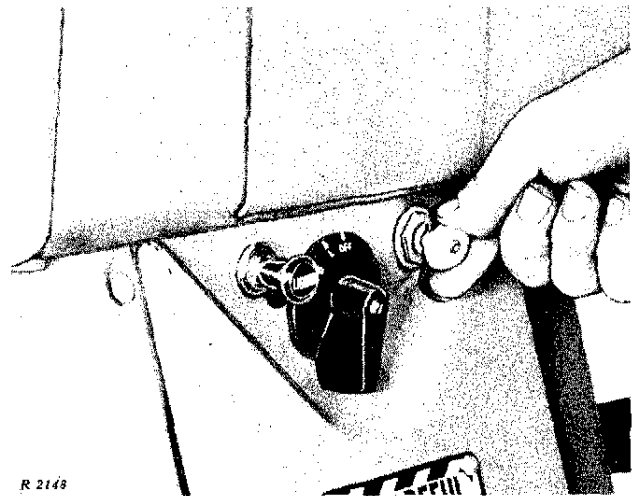
(4) Open the vapor withdrawal valve slowly.

If the valve is opened too fast, it may cause the excess flow valve to close and prevent normal flow of vapor. If this happens, close the vapor withdrawal valve and open the vapor withdrawal valve slowly.

(5) Turn the key switch clockwise to the first position. The generator and oil pressure indicator lights should glow. If either lamp 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.

(7) In cold weather, if the engine does not start immediately, place the hand throttle in the 450



R 2146

Operating key switch

rpm slow idle position (page 12). While the starter is cranking the engine, pull the choke knob out slowly until the engine fires regularly. Leave the choke in this position and slowly advance the hand throttle. Gradually push the choke knob in. **DO NOT OVER-CHOKE.**

NOTE: At low temperatures, it may be necessary to use a cold weather starting aid (page 10).

Do not hold the key switch in the start position for more than 30 seconds at a time. To do so may overheat the starter. If the engine does not start the first time, wait for a minute or two before trying again to allow the starter to cool. If the engine does not start after four such attempts, refer to "Trouble Shooting" (page 79).

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

10 operation

(8) As the engine begins to run, check to see that the oil pressure indicator light and generator indicator light go out. If either lamp continues to glow, stop the engine and determine the cause.

(9) After the engine is started, operate it on vapor until the cooling system is warm. Then slowly open the liquid withdrawal valve and close the vapor withdrawal valve. If the liquid withdrawal valve is opened too fast, it may cause the excess flow valve to close and prevent normal flow of liquid.

Cold weather starting aids

Additional battery

Starting the engine in cold weather can be made easier by connecting an additional 12-volt battery in parallel with the 12-volt battery on the tractor.

Use jumper cables to connect the positive (+) terminal of the booster battery to the positive (+) terminal of the tractor battery and the negative (-) terminal of the booster battery to the negative (-) terminal of the tractor battery.

A tractor-mounted booster battery is available from your John Deere dealer.

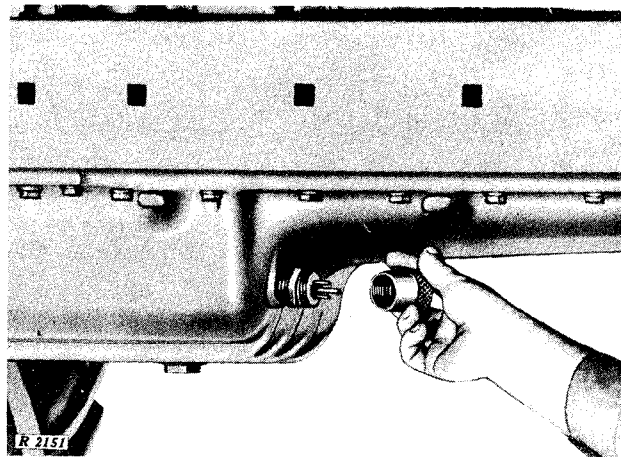
Crankcase oil heater

Your tractor is designed to permit use of a 240-watt electrical crankcase oil heater. This heater warms the oil in the crankcase to facilitate engine starting.

To install the crankcase oil heater, remove the plug from the crankcase and drain the crankcase oil. Apply thread paste to the threads of the heater, insert the heater in the opening, and refill the crankcase. When the heater is to be put

into use, remove the protective cap, attach the cord, and plug the cord into any convenient 115-volt electrical source with suitable ground. The connector on the cord has a release lever to lock the connector and heater terminal connection. Press the release lever when connecting the heater cord.

When the prevailing air temperature is between 0 degrees and 20 degrees F., use the oil heater for two to three hours. At below 0 degrees F., use the heater for four to six hours.



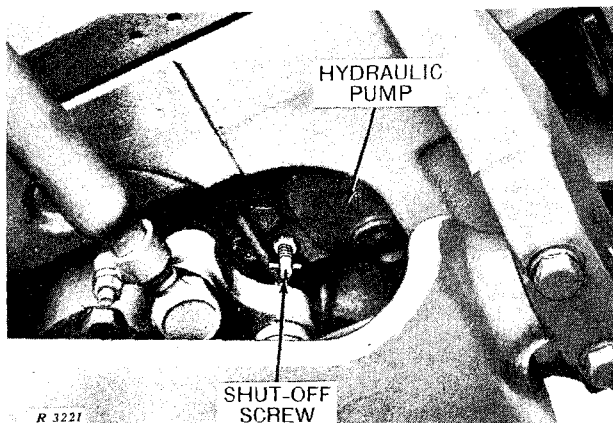
Removing cap from crankcase oil heater

Battery warmer

This warmer is used to warm the battery, permitting it to furnish electrical current to the starter efficiently in cold weather.

Place the battery warmer under the battery in the battery compartment and plug the cord from the warmer into any convenient 115-volt electrical source. It may be necessary to disconnect the battery during installation of the warmer. Be sure to connect the battery cables properly (page 69) after installing the warmer.

Putting hydraulic pump out-of-stroke



Hydraulic pump shut-off screw

The starter speed during cold weather starting may be increased by taking the hydraulic pump out-of-stroke (pump will not build up pressure). To do so, turn the shut-off screw in (clockwise) a few turns with a screwdriver. Then turn the screw in by hand until resistance is felt. With a screwdriver, turn the screw in one more turn. The hydraulic pump is now out-of-stroke.

After the engine has started, use a screwdriver to back the shut-off screw all the way out (turn the screw counter-clockwise). 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.

Tractor warm-up period

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

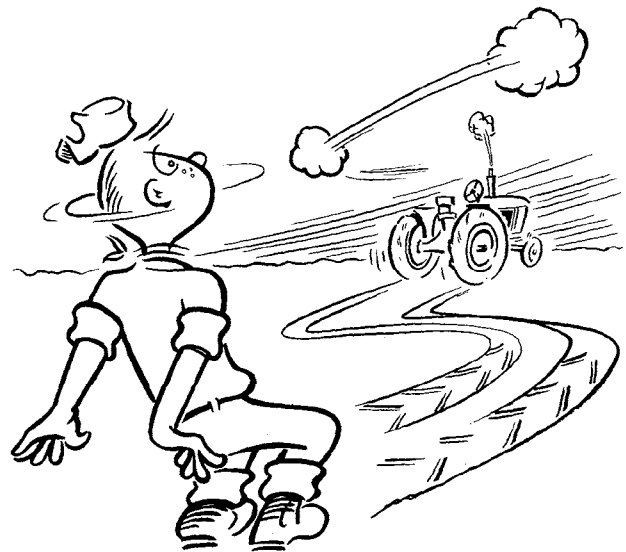
A good way to do this is first to idle the engine at about 1500 rpm for 5 minutes and then operate it at about 1900 rpm for another 5 minutes.

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 to fall below its normal range. This may cause crankcase oil dilution, due to incomplete fuel combustion. It also promotes rapid accumulation of engine sludge.

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



R 2207

CAUTION: Never dismount from the tractor when it is in motion. Wait until the tractor stops and place shift lever in "park" before dismounting.

Engine speeds

The tractor engine is designed to operate at working speeds ranging from 1500 to 2200 rpm. These are variable governed speeds, and the engine can be operated at any speed between the two extremes to meet various working conditions.

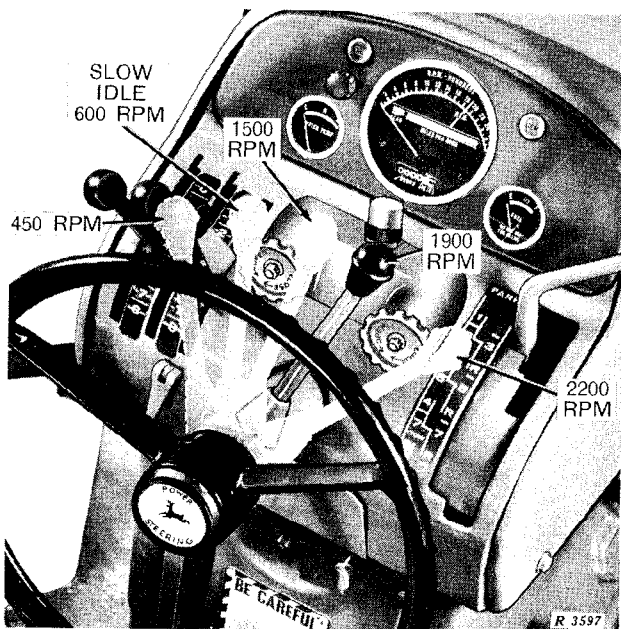
Operate the engine at 1900 rpm to obtain the SAE rated PTO speeds for efficient operation of PTO-driven implements. Normal slow idle is 600 rpm. A 450 rpm idle speed is also provided for engine shut-off.

In addition, engine speeds may be varied between 2200 and 2500 rpm to save you time when traveling on highways or on smooth-surfaced roads.

Using hand throttle

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

Push the throttle to the left as far as it will go to obtain a normal idle speed of approximately 600 rpm. To obtain 450 rpm idle speed for stopping the engine, pull out on the knob on the



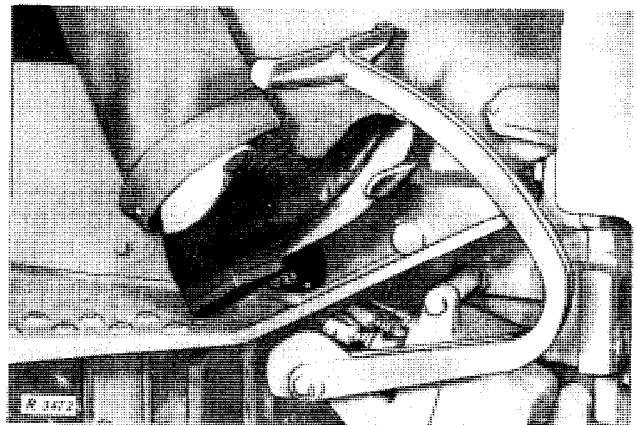
Range of hand throttle positions

hand throttle and push the throttle to the left as far as it will go. To obtain 1900 rpm load speed, pull the lever to the right to the first stop. Placing the lever approximately 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, pull the throttle to the right as far as it will go. This is the 2200 rpm 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 select engine transport speeds up to 2500 rpm or to raise engine speed momentarily.



Operating the foot throttle

Press down on the foot throttle to speed up the engine. When the pedal is pushed forward as far as it will go, the engine operates at 2500 rpm.

The foot throttle operates independent of the hand throttle. When it is not in use, engine speed is determined by the setting of the hand throttle.

NOTE: The foot throttle is not intended as a means of increasing the normal working speed of the engine.



Suggest:

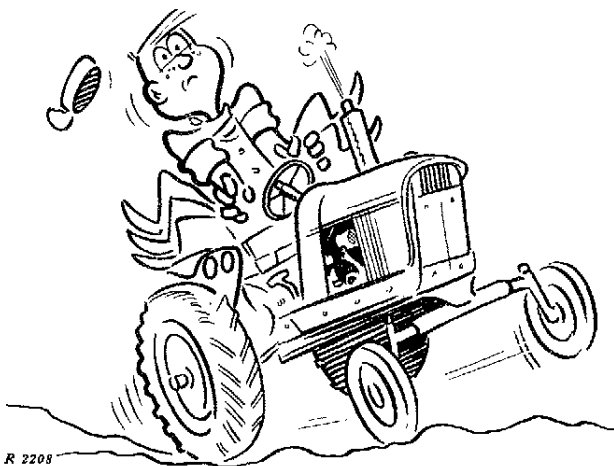
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R 2208

CAUTION: Fast driving is the cause of many accidents. Drive at a safe speed at all times.

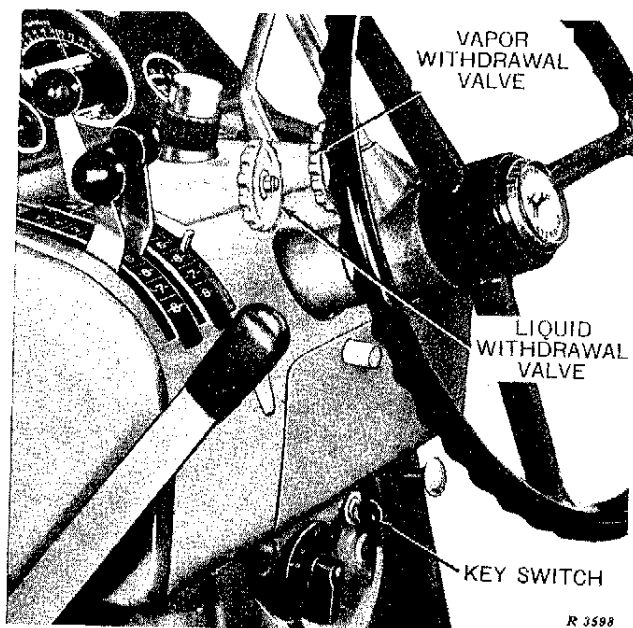
Stopping the engine

Close the liquid withdrawal valve and open the vapor withdrawal valve. Idle the engine for a minute or so to use up the liquid fuel in the lines and to permit the engine to cool gradually. Sudden stopping of a hot engine may cause metal parts to overheat momentarily and subject them to possible damage.



whatever you do -
**WATCH WHERE
YOU'RE GOING!**

R 2247



R 3598

Key switch and withdrawal valves

Close the vapor withdrawal valve and let the engine run until the fuel is exhausted and the engine stops. **TURN THE KEY SWITCH OFF.**

Remove the key from the key switch to prevent tampering and unauthorized operation of the tractor.

Breaking in the engine

Your new tractor is shipped from the factory with a special breaking-in oil in the crankcase. To be sure that all bearing surfaces will be properly lubricated during initial operation, break in the tractor engine as follows.

During the first 20 hours of service, operate the tractor engine at half load with the hand throttle in the 1900 rpm position. The speed-hour meter will show an engine speed of approximately 2100 rpm at half load.

After this 20-hour period, drain the oil from the crankcase, replace the crankcase oil filter element and fill the crankcase with new oil of the proper weight and quality. See page 49. Your tractor is then ready for normal operation.

NOTE: Observe the engine coolant temperature carefully, especially during the break-in period. If the temperature rises above the "N" range on the water temperature gauge, shift to a lower gear to reduce the load on the engine.

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