

John Deere Model "MI" Series Tractor



JOHN DEERE

OPERATORS MANUAL John Deere Model "MI" Series Tractor

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ENGLISH



TO THE PURCHASER

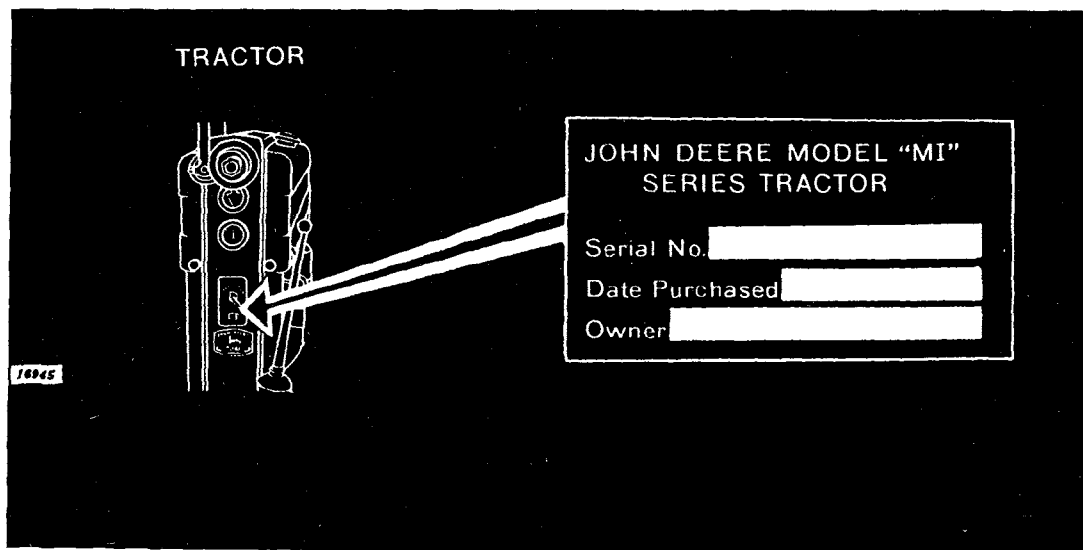
We welcome you to our ever-growing family of John Deere tractor owners. We are confident that the dependable and economical performance of the John Deere Model "MI" Tractor will prove that you made a wise choice.

The purpose of this manual is to acquaint you with the John Deere Model "MI" Tractor. The manual explains how to operate and service your tractor, and how to maintain its high operating efficiency. Instructions are given clearly, with the intention of making these operations as easy as possible.

Keep this manual in a convenient place for quick and easy reference. Use it as a guide whenever questions arise. You have purchased a dependable, sturdy tractor, but only by operating and caring for it properly can you expect to receive the service and long life for which it was designed.

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

When ordering parts, be sure to give the serial number of your tractor. The illustration below shows where to find this serial number, which should be written NOW in the space provided in the illustration. Also write in date purchased and owner's name.



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Even though your dealer has carefully inspected this tractor before delivering it to you, it is always good business to re-check the items which are circled on the reproduction below of the envelope which contains this manual.

TO THE NEW JOHN DEERE TRACTOR OWNER

Each John Deere Tractor is carefully designed, assembled, and given a complete test and final inspection at the factory before it is shipped. Our main ambition is to deliver tractors to new owners in the same mechanical condition as when shipped from the factory.

To enable us to fulfill this one ambition, this tractor was carefully inspected for irregularities that may have occurred in shipment. This inspection included a complete checking of the following:

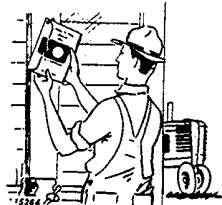
- Wheel equipment. Tire pressure. Wheel weights.
- Radiator. Fill with water or anti-freeze.
- Air cleaner. oil level.
- Crankcase. oil level.
- Transmission oil level.
- Steering housing oil level.
- Touch-o-matic oil level.
- Rear wheel brakes.
- Clutch operation.
- Spark plug gaps.
- Carburetor setting (May require adjusting later, see Instructions in Manual.)

- Engine speed and oil pressure.
- Inspect rubber hose connections.
- Check ignition timing.

Starting and Lighting Equipment

- Check new battery: Check water level. Grease terminal posts.
- Check charging rate.
- Check starting motor for operation.
- Serial number entered in owner's register.

The above inspection made by *John Doe*
Date *4-15-50* Dealer *Good Business Corp.*



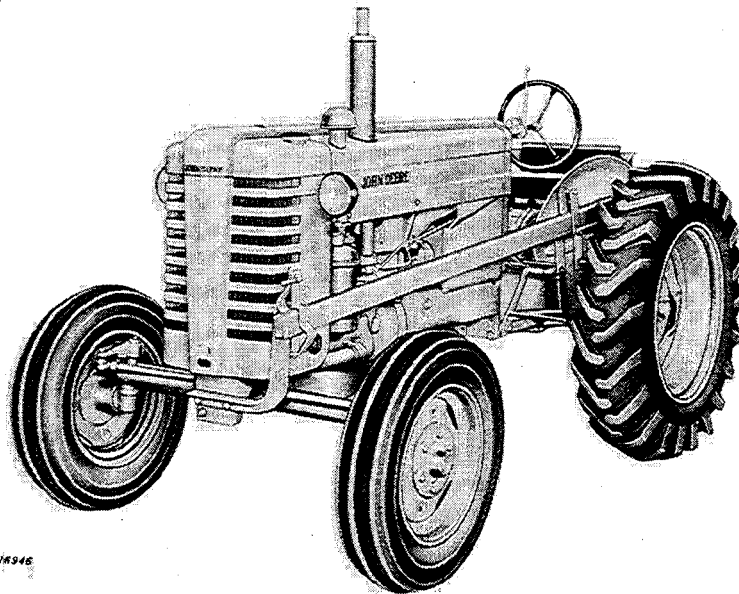
HANG THIS BOOK IN A
HANDY PLACE

We suggest this rechecking especially during freezing weather or when a period of time has elapsed between delivery and when you are ready to operate it. For complete starting information, see page 16.



We, your John Deere dealer, are mighty proud to add your name to our list of John Deere Tractor owners. Because we are interested in having you obtain from this new tractor all the comfort and long life that are built into it, we are pleased to discuss the following important maintenance operations:

- Controls and Instruments—Operation and Care.
- Breaking-in Period—Part Load, Open Throttle, Changing Oil.
- Method of Starting and Stopping Engine.
- Lubrication—Engine, Transmission, Touch-o-matic, Air Cleaner and Oil Gauge.
- Cooling System—Adding Water, Cleaning.
- Fuel System—Gasoline, Sediment Bowl and Trap, Carburetor Adjustment.
- Crankcase Breather and Ventilator—Servicing.
- Tires—Inflation, Inspection, Weighting Wheels.
- Drawbar—Importance of Pulling From No Other Place.
- Distributor Care—Keeping Terminals Tight, Cleaning, Adjusting Points, Timing.
- Rear Wheel Brakes—Adjustment.
- Clutch—Adjustment.
- Front Wheels—Cleaning, Adjustment and Spacing.
- Touch-o-matic Operation and Care.
- Starter and Lights—Starting, Charging Rate, Changing Fuse, Battery Care.
- Tightening Bolts and Nuts.
- Safety in Operation—Selecting Proper Speed, Keeping Guards on Power Shaft.
- Keeping the Tractor Clean.
- Operating the Tractor.
- Appointment for After-Sales Service—not later than two weeks after delivery.



16546

SPECIFICATIONS

CAPACITY:

Industrial loaders, brooms, 5- or 6-foot sickle bar, 3- or 5-gang rotary mower.

SPEEDS:

Forward-1 $\frac{1}{8}$, 3 $\frac{1}{8}$, 4 $\frac{1}{4}$, 10-12 MPH on 9-24 pneumatic tires (at normal governed speeds)

Reverse: 1 $\frac{1}{8}$ MPH

ENGINE:

Two vertical cylinders, cast in block; valve-in-head.
 Engine speed .1650 RPM at rated load.
 Bore and stroke.....4" x 4".
 Displacement.....101 cu. in.

CARBURETOR:

Natural-draft type (Adjustable load and idle jets).

AIR CLEANER:

Heavy-duty, oil-wash type, center tube with stack.

COOLING SYSTEM:

Thermo-Siphon system. Total capacity, 3 $\frac{1}{2}$ gallons.

FUEL SYSTEM:

Gravity-feed system gasoline tank. Capacity, 9 gallons.

CLUTCH:

Single 10" plate automotive-type, foot operated.

OIL FILTER:

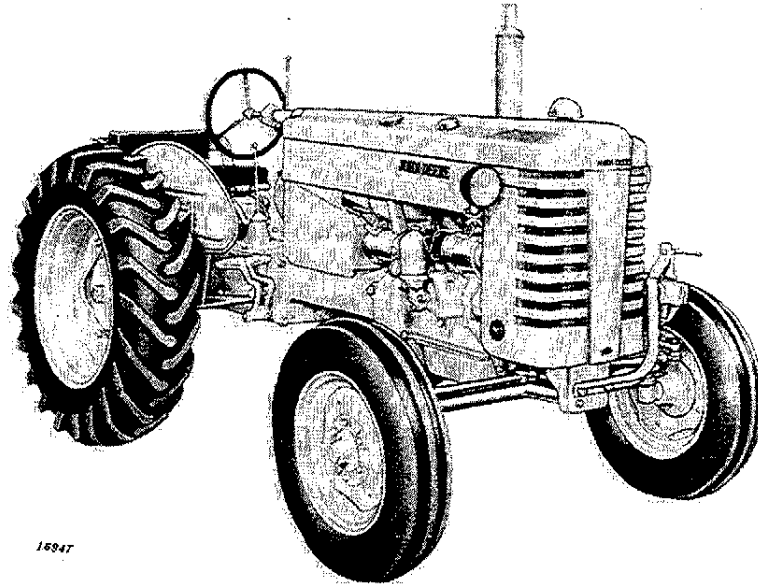
Replaceable cartridge.

TRANSMISSION:

Four speeds forward and one in reverse. Selective type spur gears, alloy steel, forged, cut and heat treated. Bearings constructed with four roller and six tapered-roller bearings. Oil capacity approximately 6 $\frac{1}{2}$ U.S. quarts. Transmission and differential are included in same case.

POWER TAKE-OFF:

Shaft diameter, 1 $\frac{3}{8}$ ", A.S.A.E., RPM 550.



AND DATA...

LUBRICATION:

Force-feed pressure system. Total capacity of oil system is five quarts, including oil filter.

REAR WHEELS:

9- or 10-24, 4-ply industrial tires mounted on pressed-steel rim with mounting flange. Tread adjustments are made by rotating mounting positions on attaching flange.

FRONT WHEELS:

5:00 x 15, and 5:50 or 6:00 x 16, 4-ply tires mounted on pressed-steel rims.

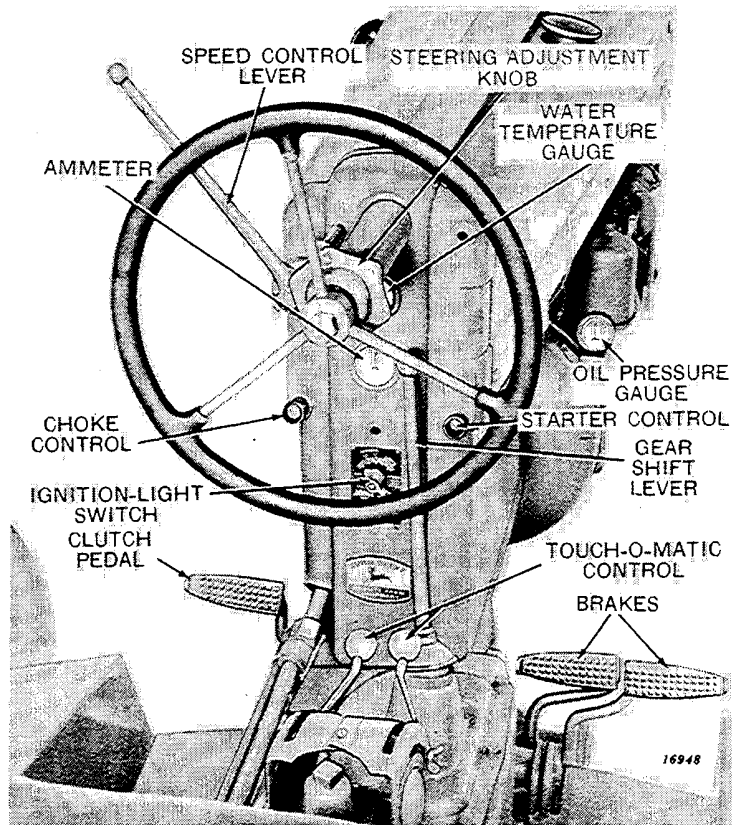
DIMENSIONS (On 10-24 pneumatic tires):

Wheelbase 62"; Over-all height 64"; 50" height to top of grille; Over-all length 110"; Over-all width 102"; Rear tread adjustment 48", 52"; 11" clearance.

REGULAR EQUIPMENT:

Starter, generator, battery, oil filter, gasoline filter, oil wash air cleaner, idle- and load-adjustable carburetor, distributor ignition system, dry-plate semi-self-adjusting clutch, individually operated self-energizing brakes, oil pressure gauge, temperature gauge, ammeter, generator charge control switch, Thermo-Siphon cooling system, pressure lubricating system, exhaust muffler, Dual Touch-o-matic system, power take-off, adjustable steering shaft, air cushion seat, "Air-loc" sheet metal fasteners, tool box, fenders, two front lights and tail light.

CONTROLS ... INSTRUMENTS



Starting and Operating Controls

The quality and amount of work you do with your tractor not only depends on the use of proper equipment, but also upon ease and convenience of tractor operation. If you are in an uncomfortable position, if you have to fight the steering wheel, or if you can't see what you are doing, you are definitely handicapped.

Your John Deere tractor is as convenient to handle as your automobile. All controls are readily accessible. Shift lever, throttle, power shaft control, and Touch-o-matic lever are reached easily from operator's seat. Under your feet are convenient dual brakes and clutch control. A platform is provided on which you can stand if you so desire.

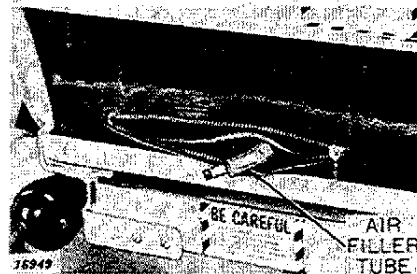
Familiarize yourself with all controls provided for safe and easy operation of your new tractor. Regardless of your previous experience, carefully study this section covering controls before you operate your tractor.

CONTROLS AND INSTRUMENTS

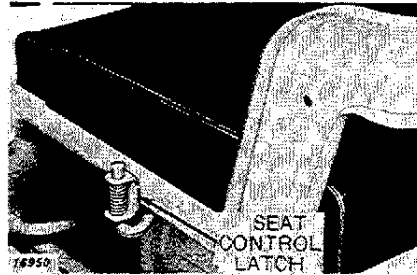
SEAT

The large air-bladder seat on this tractor gives you riding comfort which has been lacking on previous industrial tractors. When inflated properly, the seat will cushion any shock or jar you may receive when operating in rough or boggy ground. It also gives a self-leveling effect when operating on an incline.

To increase or decrease amount of air in bladder, open slide fastener located at rear of seat and extend filler tube. It is not necessary to use a tire pump to inflate bladder. When adding air, be careful not to over-inflate. To remove air, depress valve.

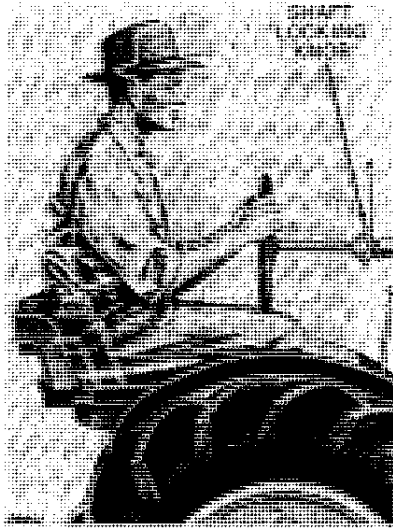


Air Filler Tube



Seat Control Latch

The seat is mounted on slide rails and is adjustable forward and backward to most comfortable operating position. Movement is controlled by a latch located on lower left-hand side of seat. When latch is depressed, seat may be moved to desired position. A safety stop screw is installed in slide to prevent seat from sliding off rails.



Range of Adjustment

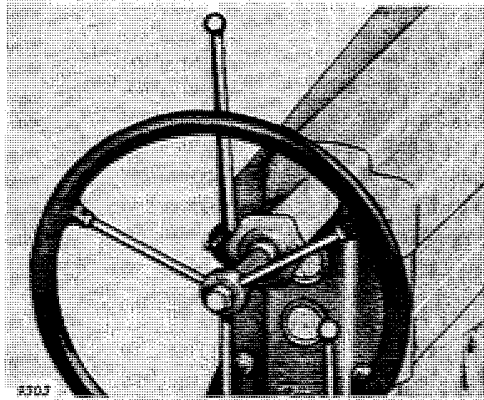
STEERING

The adjustable steering shaft allows steering wheel and shaft to be extended to any of several positions. Adjustment of steering wheel is controlled by a locking knob located on steering shaft near instrument panel. Turning knob counterclockwise releases lock. Turning knob clockwise locks shaft in desired position.

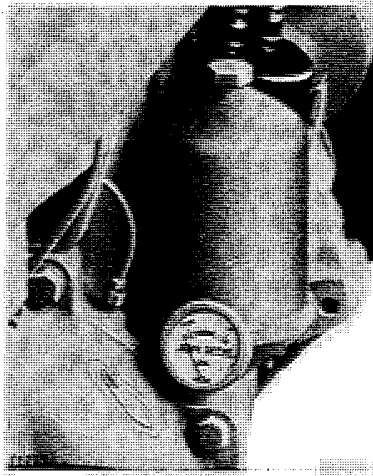
NOTE: In some cases it is necessary to turn locking knob back (clockwise) slightly in order to release shaft locking mechanism fully.

ENGINE SPEED CONTROL LEVER

The engine speed is controlled by a lever located on steering shaft support. Engine speed is controlled by raising lever to increase and lowering to decrease. This lever controls operation of governor, which in turn governs mixture of air and gasoline fed through the carburetor. (Linkage is adjusted at factory and should not be changed in field.)



Engine Speed Control Lever



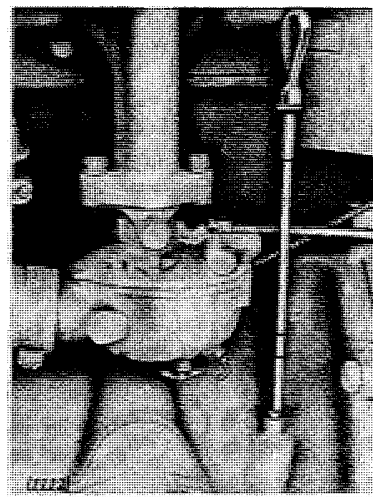
Oil Pressure Gauge

OIL PRESSURE GAUGE

The oil pressure gauge is located on distributor side of engine and is attached to oil filter base. It has been placed in this position so it can easily be observed by tractor operator, while operating tractor. The oil pressure gauge, as its name implies, shows oil pressure through oil passages. It is not intended to show quality or quantity of oil in crankcase.

BAYONET OIL GAUGE

This gauge is located to rear and below carburetor and shows quantity of oil in crankcase. It is extremely important that bayonet gauge be checked each time before starting engine, in order to insure proper engine lubrication. If gauge shows oil level at "ADD 1 QT." mark or below, oil **MUST** be added before starting engine. (Crankcase capacity 5 U.S. quarts, including 1 quart for oil filter.)

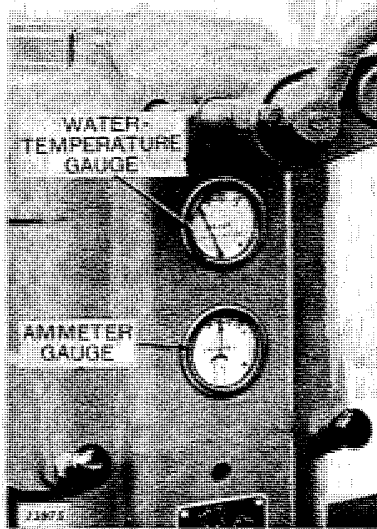


Bayonet Oil Gauge

INSTRUMENT PANEL

WATER TEMPERATURE GAUGE

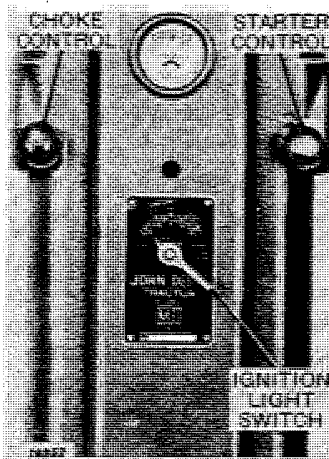
The temperature gauge is located at top of the instrument panel just below speed control lever. It shows temperature of water in cooling system at the water outlet manifold, where heated water comes from engine. This gauge will show a temperature between 190° and 210° F. during normal operation. It is not unusual during prolonged operation for the temperature gauge to remain at 210° F., because the engine and thermo-syphon cooling system have been designed to operate efficiently at that temperature.



Gauges

AMMETER

This gauge shows if generator is supplying a charge to battery and also the rate of charge or discharge of battery. The generator should be adjusted so that ammeter will show correct charge rate when engine is operating at fast idle, with lights off. Proper readings are approximately 2 amperes with switch at low charge position (2nd position) and approximately 8 to 10 amperes at high charge position (3rd position). If ammeter should show no charge, it is a sign of possible generator failure. Engine should be stopped and cause of trouble ascertained. (See "Electric Generator" on Page 55 for correction.)



Starting Controls

IGNITION-LIGHT SWITCH

The ignition and light switch controls ignition system as well as charge rate between generator and battery. It also is used to operate lighting system. The switch has five different operating positions as follows:

- 1.—(Starting with pointer of switch at far left.) Ignition is off. This position should always be used whenever shutting off engine so as to prevent discharge of battery when engine is not running.

CONTROLS AND INSTRUMENTS

2.—Ignition on and generator charging **low** rate (approximately 2 amperes). This position should be used except when battery charge is very low, thus making additional charging necessary.

3.—Ignition on and generator charging at **high** rate (approximately 8 to 10 amperes). This position is used if battery charge has become low due to excessive use of starter or lights. Do not operate on this position for too long a period of time; overcharge of battery will result.

4.—Ignition on and lights on. This position is used when it is necessary to use lights while operating tractor. This position also gives a high rate of charge to eliminate drain of stored energy from battery by lights.

5.—Ignition off and lights on. This position is used when lighting system is used, without operating engine. **This position must be used sparingly as it will sap strength from battery.** If battery should become run down from this use, it may be necessary to use starting crank to start engine. Run on high charge rate until battery is recharged.

NOTE: Keep these various positions in mind at all times. (While operating tractor, it is essential to know which of the positions will keep battery charged to its peak without overcharging.)

CHOKE CONTROL AND STARTER CONTROL

These controls are located on either side of instrument panel slightly above the ignition-light switch. Starter control should be used sparingly so as not to weaken battery charge. Be careful when operating choke, as overchoking will flood carburetor.

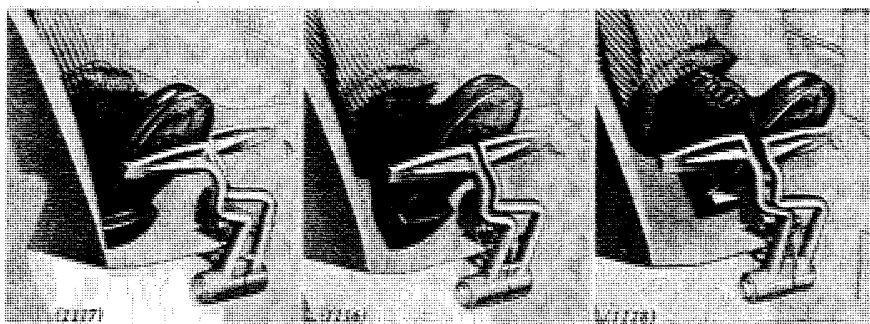
HAND CRANK

A hand crank is furnished with every tractor. It is used only in case of a weak battery or for turning engine when servicing or adjusting.

BRAKE PEDALS

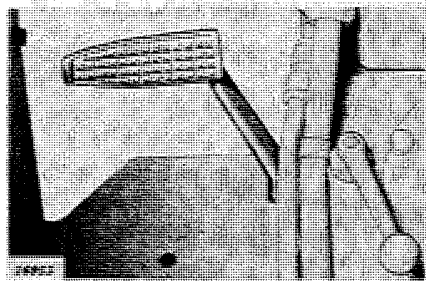
This tractor is equipped with self-energizing brakes. They are of the pressure-plate, single disk type, with linings which require no adjusting by the operator other than lengthening or shortening of brake pedal rod for proper pedal position when brakes are released. (Yearly check of brakes should be made by your John Deere dealer.) Brakes are individually controlled by dual pedals, located on lower edge of right-hand foot rest platform. Individual control of brakes allows you to use them for making shorter turns at corners. However, use caution in turning tractor when using the individually controlled brakes, especially if tractor is traveling at a high speed. By

CONTROLS AND INSTRUMENTS



Operation of Brake Pedals

using both brakes simultaneously, you are assured of a quick and safe stop whether you are operating at low or transport speed. Brake pedals are equipped with individual cam locks, doing away with blocking wheels when stopping on a hill or adjusting machines. These locks are engaged by a quick push with the foot and are disengaged by depressing brake pedal and pressing on lever of cam lock. *NOTE: It is suggested that brakes be checked and readjusted by your John Deere dealer at end of each season's operation.*



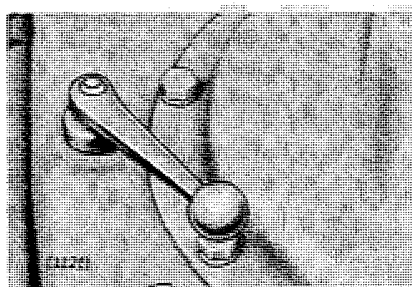
Clutch Pedal

CLUTCH PEDAL

This tractor is equipped with a foot-type clutch, located on the left side and to the front of the transmission case.

POWER SHAFT CONTROL LEVER

The power shaft is operated by a control lever located on left front of transmission case. Power shaft, located at rear of transmission case, is engaged by moving lever to the left.

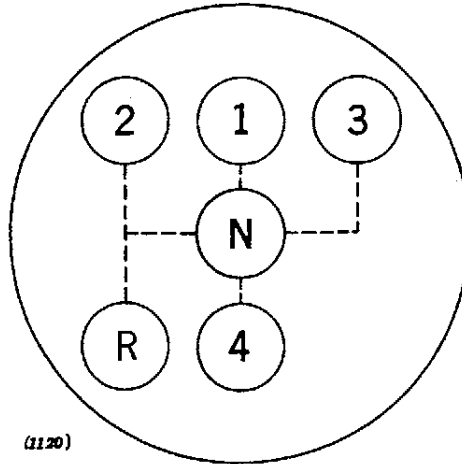


Power Shaft Control Lever

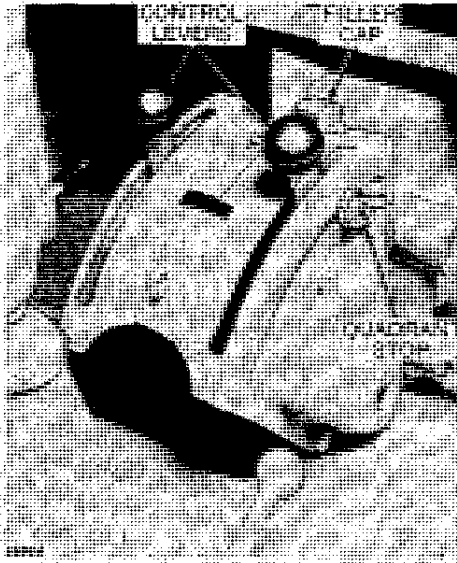
GEAR SHIFT LEVER

Familiarize yourself with shifting diagram before you attempt to operate your tractor. Shifting diagram is cast on transmission shifting cover for your convenience.

If gears do not mesh freely when shifting, release clutch pedal, allowing clutch to engage slightly, and again depress clutch pedal. This permits gears to rotate until gear teeth line up better for easier shifting. Avoid clashing gears. This causes unnecessary wear on gears and possible gear tooth breakage.



Shifting Diagram



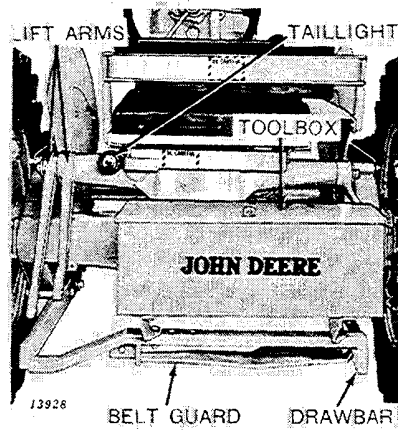
Touch-O-Matic Controls

TOUCH-O-MATIC CONTROLS

Touch-o-Matic control levers are located in individual quadrants immediately in front of driver's seat. Right and left control levers may be operated independently, or both may be used together. Moving levers to the rear raises machine, and moving levers to the front lowers machine. Stops on each quadrant can be set so that the machine always returns to the same operating level.

TOOL BOX

Your Model "MI" is equipped with a spacious tool box located above the drawbar. It is a convenient storage space for tools, crank, chain and other necessary articles, and is equipped with hasp for a lock.



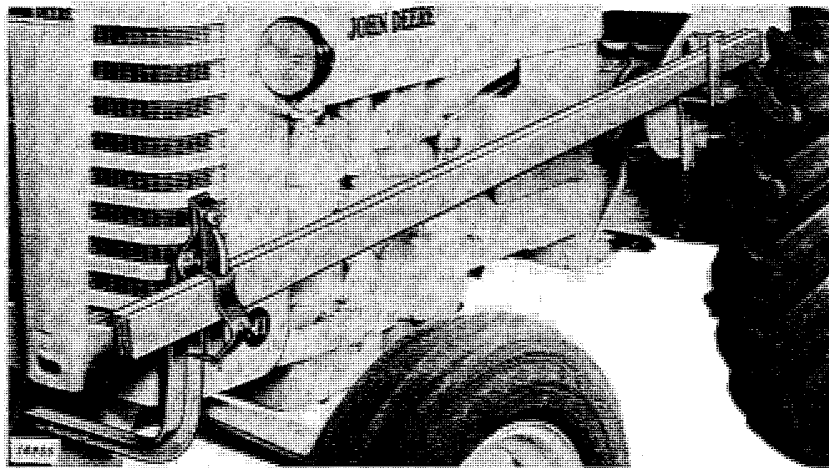
Tool box and Drawbar

DRAWBAR

Your Model "MI" has a stationary drawbar for pulling towed-type equipment. The drawbar is equipped with a belt guard to protect pulleys and belts when using power take-off with integrally mounted machines.

SICKLE CARRIER (Supplied with Mower)

Two sickle carrier brackets may be mounted on the left side of the tractor. The front bracket attaches to the front pedestal, the rear to the left fender. These brackets enable the operator to carry a replacement sickle blade should the original become dull or broken. A wooden guard is provided to protect replacement blade.



Sickle Carrier Mounted on Tractor

OPERATION OF TRACTOR

FUEL

The engine of this tractor has been designed to operate on gasoline only. It is not necessary, however, to use a special premium-grade gasoline, as engine will give its best performance using a regular-grade gasoline.

In order to be assured of high-quality gasoline, lubricating oils and greases for your new tractor, it is recommended that all purchases of these items be made from a reliable dealer.

FUEL STORAGE

Fuel should be stored in a convenient place outside of buildings. If fuel drums are used, they should be located in a shady spot to prevent undue evaporation. Drums should be tilted slightly toward rear so that sediment will settle to rear and will not get out of drum through spigot. Hose nozzle should be capped when not in use so that dirt cannot get into it. Be sure drum vent plug is screwed in tight after using.

RUN-IN PERIOD FOR NEW TRACTOR

Before your new tractor was shipped from the factory, all bearings and friction surfaces were correctly fitted, and crankcase filled with a "breaking-in" oil.

To be sure that all bearing surfaces will be properly lubricated, operate tractor on part load for first 20 hours of operation. It will not be necessary to drain oil at this time; however, check should be made periodically to be sure that an adequate supply of oil is maintained in crankcase. If it becomes necessary to add oil during run-in period, SAE 10W should be used. At end of 100 hours, "breaking-in" oil should be drained and crankcase filled with new oil in accordance with recommendations on page 24.

BEFORE STARTING ENGINE

Before attempting to start engine or operate tractor, familiarize yourself with tractor and its various controls. Your John Deere industrial dealer has shown you the important features of its operation and called your attention to various maintenance points which should be continually watched. There are, however, certain checking points which should be called to your attention



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OPERATION

in order to prevent any future trouble or operational delays. The following instructions are very important, and by making it a hard-and-fast rule to follow them before starting tractor you will be compensated by longer tractor life and fewer operational delays.

1. Check water level in radiator and, if necessary, add water to top of reservoir. (Use soft or rain water if possible.) During freezing weather—where water has been drained to prevent freezing, *DO NOT* start engine before drain cock in lower water elbow has been closed and radiator refilled with water. (Capacity of cooling system, 3½ U.S. gallons.)

2. Check amount of gasoline in fuel tank. Always use clean fuel. Regular grade gasoline is recommended. (Capacity of fuel tank, 9 U.S. gallons.)

3. Check oil in air cleaner for quality, weight, and amount. See recommendations on pages 26 and 27.

4. Check crankcase oil level. If necessary, add a good grade of oil of the viscosity recommended in "Lubrication Chart" on page 23.

5. Check air pressure in pneumatic tires before moving tractor. Tires are over inflated at factory for shipment and should be checked before use. Inflate to correct pressure according to inflation charts, pages 50 and 51. Tire inflation should be checked at least every two weeks.

6. Check oil supply in Touch-o-matic. If supply is low, add oil until reservoir is filled to proper level. Use oil of proper viscosity as recommended in "Lubrication Chart" on page 23.

7. Check solution level of battery. Battery condition should be checked at least once each week.

8. Check fan bearing for oil supply. Fan oil supply should be checked after every 20 hours of operation. To fill fan reservoir see "Lubrication" on pages 28 and 30.

9. Check gasoline filter located beneath gasoline tank. If filter shows sediment in glass bowl, clean by first turning off gasoline supply at valve above filter bowl. Remove bowl and screen. Wash bowl and screen. Make certain a new gasket is in place before replacing filter bowl.

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