Ferguson TO30

owner's
manual

HARRY FERGUSON, INC., DETROIT, MICHIGAN

Ferguson park...

where your tractor was built.

● In this modern plant, on Southfield Road in Detroit, your new Ferguson was built. This site occupies more than 72 acres. When the development of Ferguson Park is completed, the installation will be the most modern and complete of its kind . . . housing the manufacturing operations as well as the Engineering Laboratories, General Offices, Parts, Service and other departments of Harry Ferguson, Inc. Whenever you're in Detroit, you will be welcome at Ferguson Park.

Ferguson

HARRY FERGUSON, INC.

TRACTOR

WARRANTY

For a period of six (6) months from the date of delivery of a new Ferguson Tractor to the original purchaser thereof from a Ferguson dealer, Harry Ferguson, Inc., warrants all such parts thereof (except tires) which, under normal use and service, shall appear to Harry Ferguson, Inc., to have been defective in workmanship or material.

This warranty is limited to shipment to the purchaser, without charge except for transportation costs, of the part or parts intended to replace those acknowledged by Harry Ferguson, Inc., to be defective.

If the purchaser uses or allows to be used on the Ferguson Tractor, parts not made or supplied by Harry Ferguson, Inc., or if any Ferguson Tractor has been altered outside of its own factories or sources of supply, or if implements have been used which were unsuited and harmful to the Ferguson Tractor, then this warranty shall immediately become void. Harry Ferguson, Inc., does not undertake responsibility to any purchaser of a Ferguson Tractor for any undertaking, representation or warranty beyond those herein expressed.

Harry Ferguson, Inc., reserves the right to make changes in design or changes or improvements upon the Ferguson Tractor without any obligation upon it to install the same upon its tractors theretofore manufactured.

All genuine Ferguson Equipment is identified by a serial number on a Ferguson Name Plate. Refer to the serial number before ordering parts.

foreword

You have purchased the finest tractor of its kind in the world—the New Ferguson "30". It has been built to exacting specifications with the utmost precision and balance of each moving part. New valve-in-head engine works in harmony with heavy rugged gearing. The Ferguson System combines the weight and power of tractor with forces of nature to give you unequaled performance with economy, ease of operation and usefulness on all your farm jobs.

This manual will help you maintain this high standard of performance with the New Ferguson "30" Tractor for years to come. You can make many minor adjustments yourself but some servicing will require the attention of your Ferguson Dealer. He knows the tractor inside and out . . . has both experience and equipment to give you the most satisfactory service it is possible to obtain on this tractor.

May we wish you many years of economical and enjoyable farming with your New Ferguson "30" Tractor.

Ferguson

the *Ferguson* tractor...
with *Ferguson* hydraulic system

Your New Ferguson "30" Tractor is a precision-built unit designed for efficient performance, economy and ease of operation. It is extremely rugged . . . capable of giving outstanding service.

This tractor is especially designed to take full advantage of the Ferguson System. Whatever your requirements may be, your Ferguson Tractor and its hydraulically-controlled Ferguson System Implements will open up a new, more modern way of farming.

better farming for a better America!

periodic maintenance

● Proper maintenance, including periodic inspection and regular lubrication with the correct lubricant, is essential to long life and trouble free operation of your Ferguson Tractor. This section of your manual is devoted entirely to maintenance and should be referred to as a quick reference when minor servicing is performed.

Ferguson

PERIODIC MAINTENANCE

LUBRICATION

Care should be exercised when handling all lubricating oils. Open containers invite dirt which will greatly reduce filter element life and may cause serious damage to the engine.

The points listed below should be lubricated periodically. The numbers in the boxes beside each point indicate the hours of operation after which these points should be serviced. The parts and time intervals are marked in the illustrations for your convenience.

10 PRESSURE TYPE GREASE FITTINGS

NOTE: Clean fittings, pressure grease and wipe off excess lubricant.

Leveling Box

Lift Rod Leveling Fork

Front Axle Spindles

Steering Drag Links

10 CRANKCASE DIPSTICK

Check and maintain oil level at full mark.

10 TRANSMISSION DIPSTICK

Check and maintain oil level within arrow.

10 AIR CLEANER BOWL

Clean and refill to level indicated in bowl with same weight oil as is used in the crankcase. Under very dusty conditions, service every five hours.

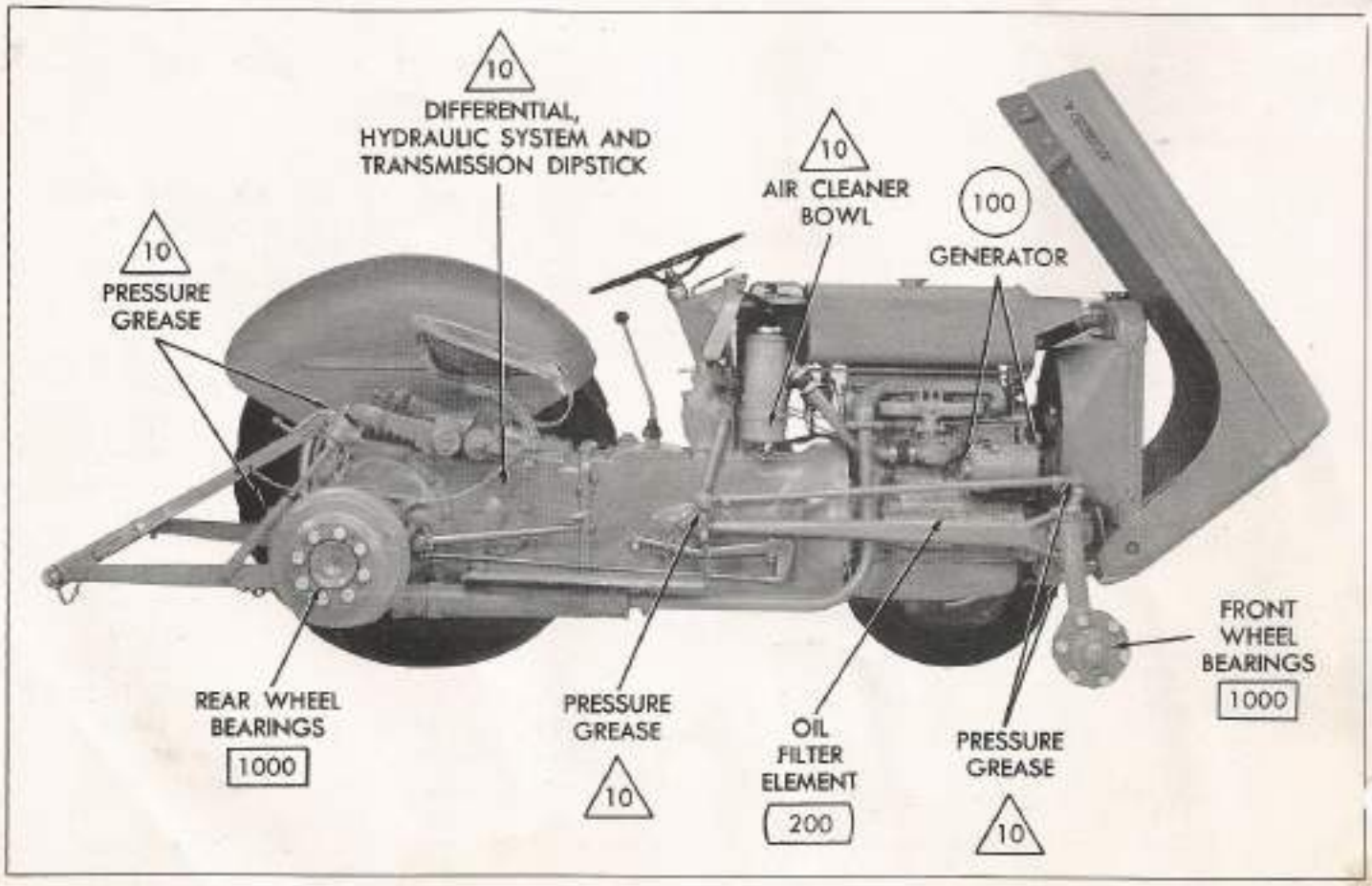
100 ENGINE CRANKCASE

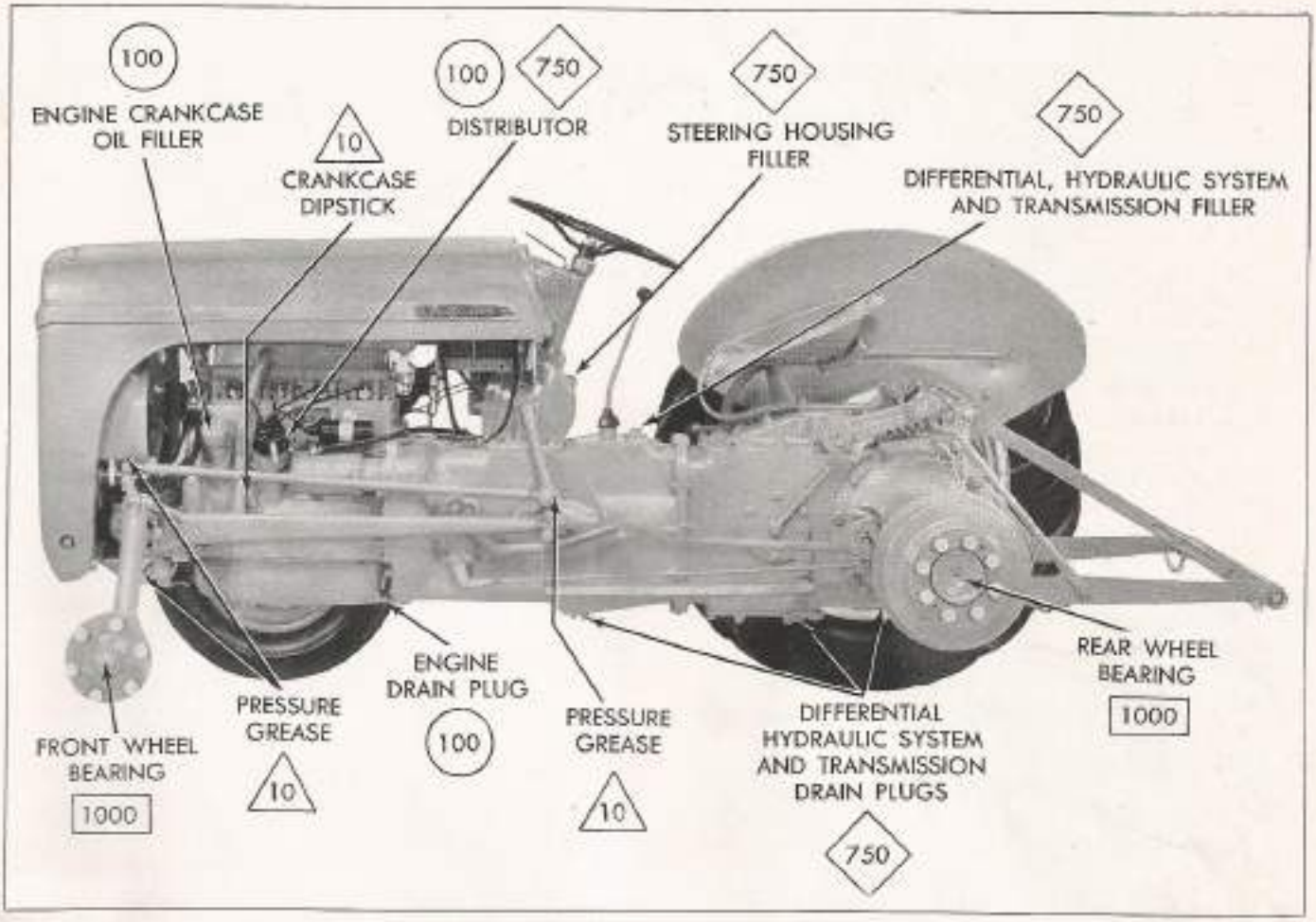
Drain when warm and refill to full mark on dipstick. Crankcase capacity 5 U.S. quarts.

S.A.E. 30 above 50° Fahrenheit Temperature

S.A.E. 20 below 50° Fahrenheit Temperature

S.A.E. 10 below 10° Fahrenheit Temperature





100 DISTRIBUTOR

Remove distributor cap, put one drop of light engine oil on breaker lever pivot and several drops on felt wick under rotor. Apply trace of cup grease on distributor cam.

100 GENERATOR

Put 10 drops of light oil in each oiler.

200 OIL FILTER ELEMENT

Replace element every other oil change. 6 U.S. quarts of crankcase oil required with the installation of new element.

750 TRANSMISSION, HYDRAULIC SYSTEM AND DIFFERENTIAL

Drain when oil is warm through three drain plugs and refill with straight mineral gear oil.

Finger-tip control lever must be in lower position to drain ram cylinder.

S.A.E. 90 above 50° Fahrenheit Temperature
S.A.E. 80 below 50° Fahrenheit Temperature

750 STEERING HOUSING OIL LEVEL

Maintain at 2 U.S. quarts or up to center of steering arms with transmission lubricant.

750 DISTRIBUTOR RESERVOIR

Fill with S.A.E. 20.

1000 WHEEL BEARINGS

Remove, wash out and repack bearings with a good grade wheel bearing lubricant. Refer to page 40 for front wheel bearing adjustment and page 35 for rear wheel disassembling procedure.

MAINTENANCE

Your tractor is rugged and durable, however, just like any other complicated machine, it will give you much more satisfactory service if it is properly cared for. Experience has shown that periodic checks of certain parts are the best way to keep your tractor in top notch condition. It is highly advisable that at least once a year, preferably in the early spring before your tractor's busy season starts, you have your Ferguson Dealer give your tractor a complete check up. Having him make any repairs, that he suggests at that time, may save you costly breakdowns later in the season. In order to aid you in your periodic maintenance checks, the following table is provided. A more complete explanation of most items listed will be found elsewhere in this book.

Refer to lubrication details pages 2 and 3 for items which have an * (asterisk).

A. DAILY MAINTENANCE (10 hours)

1. Crankcase Dipstick*
2. Transmission Dipstick*
3. Air Cleaner*
   Inlet screen. Inspect for dirt and clean if necessary. This can be kept clean from the driver's seat.
4. Pressure Fittings*
5. Radiator
   a. Coolant level should be approximately 1" above core.
   b. Fins. Clean out foreign material.
6. Fuel Tank
   Fill with good clean regular grade gasoline through a screened funnel when the engine is stopped. Do not over fill. Be particularly careful not to spill fuel when engine is hot.

B. WEEKLY MAINTENANCE (50 hours)

1. Battery Condition
   a. Inspect cables and surface of battery. If wet, dirty or corroded, clean with a warm baking soda solution and apply grease to terminals to prevent further corrosion.
   b. Keep water level $\frac{3}{8}$" above the plates. Add only distilled water. Fill to the top of the filler well. Care should be exercised not to disturb the washer.
2. Tires
   Inspect physical condition and check pressure. The tires should be inflated to the following pressure: 4.00 x 19—28 lbs., 6.00 x 16—28 lbs., 10.00 x 28—12 lbs. and 11.00 x 28—12 lbs.
3. Nuts, Bolts and Screws
   Check and tighten if necessary.
4. Fuel Filter and Sediment Bowl
   Shut off valve, empty bowl and wash filter in gasoline. If filter becomes coated with gum, or other deposits, from the gasoline, soak in solvent to remove.

C. SEMI-MONTHLY MAINTENANCE (100 hours)

1. Crankcase Oil*
2. Distributor*
3. Generator*

D. MONTHLY MAINTENANCE (200 hours)

1. Spark Plugs
   Inspect condition. Clean spark plugs and set gap at 0.025.
2. Oil Filter Cartridge*
3. Bearing Retainer Nuts
   Tighten the six nuts on end of rear axle housings.
4. Cylinder Head Cover Breather Pipe
   Remove and clean.
5. Carburetor
   Shut off fuel valve, remove drain plug and drain carburetor. Remove inlet elbow and clean screen.

E. SPRING AND FALL MAINTENANCE (750 hours)

1. Transmission Oil*
2. Steering Housing Oil Level*
3. Master Control Spring
   Grease threaded end of plunger and rod.
4. Radiator
   Clean and flush radiator and refill with proper coolant.
5. Gasoline Tank
   Clean and flush tank to remove rust, dirt and other foreign material.
6. Air Cleaner
   a. Internal filter. Remove filter assembly and wash in gasoline.
   b. General. Check all connections for tightness.
7. Distributor Reservoir*

F. YEARLY MAINTENANCE (1,000 hours)

1. Front and Rear Wheel Bearings*
2. Upkeep
   Wash tractor thoroughly. Remove all rust spots and touch up all areas with Ferguson Enamel.

*For Further Information Refer to Page 2 or 3.

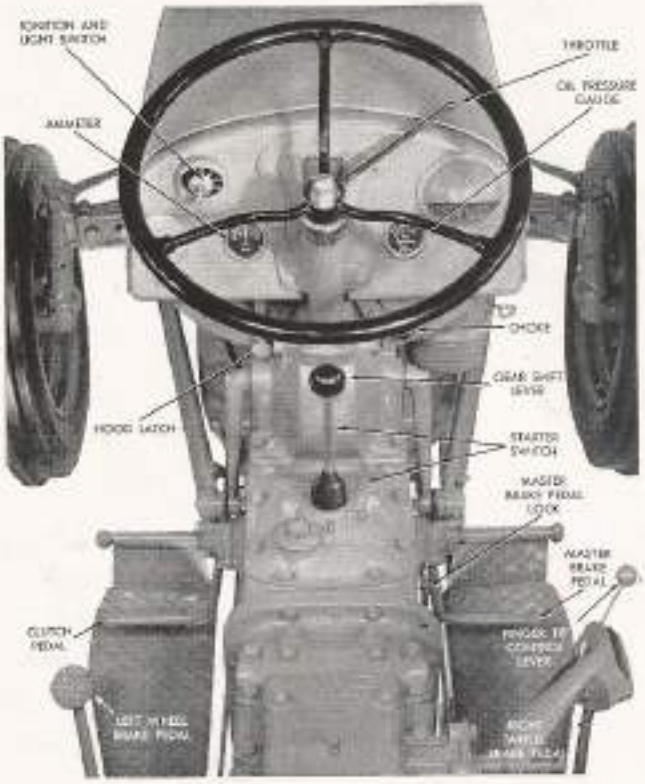
operating instructions

The Ferguson Tractor is a precision built machine designed for efficient performance, economy and ease of operation. Although it is unusually rugged and capable of hard service, it should not be abused or neglected.

The Ferguson Tractor incorporates advanced principles, yet nothing difficult or mysterious is involved concerning its operation.

The suggestions outlined in this section will help you in obtaining long trouble-free service. By following them you will keep your tractor in good working order and avoid conditions likely to cause damage.

OPERATING INSTRUCTIONS



A. INSTRUMENTS AND CONTROLS

1. IGNITION SWITCH

Key operated ignition, ignition and light, and light switch on upper left side of instrument panel. "I" position closes ignition circuit. "IL" position closes both ignition and light circuit and "L" position closes light circuit only. When key is removed, switch is locked.

2. OIL PRESSURE GAUGE

Located on right side of instrument panel. Indicates the amount of pressure (not amount of oil) in the system.

3. AMMETER

Induction type located on left side of instrument panel. Indicates the rate of battery charge or discharge. Does not indicate generator output.

4. CHOKE

Button located at lower right hand side of instrument panel. Pulling the choke out provides a richer fuel mixture for faster and easier starting. Raising the choke knob will lock it in any position.

5. THROTTLE

Hand operated, located at the upper right of steering column below steering wheel. Pulling the throttle downward increases the engine speed.

6. GEAR SHIFT LEVER

Located in front of tractor seat on transmission housing. The four forward and one reverse speeds are indicated by the raised characters on the transmission housing cover. The individual gear shifts are performed by moving the shift lever toward the raised numerals on the transmission cover. Shift lever must be lifted to engage reverse.

7. STARTER SWITCH

A safety type switch operated by the gear shift lever. The starter switch is closed by lifting and moving the gear shift lever to the right and forward toward the raised "S" on the transmission cover. IT IS IMPOSSIBLE TO START YOUR FERGUSON TRACTOR WHILE IT IS IN GEAR.

8. HOOD LATCH

Toggle-type hood latch at lower left side of instrument panel. To open hood, pull up to release lever.

9. FINGER-TIP CONTROL LEVER

Located at the right of the tractor seat. The lever provides a manual control of the hydraulic system. To raise the linkage, the finger-tip control lever must be in top position. To lower the linkage, the finger-tip control lever is pushed to the lower position.

10. POWER TAKE-OFF LEVER

Located on the left side of the center housing. The lever in the rear position, as shown in the illustration engages the power take-off shaft and hydraulic pump. When the lever is in the forward position, both are disengaged.

The Lever in the forward position disengages the P.T.O. Shaft.

11. CLUTCH PEDAL

Foot operated at the left side of transmission housing. Depress pedal to disengage clutch.

12. LEFT WHEEL BRAKE PEDAL

Foot operated at the left side of transmission housing. Pressure on pedal, brakes left wheel for turning.

13. RIGHT WHEEL BRAKE PEDAL

Foot operated at the right side of transmission housing. Pressure on pedal, brakes right wheel for turning.

14. MASTER BRAKE PEDAL

Foot operated at the right side of transmission housing simultaneously engages both rear wheel brakes.

15. MASTER BRAKE PEDAL LOCK

Hand operated as master brake pedal is depressed. To lock brakes in engaged position, place pawl in ratchet.

16. FUEL SHUT-OFF VALVE

Located on the bottom left rear of the fuel tank. The valve is turned to the right to shut off the fuel flow. The valve opened two full turns to the left will allow gasoline to flow from the main supply. Opening the valve completely permits the use of a reserve gallon of fuel. Operate on reserve position one hour each day to keep reserve passage clean.

17. DOUBLE HINGE SEAT

The seat can be set back to enable the operator to stand and can be hinged upside down to keep it dry. The seat bracket can be adjusted forward or rearward.

Fuel Valve and Sediment Bowl.

Fuel Valve Knob.

Ferguson Double Hinge Seat.

B. BREAKING-IN PERIOD

Your Ferguson Tractor has been carefully developed to furnish you many thousands of hours of working satisfaction. In order to maintain its efficiency and high standard of performance, it is essential that special care be given to your tractor during the first 50 hours of operation.

1. Keep your tractor on light work for the first 50 hour period. However, after each 10 hour interval, operate tractor under full load for five or ten minutes.

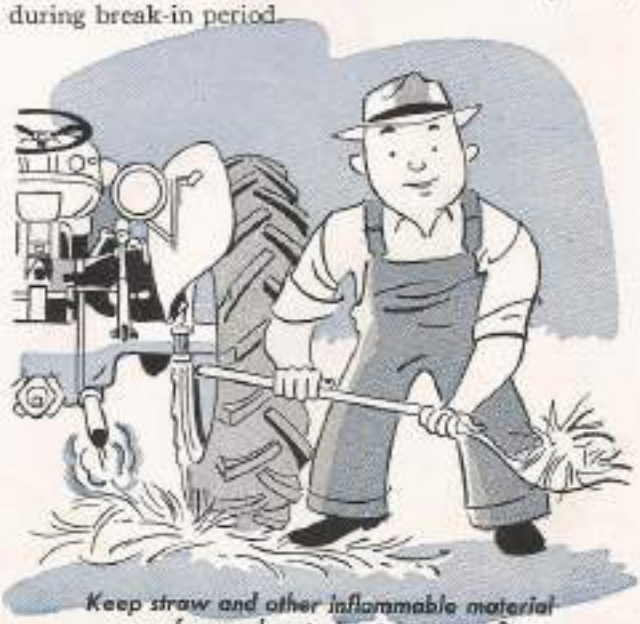
2. Use low transmission speeds when pulling heavy loads while engine is new.

3. Change crankcase break-in oil after first 50 hours of operation.

4. Change transmission break-in oil after first 50 hours of operation.

5. Call your Ferguson Dealer for first 90-day check up.

6. Tighten all nuts, bolts and screws frequently during break-in period.



Keep straw and other inflammable material away from exhaust pipe to prevent fire.

C. OPERATING YOUR FERGUSON TRACTOR

The skill of the operator in becoming familiar with the controls, in relation to the circumstances encountered, will determine the flexibility of the tractor and implement. For economical and successful operation of your Ferguson Tractor, the following operating principles should be followed:

Starting the Ferguson Tractor with the Safety Starter.

STARTING THE ENGINE

1. Open Fuel shut-off valve by turning two full turns to the left from the closed position.

2. Turn ignition key to "I" position.

3. Move throttle lever ⅛ to ¼ open position.

4. Pull out and hold choke in open position.

5. Disengage clutch by pushing clutch pedal down.

6. Engage Ferguson Safety Starter by lifting gear shift lever slightly and pushing to the right, then forward to the "S" position.

7. Release choke as soon as engine runs smoothly.

8. Do not "rev-up" or race the engine immediately after starting. Cold oil cannot circulate freely to all moving parts.

9. Allow the engine to reach its normal operating temperature before working the tractor. During cold weather, it will be noted that the oil pressure gauge will register a higher pressure. If this condition exists, the engine should be run at an idle speed until the pressure reaches its normal position.

Always open doors before starting tractor engine.

OBSERVING THE INSTRUMENTS

Form the habit of looking at the oil pressure gauge after starting the tractor. If it does not quickly register 15 to 30 pounds pressure, stop the engine immediately and determine the cause. Serious damage will result if the engine is operated without sufficient oil pressure even for a very short time. The ammeter readings should also be noted frequently while operating the tractor. Whenever any abnormal readings appear stop the tractor and determine the cause.

STARTING THE TRACTOR IN MOTION

1. Make sure the brakes are released.

2. Depress clutch fully and move gear shift lever to desired gear.

3. Increase engine speed slightly and release clutch pedal slowly.

4. Remove foot from clutch pedal and increase throttle setting until desired speed is obtained.

NOTE: The gear shift lever must not be lifted when selecting the forward gears.

WARNING

Do not attempt to shift gears while the tractor is moving, as damage to the transmission may result. Do not permit foot to ride clutch pedal.

DRIVING THE TRACTOR

Easy steering of the front wheels permits flexible maneuverability. The independent wheel brakes can

be used to assist front wheel turning when making short turns.

NOTE: Sharply braking one wheel causes wasteful wear of the tires and brakes and, therefore, only should be done when short turns are needed.

WARNING

The individual wheel brake should not be used to make sharp turns while traveling at high speeds.

CHOOSING THE CORRECT GEAR

The correct working gear can only be obtained by an intelligent selection by the operator. The basic factors involved in this selection are: (1) type of implement used, (2) field conditions encountered, (3) load subjected to the tractor and (4) the ground speed to effectively perform the operation.

Operating the tractor, in a low gear with a high engine speed, and relatively light engine load is a waste of fuel and time. Any gasoline engine operating at a high speed, with a light load, is running with a high manifold vacuum and low compression pressure which causes inefficient combustion. Noticeable racing of the engine is an indication of this condition.

Operating the tractor under load in a high gear, or when an excessive load is involved for the selected gear and throttle setting, overloads the engine and can cause serious damage and wear. When this condition exists, the engine is running with a low manifold vacuum, and relatively higher compression pressure, and is noticeable by a lugging sound of the engine. Excessive wear and overheating will result from this overloading condition.

Bring the tractor to a complete stop before shifting gears.

A TEST FOR OVERLOADING

With the tractor in motion, set the throttle half way open. Then quickly pull the throttle fully open. If the tractor speeds up rapidly, the engine is not overloaded. If the tractor picks up speed slowly, the engine is overloaded and should be shifted to the next lower gear. When operating on hills, the above test might indicate overloading, however, this is not harmful as it is compensated for when coming down hill. *It is the continuous overloading which must be avoided.*

STOPPING THE TRACTOR

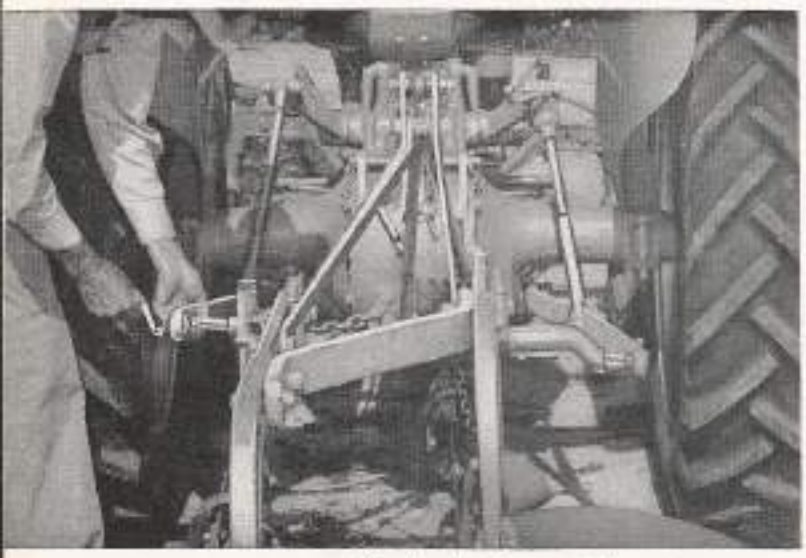
Depress the clutch pedal while at the same time reducing the engine speed. Apply the brakes, as needed, using the master brake pedal. When tractor motion is stopped, move gear shift lever to neutral and set the brakes. Shut the tractor off by turning ignition switch to "off" position. At the end of the working day, turn the fuel shutoff valve to "off" position.

Whenever radiator is drained, be sure cap is removed, that both drain cocks are open, and that they positively drain.

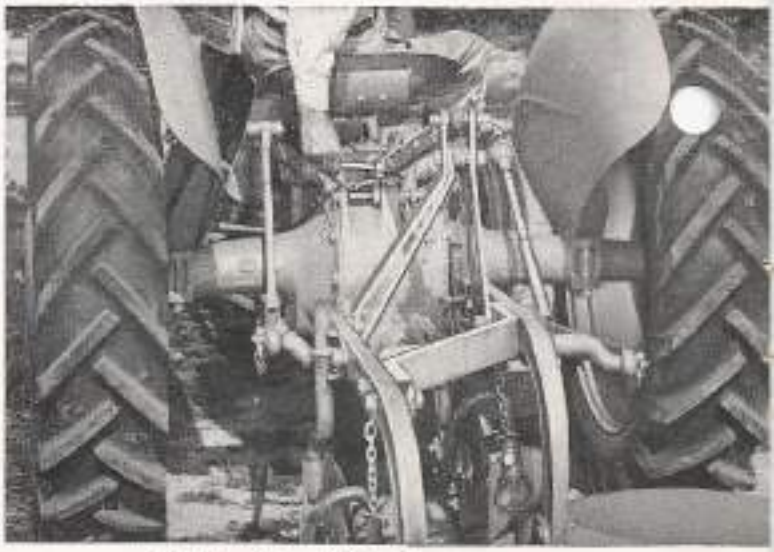
D. USING THE FERGUSON SYSTEM

ATTACHING AN IMPLEMENT

1. Back the tractor so it is centered with the implement, having the lower links above the cross-shaft.
2. Lower the links by pushing the finger-tip control lever completely forward.
3. Dismount tractor on left-hand side.
4. Attach the lower left link by rocking tractor slightly backward or forward to align the pin with ball socket. Insert linchpin.



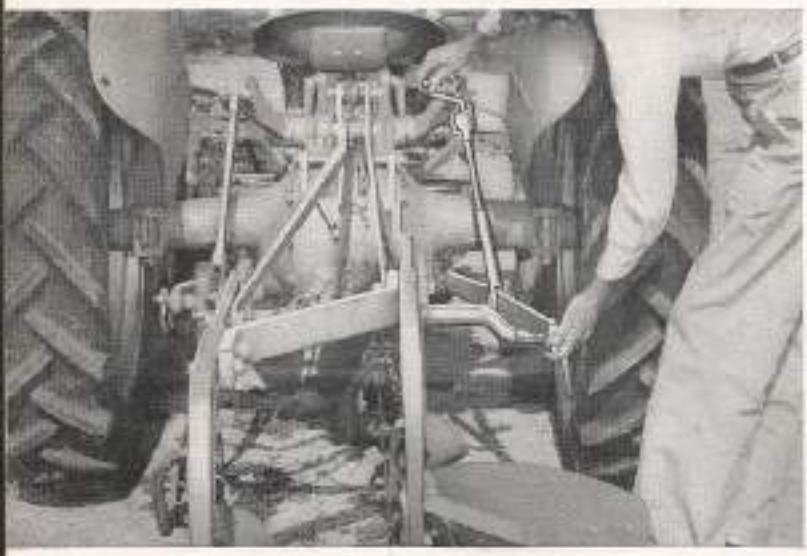
Attaching Left Lower Link.



Attaching Upper Link to Tractor.

5. Attach the lower right link using the leveling crank to bring the ball joint in line with the attaching pin. Insert linchpin.

6. Attach the upper link to the implement. When seated on the tractor, attach the upper link to the tractor by moving the tractor slightly backward or forward to line up the connection so the pin can be inserted.



Attaching Right Lower Link.

NOTE: To level the implement, level the lower links by turning the hand crank on the right lift rod, until the circular groove on the rod matches the top of the fork into which it threads.

IMPORTANT: Keep linkage ball-joint clean but never lubricate.

RAISING AND TRANSPORTING IMPLEMENTS

Leveling an Implement.

Engage the hydraulic pump by moving power take-off lever to the rear position. Any lift type implement can be easily raised simply by pulling the finger-tip control lever to the top position. When transporting implements in the raised position, turn the leveling crank counter-clockwise until check chains become tight to prevent side-sway of implement.

OPERATING WITH SOIL ENGAGING IMPLEMENTS

When a soil engaging implement is in transport position, it may be lowered to working position by moving the finger-tip control lever downward. This releases oil from the hydraulic system which permits the implement to lower by its own weight.

Just as soon as the implement reaches the desired depth (determined by the setting of the finger-tip control lever), the release of oil from the system is automatically stopped. As long as the soil texture remains the same, the implement will remain at that depth. However, if the soil texture changes it will be necessary to move the finger-tip control lever slightly lower in heavier soils or slightly higher in lighter soils to maintain uniform depth.

On uneven ground, the expansion and contraction of the automatic control spring regulates the flow of

Drive carefully on the highway, observing all traffic rules.

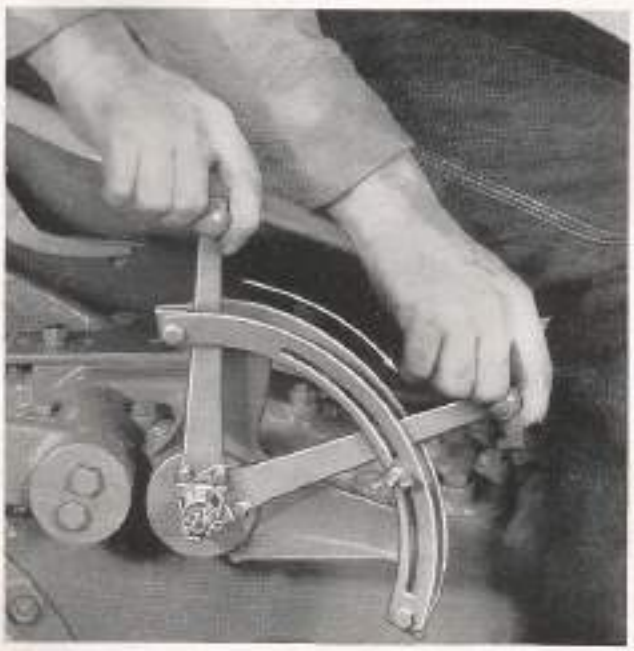
oil into and out of the system, tending to keep the implement at uniform working depth.

To assist the operator in selecting the approximate same depth or draft each time the implement is lowered from the raised position, the wing nut stop assembly should be positioned on the quadrant so the control lever can be immediately placed. However, the finger-tip control lever can be varied from this position if necessary.

CAUTION: The operator of a tractor must realize that the implement attached to the tractor has been built to work best at a given ground travel speed. For instance, Ferguson Plows are built to operate in second gear. A slower or faster speed will not give the proper turning and pulverizing of the soil. Also, faster speeds increase the chances of damaging the tractor or implement. While the Ferguson System provides adequate, automatic protection under normal operation, it should be kept in mind that the force at which an implement strikes an obstruction varies as the square of the speed. If a Ferguson Tractor is operating in third gear at 4.71 miles per hour (1,500 engine r.p.m.), it would have almost twice the striking force compared to operating in second gear at 3.42 miles per hour (1,500 engine r.p.m.).

It is much better to use the increased power of the new Ferguson Tractor by pulling larger implements rather than by traveling at higher speeds. For example, use a 3 bottom 12" plow in second gear instead of a 2 bottom 14" plow in third gear.

Third gear is meant to be used with implements which operate above the ground such as mowers, wagons, spike tooth harrow, etc. Fourth gear is used for road transport, raking and rotary hoeing.



Set the Control Lever Stop Assembly for approximate depth settings.

DETACHING IMPLEMENTS

1. Select level ground area, level the implement with leveling crank and lower to the ground.

2. While seated on the tractor, detach upper link from tractor by moving tractor slightly backward or forward, if necessary, to remove upper link clevis pin.

3. Detach right bottom link. Adjust the leveling crank to free strain on ball socket joint if necessary.

4. Detach left bottom link.

NOTE: Always place linchpins in their proper clips on lower links.

USING EXTERNAL HYDRAULIC CYLINDER

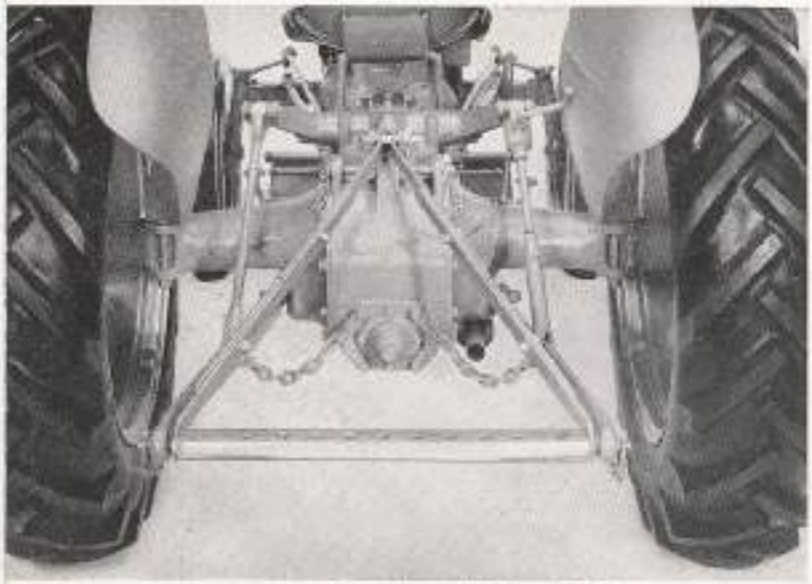
Two external hydraulic outlets are incorporated at the front of the tractor center housing cover. These are for the purpose of utilizing the hydraulic system of the tractor with external cylinders as used on some Ferguson Implements. A control drop-valve assembly attached to right hand inspection plate is needed to control and release the oil in the external cylinder. Directions for using supplementary external cylinders on Ferguson Implements such as the Corn Picker and the Manure Loader will be found in the manuals which accompany the implements.

E. DRAWBAR INSTALLATION AND POWER TAKE-OFF OPERATION

STANDARD DRAWBAR

The drawbar for your Ferguson Tractor is easily attached for conventional pull-type hitching. The drawbar can be adjusted vertically, adapting it to the height of the implement.

CAUTION: The drawbar should be adjusted to provide sufficient weight on the front wheels for steering and safety.

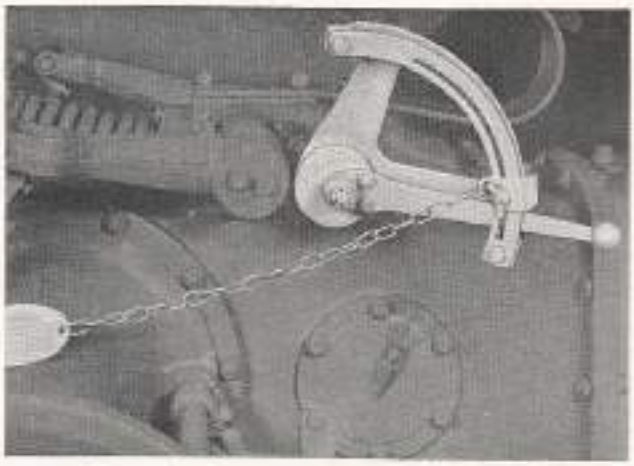


Drawbar with Stays in place.

To attach the drawbar:

1. Lower the lower links and level them.
2. Place the drawbar on the ground. Attach the correct stay links to the respective ends of the drawbar. (The stay with the chain attached, mounts to the right.) Lift and set the assembly on the tractor lower links.
3. Pin top of stay links to tractor upper link connection and fasten with linchpin.
4. Place one end of the drawbar then the other in the ball joints of the lower links and fasten linchpins.
5. *Lock finger-tip control lever in down position with drawbar chain and wedge assembly.* (Shift power take-off to disengaged position if power take-off operation is not desired.)

CAUTION: If a power take-off implement is used and the finger-tip control lever is raised, the stay links will be collapsed by the lift arms raising. *Only when the corn picker drop valve assembly is mounted on the tractor, should the drawbar chain and wedge assembly be left off.*



Finger-tip Control Lever locked down with Chain and Wedge Assembly.

6. Adjust drawbar to desired height by loosening the bolts on the stay links and lengthening or shortening as required. The standard height is obtained when the notches on the stay links line up.

POWER TAKE-OFF

The power take-off on your Ferguson Tractor transfers engine power direct to mounted or drawn implements, or if equipped with a pulley assembly, to belt driven equipment.

POWER TAKE-OFF LEVER

To operate the power take-off shaft, the power take-off lever must first be engaged. This is accomplished by disengaging the clutch and moving the lever rearward. The power take-off shaft is controlled by the clutch pedal.

P.T.O. Lever in engaged position.

POWER TAKE-OFF SHAFT

The 1⅜" power take-off shaft projects from the rear of the center housing. A removable cap encloses the splined end of the shaft. When the engine is run-

Never wear loose or sloppy clothing around tractor's moving parts.

ning at 1,500 r.p.m. (throttle about ⅔ open) the speed of the power take-off shaft is 545 r.p.m. This conforms with the American Society of Agricultural Engineers standard power take-off speed recommendation and most power take-off driven equipment is designed to operate at this speed.

POWER TAKE-OFF ADAPTERS (Accessories)

The power take-off adapters for the Ferguson Tractor have a 1⅜" spline and meet the A.S.A.E. requirements for a standard tractor hitch. Therefore, it is possible to attach any power take-off driven implement, which meets A.S.A.E. standards, to the Ferguson Tractor.

P.T.O. Adapter with V-extension Drawbar.

P.T.O. Adapter with Swinging Drawbar.

CAUTION: Keep power take-off shields in place at all times.

Two adapters are available for use with the Ferguson Tractor according to the type of hitch used.

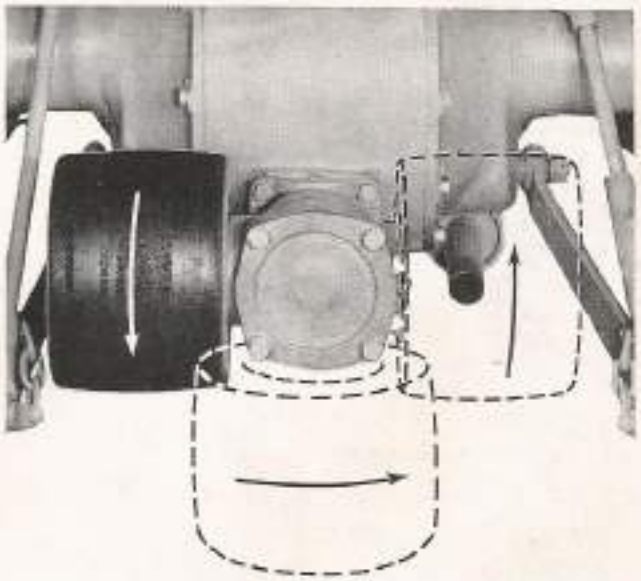
The CLO-8920 Conversion Kit is used with the standard drawbar arrangement, however, a V-extension is needed to meet A.S.A.E. specifications.

The ATO-88 Conversion Kit includes the swinging drawbar with the adapter. The swinging drawbar (accessory) permits easier turning, as the angle of pull pivots closer to the tractor than when using a fixed drawbar.

NOTE: When replacing check chain brackets, it is essential that the chain be attached in the top hole of the bracket.

BELT PULLEY (Accessory)

The belt pulley attachment for the Ferguson Tractor is a self-contained unit with a 9" diameter and 6½" width pulley. The ratio of the speeds of the pulley to the power take-off shaft and engine is 1.87 to 1 and 1 to 1.473, respectively. The pulley speed is 1,359 r.p.m. at 2,000 engine r.p.m. giving a belt speed of 3,120 feet per minute.



The three mounting positions of the Belt Pulley.

To attach the belt pulley, remove the cover of the power take-off shaft and the check chain brackets. The pulley can be mounted in any of three positions, horizontally on either side of the shaft to give correct direction of rotation, or vertically with the pulley's edge toward the ground.

CAUTION: Never mount the pulley to the top position as the bearing will not receive proper lubrication. When installing the pulley, do not force in position with mounting bolts as breakage may result.

The pulley mechanism is lubricated by ¾ pint of the same grade lubricant as is used in the transmission. Always keep oil level to filter plug.

IMPORTANT: To avoid static electricity when using belt and pulley, ground the tractor by wrapping a chain around front axle and dropping one end on the ground.

The table below is for the purpose of determining the size of the driven pulley necessary to obtain a desired r.p.m. It should be noted that there is a choice of pulley sizes for any one driven pulley rate, depending on the engine speed of the tractor. However, the horsepower or load requirements will determine the engine r.p.m. necessary to operate the belt driven equipment. The greater the load, the more horsepower will be required thus a faster engine speed will be necessary.

Never put on or remove belt when pulley is in motion.

DETERMINING DIAMETER IN INCHES OF THE DRIVEN PULLEY

NOTE: This table is based on a 5% slippage loss between the drive and driven pulleys. The smaller the pulley, the greater the amount of slippage involved. Therefore, pulleys smaller than 3½" should only be used when absolutely necessary.

Engine R.P.M.	P.T.O. R.P.M.	Pulley R.P.M.	Belt Speed ft./min.	R.P.M. Of Driven Pulley								
				600	800	1000	1400	1800	2200	2600	3000	3400
1000	364	678	1560	9½	7½	6	4	3				
1200	437	814	1870	11½	8½	7	5	4	3			
1400	509	950	2182	13½	10	8	6	4½	3½	3		
1500	545	1018	2340	14½	11	8½	6	5	4	3½	3	
1600	582	1087	2500	15½	11½	9	6½	5	4	3½	3	
1700	618	1152	2650	16½	12½	10	7	5½	4½	4	3½	3
1800	655	1221	2810	17½	13	10½	7½	6	4½	4	3½	3
1900	691	1290	2965	18½	14	11	8	6	5	4	3½	3
2000	728	1359	3120	19½	14½	11½	8½	6½	5½	4½	4	3½
2100	764	1425	3280	20	15	12	8½	7	5½	4½	4	3½
2200	800	1492	3430	21	16	13	9	7	6	5	4½	4

F. ADJUSTING WHEEL TREAD WIDTHS

The advanced development of your Ferguson Tractor makes possible various tread width settings without any unnecessary steps or additional adjustments.

FRONT WHEEL WIDTHS

The front wheels are adjustable in 4" steps from 48 to 80 inches. The steps between 48 and 72 inches are accomplished by the assembling arrangement of the right and left axle arms on the center axle. To adjust, place the Ferguson Jack in position and raise the tractor off the ground with its own power. Remove the two bolts on each side which hold the axle arms to the center axle. Move the axle arms, in relation to the main axle, to the desired tread width and replace the bolts.

NOTE: Always have one bolt hole between the two bolts to provide a wider support area between the arms and center axle.

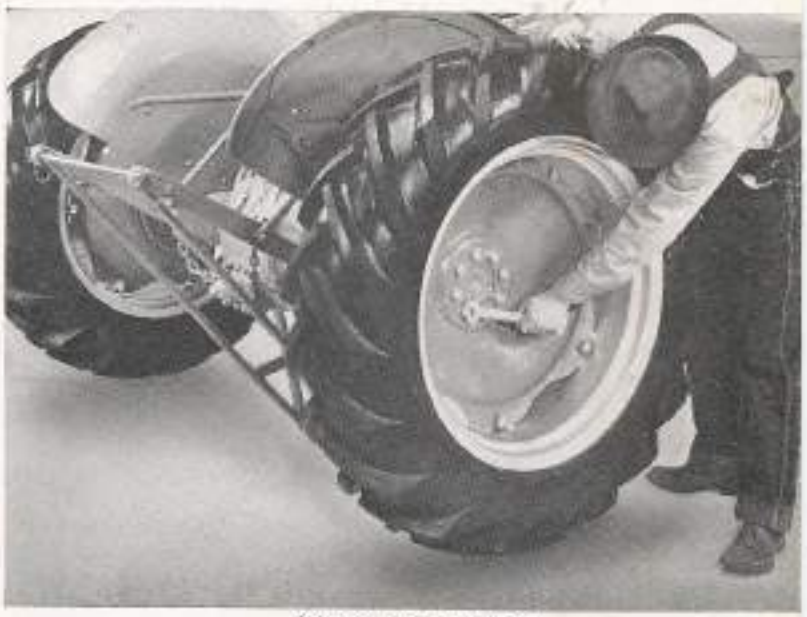
76" Wheel Spacing for row-crop work.

Adjusting Front Wheels.

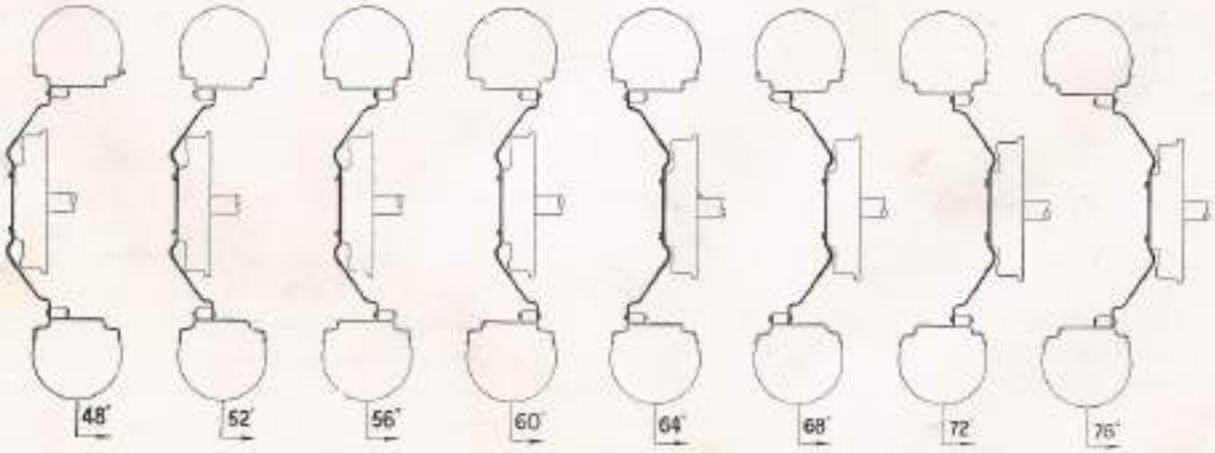
With the wheels extended to 72 inch tread width, an additional 8 inches (or 80 inch tread width) can be obtained by reversing the wheel disc on the wheel hub. This places the wheel disc toward the inside. With the wheels in this position, a 76 inch setting can be obtained by moving the axle arms one hole toward the center.

CAUTION: With the wheel discs in the 76 inch or 80 inch settings, the front wheel bearings are subjected to greater strain and load. These tread widths should be used only when absolutely necessary.

NOTE: When 6.00 x 16 inch tires are used, approximately 1 inch wider overall front width in the various positions will be obtained due to the wider tire.



Adjusting Rear Wheels.



REAR WHEEL TRACK SETTINGS FOR FERGUSON TRACTOR

REAR WHEEL WIDTHS

To conform with the front wheels, the rear wheels can be adjusted also in 4 inch steps from 48 to 76 inches. Tread width settings are accomplished by changing the relative position of the wheel discs and the rims. The desired wheel settings may be obtained by assembling as shown in the diagram. The tractor as delivered will have a 52 inch wheel setting. The 48 inch wheel setting is obtained by moving the rims in and connecting to the opposite side of the lug. To obtain the 56 inch and 60 inch settings, it will be necessary to reverse the rims on the disc and move the complete wheel assembly to the opposite side of tractor. The 64 inch, 68 inch, 72 inch and 76 inch settings are the reverse of the respective 60, 56, 52 and 48 inch settings, with the wheels on the opposite side of the tractor in each case. The arrow on the side wall of the tire should point in the direction of forward rotation.

G. CARE AND INFLATION OF YOUR TRACTOR TIRES

Correct tire inflation is the most important factor in long tire life. Both under and over inflation have detrimental effects on the casing.

RECOMMENDED TIRE PRESSURE

FRONT		REAR	
4.00-19	28 lbs. Max.	10-28	12 lbs. Max.
*6.00-16	28 lbs. Max.	11-28	12 lbs. Max.

*These wheels and tires are also used on the Ferguson Wagon and Belle City Corn Picker.

RESULTS OF UNDER-INFLATION

1. Damage to cord body resulting in breakage of cord fabric or side wall.

2. Inferior steering and braking control.

3. Tire slippage on rim which may tear off valve stem.

4. Irregular and uneven tire wear.

5. Unnatural tire distortion on hard roads; wiping off tread bar rubber on highly abrasive or unyielding road surfaces.

RESULTS OF OVER-INFLATION

1. Excessive tread wear.

2. Loss of traction and increased slippage.

3. Increased packing of the soil; rut formations.

4. Casings more susceptible to bruises and impact breaks.

FOR LONGER TIRE LIFE

1. Check tire pressure weekly.

2. Start and stop smoothly for both tire and fuel economy.

3. Avoid excessive slippage which grinds off tread rubber.

4. Remove harmful oil and grease promptly from tires.

5. Wash tires thoroughly with clear water after spraying and dusting operations (especially when using Paris Green and Bordeaux mixtures which contain injurious copper).

6. Keep valve caps tight to prevent air pressure escape. Tighten caps with fingers, not pliers.

7. Apply brakes slowly and evenly. Abrupt braking causes wasteful tire wear.

8. Allow sufficient clearance between bladed implement edges and tires.

9. Don't speed or overload your tires as tractor tires are designed for slow speeds. Towing tractors at high speeds will develop high temperatures and weaken the rubber and cord structure.

10. Repair promptly, side wall cuts made by sharp stones, glass or metal.

NOTE: Have your dealer permanently vulcanize casing cuts, bruises, etc.

H. ADDED WEIGHT FOR TRACTION

LIQUID FILL

For some operations, it is desirable to have additional weight to increase traction. The most practical and popular method of adding weight is to liquid fill the tires. This procedure adds weight where it is most beneficial. A calcium chloride solution is better adapted than water because it has a lower freezing point and a higher specific gravity.

It should be pointed out, however, that unnecessary weight causes extra load resulting in higher fuel consumption.

The following table is based on 100% fill in tires using 3½ pounds of calcium chloride per gallon of water. This concentration will have a freezing point

Size of Tire	Pounds Calcium Chloride	Gal. of Water	Total Weight in Tire
4.00 x 19	10	3	35
6.00 x 16	20	6	70
10.00 x 28	90	26	315
11.00 x 28	128	36.5	450

of 30° below zero. Any other percentage of fill can be obtained by multiplying the percentage times the values given in the table.

Example: If a 75% fill is desired in the 10.00 x 28 tire, the weight of calcium chloride would be 0.75 x 90 or 67½ pounds, the volume of water 0.75 x 26 or 19½ gallons resulting in a total weight of 0.075 x 315 or 236 pounds.

FRONT WHEEL WEIGHTS (Accessory)

When heavy implements are suspended from the rear of your Ferguson Tractor, the weight on the front wheels is reduced, resulting in decreased turning traction. This condition is especially prevalent when crossing headland furrows or ridges such as corn rows, etc., as the bouncing action reduces, even more, the downward action on the front wheels.

To compensate for this relative reduction in front end weight, the use of front wheel weights is desirable. These weights are easily installed in the dish side of the wheel disc. For the 6.00 x 16 wheel, the weight is in two segments as shown in the illustration. For the 4.00 x 19 wheel, the weight is one piece, therefore, the wheel will have to be removed before the weight can be installed.

Easily installed Wheel Weights.

Never drive too close to ditches or gulleys.

CAUTION: Inspect regularly to see if wheel weights are bolted tight to the wheel discs.

I. STORING YOUR FERGUSON TRACTOR

If your tractor is to be idle for an extended period of time, it should be prepared properly for storage. Have a dry and protected place where it is neither exposed to the weather or livestock.

The following procedure has been outlined for the purpose of keeping your Ferguson Tractor in working condition for many seasons:

1. Thoroughly wash and clean tractor.
2. Remove all rust spots with sandpaper and repaint.
3. Remove air cleaner. Wash filter and inside of cleaner thoroughly with gasoline. Refill cup with new oil and reinstall.
4. Lubricate all pressure fittings. Drain crankcase and oil filter element.
5. Install new oil filter element and refill crankcase with recommended grade of oil.
6. Drain transmission and refill with proper grade of new oil.
7. Clean and repack front wheel bearings.
8. Check oil level in steering gear.
9. Start engine and run to lubricate engine parts until temperature stabilizes.
10. Inspect tractor for worn or damaged parts which later may cause costly breakdowns. Order any

Always stop tractor before dismounting.

needed items from your Ferguson Dealer promptly while the need is still in your mind.

11. Completely drain cooling system, thoroughly washing and flushing out with washing soda and water. See page 23. Replace cap and close drain-cocks when dry to keep system clean.

12. Drain fuel tank by removing filter assembly and let dry. Replace cap and filter to keep tank clean.

13. Remove, clean and replace sediment bulb, gas line and carburetor.

14. Remove spark plugs and pour two tablespoons of heavy lubricating oil into each cylinder top.

15. Clean and regap spark plugs at 0.025".

16. Turn engine over several revolutions before replacing spark plugs using crank or starter.

17. Cover ends of exhaust pipe and breather pipe.

18. Remove, inspect and condition battery as required, then store in a cool place. Keep battery in a fully charged state. Inspect every two weeks to assure charge is correct.

19. Jack up tractor and put on sturdy blocks to remove weight from tires.

20. Remove water from tires to prevent freezing.

21. Cover tractor with tarpaulin for protection (a special storm cover for the engine is available at your Ferguson Dealer).

STARTING ENGINES THAT HAVE BEEN IN STORAGE

1. Remove spark plugs and pour two tablespoons of a mixture of one-half gasoline and one-half light lubricating oil into each cylinder.

2. Reinstall spark plugs.

3. Install fully charged battery making sure the proper connections are made. The Ferguson Battery is positive grounded.

4. Fill the cooling system with proper coolant.

5. Fill the fuel tank.

6. Check oil level in crankcase, transmission and air cleaner.

7. Remove coverings from exhaust and breather pipes.

8. Inspect and tighten all nuts, bolts and screws.

9. Lubricate all fittings.

10. Start engine and allow it to run at an idle speed for 10 to 15 minutes. Note oil gauge to be sure the engine is receiving proper lubrication.

11. Drive the tractor without load and at slow speeds noting its operation.

Your Ferguson Dealer has this Storm Cover and other Accessories.

servicing your tractor

● While we recommend that major overhauls, replacements and adjustments be done by the Ferguson Dealer whenever possible, occasions may warrant the owner making minor repairs and adjustments. For that reason, the following material has been compiled to give you a working knowledge of your Ferguson Tractor.

CROSS SECTION CUT-AWAY OF THE FERGUSON TRACTOR