

# JOHN DEERE F370 AND F380 SERIES POWER-RESET DRAWN MOLDBOARD PLOWS



## OPERATORS MANUAL JOHN DEERE F370 AND F380 SERIES POWER-RESET DRAWN MOLDBOARD PLOWS

OMA22707 K2 English

**OMA22707 K2**

LITHO IN THE U.S.A.  
ENGLISH






## To the Purchaser

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This new plow was carefully designed and manufactured to give years of dependable service. To keep it operating efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need—whether it is operation, lubrication, or maintenance. Read "Contents" to learn where each section is located.

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

In addition to the equipment furnished with your plow, attachments are available to help you do a better job in special conditions. These are described in

the special equipment section of this manual and can be purchased from your John Deere dealer.

"Right-hand" and "left-hand" sides are determined by facing in the direction the plow will travel when in use.

Record your plow serial number in the space provided on page 63. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments. If your plow requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts—accept no substitutes.

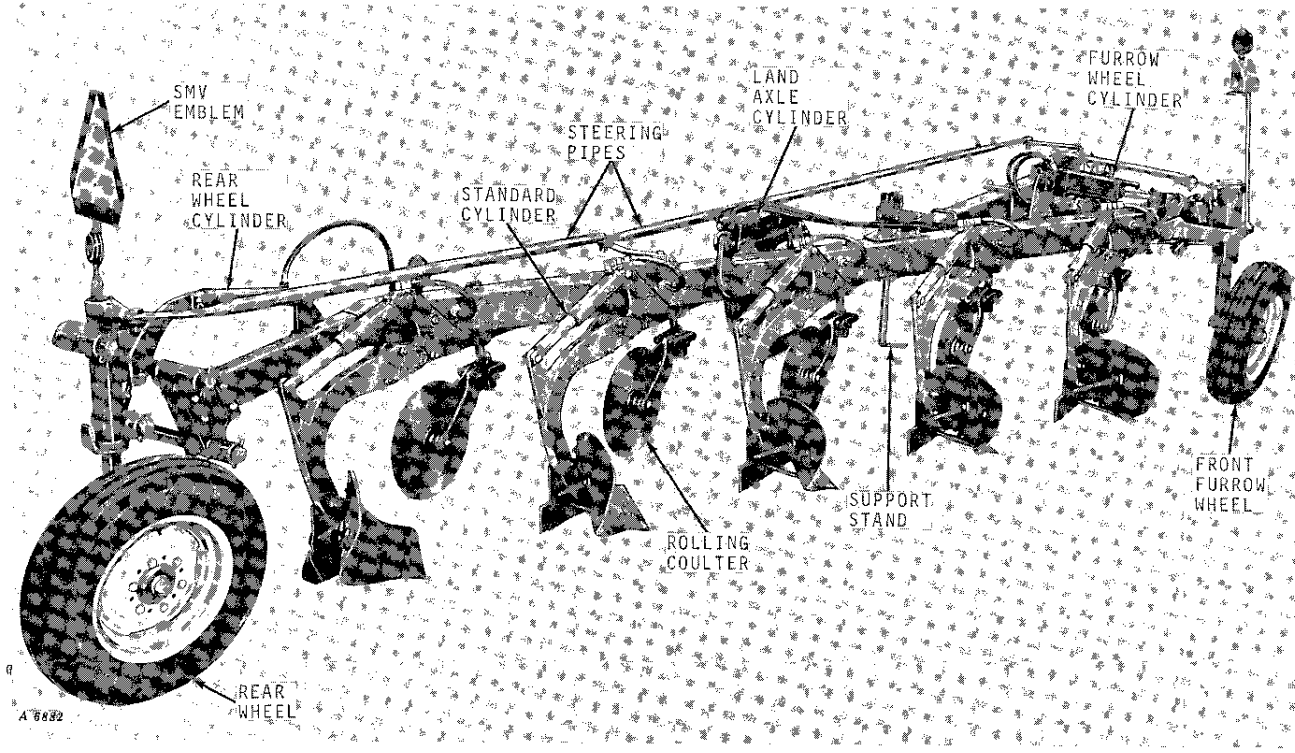
The warranty on this plow appears on your copy of the purchase order which you should have received from your dealer when you purchased the plow.



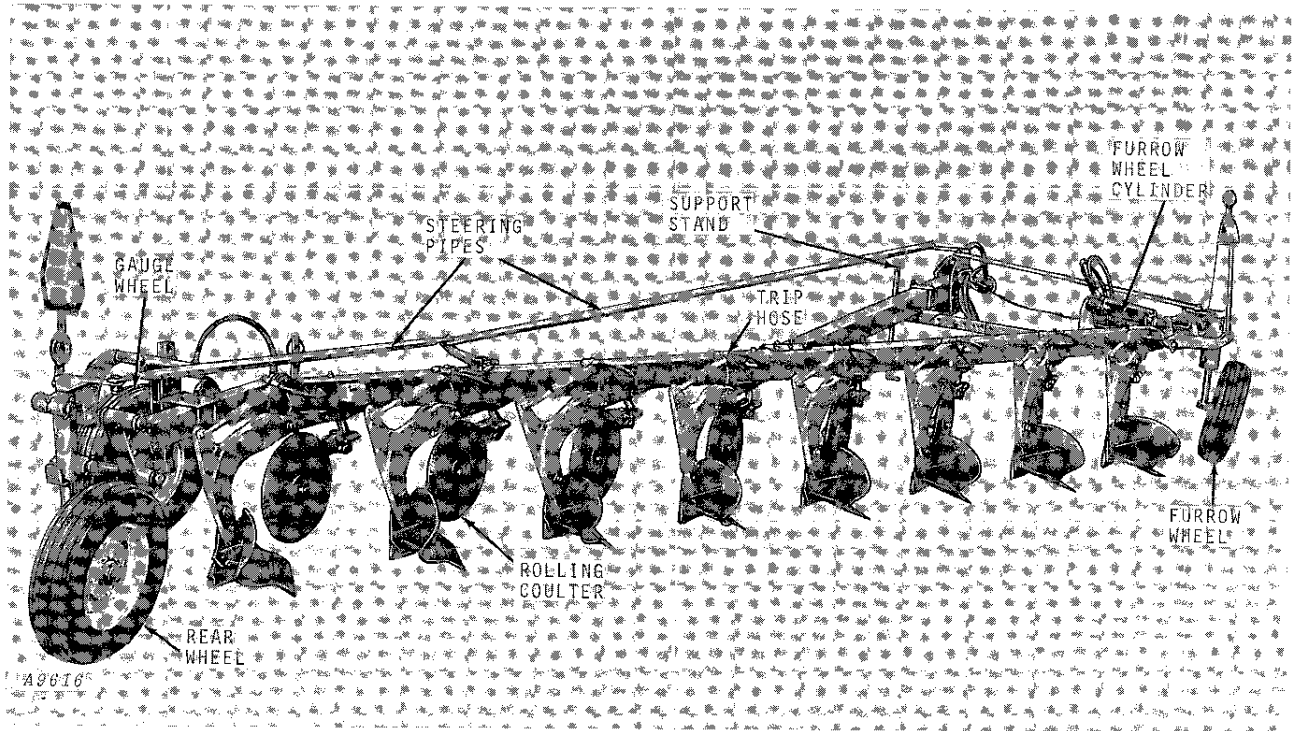
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John Deere F370 Series 5-Bottom Power-Reset Drawn Moldboard Plow



John Deere F380 Series 8-Bottom Power-Reset Drawn Moldboard Plow



# Operation

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## GENERAL

On these plows, controlled hydraulic pressure holds the standards in plowing position, allows them to rise to clear an obstruction, and returns the standards to plowing position.

Two systems are available for providing the hydraulic pressure required to control the plow standards: John Deere Hydraulic System and Accumulator System.

### John Deere Hydraulic System

The John Deere Hydraulic System uses the 3010, 3020, 4000, 4010, 4020, 4030, 4230, 4320, 4430, 4520, 4620, 4630, 5010, 5020, 6030, 7020, or 7520 Tractor closed-center hydraulic system. With this tractor-controlled system, a special lever stop attached to the tractor lever quadrant holds the remote cylinder operating lever in operating position during plowing. This allows the tractor hydraulic system to maintain full pressure to the plow manifold, which holds the standards in working position.

An adjustable pressure valve is part of the plow hydraulic system. This valve starts opening when oil pressure reaches a predetermined level.

When a plow bottom strikes an obstruction, and the pressure in a standard cylinder and the manifold is increased above the pressure valve setting, the valve opens, allowing the oil to flow directly into the tractor reservoir. This allows the piston in the plow cylinder to retract, and the plow bottom to rise up and over the obstruction.

As soon as the bottom has cleared the obstruction, and the pressure in the cylinder drops below the standby pressure of the tractor hydraulic system, the

pump goes back into stroke. This pumps oil back into the cylinders and raises the manifold pressure back to normal, thus placing and holding the standard in plowing position.

### Accumulator System

The accumulator system is available as special equipment for use with tractors which do not have a closed-center hydraulic system. The accumulator also can be used with John Deere Tractors with closed-center hydraulic systems if the tractor does not have enough remote cylinder breakaway couplers for the desired type of operation.

This system uses a bladder-type, 1-gallon-capacity accumulator, which is charged with nitrogen gas, to maintain pressure, instead of using only the hydraulic pressure from the tractor hydraulic system. Since oil cannot be compressed, the compressible bladder of nitrogen in the accumulator maintains the desired pressure on the plow hydraulic manifold.

When using the accumulator system, a plow bottom striking an obstruction causes pressure in excess of the nitrogen pressure, which forces oil into the accumulator. The nitrogen is compressed as the bottom rides up and over the obstruction.

The accumulator has a one-way, spring-loaded orifice that allows a free flow of oil into the accumulator and a restricted flow back out. As the bottom clears the obstruction, the pressure drops, and the orifice meters the flow of oil out of the accumulator, into the manifold and cylinder, to return the plow bottom to working position at a controlled speed.

## Operating Controls

The remote cylinder operating levers raise and lower the front and rear furrow wheels and the land wheel on the F370 Plows.

The remote cylinder operating levers raise and lower the front and rear furrow wheels and the hydraulically-controlled drawbar on the F380 Plows.

## Steering Linkage

Linkage from the drawbar steers both the front and rear furrow wheels.

## IMPORTANCE OF PROPER ADJUSTMENT

Your new plow is fully adjustable and, when properly adjusted to operate in the type of soil and field conditions on your farm, it will do a good job of plowing at a minimum of expense. A well-adjusted plow pulls lighter; its furrow slices are uniform in width and depth; it covers trash; it leaves the soil in proper condition to be worked down into the best-type seedbed.

Improper adjustment results in rapid wear and possible breakage of parts, and inefficient operation.

## PREPARING THE PLOW

### Plow Bottoms

The polished surfaces of the plow bottoms have been painted with protective black paint.

In most cases it is not necessary to remove the black paint because it will wear off quickly upon contact with the soil. In soils where the black paint will not wear off, remove with diesel fuel.

If the plow is not to be used immediately, protect the polished surfaces by applying a coat of cup or gun grease. If plow is to be put in storage for a considerable length of time, see page 32.

### Bolts and Set Screws

Before starting to work with a new plow or one which has been stored, check to see that all bolts and set screws are tight and all cotter pins spread to keep them from falling out. Check the bolts that hold the plow bottoms to see that they are drawn up tight.

A good practice is to check for loose bolts, screws, or parts when lubricating the plow. Loose bolts are easily lost or cause excessive wear on parts, resulting in possible damage to the plow. See page 32 for proper torque specifications.

## Tire Inflation

Check tires on plow to be sure they are inflated to pressures shown below.

Wheel	Recommended New Implement or New or Used Auto Tires	Inflation Pressure
Front and Rear	6.70-15, 4-ply rated	35 psi.
Furrow	7.60-15, 4-ply rated	35 psi.
Gauge	5.90-15, 4-ply rated	35 psi.

## Lubrication

Be sure plow has been properly lubricated. See Lubrication Charts on pages 35 and 36.

## PREPARING AND ADJUSTING THE TRACTOR

For complete tractor operating instructions, refer to your tractor operator's manual.

## Tire Inflation

Inflate the tractor tires as recommended in the tractor operator's manual.

## Rockshaft Selector Lever

On John Deere Tractors equipped with a 3-Point Hitch and Load-and-Depth Control, set the selector lever in the "D" position. Keep the selector lever in this position while operating.

## Rear Wheel Setting

When operating with the right tractor wheel in the furrow, set tractor rear wheel as recommended in the chart on page 18.

When operating with all tractor wheels on the land, set tractor rear wheels so tire will run a minimum of 4 inches away from the furrow wall. See charts on pages 18 and 19.

*NOTE: When tractor is equipped with dual rear wheels, set wheels in narrowest available setting. See your tractor operator's manual.*

## Front Wheel Setting

On wide-front-end tractors, set front wheels to conform to rear wheel setting, center-to-center of tread.

## Rear Wheel Weighting

Rear wheel weights may be necessary to eliminate excessive wheel slippage or for stability in rough or hillside fields. However, weights should not be added to the point where all slippage is eliminated. To do so would hinder maximum performance of the tractor.

The ideal amount of added weight can be determined by observing the tracks of the rear wheels. When the tractor is pulling its rated load, the soil between the tire lugs should be broken or shifted. If too much weight has been added, the tread marks will be clear and distinct. If too little weight has been added, the tread marks will be entirely obliterated.

### Liquid Weights

Water and calcium chloride solution is an economical means of adding weight to rear wheels. Calcium chloride is recommended rather than water as it will not freeze. See your tractor operator's manual or your John Deere dealer.

### Cast-Iron Weights

Where weight in addition to or in place of liquid weight is required, cast-iron weights can be bolted to the rear wheels. This type of weight can be secured from your John Deere dealer.

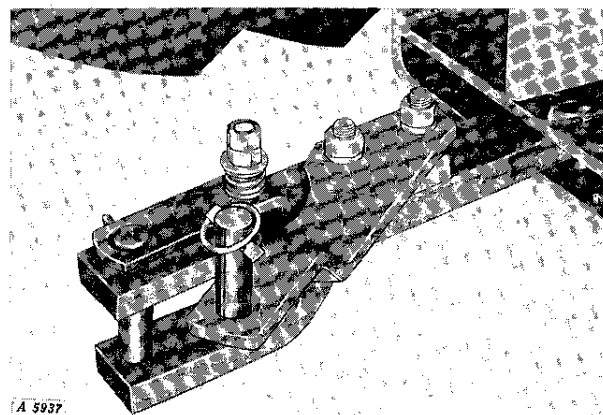
For maximum ballast, refer to your tractor operator's manual.

## Tractor Drawbar

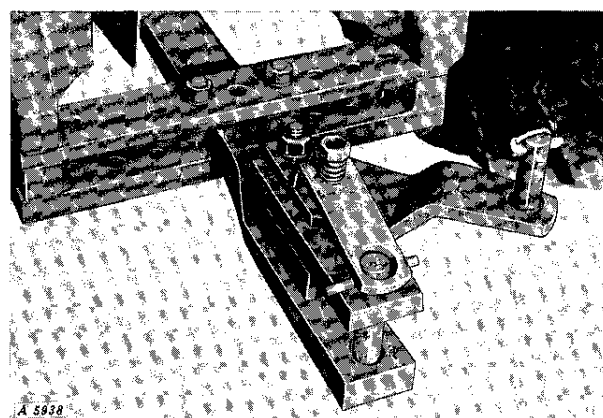
Set the tractor drawbar in the low position, leaving the drawbar extended enough to the rear for clearance necessary to attach the steering plate.

On 7020 and 7520 Tractors only, set the drawbar to swing freely.

## Steering Plate



A 5937  
3010, 3020, 4000, 4010, 4020, 4030, 4230, 4320,  
and 4430 Tractors



A 5938  
4520, 4620, 4630, 5010, 5020, 6030, 7020,  
and 7520 Tractors

The steering plate, attached to the tractor drawbar, and the steering arms provide positive steering of the plow.

## Front Ballast

Tractor front ballast is necessary for maximum field performance.

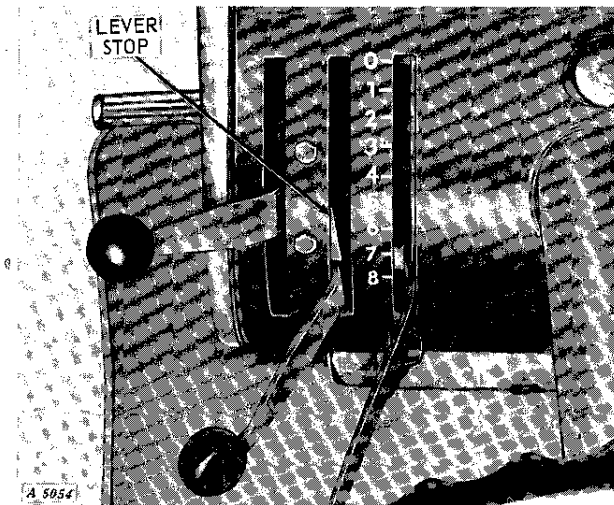
The amount of front weight required will have to be determined by field operating conditions and the gear in which the tractor is operated.

**CAUTION:** In this regard it is important to note that when the tractor is operated in third or lower gears, front-end weights up to the maximum permissible are necessary to avoid possible front-end tip-up. If more front-end stability is required, see "Vertical Hitch Adjustments" on page 20.

### Lever Position (John Deere Hydraulic System)

To provide constant hydraulic pressure to the power-reset cylinders when using a plow with a John Deere Hydraulic System, it is necessary to keep the tractor remote cylinder operating lever in the operating position.

#### Lever Stop for 3010, 3020 (Serial No. Below 123,000), 4010, 4020 (Serial No. Below 201,000), 5010, and 5020 Tractors Equipped with Dual Breakaway Couplers



The lever stop is used to hold the inner lever (right-hand lever) in operating position as shown in illustration above.

To place lever in operating position, pull lever down.

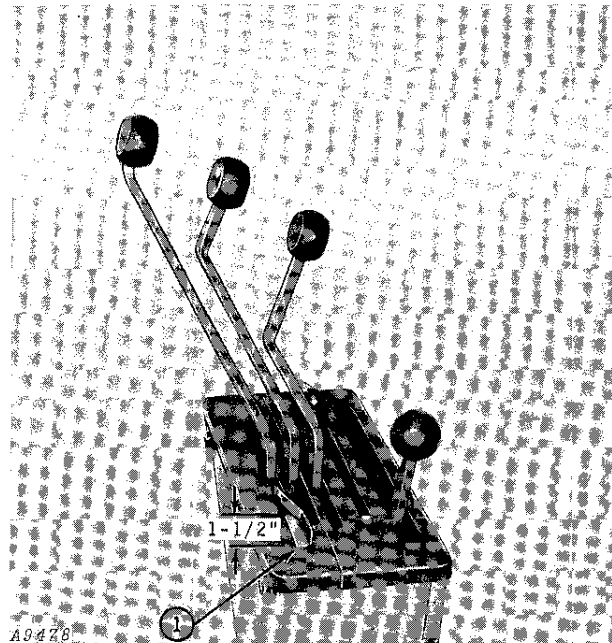
To release lever to neutral position, push lever to the right and return lever past the stop to neutral.

Remove the tractor cowl to facilitate attaching the lever stop. Using the template on page 71, drill two 1/4-inch holes 1-3/4 inches apart in the tractor dash.

After the lever stop is secured, operate the lever to make sure the stop retains the lever in operating position, and that the lever can be moved past the stop when desired. Adjust the stop position if necessary and replace cowl.

*NOTE: The lever stop must be removed when operating other implements which require regular detent action. To remove lever stop, remove tractor cowl and remove two bolts securing lever stop. Replace cowl.*

#### Lever Lock for 3020 (Serial No. 123,000 and Above), 4000, 4010, 4020 (Serial No. 201,000 and Above), 4320, 4520, 4620, 6030, 7020, and 7520 Tractors



Front View of Console Illustrated

The lever lock is attached to hold the right-hand (outer) remote cylinder operating lever in the operating position when the F370 or F380 Plows are used with tractors equipped with dual or triple remote hydraulic cylinder breakaway couplers.

To place lever in operating position, push lever forward until secured by lever lock.

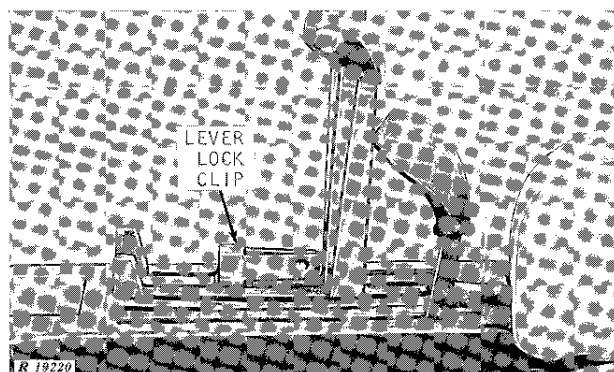
To release lever to neutral position, pull lever rearward from the lever lock.

Install the lever lock as follows:

1. Drill (1) 3/8-inch hole 1-1/2-inch from the end of the selective control valve lever opening. Insert lever lock as illustrated above.



**Lever Lock Clip for 4030, 4230, 4430, 4630, and 6030 Tractor**



To keep the lever in the fast retract position, install a lever lock clip. To do so, squeeze the clip together slightly and insert it in the quadrant slot just behind the float lockout stop. Raise the stop slightly and slide the clip forward into position and push the stop down to lock the clip in place. To remove the clip, raise the float lockout stop first; then slide the clip rearward.

The lever lock clip is attached to hold the right-hand (outer) remote cylinder operating lever in the operating position when the F370 or F380 Plows are used with tractors equipped with dual or triple remote hydraulic cylinder breakaway couplers.

To place lever in operating position, push lever forward until secured by lever lock clip.

To release lever to neutral position, pull lever rearward from lever lock clip.

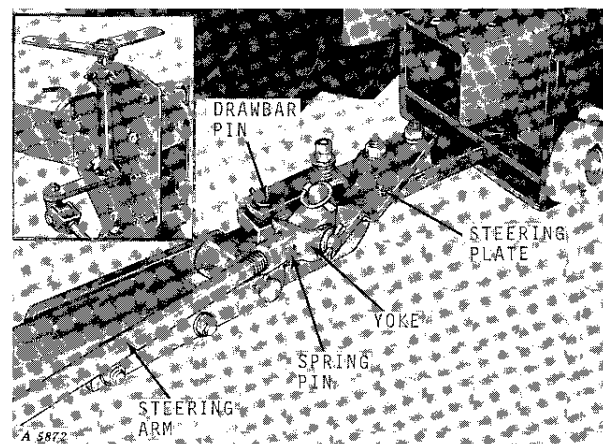
# PLAN AHEAD

**—prevent accidents**



## ATTACHING PLOW TO TRACTOR

### Hitching to Tractor



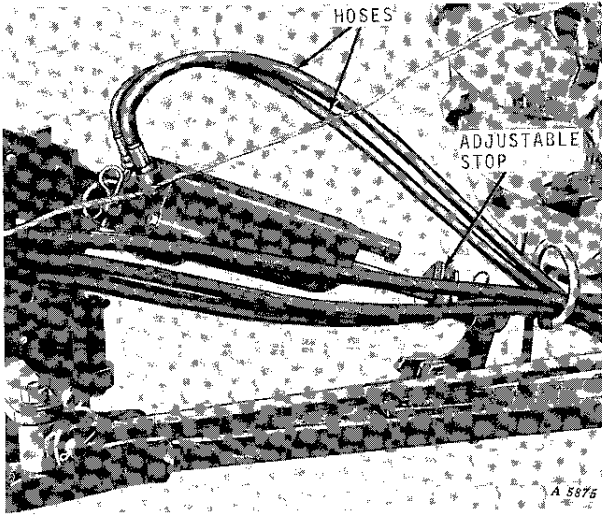
Attach the hitch drawbar to the tractor drawbar using the drawbar pin. Place drawbar pin retainer over drawbar pin.

Adjust the steering rod before attaching it to the steering plate.

Remove the spring pin from the steering rod. Adjust the length of the steering rod by turning the yoke until the swivel can be placed on the steering plate post with the steering shaft lower arm *perpendicular to the frame bars of the plow*. See inset in illustration above. Reinsert the spring pin to hold this adjustment. <sup>o</sup>

After adjusting the hitch steering rod, it may be necessary to slightly readjust the rear wheel and front furrow wheel steering rods.

### Installing Remote Hydraulic Cylinder on Hitch Drawbar (F380 Plow)

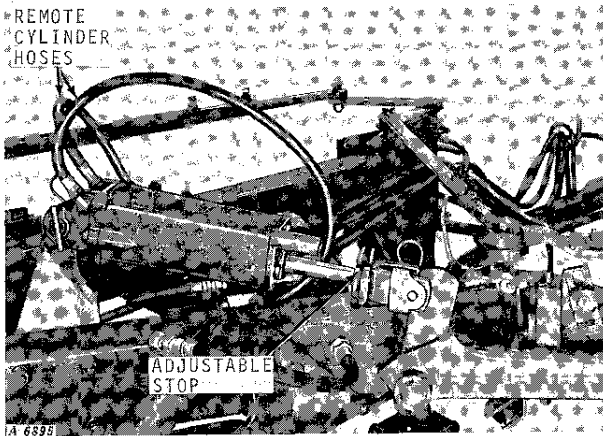


A tractor remote hydraulic cylinder controls the position of the drawbar.

1 Attach the cylinder as shown above.

Set the adjustable stop to use the full stroke of the cylinder.

### Installing Remote Hydraulic Cylinder on Front Furrow Axle



A tractor remote hydraulic cylinder controls the front furrow wheel.

The front furrow wheel uses a 3 x 8-inch remote hydraulic cylinder when used with a John Deere 3010, 3020, 4000, 4010, 4020, 4030, 4230, 4320, or 4430 Tractor. A 3-1/2 x 8-inch cylinder is used with a John Deere 4520, 4620, 4630, 5010, 5020, 6030, 7020, or 7520 Tractor.

To provide ample hose length when making turns, the length of the remote cylinder hoses may have to be increased.

When using any of the above John Deere Tractors, the remote hydraulic cylinder hose must be at least 164 inches long.

When using other tractors, the hose length may be determined as follows:

The plow requires a 140-inch minimum spherical radius from the tractor drawbar to the hose end of the cylinder. (The spherical radius is the distance from the tractor drawbar hitch point to the hose end of the cylinder.)

To determine the additional hose required, attach the remote cylinder hose to the tractor breakaway coupler. Lay the cylinder on the ground directly behind the drawbar with hose stretched out full length. Pull hose down to the tractor drawbar. Measure the distance from the end of the drawbar to the hose end of the cylinder. The difference between this measurement and 140 inches is the amount of the additional hose required.

If the cylinder has not been used before, it may be necessary to bleed the cylinder as explained in the tractor operator's manual.

With all trapped air removed from cylinder, install the cylinder on the plow as shown at lower left.

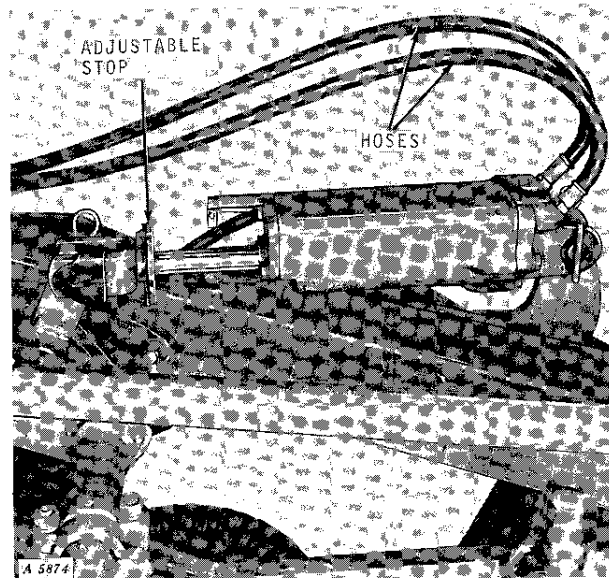
Set adjustable stop so the full stroke of the cylinder may be used.

See pages 10-15 for illustrations of hose installations.

Place hoses through hose supports.

Attach land opening latch rope to tractor seat.

### Installing Remote Hydraulic Cylinder on Land Axle (F370 Plow)



A tractor remote hydraulic cylinder controls the land wheel.

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