### JOHN DEERE F365H AND F375H SERIES POWER-RESET DRAWN MOLDBOARD PLOWS



### **OPERATORS MANUAL**

JOHN DEERE F365H AND F375H SERIES POWER-RESET DRAWN MOLDBOARD PLOWS

OMA16016 A8 English



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### TO THE PURCHASER

Behind your new plow is an organization that has specialized in designing and building plows for over 125 years. This plow was built in the world's largest plow factory by experienced men, many who have worked in this large plant for from 10 to 45 years, thus assuring the utmost in good design, high-grade workmanship and thorough inspection, so essential to the production of good plows.

High quality materials, precision production methods, and accurately controlled heat-treating assure maximum strength and long life for every part.

This manual has been carefully prepared and illustrated, so that you may make the necessary adjustments for adapting your plow to work properly in practically all types of soil and field conditions. These adjustments such as proper hitching and adjusting for width and depth of cut, are fully covered in this manual.

Study this manual carefully. Keep it handy, in a safe place, for future reference.

Occasionally your plow may need new parts, or require service not covered in this manual.



If so, we suggest that you take advantage of the facilities offered by your John Deere dealer, which assure you of genuine JOHN DEERE parts and prompt "know-how" service in the field or shop.

If you will furnish your dealer with the information which should be recorded at the bottom of this page, when the plow is delivered, he can give you prompt and efficient service.

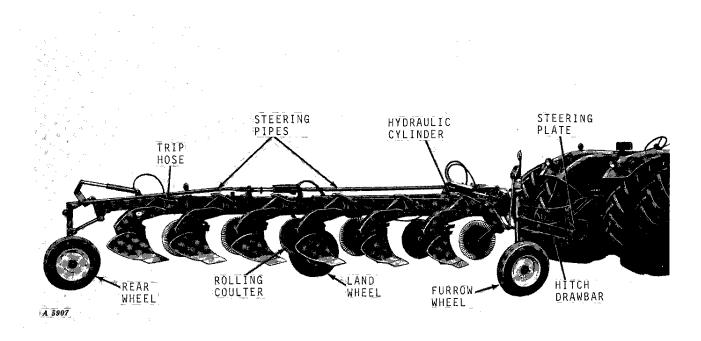
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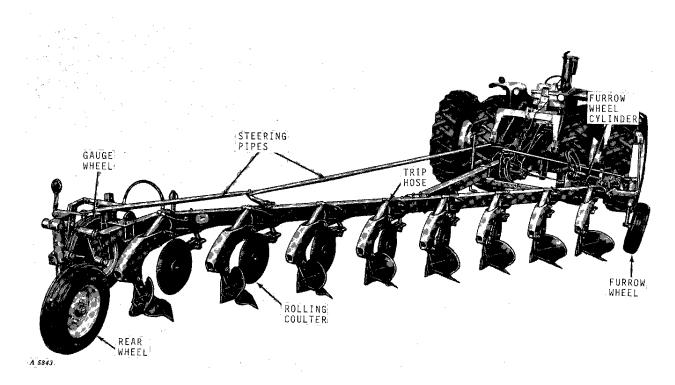
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John Deere F365H Series 6-Bottom Power-Reset Drawn Moldboard Plow (Trash Boards Special Equipment)



John Deere F375H Series 8-Bottom Power-Reset Drawn Moldboard Plow (Cushion Anti-Friction Bearing Rolling Coulters Special Equipment)



## SPECIFICATIONS

Types	<ul> <li>F365H and F375H Series Power-Reset Drawn Plows;</li> <li>F365H Series is available in the following sizes:</li> <li><b>4-Bottom</b> recommended for use with John Deere 3010, 3020, 4010, and 4020 Tractors operating in the furrow only.</li> <li><b>5-Bottom</b> for use with John Deere 4010, 4020, 5010, and 5020 Tractors operating in the furrow or on the land.</li> <li><b>6-Bottom</b> for use with John Deere 4010, 4020, 5010, and 5020 Tractors operating in the furrow or on the land.</li> <li>F375H Series is available in the following sizes:</li> <li><b>7-Bottom</b> for use with John Deere 5010 and 5020 Tractors operating on the land.</li> <li><b>8-Bottom</b> for use with John Deere 5010 and 5020 Tractors operating on the land.</li> <li>NOTE: Tractors must be equipped with dual remote cylinder breakaway couplers.</li> </ul>
Depth Range	Up to 12 inches depending on soil conditions and type and size of bottoms.
Fore-and-aft Clearance.	
Standards	Power-reset, double-pivot action.
Bottoms	
Landsides	SDT546FC semi-deep tillage bottoms, or NU bottoms. No. 9 for all bottoms except rear bottom which requires a No. 11 adjust-
	able rear landside.
Land, Furrow, and	
Rear Wheel	Wheel for 6.70-15 or 7.60-15 tire, regular. Wheel with 6.70-15 tire, op-
	tional for F365H Plows. Wheel with 7.60-15 tire, optional for F375H Plows.
	14-inch wheel less tire, optional for F365H and F375H Plows.
Gauge Wheel	Regular Equipment on F375H Plows. Wheel for 7.60-15 tire regular. Wheel with 7.60-15 tire, or 14-inch wheel, less tire, optional.
Hydraulic System	John Deere System for John Deere Tractors with closed-center constant-
	pressure system, regular.
	Accumulator System for other tractors that do not have adequate hy-
	draulic capacity and closed-center hydraulic systems; optional.
Rolling Coulters	Cushioned by two rows of cupped washers.
	17-inch plain with chilled-cone bearing, regular. 17-inch rippled edge with chilled-cone bearing, optional.
	17-inch or 20-inch plain or rippled-edge with anti-friction bearing, op-
	tional.
	Available as special equipment for HS400 Series Bottoms only.
Trashboards	Available as special equipment for high-speed bottoms, high-speed slat
	bottoms, SDT546FC semi-deep tillage bottoms, and NU bottoms.
Moldboard Extensions .	For HS400 Series high-speed and NU bottoms.

(Specifications and design subject to change without notice.)

NOTE: When the term ''right'' or '' left'' is used, it means from a position behind the plow and facing the front.

#### TYPES AND SIZES

The John Deere F365H and F375H Series Power-Reset Plows are designed for non-stop plowing in rocky or stumpy fields.

The F365H Series is available in 4-, 5-, or 6-bottom sizes. The 4-bottom plow is recommended for use with the right tractor wheel operating in the furrow. The 5- and 6-bottom plows are for use with the right tractor wheel operating in the furrow or on the land.

The F375H Series, available in 7- or 8-bottom sizes, is for operating with all tractor wheels on the land.

#### HYDRAULIC SYSTEMS

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, 4010, 4020, 5010, or 5020 Tractor closed-center hydraulic system rated at 2000 psi. 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.

A cartridge-type, non-adjustable relief 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 relief valve setting, the relief 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 and is for use with tractors which do not have 2000 psi oil pressure available in 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-galloncapacity 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 pressures 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.

#### POWER-RESET STANDARDS

Each standard has two pivot points which permit the plow bottom to ride over obstructions and return to working position. If the share point hooks behind or under an obstruction, the dual pivots allow the standard to move rearward and up as much as 11 inches above the furrow bottom. Hydraulic pressure cushions the shock, returns the plow bottom to working position as soon as the point of the share clears the obstruction and holds the bottom in plowing position.

#### **OPERATING CONTROLS**

The front and rear furrow wheels are raised and lowered by using the inner remote cylinder operating lever.

On F365H Plows, the land wheel is raised and lowered by using the outer remote cylinder operating lever.

On F375H Plows, the hydraulically-controlled drawbar is raised and lowered by using the outer remote cylinder operating lever.

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



### **OPERATION**

#### 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 those soils where the black paint will not wear off, remove with gasoline, kerosene, or diesel fuel.

CAUTION: Be careful when using any of these fuels so they do not ignite. The plow should be in a well-ventilated area and away from any sparks or flames.

If the plow is not to be used immediately, protect the polished surfaces by applying a coat of cup or gun grease. If the plow is to be put in storage for a considerable length of time, see pages 28 and 29.

#### 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.

#### TIRE INFLATION

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

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

#### LUBRICATION

Be sure plow has been properly lubricated. See Lubrication Charts on page 30 and 31.

#### 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 15.

When operating with the right tractor wheel 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 15 and 16.

#### FRONT WHEEL SETTING

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

#### 6 Operation

#### 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

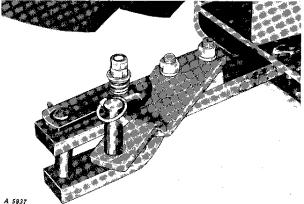
Where weight in addition to or in place of liquid weight is required, cast-iron weights can be bolted to the rear wheels. This type of weight can be secured from your John Deere dealer.

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.

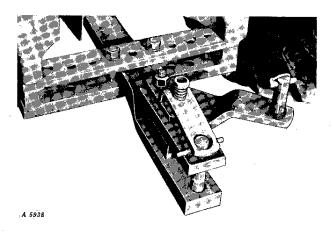
#### STEERING PLATE



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3010, 3020, 4010, And 4020 Tractors

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



5010 And 5020 Tractors

#### HYDRAULIC SYSTEM

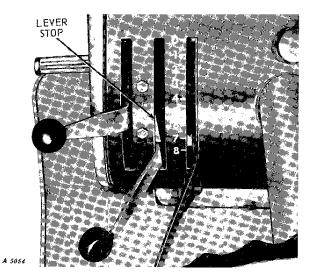
Once the plow is attached to the tractor the depth or load is maintained by the tractor hydraulic system according to the setting of the rockshaft selector lever. See your tractor operator's manual for complete explanation of the hydraulic system.

The hydraulic system on John Deere 3010, 3020, 4010, 4020, 5010, and 5020 Tractors provides the necessary hydraulic pressure to operate these plows. An accumulator system is available as special equipment for the plow when used with other tractors that do not have sufficient hydraulic capacity.

References to "John Deere Hydraulic System" mean plows used with the above John Deere Tractors.

#### Lever Stop (John Deere Hydraulic System)

To provide constant hydraulic pressure 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.

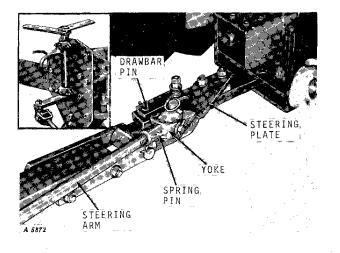


The lever stop is used to hold the lever in operating position as shown in illustration above.

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.

#### ATTACHING PLOW TO TRACTOR

HITCHING TO TRACTOR

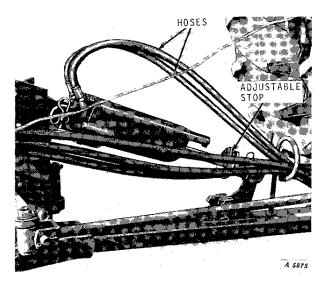


Attach the hitch drawbar to the tractor drawbar using the drawbar pin. Place drawbar pin retainer over drawbar pin. Adjust the steering rod before attaching it to the steering plate.

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 at lower left. Reinsert the spring pin to hold this adjustment.

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 (F375H Plow)



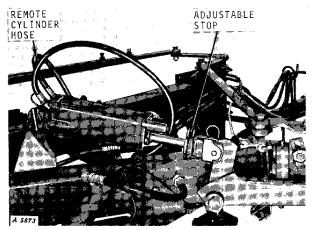
A tractor remote hydraulic cylinder controls the position of the drawbar.

Attach the cylinder as shown above.

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

#### 8 Operation

#### 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, 4010, or 4020 Tractor. A 3-1/2 x 8-inch cylinder is used with a John Deere 5010 or 5020 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 above.

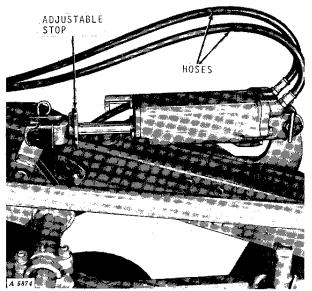
Set adjustable stop so the full stroke of the cylinder may be used.

See pages 10-12 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 (F365H Plow)



A tractor remote hydraulic cylinder controls the land wheel.

The land wheel uses a 3 x 8-inch remote hydraulic cylinder when used with a John Deere 3010, 3020, 4010, or 4020 Tractor. A 3-1/2x 8-inch cylinder is used with a John Deere 5010 or 5020 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 with a 4- or 5-bottom plow, the remote hydraulic cylinder hoses must be at least 192 inches long.

When using any of the above John Deere Tractors with a 6-bottom plow, the remote hydraulic cylinder hoses must be at least 220 inches long.

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

The 4- and 5-bottom plows require a 168-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.

The 6-bottom plow requires a 196-inch minimum spherical radius from the tractor drawbar to the hose end of the cylinder.

To determine the additional hose required, attach the remote cylinder hoses to the tractor

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