F610A, F610AH, F620A AND F620AH DRAWN MOLDBOARD PLOWS

JOHN DEERE

OPERATORS MANUAL

F610A, F610AH, F620A AND F620AH
DRAWN MOLDBOARD PLOWS

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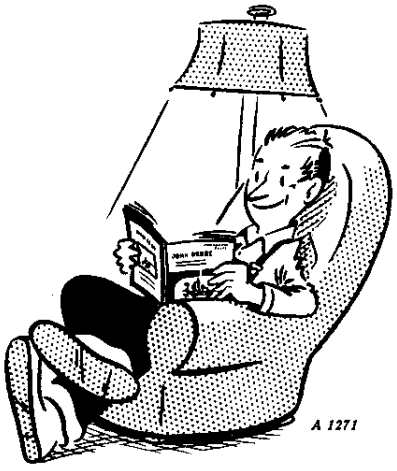
YOUR NEW PLOW

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. Their experience assures the utmost in 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.

JOHN DEERE ☐F610A ☐F610AH
☐F620A ☐F620AH

THREE- AND FOUR-BOTTOM MOLDBOARD PLOWS

Date Purchased . . . . . 19. . . .

(To be filled in by Purchaser)

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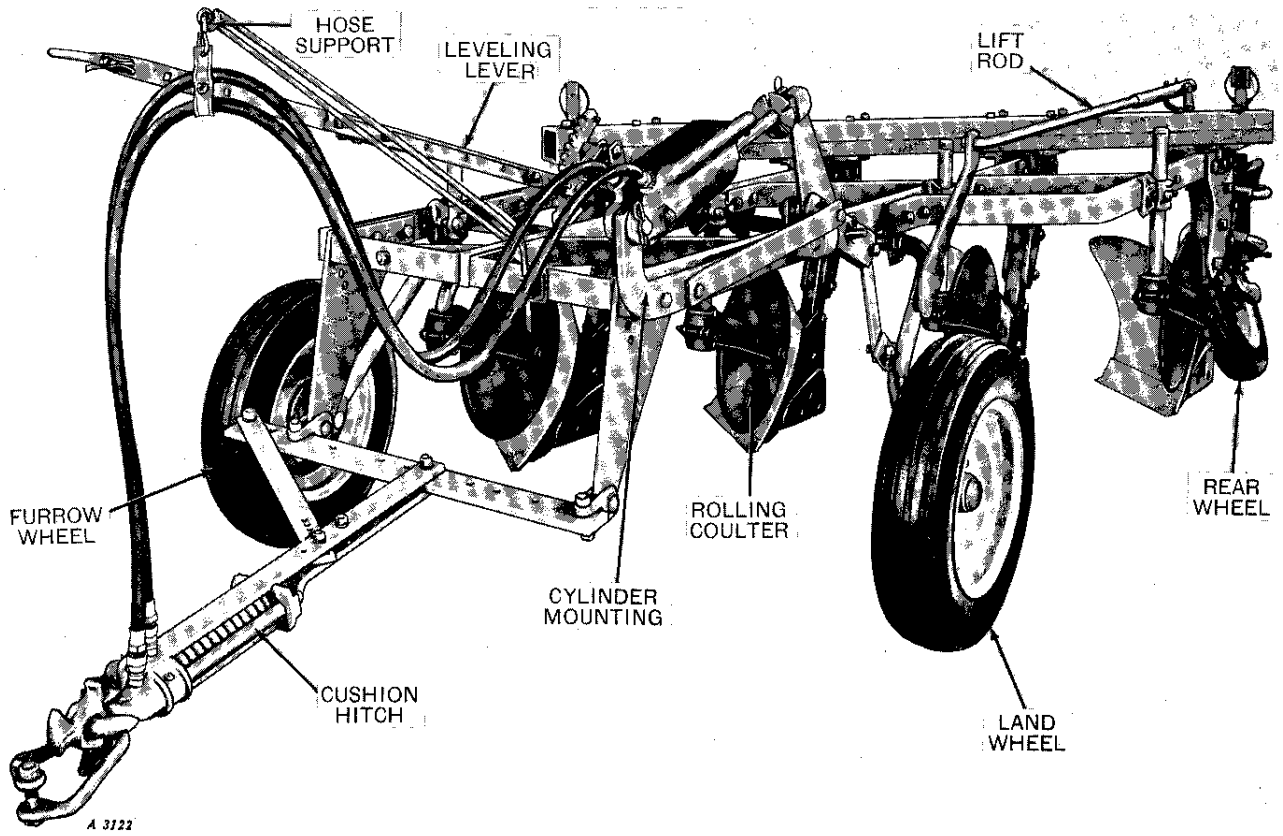
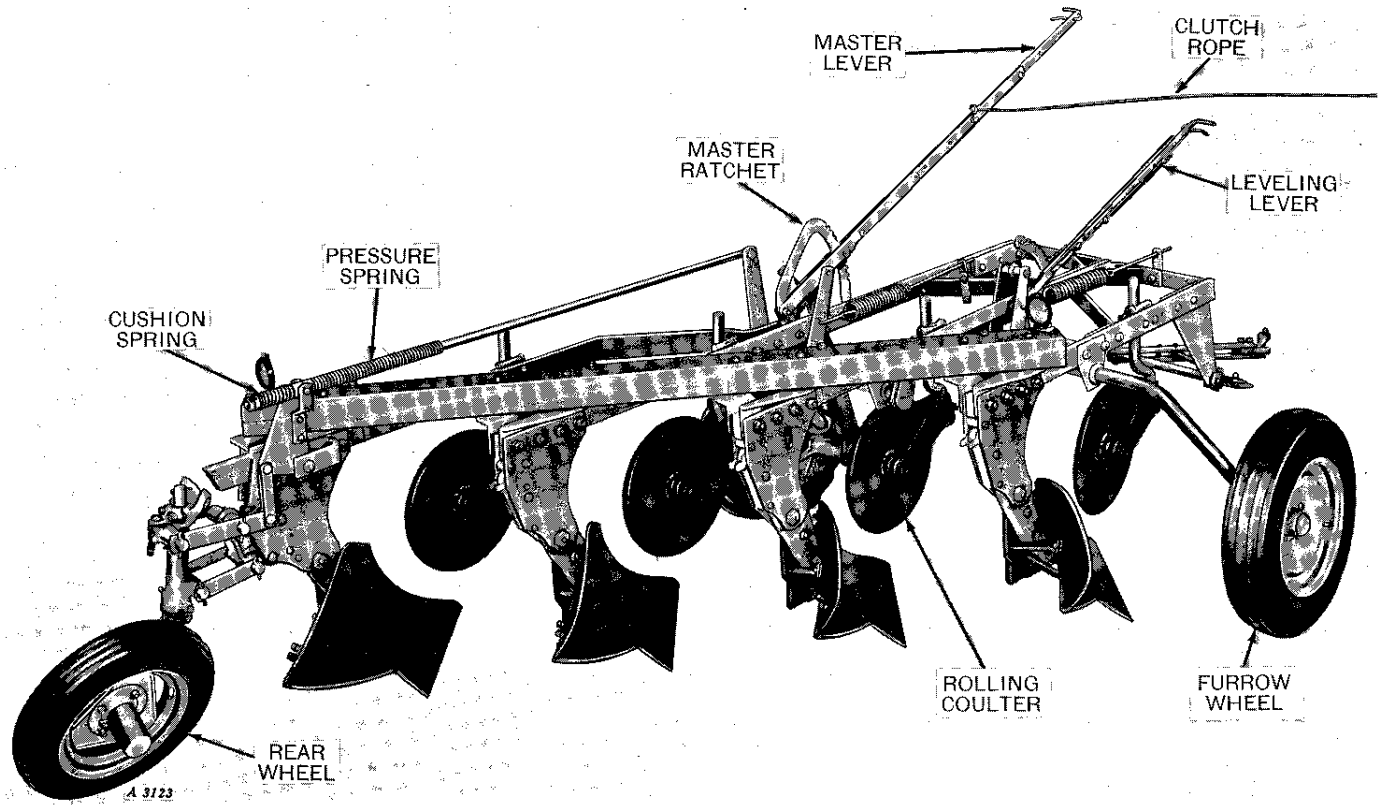


John Deere F610AH Four-Bottom Drawn Moldboard Plow



John Deere F620A Four-Bottom Drawn Moldboard Plow with Twelve-Inch Rear Wheel (Special Equipment)

SPECIFICATIONS

TYPES	**F610A Clutch-Lift and F610AH Hydraulic-Lift,** Stiff Standard, Three- and Four-Bottom, 14- and 16-Inch Frames. **F620A Clutch-Lift and F620AH Hydraulic-Lift,** Safety-Trip Standard, Three- and Four-Bottom, 14- and 16-Inch Frames.
DEPTH RANGE	Up to 10 inches, depending on type and size of bottoms and ground conditions.
BOTTOMS	Various types available as ordered.
LANDSIDES	Bottoms with short landsides (No. 4 for conventional bottoms and No. 9 for high-speed bottoms).
WHEELS:	
Furrow	Equipped with anti-friction bearing. Regular less tire. Special with 5.90-15 tire. Special wheel less tire, 14-inch.
Land, F610A and F620A	Equipped with chilled-sleeve bearing. Regular less tire.
F610AH and F620AH	Equipped with anti-friction bearing. Regular less tire. Special with 5.90-15 tire. Special wheel less tire, 14-inch.
Rear	Equipped with anti-friction bearing, for but less 5.90-15 tire, regular; with tire, special. 14-inch wheel less tire, special. Equipped with chilled-sleeve bearing, with or less 4.00-12 tire or steel wheel, special.
HITCHES:	
F610A and F610AH	Cushion Spring Release.
F620A and F620AH	Plain.
LIFT	Enclosed-type clutch for the F610A and F620A Plows. Remote hydraulic cylinder for the F610AH and F620AH Plows.
LEVERS	Adjustable for length.

COULTERS	17-inch plain, regular. 17-inch rippled-edge, optional. 17-inch cushion coulter, plain or rippled-edge, chilled-cone bearing, for round shank; optional. 18-inch plain, optional. Round shank, regular. Flat shank, optional. Chilled-cone bearing, regular. Anti-friction bearing, optional.
JOINTERS	Independent cast or steel available as special equipment.
LANDING LEVER	Special Equipment.
WEED HOOKS.	Special Equipment.
ROOT CUTTERS.	Special Equipment.
MOLDBOARD EXTENSIONS	Two types - For conventional bottoms or HS400 Series high-speed bottoms.
MOLDBOARD PAD	Special Equipment for HS400 Series high-speed bottoms only.
TRASH BOARDS.	Special Equipment for high-speed bottoms, high-speed slat bottoms, and SDT546FC semi-deep-tillage bottoms.
SHARE-FROG BRACE. . . .	To attach 16-inch high-speed shares to 14-inch high-speed 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.

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 it with gasoline, kerosene, or diesel fuel.

Be careful when using any of these fuels so they do not ignite. 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 plow is to be stored for a considerable length of time, see pages 28 through 30.

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 that all cotter pins are spread to keep them from falling out. Check the bolts that hold the plow bottoms to see that they are drawn up tight.

TIRE INFLATION

Check plow tires to be sure they are inflated properly, as shown below:

Recommended Implement Tires	Inflation Pressure
4.00-12—4 ply	36 psi.
5.90-15—4 ply	28 psi.
7.60-15—4 ply	24 psi.

LUBRICATION

Be sure plow has been properly lubricated. See Lubrication Chart on page 31.

PREPARING AND ADJUSTING 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. For plowing, best results are generally obtained by taking one weight from the furrow wheel and adding it to the land wheel. Tilting of the tractor places more weight than normal on the furrow wheel. Addition of weight to the land wheel provides more uniform weight distribution over the rear wheels.

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.

TRACTOR DRAWBAR

On wheel-type tractors set the tractor drawbar in the **short high position** and, except where off-hitching is required, bolt it exactly in the center of the tractor, midway between rear wheels.

Attach the clevis direct to the drawbar and not to the hammerstrap.

On crawler tractors that work with both tracks on the land, the tractor drawbar should ordinarily be free to swing.

REAR WHEEL SETTING

Tractor rear wheel settings are determined by the location of the center line of draft in the plow. Therefore, it is necessary first to read "Hitching Plow to Tractor" on the following pages. Then adjust the wheels as explained on page 9.

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.

HITCHING PLOW TO TRACTOR

The ideal hitch is a straight line from the center point of pull on the tractor to the center point of resistance on the plow, both horizontally and vertically.

The center point of pull on the tractor is located approximately 3 inches ahead of the rear axle housing and midway between the rear wheels.

To find the center point of resistance on the plow, first find the center line of draft as explained below.

CENTER LINE OF DRAFT

The center line of draft is simply an imaginary line drawn from the point of pull on the tractor to the point of resistance on the plow.

The center line of draft of the plow can be located by using the following rule:

Rule: The center line of draft of a moldboard plow is located at a point one-fourth of the cutting width of one bottom measured to the left of the center of total cut of the plow. (This rule applies to all plows whether one-, two-, three-, four-, or five-bottom.)

Example: Finding center line of draft of a three-bottom 14-inch plow: Total cut of plow=42 inches.

Center of cut or one-half of 42 inches=21 inches.

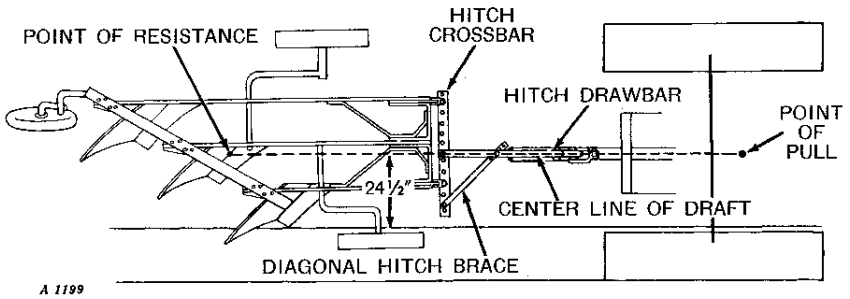
One-fourth the cutting width of one-bottom=3-1/2 inches

3-1/2 inches added to center of cut, which is 21 inches=24-1/2 inches.

Therefore, the center line of draft of a three-bottom 14-inch plow is 24-1/2 inches measured to the left and at right angles from the furrow wall. See illustration below.

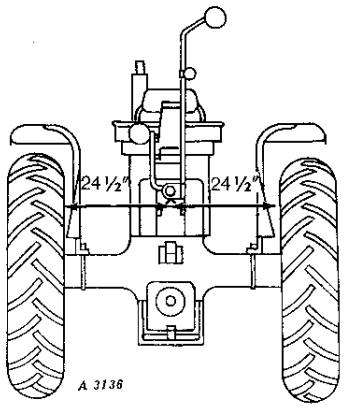
CENTER POINT OF RESISTANCE

The center point of resistance on a plow is located on the bottom intersected by the line of draft, at a point approximately one-half of the plowing depth from the bottom of the furrow. When plowing 6 inches deep, the point of resistance will be 3 inches up from the furrow bottom, or approximately at the junction of the share and moldboard. If plowing deeper than 6 inches, this point will be located farther up on the moldboard. If plowing shallower than 6 inches, the point of resistance will be farther down on the share.



Horizontal Hitch Adjustments on Three-Bottom, 14-Inch Plows

ADJUSTING TRACTOR WHEEL TREAD

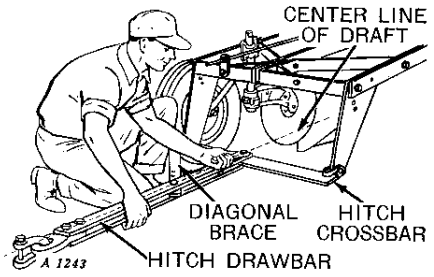


After the center line of draft and point of resistance of the plow have been located, set the tractor wheels (on adjustable tread tractors) to the proper position so the pulling force will be on a straight line from the point of pull on the tractor back through to the point of resistance on the plow. Since, in the example on page 8, the point of resistance is 24-1/2 inches from the furrow wall, set the tractor wheels so the center of the drawbar is 24-1/2 inches from the inside of each tire.

When plowing on steep hillsides, it is sometimes necessary, with adjustable tread tractors, to use a wider wheel spacing than recommended for stability reasons. Where a wider wheel spacing is necessary, always set the left rear tractor wheel at the recommended position and **move the right rear wheel out.** This will result in more nearly equalizing the weight on the two rear wheels of the tractor when plowing. Then center the tractor drawbar between the rear wheels.

HORIZONTAL HITCH ADJUSTMENTS

Adjust the plow hitch so it will be on the exact line of draft from the center point of pull on the tractor to the center point of resistance on the plow. A series of holes in the hitch crossbar allow the hitch to be bolted on the center line of draft. See illustration below and on page 8.



Adjust the diagonal brace on the hitch so the plow hitch is parallel to the furrow wall. After the plow is in the field, further adjustment of the diagonal brace may be necessary to get the correct cut on the front bottom.

After the tractor wheels and plow hitch have been set correctly, attach the plow hitch to the tractor drawbar.

Off-Hitching

In some cases, such as with fixed-tread tractors, it is impossible to set the tractor wheels so the drawbar will fall on the center line of draft. In such cases, it is necessary to off-hitch the plow and to move the drawbar of the tractor away from the center point of pull to permit the plow hitch to be parallel to the furrow wall.

For example, when using a four-bottom 16-inch plow with a standard tractor with a wheel spacing of 54 inches inside-to-inside of tires, the plow must be off-hitched 9 inches. The center line of draft of the plow is 36 inches from the furrow wall while the distance from the inside of the tire to the center of the tractor drawbar is only 27 inches. The 9 inches difference should be taken

about one-half on the plow and one-half on the tractor. Therefore, move the plow hitch drawbar 5 inches to the right of the line of draft and the tractor drawbar 4 inches to the left of the center of the tractor. Both the tractor drawbar and the plow hitch will then be 31 inches from the furrow wall. The plow hitch will now run straight and be parallel to the furrow wall.

Hitching Chart

Following are examples of correct measurements for hitching a plow and tractor combination. We suggest that you work out the measurements listed below for any plow and tractor combination, using the instructions on pages 8 and 9, and then apply these same instructions to your plow and tractor combination.

HITCHING CRAWLER TRACTORS

When using a crawler tractor with these plows, run both tracks on the land and allow the tractor drawbar to swing free.

The plow hitch must be adjusted to conform to the position of the center of the tractor drawbar. To find this position, measure the distance from the outside of the right-hand track to the center of the tractor and add 3 or 4 inches to permit driving far enough from the furrow wall to prevent breaking it down. Then set the plow hitch on the hitch crossbar the same distance in from the furrow wall.

PLOW HITCHING CHART

Number of Bottoms	Size of Bottoms	Tractor Wheel Setting Inside-to-Inside of Tires	Line of Draft from Furrow Wall	Tractor Drawbar Position	Plow Hitch to Furrow Wall
3	14"	49"	24-1/2"	Center	24-1/2"
3	16"	56"	28"	Center	28"
4	14"	63"	31-1/2"	Center	31-1/2"
4	16"	*72"	36"	Center	36"

Some tractor models do not have sufficient wheel tread adjustment to permit perfect line-of-draft hitching, especially standard tread tractors.* **See section on "Off-hitching." *Dividing the off-hitching between the tractor and the plow obtains the best performance of each.*

To prevent side draft of tricycle-type tractors, off-hitching on the tractor should be kept to a minimum, taking most on the plow.

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