

444H DRAWN MOLDBOARD PLOW



OPERATORS MANUAL 444H DRAWN MOLDBOARD PLOW

OMA15633 J6 English

JOHN DEERE SEEDING GROUP
OMA15633 J6

LITHO IN THE U.S.A.
ENGLISH



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.

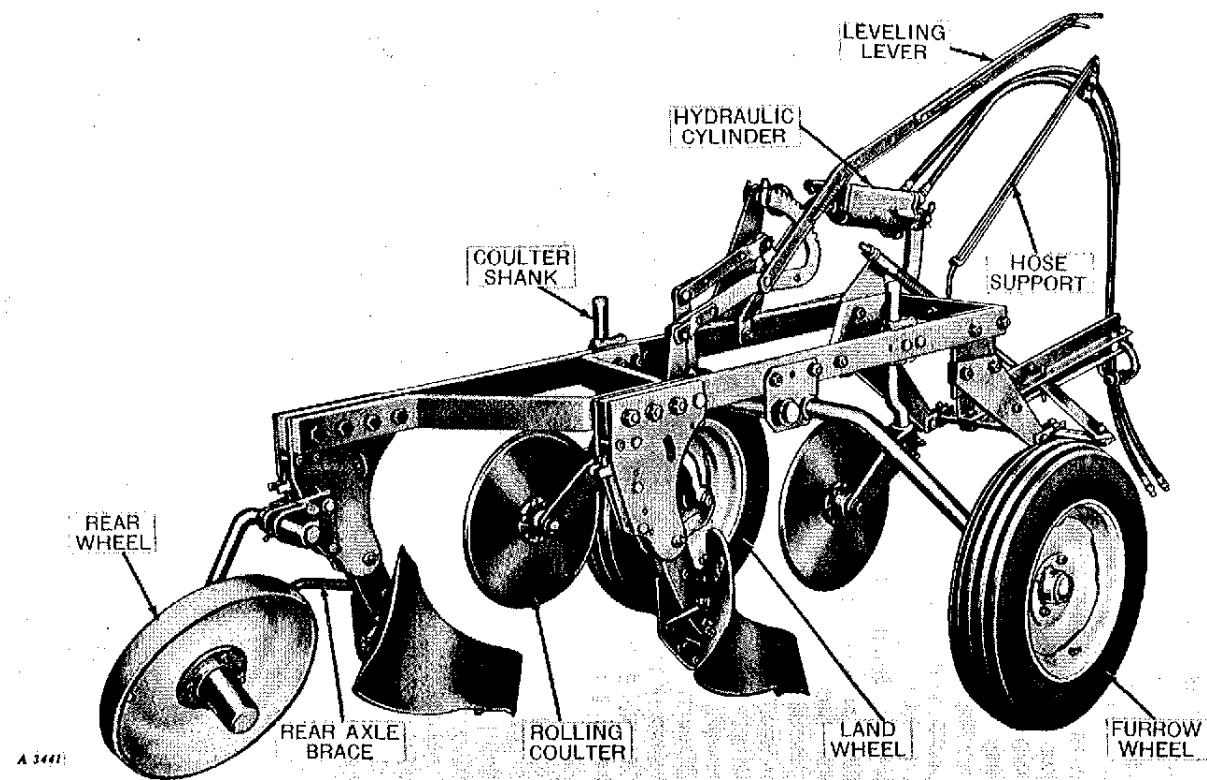
JOHN DEERE 444H TWO-BOTTOM MOLDBOARD PLOW

Date Purchased 19. . .

(To be filled in by Purchaser)

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John Deere 444H 2-Bottom Moldboard Plow

SPECIFICATIONS

TYPE	444H Hydraulic Lift, Safety-Trip Standard, 2-Bottom, 14- and 16-Inch Frames
DEPTH RANGE.	Up to 12 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:	
Land and Furrow	Equipped with anti-friction bearing. Regular less tire. Special with 5.90-15 tire. Special wheel less tire, 14-inch.
Rear.	Equipped with chilled-sleeve bearing with 19 x 3-1/2-inch steel disk wheel, regular; with or without 4.00-12 tire, special.
HITCH.	Plain.
LIFT.	Remote hydraulic cylinder.
LEVER.	Adjustable for length.
COULTERS	17-inch plain, regular. 17-inch rippled edge, special. 18-inch plain, special. Round Shank, regular. Chilled-cone bearing, regular. Anti-Friction bearing, special.
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 or high-speed slat bottoms only.
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 23 and 24.

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.

LUBRICATION

Be sure plow has been properly lubricated. See Lubrication Chart on page 25.

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

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 hammer-strap.

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 7.

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 1-, 2-, 3-, 4-, or 5-bottom.)

Example: Finding center line of draft of a 2-bottom 14-inch plow: Total cut of plow = 28 inches.

Center of cut or one-half of 28 inches = 14 inches.

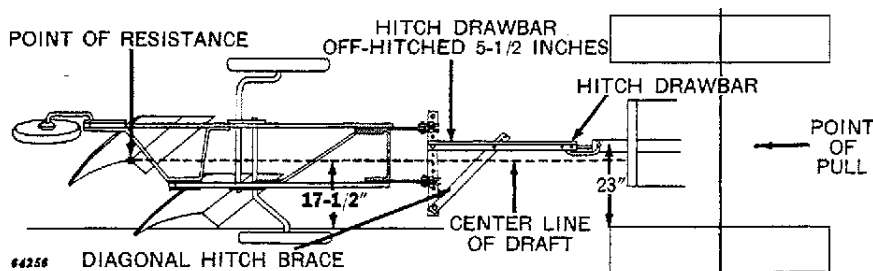
One-fourth the cutting width of one bottom = $3\frac{1}{2}$ inches.

$3\frac{1}{2}$ inches added to center of cut, which is 14 inches = $17\frac{1}{2}$ inches.

Therefore, the center line of draft of a 2-bottom 14-inch plow is $17\frac{1}{2}$ inches measured to the left and at right angles from the furrow wall. See illustration below.

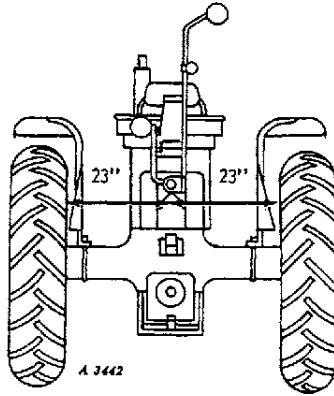
CENTER POINT OF RESISTANCE

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.



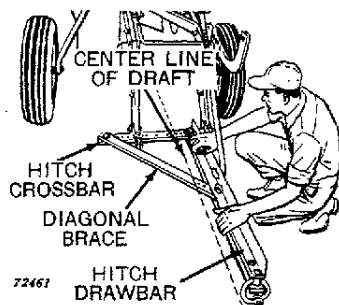
Horizontal Hitch Adjustments on 2-Bottom 14-Inch Plow

ADJUSTING TRACTOR WHEEL TREAD AND PLOW HITCH



Normally the tractor wheels are set so the center of the tractor drawbar will fall on the center line of draft. However, when using a 2-bottom plow with most tractors it is impossible to move the tractor wheels in far enough to do this. Therefore, it is necessary to off-hitch the plow. Set the tractor wheels (on adjustable tread tractors) to their narrowest setting. In most cases this will be 23 inches from center of tractor drawbar to inside of tractor tire. Since in the example on page 6 the point of resistance is 17-1/2 inches from the furrow wall, the plow will have to be off-hitched 5-1/2 inches.

To get maximum efficiency from the tractor it is recommended that the entire 5-1/2 inches of off-hitch-



ing be taken on the plow. Adjust the plow hitch so it will pull straight back from the tractor drawbar. The plow hitch will then be bolted on the hitch crossbar the same distance from the furrow wall as the drawbar of the tractor is from the furrow wall. In this case the hitch is not on the line of draft but is parallel to it.

If using a tractor with a narrower wheel spacing than 23 inches from center of drawbar to inside of tire, it will be possible to get closer to the center line of draft and therefore, it will not be necessary to off-hitch as much. If using a tractor with a wider minimum wheel spacing than 23 inches from center of drawbar to inside of tire, move the tractor drawbar to the right and take one-half of the off-hitching on the tractor and one-half on the plow.

When plowing on steep hillsides, it is sometimes necessary with adjustable-tread tractors to use a wider wheel spacing than that recommended for stability reasons. When a wider wheel spacing is necessary, always set the left rear tractor wheel at the recommended position and move the right 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.

Adjust the diagonal brace on the hitch so that there is approximately a 90 degree angle at the juncture of the crossbar and drawbar.

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

NOTE: For a simple, easy method of attaching the plow to the tractor, attach the remote hydraulic cylinder to the tractor and plow first. With the aid of the cylinder, lower the plow so that the tractor drawbar and plow hitch clevis will line up for easy attaching.

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