

# 666, 666H and 666H Special Tractor-Drawn Moldboard Plows



JOHN DEERE

## OPERATORS MANUAL 666, 666H and 666H Special Tractor-Drawn Moldboard Plows

OMA80958 (01SEP58) English

**OMA80958 (01SEP58)**

LITHO IN U.S.A.  
ENGLISH



## YOUR NEW PLOW

Behind your new plow is an organization that has specialized in designing and building plows for over one hundred and twenty 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 ten to forty-five 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.

### JOHN DEERE 666, 666H, AND 666H SPECIAL MOLDBOARD PLOWS

666

666H

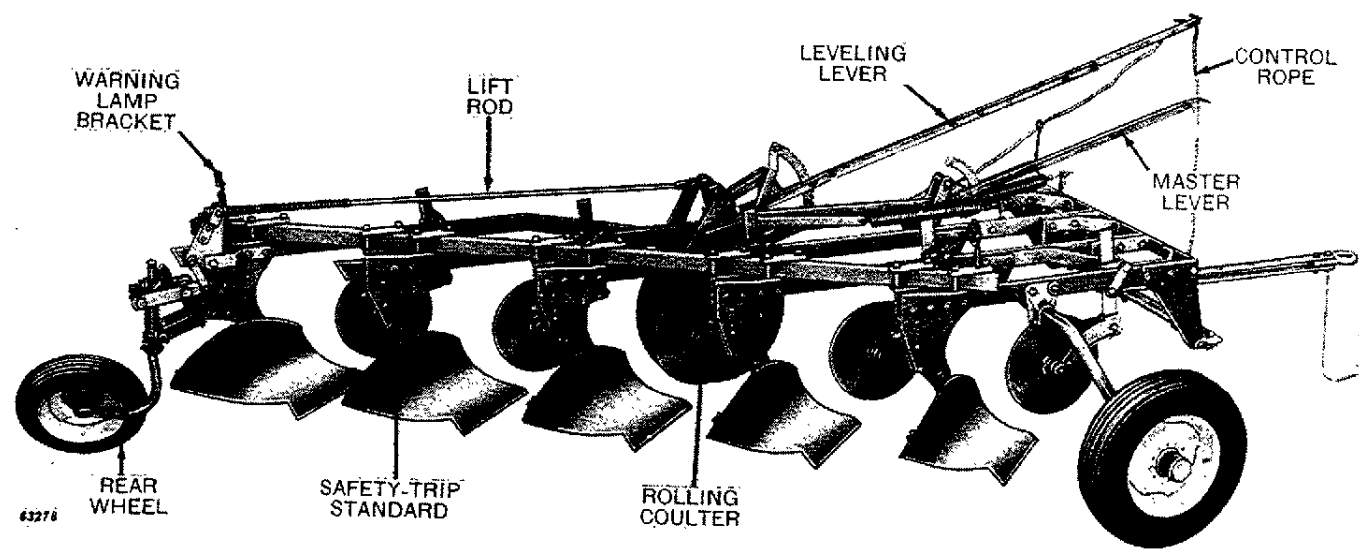
666H Special

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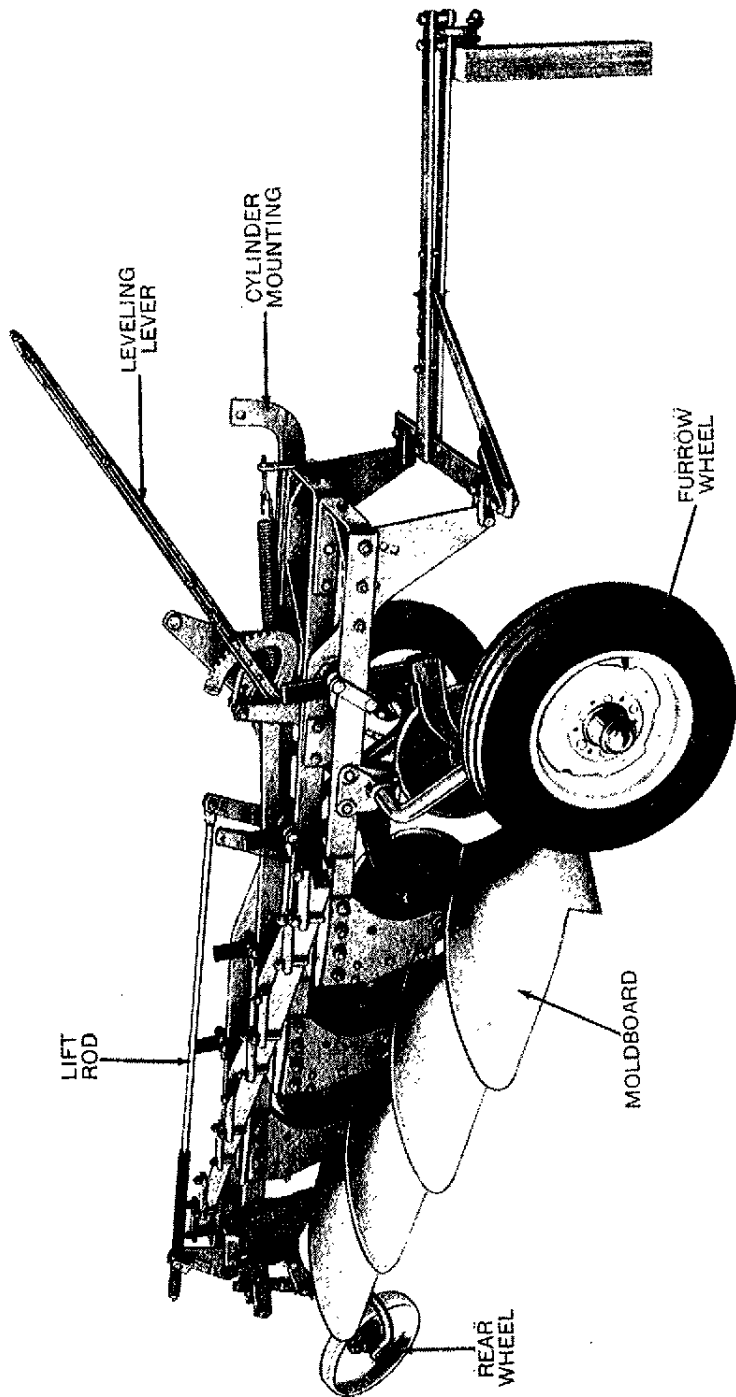
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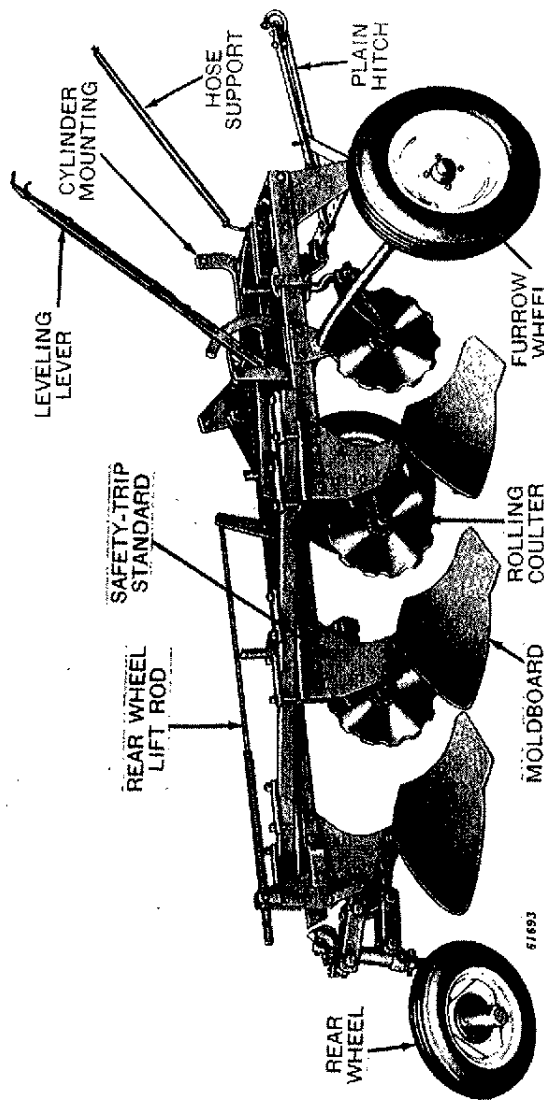


*John Deere 866 Five-Bottom 16-Inch Tractor Moldboard Plow*



*John Deere 666H Four-Bottom 16-Inch Tractor Moldboard Plow*

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*John Deere 666H Special Three-Bottom Tractor-Drawn Moldboard Plow*

## SPECIFICATIONS

TYPES.....	666 Clutch-Lift and 666H Hydraulic-Lift Three-, Four-, and Five-Bottom Plows, 14- and 16-Inch Frames. Five-Bottom Plow Reducible to Four Bottoms, Four-Bottom Plow Reducible to Three Bottoms. 666H Special Hydraulic-Lift Three-Bottom Plow, 14- and 16-Inch Frame.
DEPTH RANGE.....	3 to 12 inches, depending on type of bottoms.
BOTTOMS.....	Various types available as ordered.
WHEELS:	
Furrow:	
666 and 666H.....	Equipped with anti-friction bearings. Regular less tire and tube. Special with 6:70 x 15-inch tire and tube.
666H Special.....	Equipped with anti-friction bearings. Regular less tire and tube. Special with 5:90 x 15-inch tire and tube.
Land:	
666.....	Regular less tire and tube. Special with 7:60 x 15-inch tire and tube.
666H.....	Equipped with anti-friction bearings. Regular less tire and tube. Special with 6:70 x 15-inch tire and tube.
666H Special.....	Equipped with anti-friction bearings. Regular less tire and tube. Special with 5:90 x 15-inch tire and tube.
Rear.....	Wheels for use on axles equipped with either anti-friction or chilled bearings available.
666 and 666H.....	<b>For axles with anti-friction bearings:</b> With 4:00 x 12 tire and tube, regular Less tire and tube, special. Cast, special. <b>For axles with chilled bearings:</b> With 4:00 x 12 tire and tube, special Less tire and tube, special. Steel, special.
666H Special.....	<b>For axles with chilled bearings:</b> With 4:00 x 12 tire and tube, regular Less tire and tube, special. Steel, special. <b>For axles with anti-friction bearings:</b> With 4:00 x 12 tire and tube, special Less tire and tube, special. Cast, special.

## SPECIFICATIONS—Continued

- HITCH**—666 and 666H . . . Plain hitch for wheel-type tractors, regular.  
 Plain hitch for track-type tractors, special.  
 Clevis for wheel-type tractors with offset drawbars or forked drawbars with hitch clevis coupler, regular.  
 Connecting loop for track-type tractors with forked drawbars, special.
- 666H Special . . . . Plain hitch for wheel-type tractors only.
- HITCH CLEVIS COUPLER** . . . . . Available as special equipment for use with tractors with forked-type drawbars.
- LIFT** . . . . . Enclosed-type clutch for 666 Plow. Hydraulic remote cylinder for 666H and 666H Special Plows.
- LEVERS** . . . . . Adjustable for length.
- LANDING LEVERS** . . . . . Tractor-type available as special equipment.
- COULTERS** . . . . . 17-inch, plain, round shank, regular for 666H Special Plows, special for 666 and 666H Plows.  
 17-inch, plain, flat shank, regular for 666 and 666H Plows, special for 666H Special Plows.  
 15- or 18-inch, plain, flat shank, special.  
 15- or 18-inch, plain, round shank, special.  
 17-inch notched, round shank, special.  
 17-inch notched, flat shank, special.
- JOINTERS** . . . . . Independent cast or steel available as special equipment.  
 Combination cast or steel available as special equipment to be used with round shank coulters.
- ROOT CUTTERS** . . . . . Available as special equipment.
- MOLDBOARD PADS** . . . . . Available as special equipment.
- WEED HOOKS** . . . . . Available as special equipment.
- GAUGE WHEEL** . . . . . Available as special equipment for the Four- and Five-Bottom 666 and 666H Plows. Available either less tire and tube or with 5:90 x 15-inch tire and tube.

*(Specifications and design subject to change without notice.)*

*NOTE: When terms "right" or "left" are used, it means from a position behind the plow and looking toward the front.*



## OPERATING AND ADJUSTING INSTRUCTIONS

### 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

#### BOTTOMS AND COULTERS

The polished surfaces of the plow bottoms and coulters 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.

If the plow is not to be used immediately, protect the polished surfaces by applying a coat of cup or gun grease.

#### TIRE INFLATION

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

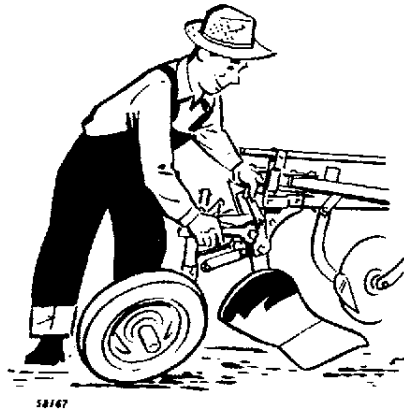
Wheel	Recommended New Implement or Used Auto Tires	Inflation Pressure
Furrow,	5.90 x 15—4-Ply	28 Lbs.
Land &	6.70 x 15—4-Ply	26 Lbs.
Gauge	7.60 x 15—4-Ply	24 Lbs.
Rear	4.00 x 12—4-Ply	36 Lbs.

#### LUBRICATION

Be sure plow has been properly lubricated. See Lubrication Chart on pages 36 and 37.

#### 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 very 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 serious damage to the plow.

## PREPARING AND ADJUSTING TRACTOR

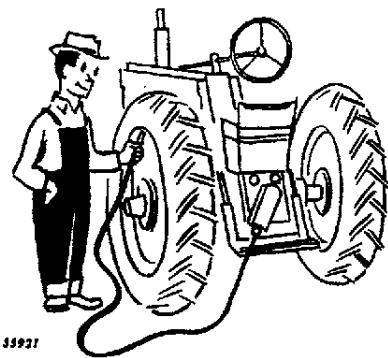
For complete tractor operating instructions, refer to your tractor Operator's Manual.

### TIRE INFLATION

Inflate the tractor tires as recommended in the tractor Operator's Manual. For plowing, add 4 pounds more air in right rear tire than in left rear tire.

Proper air pressure is the most important factor in satisfactory performance and maintenance of tractor and implement tires. Underinflation will damage the cord body of the tire and cause a series of radial breaks in the sidewall fabric. This may occur on the inner sidewall of the furrow wheel tire. If the tire buckles or wrinkles, the air pressure should be increased to where the sidewalls remain smooth while operating.

If additional traction is required, add weight to the tractor tires. Lowering the air pressure will make little difference in the traction and may ruin the tires.



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Check air pressures every two or three weeks. Use a special low pressure gauge having 1-pound graduations.

### REAR WHEEL WEIGHTING

In average conditions, tractor rear wheel weights are not necessary. In those conditions where it becomes necessary to add weight to the rear wheels, see your tractor Operator's Manual for weighting instructions.

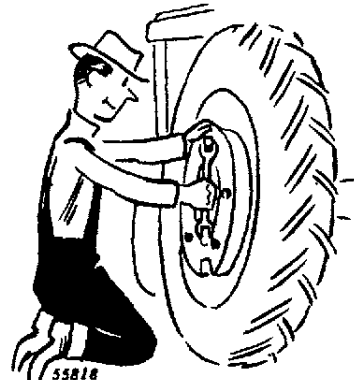
Power can be lost and tire life cut drastically by wheel slippage. Adding weight also serves to stabilize the tractor when plowing in rough or hillside fields.

### LIQUID WEIGHT

Water and calcium chloride solution is an economical means of adding weight to tractor rear wheels equipped with rubber tires. Calcium chloride solution is recommended rather than plain water as it will not freeze.

### CAST-IRON WEIGHTS

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



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### 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 tractor, midway between rear wheels.

On track-type 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 to first read "Hitching Plow to Tractor" on the following pages. Then adjust the wheels as explained on page 10.

### FRONT WHEEL SETTINGS

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

## 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-, five-, or six-bottom.)

**Example:** Finding center line of draft of a five-bottom 14-inch plow:

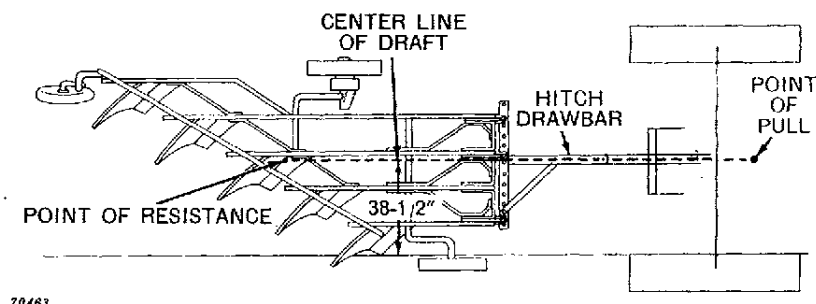
Total cut of plow = 70 inches.

Center of cut or one-half of 70 inches = 35 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 35 inches =  $38\frac{1}{2}$  inches.

Therefore, the center line of draft of a five-bottom 14-inch plow is  $38\frac{1}{2}$  inches measured to the left and at right angles from the furrow wall. See illustration below.



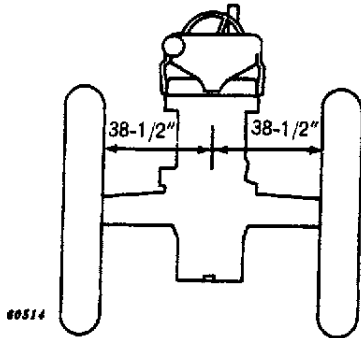
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**Horizontal Hitch Adjustments on Five-Bottom, 14-Inch Plow**

### 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.

### ADJUSTING TRACTOR WHEEL TREAD

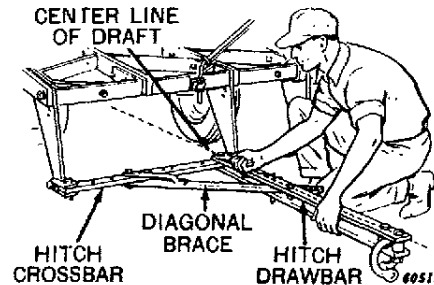


After the center line of draft and point of resistance of the plow have been located, set the tractor wheels (on adjustable tread tractors) to the proper position so the pulling force will be on a straight line from the point of pull on the tractor back through to the point of resistance on the plow. Since, in the example on page 9, the point of resistance is 38-1/2 inches from the furrow wall, set the tractor wheels so the center of the drawbar is 38-1/2 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



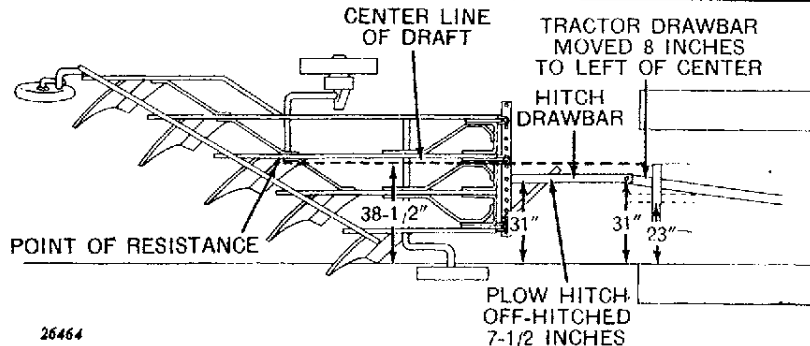
Adjust the plow hitch so it will be on the exact line of draft from the center point of pull on the tractor to the center point of resistance on the plow. A series of holes in the hitch crossbar allow the hitch to be bolted on the center line of draft. See illustration above and on page 9.

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



*Horizontal Hitch Adjustments on Five-Bottom 14-Inch  
Plow Used with "720" and "730" Standard Tractors*

### Off-Hitching—Continued

plow hitch to be parallel to the furrow wall.

For example, when using a five-bottom 14-inch plow with a "720" or "730" Standard Tractor, the center line of draft is 38-1/2 inches from the furrow wall while the wheel tread on the tractor is 46 inches from inside to inside of tires or 23 inches from inside of tires to center of the drawbar when the drawbar is bolted in center of tractor. The difference between 38-1/2 inches and 23 inches, of course, is 15-1/2 inches. Since approximately one-half of the off-hitching should be taken on the plow and one-half on the tractor, move the plow hitch 7-1/2 inches to the right of the line of draft and the tractor drawbar 8 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 Track-Type Tractors

When using a track-type 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.

### Hitching Chart

On the next page are examples of correct measurements for hitching a plow and tractor combination. We suggest that you work out the measurements listed for any plow and tractor combination, using the instructions on pages 9-11, and then apply these same instructions to your plow and tractor combination.

A handy hitch calculator giving similar information can be obtained from your John Deere dealer.

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