John Deere 415 and 416 Two- and Three-Bottom Integral Moldboard Plows

JOHN DEERE

OPERATORS MANUAL

John Deere 415 and 416 Two- and Three-Bottom Integral Moldboard Plows

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ENGLISH

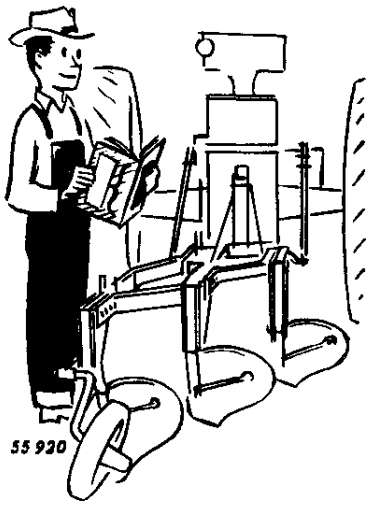
YOUR NEW PLOW

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 415 and 416 Two- and Three-Bottom Integral Moldboard Plows

No. of Plow .....

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

(To be filled in by Purchaser)

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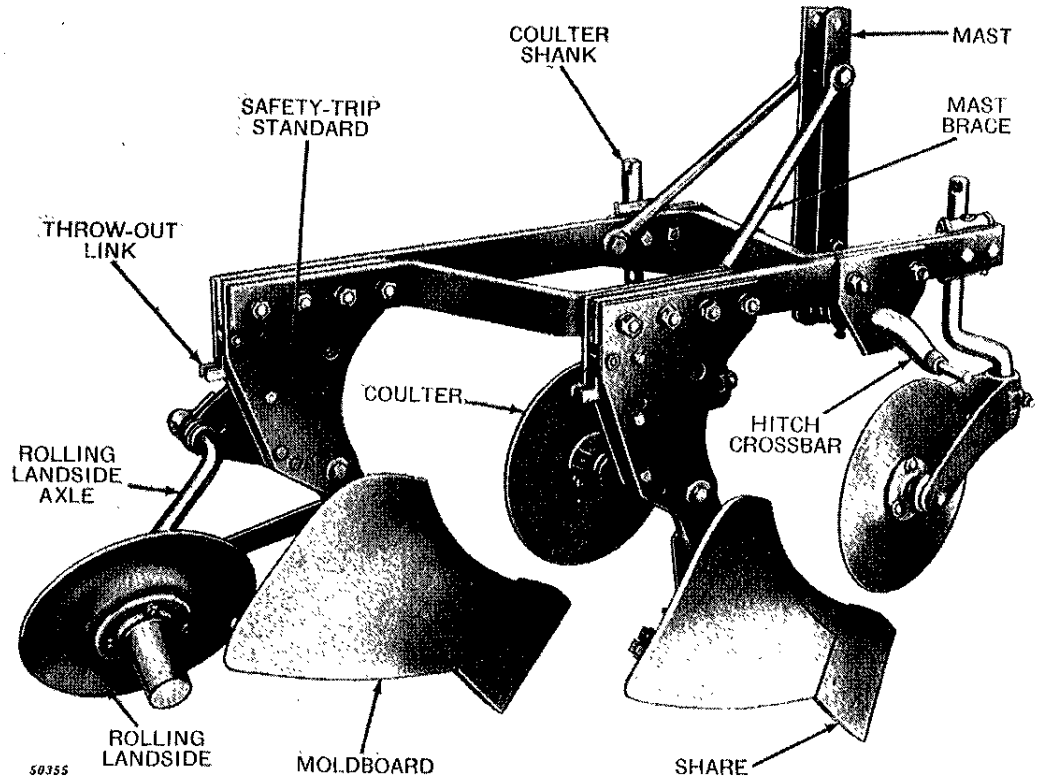
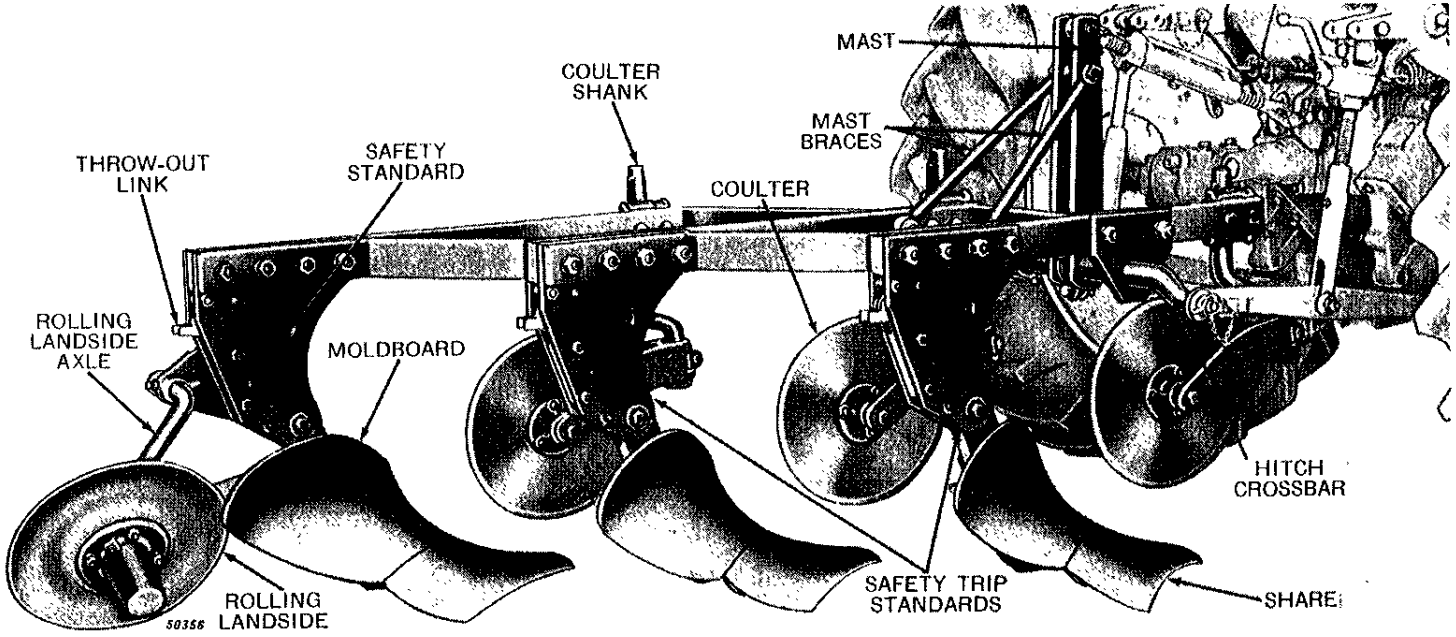


John Deere 415 Two-Bottom Integral Tractor Plow



John Deere 416 Three-Bottom Integral Tractor Plow

SPECIFICATIONS

TYPES	**415 Plow, Two-Bottom, 12- or 14-Inch Integral Moldboard Plow** for John Deere "330," "430," "320," "420," and "40" Series Wheel-Type Tractors.
	415 Plow, Two-Bottom, 16-Inch Integral Moldboard Plow for John Deere "430," "420," and "40" Series Wheel-Type Tractors. *NOTE: A 60-inch minimum rear wheel tread is required. The use of the "430," "420," and "40" Standard and the "430," "420," and "40" Utility Series Tractors is limited to those equipped with power-adjusted rear wheels.*
	416 Plow, Three-Bottom, 12- or 14-Inch Integral Moldboard Plow for John Deere "430," "420," and "40" Series Wheel-Type Tractors.
	NOTE: These Plows also can be used on other tractors of comparable horsepower with a standard 3-point hitch.
DEPTH RANGE	2 to 10 inches depending on type and size of bottoms.
SUCK ADJUSTMENT	Turnbuckle on upper hitch link.
LATERAL LEVELING	Leveling crank on right-hand lift link.
LANDING LEVER	Special equipment.
BOTTOMS	Various types available as ordered.
LANDSIDE	Bottoms with short landsides. (No. 4 for conventional-type bottoms and No. 9 for high-speed bottoms.)
ROLLING LANDSIDE	Steel, regular equipment.
COULTERS	17-inch plain, regular. 15-inch plain, special. 17-inch notched, special.
COULTER SHANKS	1-1/2-inch diameter—regular.
JOINTERS	Independent, cast, or combination, cast or steel, special.
ROOT CUTTER	Special equipment.
WEED HOOK	Special equipment.
MOLDBOARD PAD	Special equipment.

(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 facing the front.

OPERATING AND ADJUSTING

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.

PREPARING THE PLOW

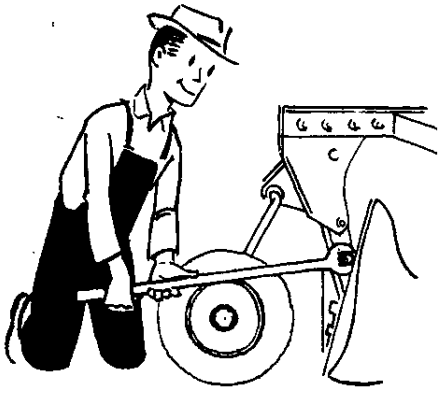
The polished surfaces of the plow bottoms and rolling coulters have been painted with protective black paint.

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.

Be sure plow has been properly lubricated. See Lubrication Chart on page 27.

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.



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

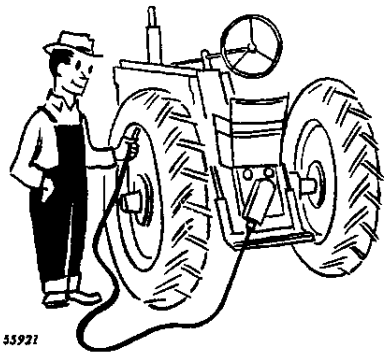
PREPARING AND ADJUSTING THE TRACTOR

For complete tractor operating instructions and use of rear-mounted integral implements, refer to your Tractor Operator's Manual.

TIRE INFLATION

Proper tire inflation 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 often occurs on the inner sidewall of the furrow wheel tire. If the tire buckles or wrinkles, increase the air pressure until the sidewalls remain smooth while operating.

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



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

Front Tires

Proper air pressure in the front tires of the "330," "430," "320," "420," and "40" Series Tractors when operating the tractor with these plows is listed in chart below:

Tire Size	Ply	Air Pressure
5:00-15	4	28
6:00-15	4	28
6:00-16	4	28
6:00-16	6	28
6:50-16	4	28
7:50-10	6	36
7:50-16	4	20
7:50-16 (Hi-Crop)	4	24

Rear Tires

Proper air pressure in the rear tires of the "330," "430," "320," "420," and "40" Series Tractors when operating the tractor with these plows is listed in the chart below:

Tire Size	Ply	Air Pressure Without Added Wheel Weights	Air Pressure with Added Wheel Weights
9-24	4	16	18
10-24	4	14	16
10-34	4	14	16
10-38	4	14	16
11-24	4	12	14
11-26	4	12	14
11-38	4	12	14
12-26	4	14	16
12-28	4	12	14
13-26	6	12	14

FRONT END WEIGHTING

When using the 415 and 416 Plows on "330," "430," "320," "420," and "40" Series Tractors, maximum front end weighting, in addition to liquid in the tires, is recommended.

Amounts of liquid per tire and approximate weight increase per tire are shown below:

Tire Size	Approximate Amount of Liquid per Tire (Gallon)	Approximate Weight Increase per Tire (Pounds)
5:00-15	2.3	22
6:00-16	5.6	53
6:50-16	7.7	73
7:50-10	6.0	57
7:50-16	10.1	96

Cast-iron front end weights add approximately 150 pounds each. Front side weights, available for tricycle-type tractors, add approximately 83 pounds each. Front end weight can be secured from your John Deere dealer.

REAR WHEEL WEIGHTING

In average conditions rear wheel weights are not necessary. In those conditions where it becomes necessary to add weight to the rear wheels, see weighting instructions below.

Power can be lost and tire life cut drastically by wheel slippage. Adding weight decreases wheel slippage and 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 rear wheels equipped with rubber tires. Calcium chloride is recommended rather than water because it will not freeze.

Liquid weight in tires is intended as an integral part of your tractor.

Amounts of liquid per tire and approximate weight increase per tire are as follows:

Tire Size	Approximate Amount of Liquid per Tire (Gallon)	Approximate Weight Increase per Tire (Pounds)
9-24	16	150
10-24	22	216
10-34	29	279
10-38	32	306
11-24	30	280
11-26	31	297
11-38	42	398
12-26	38	365
12-28	41	386
13-26	48	454

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.

Maximum number of weights per wheel are listed below:

Tire Size	Ply	Maximum Cast-Iron Weights per Wheel
9-24	4	2
10-24	4	3
10-34	4	3
10-38	4	3
11-24	4	3
11-26	4	3
11-38	4	3
12-26	4	3
12-28	4	3
13-26	6	3

BELT PULLEY

The belt pulley must be removed from the tractor.

FRONT WHEEL TREAD

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

Thank you so much for reading.

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