

F245H Series Semi-Integral Moldboard Plows



OPERATORS MANUAL F245H Series Semi-Integral Moldboard Plows

OMA15721 A7 English

John Deere Harvester Works
OMA15721 A7

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 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.

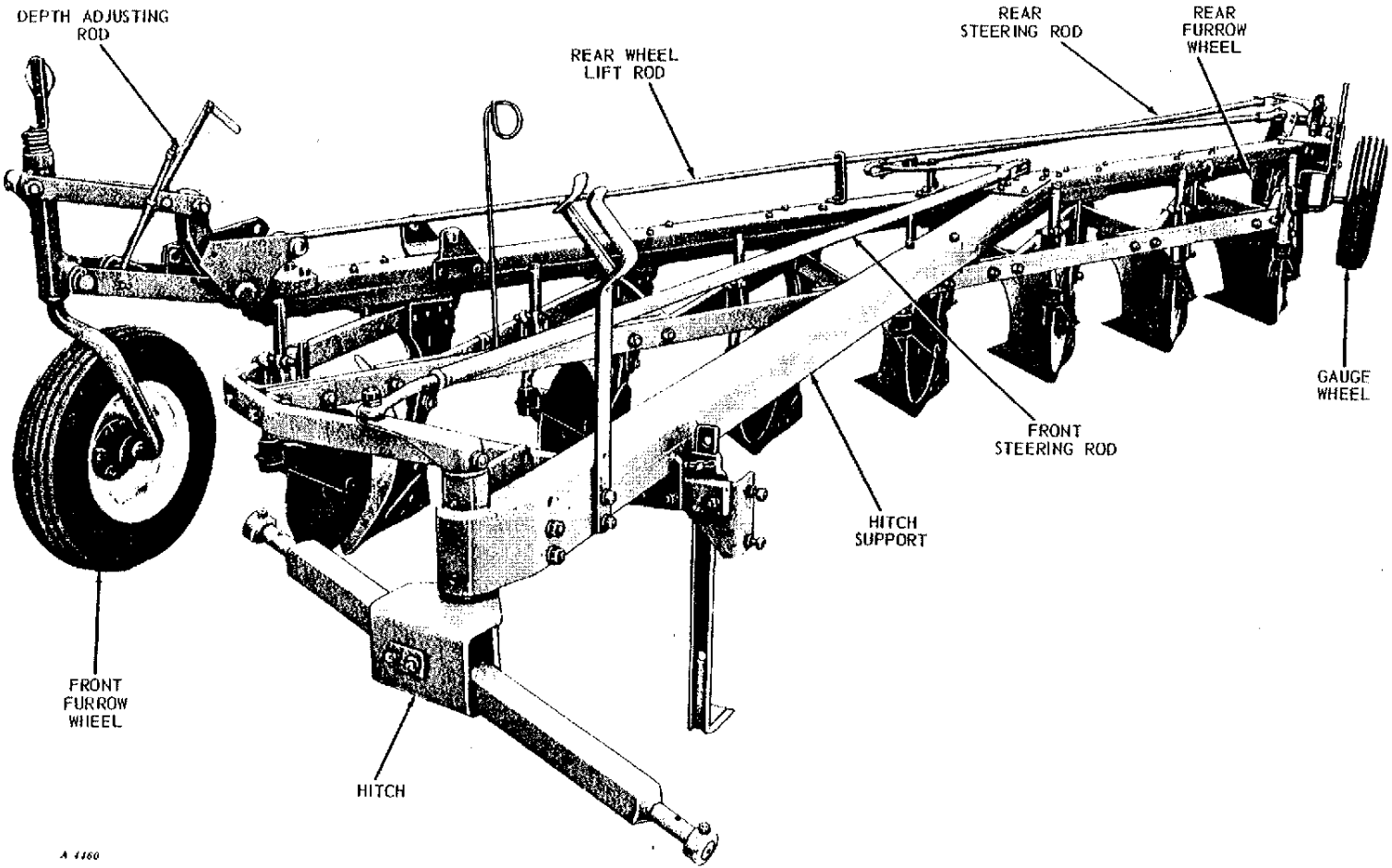
If you will furnish your dealer with the information which should be recorded at the bottom of this page, when the plow is delivered, he can give you prompt and efficient service.

JOHN DEERE F245H SERIES
SEMI-INTEGRAL MOLDBOARD PLOWS

Date Purchased 19
(To be filled in by Purchaser)

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John Deere F245H 7-Bottom Semi-Integral Moldboard Plow

SPECIFICATIONS

TYPE	The F245H Series Semi-Integral Moldboard Plows with safety-trip standards are furnished in the following sizes: 6-Bottom - 16-inch frame for John Deere 4020, 5010, and 5020 Tractors. The 6-Bottom plow may be converted to 7 bottoms. 7-Bottom - 16-inch frame for John Deere 4020, 5010, and 5020 Tractors. The 7-Bottom plow is reducible to 6 bottoms.
DEPTH RANGE.	4 to 12 inches depending on soil conditions and type and size of bottoms.
TOTAL WIDTH OF CUT.	9 feet, 4 inches.
CLEARANCE	Fore-and-aft, 27-7/8 inches; under truss box, 28-1/2 inches; under frame bars, 24-1/2 inches.
BOTTOMS	Various types available as ordered, except breaker and deep-tillage bottoms.
LANDSIDES	Bottoms with short landsides (No. 4 for conventional-type bottom and No. 9 for all high-speed bottoms except rear bottom which requires a No. 10 landside).
WHEELS	
Front and Rear Furrow.	Wheel for 7.60-15 tire, regular. Wheel with 7.60-15 tire, special. 14-inch wheel less tire, optional.
Gauge.	Wheel for 5.90-15 tire, regular. Wheel with 5.90-15 tire, special. 14-inch wheel less tire, optional.
COULTERS	17-inch plain, regular. 17-inch rippled-edge, optional. 17-inch cushion coulters, plain or rippled edge, chilled-cone bearing, for round shank; optional. 18-inch plain, optional. 20-inch plain or rippled-edge, optional. 22-inch plain anti-friction flat shank, optional. Round shank, regular. Flat shank, optional. Chilled-cone bearing, regular. Anti-friction bearing, optional.
SPECIAL EQUIPMENT.	Tractor guide rod, independent jointers (cast or steel), weed hooks, trashboards, moldboard extensions (for HS400 series and conventional-type bottoms), moldboard pads (for HS400 series bottoms only), root cutters, and share-frog braces (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 with gasoline, kerosene, or diesel fuel.



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 plow is to be put in storage for a considerable length of time, see pages 21 and 22.

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 pressures shown below:

Wheel	Recommended New Implement or New or Used Auto Tires	Inflation Pressure
Front and Rear Furrow	7.60-15	30 psi
Gauge	5.90-15	28 psi

LUBRICATION

Be sure plow has been properly lubricated. See Lubrication Charts on pages 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.

TRACTOR DRAWBAR

Set the tractor drawbar in the short high position.

REAR WHEEL SETTING

When using tractors equipped with single rear wheels, set wheels at 80 inches, measuring from center-to-center of tires. When using tractors equipped with dual rear wheels, set wheels in the narrowest setting or minimum available tread. See your tractor operator's manual.

When operating in the field or transporting a plow with a tractor equipped with dual wheels, be careful when making a right-hand turn. Turning too sharp will cause interference between the right rear tractor tire and the front frame of the plow.


FRONT WHEEL SETTING (4020 and 5020 Tractors)

On wide-front-end tractors set front wheels to conform to rear wheel setting.

FRONT END WEIGHTING

Tractor front-end weighting is necessary for best field performance.

The amount of front weight required will have to be determined by field operating conditions and the gear in which the tractor is operated.

 In this regard it is important to note that when the tractor is operated in third or lower gears, front-end weights up to the maximum permissible (2 side and 8 single or 4 double front) are necessary to avoid possible front-end tip-up. If more front-end stability is required, see Hitch Adjustments on page 10.

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

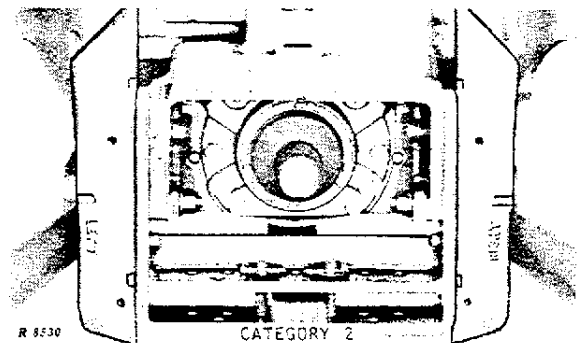
Where weight in addition to or in place of liquid weight is required, cast-iron weights can be bolted to the rear wheels. This type of weight can be secured from your John Deere dealer.

For maximum ballast, refer to your tractor operator's manual.

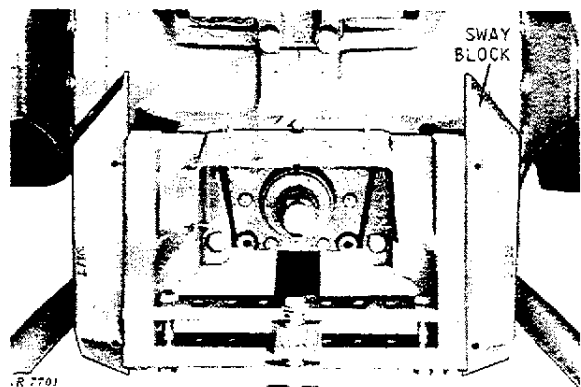
3-POINT HITCH AND HYDRAULIC SYSTEM

The 3-point hitch provides a means of attaching the plow to the tractor. Once the plow is attached, 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.

Sway Blocks



Sway Blocks Installed to Eliminate Side Sway on 4020 Tractor



Sway Blocks Installed to Eliminate Side Sway on 5010 and 5020 Tractors (Category 3)

The sway blocks must be set in the down position. This setting permits the plow to hold the proper width of cut and eliminates sway due to the action of the pivot assembly when working in the field. Since the plow rear wheel is steerable, the tractor draft links must be maintained rigidly behind the tractor for quick and positive maneuverability, both in the field and in transport.

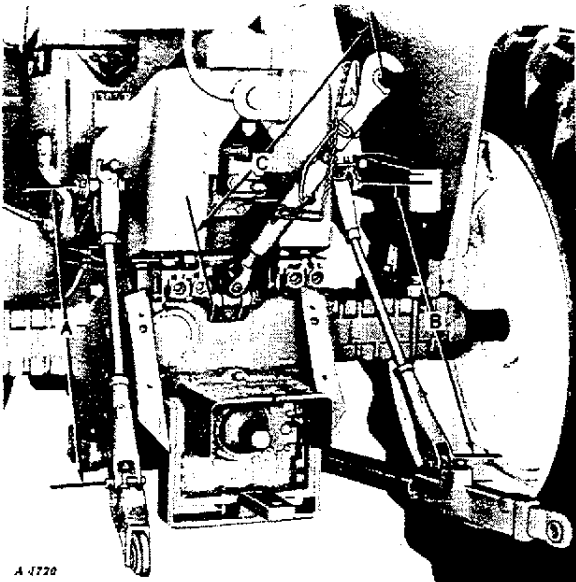
6. Operation

PREPARING AND ADJUSTING TRACTOR—Continued

Link Lengths

It is important that the length of the lift links and center link be adjusted properly. Measure from center to center of pins as indicated.

4020 Tractor



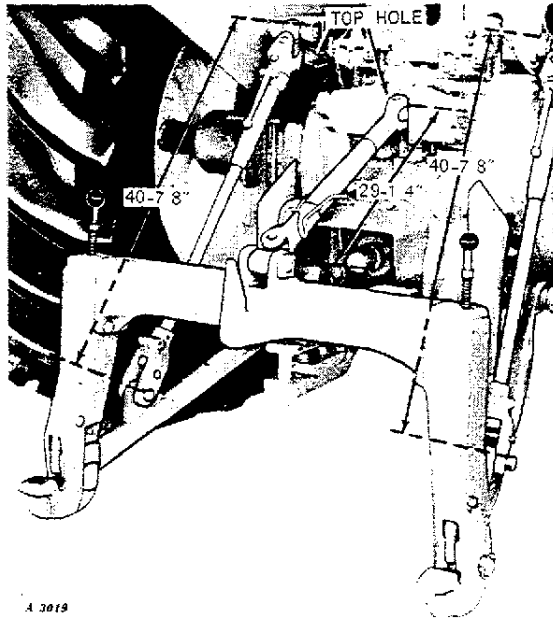
A 4720

Lift Link Lengths

Left Lift Link (Dimension "A")	Right Lift Link (Dimension "B")	Center Link (Dimension "C")
29"	29"	*22-1/2"

*Center Link dimension is necessary only when using a Quik-Coupler.

5010 and 5020 Tractors



A 3019

The center link must be in the top hole of the center link attaching bracket.

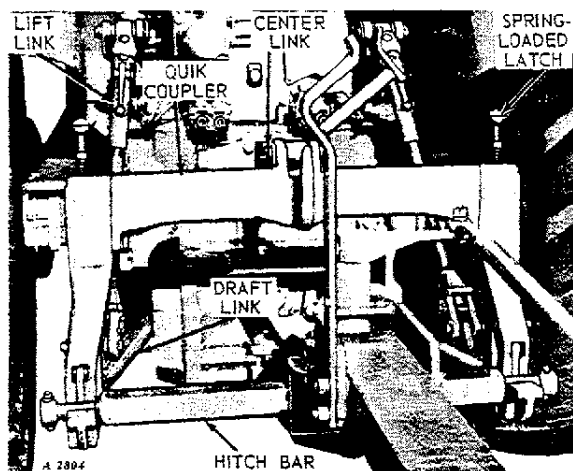
Lift Link Lengths

Left Lift Link	Right Lift Link	Center Link
40-7/8"	40-7/8"	*29-1/4"

*Or shortest setting.

ATTACHING PLOW TO TRACTOR

4020, 5010, AND 5020 TRACTORS WITH QUIK-COUPLER



John Deere 5020 Tractor Illustrated

4020 Tractor

NOTE: Quik-Coupler Latch Lock Pins are necessary when using a 4020 Tractor equipped with a Quik-Coupler. If your Quik-Coupler is not equipped with Latch Lock Pins (Kit AR31984R), see your John Deere dealer.

When attaching Quik-Coupler to tractor 3-point hitch make sure center link is set according to the dimensions given in chart on page 6.

Slide adapters over the plow hitch pins.

Drive spring pins through adapters and hitch pins until they are flush with the surface of the adapters.

Place the rockshaft selector lever in the "D" position.

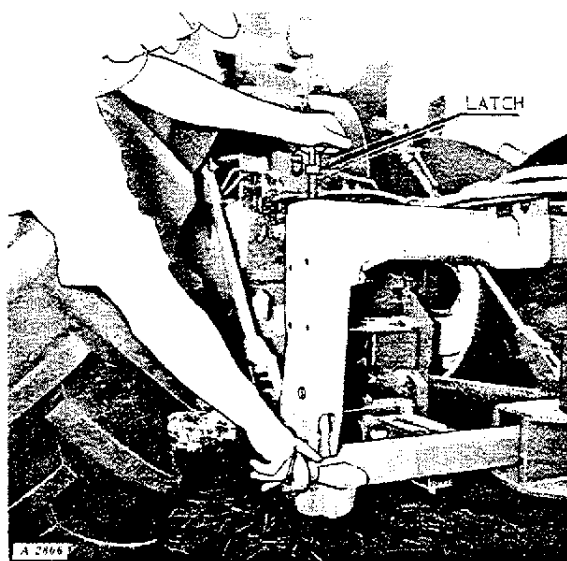
Make sure spring-loaded latches are in the released position (up and towards the front).

Raise the coupler with the rockshaft control lever. As the coupler receives the weight of the plow, the implement hitch pin adapters will be locked automatically in place by the spring-loaded latches.

NOTE: When the spring-loaded latches are properly locked, the indicator rod will protrude through the slot in the coupler frame adjacent to the latch rods.

Raise support stand to highest setting.

5010 and 5020 Tractors



John Deere 5020 Tractor Illustrated

Place rockshaft selector lever in the "D" position.

Push both Quik-Coupler latches downward and to the rear to lock them in the released position.

Lower the hitch assembly until the attaching hooks are lower than the plow hitch pins.

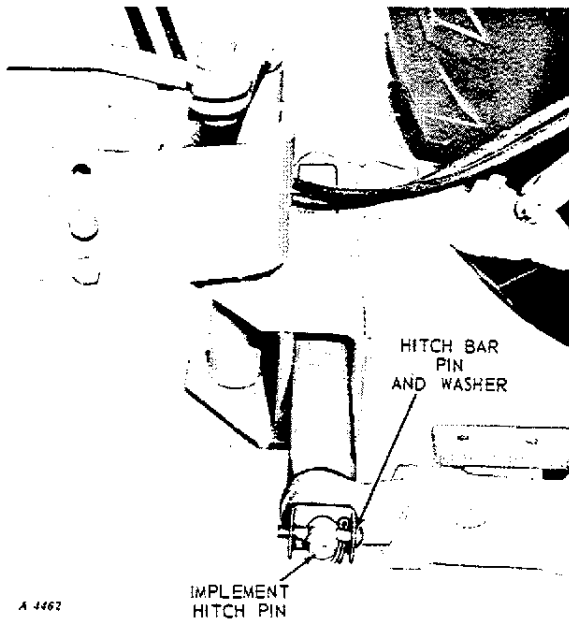
Back up the tractor until the plow hitch pins enter the lower hooks. Raise the Quik-Coupler to raise the plow. Pull forward and upward on the latches to lock the plow to the coupler. See illustration above.

NOTE: When the latches are properly locked, the indicator rods will protrude through the slots in the coupler frame adjacent to the latch rods.

Raise support stand to highest setting.

ATTACHING PLOW TO TRACTOR—Continued

4020 TRACTOR WITH 3-POINT HITCH



For ease in attaching, remove one sway block from tractor before attaching plow to tractor.

Place rockshaft selector lever in the "D" position.

Slip draft link ball sockets over hitch cross-bar pins and lock in place with hitch bar pins and washers provided.

Close the telescoping draft links either by raising or lowering the plow with the rockshaft control lever or by backing up the tractor.

Be sure lock pins snap into place.

Be sure to replace tractor sway block.

Raise support stand to highest setting.

INSTALLING REMOTE CYLINDERS AND HOSES

The remote hydraulic cylinders control the front and rear furrow wheels.

The plow is equipped to operate with one or two remote cylinders.

When one cylinder is used, the cylinder controls the front wheel and rear wheel at the same time.

When two cylinders are used, the left-hand cylinder controls the rear furrow wheel while the right-hand cylinder controls the front furrow wheel.

To provide ample hose length when making turns, the length of the remote cylinder hoses may have to be increased.

When using John Deere 4020, 5010, or 5020 Tractors, the remote hydraulic cylinder hoses must be at least 140 inches long.

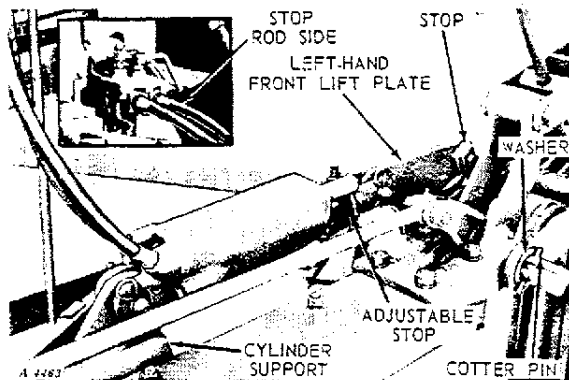
When using other tractors the hose length may be determined as follows:

The plow requires a 132-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 hoses to the tractor breakaway couplers. Lay the cylinder on the ground directly behind the drawbar with hoses stretched out full length. Pull hoses 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 132 inches is the amount of the additional hose required.

Single-Cylinder Operation



For single-cylinder operation, remove the stop assembly from the right-hand front lift

plate and attach it to the left-hand front lift plate.

Remove the right-hand front lift plate. Move the washer in and insert cotter pin in inner hole. Remove the right-hand cylinder support.

If the cylinder has not been used before, it may be necessary to bleed the cylinder as explained in the tractor operator's manual.

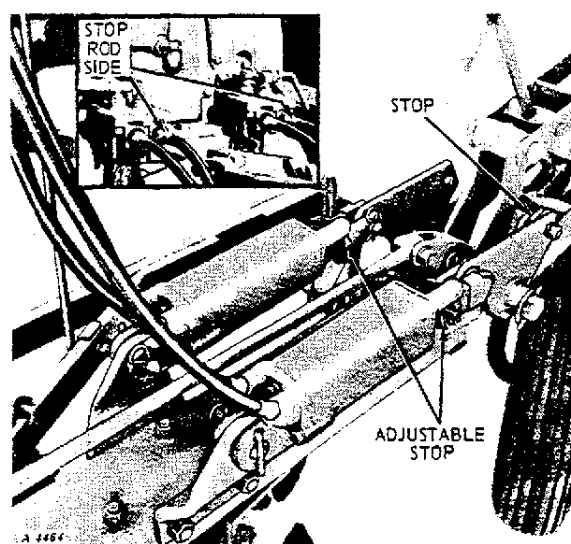
Install hose from stop rod side of the remote cylinder in the right-hand receptacle of the breakaway coupler.

With all trapped air removed from cylinder, set the cylinder between the left-hand front lift plate and the left-hand cylinder support with the hoses to the rear and on the top side as shown above. Install the attaching pins and locking pins.

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

Attach hoses to hose supports.

Dual-Cylinder Operation



If the cylinders have not been used before, it may be necessary to bleed the cylinders as explained in the tractor operator's manual.

Install the hose from the stop rod side of the left-hand cylinder in the right-hand receptacle of the left-hand breakaway coupler.

Install the hose from the stop rod side of the right-hand cylinder in the right-hand receptacle of the right-hand breakaway coupler.

Set the cylinders between the front lift plates and cylinder supports with the hoses to the rear and on the top side as shown in illustration in left column. Install the attaching pins and locking pins.

Set adjustable stops so the full stroke of the cylinders may be used.

Attach the hoses to the hose supports.

NOTE: The stop must be attached to the right-hand front lift plate when two cylinders are used.

CHECKING PLOW AND TRACTOR

Raise the plow slowly and watch for any interference.

Be sure that the lift links are set at the recommended length shown on page 6.

For most plowing conditions, set the rockshaft selector lever in "LD" (middle) position. In very light draft soil or in irregular surface conditions, "L" position may give better performance.



Always lower the plow to the ground when not in use.

DETACHING PLOW FROM TRACTOR

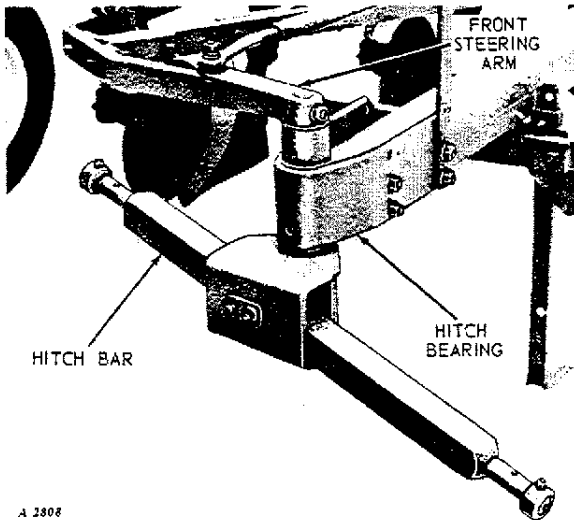
Place rockshaft selector lever in "D" position.

Lower the plow to the ground.

Lower the support stand and secure in place with the drilled stop pin and spring locking pin.

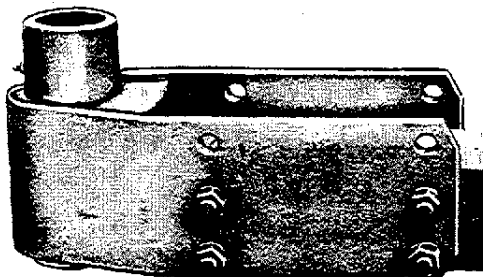
Remove hydraulic hoses from tractor breakaway couplers. Replace dust caps on hoses and insert dust plugs in tractor breakaway couplers.

VERTICAL HITCHING



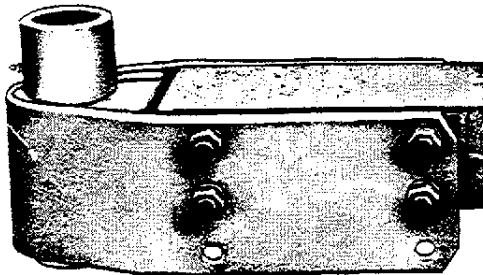
A 2808

Three sets of holes in the hitch bearing permit three height settings so the hitch crossbar may be set at proper height for line of draft vertical hitching.



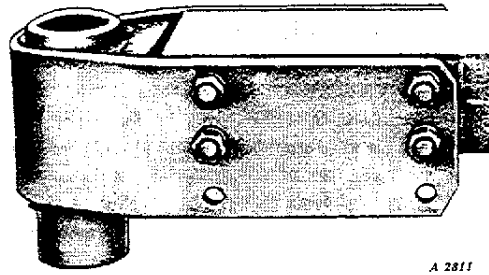
A 2809

The hitch bearing is assembled at the factory in the high position as illustrated above. This is the recommended setting for most ground conditions and gives the best weight transfer.



A 2810

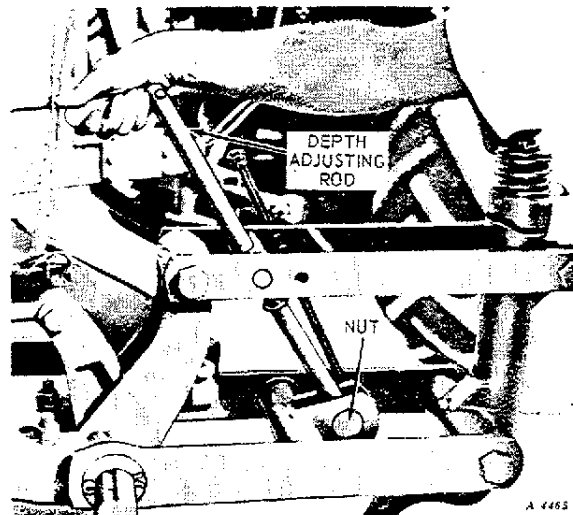
In heavier ground conditions, when increased tractor front end stability is needed, lower the hitch bearing as shown above.



A 2811

In extremely hard ground conditions where traction is not a problem and increased tractor front end stability is needed, reverse the hitch bearing as shown above.

LATERAL LEVELING



A 4465

The plow is leveled laterally (side to side) by using the tractor rockshaft control lever and the depth adjusting rod. The front furrow wheel should run the same depth as the front bottom.

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