F245H Series Semi-Integral Moldboard Plows

JOHN DEERE

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

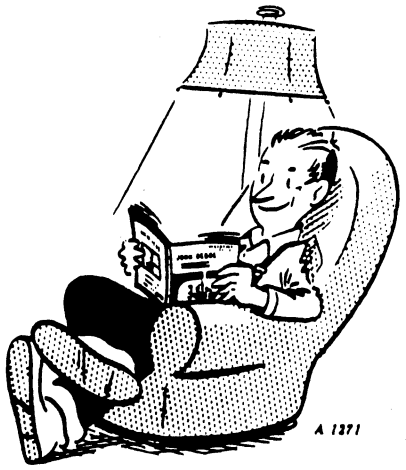
Behind your new plow is an organization that has specialized in designing and building plows for over 125 years. This plow was built in the world's largest plow factory by experienced men, many who have worked in this large plant for from 10 to 45 years, thus assuring the utmost in good design, high-grade 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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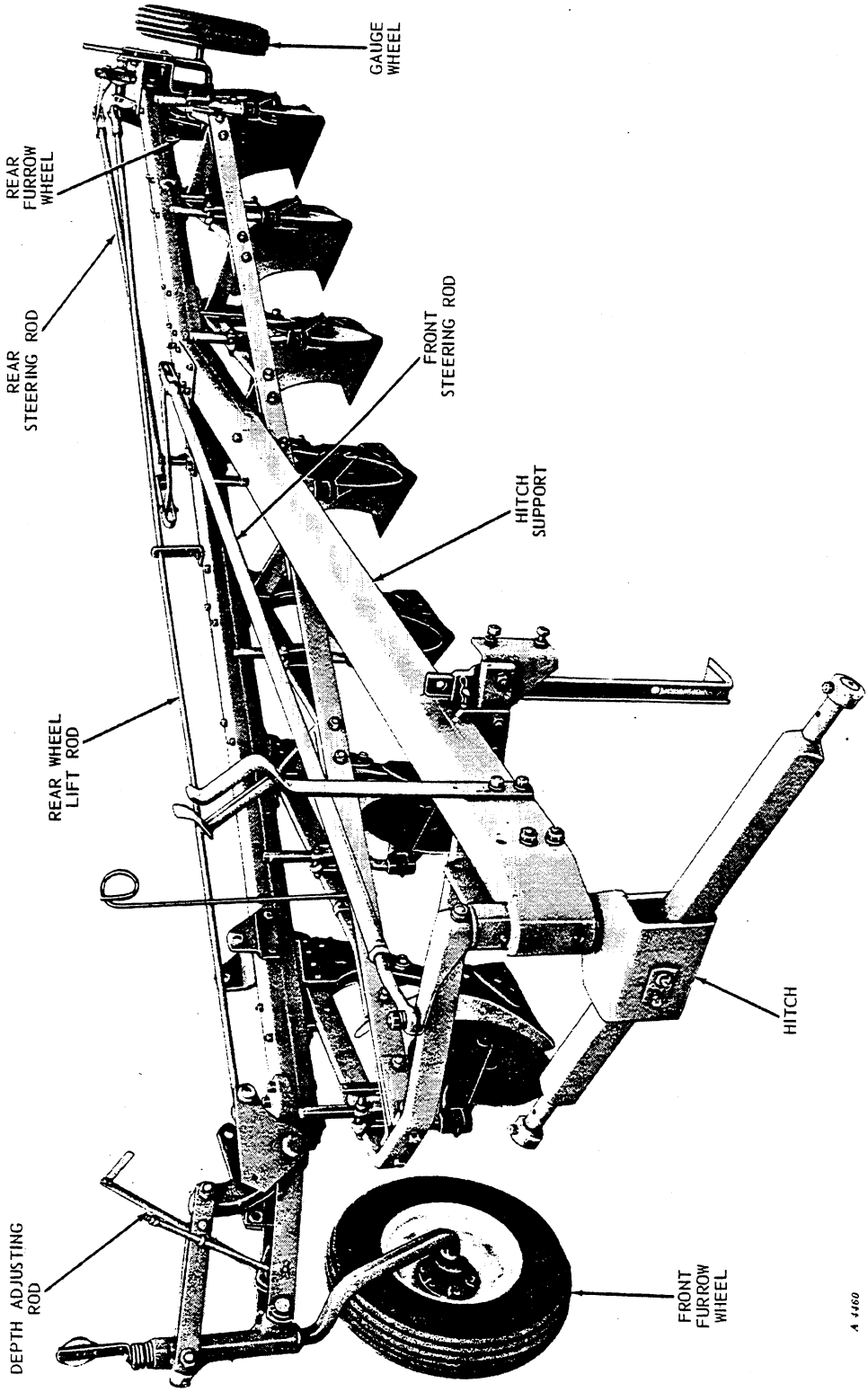


John Deere F245H 7-Bottom Semi-Integral Moldboard Plow

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 coulter, 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

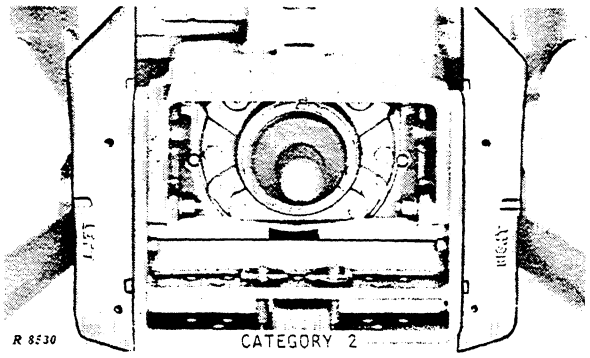
Where weight in addition to or in place of liquid weight is required, cast-iron weights can be bolted to the rear wheels. This type of weight can be secured from your John Deere dealer.

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

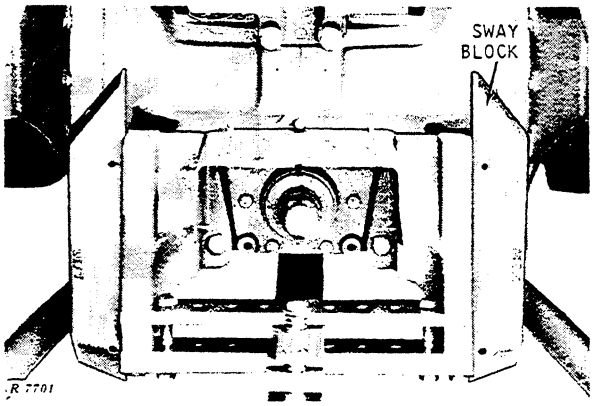
3-POINT HITCH AND HYDRAULIC SYSTEM

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)

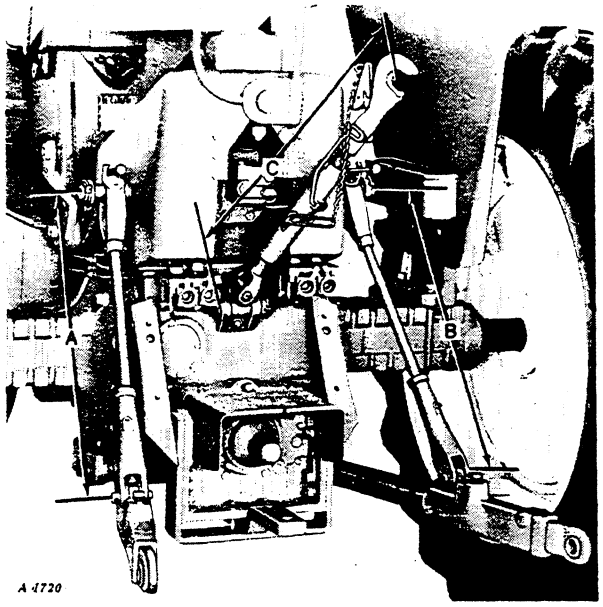
The sway blocks must be set in the down position. This setting permits the plow to hold the proper width of cut and eliminates sway due to the action of the pivot assembly when working in the field. Since the plow rear wheel is steerable, the tractor draft links must be maintained rigidly behind the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

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

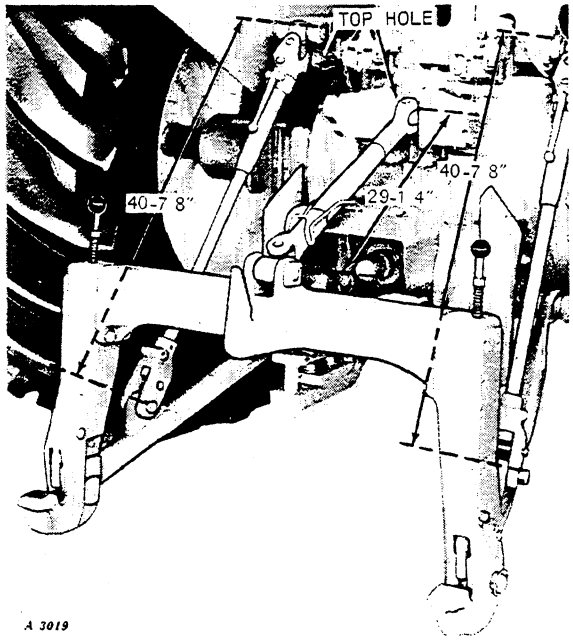


Lift Link Lengths

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



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

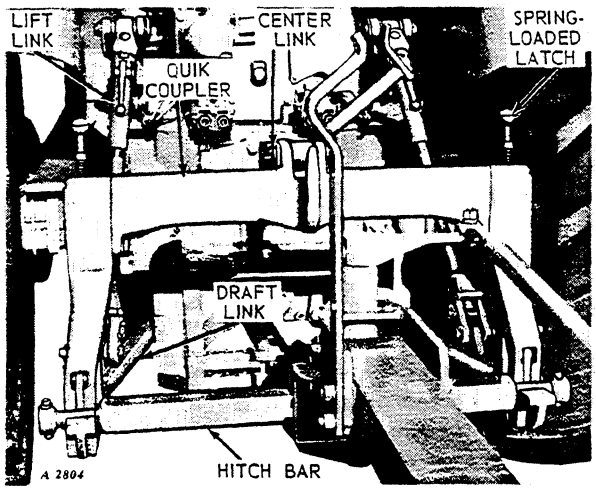
Lift Link Lengths

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.

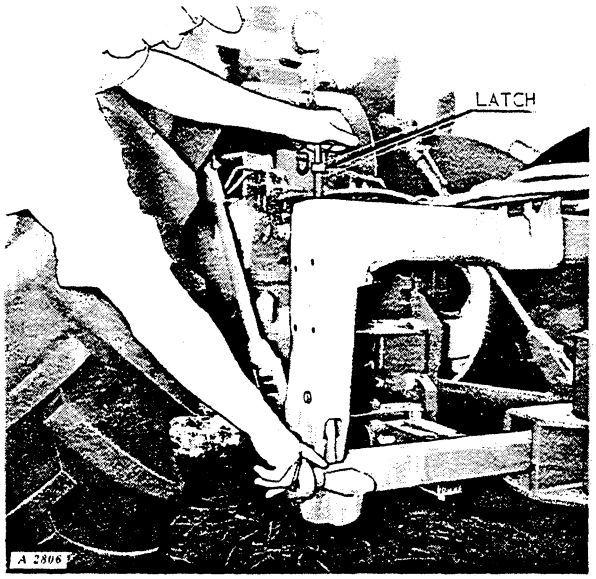
Make sure spring-loaded latches are in the released position (up and towards the front).

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.

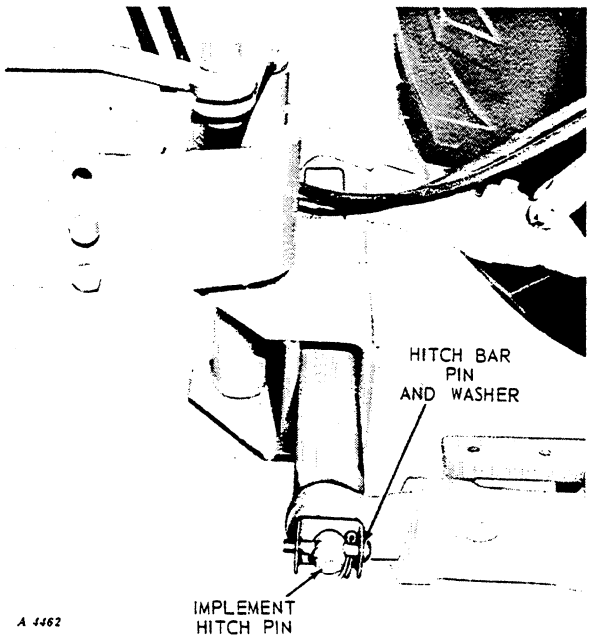
Back up the tractor until the plow hitch pins enter the lower hooks. Raise the Quik-Coupler to raise the plow. Pull forward and upward on the latches to lock the plow to the coupler. See illustration above.

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 crossbar 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.

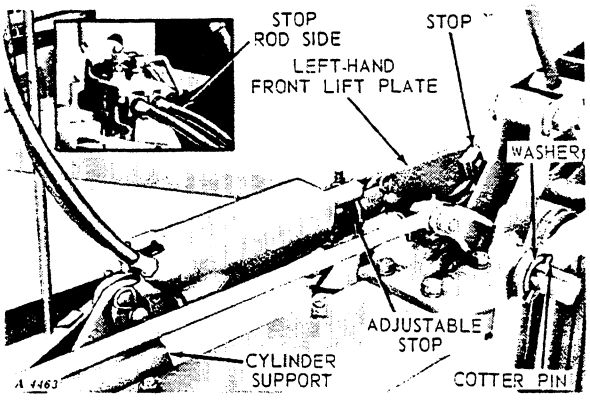
When using other tractors the hose length may be determined as follows:

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.

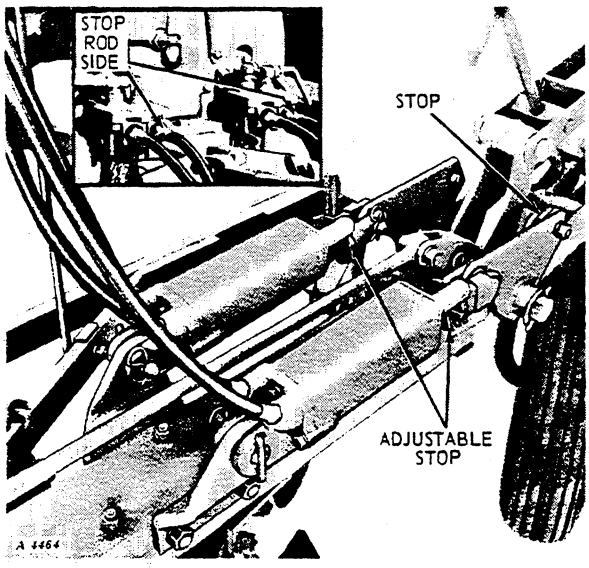
Install hose from stop rod side of the remote cylinder in the right-hand receptacle of the breakaway coupler.

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

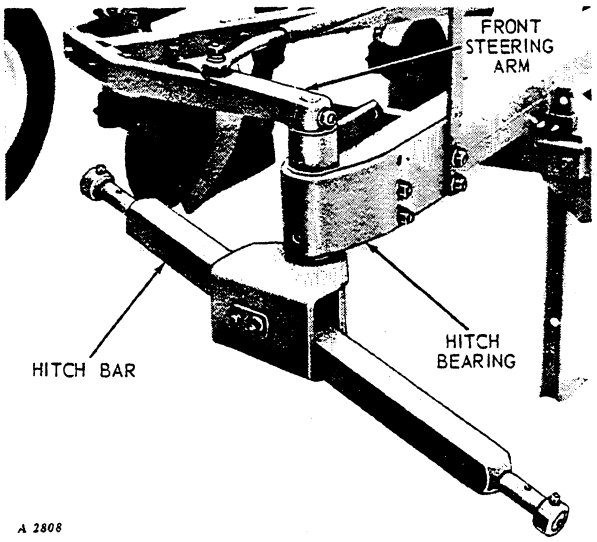
Place rockshaft selector lever in "D" position.

Lower the plow to the ground.

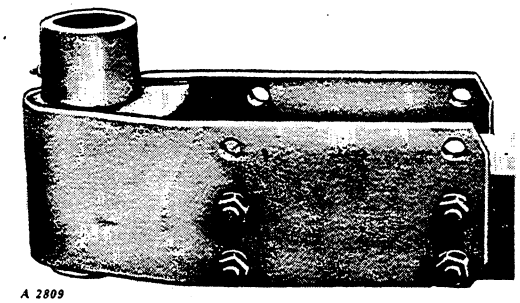
Lower the support stand and secure in place with the drilled stop pin and spring locking pin.

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

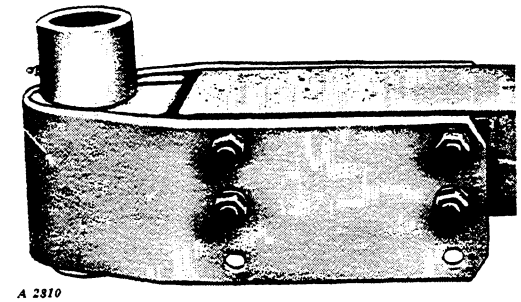
VERTICAL HITCHING



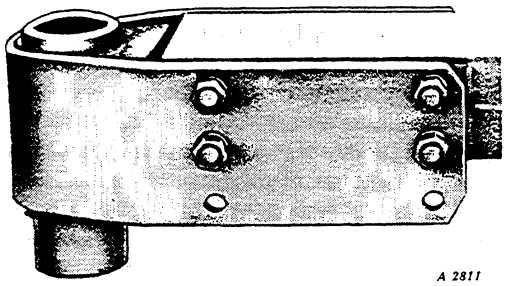
Three sets of holes in the hitch bearing permit three height settings so the hitch crossbar may be set at proper height for line of draft vertical hitching.



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.

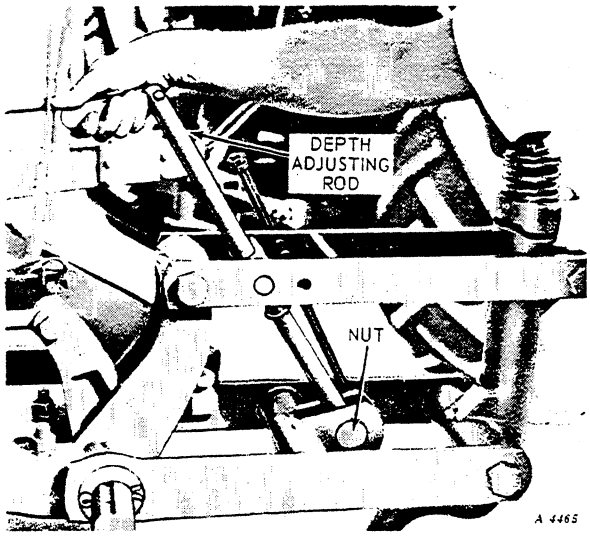


In heavier ground conditions, when increased tractor front end stability is needed, lower the hitch bearing as shown above.



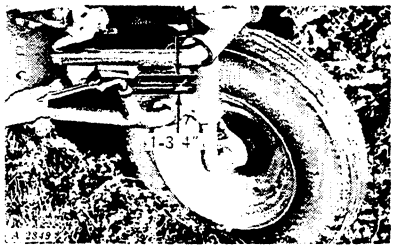
In extremely hard ground conditions where traction is not a problem and increased tractor front end stability is needed, reverse the hitch bearing as shown above.

LATERAL LEVELING



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.

DEPTH STOP ADJUSTMENT



Adjust the length of the depth stop to regulate the amount of pressure carried on the rear wheel and rear landside.

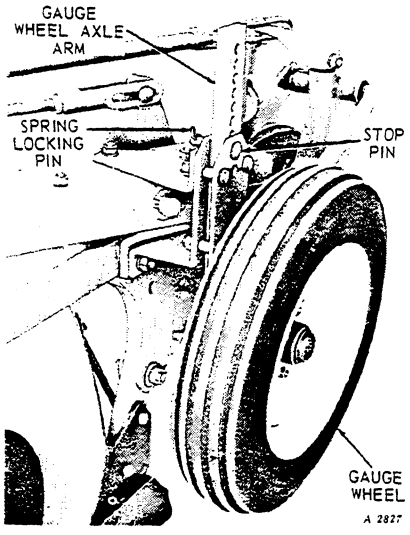
This adjustment will be correct when the heel of the rear landside lightly marks the furrow bottom and the remainder of the weight is carried by the rear wheel.

The average adjustable length of this depth stop will be 1-3/4 inches. Slight variations may be necessary due to size and type of rear tire used.

Once this setting is obtained it need never be changed regardless of plowing depth. Lengthening the depth stop adjustment may be necessary in very loose soil.

The pressure spring on the rear wheel lift rod will hold the rear of the plow against the depth stop at all times even in the most severe conditions.

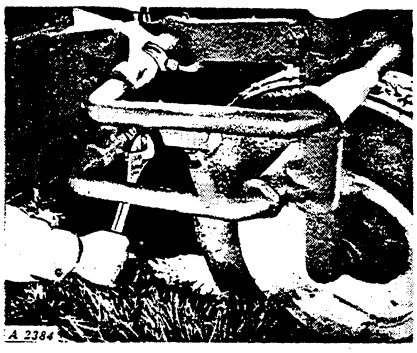
DEPTH OF PLOWING



The depth of plowing is determined by the setting of the tractor rockshaft control lever and by the plow gauge wheel.

The gauge wheel may be adjusted to the desired depth by raising or lowering the gauge wheel axle arm in clamp and securing with drilled stop pin and spring locking pin.

REAR WHEEL



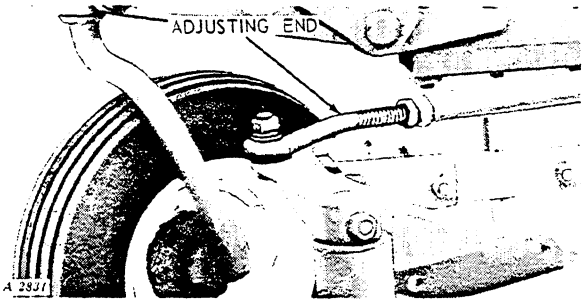
Set the rear wheel approximately 1 inch away from the furrow wall. Rear wheel should never rub the side of the furrow wall. For contour work it may be desirable to move the wheel farther away from the furrow wall.

To adjust the rear wheel to the right or left, loosen the set screws in the set screw collars and adjust to desired setting. Then tighten set screws securely.

The rear bottom landside should contact the furrow wall and furrow bottom at all times.

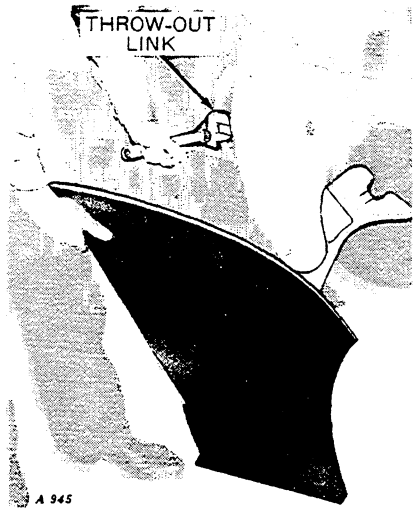
The rear wheel should have a slight lead toward the plowed ground to assist in absorbing the furrow slice pressure and to keep the plow running straight.

The rear wheel should **never** lead toward the unplowed ground.



Adjust the lead in the rear wheel by shortening or lengthening the front steering rod by use of the adjusting end and lock nut at the front end of the rod. Shortening the rod increases the lead toward the plowed ground while lengthening the rod decreases the lead.

SAFETY-TRIP STANDARDS



The safety-trip standards prevent damage if the plow bottom strikes a solid obstruction.

The release mechanism of the safety-trip standard is factory set for proper tripping resistance.

To reset the safety-trip standard after a bottom has tripped, **raise the plow slightly before backing up.** Then back the tractor slowly until the standard snaps into locked position. Raising the plow slightly and backing the tractor slowly will eliminate undue strain on the plow and tractor.

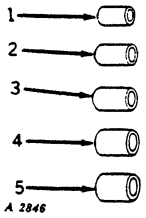
The release mechanism may be tripped to facilitate changing shares. To trip, first raise the plow and then hold down the throw-out link with an ordinary wrench as shown in the illustration above, for standards other than the rear. On the rear standard there is not enough room to release standard with a wrench so a screw driver must be used.

ADJUSTING TRIPPING RESISTANCE

The safety-trip standard trips when a pressure or a shock load on the plow bottom causes enough deflection of the spring link to allow the throw-out arms to strike the stop pin. This forces the throw-out roller out of the slot at the top of the standard.

The resistance to tripping is preset at the factory for uniform tripping pressure and normally will not require change. However, if greater resistance to tripping is desired when plowing in unusually hard ground or in other adverse conditions, add one or more tubular shims, one at a time, around the bolt at the bottom of the spring link. Each shim added will increase the tripping load by 600 pounds.

If you wish to reduce the tripping load, shims may be removed. Each shim removed will reduce the tripping load by 600 pounds.



NOTE: To work properly, the larger shims must be assembled over the smaller shims in the order shown in the illustration above.

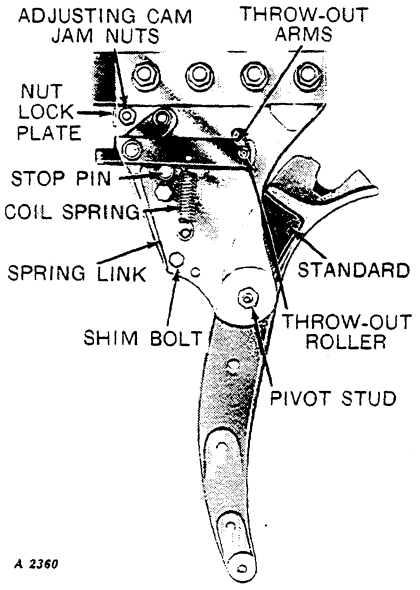
There are five different telescoping tubular shims available, each .060" thick. They are:

Key	Part No.	Specifications
1	31785 A	.505" x .060 x 1-7/16"
2	31786 A	.660" x .060 x 1-7/16"
3	31787 A	.820" x .060 x 1-7/16"
4	31788 A	1.005" x .060 x 1-7/16"
5	31789 A	1.190" x .060 x 1-7/16"

One or more of these shims may be installed or removed easily by following these steps:

1. Trip standard by hand.
2. Loosen adjusting cam jam nuts.
3. Rotate adjusting cam counter-clockwise with a screw driver (when facing left side of plow) so spring link is free to pivot.
4. Remove shim bolt at lower end of spring link.
5. Add or remove shim or shims as required and replace bolt.
6. Reset adjusting cam by rotating it clockwise until it rests firmly against the top of the spring and tighten the jam nuts. Turn corners of lock plate up on flat of the nut after jam nuts are tightened.

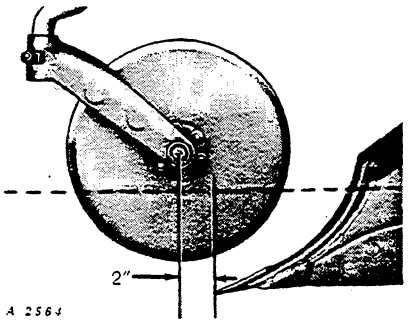
NOTE: If it becomes necessary to replace the standard in the safety-trip standard assembly, remove all shims and add only as needed to attain proper tripping load.



The coil spring has no effect on the tripping action of the standard. The adjusting cam serves only to hold the spring link firmly against shim bolt and to prevent backlash during tripping. The coil spring is used to insure proper seating of the throw-out roller in the slot on the top of the standard.

After any adjustment on a safety trip standard, be sure it is properly lubricated. See lubrication instructions on page 31.

ROLLING COULTERS



Rolling Coulter—Correct Setting for High-Speed Bottoms

The rolling coulter outlines the cut of the plow bottoms. It cuts through surface trash, aids in securing a clean furrow wall, and reduces the draft and wear of the cutting edge of the plow bottoms.

Always adjust the rear coulter first. Then set the other coulters exactly the same. Final adjustments must be made in the field to meet soil conditions and depth of plowing.

FORE-AND-AFT ADJUSTMENT

For average conditions, adjust coulter with center of the coulter hub approximately over the point of the share on conventional bottoms and approximately 2 inches ahead of point of share on high-speed bottoms, as shown in illustration at bottom of preceding column.

For hard ground conditions, move the coulter toward the rear of the plow to reduce its tendency to ride the plow out of the ground.

For lighter soils, especially where there is heavy or tough trash, move the coulter toward the front.

For tough scouring conditions, move the coulter toward the rear of the plow and raise the coulter.

To adjust coulters, loosen clamp bolts and slide the shank and clamp either forward or backward.

DEPTH ADJUSTMENTS

Adjust the coulter only deep enough to cut the trash, about 3 inches in ordinary conditions. Do not run the coulter too deep.

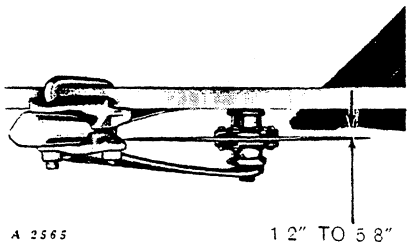
For hard ground conditions, it may be necessary to raise the coulter.

If there is considerable trash on the field, set the coulter just deep enough to cut the trash. If set too deep, the coulter pushes the trash instead of cutting it.

When plowing sod, set the coulter deep enough to cut the roots below the surface, usually about 1 inch shallower than the share is cutting.

To adjust, loosen the U-bolt and move the shank up or down.

HORIZONTAL ADJUSTMENT



Overhead View of Rolling Coulter with High-Speed Bottoms

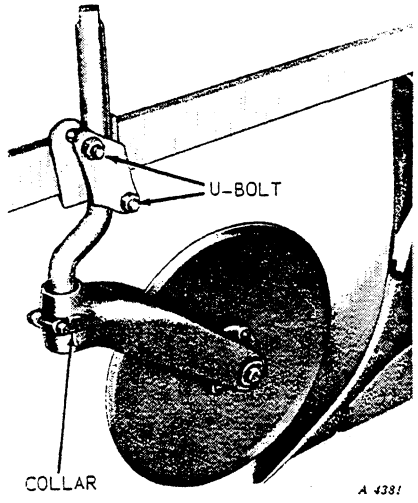
The rolling coulter must be set only far enough to the left of the landside to leave a good straight furrow wall. For average conditions, set the coulter 1/2 to 5/8 inch to the left of the landside, as shown in illustration above.

Loose ground conditions will sometimes require the coulter to be set wider than 5/8 inch.

After the rear coulter is adjusted correctly, set the front coulters exactly the same. Measure the distance between coulters so you get exactly the correct cut on each bottom. The distance between the coulters should be the same as plow frame size. If coulter setting is wider than plow frame size, a wider slice will be squeezed through, causing the plow to ridge and resulting in excessive wear on the plow bottom landside.

CHILLED-CONE BEARING COULTERS

Round Shank

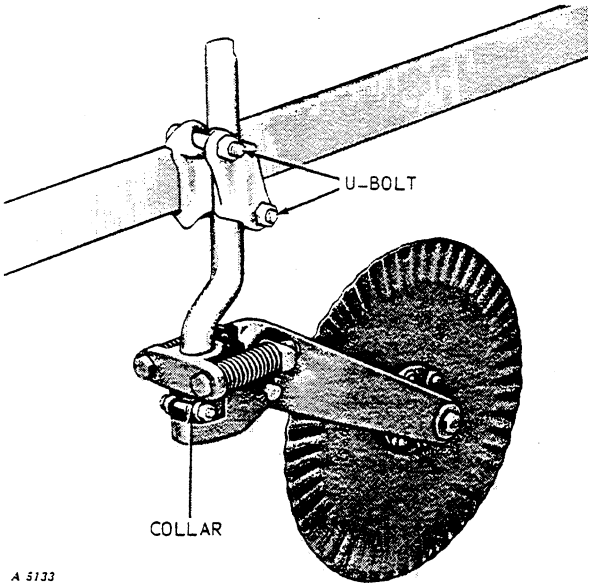


To adjust the coulter, loosen the clamp U-bolt nuts and rotate the coulter shank until coulter blade is at proper position.

When a major adjustment of round shank coulter is made, it may be necessary to adjust the coulter shank collar so coulter is free to swing in the coulter yoke an equal distance on either side of the "straight ahead" position.

To adjust, loosen bolt in collar and rotate collar until open end of collar faces front of plow. **Be careful so coulter yoke and blade do not slip off shank.**

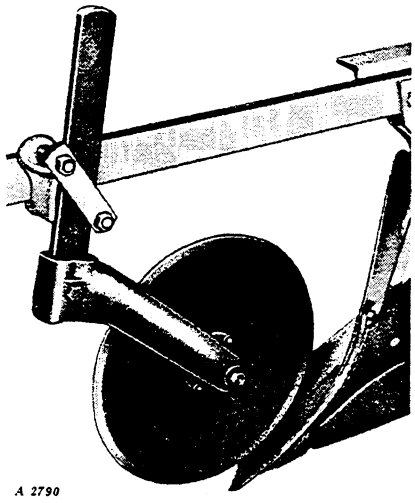
Cushion Coulter (Round Shank)



The cushion coulter protects the yoke, blade, and shank by means of two rows of cupped washers. There are 26 washers (13 sets) on each side. Each set of washers is mounted with their concave sides facing each other. The cupped washers hold the coulter in working position until striking an obstruction. Striking an obstruction deflects the washers, allowing the coulter blade to rise approximately 4-1/2 inches to pass over the obstruction.

There is no pressure adjustment required.

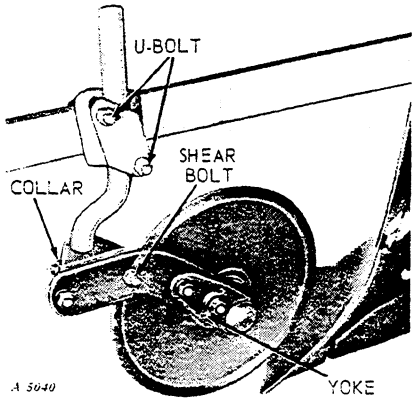
Flat Shank



To adjust the flat shank coulter toward the furrow wall, loosen lower nut and tighten upper nut. To move the coulter toward the plow bottom, loosen upper nut and tighten lower nut.

ANTI-FRICTION BEARING COULTERS

Round Shank



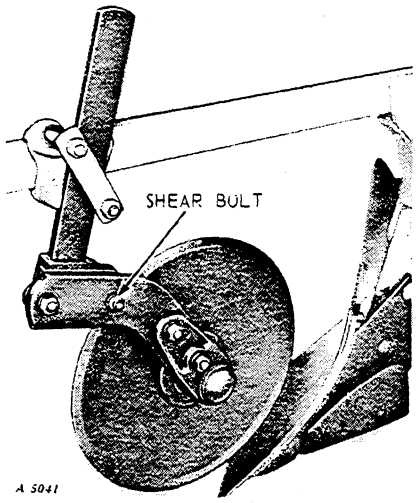
The adjustments for the anti-friction bearing coulter are the same as the chilled-cone bearing coulter except for the collar.

To adjust collar so coulter is free to swing an equal distance between the straight-ahead position, loosen bolt in collar and rotate collar until open end of collar faces the right.

CAUTION: Be careful so coulter blade and yoke do not slip off shank.

The anti-friction bearing rolling coulter is equipped with a shear bolt to prevent possible serious damage to the coulter shank. For replacement of the shear bolt, use a 19H1899 cap screw.

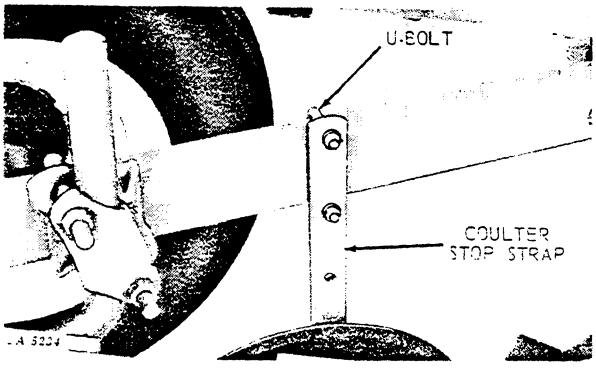
Flat Shank



The adjustment for the anti-friction bearing coulter is the same as for the chilled-cone bearing coulter.

The anti-friction bearing rolling coulter is equipped with a shear bolt to prevent possible serious damage to the coulter shank. For replacement of the shear bolt, use a 19H1899 cap screw.

COULTER STOP



A coulter stop is provided for the front rolling coulter. This stop is used to prevent interference between coulter blade and front furrow wheel when turning plow.

When coulters are run in deep setting, set the coulter stop strap in the low position as shown above.

When coulters are run in shallow setting, set the coulter stop strap in the high position.

SPECIAL EQUIPMENT

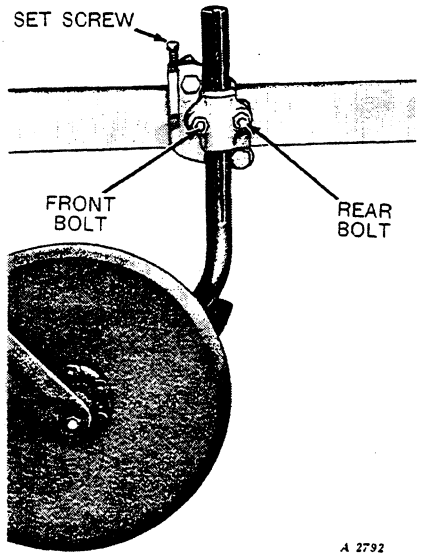
JOINTERS

Jointers assist the plow bottom in turning under and covering trash. By cutting and turning a small corner of the furrow slice next to the coulter and depositing it in the bottom of the furrow, the jointer eliminates any trash or stalk ends from the furrows.

In average conditions, a jointer set to work about 2-1/2 inches deep will effectively turn the corner of the furrow slice enough to insure good coverage and eliminate excessive clogging. A jointer adjusted too shallow will clog easily.

A properly adjusted jointer blade will just clear the coulter blade. If the jointer blade is adjusted too close to the coulter blade, it will cause undue wear on the coulter blade and will have a tendency to clog.

Round Shank

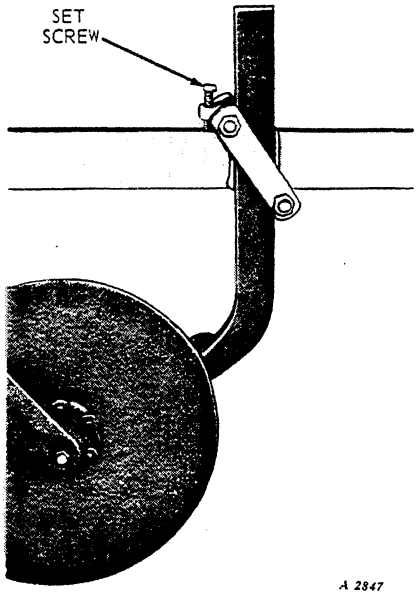


A 2792

The independent jointer may be adjusted up or down by loosening clamp and raising or lowering to desired depth.

To move jointer forward, turn set screw down in the jointer clamp; reverse operation to move it to the rear. To move the jointer toward the coulter, loosen front clamp bolt and tighten rear clamp bolt. To move the jointer blade away from the coulter blade, reverse the process.

Flat Shank

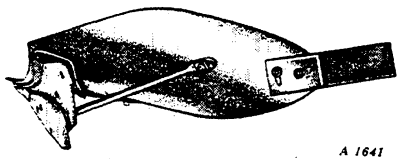


A 2847

The independent jointer may be adjusted up or down by loosening clamp and raising or lowering to desired depth.

To move the jointer forward, turn set screw down in the jointer clamp; reverse operation to move it to the rear. To move the jointer toward the coulter, loosen bottom clamp bolt and tighten top clamp bolt. To move the jointer away from the coulter blade, reverse the process.

MOLDBOARD EXTENSION



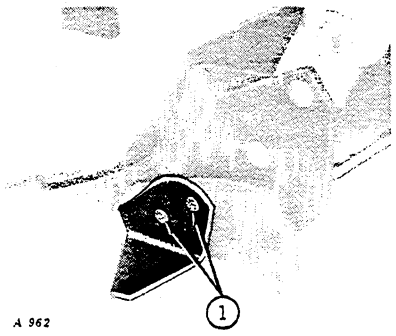
A 1641

Moldboard extensions for both high-speed (HS400 Series) and conventional-type bottoms are available.

The moldboard extension applies pressure to the furrow slice and prevents the furrow slice from rolling back into the furrow when plowing on hillsides.

The slot in the moldboard extension provides ample adjustment. For more pressure on the furrow slice, move the extension down. For less pressure on the furrow slice, move the extension up.

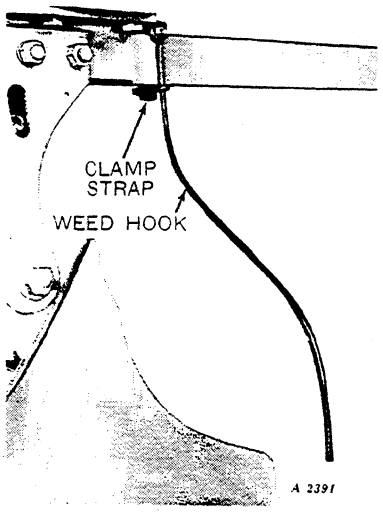
ROOT CUTTER



This cutter is available for attaching to the bottom for cutting alfalfa or similar roots. To attach:

1. Attach root cutter to bottom with same bolts that attach landside and frog to plow bottom standard. If root cutter is used with No. 9 cast landside or No. 10 cast landside, it will be necessary to use 1/2-inch longer bolts.

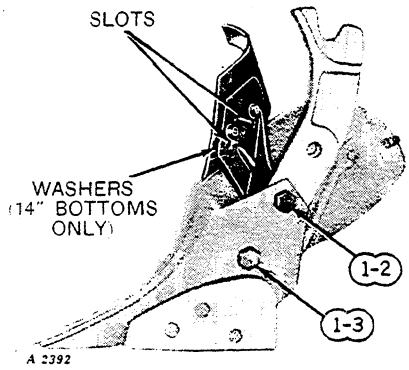
WEED HOOK



When plowing in tall weeds and trash, better coverage may be obtained by using weed hooks. The weed hook holds the weeds and trash against the furrow slice as it is turned under.

Attach the weed hook to the plow frame immediately ahead of the plow bottoms with a strap and eyebolt as shown in above illustration.

TRASH BOARD



Trash boards, for high-speed bottoms, high-speed slat bottoms, and the SDT546FC semi-deep tillage bottoms, improve coverage of heavy straw, stubble, and stalks.

The trash board catches the trash being carried on the top of the furrow slice and turns it down into the furrow bottom to be covered completely by the furrow slice.

Slots in the trash board support bracket provide ample adjustment. For average conditions, set the trash board so it is flush with the top of the moldboard. The trash board will scour best in this position. For deep plowing, move the rear of the trash board up, making sure front point remains flush with moldboard.

Be sure point of trash board is down tight against the moldboard shin.

In this position, the trash board will turn trash quicker and will give lighter draft.

Flat washers are provided on front bolt for proper fit of trash board when used on 14-inch bottoms. Use the washers as needed on front bolt and place **between** trash board and trash board support bracket.

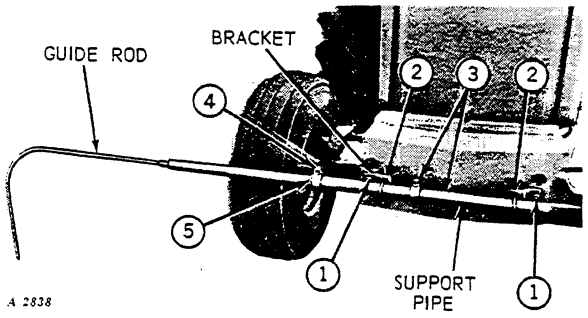
To attach the trash board:

1. Remove bolts.

2. Attach trash board support to upper hole in standard with bolt supplied in trash board.

3. Replace bolt removed in Step 1.

TRACTOR GUIDE ROD



A guide rod is available to aid in maintaining proper width of cut on front bottom. To attach:

1. Bolt brackets to tractor.

2. Attach U-bolts to brackets. Leave nuts loose.

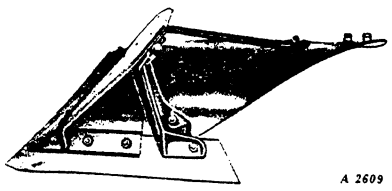
3. Insert support pipe through right-hand U-bolt. Slide set screw collar onto support pipe and insert pipe through left-hand U-bolt.

4. Slide remaining set screw collar onto end of support pipe.

NOTE: Set screws must be aligned with holes in support pipe so clamping may be accomplished.

5. Insert guide rod into support pipe and tighten nuts on U-bolts and set screws.

SHARE-FROG BRACE



In some tough scouring conditions, the use of 14-inch high-speed bottoms on 16-inch plows improves scouring due to the reduced moldboard area. This share-frog brace permits the use of 16-inch shares on 14-inch high-speed bottoms.

Attach the share-frog brace as shown in the illustration above.

MOLDBOARD PAD

A moldboard pad, available as special equipment for HS400 series plow bottoms, turns the furrow slice more abruptly when plowing on hillsides or at reduced speeds.

The pad should be used only where the soil scours easily. It is not recommended in difficult scouring conditions.

TRANSPORTING

Before transporting, raise plow with rockshaft control lever and remote cylinder operating levers. Extend remote cylinders fully. Then lower the tractor rockshaft part way until plow frame is level. Leveling the plow frame will provide more stability and also will allow the rear wheel to run in a more upright position, preventing excessive tire wear.

When transporting the plow on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard, check local governmental regulations for proper use. Various safety lights and devices are available from your John Deere dealer.

SAFETY RULES

To avoid injury, always be careful while operating a tractor and plow.

For tractor stability and operator safety, tractor front end weights are required. See page 4 under "Front End Weighting."

Do not grease, oil, or adjust the plow while it is in motion.

Never ride, or permit others to ride, on the drawbar of the tractor or on the plow.

Remember! An accident is usually caused by someone's carelessness, neglect, or oversight.

PROCEDURE FOR FIELD ADJUSTING PLOW

Before entering the field, check the following points on the tractor and plow, making sure that both have been properly prepared according to instructions in this manual.

1. Be sure tractor wheel tread is set as outlined on page 4.

2. Check tractor tires for proper air pressure and weighting as outlined on page 4.

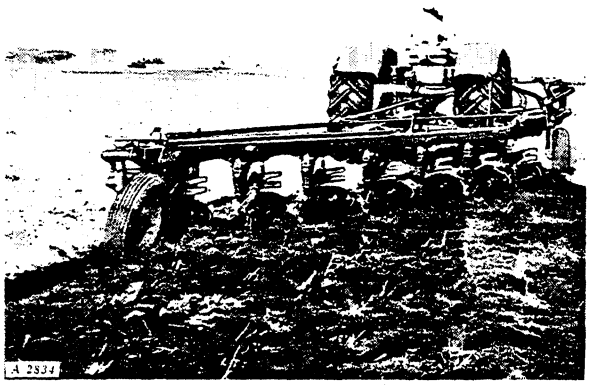
3. Be sure tractor drawbar is in the short high position.

4. Make sure hitch links are adjusted to recommended length as outlined on page 6.

5. Be sure sway blocks are in proper position as outlined on page 5.

6. Set rockshaft selector lever in "LD" position.

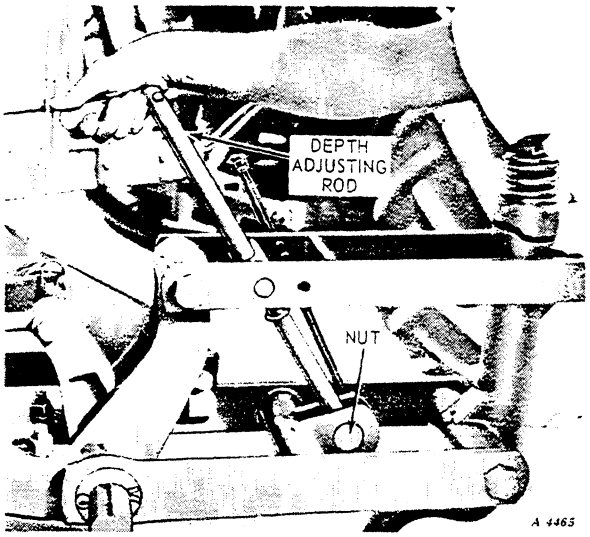
7. If rolling coulters are used, set them as outlined on pages 13 through 15.



Entering Field

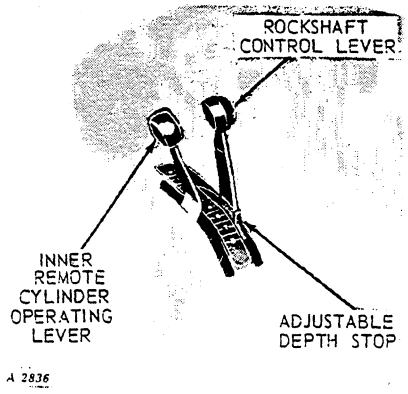
After plow has entered the field, follow these steps to set the plow correctly.

1. When opening a land shorten the depth adjusting rod to permit front bottoms to cut desired depth. Turn rod until there is 2 inches of thread below the nut.



Depth Adjusting Rod

2. Set rockshaft control lever and adjustable depth stop for desired plowing depth of front bottoms.

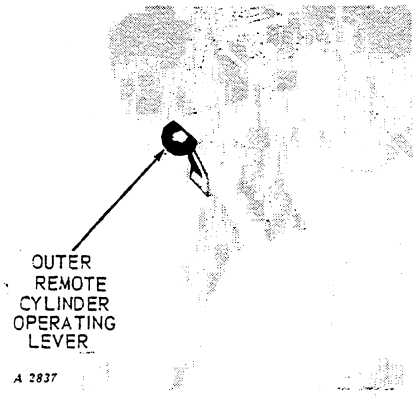


Setting Adjustable Depth Stop

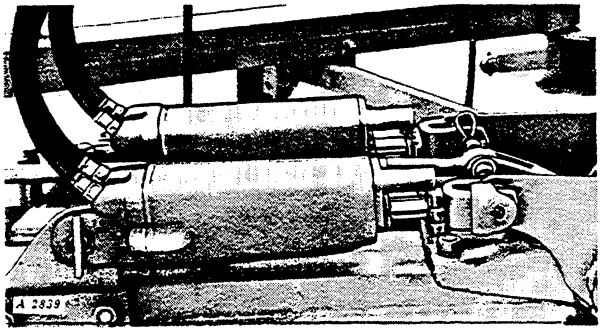
3. Operate the rockshaft control lever and the inner remote cylinder operating lever simultaneously so front end of plow drops evenly into the ground.

4. Retract right-hand cylinder fully. Depth of front furrow wheel should be controlled with depth adjusting rod and not the cylinder.

PROCEDURE FOR FIELD ADJUSTING PLOW—Continued



5. Move forward with plow and drop rear end of plow with outer remote cylinder, timing action to get a square headland. Retract left-hand cylinder fully.



Cylinders Fully Retracted

6. Set gauge wheel for desired depth.

7. If necessary, adjust rear coulter to get a clean furrow wall.

8. Check width of cut on rear bottom by measuring between coulters.

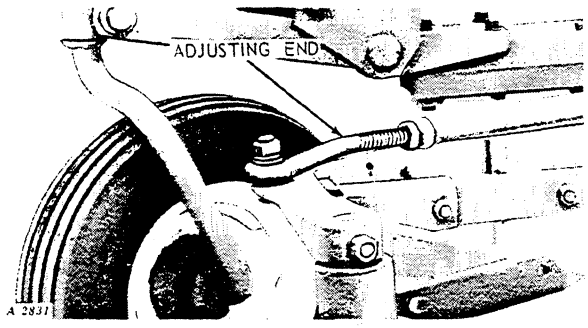
9. After rear coulter is set properly, set other coulters. Make sure distance between coulters is exactly the same as size of plow frame.

10. After opening round, with the tractor running on the land, drop the plow into furrow.

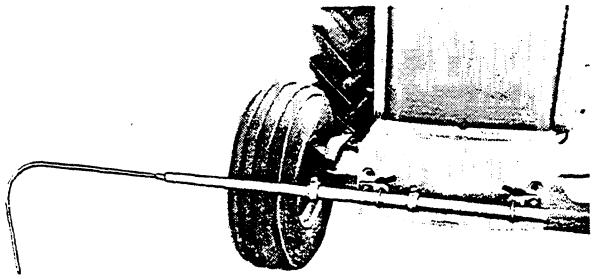
11. Level plow laterally by using the rockshaft control lever and the depth adjusting rod.

12. Set the rear wheel approximately 1 inch away from the furrow wall. The recommended depth stop setting will permit the rear wheel to carry part of the weight of the rear of the plow. To meet various ground conditions it may be necessary to readjust the depth stop to be sure the rear wheel is carrying part of the weight of the rear of plow. See page 11 for adjusting instructions.

The rear bottom landside should contact the bottom of the furrow and the furrow wall at all times.



13. The rear wheel should have a slight lead toward the plowed ground to assist in absorbing the furrow slice pressure and keep the plow running straight. Lead in the rear wheel is adjusted by shortening or lengthening the front steering rod by use of the screw and lock nut at the front end of the rod.



14. If the tractor guide rod (special equipment) is used, set rod on tractor to maintain proper width of cut on front bottom. Width of cut on front bottom is dependent on the operator maintaining proper distance from furrow wall with the tractor.

15. On third round plow should be in proper adjustment. As a final check, observe plow and make sure all of the foregoing adjustments are correct.

MAINTENANCE

PLOW BOTTOMS

Protect the face of the moldboard and share from rust whenever the plow is not in use (even overnight) by applying a light coating of oil or grease. When storing the plow for the season, apply a good rust preventive such as John Deere Plow Bottom Black Paint or a heavy coating of cup or gun grease. The paint is available from your John Deere dealer in brush-type (PT64) or a 12-ounce spray can (PT65).

SHARES

It is important to keep the plow shares in good cutting condition at all times. Sharp, correctly set shares add to the efficiency and good work of the plow bottoms. Dull shares cause poor penetration and may greatly increase the draft of the plow.

Soil-Flow Shares for High-Speed Bottoms are the "throwaway" type. When they become worn, it is most economical to discard and replace them with new low-cost Genuine John Deere Soil-Flow Shares.

Shares for conventional plow bottoms can be resharpened and reshaped. See your local blacksmith.

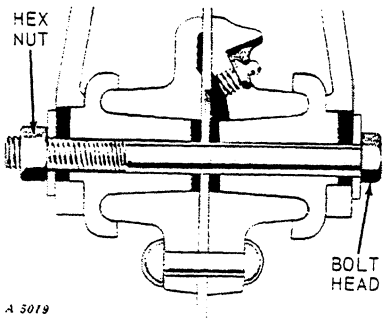
ROLLING COULTERS

It is important to keep the rolling coulter sharp and properly lubricated at all times.

ADJUSTING END PLAY IN COULTER HUBS

Coulters with Chilled-Cone Bearings

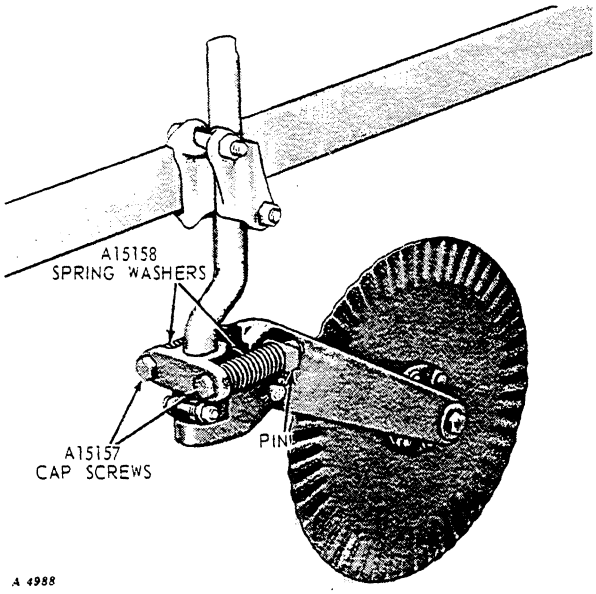
The rolling coulters have adjustable bearings which provide means for taking up wear.



Cross-Section View of Coulter Bearing

To remove excessive end play in rolling coulter hubs, loosen hex. nut and turn bolt head to right until end play is removed. Adjust so coulter blade will turn freely. Then tighten hex. nut.

Cushion Coulter



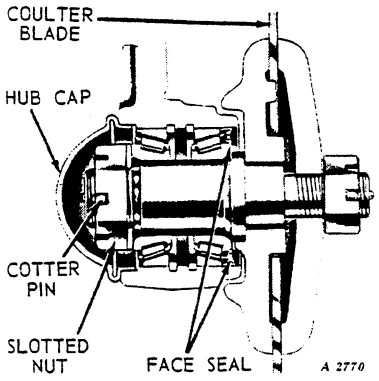
If the cushion rolling coulter is disassembled for any reason, the coulter must be reassembled correctly.

The A15158 spring washers (26 washers on each cap screw) are cupped and should be assembled in pairs so the cups face each other.

The A15157 cap screws are a special type and thread length, and only these cap screws should be used for replacement. Before assembly, these cap screws should be coated with SAE multipurpose-type grease. Thread these cap screws into the pin until the thread bottoms out (do not overtighten) and then lock securely in place with the jam nut.

There is no pressure adjustment on the cushion rolling coulter.

Coulters with Anti-Friction Bearings



The anti-friction bearing has a face-type seal. The contact of the seal against a machine surface retains grease and excludes dirt. Unless the bearing is in proper adjustment, the seal is ineffective.

If there is any looseness in the bearing, disassemble, clean, and repack with SAE multi-purpose-type grease. Tighten nut until there is drag on the bearing. **Do not back off nut after drag is encountered on the bearing.** This drag assures positive sealing. Be sure to replace the cotter pin in the slotted nut to lock the nut in position.

The anti-friction bearing rolling coulters are packed with grease at the factory. Every 100 hours, inspect the bearing and adjust it if necessary. Every 200 hours, or before each plowing season, whichever comes first, disassemble the bearing, clean, and repack as outlined above. **Do not use chassis lubricant in anti-friction bearings.**

NOTE: The nut on the blade side should be checked for looseness and should be kept tight at all times.

WHEEL BEARINGS

Inspect wheel bearings before the plowing season and repack with wheel bearing grease. Tighten the adjusting nut with a 12-inch wrench. At the same time turn wheel in both directions until there is a slight drag to be sure all bearing surfaces are in contact. Then back off the adjusting nut to first locking position.

SERVICE AT THE BEGINNING OF THE SEASON

Clean off any dirt or grease that may have accumulated on moving parts. This will prevent abrasive action that could cause excessive wear.

Thoroughly inspect the plow for loose parts and adjust as necessary.

Lubricate as shown on pages 30 and 31.

SERVICE AT THE END OF THE SEASON

The plow's chief enemies, rust and corrosion, are busy the year-around. A little time and effort spent protecting the plow from destructive moisture will repay you in longer service, easier operation, and higher resale value.

Clean plow thoroughly to remove dirt and trash which would hold moisture and cause rusting.

Apply a good rust preventive to all land polished surfaces such as the plow bottoms and coulters. See "Rust Prevention" on page 21.

STORING THE PLOW

When storing, the plow may be moved without the tractor by moving the gauge wheel forward to the support bracket on the first frame bar and by using a screw jack to raise the plow. For complete instructions see page 42.

An accident is usually caused by someone's carelessness, neglect, or oversight.

PLOWING DIFFICULTIES AND REMEDIES

Improper adjustments account for most plowing difficulties. If, after following the operating and adjusting instructions in this manual and checking the plow for proper assembly, difficulties still persist, use the following chart. If you are unable to remedy the trouble, have your John Deere dealer check for worn or damaged parts.

SLOW GROUND ENTRY

Possible Cause	Possible Remedy
Worn shares.	Sharpen or replace.
Improper coulter adjustment.	Coulters should run only about 3 or 3-1/2 inches deep.
Dull coulters.	Sharpen or replace.
Improper rear wheel adjustment.	Set rear wheel so rear landside contacts the bottom of the furrow and so plow is level fore-and-aft.
Insufficient plow bottom suck.	Loosen bottom attaching bolts and force share points down. Retighten bolts.
Hitch bearing too low.	Raise hitch bearing one setting. If hitch bearing is set too high it will cause plow to run on nose, resulting in unfavorable performance.
Improper rockshaft control lever setting.	Set stop on lever so front bottom cuts proper depth.

PLOW RUNNING CROOKED

Improper tractor wheel tread.	Set wheels properly. See pages 4 and 5.
Hitch not set properly.	Set hitch as shown on page 10.
Improper leveling.	Set front bottom to cut proper depth. Make sure plow is level laterally.
Sway blocks in wrong setting.	Place sway blocks in down position.
Improper rear wheel adjustment.	Set wheel to have slight lead to plowed ground and so rear landside rests on the furrow bottom and against the furrow wall.
Improper coulter adjustment.	Be sure coulters are free to swing and run straight.
Jointers not set properly.	Set jointers to run only about 2 inches deep and be sure they do not prevent coulters from running straight.

RIDGING

Possible Cause	Possible Remedy
Front bottom too deep.	Level plow.
Front bottom too shallow.	Level plow.
Improper coulter adjustment.	Distance between coulter blades must measure same as plow frame size.
Improper jointer adjustment.	Set all jointers the same depth.

POOR TRASH COVERAGE

Bottoms not scouring.	Clean bottoms frequently until land polish is obtained.
Improper coulter adjustment.	Set coulters deep enough to cut trash. Keep coulters sharp.
Improper jointer adjustment.	Set jointers to run about 2 inches deep and close to, but not rubbing against, the coulter blade.
Plow running crooked.	See "Plow Running Crooked," on page 23.
Weed hooks may be necessary.	Add weed hooks.
Trash boards may be necessary.	Add trash boards.
Trash boards not set properly.	When plowing deeper than 7 inches, raise rear of trash board slightly. Be sure point of trash board is down tight against the moldboard shin.

BOTTOMS DON'T SCOUR

New bottoms	Clean surface. See page 4.
Plow running on nose.	Level plow fore and aft.
Plow running crooked.	See "Plow Running Crooked," page 23.
Coulters not set properly.	Set coulters shallower and back.

RAGGED FURROW WALL

Improper rear coulter adjustment.	Set rear coulter to run about 3 or 3-1/2 inches deep and far enough to the left of landside to leave a clean furrow wall.
Wrong rear coulter angle.	Be sure coulter collar does not keep coulter from running straight.
Jointer interference.	Be sure jointer is not keeping coulter from running straight.
Rear wheel not set properly.	Set rear wheel to allow landside to contact furrow wall. Rear wheel should have slight lead toward plowed ground.

PLOW PULLS HEAVY

Possible Cause	Possible Remedy
Excessive tractor wheel slippage.	Lower hitch bearing. Place rockshaft selector lever in "LD" position. Check front end and rear wheel weights.
Plow running on nose.	Level plow fore and aft. Check hitch setting. See page 10.
Improper rear wheel adjustment.	Lower rear wheel using set screw adjustment so rear landside contacts the furrow bottom and rear wheel carries part of the weight of the rear of the plow.
Bottoms not scouring.	Clean frequently until land polish is obtained.

UNEVEN PLOWING DEPTH

Selector lever in wrong position.	Change to "LD" position.
Rear of plow won't stay down.	Lower hitch bearing. Level plow laterally.
Rear of plow goes too deep.	Lengthen set screw depth stop. Level plow laterally.
Rear wheel not set properly.	Wheel should be set so rear landside contacts the furrow bottom. Rear wheel must run firmly on furrow bottom.
Worn shares.	Sharpen or replace.

SAFETY-TRIP STANDARDS

Standard Trips Too Easily

Tripping load not great enough.	Add tubular shim.
Slot in standard rounded.	Replace with new standard.
Throw-out roller damaged.	Replace with new throw-out assembly.
Excessive wear on pivot stud.	Replace pivot stud.
Coil spring broken.	Replace coil spring.
Dirt packed under throw-out roller.	Clean.
Plow running on nose.	Level plow fore and aft.

Standard Trips Too Hard

Tripping load too great.	Remove enough tubular shims to obtain desired tripping load.
Not properly lubricated.	Lubricate all moving parts.
Standard binding at pivot stud.	Loosen lock nut slightly. Grease pivot stud.
Standard seldom tripped.	Trip standard periodically by hand.

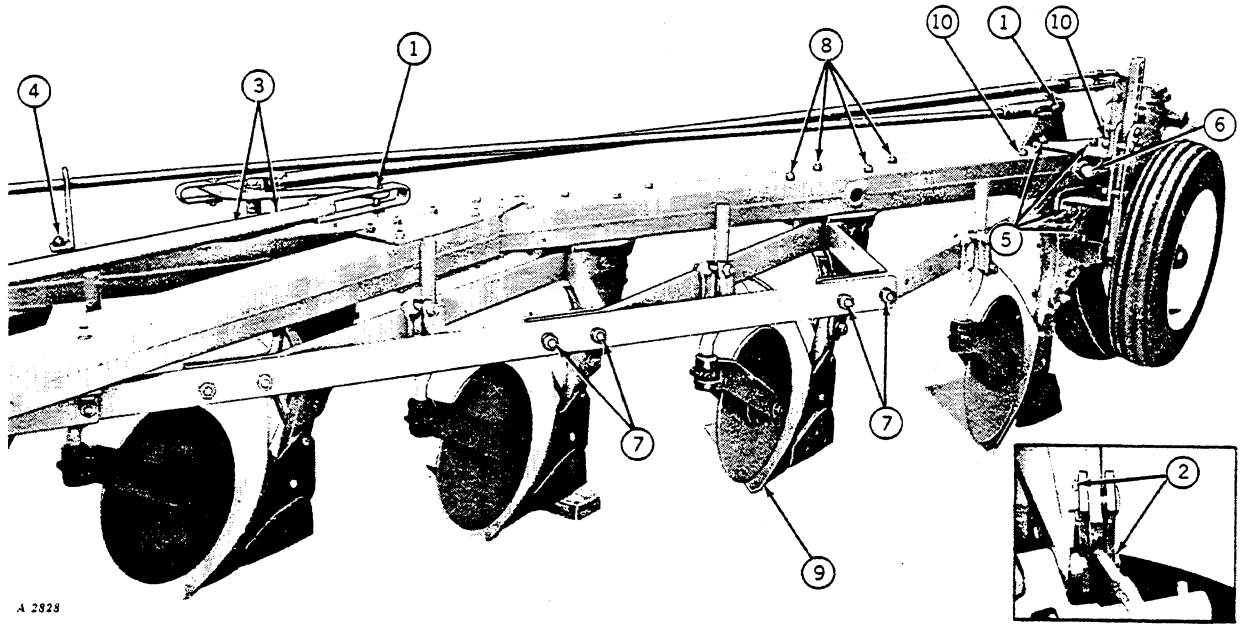
Excessive Vertical Play at Share Point

Adjusting cam not tight.	Rotate cam clockwise until cam is tight against spring link.
Pivot stud worn or broken.	Replace and grease pivot stud.
Throw-out roller damaged.	Replace with new throw-out assembly and oil.

Excessive Lateral Looseness of Standard

Standard pivot stud loose.	Tighten nut until standard is free to move without binding.
Pivot stud worn or broken.	Replace and grease pivot stud.

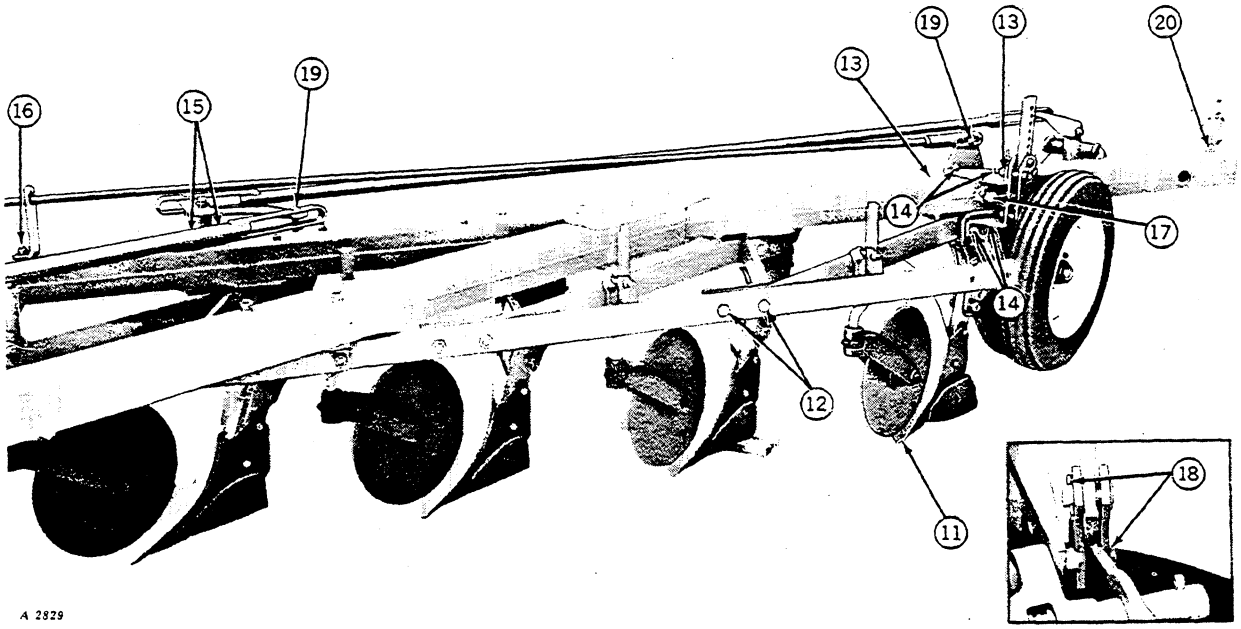
REDUCING PLOW SIZE



The 7-bottom plow is reducible to 6 bottoms.

Park tractor and plow on a level surface. Place a block 2 or 3 inches high under third bottom from the rear. Lower plow onto block.

1. Remove front steering rod and the lift rod.
2. Remove strap and pin assemblies from lift plate and lift arm.
3. Remove pivot and bolts from truss box.
4. Remove lift rod support and bolt from truss box.
5. Remove gauge wheel assembly. Also remove the truss box bolts securing the gauge wheel.
6. Remove lift plate from bearing.
7. Remove bolts from braces, sixth and rear frame bars, and truss bar.
8. Remove bolts from frame bar assembly and truss box.
9. Slide entire frame bar assembly back and away from plow.
10. Remove remaining two bolts securing rear frame bar assembly to truss box.



11. Slide entire rear frame bar assembly forward.

12. Replace two of the bolts removed in Step 7.

13. Replace bolts removed in Step 10.

14. Attach gauge wheel assembly.

15. Move pivot and bolts forward to next frame bar.

16. Move lift rod support and bolt forward to next frame bar.

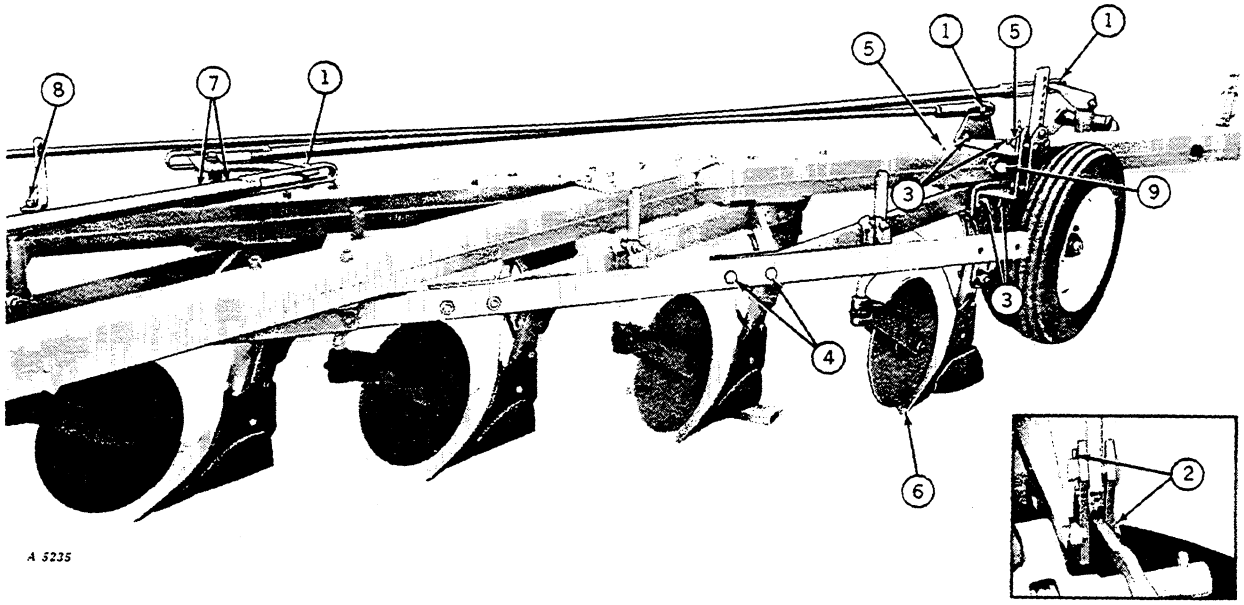
17. Move lift plate to forward bearing and attach using washer and cotter pin.

18. Replace strap and pin assemblies removed in Step 2.

19. Replace front steering rod and lift rod with rods provided in reducing bundle.

20. Replace reflector and bracket.

CONVERTING 6-BOTTOM PLOW TO A 7-BOTTOM PLOW



Park tractor and plow on a level surface. Place a block 2 or 3 inches high under the second bottom from the rear. Lower plow onto block.

1. Remove front steering rod and the lift rod. Disconnect the rear steering rod.

2. Remove strap and pin assemblies from lift plate and lift arm.

3. Remove gauge wheel assembly. Also remove the truss box bolts securing the gauge wheel.

4. Remove bolts from braces, sixth frame bar, and truss bar.

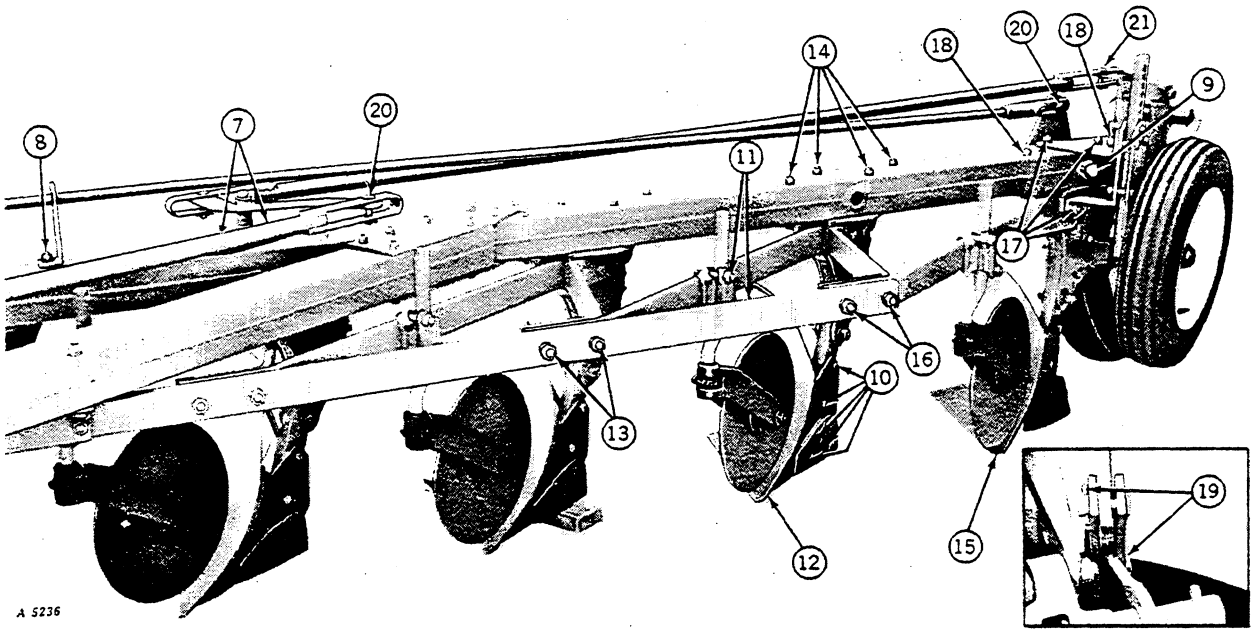
5. Remove remaining two bolts securing rear frame bar assembly to truss box.

6. Slide entire frame bar assembly away from plow.

7. Move pivot and bolts back to next frame bar.

8. Move lift rod support and bolt back to next frame bar.

9. Move lift plate to the rear bearing and attach using washer and cotter pin.



10. Attach bottom and landside to standard.

11. Attach coulter to frame bar.

12. Place entire frame bar and standard assembly (BA14244) into position.

13. Bolt frame bar and frame brace to truss bar with bolts removed in step 4.

14. Bolt frame bar assembly to truss box with bolts supplied.

15. Slide rear standard assembly and frame bar into position.

16. Bolt frame bar and frame brace to truss bar.

17. Attach gauge wheel assembly using bolts removed in step 3.

18. Placing reflector and bracket on rear of plow, replace bolts removed in step 5.

19. Replace strap and pin assemblies removed in step 2.

20. Replace front steering rod and lift rod with rods provided in conversion bundle.

21. Connect rear steering rod.

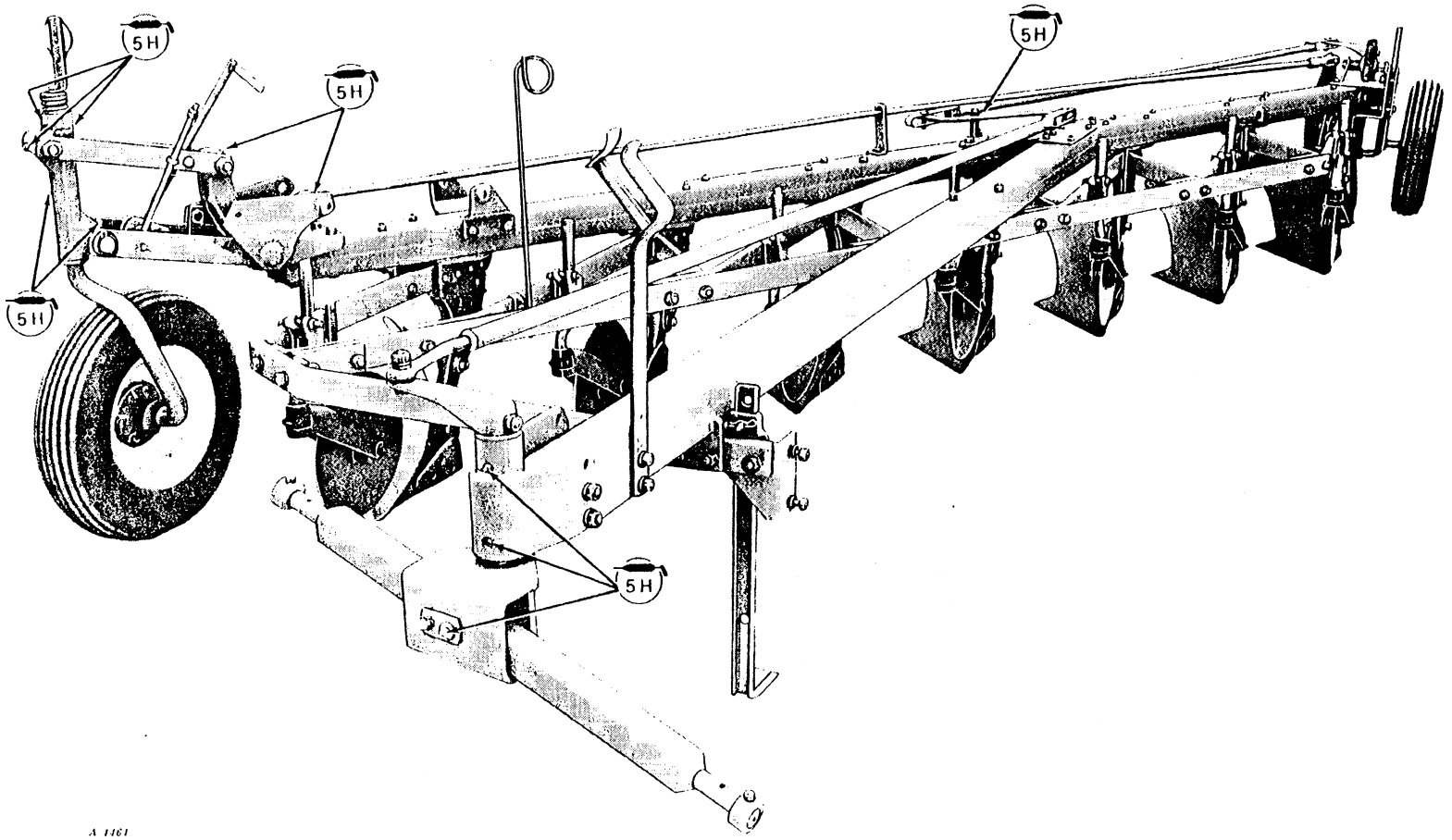
LUBRICATION

Grease fittings are provided at all points indicated in the lubrication chart. All parts provided with grease fittings should be lubricated as indicated with SAE Multipurpose-type grease. If any grease fittings are missing, replace them immediately. **Clean the fittings thoroughly before using grease gun.**

All other moving parts on the plow should be oiled twice daily with SAE 30 lubricating oil.

The period recommended is based on normal conditions; severe or unusual conditions may require more frequent lubrication.

NOTE: Throw-out roller on safety-trip standards must be free and well lubricated at all times.



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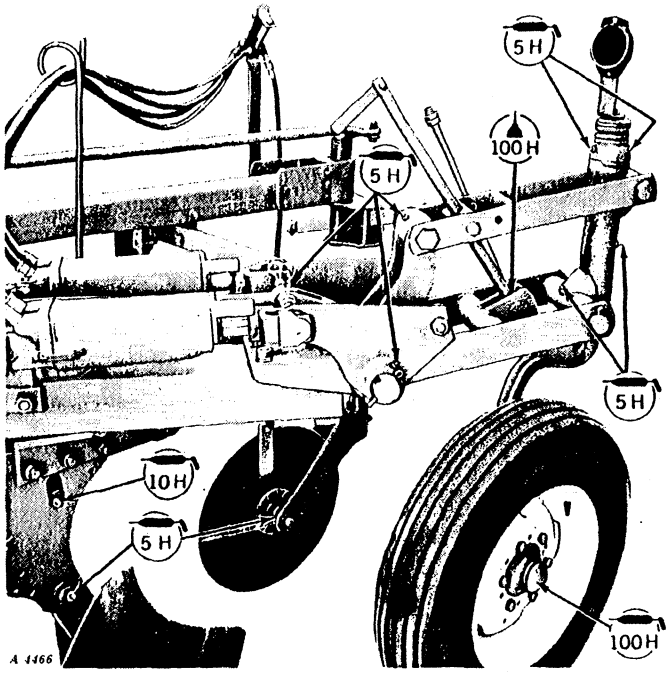
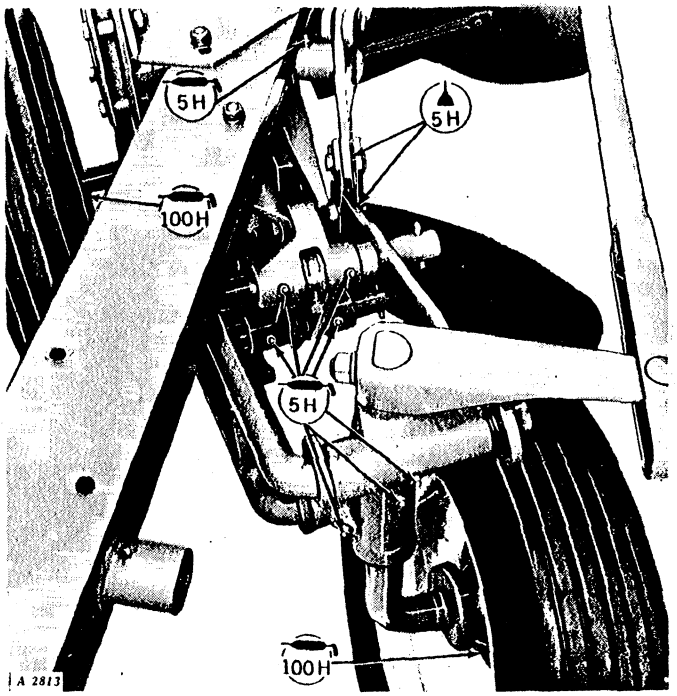
Lubrication Chart



Front Furrow Axle



Rear Axle

SYMBOLS	
5H	Grease Every Five Hours of Operation or Twice Daily.
5H	Oil Every Five Hours of Operation or Twice Daily.
10H	Grease Every Ten Hours of Operation or Once Daily.
100H	Oil Every 100 Hours of Operation.
100H	Grease Every 100 Hours of Operation.

ASSEMBLY

1. Read all assembly instructions and carefully observe illustrations.
2. Cut all bundling wires and conveniently arrange parts.
3. Lubricate all bearings and moving parts as you proceed so they move freely.

REGULAR SHIPPING BUNDLES

Bundle No.	Description	6-Btm. Plow	7-Btm. Plow
BA 11210 A	Frame and Standards	1	..
BA 11155 A	Frame and Standards	..	1
BA 10983 A	First Frame Bar	1	1
BA 10797 A	Stand	1	1
BA 14120	Hitch	1	1
BA 14121	Hitch Crossbar (Category 3 for 5010 and 5020 Tractors)	1	1
BA 10981 A	Hitch Support	1	1
BA 10984 A	Pivot Arm and Cylinder Support	1	1
BA 11211 A	Steering Pipe and Hose Support	1	..
BA 11064 A	Steering Pipe and Hose Support	..	1
BA 11283 A	Front Furrow Axle	1	1
BA 10986 A	Rear Axle	1	1
BA 10987 A	Gauge Wheel Axle	1	1
BA 10229 A	Wheel less Tire, 15-Inch (Furrow and Rear)	2	2
JD 1384	Wheel less Tire, 15-Inch (Gauge)	1	1
SD 2331 A	Reflectors (2)	1	1
SD 2333 A	Light and Reflector Bracket	1	1
BA 10713 A	Coulter Shank and Clamp	5	6
BA 10821 A	Front Coulter Shank and Clamp	1	1
BA 10902 A	Rolling Coulter - 17-Inch	6	7

SPECIAL SHIPPING BUNDLES

BA 10232 A	Wheel with Tire (Furrow and Rear)	2	2
JD 3011	Wheel less Tire, 14-Inch (Furrow and Rear)	2	2
SD 2410 A	Wheel with Tire (Gauge)	1	1
JD 1754	Wheel less Tire, 14-Inch (Gauge)	1	1
BA 10989 A	Front Steering Rod and Lift Rod (To reduce 7-bottom plow to 6-bottom plow)	..	1
BA 10990 A	Tractor Guide Rod	1	1
AA 14903	Share-Frog Brace (To attach 16-inch high-speed shares to 14-inch high-speed bottoms)	6	7
CT 186 A	Root Cutter	6	7
BA 10113 A	Weed Hook	6	7
BA 14122	Hitch Crossbar (Category 2 - in lieu of BA14121 when plow is used with a 4020 Tractor)	1	1
BA 14243	Steering Pipe and Rear Wheel Lift Rod	1	..
BA 14244	Frame Bar and Safety-Trip Standard	1	..

Note: Above two Bundles furnished to convert 6-bottom to 7-bottom plow.

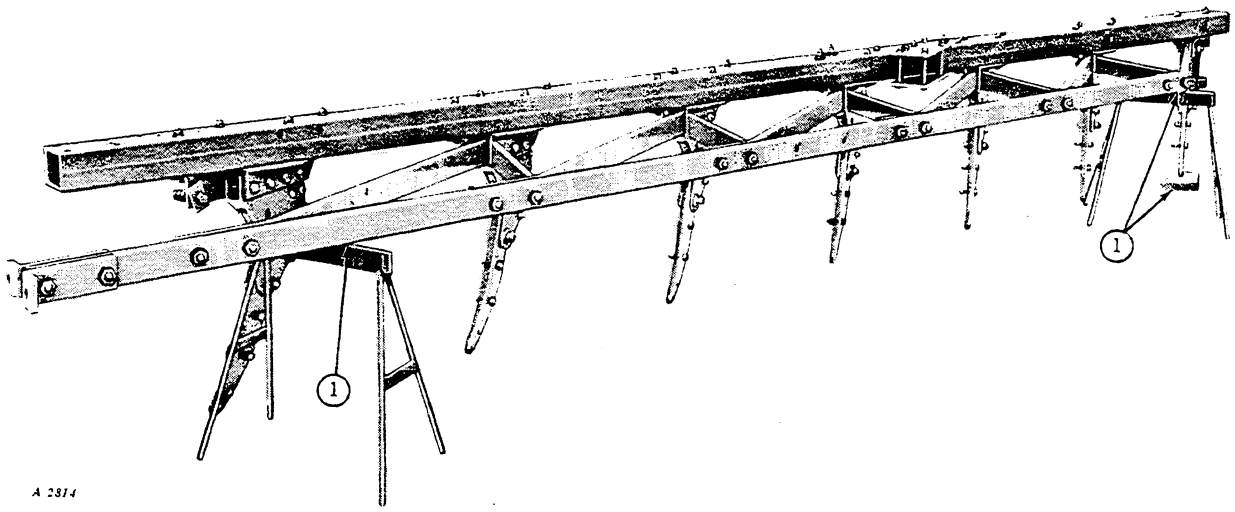
Independent Jointer and Clamp

DK 76 FA	Jointer - Cast (Round Shank)	6	7
JC 24 A	Clamp (for DK76FA)	6	7
SD 467 A	Jointer - Steel (Flat Shank)	6	7
JC 21 A	Clamp (for SD467A)	6	7

SPECIAL SHIPPING BUNDLES—Continued

Bundle No.	Description	6-Btm. Plow	7-Btm. Plow
Rolling Coulters for Round Shank and Clamp			
BA 10971 A	17-Inch Rippled Edge with Chilled-Cone Bearing	6	7
BA 10904 A	18-Inch with Chilled-Cone Bearing	6	7
BA 10905 A	20-Inch with Chilled-Cone Bearing	6	7
BA 11083 A	20-Inch Rippled-Edge with Chilled-Cone Bearing	6	7
BA 14245	17-Inch Cusion (Plain)	6	7
BA 14246	17-Inch Cushion (Rippled)	6	7
BA 14324	17-Inch with Anti-Friction Bearing	6	7
BA 14325	17-Inch Rippled Edge with Anti-Friction Bearing	6	7
BA 14326	20-Inch with Anti-Friction Bearing	6	7
BA 14327	20-Inch Rippled Edge with Anti-Friction Bearing	6	7
Flat Coulter Shank, Clamp, and Rolling Coulters			
BA 10907 A	17-Inch with Chilled-Cone Bearing	6	7
BA 10972 A	17-Inch Rippled Edge with Chilled-Cone Bearing	6	7
BA 10909 A	18-Inch with Chilled-Cone Bearing	6	7
BA 10910 A	20-Inch with Chilled-Cone Bearing	6	7
BA 11084 A	20-Inch Rippled Edge with Chilled-Cone Bearing	6	7
BA 14328	17-Inch with Anti-Friction Bearing	6	7
BA 14329	17-Inch Rippled Edge with Anti-Friction Bearing	6	7
BA 14330	20-Inch with Anti-Friction Bearing	6	7
BA 14331	20-Inch Rippled Edge with Anti-Friction Bearing	6	7
BA 14332	22-Inch with Anti-Friction Bearing	6	7
BA 10991 A	Clamp	5	6
BA 10992 A	Clamp (Front)	1	1
Plow Bottom Attachments			
BA 11128 A	Trash Board	6	7
BA 11130 A	Trash Board (for Slat Bottom)	6	7
BA 14039	Trash Board (for SDT546FC Bottoms)	6	7
BA 10164 A	Moldboard Pad (for HS400 Series only)	6	7
Moldboard Extension			
7750 A	For Conventional Bottoms	6	7
A 11736 A	For HS400 Series High-Speed Bottoms	6	7

FRAME AND STANDARDS



1. Place frame and standard assembly on stands approximately 24 inches high. Place small block under rear standard.

FIRST FRAME BAR

1. Place a supporting stand approximately 24 inches high in the location shown in the illustration.

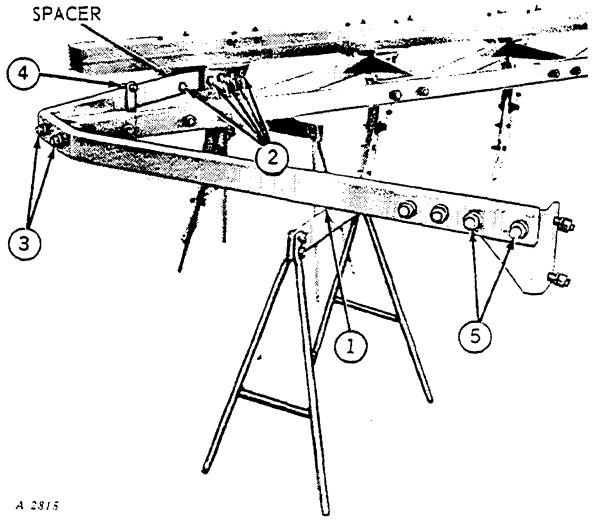
2. Remove bolts from truss box brackets, slide first frame bar into place and replace bolts.

NOTE: Be sure spacer is on the front bolt and between frame bar and truss box bracket.

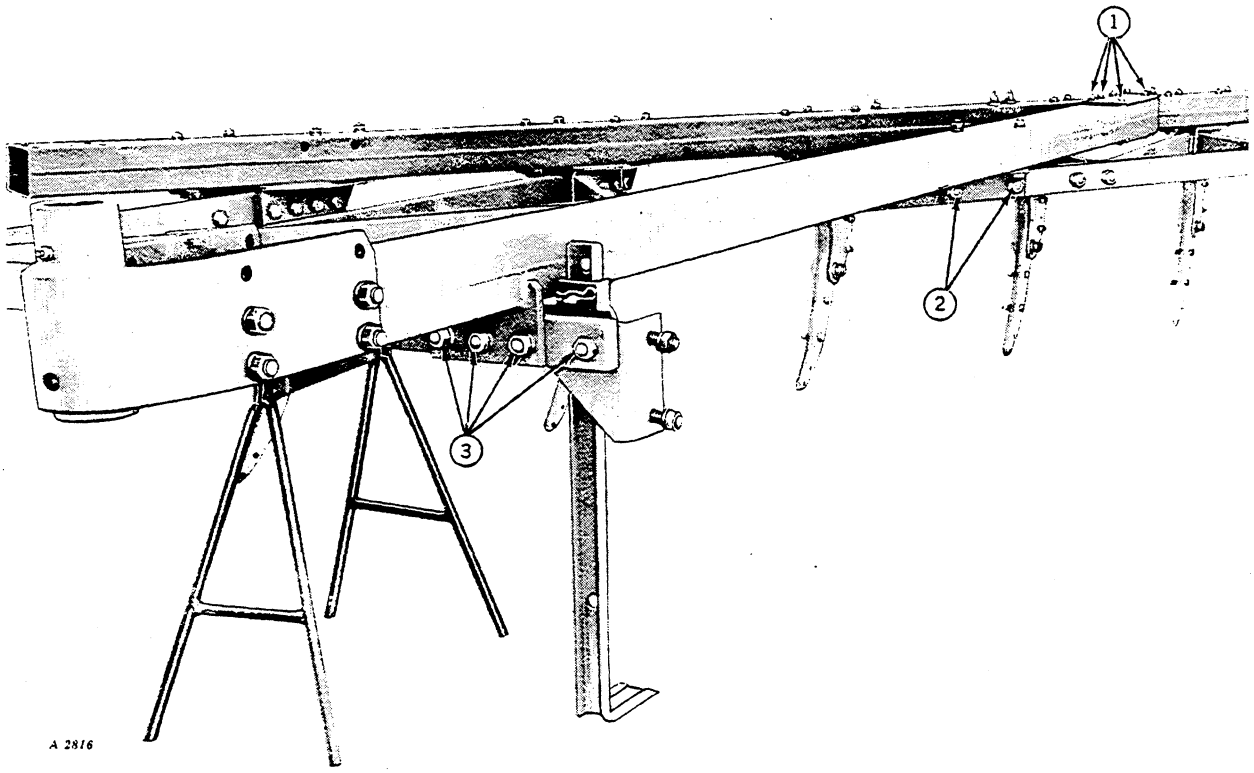
3. Bolt frame bar to truss bar supports.

4. Attach coulter stop. See page 15 for adjustment.

5. Remove bolts from gauge wheel support.



HITCH SUPPORT AND STAND



1. Attach hitch support to attaching plates.

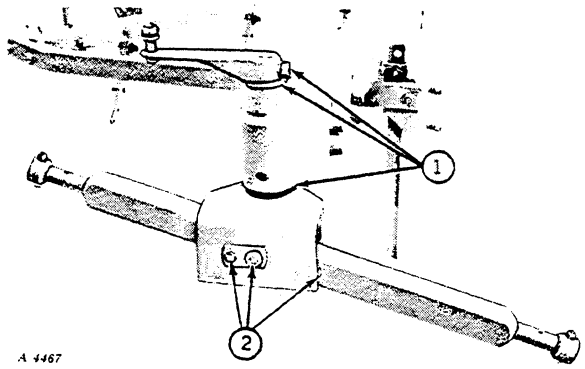
2. Attach hitch truss box support to truss bar.

3. Attach hitch support, support stand, and gauge wheel support to frame bar. Adjust stand and remove supporting stand.

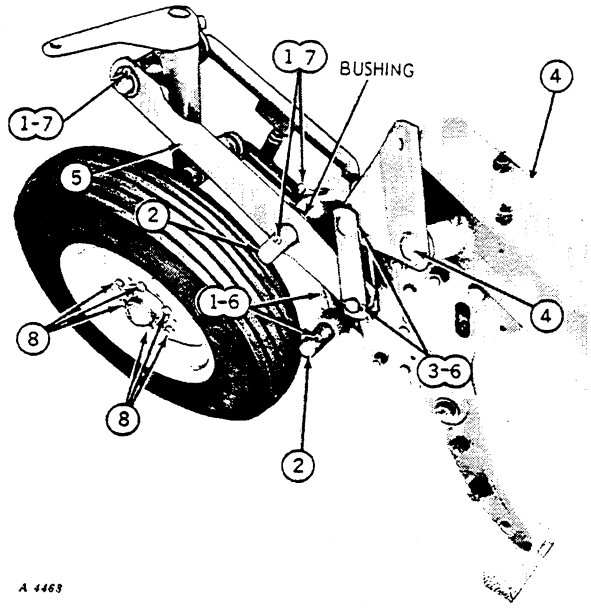
HITCH

1. Remove steering arm and washer from pivot shaft and slide hitch pivot shaft up through hitch bearing. Replace washer and steering arm and tighten bolt.

2. Remove hitch crossbar pin and insert hitch crossbar into pivot shaft assembly. *NOTE: Be sure long side of the hitch is on the left-hand side.* Insert the hitch crossbar pin through the pivot shaft assembly and hitch crossbar. Bolt hitch crossbar pin to pivot shaft assembly.

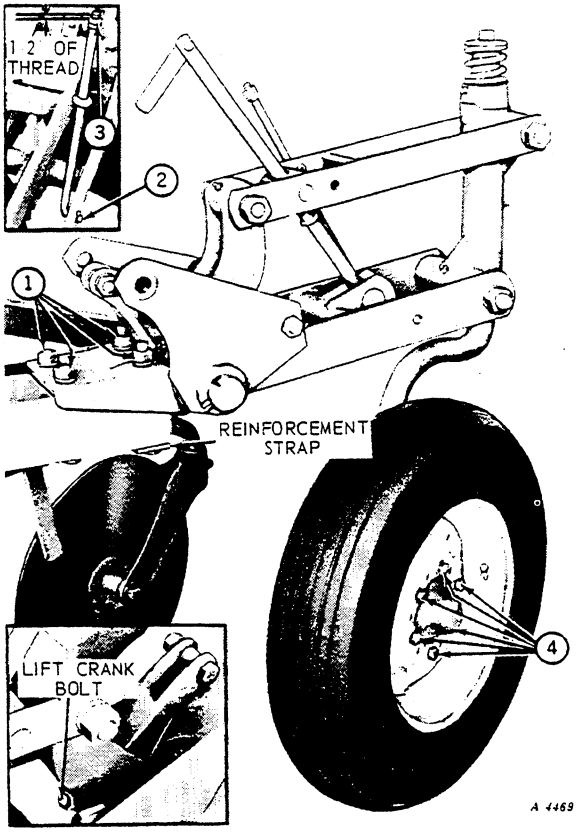


REAR AXLE AND WHEEL



1. Remove cotter pins and set screw collars.
2. Insert bails into bail bearing. Be sure set screw collars are in place.
3. Remove cotter pins from strap and pin assemblies and detach from lift plate.
4. Insert lift plate into truss box bearing and secure with washer and cotter pin.
5. Position lift arm over upper bail ends.
6. Insert strap and pin assemblies into lift arm and lift plate and secure with cotter pins.
7. Replace cotter pins and tighten set screws.
8. Attach wheel to hub.

FRONT FURROW AXLE AND WHEEL



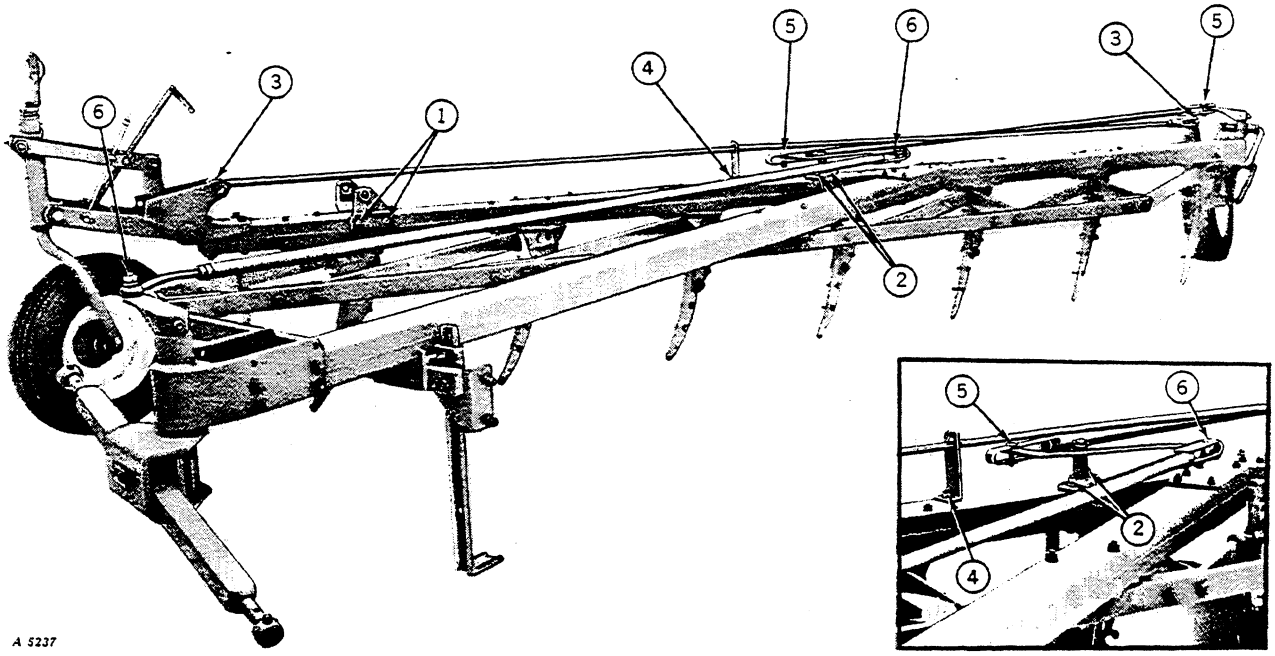
1. Attach the front bail support to the truss box. Be sure reinforcement strap is underneath the truss box.
2. Insert stop rod into lower lift arm and secure with cotter pin.

NOTE: Slide bushing onto top bail before attaching the lift arm. See above illustration.

3. Adjust nuts on stop rod so there is 1/2 inch of thread exposed.
4. Attach wheel to hub.

NOTE: Be sure lift crank bolt is tightened from 275 to 300 ft-lbs of torque. See inset in illustration above.

PIVOT ARM, CYLINDER SUPPORT, STEERING RODS, AND LIFT ROD



1. Attach left- and right-hand cylinder supports to truss box. If a single cylinder will be used, attach left-hand support only.

2. Remove spacers from the long bolts and attach the pivot arm assembly.

3. Attach lift rod to lift crank and lift plate.

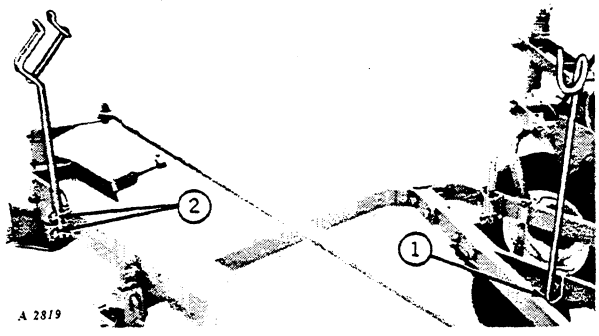
4. Bolt lift rod support to truss box.

5. Attach rear steering rod to rear axle crank and pivot arm assembly.

NOTE: Be sure the rear steering rod is attached to the lower end of the pivot arm and the lower end of the pivot arm is attached to the right-hand side.

6. Attach the front steering rod to the upper end of the pivot arm and to the steering arm.

HOSE SUPPORTS



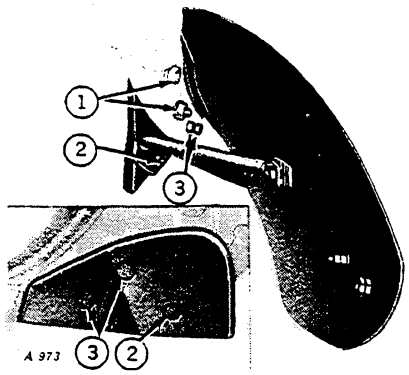
1. Attach rear hose support to hose support bracket.

2. Attach front hose support to hitch bearing.

PLOW BOTTOMS

Before attaching the bottoms, attach the plow to the tractor hitch as explained on pages 7 through 9 and then raise plow.

This plow requires No. 4 Landsides when using conventional bottoms. When using high-speed bottoms, No. 9 Landsides are required on all bottoms except the rear bottom, which requires a No. 10 Landside. See illustrations below.

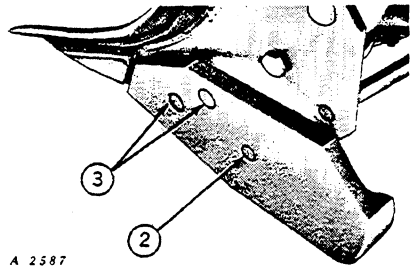


Attaching No. 9 Landside

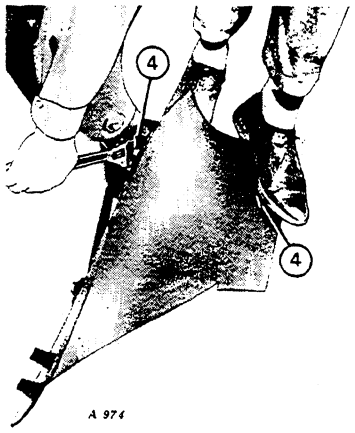
1. Remove the two machine bolts from each standard. Insert the two machine bolts through frog and standard.

2. Remove the two front plow bolts from the landside and bolt the landside to the plow bottom frog with the one rear bolt.

3. Insert the two front plow bolts through the landside, frog, and standard. *Leave nuts loose.*

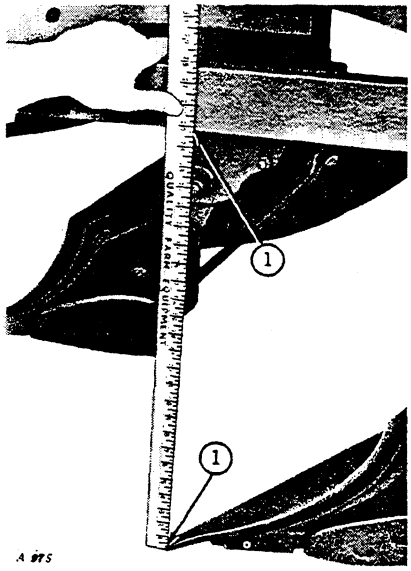


Attaching No. 10 Landside to Rear Bottom

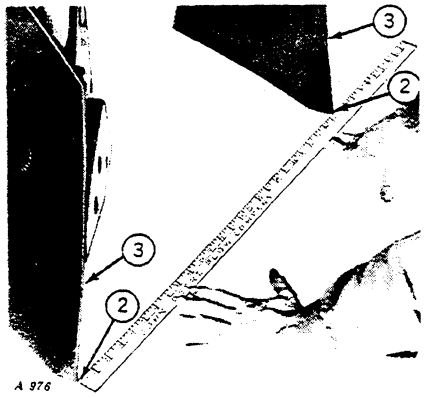


4. Push down on the points of the shares to make sure all slack is taken out of the bolts. Then tighten nuts securely.

LINING UP PLOW BOTTOMS

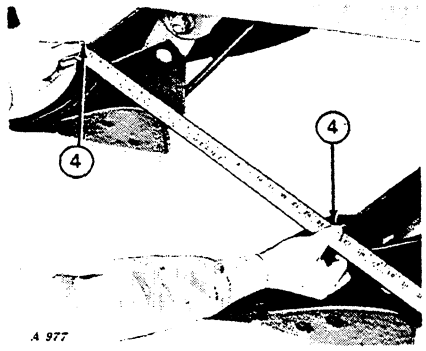


1. Check distance from underside of each frame bar to point of each share. The distance should be reasonably the same for each bottom if the bottoms are attached correctly. If not, loosen frame bolts and adjust.



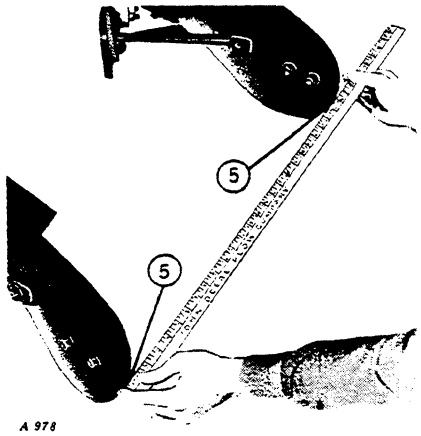
2. Measure distance between bottoms from point of rear share to point of next share forward.

3. Measure distance between bottoms at juncture of share and moldboard on front edge of bottoms.



4. Measure distance between bottoms from upper front corner of rear moldboard to upper front corner of next moldboard forward.

NOTE: Measurements for Steps 2, 3, and 4 should be reasonably the same.

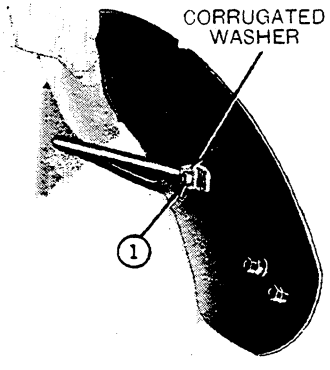


5. Measure distance from back edge of rear moldboard to back edge of next moldboard.

NOTE: If the distance between the back edges of the moldboards varies greatly from the other measurements, adjust either the rear moldboard brace or the next moldboard brace to push one of the moldboards forward.

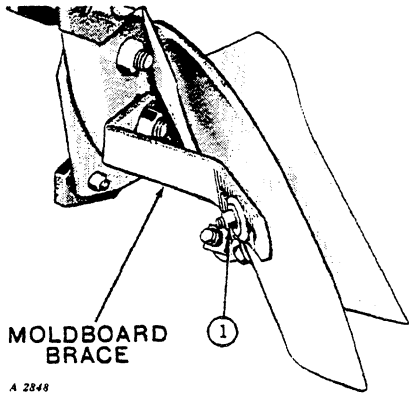
NOTE: Repeat these measurements, Steps 2, 3, 4, and 5 between all bottoms as you work forward.

Adjusting Moldboard Brace



Moldboard Brace on High-Speed Bottom

1. To adjust moldboard brace, loosen nut on moldboard bolt and adjust corrugations in washer and brace.



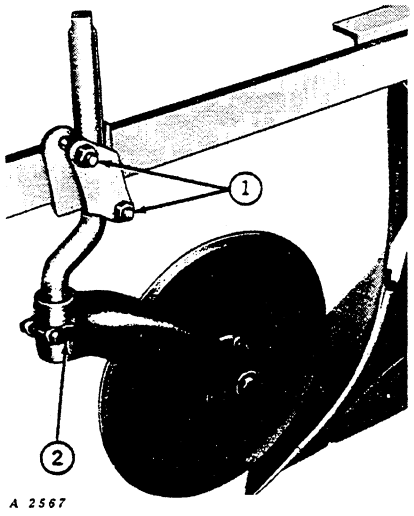
Moldboard Brace on Conventional Bottom

CAUTION: Never adjust a moldboard brace to pull the moldboard back.

ROLLING COULTERS

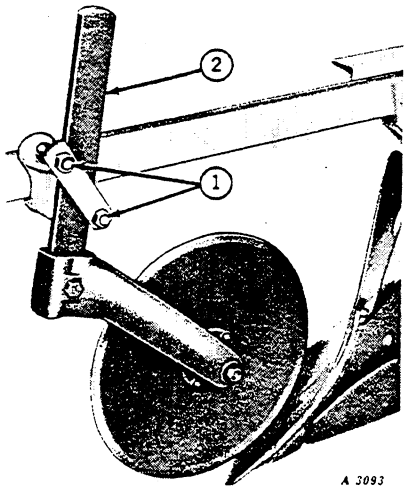
CHILLED-CONE BEARING

Round Shank



1. Attach clamp castings to frame with U-bolt. Do not draw up the nuts too tight until height of the shank has been determined.
2. Attach coulter yoke to shank with collar. See pages 13 through 15 for adjustment of rolling coulters.

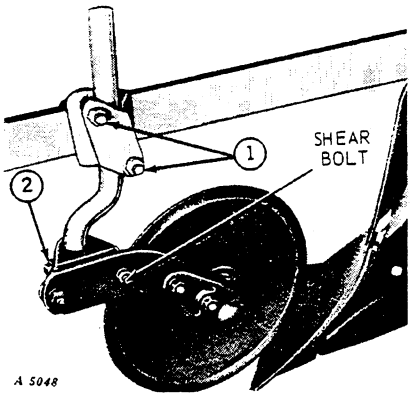
Flat Shank



1. Attach clamp to frame bar.
2. Insert coulter shank into clamp and tighten nuts. See pages 13 through 15 for adjustment of rolling coulters.

ANTI-FRICTION BEARING

Round Shank

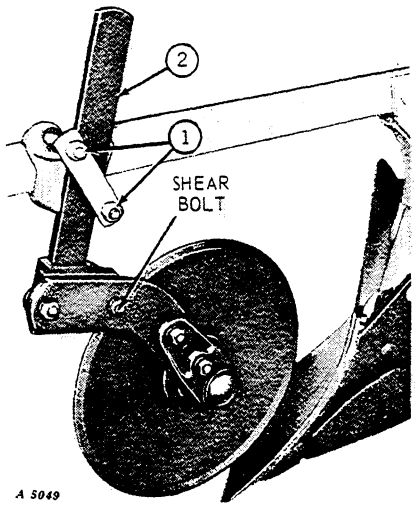


1. Attach clamp castings and U-bolt to frame. Do not draw up the nuts too tight until height of the shank has been determined.

2. Attach coulter yoke to shank with collar. See pages 13 through 15 for adjustment of rolling coulters.

The anti-friction bearing rolling coulter is equipped with a shear bolt to prevent possible serious damage to the coulter shank. For replacement of the shear bolt, use a 19H1899 cap screw.

Flat Shank



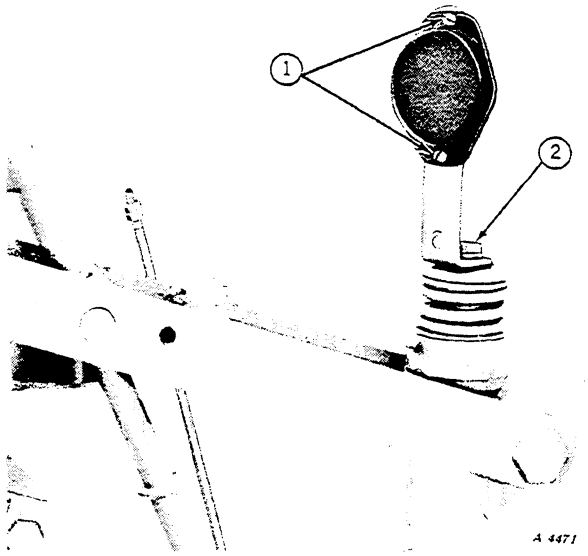
1. Attach clamp to frame bar.

2. Insert coulter shank into clamp and tighten nuts. See pages 13 through 15 for adjustment of rolling coulters.

The anti-friction bearing rolling coulter is equipped with a shear bolt to prevent possible serious damage to the coulter shank. For replacement of the shear bolt, use a 19H1899 cap screw.

WARNING LAMP AND REFLECTOR BRACKETS

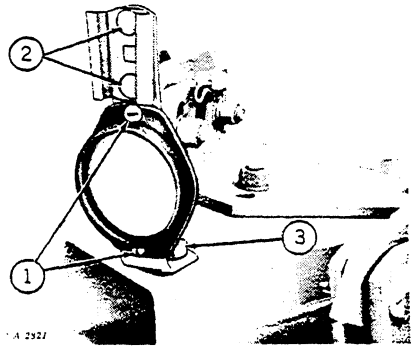
FRONT REFLECTOR AND BRACKET



1. Attach reflector to bracket.

2. Attach bracket to axle spring cap. *NOTE: Bracket should be positioned so the reflector is perpendicular to the line of travel of the front furrow wheel.*

REAR REFLECTOR, BRACKET, AND LAMP SOCKET



1. Bolt reflector to bracket.

2. Bolt lamp socket to bracket.

3. Attach bracket to truss box as shown above.

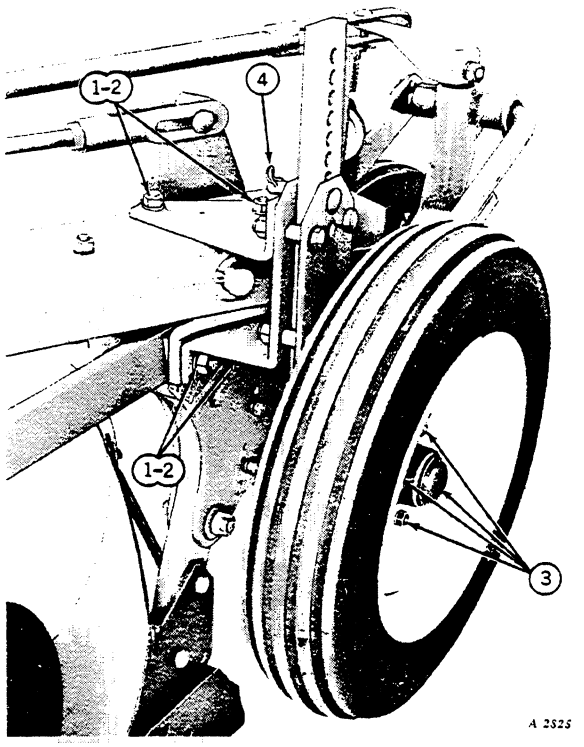
GAUGE WHEEL

1. Remove lock washers and nuts from bolts in truss box and front two bolts in rear standard.

2. Place gauge wheel support in position and replace bolts.

3. Attach wheel to hub.

4. Adjust gauge wheel for proper depth and secure with drilled pin and spring locking pin.



SCREW JACK AND TRANSPORT WHEEL

When moving plow without the tractor, such as loading or unloading plow from a truck, move the gauge wheel forward to the support bracket and use a screw jack to raise the plow.

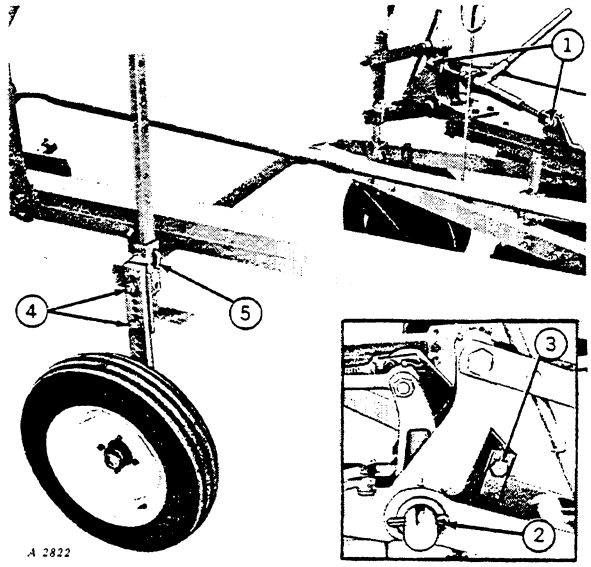
1. Attach screw jack to left-hand cylinder support and left-hand lift plate.

2. Remove right-hand lift plate and move cotter pin to inner hole on shaft.

3. Remove the stop from the right-hand lift plate and attach the stop to the left-hand lift plate.

4. Remove gauge wheel from bracket and attach to support with bolts provided.

5. Raise stand to transport position.



MEMORANDA

MEMORANDA

INFORMATION ABOUT UNITED STATES AND CANADIAN WARRANTY

The warranty on this machine or equipment comes from your John Deere dealer and is contained in the purchase agreement you sign. If you are purchasing the machine or equipment new, the dealer's warranty ordinarily contains the following provisions.

He agrees to replace parts which prove defective with normal and proper use within:

TWELVE MONTHS from date of delivery to you unless the machine or equipment is sold for industrial, construction or logging use.

SIX MONTHS from the first day of the month following the date on which you first use the machine or equipment if the machine is sold for industrial, construction or logging use.

He agrees to give a special warranty for sweeps, shovels, and extra-heavy-duty high-speed shares, based on wear instead of time of use.

He has no obligation to replace parts whose failure is related to modification or alteration of this machine or equipment in ways not recommended by the manufacturer. It is your obligation to bring the machine or equipment to his service shop or, if this is not possible, to reimburse him for his travel expense in fulfilling the warranty.

The dealer's warranty in the purchase agreement ordinarily does not cover batteries, rubber tires, radios, engines not of John Deere manufacture or used machines or equipment, and there is no warranty or other obligation on such items unless your dealer has delivered to you a certificate or other written statement which is separate from the purchase agreement and is designated "Warranty."

Certain other limitations on the obligation of the dealer and of others may be contained in the warranty in your purchase agreement.

Be sure to read the "Warranty and Agreement" in your purchase agreement, or your separate "Warranty," as there is no other warranty obligation, express or implied, including the implied warranties of merchantability and fitness, on this machine or equipment.

Note: The above summary of the provisions ordinarily found in the dealer's warranty was correct on the date of printing of this manual. The warranty you actually receive governs in case of any inconsistency with the summary.