

JA AND JBA DISK HARROWS



JOHN DEERE

OPERATORS MANUAL

JA AND JBA
DISK HARROWS

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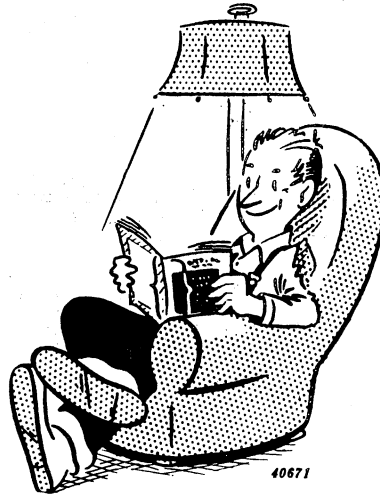
TO THE PURCHASER

Your new John Deere Model "JA" or "JBA" Disk Harrow is sturdy and dependable. It will give long and efficient service if given proper care and operation.

This Operator's Manual is provided to furnish information on the proper operation, adjustment, maintenance, and lubrication of your new disk harrow. A parts list, with illustrations, is provided.

When in need of parts, see your John Deere dealer. He will furnish genuine John Deere parts and prompt and efficient service in the field or shop.

Study this manual carefully. Keep it handy, in a safe place, for future reference.



Right-hand and left-hand reference is determined by standing at the rear of the harrow and facing the direction of travel.

JOHN DEERE MODELS "JA" AND "JBA" TRACTOR DISK HARROWS

Model.....Size.....ft.

No. of Disks.....Date purchased.....19.....

(To be filled in by Purchaser)

(Specification and design subject to change without notice.)

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INTRODUCTION

The John Deere Model "JA" Harrow consists of one set of front gangs with drawbar and scrapers. By adding rear frame, gangs, and scrapers the harrow becomes a Model "JBA."

Both the John Deere Model "JA" and "JBA" Disk Harrows are available in 5-, 6-, 7-, 8-, and 10-foot sizes.

Each harrow comes equipped with a rope control. However, adapter parts can be furnished for hydraulic operation with John Deere Tractors or the hydraulic system of any tractor using a remote cylinder that conforms with ASAE—SAE standards. The Touch-o-matic control attachment for use with the "M" and "MT" Tractors can also be furnished.

Trailer hitch, middlebreaker attachment, and scraper rope levers also may be ordered as extra equipment.

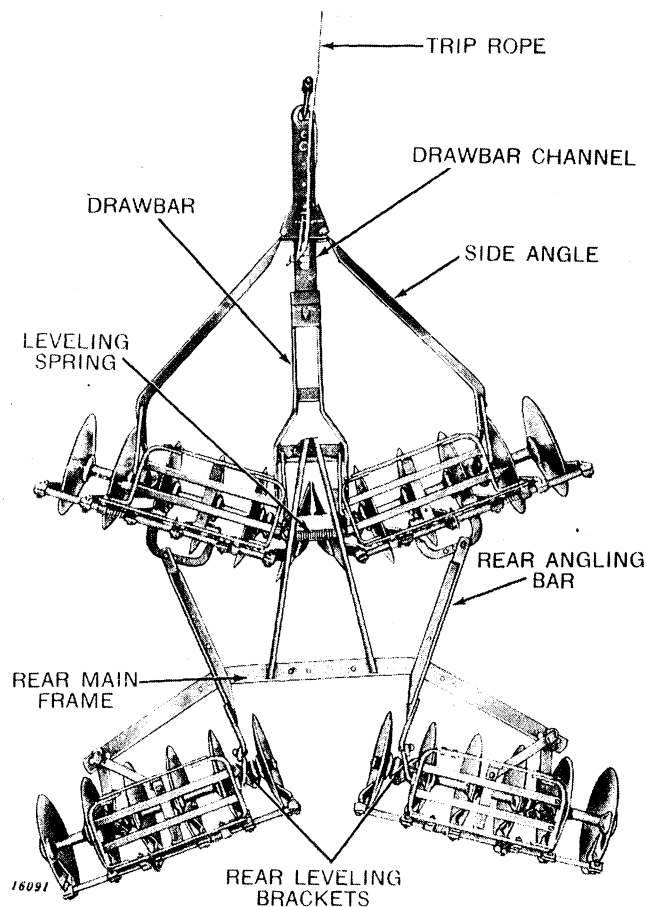


Figure 1—Model "JBA" Disk Harrow

OPERATION

3

HITCH.

For best performance, the point at which harrow is attached to tractor drawbar should be about 12 inches high. Raising hitch will cause inner ends of rear gangs to cut shallower, while lowering hitch will cause inner ends of rear gangs to cut deeper. Tractor drawbar should be set in swinging position.

ROPE CONTROL.

Angling Gangs. To angle gangs, first place drawbar in cocked position by pulling trip rope and backing tractor until drawbar is fully telescoped. With rope released, drive forward and gangs will immediately assume full cutting angle.

If less than full cutting angle is desired and gangs are in full angle at the time, pull trip rope, move forward slowly until gangs are in desired angle, and drop latch into nearest slot in drawbar. If less than full angle is desired at the start, engage latch in the slot wanted while backing tractor to cock drawbar.

Straightening Gangs. Gangs are straightened by pulling trip rope while moving forward. Gangs can also be straightened by backing tractor without pulling rope until gangs are straight. Then pull rope and go forward.

Clearing Gangs. Should gangs clog up in extremely trashy conditions, they can be cleared quickly by merely backing tractor without pulling the rope. This straightens the gangs and clears the trash. Gangs can also be straightened enough to relieve load when in danger of stalling tractor by pulling trip rope while moving forward.

SCRAPERS.

Scraper throw-out cams, Figure 5, make it easy to throw scrapers away from contact with disk blades. Scraper levers and ropes may be attached to scraper bars to make it possible to oscillate scrapers from the tractor seat. Levers are extra equipment.

OPERATING EXTRA ATTACHMENTS.

Hydraulic Remote Cylinder Adapter. For remote cylinder operating instructions refer to the Tractor Manual which contains very important instructions for operating and adjusting the cylinder and for attaching or detaching hoses. The adapter also works with the hydraulic system with any other tractor using a remote cylinder that conforms with ASAE-SAE standards. Read the instructions carefully before operating the harrow. For attaching to harrow refer to Page 15.

Touch-o-matic Control Attachment for "M" and "MT" Tractors. To angle gangs, pull Touch-o-matic lever to the rear. The chain attached to lift bar pulls gangs into angle. Gangs can be angled while tractor is moving forward or standing still. To straighten gangs, push Touch-o-matic lever forward. Gangs can be straightened only when tractor is moving forward. For attaching Touch-o-matic control to harrow refer to Page 16. For more information on operating and adjusting the Touch-o-matic mechanism refer to the Tractor Operator's Manual for the "M" or "MT" Tractors.

TRANSPORTING.



When transporting the 8- or 10-foot disk harrow on a public road at night or during other periods of poor visibility, use a warning lamp in the socket provided on the extreme left-hand side of the disk harrow.

ADJUSTMENTS

LEVELING GANGS.

If outside ends of front gangs are cutting too deep, tighten set screws, Figure 2, until gangs run level. If outside ends cut too shallow, loosen set screws. If unscrewing set screws until tension spring is loose does not make outer ends of front gangs cut deep enough, lower the hitch.

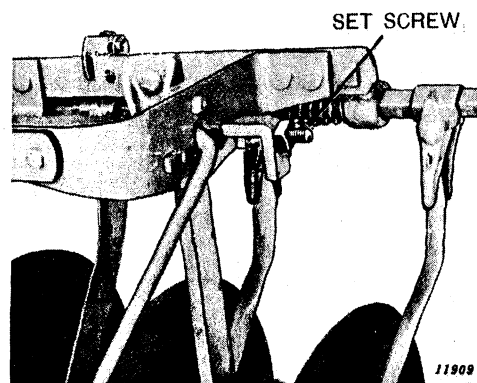


Figure 2—Adjustment for Leveling Gangs

The rear leveling brackets provide necessary adjustment for making rear gangs cut level. If inner ends of rear gangs cut too deep, lower the angling bars at "A," Figure 3. If inner ends cut too shallow, raise rear angling bars. If rear gangs do not cut the same on both sides, it may be necessary to adjust *only one* rear angling bar up or down at "A," Figure 3. Also see "Hitch" on page 3.

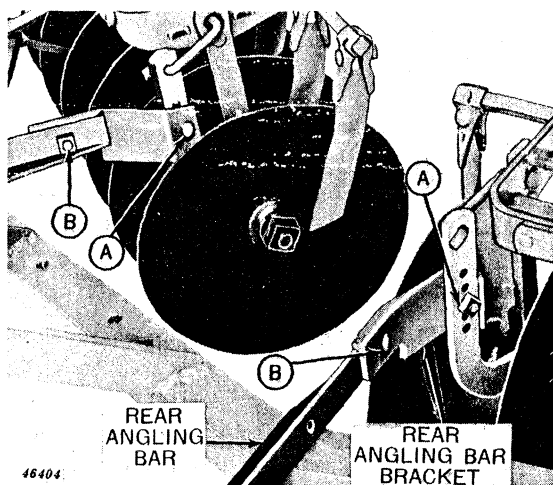


Figure 3—Adjustment of Rear Angling Bars

ADJUSTING TO OPERATE REAR GANGS AT ANGLE WHILE FRONT GANGS REMAIN IN STRAIGHT POSITION

This adjustment may be used for filling in dead furrows and ditches. Remove bolts "B," Figure 3, and move the inside ends of the rear gangs forward enough so the second hole in rear angling bars and angling bar brackets line up. Insert bolts through holes and tighten nuts.

ADJUSTING TO OPERATE REAR GANGS AT LESS ANGLE THAN FRONT GANGS.

When angling bars are in the position shown in Figure 4, rear gangs will operate at full cutting angle. Moving the angling bars toward center of harrow will reduce angle assumed by rear gangs when in cutting position. Pins "A," Figure 4, are quick detachable so this adjustment can be made easily.

CHANGING POSITION BETWEEN REAR GANGS.

To increase the distance between rear gangs, remove bolts "B," Figure 4. These bolts are threaded into rear main frame and, therefore, must be unscrewed to remove. Pull gangs apart and replace bolts in hole "C," Figure 4. For narrow adjustment of rear gangs, bolts are secured in position "D," Figure 4. **BE SURE THESE BOLTS ARE NOT PULLED UP TOO TIGHTLY AFTER ADJUSTMENT IS MADE.** Lock bolts by means of nut locks and lock washers.

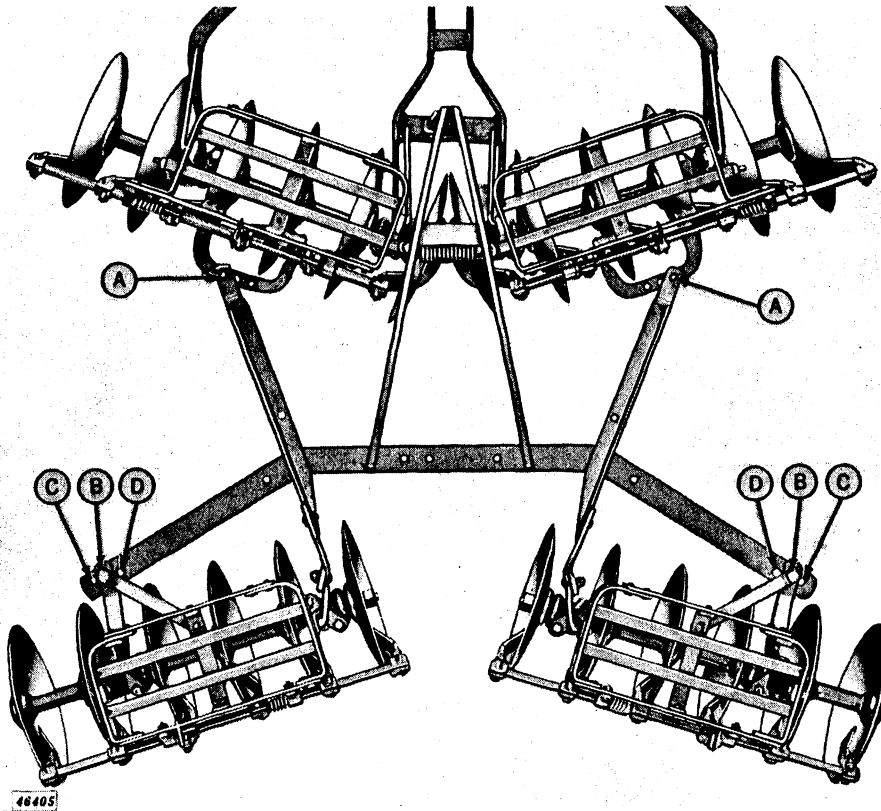


Figure 4—Rear Gang Adjustments

SCRAPERS.

Scraper throw-out cam, Figure 5, makes it easy to throw scrapers away from contact with disk blades.

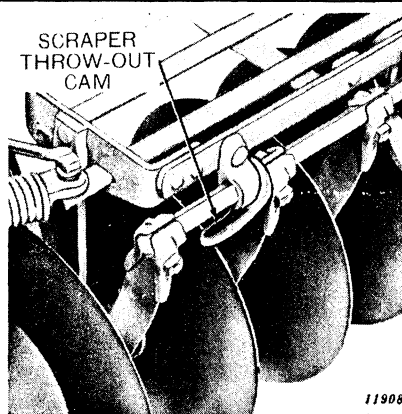


Figure 5—Scraper Throw-Out Cam

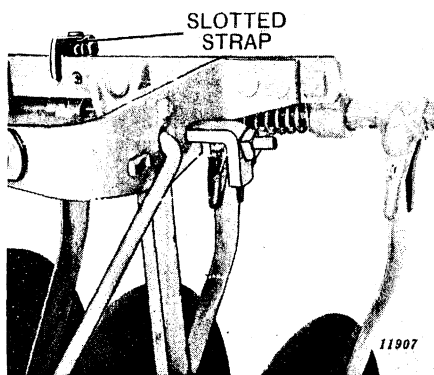


Figure 6—Scraper Blade Adjustment

A slotted strap, Figure 6, is provided so scraper blades can be placed in any desired position against disk blades and held in place by tightening bolt in slot.

Scraper levers, Figure 7, and ropes may be attached to scraper bars so it is possible to oscillate scrapers from tractor seat. Levers are extra equipment.

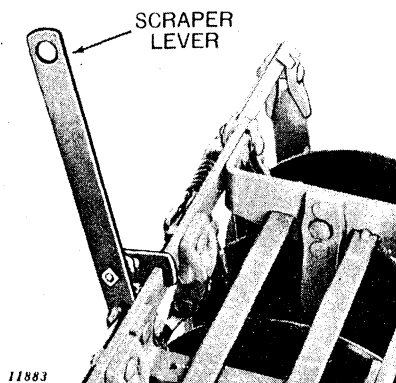


Figure 7—Scraper Lever

LUBRICATION

Grease the bearings generously through fittings provided. Your disk harrow is equipped with special hard alloy metal bearing spools and boxes which give extremely long life. For best results, lubricate bearings with a heat-resistant pressure gun grease such as Mobiloil Grease No. 2, Shell-Retinax A, Texaco-Marfak No. 1, Standard Oil-Stanobar No. 2, or any other comparable grease made by a reputable refiner.

STORING THE DISK HARROW

By removing three pins, the rear section can be quickly detached from the front section. Rear gangs can then be locked in a straight position by inserting two of the pins through rear angling arms into holes provided in rear main frame. Both sections can then be easily maneuvered into the position shown below. Notice the small amount of storage space required.

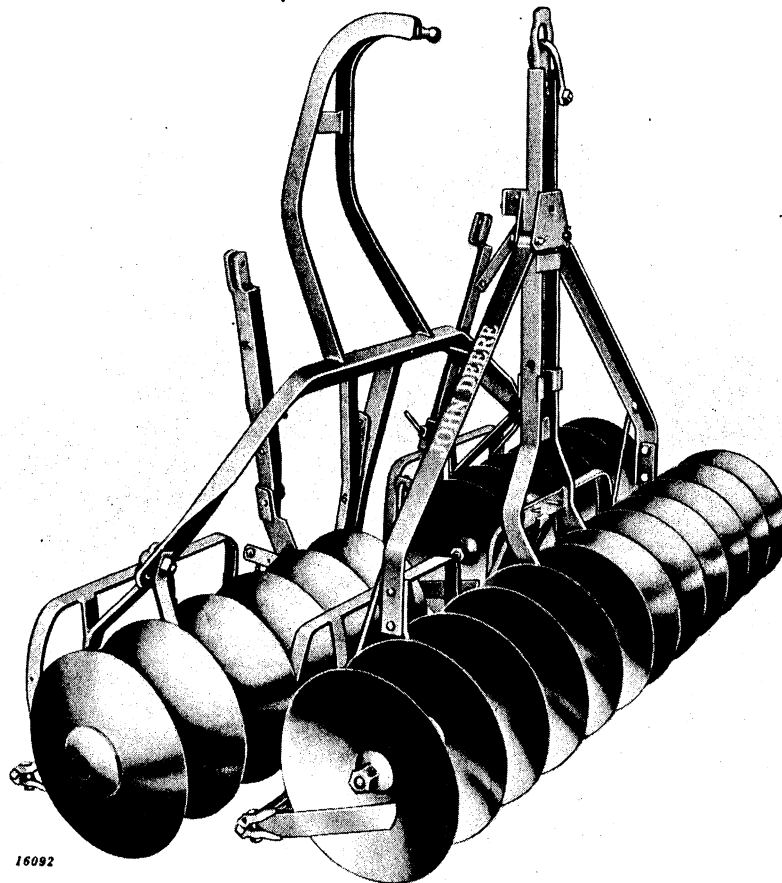


Figure 8

ASSEMBLY

GANGS

The four gang frames with gang bolts, bearings, and spools are shipped in one bundle. The gang frames are stenciled right front, left front, right rear, and left rear. Arrange the gang frames on the floor or ground in this order. Remember, the disks on the front gangs throw the dirt out and the disks on the rear gangs throw the dirt in.

Remove bearings and plain spools from gang bolts.

REAR GANGS

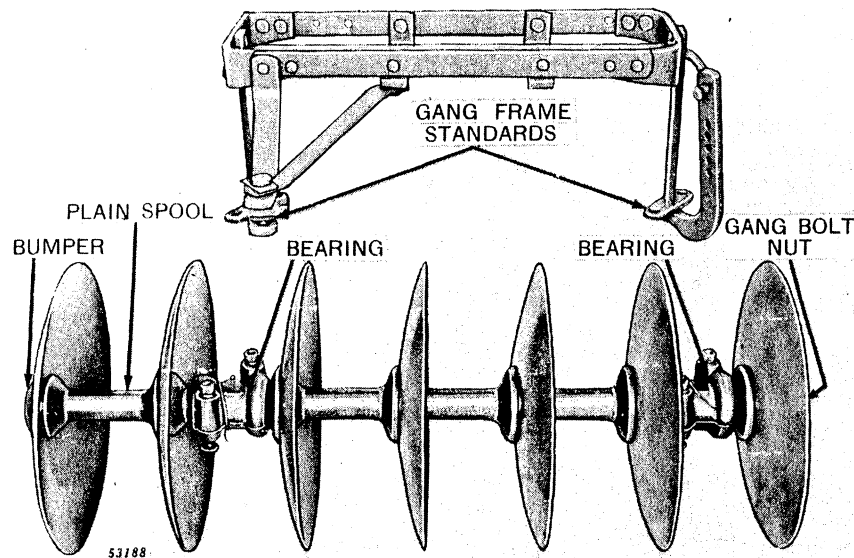


Figure 9—Right Rear Gang—7-Foot Size

Some gangs are equipped with two bearings and others are equipped with three bearings. In either case, always use the gang frame standards as a guide for placing bearings on gangs.

Install a disk blade next to the bumper on the gang bolt then proceed as follows: On the 5-ft. size install a bearing next to the first disk. On the 6-ft. size install a plain spool next to the first disk. On the 7-ft. size install a plain spool next to the first disk. On the 8-ft. size install a plain spool next to the first disk and a plain spool next to the second disk. On the 10-ft. size install a plain spool next to the first disk.

Proceed as described above, using the gang frame standards as a guide, so the gang will be assembled correctly.

FRONT GANGS

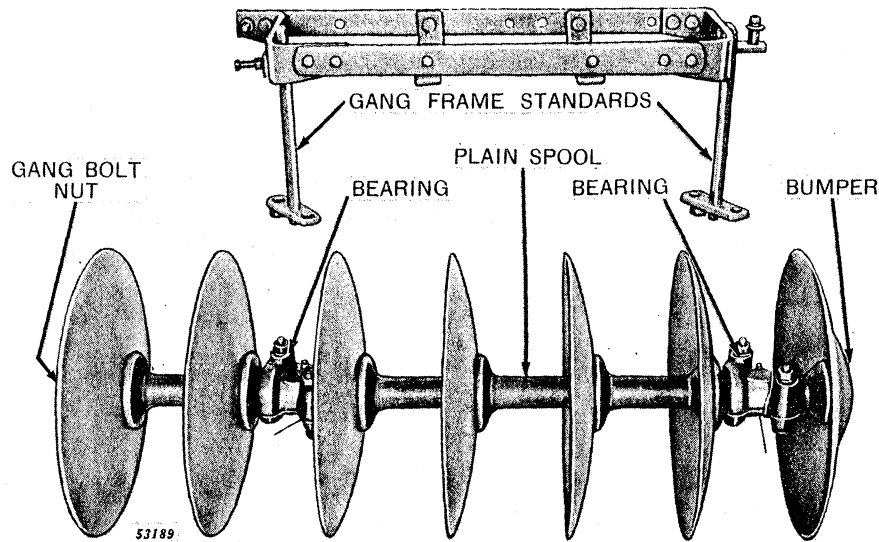


Figure 10—Right Front Gang—7-Foot Size

Always use the gang frame standards as a guide for placing bearings on gangs.

Install a disk blade next to the bumper on the gang bolt. Next install a bearing, then a disk blade and then a plain spool. Proceed in this manner, making sure that a bearing is installed in the proper place to line up with the bearing standard on the gang frame.

Note that the attaching bolts on the bearings, on both the front and rear gangs, are set at an angle. Be sure they are assembled on the gang frame so the bolts will line up with the holes in the gang frame standard.

GANG BOLT NUTS

1. Tighten the gang bolt nut very tight with the flat side of the nut to the outside. After the nut is tightened, tap the bumper end of the gang bolt with a hammer, and then re-tighten gang bolt nut.

2. Bend the lock nut down over gang bolt nut.

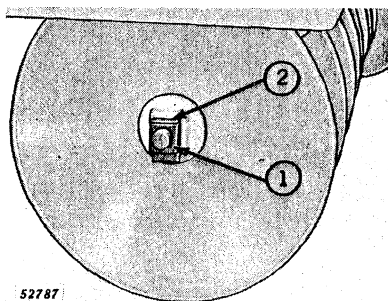


Figure 11

GANG FRAMES AND GANGS

After assembling the disk blades on all four gangs, roll each disk gang in place so the holes in the disk bearings line up with the holes in the gang frame standards.

Bolt the disk gangs to gang frame standards.

ASSEMBLING MODEL "JA" AND FRONT SECTION OF MODEL "JBA" INSTALL FRONT SIDE ANGLES

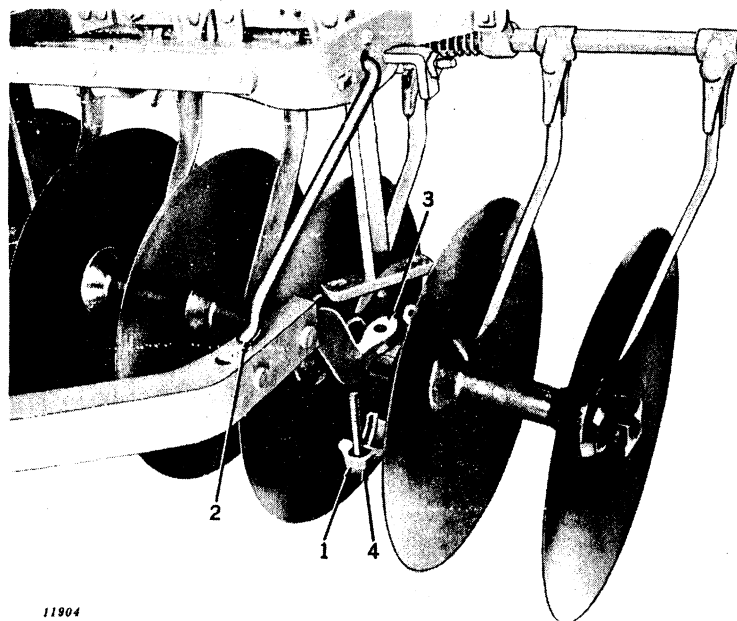


Figure 12—Front Side Angle and Link

1. Remove the bottom half of the disk bearing, under the standard, where the side angle is to be installed.
2. Insert link in side angle.
3. Install side angle.
4. Re-install bottom half of bearing, but do not tighten nuts. **CAUTION:** The bearings must be reinstalled with the grease fitting in the top half to the rear. The bottom half contains a grease groove which must be under the grease fitting.

INSTALL LINKS AND DRAWBAR

1. Remove bottom half of inside bearings on both front gangs.
2. Insert links into drawbar.
3. Place drawbar in position on top of inside bearing boxes.
4. Lower ends of gang frames so forged pin on bottom of gang frame standard fits into holes in drawbar.
5. Re-install bottom half of bearings and observe the same caution as when reassembling the outer bearings for the side angles.

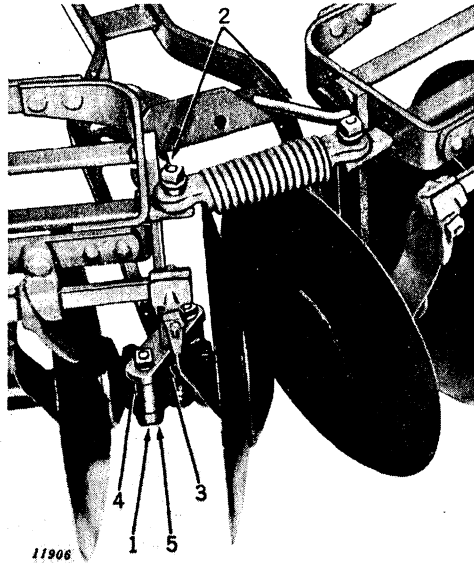


Figure 13—Links and Drawbar

Tighten all bearing bolts and attach front ends of side angles to drawbar.

ATTACH TENSION SPRING

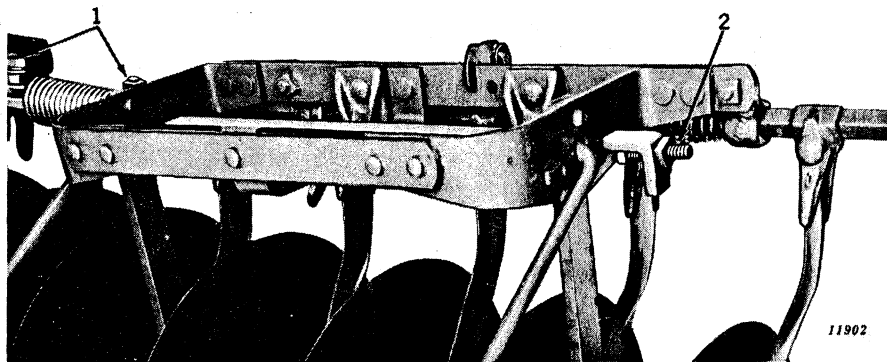


Figure 14—Tension Spring, Leveling Bar, and Set Screw

1. Attach tension spring to leveling bars between front gangs with bolts provided.
2. Tighten set screws to apply tension to hold the inner ends of gangs down. When setting up Model "JBA" adjust set screws so there is no tension on spring when gangs are level. (See "Leveling Gangs" on Page 4.)

**ASSEMBLY REAR SECTION OF
MODEL "JBA"**
ATTACH REAR MAIN FRAME AND REAR GANG FRAMES

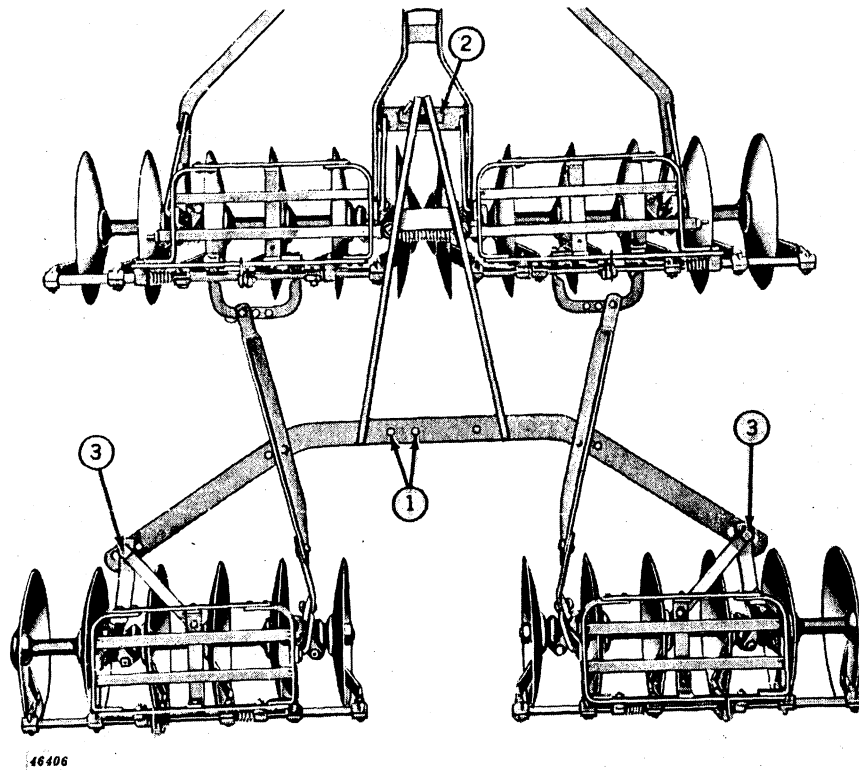


Figure 15—"JBA" 6-foot Disk Harrow in Transporting Position

1. Remove socket joint which will be found bolted to rear main frame at holes "1."

2. Attach rear main frame socket joint to front of cross brace on drawbar.

3. Block up extreme ends of rear main frame approximately 14 inches high and remove the 3/4-inch bolts found in rear gang frames at "3."
NOTE: These bolts must be loosened with wrench because lower pivot bar is tapped. Attach rear gang frames to rear main frame with 3/4-inch bolts using middle holes as at "3." The head of bolts must be to the top with the flat bolt lock washer directly under head of bolt. **Do not pull bolts down too tightly as the rear gangs must pivot on these bolts.** Lock bolts in place with lock nuts underneath and with bolt lock washers on top by bending one end of washer up against bolt head and other end down over edge of pivot brace.

ATTACH REAR ANGLING ARMS AND BAILS TO REAR OF FRONT GANGS

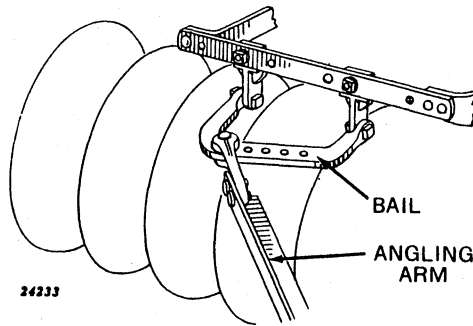


Figure 16

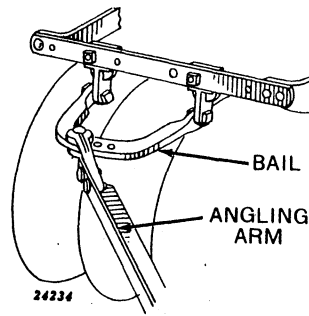


Figure 17

Install rear angling arm bails to rear of front gang frames as shown in Figures 16 and 17.

The attaching castings must be installed from the underside of frame and to the inside. Be sure the bails are attached to castings correctly. Figure 16 shows the necessary position of the bail for the 7-, 8-, and 10-foot sizes of harrows. Figure 17 shows the position of the bail for the 5- and 6-foot sizes. Both of these illustrations show the left front gang. The positions of the bails shown are reversed for the right front gang.

ATTACH REAR ANGLING BARS TO LEVELING BRACKETS

1. Attach rear angling bars to leveling brackets, using third hole not counting the large hole at the top to which gang link is fastened.

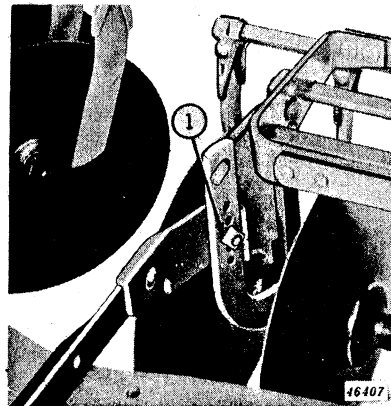


Figure 18—Rear Angling Bar and Leveling Bracket

ATTACH SCRAPERS

One bundle of scrapers is shipped for front gangs and one bundle for rear gangs.

1. Attach front scrapers and scraper bars to gang frame with bolts provided.

Attach rear scrapers and scraper bars to gang frame with bolts provided.

2. Hook curved end of scraper spring around scraper clamp. Do not set scrapers too tightly against disk blades. Disk gangs should be free to revolve easily.

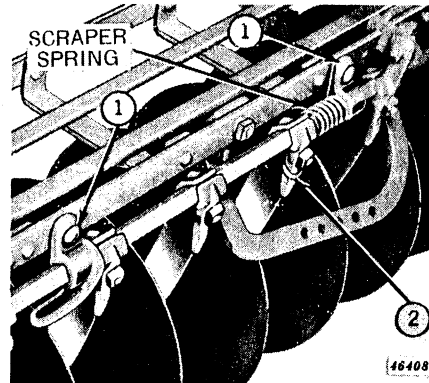


Figure 19—Right Front Scrapers and Scraper Spring

WARNING LAMP BRACKET SOCKET AND REFLECTIVE TAPE BRACKET FOR 8- AND 10-FT. "JA" AND "JBA" HARROWS

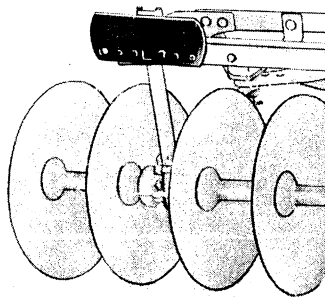


Figure 20

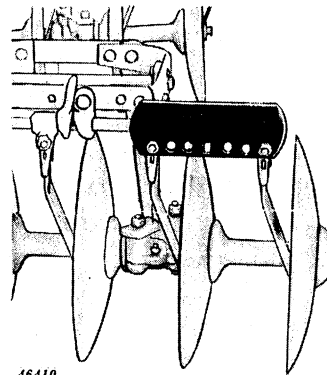


Figure 21

On the 8- and 10-foot sizes, two brackets were wired to the left front gang. Assemble the bracket with the reflective tape and lamp socket on the left rear gang. For harrows less scrapers, assemble as shown in Figure 20. For harrows with scrapers, assemble bracket to scraper bolts. Assemble bracket with reflective tape to right rear gang as shown in Figure 21.

Strip off black protective mask to expose red reflective tape.

ATTACHMENTS

INSTALL HYDRAULIC REMOTE CYLINDER ADAPTER

No. 1 Remote Cylinder Adapter is for the Models "JA" and "JBA" 5-, 6-, 7- and 8-foot sizes.

No. 2 Remote Cylinder Adapter is for the Models "JA" and "JBA" 10-foot size.

Before attaching the adapter parts be sure to set the latch dog in the forward slot in channel drawbar. The latch dog must be in the forward slot when hydraulic cylinder is used to angle and straighten the gangs.

1. Remove bolt and pin, Figure 22, so welded pins at the bottom of control lever can be spread far enough to slip into holes provided in drawbar. Install pin in lower hole for "JA" or "JBA" 5- and 6-foot sizes. Install pin in upper hole for 7-, 8-, and 10-foot sizes.

2. Bolt bracket to drawbar channel with two carriage bolts.

3. Install hydraulic cylinder. Place front end in position without removing pin, but remove other pin to attach rear end which is the piston end of the cylinder. Harrow can now be angled and straightened at any time by operating remote cylinder control lever on tractor.

4. Install hose holder on the left side of the harrow drawbar. The hose holder holds the excess length of both hoses off the ground by means of the hose support standard which is held vertical by the tension spring as shown. Should the harrow break away from the tractor, the spring will permit the standard to swing forward, allowing the hoses to straighten out before they break away from the tractor. After hoses break away from tractor, the standard will return to the vertical position holding the ends of the hoses out of the dirt.

CAUTION: Before operating disk harrow, be sure to oil all sliding members of drawbar as well as pivot points of adapter parts. Be sure rope latch dog is in forward slot.

If the disk harrow is used at any time with a tractor not having a remote control cylinder, it can be controlled by a rope as explained on page 3. It is not necessary to remove adapter attaching parts when using rope control.

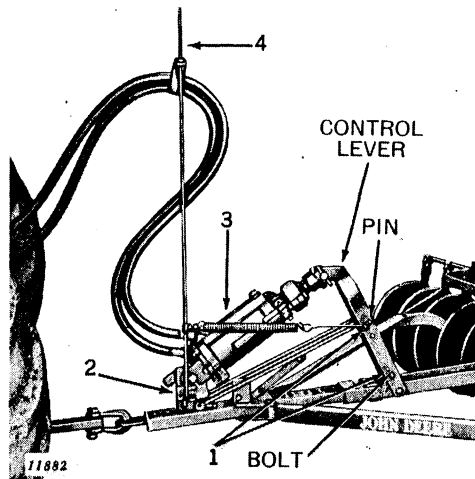


Figure 22—Remote Cylinder Adapter Attachment

INSTALL TOUCH-O-MATIC ADAPTER ATTACHMENT Models "M" and "MT" Trac- tors.

Lock drawbar of tractor in lowest position and disconnect linkage from drawbar.

Attach lift bar to lower ends of rockshaft lift links.

Fasten chain sheave guide to harrow drawbar and tractor drawbar.

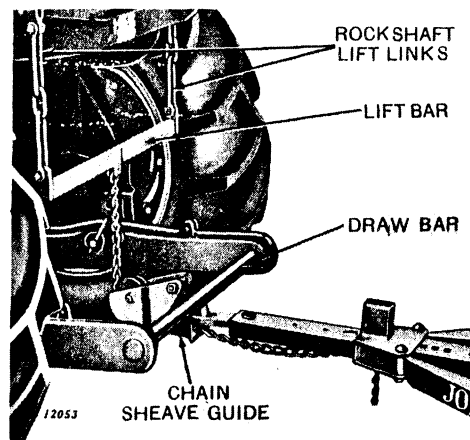


Figure 23—Touch-o-matic Adapter Attachment

Raise power lift on tractor to extreme raised position.

Remove latch lever and latch dog from harrow drawbar.

With disk harrow in angled position, run chain on bottom side of drawbar channel and through slot in sliding latch box. Pull chain through slot and hold by means of washer and cotter (see Figure 24).

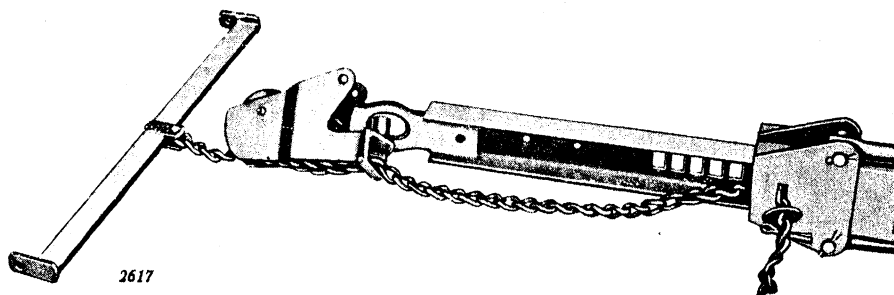


Figure 24—Underside of Touch-o-matic Adapter Attachment

SEMI-RIGID FRONT LEVELING DEVICE.

A Semi-Rigid Leveling Device can be furnished for use in extremely loose ground conditions where the inner ends of front gangs penetrate too deeply with the regular spring leveling device, even though no tension is exerted on the spring. The Semi-Rigid Device provides means of applying pressure on the outer ends of front gangs through a turnbuckle and eye-bolts.

INSTALL TRAILER HITCH.

A trailer hitch, available as extra equipment, may be attached to harrow by bolting to frame as shown in Figure 25.

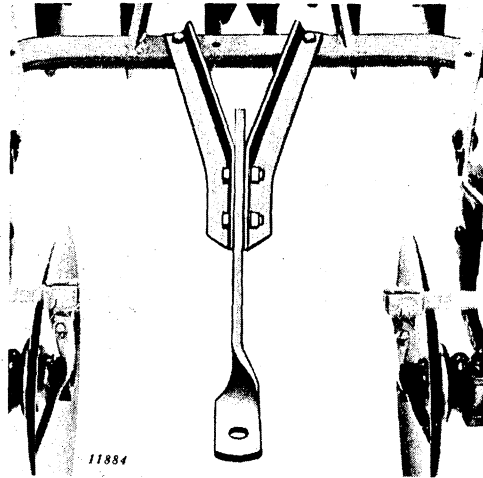


Figure 25—Trailer Hitch

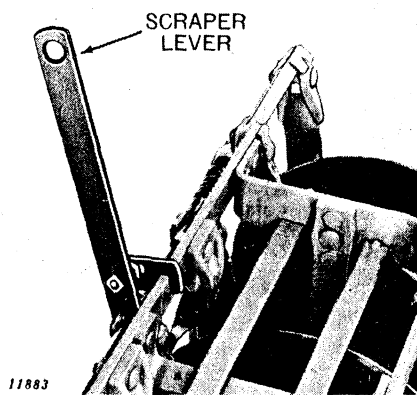


Figure 26—Scraper Lever

INSTALL SCRAPER LEVERS.

Scraper levers may be attached to scraper bars as shown in Figure 26. Ropes can be attached to the levers, making it possible to oscillate scrapers from tractor seat. Levers are available as extra equipment.

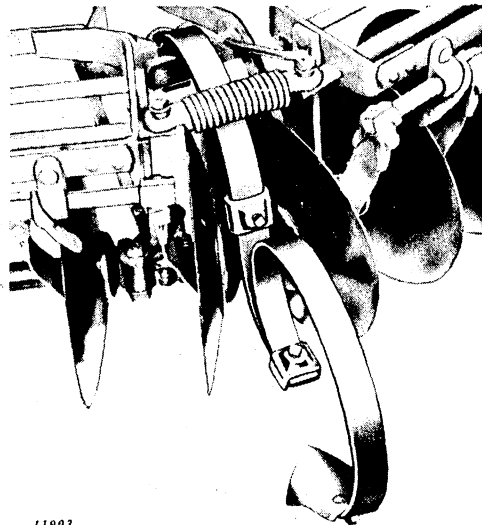


Figure 27—Middlebreaker Attachment

INSTALL MIDDLEBREAKER ATTACHMENT.

A middlebreaker attachment is available as extra equipment. Attach by bolting to drawbar as shown in Figure 27.

