331 WING-FOLD POWER-FLEX™ DISK

JOHN DEERE

OPERATORS MANUAL

331 WING-FOLD
POWER-FLEX™ DISK

OMA37759 K8 English

PLOW & PLANTER WORKS
OMA37759 K8

LITHO IN THE U.S.A.
ENGLISH

To the Purchaser

This new disk was carefully designed and manufactured to give years of dependable service. To keep it running efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need — whether it is operation, lubrication, or service. Read "Contents" to learn where each section is located.

In addition to the equipment furnished with your disk, attachments are available to help you do a better job in special crop conditions. These are described in the attachment section of this manual and can be purchased from your John Deere dealer.

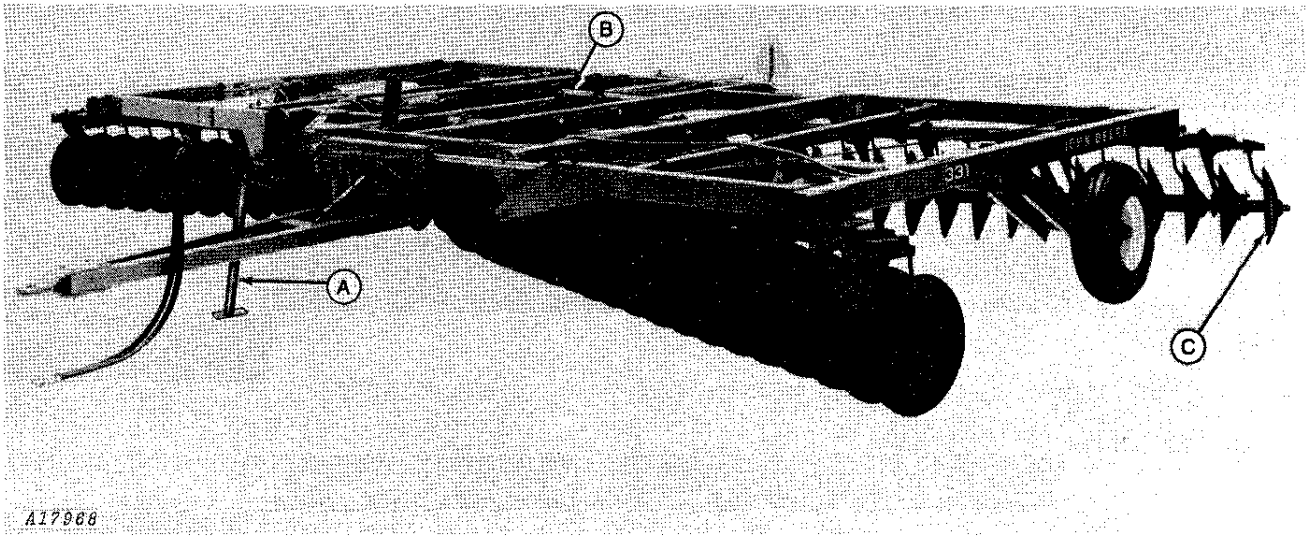
"Right-hand" and "left-hand" sides are determined by facing in the direction the disk will travel when in use.

Record your disk serial number in the space provided on page 53. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments. If your disk requires replacement parts, go to your John Deere dealer where you can obtain genuine John Deere parts — accept no substitutes.

The warranty on this disk appears on your copy of the purchase order which you should have received from your dealer when you purchased the disk.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Because John Deere sells its products worldwide, U.S. units of measure are shown with their respective Metric equivalents throughout this operator's manual. These equivalents are the SI (International System) Units of Measure.



A - Hitch Jack **B - Leveling Rod and Spring** **C - Furrow Filler**

John Deere 331 Wing-Fold Power-Flex Disk — 27-Foot, 1-Inch (8.3 m) Width (Front View)

Contents

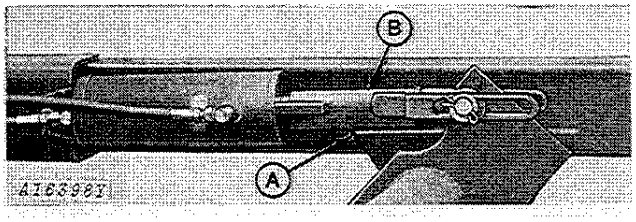
Safety Suggestions

GENERAL

⚠ The safety of the operator was one of the prime considerations in the minds of John Deere engineers when this disk was designed.

You can make your farm a safer place to live and work if you observe the safety suggestions given. Study these suggestions carefully and insist that they be followed by those working with you and for you.

TRANSPORTING



A - Retainer Pin **B - Safety Lock**

Before transporting the disk, fold the extension gangs and fully extend the wheel frame hydraulic cylinders. Position safety locks as shown, then relax cylinders to prevent damage to cylinders. Install spring locking pins.

When transporting the disk on a smooth surface road, do not exceed maximum tractor transport speed. Reduce speed considerably when traveling over rough ground.

When transporting disk 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. Lights and devices may be obtained from your John Deere dealer.

HYDRAULIC OIL

Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged.

Hydraulic oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to seach for suspected leaks.

If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

OPERATION

Be careful when operating the disk to avoid injury.

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

When removing self-adjusting scrapers for any reason, always remove scraper which has spring attached to upper portion of tension lever first. See page 19. When installing scrapers, always install this scraper last. Wear protective gloves to prevent injury from cutting edges of disk blades or scraper blades.

Never clean, lubricate, or adjust a disk that is in motion.

Park or block the disk so it will not roll when disconnected from the tractor drawbar.

When leaving the tractor and disk, connect safety locks or lower the disk to the ground.

Only one person — the operator — should be permitted on the tractor platform while tractor and disk are in operation.

Be careful when operating on hillsides because the tractor may tip sideways if it strikes a hole, ditch, or other irregularity.

Preparing for Use

PREPARING THE DISK

(20'10", 21'4", 24'2", 24'4", 27'1", 27'10" [6.4, 6.5, 7.4, 7.4, 8.3, 8.5 m] size disks) Inflate 11L-15, 6 PR disk tires to 30 psi (2.1 bar) (2.1 kg/cm^2) of air pressure.

(30'1" and 31'4" [9.2 and 9.5 m] size disks) Inflate 11L-15, 8 PR disk tires to 40 psi (2.8 bar) (2.8 kg/cm^2) of air pressure.

Lubricate the disk as instructed on page 25.

Be certain all bolts are tightened securely. See torque chart on page 26.

PREPARING THE TRACTOR

General

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.

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.

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

Tractor Drawbar

Place tractor drawbar with offset in lower position. Secure drawbar with retainer bolts when disking and transporting.

Rockshaft Selector Lever

Set the rockshaft selector lever in "Zero," "Min" or "D" position depending upon your model tractor. This will lock out the tractor rockshaft hydraulic sensing system.

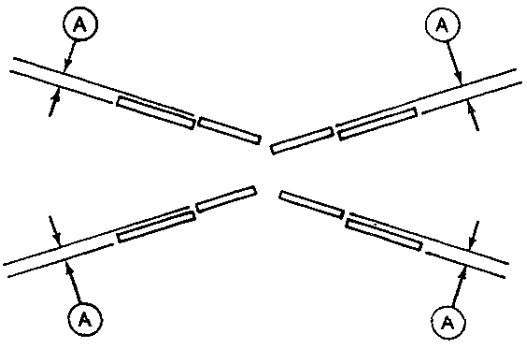
Rockshaft Height Stop (4630, 4640, 4840, 8430, 8440, 8630 and 8640 Tractors)

If the tractor rockshaft is accidentally lowered with a Quik-Coupler hitch on the tractor, damage can occur to the 331 Disk hitch when turning the tractor.

To prevent accidentally lowering the rockshaft while operating the disk, install AR60331 rockshaft height stop. Installation instructions are provided with the stop.

INITIAL SETTINGS

CHECKPOINT	CORRECT SETTING OR LOCATION	ADJUSTMENT
Tractor Drawbar	Pin offset in down position to prevent swinging.	
Transport Position	Level frame front to rear	Adjust turnbuckle. To raise front, lengthen turnbuckle. To lower front, shorten turnbuckle. See page 9.
Front Gang Angle	For most soil conditions, set front gangs at maximum gang angle. In loose or sandy soil, set front gangs at minimum gang angle. See pages 14-17.	
Rear Gang Angle	For most soil conditions, set rear gangs at same angle as front gangs. See pages 14-17. Set gang angle the same side-to-side. Be sure that main frame gangs are parallel (A) to wing frame gangs. See illustration at right.	
Blade Profile	For most soil conditions, set rear gangs at 50-50 blade profile. In extremely hard ground, set for 70-30 blade profile. Set rear main and wing gangs for same blade profile. See page 13.	



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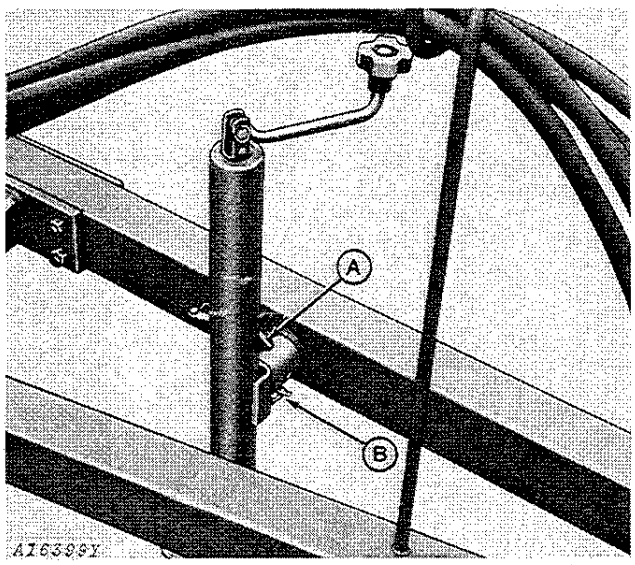
A - Parallel

Be sure wing gangs and main gangs are set for the same gang angle. Check to see that spacer strap is located between inner wing frame and gang tube.

CHECKPOINT	CORRECT SETTING OR LOCATION	ADJUSTMENT
Position of Wings	Disk must be level side-to-side.	Adjust cylinder mount(s) (page 12) and/or connecting line (page 27).
Disk Depth	Operator's preference	Use same quantity and thickness of depth stops on wheel and wing frame hydraulic cylinders. See page 23.
Front to Rear Leveling	Rear gangs should touch one to two inches before front gangs when disk is lowered onto a level surface.	Tighten spring adjusting nut to raise front of disk. Loosen spring adjusting nut to lower front of disk. See page 11.
Rephase Lift Cylinders	Disk must be level side-to-side.	Each time disk is fully raised, hold remote cylinder operating lever back briefly to rephase lift cylinders and relevel disk.
Operating Speed	Operate disk between 4 and 6 mph (6.4 and 9.7 km/h). Reduce speed in rocky conditions.	

Attaching and Detaching

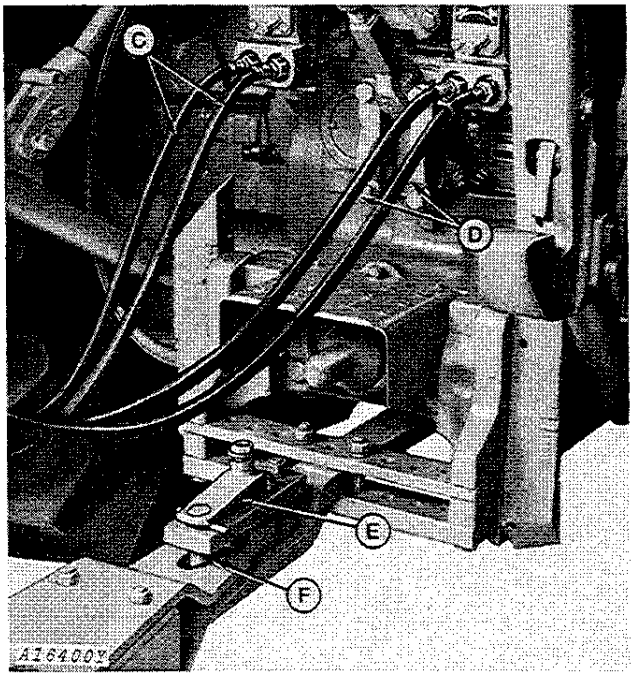
ATTACHING TO TRACTOR



A - Retainer Pin **B - Quik-Lock Pin**

Jack Positioned for Attaching

Back the tractor up to the disk. Secure jack in vertical position with retainer pin (A) and Quik-Lock pin (B). Raise hitch to drawbar height with jack.

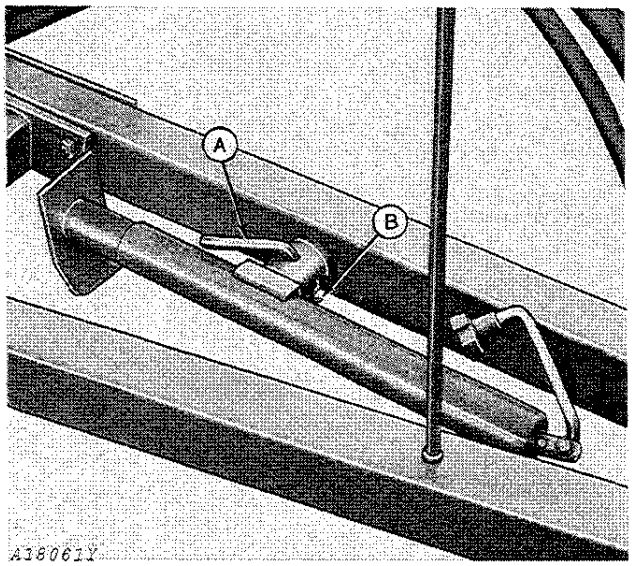


C - Hoses From Wheel Frame Cylinders **E - Pin Retainer**
D - Hoses From Wing Cylinders **F - Drawbar Pin**

Back tractor into position and attach to disk with drawbar pin (F). Secure drawbar pin with pin retainer (E).

CAUTION: To avoid injury from escaping hydraulic oil under pressure, relieve the pressure in the system by shutting off tractor engine and moving remote cylinder operating levers in both directions before attaching hoses to breakaway couplers.

Install hydraulic hoses (C) from wheel frame cylinders in tractor breakaway coupler No. 1 and hoses (D) from wing cylinders in breakaway coupler No. 2. Position hoses in each outlet so wheel frame cylinders will extend to lift the disk and wing cylinders will retract to fold gangs when remote cylinder operating levers are moved rearward.



A - Retainer Pin **B - Quik-Lock Pin**

Jack Positioned For Field Use

Raise jack, remove jack retainer pin (A) and swing jack into horizontal position as shown for field operation.

Replace retainer pin (A) and secure with Quik-Lock pin (B).

Checking Hydraulic System

After attaching disk to tractor for the first time, check all hydraulic connections, lines, and hoses for leaks.

⚠ CAUTION: Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged.

Hydraulic oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

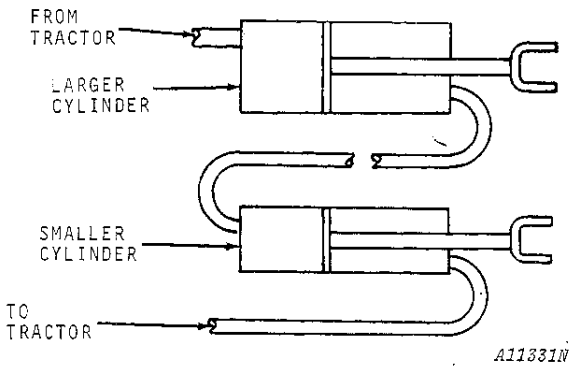
If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

NOTE: If the hoses have been disconnected from the hydraulic cylinder or if the cylinder has not been used before, all trapped air must be removed from the cylinder.

To bleed air from the hydraulic cylinders and hoses it may be necessary to raise and lower the disk several times until all air is removed from the hydraulic hoses.

Rephasing Wheel Frame Lift Cylinders

The wheel frame cylinders on the 331 Disk use 4- and 4-1/4-inch (100 and 110 mm) cylinders with a rephasing design. These cylinders, connected in series, are used to maintain level wings when using the hydraulic system to regulate disking depth and to maintain level lift when raising the disk.



The larger 4-1/4-inch (110 mm) cylinders are used on the center main frame section. The smaller 4-inch (100 mm) cylinders are used on the wing frames. When a certain amount of oil is forced into the larger cylinders, a proportionate amount of oil enters the smaller cylinders extending both cylinders the same distance.

Extending the cylinders completely, forces any excess oil from the system, thus "rephasing" the cylinders to maintain level action of the wings.

If wings do not raise level with main frame, rephase the cylinders by extending them all the way to the lifted position. Hold the lever to allow excess oil to pass through the cylinders until wings become level with the main frame.

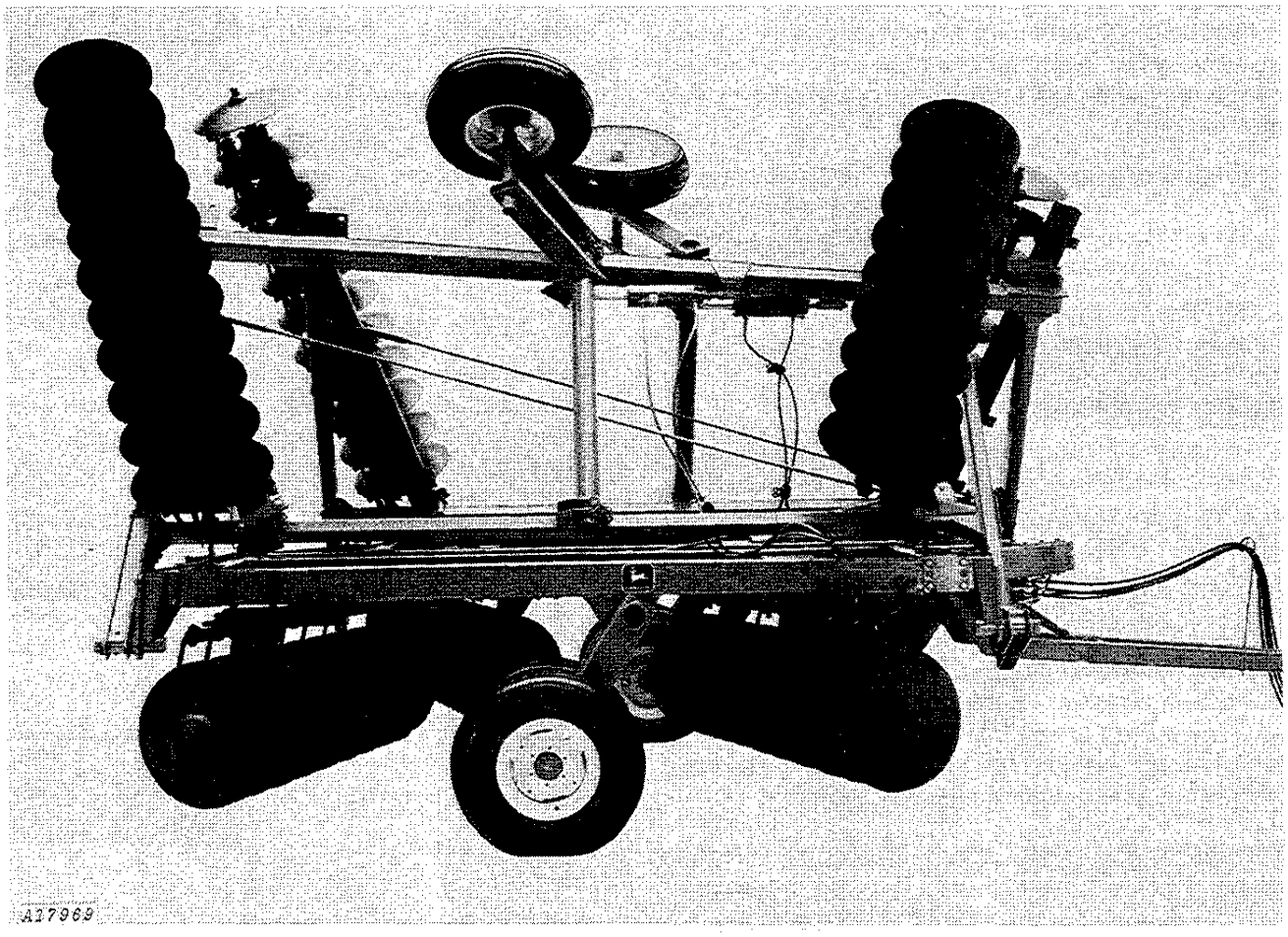
DETACHING FROM TRACTOR

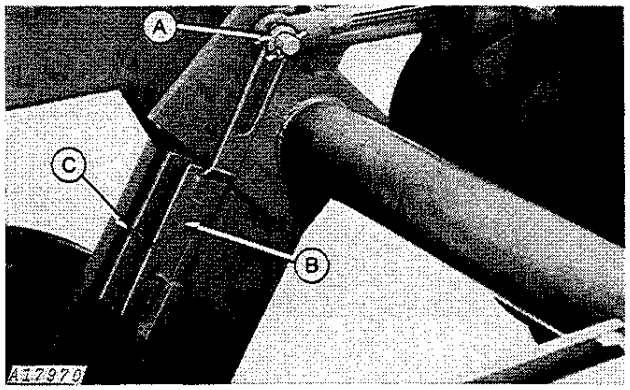
When detaching disk from tractor, lower disk to ground with remote cylinder operating lever. Relieve hydraulic pressure from system by shutting off tractor engine and moving remote cylinder operating lever in both directions.

Remove hoses from breakaway couplers. Remove jack retainer pin, swing jack into vertical position and replace retainer pin. Raise hitch with jack until weight of hitch is transferred from tractor drawbar to jack.

Remove drawbar pin and drive tractor forward away from hitch.

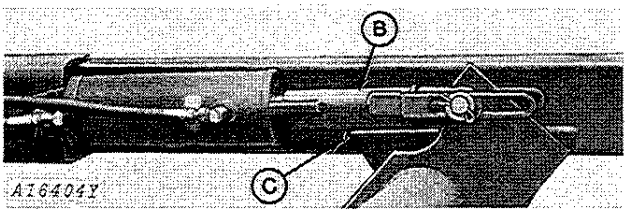
Transporting





A - Washer
B - Safety Lock
C - Spring Locking Pin

Safety Lock Positioned for Lowering Disk



B - Safety Lock **C - Spring Locking Pin**

Safety Lock Positioned for Road Transport

To transport the disk on a road or highway, fully extend the wheel frame cylinders to raise the disk.

Retract wing cylinders to fold outer gangs as shown above.

Position safety locks (B) over both wheel frame cylinder rods as shown and secure with spring locking pins (C).

Thank you so much for reading.

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