

RA4 FOUR-ROW REAR-MOUNTED ROW-CROP CULTIVATOR



JOHN DEERE

OPERATORS MANUAL RA4 FOUR-ROW REAR-MOUNTED ROW-CROP CULTIVATOR

OMN159380 J0 English

**DES MOINES WORKS
OMN159380 J0**

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INTRODUCTION



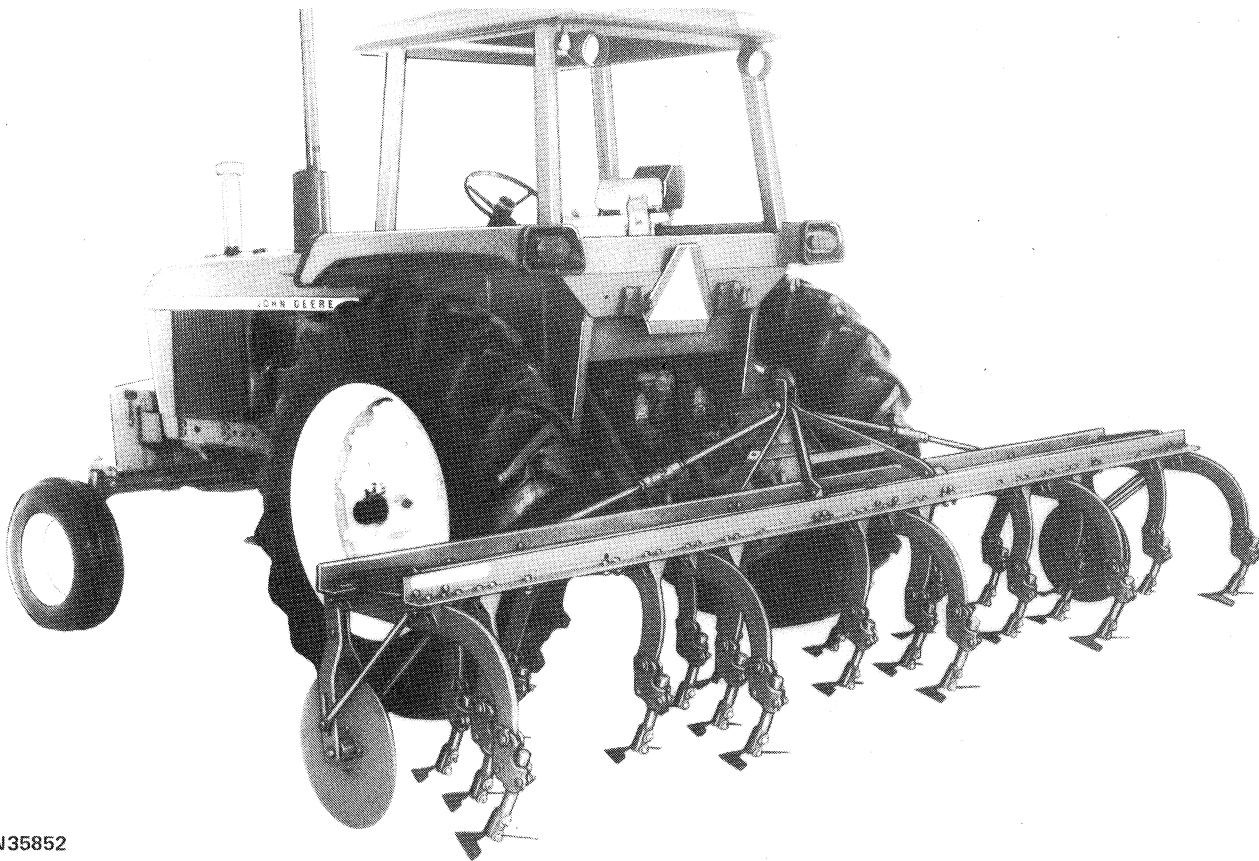
The safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

This operator's manual contains both the US customary units of measurement and the SI Metric equivalents.

"Right-hand" and "left-hand" sides are determined by facing in the direction of tractor forward travel.

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

Record your model and serial number in the spaces provided on page 26.



N35852

John Deere RA4, 4-Row Row-Crop Cultivator On John Deere 4030 Tractor

RA4 ROW-CROP CULTIVATOR

PREDELIVERY CHECK LIST

- ☐ Both reflectors installed.
- ☐ All customer-ordered attachments are installed.
- ☐ The correct customer-ordered sweeps or shovels are installed.
- ☐ All grease fittings have been lubricated.

I have performed the above predelivery service to the best of my ability.

Signed _____

Date _____

DELIVERY CHECK LIST

At the time of delivery, important information should be conveyed directly to the customer. Check off each item below as it is fully explained to the customer.

- ☐ Give the operator's manual to the customer and explain all operating adjustments.
- ☐ Advise the customer to lubricate the machine as directed in the operator's manual.
- ☐ Tell the customer of safety precautions that must be observed when using the machine.
- ☐ If it becomes necessary to transport the cultivator on public roads or highways, advise customer to check with local and state agencies regarding the regulations for transporting oversize equipment and the use of accessory lights and devices for adequate warning to operators of other vehicles on such roads.
- ☐ To the best of my knowledge, this machine has been delivered ready for field use and the customer has been fully informed regarding proper care and operation.

Signed _____

Date _____

OWNER REGISTER

Name _____

Address _____

Post Office _____

State _____ Zip Code _____

Serial No. _____

Date Purchased _____

AFTER-SALE CHECK LIST

The following is a suggested list of items, to be checked at a dealer-customer mutually agreeable time during the first operating season.

- ☐ Check with the customer as to the performance of the cultivator. Make certain customer understands the proper operating adjustments for the crop (or soil condition).
- ☐ If possible, operate the cultivator to see that it is functioning properly.
- ☐ Acquaint the customer with any special attachment which will help to do a better job.
- ☐ Go over entire cultivator for loose or missing bolts.
- ☐ Check for broken or damaged parts.
- ☐ Check with the customer to ascertain if the recommended periodic lubrication has been performed.
- ☐ Review the operator's manual with the customer and stress the importance of proper lubrication and safety precautions.

Signed _____

Date _____



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Safety



Operate Safely

DO NOT operate cultivator without reading this operator's manual.

DO NOT allow anyone to ride on the cultivator when it is in motion. Observe operation only from the tractor platform.

Always shut off tractor engine and shift to "Park" when leaving tractor. Remove ignition key when leaving tractor unattended.

DO NOT operate close to a ditch or creek.

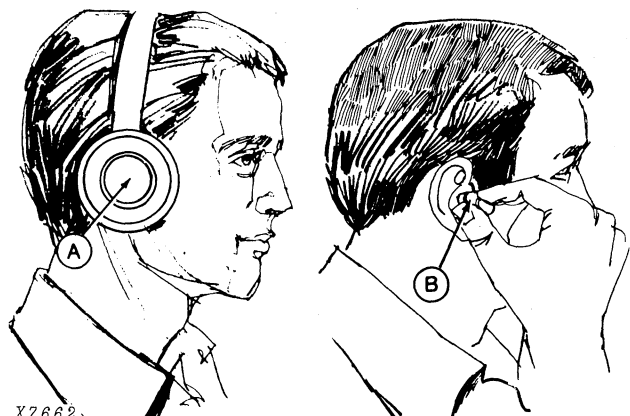
Slow down when turning.

Drive slowly over rough ground.

Apply both tractor brakes evenly when making emergency stops. Plan ahead.

Wear relatively tight and belted clothing to prevent being caught on some part of the machine.

Make sure that tractor has maximum front end ballast required in your tractor operator's manual.



A—Earmuffs
B—Earplugs

Protect Against Noise

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noises.

Avoid Fires

DO NOT refuel with the tractor engine running.

DO NOT smoke or use a lantern when refueling.

Transport Safely

When transporting the cultivator 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. Various safety lights and device are available from your John Deere dealer.

Always raise the cultivator before transporting.

DO NOT fail to latch the tractor brakes together.

Shift the tractor into a lower gear when transporting down steep slopes or hills.

Keep the tractor SMV emblem and reflectors clean and visible.

Stop slowly.

KNOW the width of your cultivator.

Practice Safe Maintenance

DO NOT adjust or clean the cultivator while in motion.

When working on or around the cultivator, support the cultivator frame on stands.

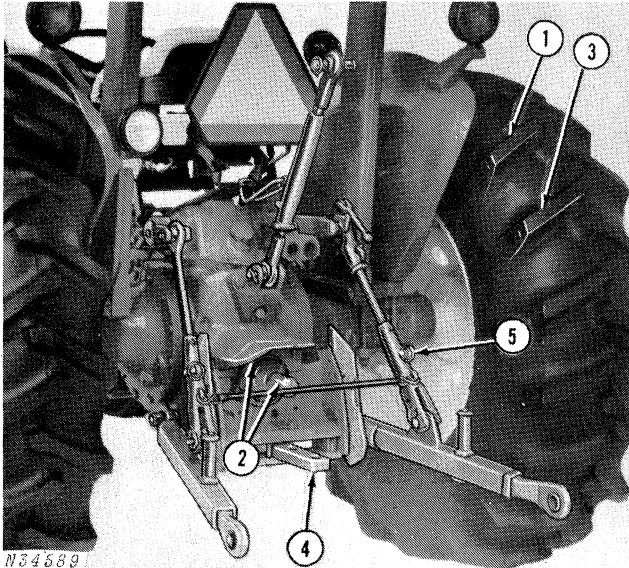
Always shut off the tractor engine when working on or around the cultivator.

Be careful of sharp edges when working around cultivator.

If touch-up spray can paint is used, be careful when discarding empty can. Do not incinerate or puncture can.

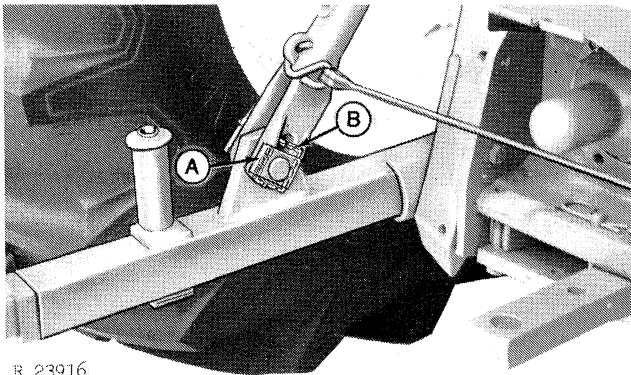


Preparing Tractor



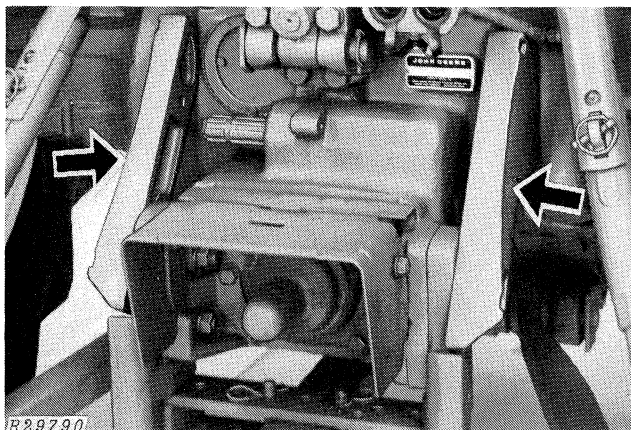
1. Set the tractor wheels for desired row spacing so the wheels are centered between the rows. See your tractor operator's manual.
2. Make sure the master shield and PTO guard are installed.
3. Make sure tractor tires have correct air pressure. See tractor operator's manual.
4. Place drawbar in short centered position or remove it.
5. Adjust lift links to minimum length. See tractor operator's manual.

IMPORTANT: Quik-Coupler CANNOT be used.



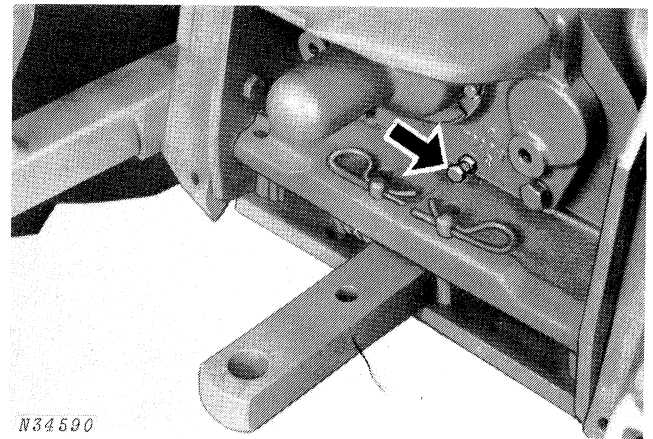
6. Lock out lateral float (A).

A—Float Prevented
B—Float Permitted



7. Position sway blocks in upper setting to prevent side sway during transport.

8. Adjust negative stop screw, if equipped. See your tractor operator's manual.

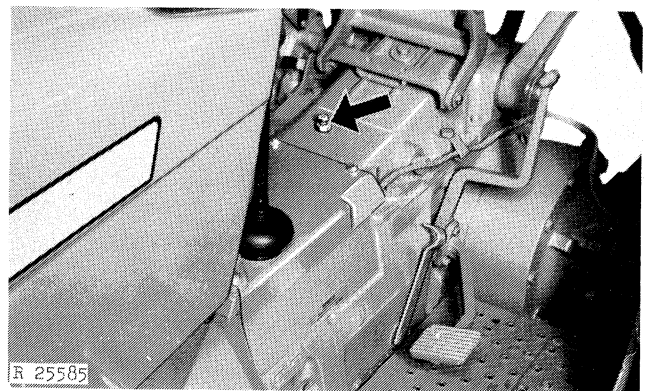


9. Adjust speed of drop.

Counterclockwise	- Faster
Clockwise	- Slower



CAUTION: Excessive speed of drop can cause damage or injury. Fully lowering cultivator should require at least two seconds.



10. Rockshaft selector lever should be in "zero" (depth control) position.

NOTE: On earlier model tractors, lever should be in "D" (depth control) position.

Cultivator Model	Implement Code
RA4 Cultivator	40

11. Determine front ballast as follows:

Step I—Use the implement code for your cultivator model in the table.

Step II—Refer to tractor operator's manual to determine required tractor front ballast.

IMPORTANT: 1) If the total implement code exceeds the maximum implement code listed for a particular tractor model, the implement-attachment combination is not recommended for that tractor.

2) The total load on any tractor wheel due to the weight of the implement-attachment combination and tractor equipment, should not exceed the carrying capacity of the tractor tires.

Refer to tractor operator's manual for weight limitations applicable to your tractor and tires.

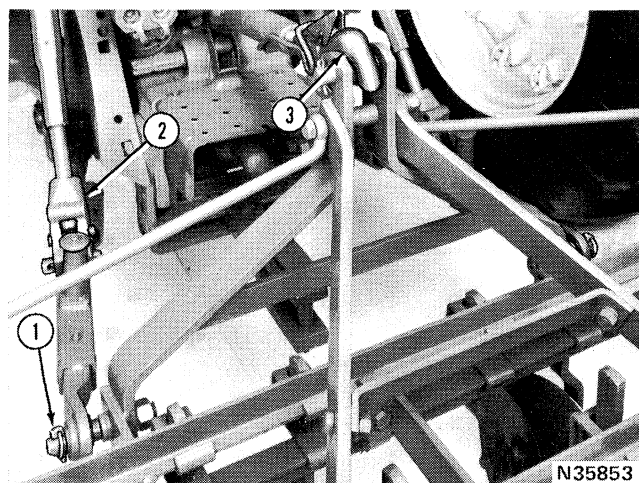
NOTE: Ballast recommendations provide for adequate transport stability at recommended speeds. Additional front ballast may be required for satisfactory field operation due to sudden or extreme forces on the tractor hitch, such as can occur when removing cultivator from the ground and turning at row ends, or during field transport over very rough terrain.



Attaching and Detaching

ATTACHING

1. Back tractor and position draft links in front of and in line with hitch pins. Stop engine and set brakes.
2. Extend draft links and adjust length of lift links to enable installation of hitch pins. Attach draft links at hitch pins and fasten with Quik-Lock pins.
3. Adjust length of center link, fasten to mast ball, and secure with latch lever.
4. Level the cultivator from side to side using lift links. All sweeps should touch the ground at the same time. Both ends of cultivator should be the same distance from the ground.

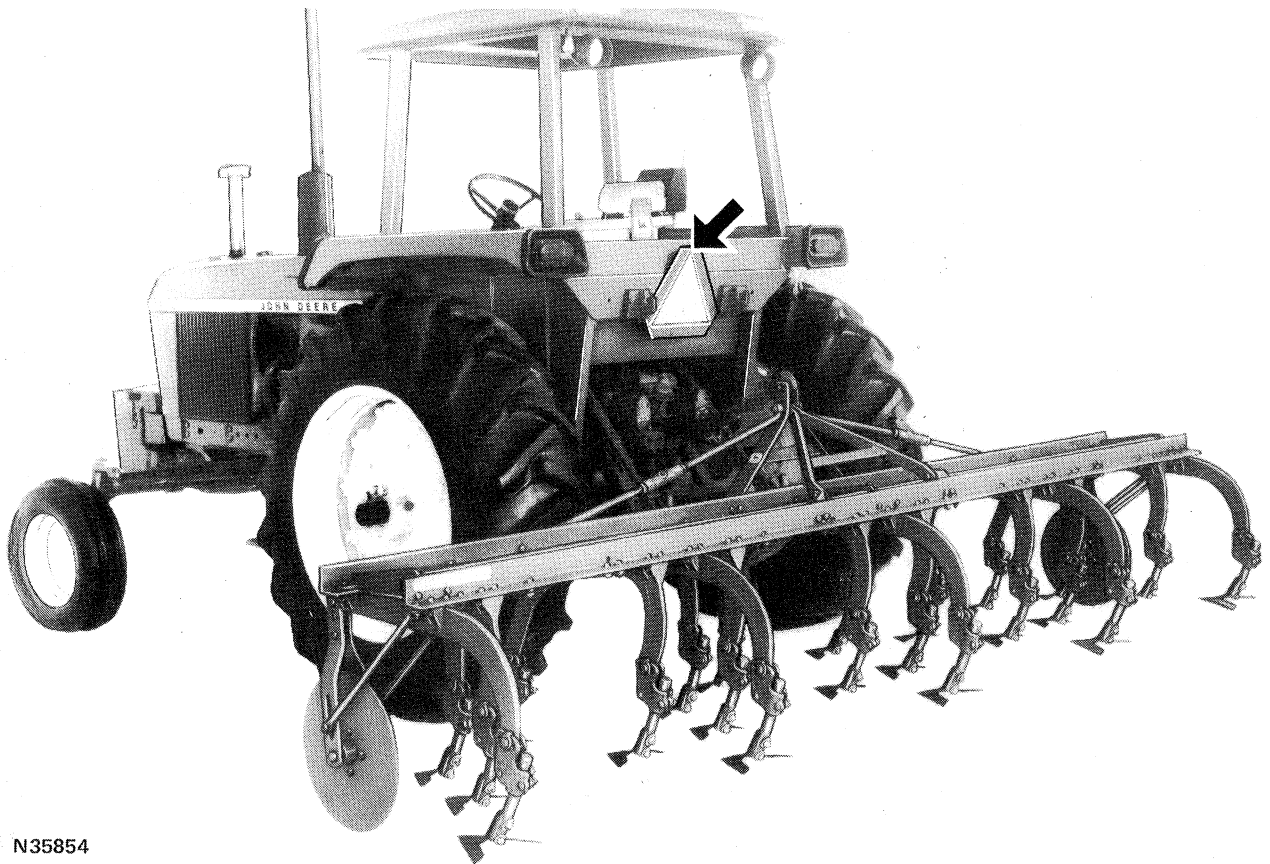


DETACHING

1. Lower cultivator onto a level surface. Loosen center link, as necessary, to remove load from hitch.
2. Release center link latch lever and disconnect center link. Disconnect draft links at hitch pins; then detach tractor from cultivator.



Transporting



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CAUTION: When transporting cultivator 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. Various safety lights and devices are available.

1. Raise cultivator to the highest position.
2. DO NOT transport faster than 10 mph (16 km/h).
3. Keep reflectors and SMV emblem (bold arrow) clean and in place at all times.
4. KNOW the width of your cultivator.
5. Use lower gear on downgrades.
6. Make sure tractor is in safe operating condition.
7. DO NOT allow anyone to ride on tractor or cultivator.



Operating the Cultivator

DEPTH CONTROL

Rockshaft Control Lever

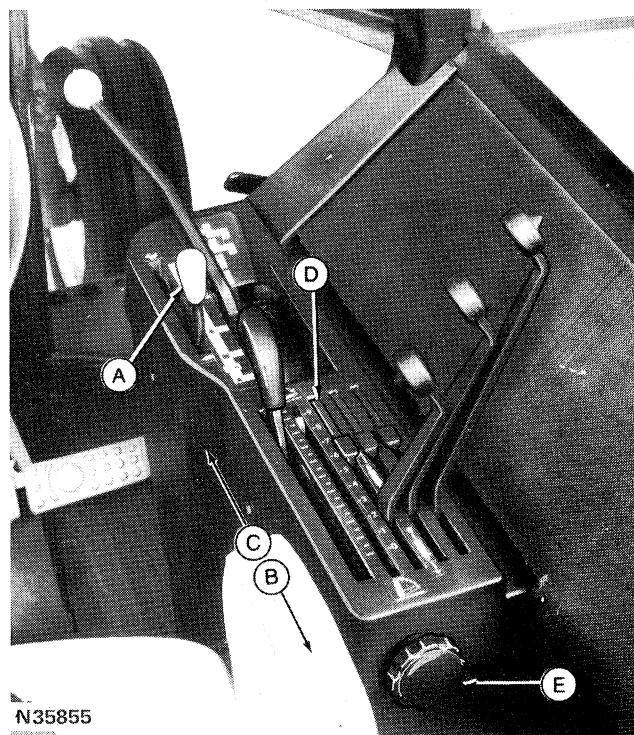
Use the tractor rockshaft control lever (A) to raise (B) the cultivator for transport and lower (C) the cultivator for operation. Refer to your tractor operator's manual.

To lower the cultivator further without resetting the depth stop, move rockshaft control lever to left-hand side of slot and forward past the stop (D).

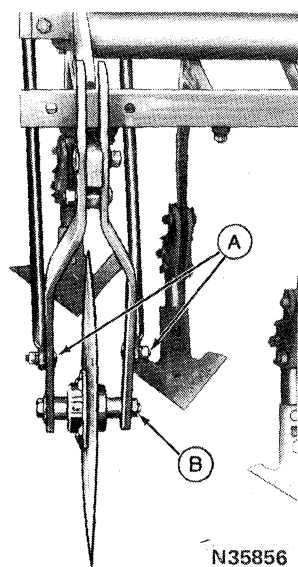
Depth of Operation

Set depth adjusting knob (E) (or stop) so cultivator frame stops approximately 28 inches (711 mm) from the ground—when rockshaft control lever is pushed forward.

- A—Rockshaft Control Lever
- B—Raise
- C—Lower
- D—Float Lockout Stop
- E—Depth Adjusting Knob



COULTER



The coulter should be in line with the rear center sweep.

Coulter must operate deep enough to stabilize the cultivator, yet high enough so the bearing will clear trash.

Loosen shank support bolts (A) to reposition blade.

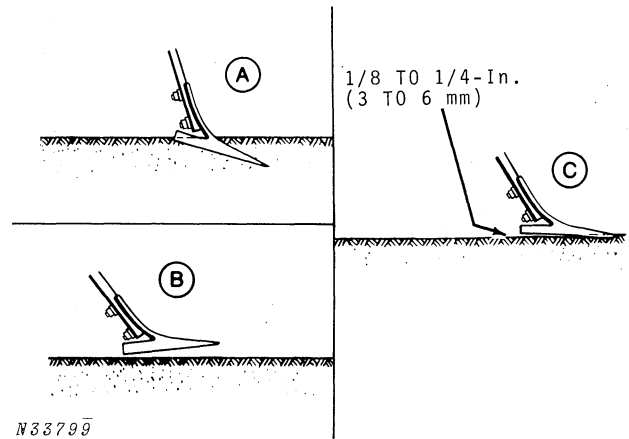
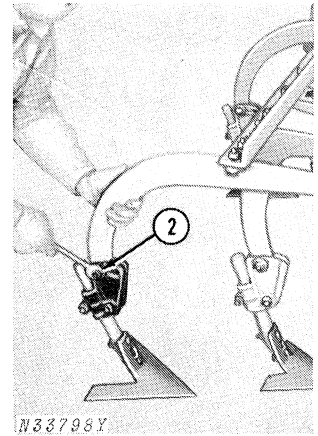
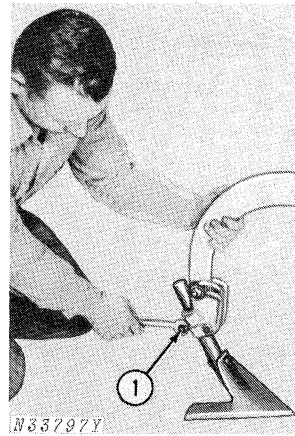
Check hub bolt (B) periodically. Tighten if necessary.

A—Shank Support Bolts
B—Hub Bolt

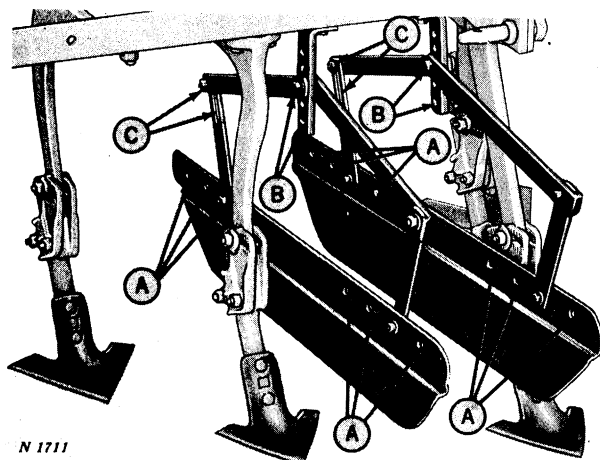
SHANKS AND SWEEPS

1. Loosen lower bolts to raise or lower the shank so all sweeps penetrate the ground at the same depth.
2. Loosen upper bolt to level each sweep with the ground.

Check all bolts periodically and tighten if necessary.



PLANT SHIELDS - ATTACHMENT



Each pair of shields should operate parallel to the row to protect the plants from thrown soil.

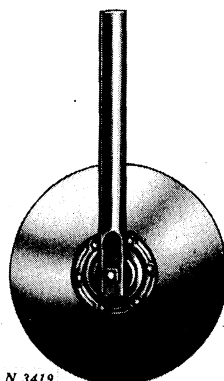
Use mounting holes (A) to adjust forward or rearward.

Use mounting holes (B) to level and to adjust vertically.

Slotted hole (C) allows the shield to raise over clods and rocks, then return to its normal position.

A—Holes
B—Holes
C—Slotted Hole

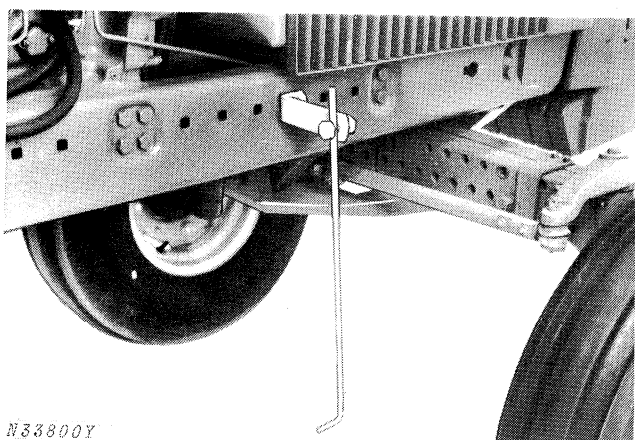
DISK HILLER - ATTACHMENT



Disk hillers can be used next to the rows in place of sweep shanks. These disks are used for hilling or barring off the rows.

Remove the sweep and shank on both sides of the row and insert the hiller shank into the clamp.

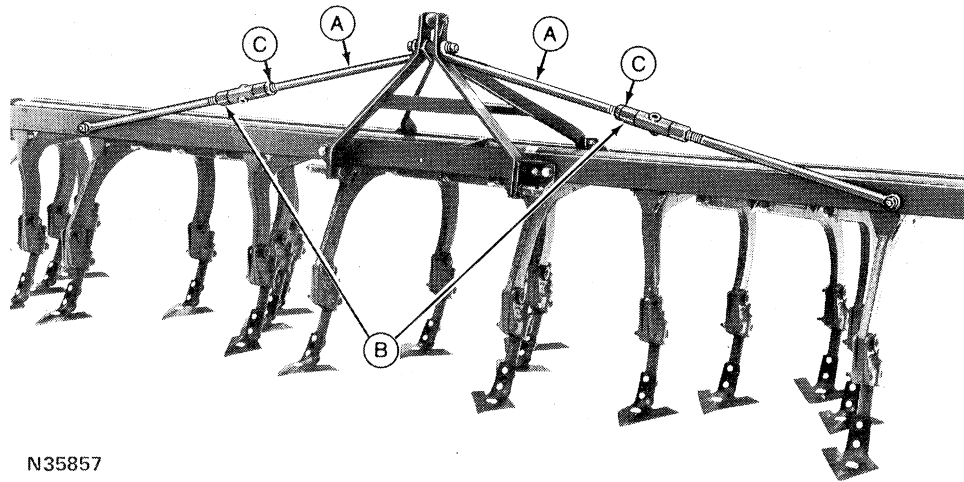
GUIDE ROD - ATTACHMENT



The guide rod helps the operator to stay on the rows without constantly looking back at the cultivator. It can be mounted on either side of the tractor OR on the tractor axle.

Adjust so the bottom of the rod travels over the CENTER of the row next to the tractor.

TRUSS RODS

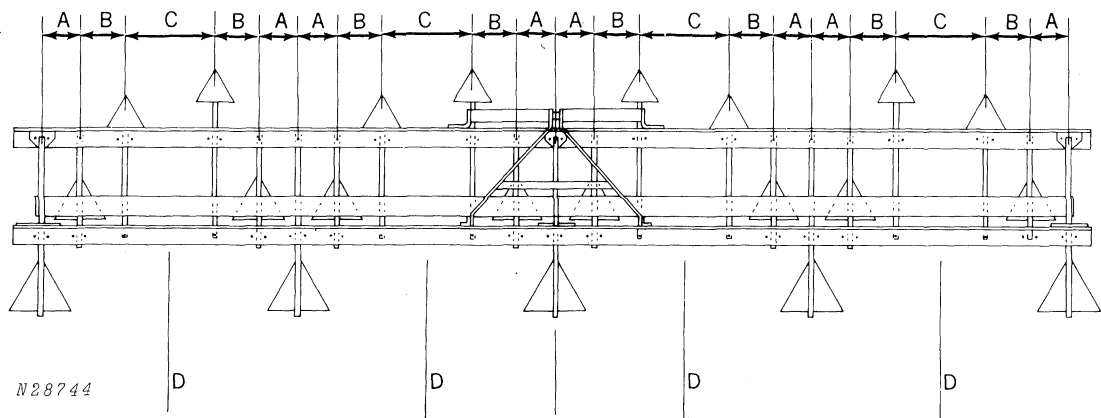


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1. Keep truss rods (A) under tension at all times.
 2. Use turnbuckles (B) to adjust tension.
- NOTE: Do not overtighten on the ground.*
3. Keep lock nuts (C) secure against the turnbuckles.

A—Truss Rod
B—Turnbuckle
C—Lock Nut

ROW SPACING



Row spacing can be set for 28 to 40 inches (711 to 102 mm). When changing row spacing, be sure standards on each side of cultivator are spaced the same.

DIMENSION IN INCHES (MILLIMETERS)

Location	28 (711 mm)	30 (762 mm)	32 (813 mm)	34 (853 mm)	36 (914 mm)	38 (965 mm)	40 (102 mm)
A	5 (127 mm)	5 (127 mm)	6 (152 mm)	7 (179 mm)	6 (152 mm)	6 (152 mm)	7 (179 mm)
B	4 (102 mm)	5 (127 mm)	5 (127 mm)	5 (127 mm)	5 (127 mm)	6 (152 mm)	6 (152 mm)
C	10 (254 mm)	10 (254 mm)	10 (254 mm)	10 (254 mm)	14 (356 mm)	14 (356 mm)	14 (356 mm)
D	Row	Row	Row	Row	Row	Row	Row



Attachments

SHOVELS AND SWEEPS

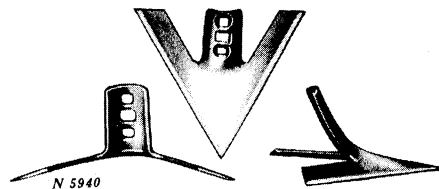
Medium Crown

Designed for high-speed cultivation.

Medium high crown and wing angle.

Wrap—around, long shank.

Heat treated.



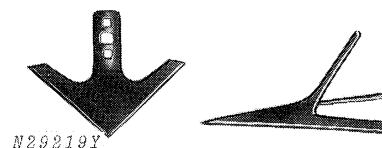
Low Crown

Designed for high-speed cultivation.

Low—crown, low-wing angle.

Long narrow shank, low profile.

Use when minimum soil disturbance is needed.

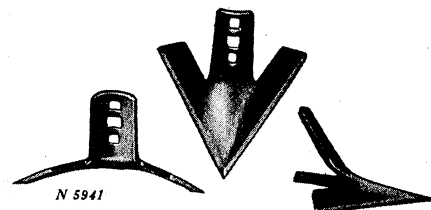


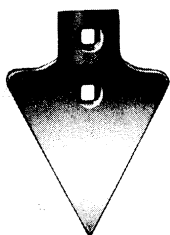
High Crown

High broad crown, high wing angle, wide shank.

Throws a large amount of soil and leaves a loose, mulched, mellow topsoil.

Heat treated.



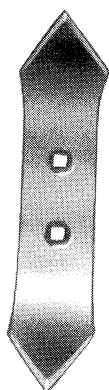
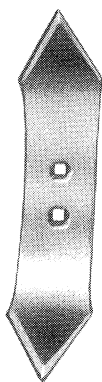
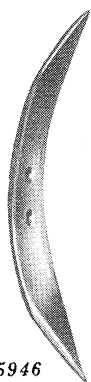


Shovels

Single-Pointed Shovels (Spearpoints)

Excellent for conditions where extreme care must be taken not to injure plants.

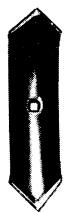
Ideal for weed killing.



Double-Pointed (For Spring Teeth and Open Sleeve Standards)

Ideal for use where necessary to cultivate deep to stir up more ground.

Reversible points provide double duty and long life.



Double-Pointed Shovels (Oval Shaped)



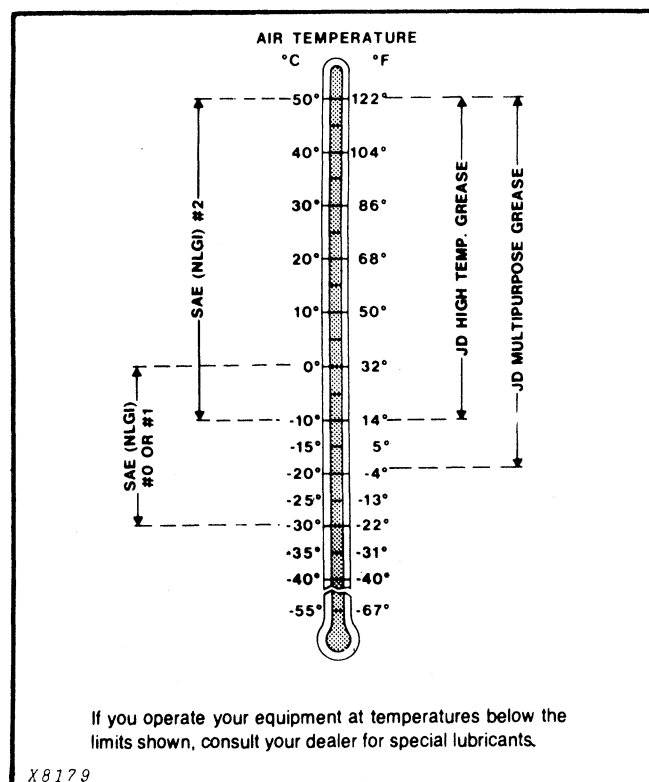
Lubrication and Maintenance

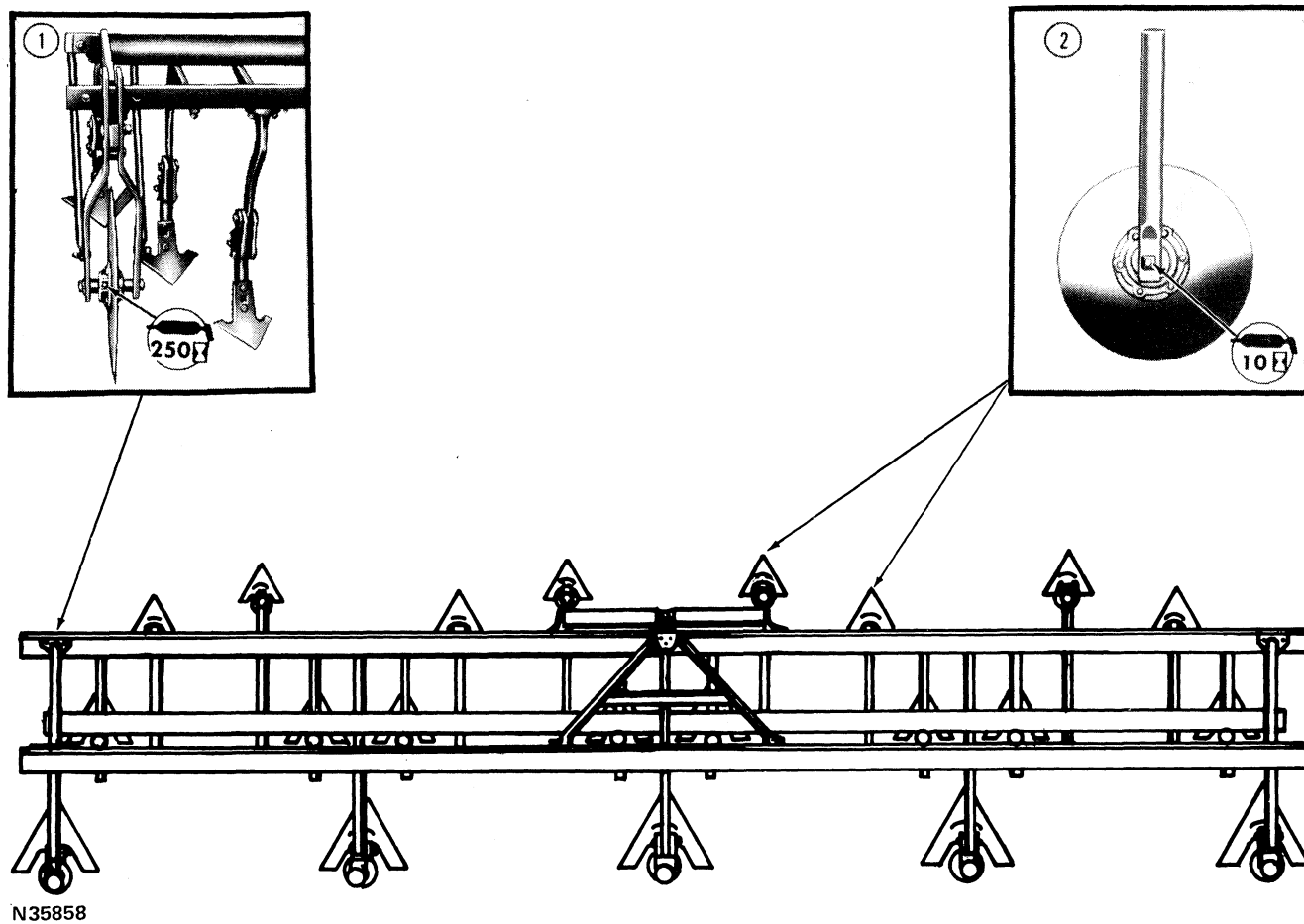
Grease



John Deere Multipurpose Grease is recommended in all grease fittings at hourly intervals indicated on the symbols. If other greases are used, use:

- SAE Multipurpose Grease
- SAE Multipurpose Grease containing 3 to 5 percent molybdenum disulfide.





1. Rolling Coulter.

2. Disk Hiller



Service

HARDWARE, SHOVELS AND SWEEPS

Hardware

Tighten all nuts and bolts to specified torque values.
Loose hardware can cause breakage.

TORQUE VALUES		
Recommended Torque Value in Foot-Pounds (N·m)		
Coarse and Fine Threads		
Bolt Diameter	Three Radial Dashes	Six Radial Dashes
1/4	10 (14)	14 (19)
5/16	20 (27)	30 (41)
3/8	35 (47)	50 (68)
7/16	55 (75)	80 (101)
1/2	85 (115)	130 (163)
9/16	130 (176)	185 (237)
5/8	170 (230)	250 (325)
3/4	300 (407)	420 (576)
7/8	445 (603)	670 (928)
1	670 (908)	1000 (1396)

Shovels and Sweeps

Replace when necessary.



Storage

PREPARING CULTIVATOR FOR STORAGE

1. Clean cultivator thoroughly.
2. Lubricate coulter and disk hillers, if equipped.
3. Inspect for damaged parts; replace before next season.
4. Repaint areas which have been chipped during operation to prevent rust.
5. Coat tools with John Deere soft black coating (spray can, quart or gallon size available.)
6. Store cultivator in a dry place.

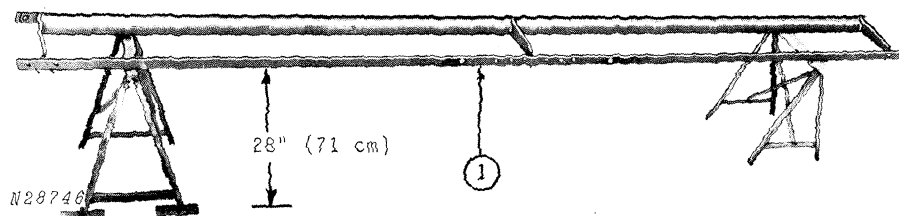
REMOVING CULTIVATOR FROM STORAGE

1. Clean cultivator thoroughly.
2. Lubricate coulter and disk hiller, if equipped.
3. Review operating instructions page 9-14 and safety instructions on pages 2 and 3.



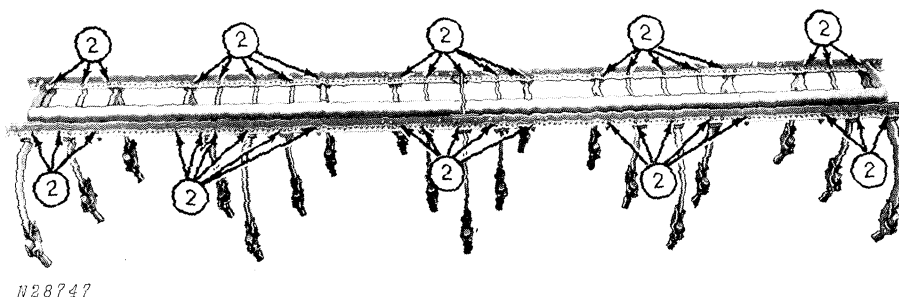
Assembly

FRAME, STANDARDS, SWEEPS, AND FRAME CROSS BRACES

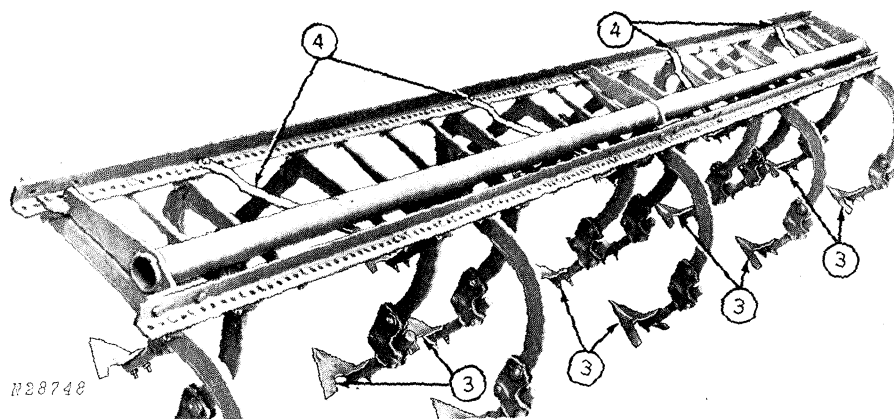


IMPORTANT: Install the frame angle with the RA4 and John Deere decal in front.

1. Place the frame on stands approximately 28-inches (711 mm) high.

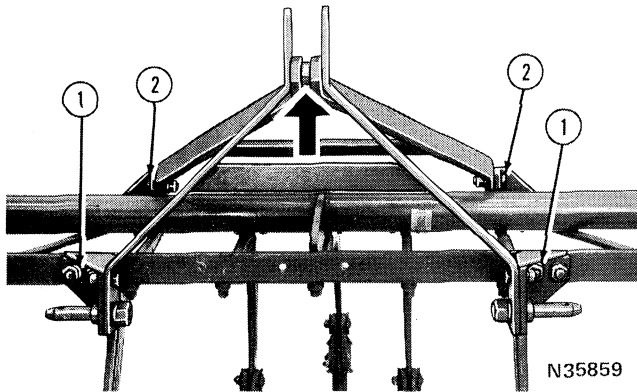


2. Attach standard to frame angles as illustrated. Start from the center of the cultivator and work out. See row spacing diagram, page 14, for correct spacing.

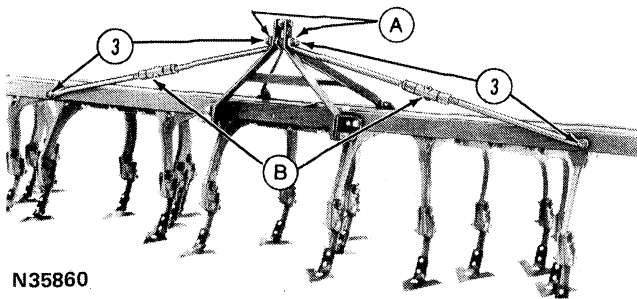


3. Attach shovels or sweeps to standards.
4. Attach the four frame cross braces in their proper places, as shown above.

HITCH MAST AND TRUSS RODS



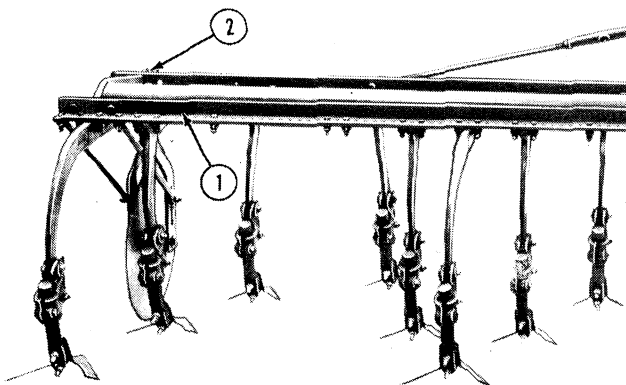
1. Attach the hitch mast to the front of the cultivator frame.
2. Attach the mast braces to the inside of the rear frame bar. Install spacer (bold arrow) between the top of the mast braces as shown.



3. Attach the truss rods to the frame as shown and then to the hitch mast. Position a washer (A) between the truss rod and hitch mast on both sides before attaching the truss rods to the hitch mast. Turn the turnbuckles (B) on the truss rods until the rods are tight and secure them in place with the lock nuts.

A—Washer
B—Turnbuckles

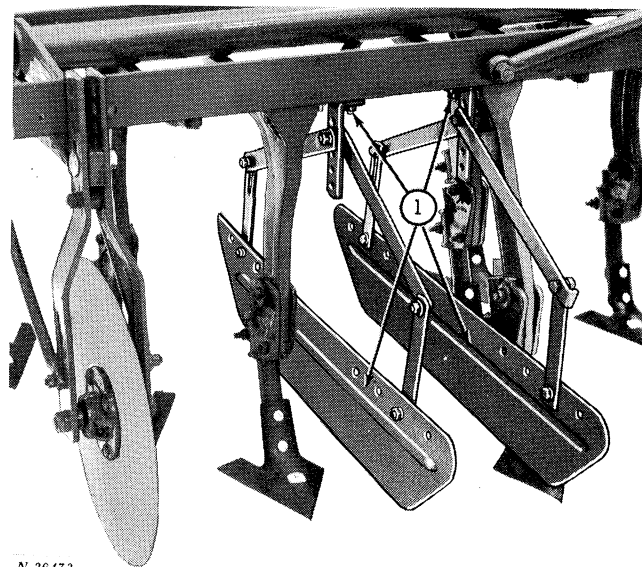
SAFETY REFLECTORS



1. Install red reflectors on rear corners.
2. Install amber reflector on front left-hand corner.

SHIELDS

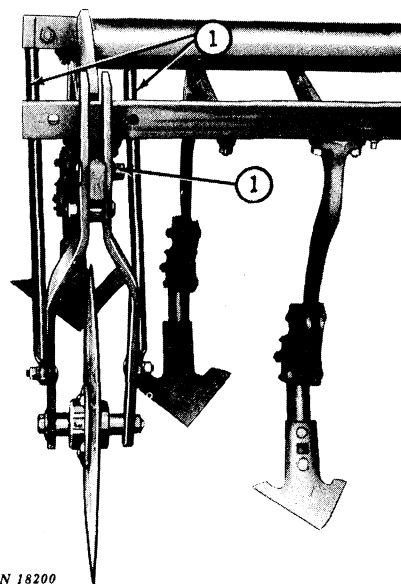
1. If shields are required, attach as shown.



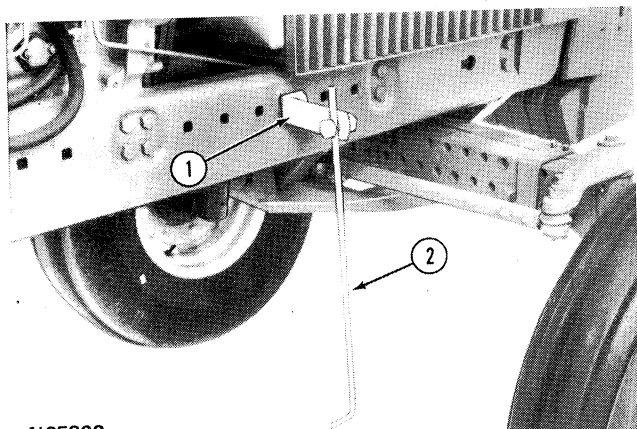
ROLLING COULTER

1. Attach the rolling couler to the main frame and outer standard.

NOTE: Check to be sure coultter hub bolt is tight.



GUIDE ROD - ATTACHMENT

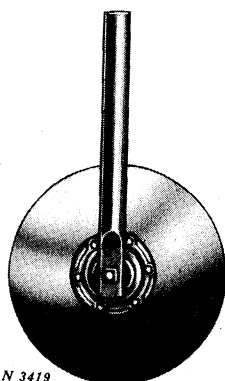


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1. Attach guide bracket to tractor.
2. Slide guide rod through stud.
3. For 40-inch (1 016 mm) rows, adjust the guide so it is 20 inches (508 mm) from center of the tractor to outer end of rod.

NOTE: The guide rod can also be attached to front axle if desired.

DISK HILLER - ATTACHMENT



Remove the sweep and shank on both sides of the row and insert the hiller shank into the clamp.

Lubricate the bearing of each hiller.



Specifications

MODEL

RA4 - 4-Row Integral Cultivator

WEIGHTS

RA4 - 1095 Pounds (497 kg) (Approximate)

ROW SPACING

RA4 Cultivator - 28- through 40-inches (711-1 016 mm)

LIFT

The cultivator is raised and lowered by the tractor rockshaft hydraulic system.

CULTIVATOR FRAME

3 x 3 x 3/8-inches (76 x 76 10 mm) high carbon steel.

SHANK AND STANDARDS

Twenty-one heat-treated, rigid shanks and cast standards are used.

SWEEPS

Recommended Equipment

30-Inch (762 mm) Rows: 6-Inch (152 mm) or three-quarter sweep, 6-1/2-Inch (165 mm) on front rows; 12-Inch (305 mm) on rear rows;

40-Inch (1 016 mm) Rows: 6-Inch (152 mm) or three-quarter sweep, 6-1/2-Inch (165 mm) on front rows; 8-Inch (203 mm) on middle rows; 10-Inch (254 mm) on rear rows.

Wide variety of sweeps and shovels available.

JOHN DEERE TRACTOR REQUIREMENTS

Tractor Recommendations

Use on John Deere or competitive tractors with Category I or II Three Point Hitches WITHOUT Quik-Coupler.

	830	2040	1530	2240	2030	2440	2630	2640	2520	3020	4030	2840	2940	4000	4020	4230	4040	4240	4320	4430	4440	4620	4630	4640	5020	6030	4840	8430	8440	8630	8640
RA 4	X	X	X	X	X	X	X	X	X*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

*12.4 x 28 4 Ply Rear Tires not recommended

Hitch Pins and Bushings

- AT 12350

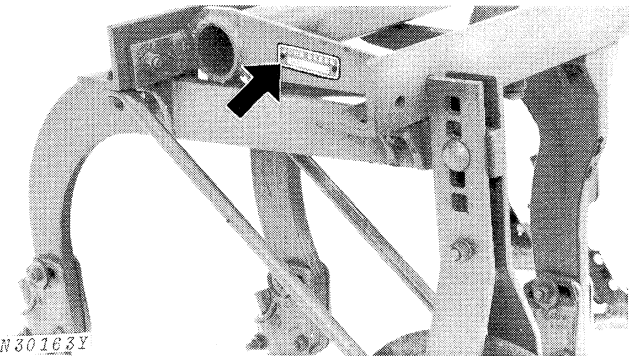
Hitch Pins and Bushings (For use when RA 4 Cultivator is used on 830, 1530, 2030, 2040, 2240, 2440, 2630 and 2640 Tractors equipped with enclosed centerlink ball) See your John Deere Dealer.
- AF 2710R

Hitch Pins and Bushings (For use when RA 4 Cultivator is used on Utility Tractors equipped with centerlink hook or 2520, 2840, 2940, 3020, 4000, 4020, 4030, 4040, 4230, and 4240 Tractors) see your John Deere Dealer.

ATTACHMENTS

- Plant Shields
- Guide Rod
- 12-inch (305 mm) Disk Hillers

SERIAL NUMBER



The serial number is located on the right-hand end of the torque tube frame. Record it in the space below.

Model number

Serial number

Date purchased

MEMORANDA

MEMORANDA

JOHN DEERE SERVICE LITERATURE AVAILABLE...

To order these publications fill out this form and the payment information and mail it to the address above. Make checks payable to Deere & Co. Service Publications. Please allow three weeks for delivery. No COD orders, please. Do not send cash or stamps. To place credit card orders, call **1-800-522-7448**. If you want manuals or catalogs for equipment not shown on this list, provide the model number, serial number, and name of the product.

John Deere Distribution Service Center

Department S/P

P.O. Box 186, Moline, IL 61266-0186

Please send to ...

Name _____

Address _____

Town _____

State _____ Zip _____

Title	Order No.	Qty.	Price Each
Parts Catalog RA4 Cultivator	PC-1309		
Operator's Manual RA4 Cultivator	OM-N159380		

NOTE: If you want manuals or catalogs for equipment not shown on this list, list the model number, serial number and name of the equipment below.

FMO Manual - Tractors	FMO-101B	
FMO Manual - Tillage	FMO-111B	
FMO Manual - Planting	FMO-121B	
FMO Manual - Crop Chemicals	FMO-131B	
FMO Manual - Hay & Forage Harvesting	FMO-141B	
FMO Manual - Combine Harvesting	FMO-151B	
FMO Manual - Preventive Maintenance	FMO-16102B	
FMO Manual - Machinery Management	FMO-171B	
FMO Manual - Machine Safety	FMO-181B	
FMO Set of 9 Manuals above	FMO-394 Set	
FOS Manual - Hydraulics	FOS-1003B	
FOS Manual - Electrical Systems	FOS-2004B	
FOS Manual - Engines	FOS-3005B	
FOS Manual - Power Trains	FOS-4004B	
FOUR FOS MANUALS (above)	FOS-90 Set	
FOS Manual - Shop Tools	FOS-5103B	
FOS Manual - Welding	FOS-5203B	
FOS Manual - Belts and Chains	FOS-5303B	
FOS Manual - Bearings and Seals	FOS-5403B	
FOS Manual - Tires and Tracks	FOS-5504B	
FOS Manual - Mowing and Spraying Equipment	FOS-56B	
FOS Manual - Air Conditioning	FOS-5703B	
FOS Manual - Fuels, Lubricants and Coolants	FOS-5803B	
FOS Manual - Fiber Glass	FOS-59B	
FOS Manual - Fasteners	FOS-6002B	
FOS Manual - Iden. of Parts Failures	FOS-6101B	
SET OF ELEVEN FOS MANUALS FOS-51B, 52B, 53B, 54B, 55B, 56B, 57B, 58B, 59B, 60B and 61B	FOS-71 Set	
SET OF ALL FIFTEEN FOS MANUALS	FOS-181 Set	

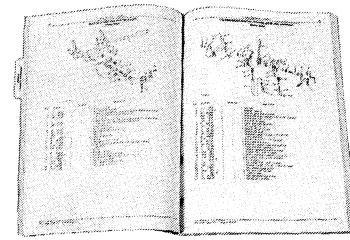
Illinois State Residents add 5% for ROT.

Check or money order in U.S. dollars enclosed Total
(Do not send cash or stamps)

Prices subject to change without notice.

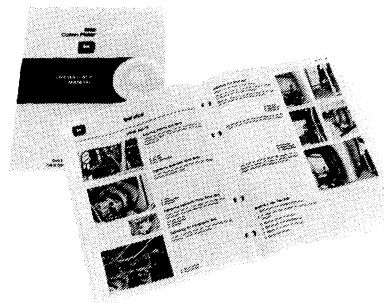
SP-320 Litho in U.S.A. AUG-80

PARTS CATALOG



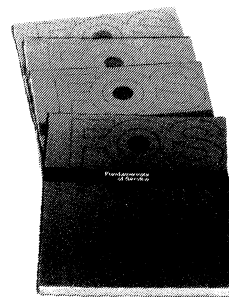
A parts catalog containing exploded view illustrations and lists of all parts is useful when purchasing service parts. Helps identify the correct parts. Useful in assembling and disassembling.

OPERATOR'S MANUAL



An extra copy of the operator's manual may be important if the copy furnished with your machine is misplaced.

FMO AND FOS MANUALS



These are basic manuals covering most all types and makes of agricultural machinery. FMO manuals tell you how to *operate* machines; FOS manuals tell you how to *service* machines. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the "whys" and "hows" of adjustments and repairs are covered in this reference library.

For current prices of John Deere Service Literature, please call 1-800-522-7448

Service to keep you on the job

We, at your John Deere dealers, pride ourselves in having what it takes to help keep you on the job...

John Deere Parts.

We help minimize downtime by putting the right parts in your hands in a hurry. That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.



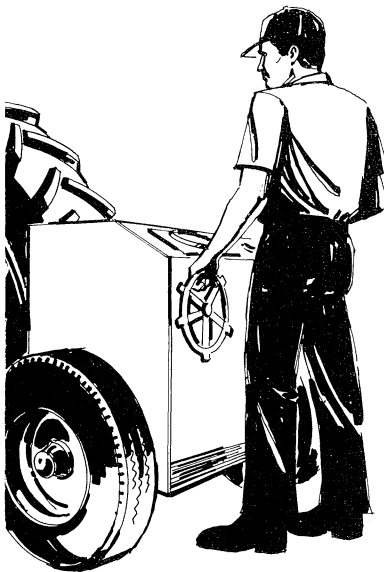
The right tools.

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly... to save you time and money.



Well-trained technicians.

School is never out for John Deere service technicians. Training schools are held regularly to be sure our personnel know your equipment and how to maintain it. Result? Experience you can count on!



Prompt service.

Our goal is to provide prompt, efficient care when you want it and where you want it. We can make repairs at your place or at ours, depending on the circumstances. See us. Depend on us.

John Deere Service Superiority: We'll be around when you need us

