

AU2 TWO-ROW AU4 FOUR-ROW ROW- CROP CULTIVATORS



JOHN DEERE

OPERATORS MANUAL AU2 TWO-ROW AU4 FOUR-ROW ROW-CROP CULTIVATORS

OMN97514N (01JAN61) English

OMN97514N (01JAN61)

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ENGLISH



To the purchaser



This manual contains valuable information about your new John Deere Row-Crop Cultivator. It has been carefully prepared and illustrated. In it, you will find instructions and helpful suggestions for operating, adjusting, attaching, transporting, lubricating and servicing your cultivator. You will also find instructions for adapting your cultivator to work properly in all types of field cultivation.

Your new cultivator was built to rigid manufacturing standards. Material and workmanship are the best. Precision production methods and

accurately controlled heat-treating assure maximum strength and long life for every part.

Keep this manual in a convenient place for quick and easy reference. Study it carefully. You have purchased a dependable and sturdy implement, but only by proper care and operation can you expect to receive the service and long life designed and built into it.

Give your cultivator proper attention during slack periods. By doing this, it will always be ready, without delay, when you need it.

Sometime in the future, your cultivator may need new parts to replace those that are worn or broken. If so, go to your John Deere dealer. Provide him with the model number of your cultivator and the date purchased. Record this information in the space provided below, so it will be readily accessible when it is needed.

Location references

Right-hand and left-hand references are determined by standing at the rear of the cultivator and facing in the direction of travel.

JOHN DEERE AU2, TWO-ROW AND AU4, FOUR-ROW CULTIVATORS

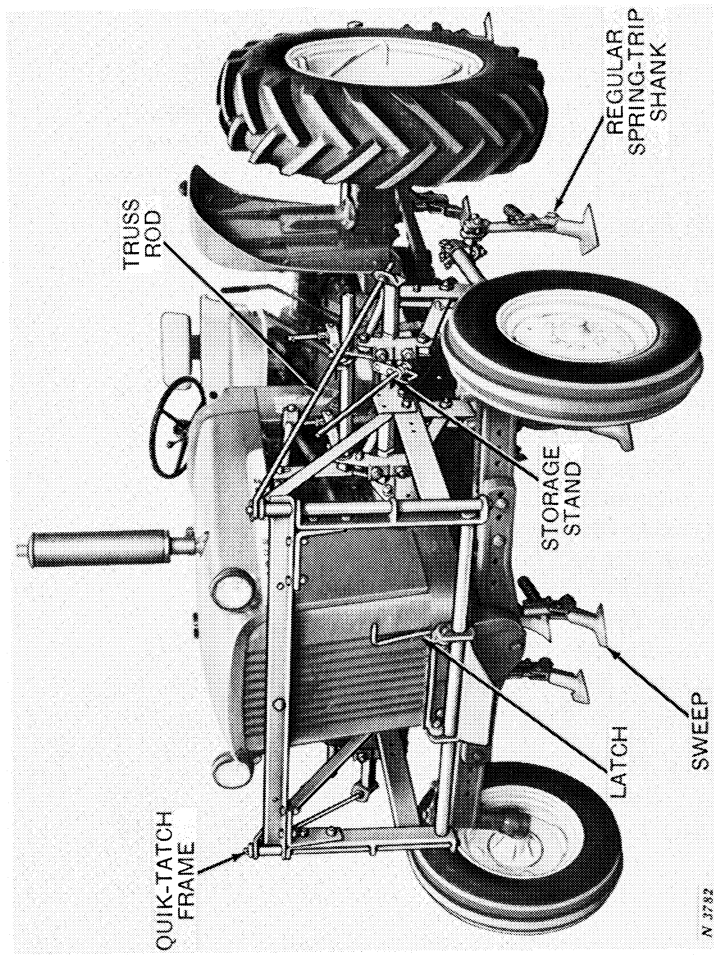
Cultivator Model

Date Purchased

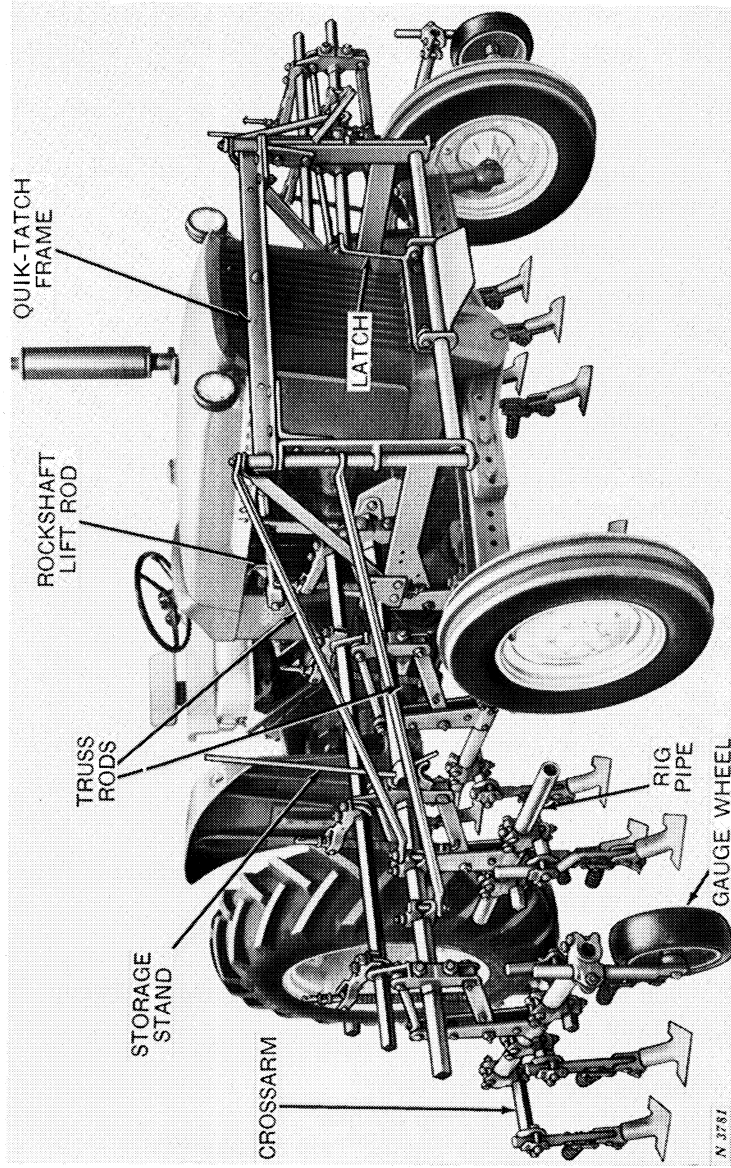
(To be filled in by Purchaser)

Contents

	Page
SPECIFICATIONS	4-5
OPERATION	6-18
Controls	6
Dual Hydraulic System	6
Single Hydraulic System	6
Working Depth	6
Gauge Wheels on AU4 Cultivator	7
Rear Rig	8
Flexibility of Rigs	9
Tractor Tire Inflation	9
Storage Stand	9
Height of Lift of Front Rigs	10-11
Lift Rod	10
Rig Lift Rods	10
Adjusting Down Pressure	10
Leveling Cultivator Front Rigs	11
AU4 Cultivator	11
AU2 Cultivator	11
Tilting Front Rigs	11
Safety Suggestions	12
Crossarms, Clamp and Shank	12
Adjusting Tilt of Sweep	13
Spring Trip Shanks	13
Spring Teeth	13
Adjusting Spring-Trip	14
Maintenance Suggestions	14
Front and Rear Rig-Row Spacing	15-18
LUBRICATION	19
DETACHING CULTIVATOR FROM TRACTOR	20-21
ATTACHING CULTIVATOR TO TRACTOR	22-25
SPECIAL EQUIPMENT	26-30
SWEEPS AND SHOVELS	31-40



John Deere AU2 Cultivator with regular spring trip shanks



John Deere AU4 Cultivator with regular spring trip shanks

Specifications

Tractors

John Deere 2010 Row Crop Utility Tractor.

John Deere 2010 Row Crop Tractor with adjustable tread front axle.
Tractors must be equipped with front mounted rockshaft and 3-point hitch.

The 2010 Utility Tractor must also be equipped with straight front axle and upright muffler.

The 2010 Utility Tractor cannot be equipped with swept back axle or underneath muffler.

Row Spacing

On AU4-36 to 42 inch rows (Set 40 inches at factory)

On AU4-28 to 42 inch rows (Set 40 inches at factory)

Front Rig Equipment for AU2 Cultivator

RE-34 Regular Spring Trip Shanks

1 BN 60096 N Regular Spring Trip Shanks (11)

1 SC 288 AN Shovels (11-Y786AN)

RE-35 Quik-Adjustable Spring Trip Shanks (11)

1 BN 60097 N Quik-Adjustable Spring Trip Shanks (11)

1 SC 288 AN Shovels (11-Y786AN)

RE-38 Friction Trip Shanks

1 BN 60100 N Friction Trip Shanks (11)

1 SC 288 AN Shovels (11-Y786AN)

RE-42 Single Spring Tooth Shanks

1 BN 60002 N Single Spring Teeth (8)

1 SC 96 AN Stud Beams (3)

1 SC 102 AN Single Spring Teeth (6)

1 SC 265 AN Shovels (8-Y722AN)

1 SC 291 AN Shovels (6-Y722AN)

RE-43 Double Spring Tooth Shanks and Regular Spring Trip Shanks

1 SC 925 N Double Spring Tooth Shank (8)

1 SC 98 AN Regular Spring Trip Shanks (3)

1 SC 287 AN Shovels (8-Y786AN)

3 Y 908 N 10-inch High Speed General Purpose Sweep

3 CA 1959 AN Bolt Set

Front Rig Equipment for AU4 Cultivator

RE-29 Regular Spring Trip Shanks

1 BN 60090 N Regular Spring Trip Shanks (21)

1 SC 288 AN Shovels (11-Y786AN)

1 SC 289 AN Shovels (10-Y786AN)

RE-30 Quik-Adjustable Spring Trip Shanks

1 BN 60091 N Quik-Adjustable Spring Trip Shanks (21)

1 SC 288 AN Shovels (11-Y786AN)

1 SC 289 AN Shovels (10-Y786AN)

RE-33 Friction Trip Shanks

- 1 BN 60094 N Friction Trip Shanks (21)
- 1 SC 288 AN Shovels (11-Y786AN)
- 1 SC 289 AN Shovels (10-Y786AN)

RE-44 Single Spring Tooth Shanks

- 1 BN 60001 N Single Spring Teeth (18)
- 1 SC 96 AN Stud Beams (3)
- 1 SC 102 AN Single Spring Teeth (6)
- 4 SC 291 AN Shovels (6-Y722AN)

RE-45 Double Spring Tooth Shank and Regular Spring Trip Shank

- 1 SC 930 AN Double Spring Tooth Shanks (18)
- 1 SC 98 AN Regular Spring Trip Shanks (3)
- 1 SC 287 AN Shovels (8-Y786AN)
- 1 SC 289 AN Shovels (10-Y786AN)
- 3 Y 908 N 10-inch High Speed General Purpose Sweep
- 3 CA 1959 AN Bolt Set

Rear Rig

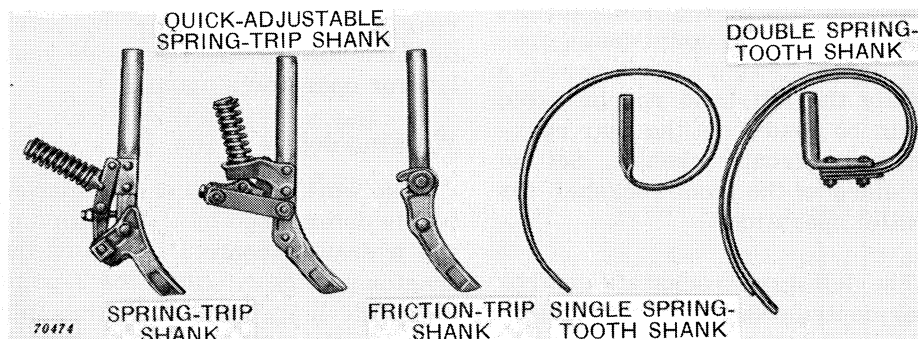
Tool Bar Type for 3-Point Hitch Tractors

Gauge Wheels (AU4 only)

Castering (Regular); Rigid (Optional)

Extra Equipment

Shields-frame mounted, rig mounted or hooded
No. 1 Center Attachment
No. 21 Spring-Tooth Attachment
No. 1 Knife Attachment
No. 3A Rotary Hoe Attachment
No. 1 Listed Crop Attachment
Spread Bar
Disk Hillers

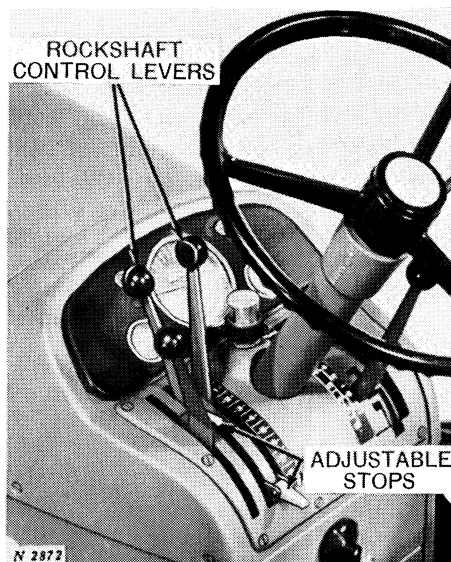


(Specifications and design subject to change without notice.)

Operation

Controls

Dual hydraulic system



The AU2 or AU4 Cultivator on a John Deere 2010 Tractor with a dual hydraulic system is controlled by the rockshaft control levers on the tractor.

To operate the front rigs together, but independent of the rear rig, set the tractor hydraulic system for independent lift arm operation.

Only the left-hand rod or cable should be used from the rear rockshaft to the front rockshaft. Set the two sides of the front rockshaft for parallel operation.

The left-hand rockshaft control lever controls the front rigs and the right-hand lever controls the rear rig.

To operate the front rigs independently, set the tractor hydraulic system and front rockshaft for independent lift arm operation. The tractor must have a dual control front rockshaft. The left-hand rockshaft control lever controls the left-hand side of the cultivator and the right-hand lever controls the right-hand side of the cultivator and the rear rigs. See your tractor operator's manual.

If it is desired to have the front and rear rigs operate simultaneously, set the tractor hydraulic system and front rockshaft for parallel lift arm operation. Use the right-hand control lever to control the cultivator. See your tractor operator's manual.

Single hydraulic system

The AU2 and AU4 Cultivator on a John Deere 2010 Tractor with single hydraulic system is controlled by the rockshaft control lever on the tractor. Moving the control lever rearward raises both cultivator front and rear rigs while moving the lever forward lowers the rigs. See your tractor operator's manual.

Working depth

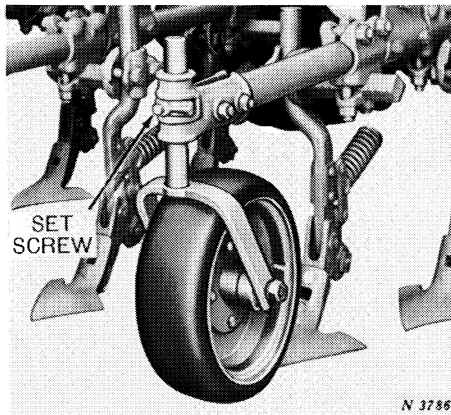
The working depth of the cultivator is determined by the position of the hydraulic control levers on the tractor and the length of the 3-point hitch lift links. Use the adjustable stops on the hydraulic control lever quadrant to limit the working depth.

Gauge wheels on AU4 Cultivator

The gauge wheels determine the depth of cultivation of the outer rigs. Set both gauge wheels to operate at the same depth.

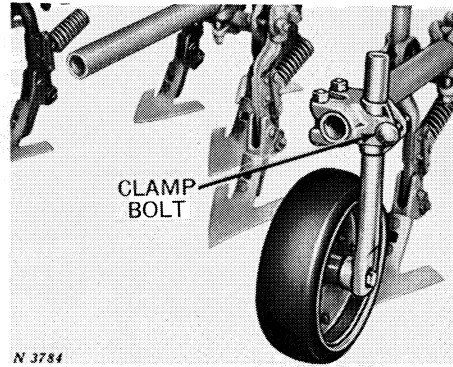
Two types of gauge wheels are available—the casting gauge wheels shown below and the rigid type shown at the right.

Casting gauge wheel



Loosen the set screw and adjust the cultivating depth by setting the gauge wheels one to two inches above the floor or ground.

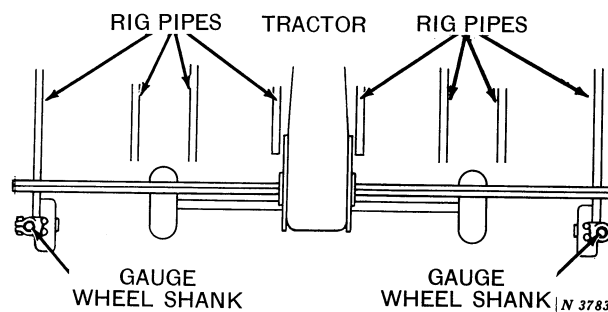
Rigid gauge wheel



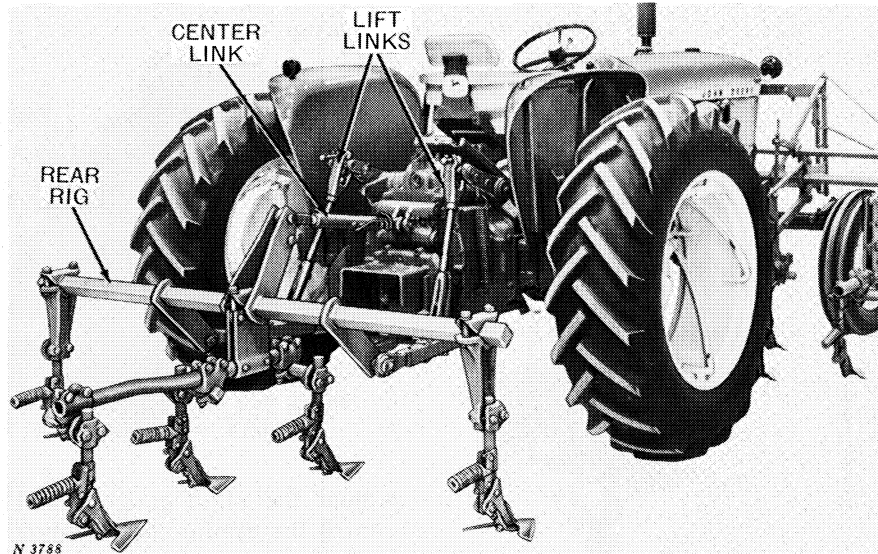
Adjust the rigid gauge wheel by loosening the clamp bolt and moving the shank to the desired position.

For normal conditions, set the gauge wheel one to two inches above the floor or ground.

The rigid gauge wheels should be attached so that the wheels are under the rig pipes as shown above and the shanks are positioned to the right and left of the rig pipes as shown below.



Rear rig



The rear rig is operated by the tractor rockshaft and controlled by the hydraulic control lever on the tractor.

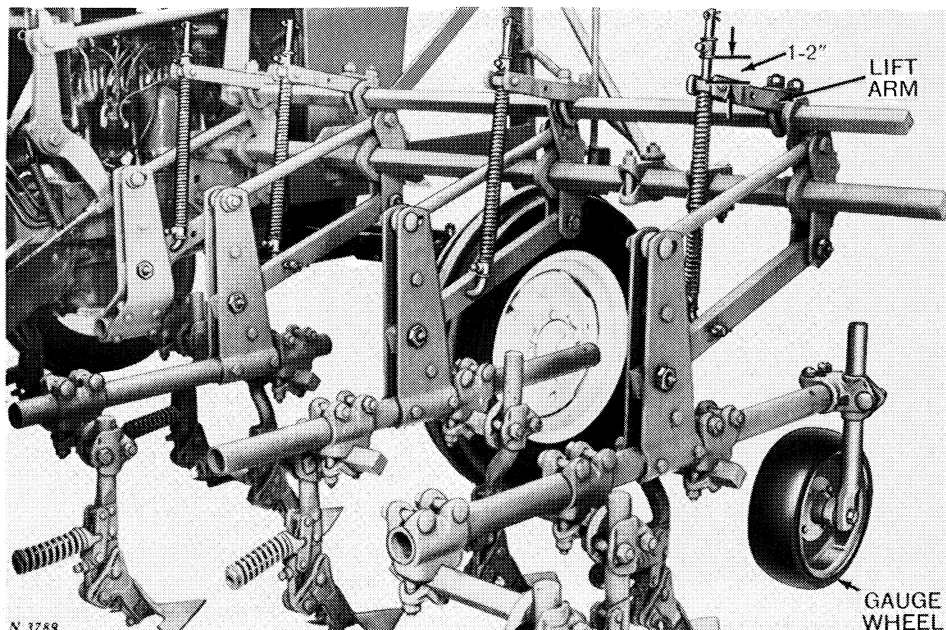
On tractors with a dual hydraulic system set for independent lift arm operation use the adjustable stop on the right-hand control lever to set the working depth of the rigs. Adjust the lift links so the rear rig is level and operates at the same depth as the front rigs.

On tractors with single hydraulic system or with dual hydraulic system set for parallel lift arm operation the working depth of the rear rig is controlled by the length of the 3-point hitch lift links. After the working depth of the front rigs has been established, lengthen or shorten the lift links as required to secure the desired working depth of the rear rig. Adjust links so the rear rig is level.

**A Careful Operator
IS THE BEST INSURANCE
AGAINST AN ACCIDENT**

—National Safety Council

Flexibility of rigs



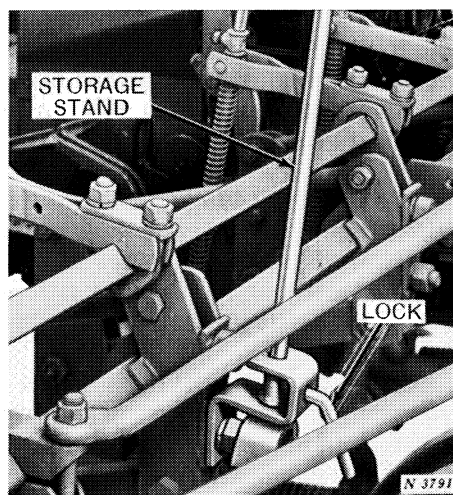
The front rigs are designed to "float" with the level of the ground. The gauge wheels on the outer rigs of the AU4 Cultivator cause the rigs to raise in the high spots and lower in the low spots.

When operating in the fields, there should be 1 to 2 inches space between the top collar on the lift rods and the lift arm. This will allow the rigs to "float," and it will maintain down-pressure on the shovels or sweeps.

Tractor tire inflation

Refer to your tractor operator's manual for operating instructions on tractor tire inflation pressures.

Storage stand



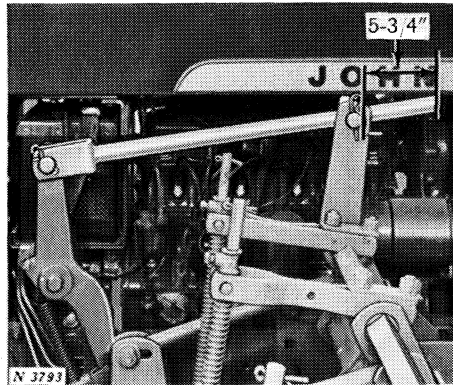
Always make sure the storage stands are locked in the up position when cultivating. Failure to follow this precaution will mean bent storage stands when the cultivator is raised out of the ground.

10 operation

Height of lift of front rigs

Adjustments are provided on the lift rods to secure the correct height of lift. Make these various adjustments on the cultivator as shown.

Lift rod



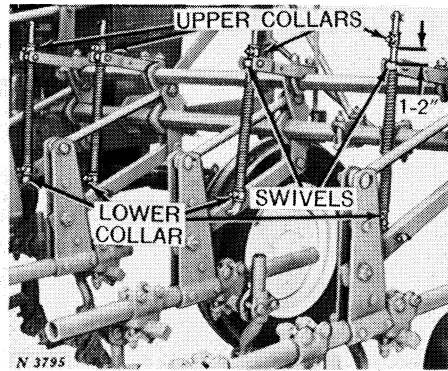
Set the distance from the end of the lift rod to the clamp, on both sides of the tractor, to approximately 5-3/4 inches.

If additional lift or greater penetration is required, move the clamp on the lift rod slightly to obtain the desired setting.

CAUTION: *Adjust the clamp on lift rod or the upper collars on the rig lift rods so the rig pipes will not strike the lower rig links or tractor when the cultivator is raised.*

Safety is more than a slogan.
It is an attitude of mind.
and a way of life.

Rig lift rods



Loosen the upper and lower collars on all the rig lift rods.

To adjust the inside rigs on the AU4 and AU2, raise the lift rod to the fully raised position by operating the tractor rockshaft control lever.

Raise the inside rigs (all rigs not controlled by gauge wheels), by hand, as high as possible. Set the upper collars down against the swivels. Pull the lower collars up snug to the spring and fasten in place.

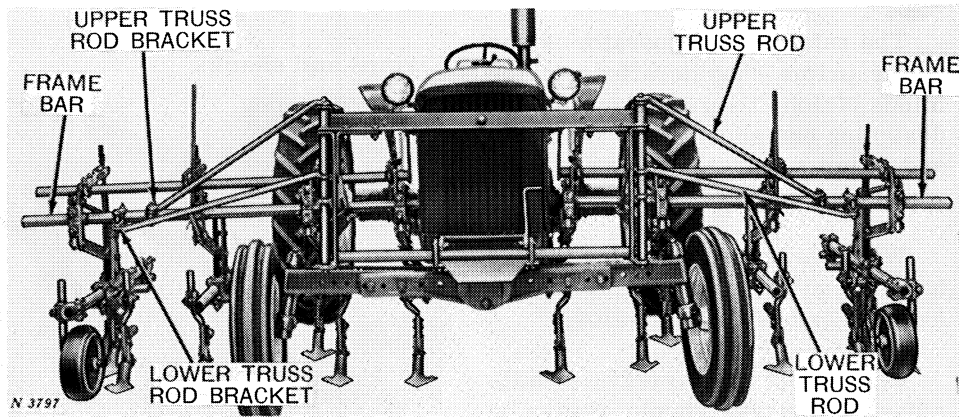
For the outside rig which is controlled by a gauge wheel on the AU4, lower these rigs back down. Set the upper collars one to two inches above the swivels. Push the lower collars up snug against the spring and fasten in place.

Adjusting down pressure

Raise the lower collars on the rig lift rods to increase down pressure.

Even though depth of operation is controlled by a gauge wheel on the outer rigs on the AU4 Cultivator, (page 7) adjust for proper down pressure to insure penetration to the depth set by the gauge wheel.

Leveling front rigs



AU4 Cultivator

In order to do a good job of cultivating, it is important that the front frames of the cultivator are level.

To check to see if they are level, stand in front of the tractor and sight along the cultivator frame bar.

If the frame is not level, move the upper truss rod bracket away from the tractor to raise the outer end of the frame. To lower the outer end of the frame, move the upper truss rod bracket toward the tractor.

To move the frame forward, move the lower truss rod bracket away from the tractor. To move the frame to the rear, move the lower truss rod bracket toward the tractor.

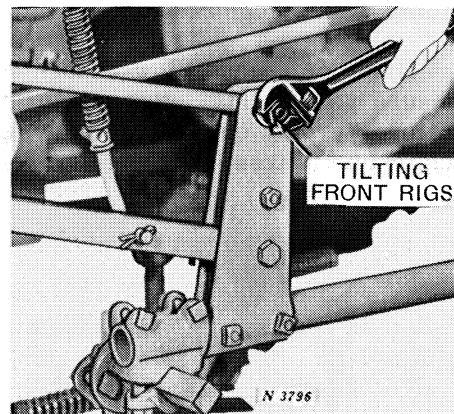
Be sure to tighten all nuts on the truss rod brackets securely.

AU2 Cultivator

To determine whether or not the front frames of the AU2 Cultivator are level, stand in front of the tractor and sight along the cultivator frame bar.

If it is not level, adjust the nuts on the truss rods until the frame is parallel and level with the tractor axle. Adjust the beveling washers so the truss rods do not bend.

Tilting front rigs



Each rig can be tilted up or down so all rig pipes will be level. The rig pipes should be about 1/4 inch higher in front so they will run level while cultivating.

Sight across the rig pipes from the side of the cultivator to see that they are the same height and tilted the same.

12 operation



Safety suggestions

The safety of the operator is one of the prime considerations in the minds of John Deere engineers when designing equipment. Safety shields and other safety features are used wherever possible.

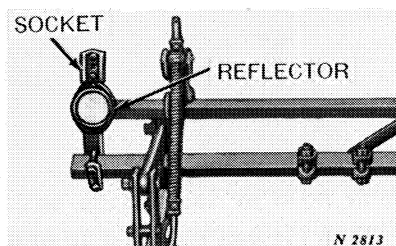
When transporting during the day hang a red flag prominently on the extreme left of the cultivator.

The rate of tractor travel on hill-sides and curves should always be such that there is no danger of tipping.

Do not ride or permit others to ride on any machine unless the person is on the seat or platform provided for the operator.

Always keep tractor in gear when going down steep grades.

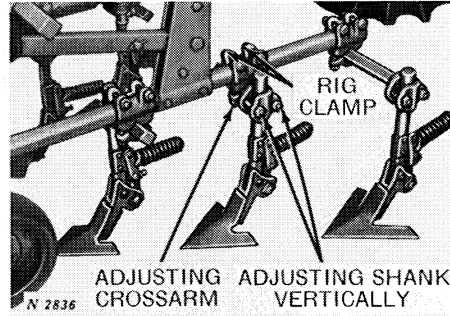
Drive at speeds slow enough to insure your safety. Reduce speed before turning quickly or applying individual brakes. Drive slowly over rough ground.



When transporting the cultivator on a public road at night, or during other periods of low visibility, use a warning lamp in the socket provided on the extreme left-hand side of the cultivator, along with the warning reflectors.

Crossarms, clamps and shanks

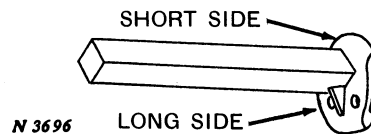
Clamps and shanks



Loosen nuts holding clamp to rig pipe to turn clamp so shank will be perpendicular to ground. Tighten nuts after setting.

Loosen nuts on bolts holding crossarm to move crossarm in or out to meet the crop condition. After setting, tighten nuts. For vertical adjustment, loosen nuts on bolts holding shanks to crossarm and level sweeps so all sweeps penetrate the soil to the same depth.

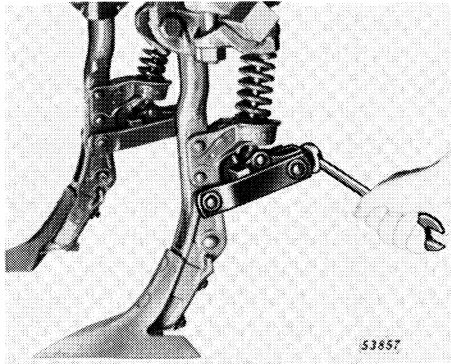
Crossarm



The clamp end of the crossarm is $\frac{3}{4}$ inch longer on one side than on the other. The crossarm used with straight shanks should ordinarily be installed so that the longer side of the clamp end is down. Crossarms with offset shanks (which are next to the rows) should be installed in the clamp so the longer side of the clamp end is up. All crossarms can be set with the longer side up to gain more ground clearance for transporting cultivator.

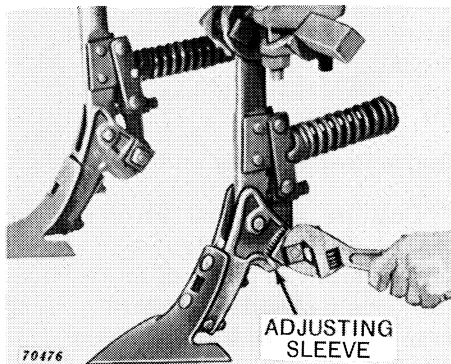
Adjusting tilt of sweeps

Spring-trip shanks



Adjusting Tilt of Quick-Adjustable Spring Trips

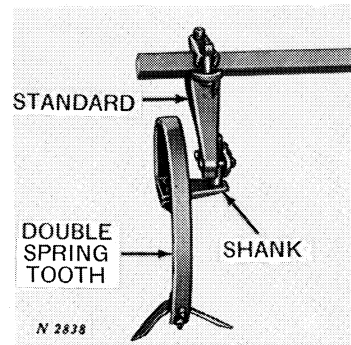
When using quick-adjustable spring-trip shanks, adjust bolt to tilt sweep so that it is in correct relationship to the ground as illustrated below.



Adjusting Sleeve on Regular Spring-Trip Shanks

When using spring-trip shanks, adjust sleeve to tilt sweep so that it is in correct relationship to ground as illustrated below.

Spring teeth



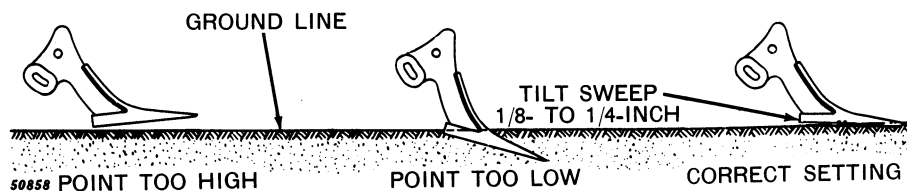
Single or double spring teeth can be used on both front and rear rigs.

The teeth can be adjusted horizontally and vertically.

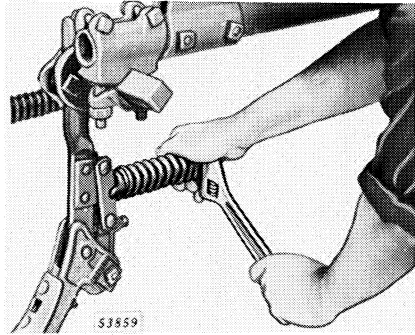
Keep your cultivator a John Deere Cultivator

Genuine John Deere shovels and sweeps have more and better material in points and wearing surfaces. They fit better, stay sharp longer, and save you money. Buy your shovels and sweeps from your John Deere dealer.

Keeping your equipment in proper adjustment will help to keep it operating efficiently and economically.



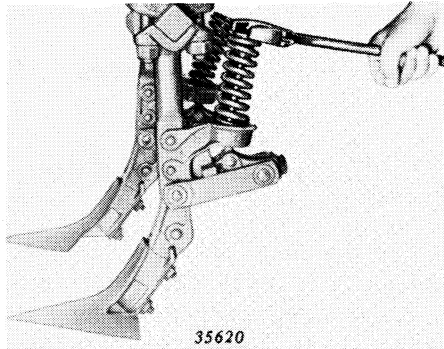
Adjusting spring trip



Regular Spring Trip

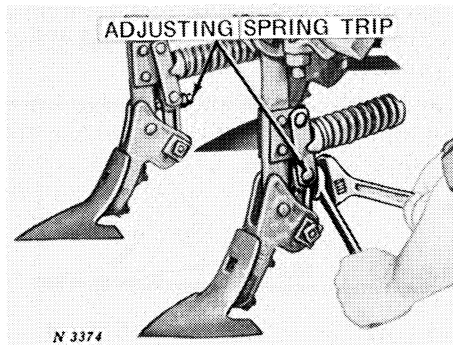
Additional adjustment, if required, may be obtained with the set screw.

This setting is made at the factory and the adjustment rarely requires changing. One-half turn of the set screw makes a big difference in the action of the trip. To make the trip hold tighter, turn the set screw out; to make the trip release more easily, turn the set screw in.



Quick-Adjusting Spring Trip

Trip each spring-trip before using cultivator to be sure it functions properly. The tension of the spring trips may be adjusted at the rear of the spring.



Adjusting the Spring Trip Set Screw

Maintenance suggestions

Shovels and sweeps

Protect the face of the shovels and sweeps from rust between cultivating seasons, or during short idle periods, by coating the polished surface with grease or heavy oil.

Sharpening shovels and sweeps

Dull or worn-out shovels or sweeps will not destroy weeds, nor permit an even depth of cultivation. They are expensive to operate. Keep your shovels and sweeps sharp!

Rigs

Rigs should never be allowed to become loose because of wear. They can easily and quickly be tightened. Keep all nuts tight and cotter pins spread.

BE SAFE

It pays to be careful,
It costs to be careless!

Front and rear rig row spacing

The spacing of the front and rear rigs on the AU4 Cultivator can be adjusted to handle rows spaced 36 to 42 inches apart. On the AU2 Cultivator the rigs can be adjusted for 28 to 42 inch rows. On new cultivators from the factory, the rigs are spaced for 40 inch rows and all rig and shank spacings should agree with the illustrations below and on pages 16 and 17. Spacing on both right-hand and left-hand rigs should be the same.

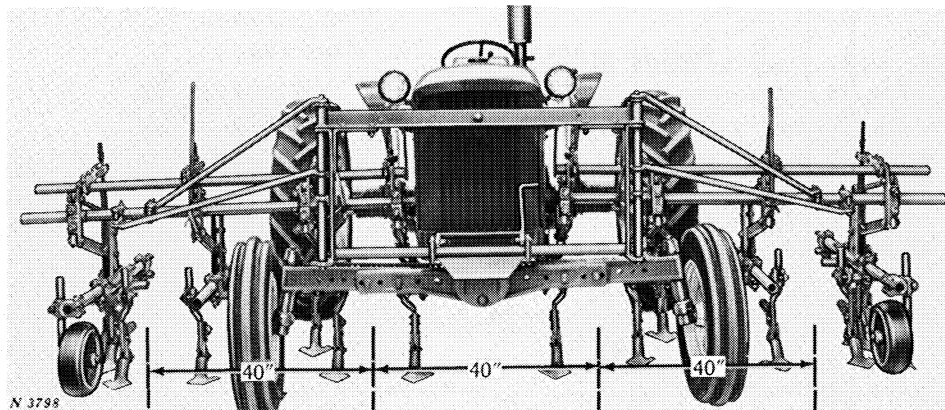
Setting rig hangers and crossarm clamps

1. To change the row spacing of the cultivator from the factory setting, first move the rig hangers to the new position.

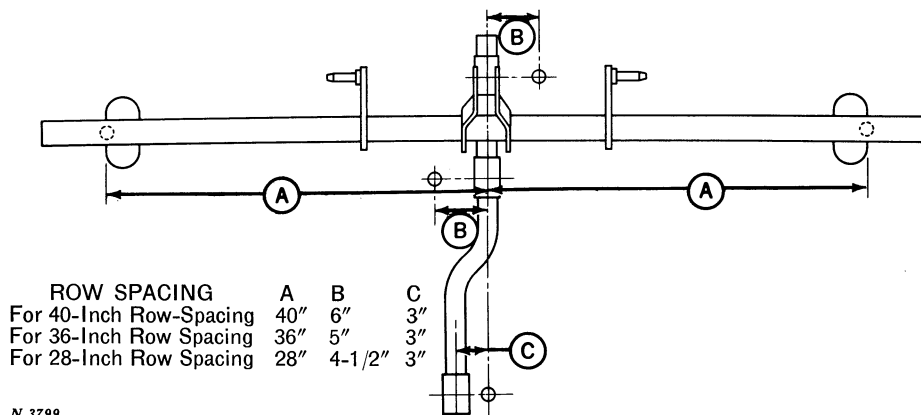
2. On the AU4 Cultivator stagger the second row of crossarm clamps behind the coupling plate as illustrated, if not already set correctly.

3. Make sure the third row of crossarm clamps is on the rear of the rig pipes as shown.

4. Reset the crossarms for the desired row spacing.



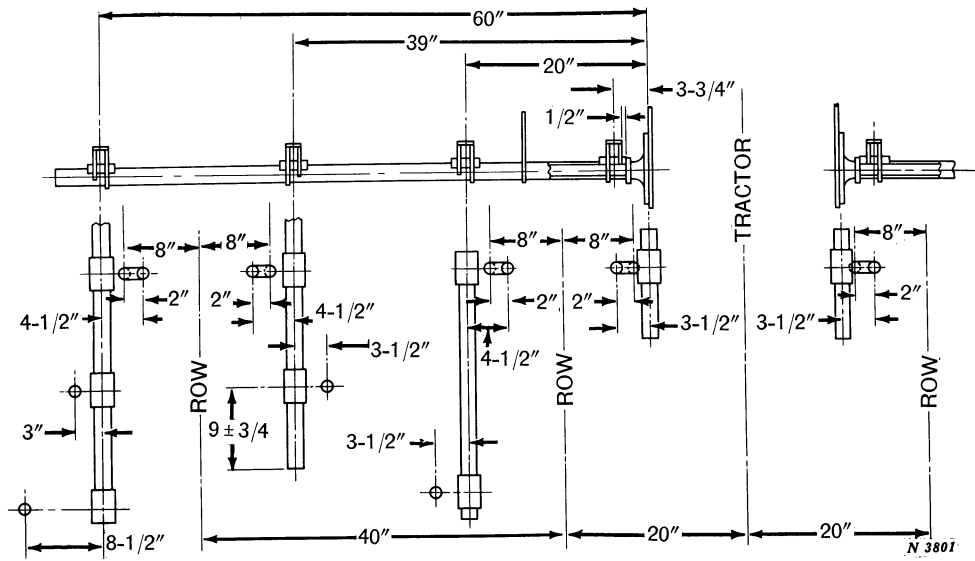
AU4 Cultivator set for 40-inch rows



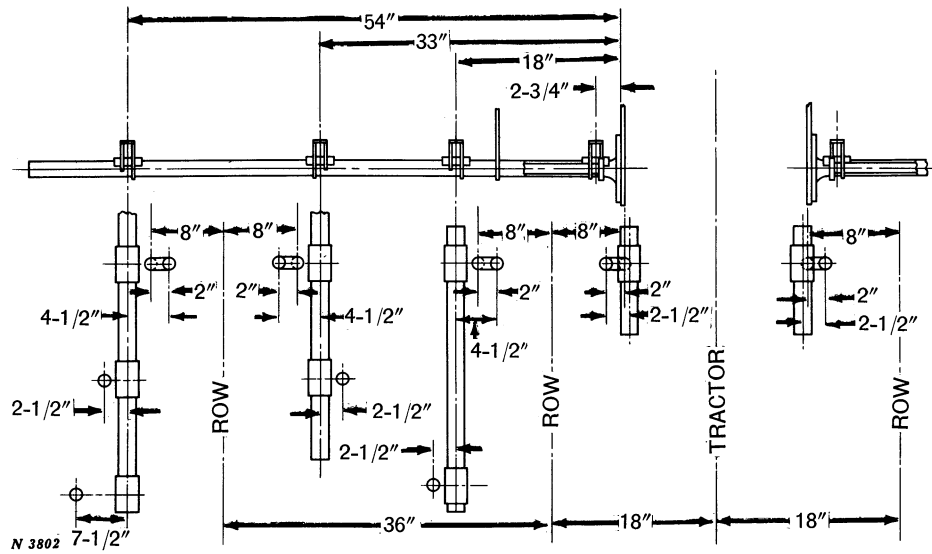
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Rear Rig Row Spacing for AU2 and AU4 Cultivators

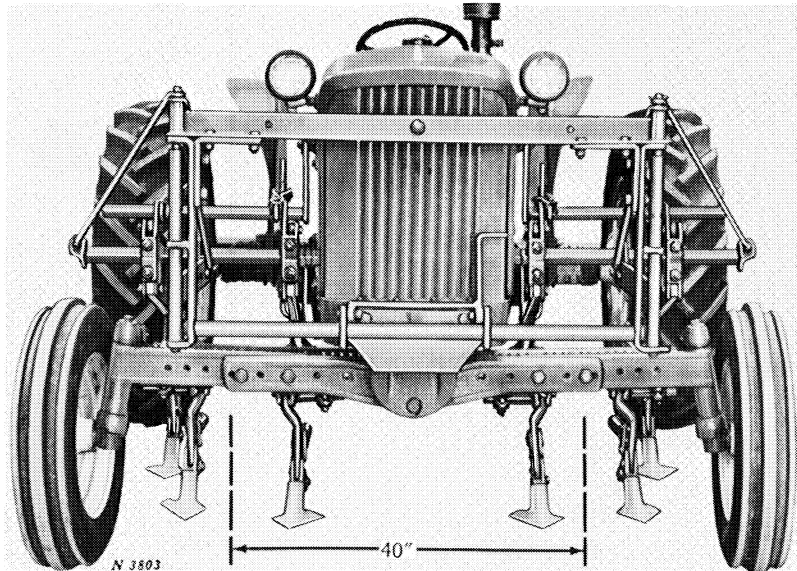
16 operation



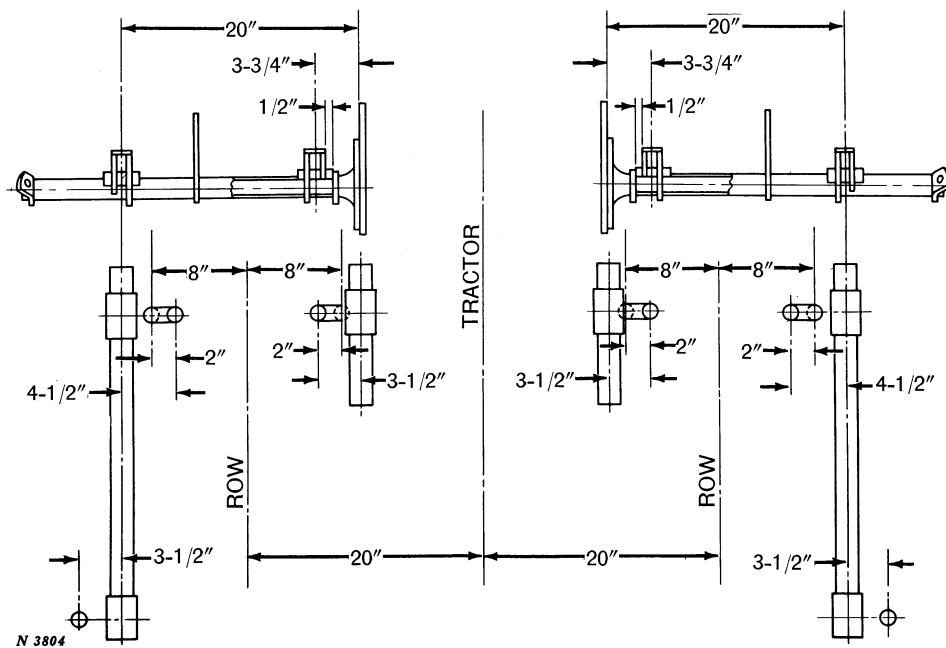
Front rigs on AU4 Cultivator set for 40-inch rows



Front rigs on AU4 Cultivator set for 36-inch rows

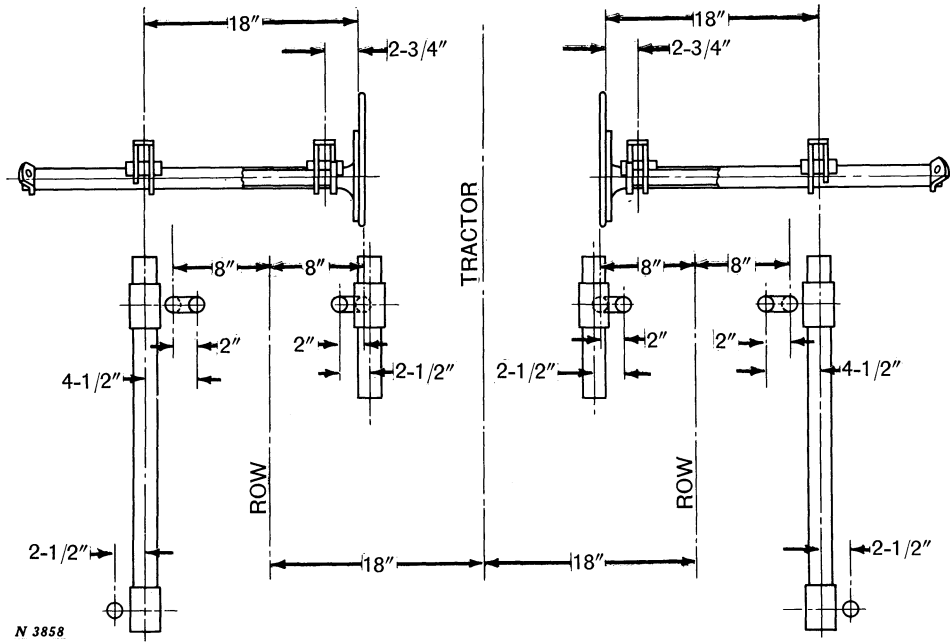


AU2 Cultivator set for 40-inch rows

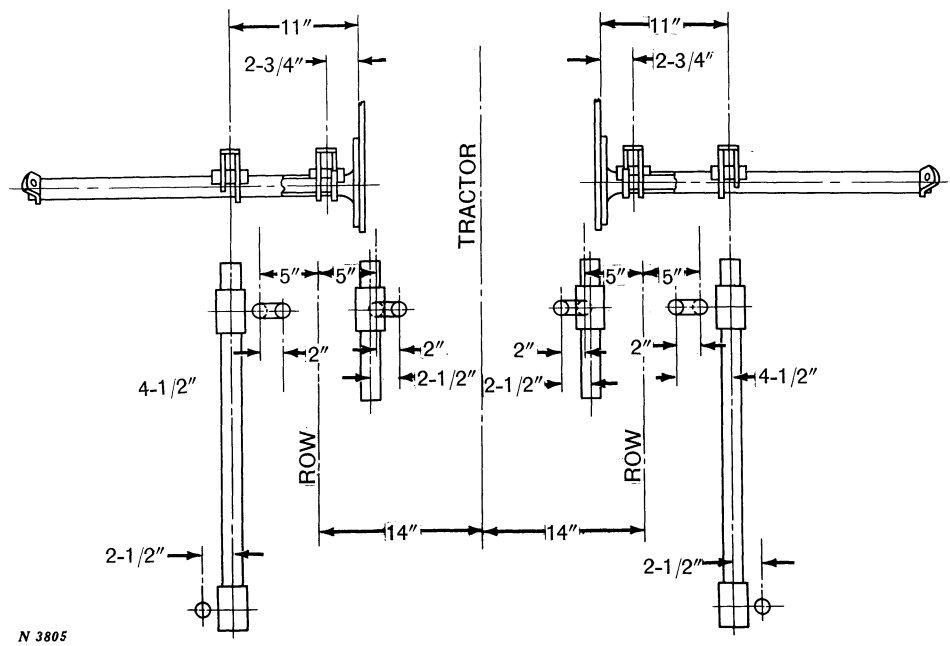


Front rigs on AU2 Cultivator set for 40-inch rows

18 operation

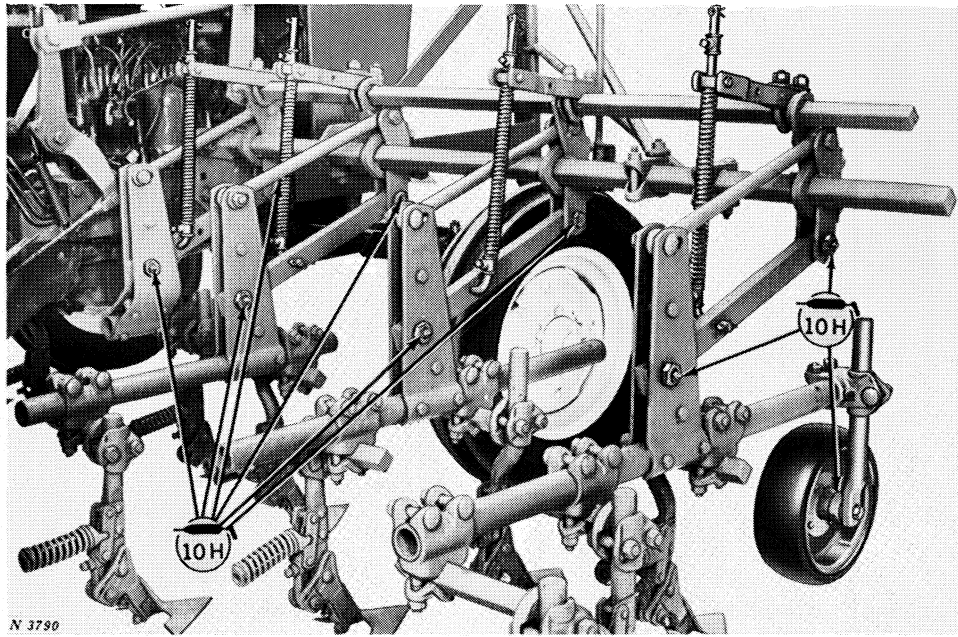


Front rigs on AU2 Cultivator set for 36-inch row spacing

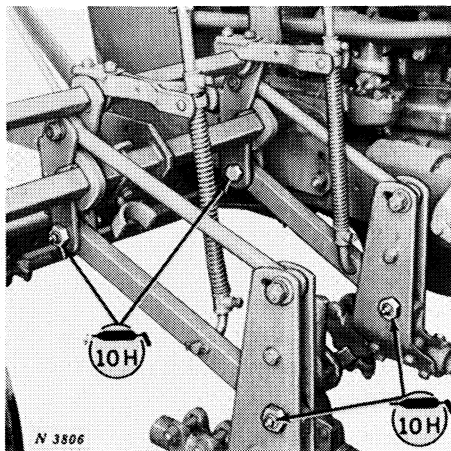


Front rigs on AU2 Cultivator set for 28-inch row spacing

Lubrication



AU4 Cultivator



AU2 Cultivator



To avoid possible injury and to insure best results always stop tractor operation and lower all units before lubricating the cultivator.

Lubricate moving parts and pivot points. Check to be sure all parts work smoothly. Lubricate grease fittings thoroughly and be sure fittings are firmly installed.

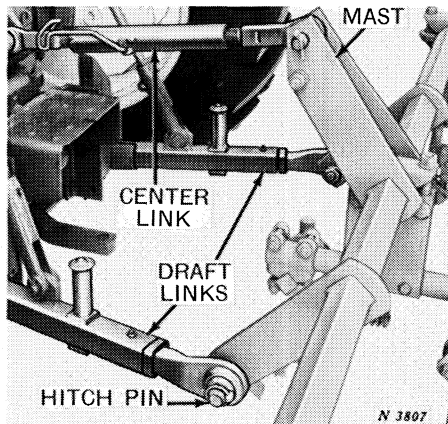
SYMBOL



Lubricate every 10 hours with SAE multi-purpose-type grease.

Detaching cultivator from tractor

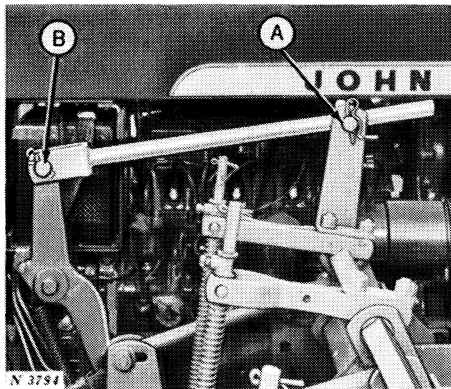
Rear rigs



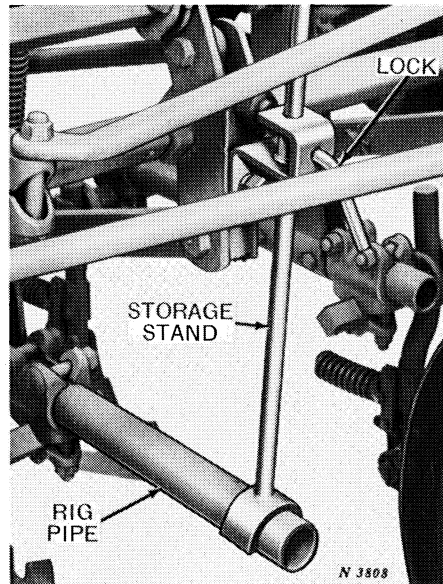
Lower the rear rig to the floor or ground. Disconnect the draft links from the hitch pins and the center link from the mast.

Front rigs

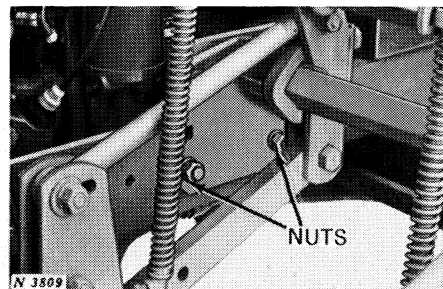
Lower the front rigs on a floor or fairly level surface.



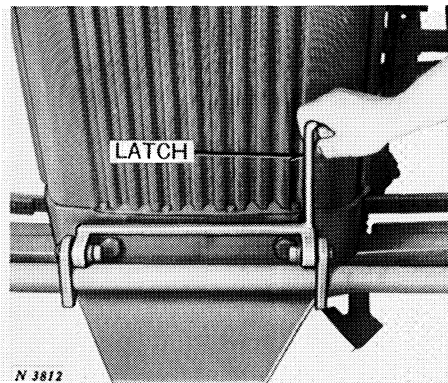
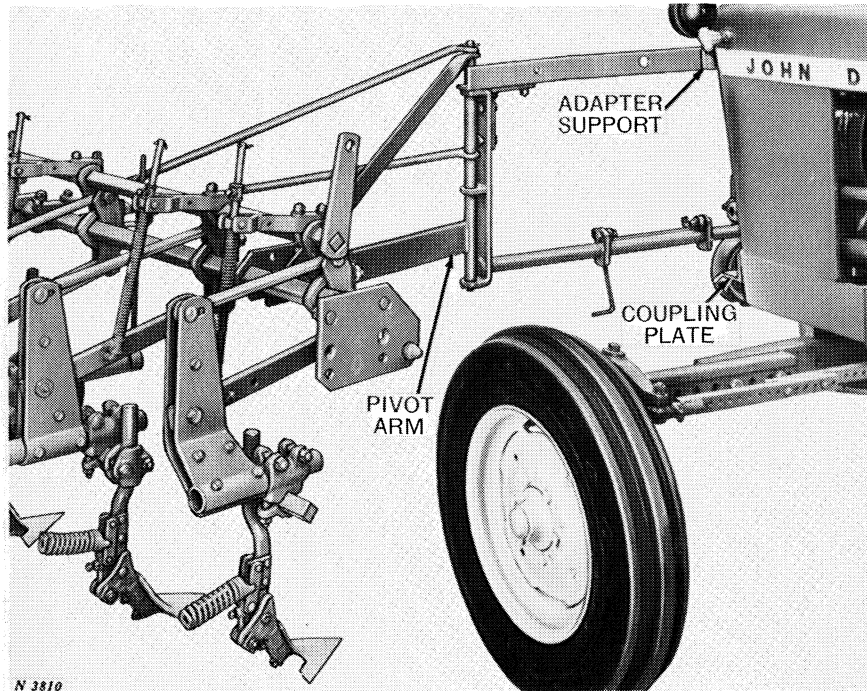
On both sides of the tractor, disconnect the lift rod first at "A" and then at "B."



Lower the storage stands so they contact the rig pipe and tighten the lock securely.



Remove the nuts from the main frame bolts on both sides of the tractor.



With the latch in the locked position as shown, back the tractor until the front rigs swing out far enough to clear the tractor front wheels.

Release the latch and back the tractor away from the cultivator.

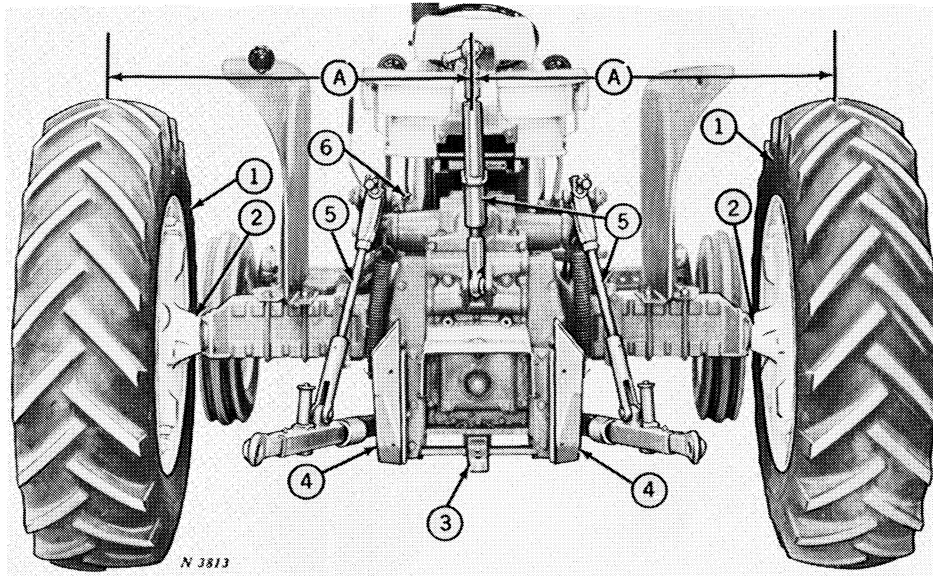
NOTE: Place the attaching bolts and nuts (used to attach the cultivator to the tractor) in the two holes provided in the Quik-Tatch pivot arm.

The front coupling plate and adapter support bracket can be left on the tractor unless they interfere with other equipment which will be mounted on tractor.

Safety is more than a slogan.
It is an attitude of mind
and a way of life.

Attaching cultivator to tractor

Preparing the tractor



1. Set the tractor rear wheels for the row spacing desired. The setting shown at "A" is for 40-inch rows. See the tractor operator's manual for instructions on adjusting wheel tread.

2. Grease the exposed portions of the tractor rear axles and wrap with burlap.

3. Move the tractor drawbar to the extreme forward position and pin in place with the offset portion of drawbar down. Insert the locking bolts to prevent drawbar from swinging.



All machinery should be operated only by those who are responsible and have been delegated to do so.

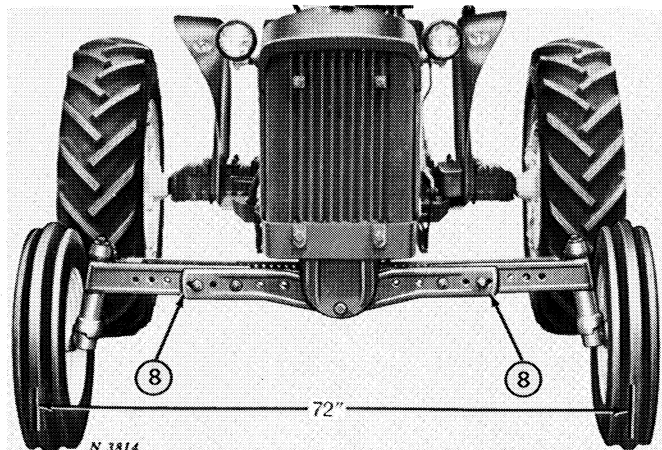
4. Set the sway blocks in the category 2 operating position as shown above. See your tractor operator's manual.

5. Set the lift links and the center link to their normal links. See your tractor operator's manual.

6. Move the load selector lever to the "D" (forward) position.

7. If tractor has a dual hydraulic system, set the hydraulic system and front rockshaft for independent or simultaneous operation as desired. See tractor operator's manual.

Front wheel row spacing



8. Set the tractor front wheel tread eight inches narrower than the crop being cultivated.

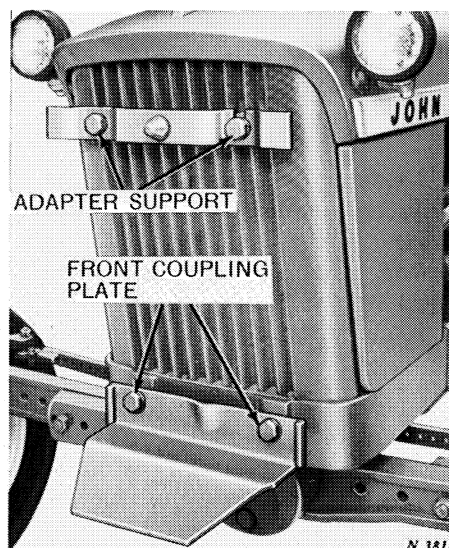
EXAMPLE: For 40-inch rows, set the front wheels to 72-inch, instead of 80-inch tread, to provide proper clearance between tractor front wheels. When adjusting the wheels, remember the spacing must be spaced equidistant from the center of the tractor.

Refer to the tractor operator's manual for operating instructions and the tractor tire inflation pressure.

BE SAFE

It pays to be careful,
It costs to be careless!

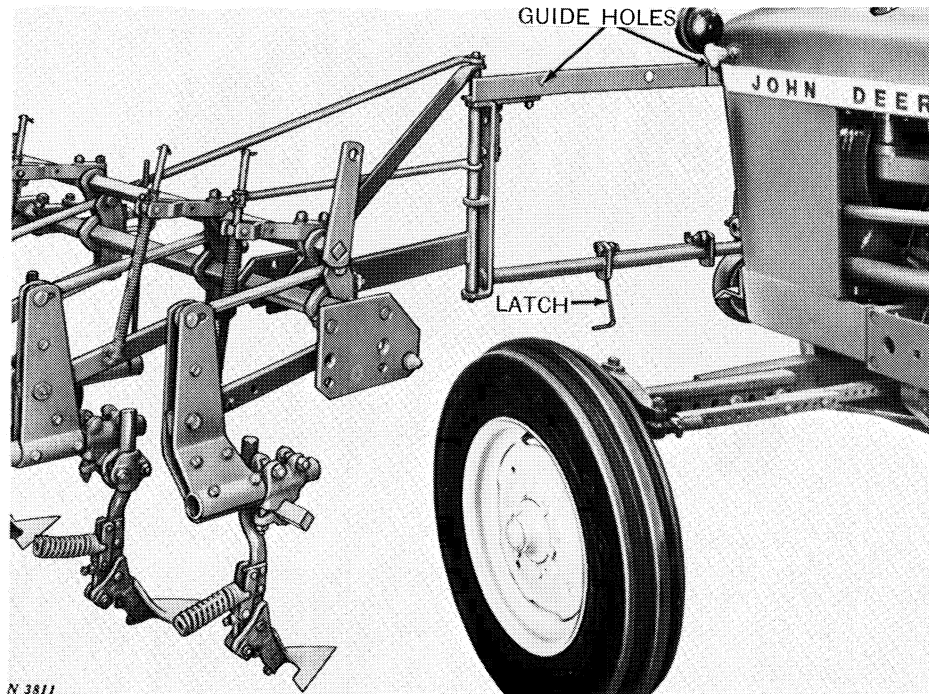
Front rigs



If removed, bolt the adapter support bracket for the upper portion of the Quik-Tatch frame to the tractor. Make sure the vertical slot is on the left side of the tractor as shown.

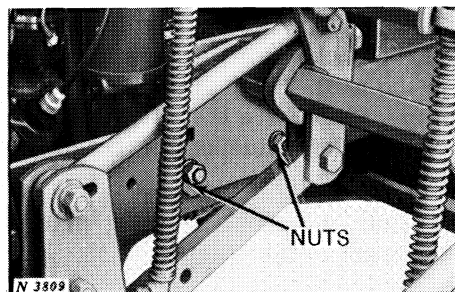
Bolt the front coupling plate to the front of the tractor.

24 attaching cultivator to tractor

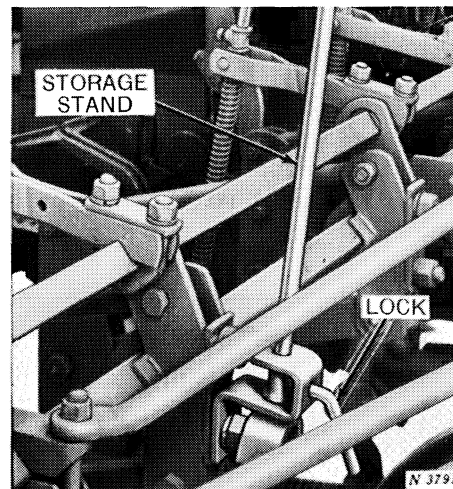


Making sure the latch is in the forward position as shown, drive your tractor firmly into the cultivator. Use the guide holes in the Quik-Tatch frame to properly line up the cultivator with the tractor.

Drive the tractor forward until the Quik-Tatch frame is seated on the coupling plate and the cultivator frames fold back to the tractor.

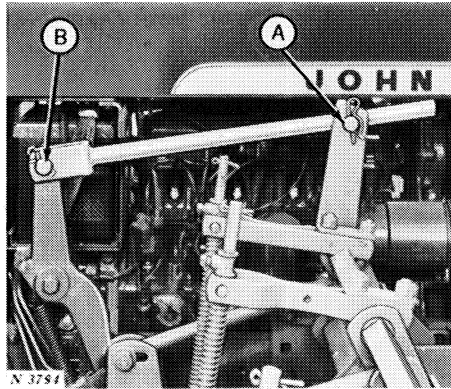


Secure the cultivator main frames to the tractor with bolts and nuts on each side.



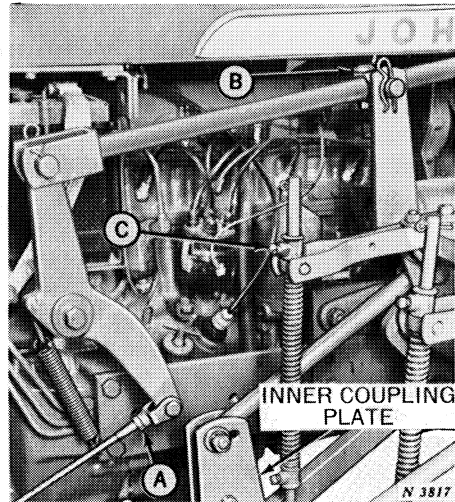
On both sides of the tractor, release and raise storage stands. Tighten lock securely.

Lift rods



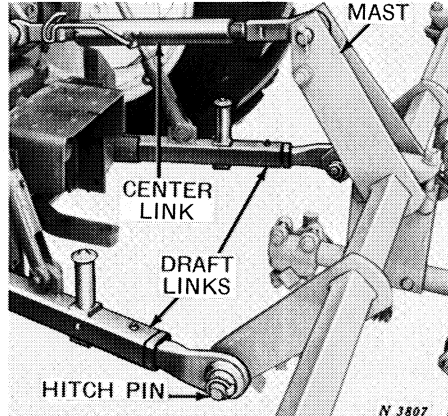
On both sides of the tractor, connect the lift rod to the cultivator lift arm and tractor rockshaft, first at "B" and then at "A."

Final adjustment



On both sides of the tractor, it may be necessary to adjust the tractor cable nut at "A" or lift rod at "B" and the upper rig lift collar at "C" so the cultivator inner coupler plates do not strike the tractor rockshaft arm when the cultivator is raised.

Rear rig



Connect the draft links to the hitch pins. Attach the center link to the mast.

Keeping your equipment in proper adjustment will help to keep it operating efficiently and economically.

Special equipment

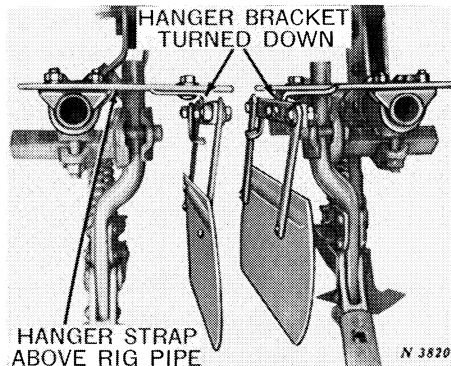
Rig-mounted shields

Shields are available as extra equipment and are assembled differently for specific types of field conditions.

Shield assembly

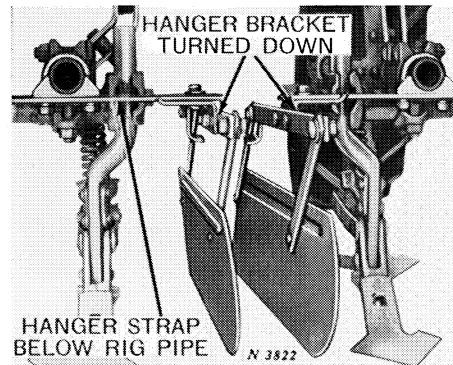
When attaching straps to rig pipes with U-bolts, use attaching holes in straps that will place shields in the best position in relation to the plants. Final adjustment can be made later using slots in inner ends of hanger straps.

Level land



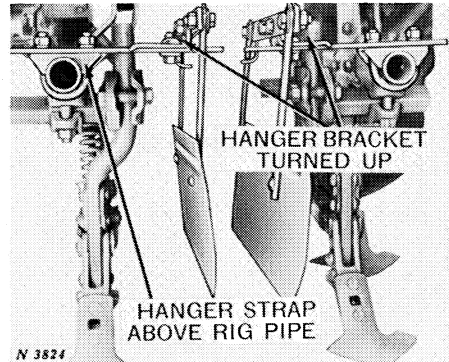
When working in crops planted on level land assemble shield as shown above, with hanger straps above rig pipes and hanger brackets turned down.

Listed Crops



When working in listed crops assemble shields as shown above, with hanger straps below rig pipes and hanger brackets turned down.

Beds

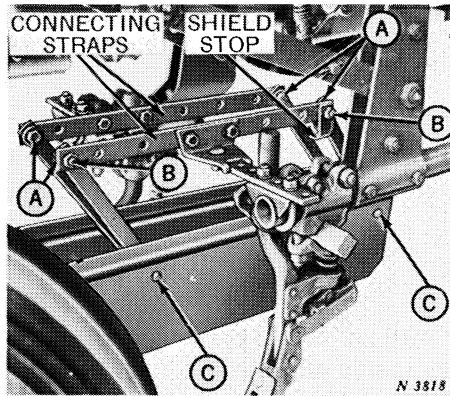


When working in crops planted on beds assemble shields as shown above, with hanger straps above rig pipes and hanger brackets turned up.

Shield adjustment

Flexibility

Bolts "A" are threaded through connecting straps and locked in place with nuts "B." Do not tighten bolts "A" against pivot straps; set them loose enough to allow shields to float up and down freely. Each rivet "C" has a shoulder long enough to reach through the strap and shield. This prevents binding and allows shields to move freely. Be sure there is no bind, at rivets, that would limit the movement of shields.



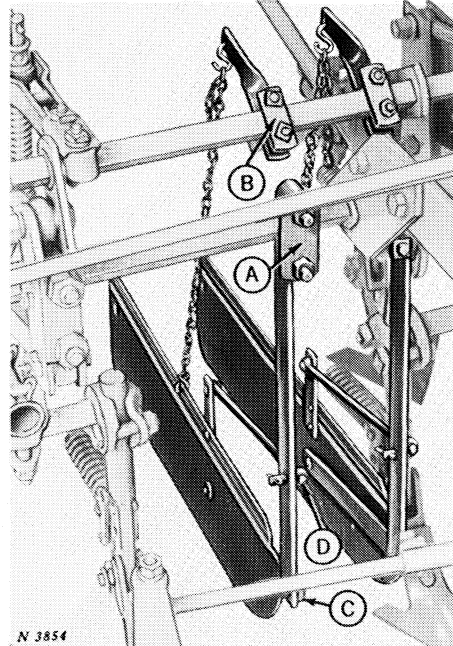
Setting Height of Shields

Shield stops determine the height at which shields are carried, by limiting the forward swing of the rear pivot straps. Stops are mounted on bolts "A" and held by nuts "B." Locate stops after bolts "A" have been adjusted for free movement as described above. Hold bolt "A" with a wrench while tightening nut "B" against the shield stop.

Positioning Shields to Plants

Slide hanger brackets in or out in hanger straps to place shields in proper relation with plants. If further adjustment is needed assemble U-bolts through different holes in straps.

Frame mounted shield



Frame - mounted shields can be assembled as described below.

Attach shields at "A" and "B." Place the smooth side of the shields next to the shovels.

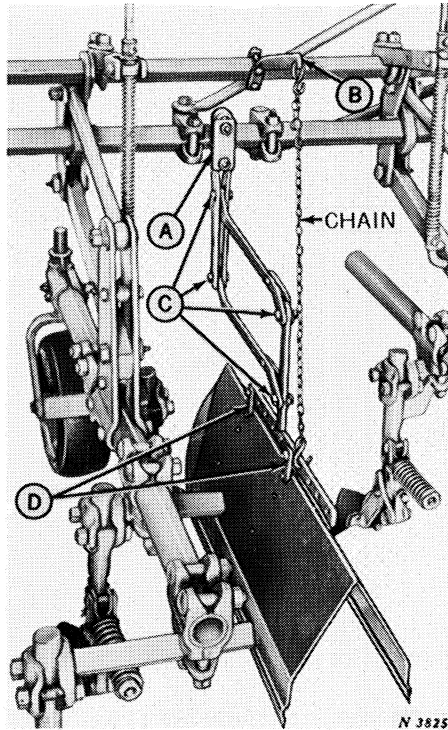
Shield arms can be attached either ahead of the frame bar (as shown above) or behind, depending on the setting of the shield desired.

Shields may be adjusted for side play at "C." If a swinging shield is desired, loosen bolts until shield swings freely and tighten lock nut. If a rigid shield is desired, screw bolt up tight, then back off 1/2 turn and tighten lock nut.

Level shields by adjusting the threaded eyebolt at "D." Adjust the height of shield with chain.

Be sure all nuts are tight, cotter pins are spread, and all moving joints thoroughly oiled. Then lift the cultivator slowly the first time, checking to see that no parts bind and that everything works properly.

Hooded shield

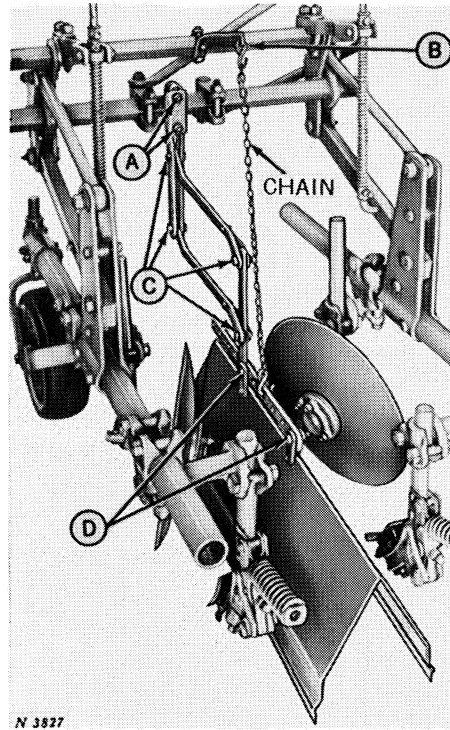


Attach the hooded shields at "A" and "B." The shield arms may be attached either ahead of the frame bar or behind (as shown above), depending on the fore-and-aft setting of the shield desired.

Shields can be adjusted for side play at "C." If a swinging shield is wanted, loosen the bolts until shield swings freely. If rigid shield is desired, screw bolts up tight.

Adjust the shields for fore-and-aft setting by resetting the bolts at "D." Adjust the height of shield with chain.

No. 1 listed crop attachment



Attach the disks to replace the two inside shanks and sweeps. These disks can be turned either in or out (as shown) for hilling or barring off the row.

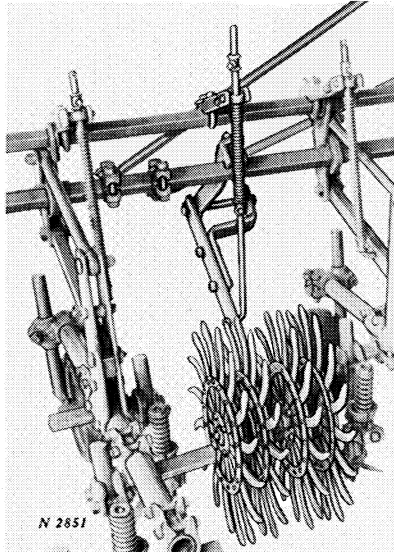
Place the inside shovels across from each other as shown.

Attach the hooded shields at "A" and "B." The shield arms may be attached either ahead of the frame bar or behind (as shown above), depending on the fore-and-aft setting of the shield desired.

Shields can be adjusted for side play at "C." If a swinging shield is desired, loosen the bolts until shield swings freely. If rigid shield is desired, screw bolts up tight.

Adjust the shields for fore-and-aft setting by resetting the bolts at "D." Adjust the height of shield with chain.

Rotary hoe attachment



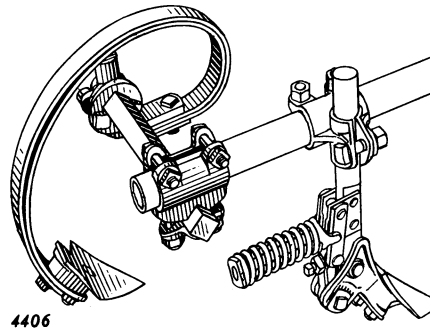
The rotary hoe attachment speeds up cultivating, gets the weeds, breaks crust in the rows, and reduces cultivating costs.

The attachment fits between the cultivator rigs, directly over each row.

The attachment consists of four steel hoe wheels, attached in pairs to white-iron hubs that turn on white-iron spindles. The spindles are securely bolted to a drawbar which is attached to the front frame bar of the cultivator by means of a pivoting attaching bracket.

A lift arm rod with pressure spring completes the assembly. For cultivating after the crop is too high for safe use of the inside wheels, the two inside hoe wheels may be removed from the double hubs by removing three bolts in each wheel. In this manner the wheels act as shields to protect the plants, permitting the cultivator to be driven much faster than otherwise would be practical.

No. 1 center attachment



The No. 1 Center Attachment is available for converting the row-type cultivator to a field-type for use in open fields. This attachment is clamped to the pipe of the outside rigs back of the second shovel. The crossarm is adjustable and should be positioned so the shovel of the center attachment cuts out the center left between the two front shovels.

It pays to be careful for
your own sake!

Accidents can . . .

Pain

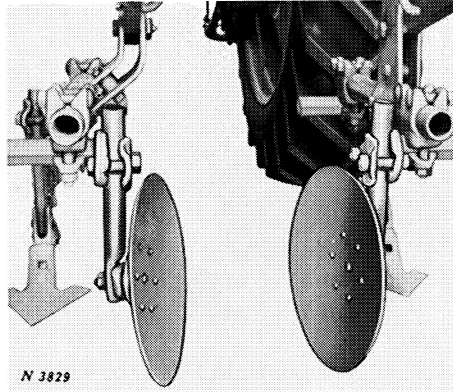
Lame

Maim

. . . and cost you money!

30 *special equipment*

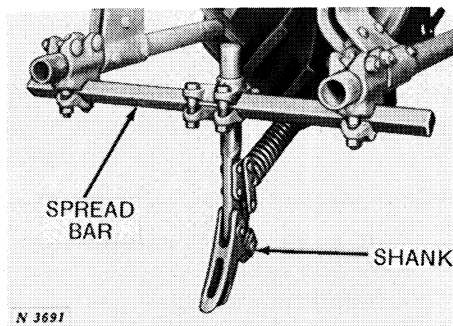
Disk hillers



Disk hillers can be used next to the rows in place of shovel shanks or spring teeth. One pair is required for each row.

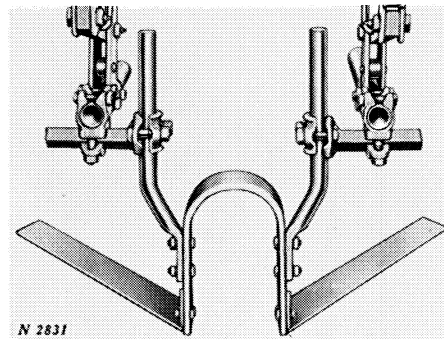
The disks may be used for hilling or barring off the row.

Spread bar



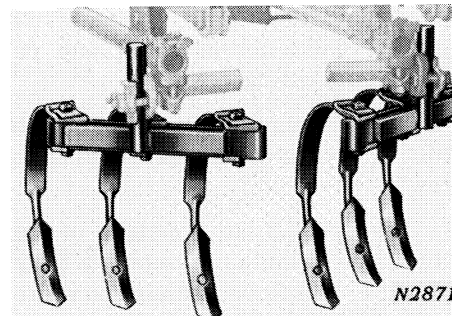
The spread bar is used in connection with planting attachments.

No. 1 knife attachment



The knife attachment can be used where heavy, vine-type weeds are a problem. This attachment speeds cultivation by slicing through trash.

No. 21 spring-tooth attachment

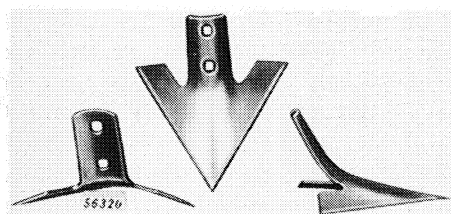


The No. 21 spring-tooth attachment is designed to meet the requirements of southern territories.

This attachment consists of a spring - tooth and narrow shovel combination.

Sweeps and shovels

High-speed general-purpose sweeps



The High-Speed General-Purpose Sweep was designed for high-speed cultivation, principally in the northern corn growing territories where difficult scouring conditions exist.

It's a highly polished sweep and is polished in the direction of the flow of the soil for better penetration and quick scouring in all types of soil.

These sweeps have a low-wing angle, a low-sweeping crown, and a long, narrow shank. They're designed to lift and stir the topsoil, allowing it to flow smoothly, leaving a loose mulch on top and destroying the weeds at the same time. These sweeps are not designed to hill up ridges but only to throw enough dirt to cover weeds between plants in rows.

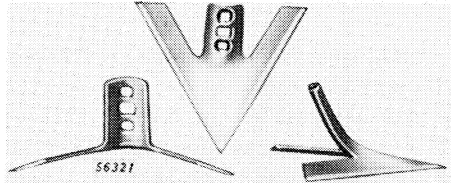
The high carbon, forging-type steel used in manufacturing these sweeps assures durability and strength for longer wear and service.

High - Speed General - Purpose Sweeps in the 6-, 8-, and 10-inch sizes as well as the 5-inch half and 6-1/2-inch three-quarter sizes are 3/16-inch thick. The 12-inch sweeps are 1/4-inch thick. The sweeps are heat treated for long wear and durability. The carbon content and heat treatment contribute to the hardness and toughness, assuring longer service and greater strength to resist shock and stains. Laboratory tests show these sweeps to be harder than any sweeps tested. They're plated or beveled on the bottom to assure a sharp straight edge as the sweep wears.

The High-Speed General-Purpose Sweep has two bolt holes with 2-inch centers for 7/16-inch plow bolts.

Size	Sweep Number	Description
6"	Y906N	Full Sweep, 3/16"
8"	Y907N	Full Sweep, 3/16"
10"	Y908N	Full Sweep, 3/16"
12"	Y909N	Full Sweep, 1/4"
6-1/2"	Y910N	R.H. Three-Quarter Sweep, 3/16"
6-1/2"	Y911N	L.H. Three-Quarter Sweep, 3/16"
5"	Y912N	R.H. Half-Sweep, 3/16"
5"	Y913N	L.H. Half-Sweep, 3/16"

Rocket sweeps



Rocket Sweeps are designed for high-speed cultivation. They're durable . . . made of top-quality materials . . . have a smooth finish. These sweeps are usually used in abrasive soils where scouring is not a serious problem.

These durable Rocket Sweeps have a low-wing angle, a low crown, and a long, narrow shank. They're designed to reduce ridging and merely lift and stir the topsoil, leaving a loose mulch on top and destroying weeds at the same time.

While there is a minimum of ridging, they still do a thorough job of weed destroying, leave a well-mulched topsoil, and throw enough soil between plants to cover the weeds.

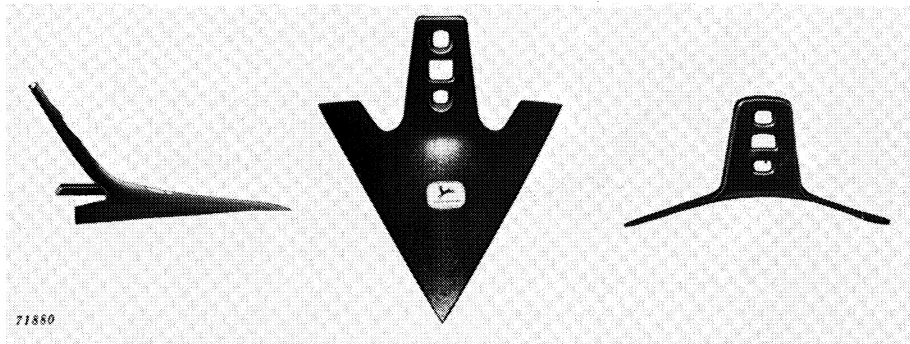
Rocket Sweeps are made from high-carbon, forging-type steel which assures hardness and toughness for a longer wear and greater shock resistance.

The 6-, 8- and 10-inch sweeps are 3/16-inch thick while the 12-, 14-, and 16-inch sizes are 1/4-inch thick. Five-inch half sweeps and 6-1/2-inch three-quarter sweeps are also 3/16-inch thick and available in right- and left-hand sizes. All Rocket Sweeps are heat treated and plated or beveled at the bottom to assure a sharp cutting edge as wear occurs.

All Rocket Sweeps have three bolt holes; two counter-sunk holes for use with two 7/16-inch plow bolts and a center hole for attaching with one 5/8-inch carriage bolt as preferred in some territories.

Size	Sweep Number	Description
6"	Y861AN	Full Sweep, 3/16"
8"	Y862AN	Full Sweep, 3/16"
10"	Y863AN	Full Sweep, 3/16"
12"	Y864AN	Full Sweep, 1/4"
14"	Y865AN	Full Sweep, 1/4"
16"	Y866AN	Full Sweep, 1/4"
6-1/2"	Y934N	R.H. Three-Quarter Sweep, 3/16"
6-1/2"	Y935N	L.H. Three-Quarter Sweep, 3/16"
5"	Y936N	R.H. Half-Sweep, 3/16"
5"	Y937N	L.H. Half-Sweep, 3/16"

Fleetwing sweeps



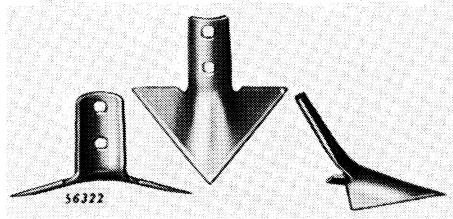
The Fleetwing sweeps were developed for use in fast cultivation on all jobs where soil should flow over the crown and wings and not be thrown toward the plant.

The Fleetwing is designed "flatter" throughout with a low crown, having long, low tapered wings and a narrow shank. With this design, high-speed cultivation with a really thorough job of weed eradication and a minimum of soil disturbance, can be attained.

These sweeps are made from 3/16- and 1/4-inch high-carbon steel, fine-grain, silicon-killed steel that is tops in uniformity and resistance to wear and breakage. The sweeps are plated or beveled on the bottom to maintain a sharp leading edge as they wear. They are heat treated for extra strength,

thickness and longer wearing qualities. The smooth "tumble blast" finish assures good scouring. All sweeps have three attaching holes; two countersunk holes on 2-inch centers for 7/16-inch plow bolts, and a center square hole for a 5/8-inch carriage bolt.

Size	Sweep Number	Description
6-1/2"	Y976N	R.H. Three-Quarter Sweep, 3/16"
6-1/2"	Y977N	L.H. Three-Quarter Sweep, 3/16"
6"	Y975N	Full Sweep, 3/16"
8"	Y959N	Full Sweep, 3/16"
10"	Y960N	Full Sweep, 3/16"
12"	Y961N	Full Sweep, 3/16"
14"	Y962N	Full Sweep, 1/4"
16"	Y963N	Full Sweep, 1/4"
18"	Y964N	Full Sweep, 1/4"
20"	Y965N	Full Sweep, 1/4"

Zephyr sweeps

The Zephyr Sweep is a wide angle sweep, popular in many territories. Its positive shearing action cuts off weeds which might otherwise slip past the ends of the wings.

The Zephyr Sweep has a smooth finish that scours well in practically all soil conditions. The sweep is beveled on the bottom which assures a self-sharpening action and helps maintain a sharper edge throughout the long life of the sweep.

The Zephyr Sweep has a low crown and a low wing angle. As a result, less dirt is thrown; there's a minimum of ridging when cultivating at high speeds. The soil is merely lifted, the crust broken, the soil mixed and dropped loosely, thereby helping to conserve moisture and destroy weed and grass growth.

Only the best grade, high-carbon, forging-type steel is used in the manufacture of these sweeps. All are a full 3/16-inch thick, heat treated

for hardness and toughness for longer wear and shock resistance.

They are manufactured in 8-, 10-, and 12-inch sizes, and also 5-inch right- and left-hand sizes.

Zephyr Sweeps are available with two or three attaching bolt holes.

The hole spacing for two-hole sweeps is 2 inches for 7/16-inch attaching plow bolts. The three-hole sweeps have two holes on 2-inch centers for 7/16-inch attaching plow bolts with a center square hole for a 5/8-inch carriage bolt.

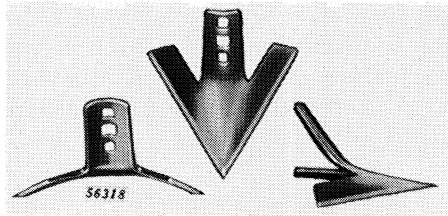
2-hole zephyr sweeps

Size	Sweep Number	Description
8"	Y927N	Full Sweep, 3/16"
10"	Y928N	Full Sweep, 3/16"
12"	Y929N	Full Sweep, 3/16"
5"	Y930N	R.H. Half-Sweep, 3/16"
5"	Y931N	L.H. Half-Sweep, 3/16"

3-hole zephyr sweeps

Size	Sweep Number	Description
8"	Y939N	Full Sweep, 3/16"
10"	Y940N	Full Sweep, 3/16"
12"	Y941N	Full Sweep, 3/16"
5"	Y942N	R.H. Half-Sweep, 3/16"
5"	Y943N	L.H. Half-Sweep, 3/16"

Mixed-land sweeps



The Mixed-Land Sweep is a durable sweep and was designed principally for cultivation in southern soils. In the cultivation of cotton where it is necessary to hill up a cotton bed, the cultivating sweep must have a high-wing angle, high broad crown, and a wide shank.

The Mixed-Land Sweep fully meets these requirements. It is designed to ridge up the cotton beds and throw a large amount of soil, even at slow speeds, and leave a loose, mulched mellow topsoil.

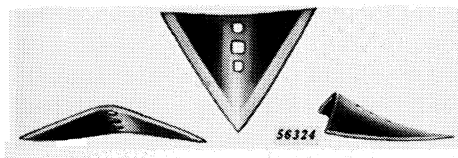
This sturdy sweep, available in sizes from 4 to 16 inches, is made of 1/4-inch high carbon steel and is

heat-treated for extra strength and wear.

Six and one-half inch three-quarter sweeps are available in right- and left-hand types. The sweeps are plated or beveled on the bottom side to maintain sharp edges longer. All sweeps have three holes; two countersunk holes on 2-inch centers for 7/16-inch plow bolts and a center square hole for 5/8-inch carriage bolt.

Size	Sweep Number	Description
6-1/2"	Y809AN	L.H. Three-Quarter Sweep, 1/4"
6-1/2"	Y808AN	R.H. Three-Quarter Sweep, 1/4"
4"	Y901N	Full Sweep, 1/4"
6"	Y802AN	Full Sweep, 1/4"
8"	Y803AN	Full Sweep, 1/4"
10"	Y804AN	Full Sweep, 1/4"
12"	Y805AN	Full Sweep, 1/4"
14"	Y806AN	Full Sweep, 1/4"
16"	Y807AN	Full Sweep, 1/4"

Solid sweeps



The Solid Triangle-Type Sweep throws a large amount of soil and is ideal for use in southern territories for hilling up cotton beds and in irrigation ditch or furrow.

The Solid Sweep is made of 3/16-inch high-carbon steel which assures extra hardness and toughness to withstand the strains of heavy-duty cultivating work. They have sharp points for easy penetration and efficient operation.

The John Deere Solid Sweep is available in a variety of sizes from 8 to 20 inches. It has three holes; two countersunk holes on 2-inch centers for 7/16-inch plow bolts and a center square hole for a 5/8-inch carriage bolt.

Size	Sweep Number	Description
8"	Y831AN	Full Sweep, 3/16"
10"	Y832AN	Full Sweep, 3/16"
12"	Y833AN	Full Sweep, 3/16"
14"	Y834AN	Full Sweep, 3/16"
16"	Y835AN	Full Sweep, 3/16"
18"	Y836AN	Full Sweep, 3/16"
20"	Y837AN	Full Sweep, 3/16"

Blackland sweeps

The husky Blackland Sweep is designed for cultivating in areas where scouring is difficult. It is excellent for hilling and ridging cotton beds.

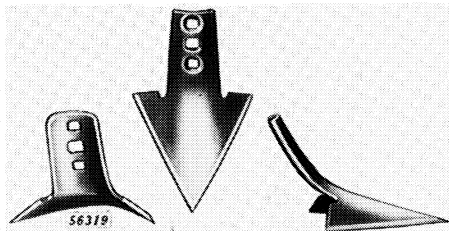
The Blackland Sweep is long and narrow with a high crown and an unusually high-wing angle which provides quick cleaning and scouring. The Blackland Sweep has a smooth tumbleblasted finish that scours readily in sticky blackland soils.

It's made of high-carbon steel to assure long wear and resistance to shocks of day-to-day cultivation.

All 4-, 6-, 8-, and 10-inch sweeps are made of 3/16-inch, high-carbon

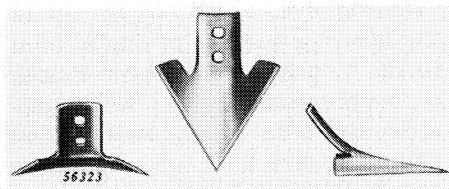
steel while the 12-, 14-, 16-, 18-, and 20-inch sizes are made of 1/4-inch high-carbon steel. All sweeps are heat-treated and plated or beveled on the bottom to assure a sharp cutting edge at all times.

Blackland Sweeps have three holes; two countersunk holes on 2-inch centers for attaching with two 7/16"-inch plow bolts and a center square hole, as preferred in some sections for use with a 5/8-inch carriage bolt.



Size	Sweep Number	Description
4"	Y845AN	Full Sweep, 3/16"
6"	Y846AN	Full Sweep, 3/16"
8"	Y847AN	Full Sweep, 3/16"
10"	Y848AN	Full Sweep, 3/16"
12"	Y813AN	Full Sweep, 1/4"
14"	Y814AN	Full Sweep, 1/4"
16"	Y827AN	Full Sweep, 1/4"
18"	Y828AN	Full Sweep, 1/4"
20"	Y929AN	Full Sweep, 1/4"

General-purpose sweep



The General-Purpose Sweep is designed especially for use with a single spring-tooth standard on row-crop cultivators. It's a husky, 6-inch sweep, manufactured from 3/16-inch high-carbon, forging-type steel; heat-treated for extra hardness and long wear. 4-1/2-inch half sweeps are available in right- and left-hand types.

Polished in the direction of the flow of the soil, this sweep will scour cleanly and leave a smooth field finish. Wings are low pitched to facilitate soil flow and scouring. This sweep has two attaching holes on 1-1/4-inch centers for two 3/8-inch plow bolts.

Size	Sweep Number	Description
6"	Y860AN	Full Sweep, 3/16"
4-1/2"	Y987N	L.H. Half-Sweep, 3/16"
4-1/2"	Y986N	R.H. Half-Sweep, 3/16"

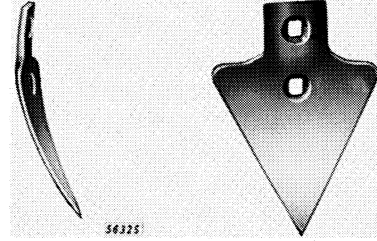
Single-pointed shovels (spear points)

The Single - Pointed Shovel or Spear Points are particularly suitable for working in conditions where extreme care must be taken not to injure plants. These shovels are ideal for killing weeds; do an excellent job of cultivating in row-crops.

Single-pointed shovels are available in two types; with 1-1/4-inch hole spacing for single spring-tooth standards, and with 2-inch hole spacing for double spring-tooth standards.

Both types of shovels are made in 1/4-inch solid high-carbon, heat-treated steel and in 1/4-inch soft-center steel.

Sizes available range from 2 by 7 inches to 5-1/2 by 7-3/4 inches.



Soft-center steel shovels are rolled at the mill in three uniform layers. The outside layers are made of very high-carbon, forging-type steel while the inside layer is comparatively soft; it contains relatively little carbon. As a result, the outside layers are extremely hard for long wear and durability while the inside layer is relatively soft to absorb shock and strain.

Single-pointed shovels for open sleeve shanks and double spring-tooth standards

Shovel No.	Width	Length	Description
Y 786 AN	5-1/2"	7-3/4"	Shovel, soft center steel, with two countersunk holes on 2-inch centers. Use CA-2008AN bolt sets.
Y 900 N	5-1/2"	7-3/4"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 2-inch centers. Use with CA2008AN bolt sets.
Y 794 AN	3-1/4"	7"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 2-inch centers. Use CA2014AN bolt sets.
Y 988 N	5"	10"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 2-inch centers and one center square hole. Use 7/16 plow bolts for the countersunk holes or 5/8-inch carriage bolt for the square hole.
Y 989 N	8"	10"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 2-inch centers and one center square hole. Use 7/16 plow bolts for the countersunk holes or 5/8-inch carriage bolt for the square hole.
Y 990 N	10"	10"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 2-inch centers and one center square hole. Use 7/16 plow bolts for the countersunk holes or 5/8-inch carriage bolt for the square hole.

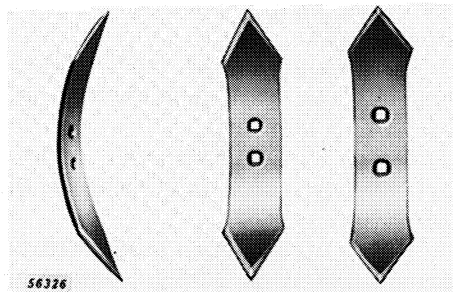
Double-pointed shovels

The Double-Pointed Shovels are strong and sturdy to withstand the most severe cultivating conditions; they're ideal for use where it's necessary to cultivate deep to stir up more ground. These shovels are also used to loosen the soil compacted by tractor wheels.

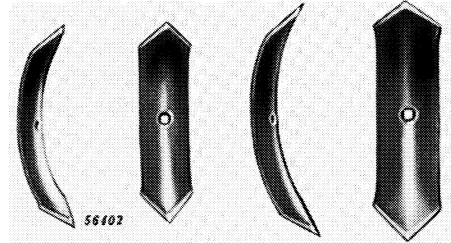
These rubbed shovels wear longer and stay sharp longer because they're made of extra hard, high-carbon steel. The points are reversible, providing double duty and longer life.

Bolt holes are square with deep, smooth countersinks so that bolts fit flush and scour cleanly.

Double-pointed shovels, shown below, are available for single spring tooth standards and double spring tooth standards.



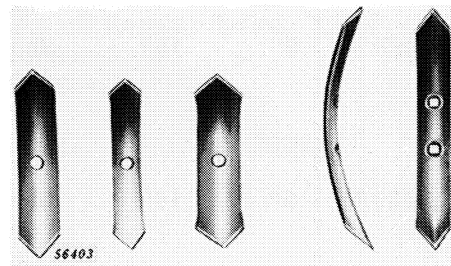
The double-pointed shovels for single spring-tooth standards are 1/4-inch thick and made in sizes of 2 by 11 inches, 2-1/2 by 11 inches, and 3 by 11 inches with 1-1/4-inch



hole spacing for two 3/8-inch plow bolts.

Double-pointed shovels for open sleeve shanks are available in two types - with one hole and with two holes. The one-hole shovels shown above, are oval shaped, 5/32-inch thick and are available in sizes from 1-1/4 by 10-3/4 to 3-1/4 by 10-3/4 inches for attaching with one 3/8-inch plow bolt.

The two-hole shovels, shown below, are also oval shaped, and are used for heavy-duty cultivating. They range in sizes from 1-1/2 by 11 to 2 by 11 inches and are made from 1/4 or 3/8-inch high-carbon steel with 2-inch hole spacing for attaching with two 7/16-inch plow bolts.



Single- or double-pointed shovels for single spring-tooth standards

Shovel No.	Width	Length	Description
Y 778 AN	3-1/4"	7"	Shovel, 1/4-inch high-carbon steel, with two countersunk holes on 1-1/4-inch centers. Use CA3203N bolt sets.
Y 730 AN	2"	7"	Shovel, soft-center steel, with two countersunk holes on 1-1/4-inch centers. Use CA3203N bolt sets.
Y 722 AN	2"	11"	Double-pointed shovel, with two countersunk holes on 1-1/4-inch centers for two CA3203N bolt sets.
Y 950 N	2-1/2"	11"	Double-pointed shovel, with two countersunk holes on 1-1/4-inch centers for two CA3203N bolt sets.
Y 951 N	3"	11"	Double-pointed shovel, with two countersunk holes on 1-1/4-inch centers for two CA3203N bolt sets.
Y 952 N	3"	10-3/4"	Double-pointed, oval-shaped, with two countersunk holes on 1-1/4-inch centers for two CA3203N bolt sets.

Double-pointed shovels for open sleeve shank and single spring-tooth standards

Y 616 AN	1-1/4"	10-3/4"	Double-pointed shovel; oval shaped; 5/32" high-carbon, forging-type steel with tumble-blasted finish. Use CA2009AN bolt set for open sleeve shank and CA2017AN for spring-tooth.
Y 599 AN	1-3/4"	10-3/4"	Double-pointed shovel; oval shaped; 5/32" high-carbon, forging-type steel with tumble-blasted finish. Use CA2009AN bolt set for open sleeve shank and CA2017AN for spring tooth.
Y 472 AN	2-1/4"	10-3/4"	Double-pointed shovel; oval shaped; 5/32" high-carbon, forging-type steel with tumble-blasted finish. Use CA2009AN bolt set for open sleeve shank and CA2017AN for spring-tooth.
Y 474 AN	2-3/4"	10-3/4"	Double-pointed shovel; oval shaped; 5/32" high-carbon, forging-type steel with tumble-blasted finish. Use CA2009AN bolt set for open sleeve shank and CA2017AN for spring-tooth.
Y 475 AN	3-1/4"	10-3/4"	Double-pointed shovel; oval shaped; 5/32" high-carbon, forging-type steel with tumble-blasted finish. Use CA2009AN bolt set for open sleeve shank and CA2017AN for spring-tooth.

40 *sweeps and shovels*

Shovels for double spring-tooth standards

Shovel No.	Width	Length	Description
Y 763 AN	2"	11"	Double-pointed shovel; with two countersunk holes on 2-inch centers for one CA2013AN bolt set.
Y 980 N	3"	11"	Double-pointed shovel; with one square hole and one slotted hole, both holes are countersunk on 1-1/4-inch to 2-inch centers for one CA2014AN bolt sets.

Shovels for open sleeve shanks

Y 792 AN	1-1/2"	11"	Double-pointed shovel; with two countersunk holes on 2-inch centers. Use one CA2014-AN bolt set.
Y 921 N	1-1/2"	12-1/2"	Double-pointed shovel; 3/8" high-carbon steel with two countersunk holes on 2-inch centers. Use CA1959AN bolt sets.
Y 793 AN	2"	11"	Double-pointed shovel; with two countersunk holes on 2-inch centers. Use one CA2014-AN bolt set.
Y 980 N	3"	11"	Double-pointed shovel; with one square hole and one slotted hole, both holes are countersunk on 1-1/4-inch to 2-inch centers for one CA2014AN bolt set.





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