

JOHN DEERE A20, AT40, AU40 AND AT630 ROW-CROP CULTIVATORS



JOHN DEERE

OPERATORS MANUAL JOHN DEERE A20, AT40, AU40 AND AT630 ROW-CROP CULTIVATORS

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To the Purchaser

These cultivators were 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, attaching and detaching or specifications. Read the Table of Contents to learn where each section is located.

In addition to the equipment furnished with your cultivator, attachments are available to help you do a better job in special crop conditions. These are described in the Special Equipment 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 cultivator will travel when in use.

Record your cultivator serial number in the space provided on page 56. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments. If your cultivator requires replacement parts, go to your John Deere dealer where you can obtain genuine John Deere parts—accept no substitutes.

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

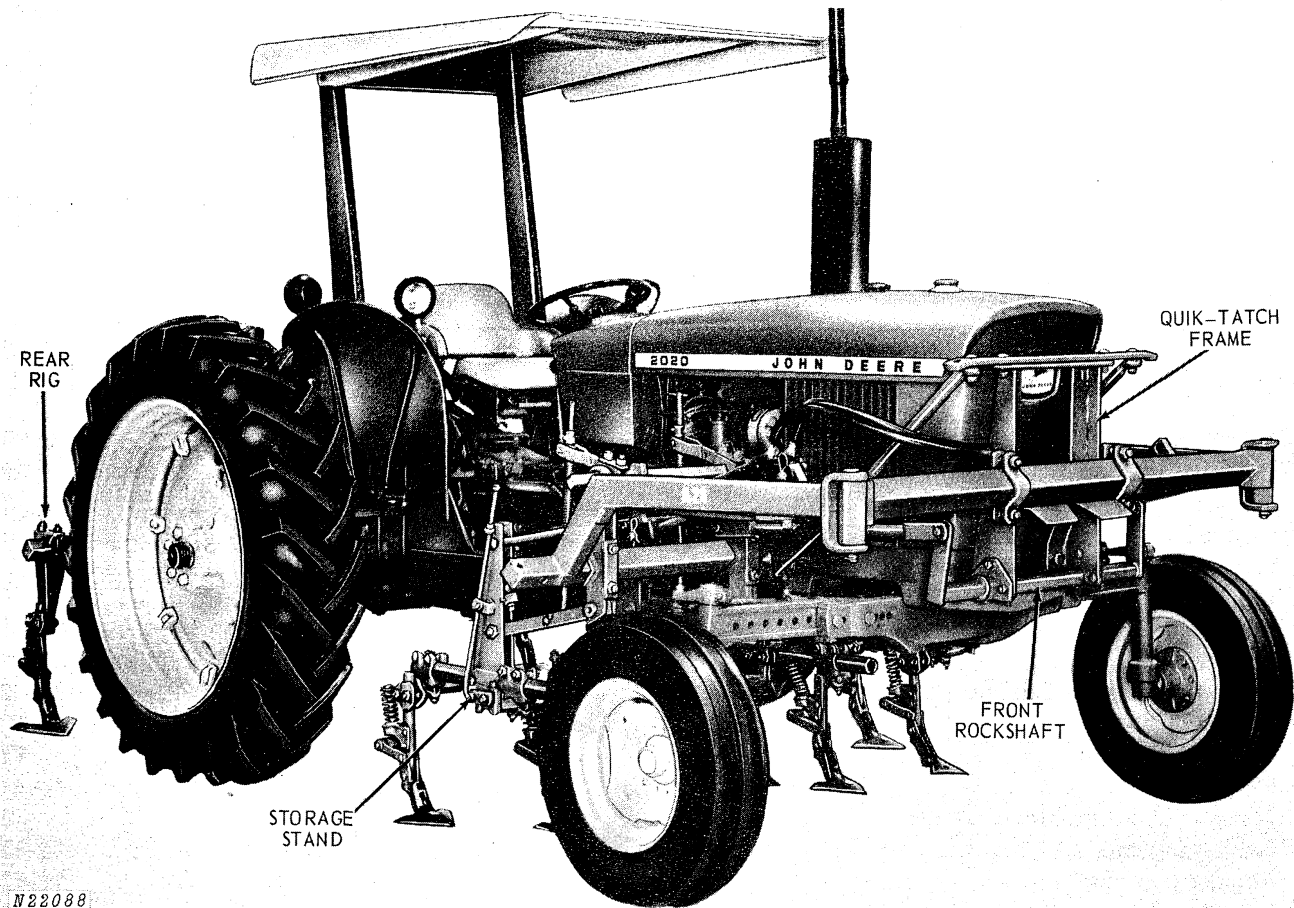


This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.



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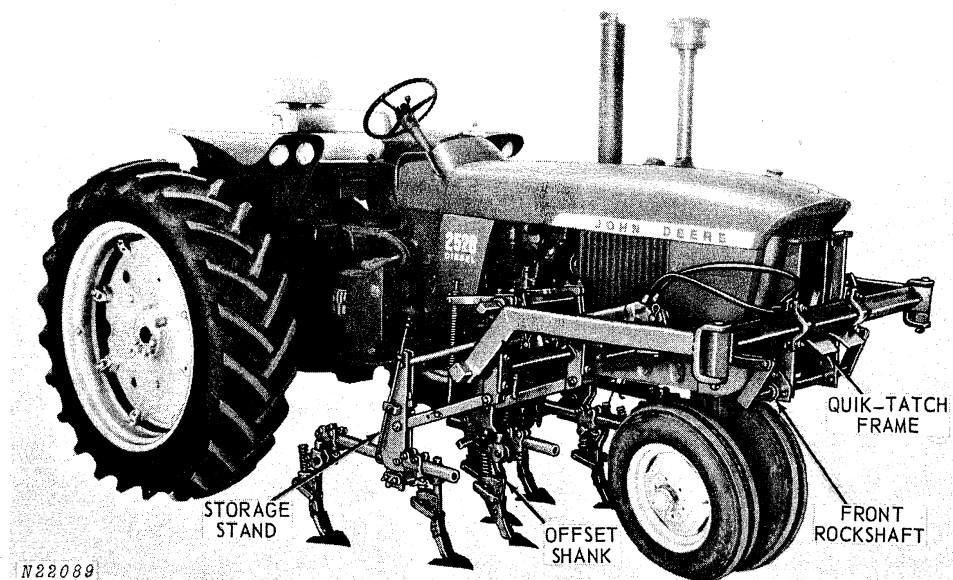
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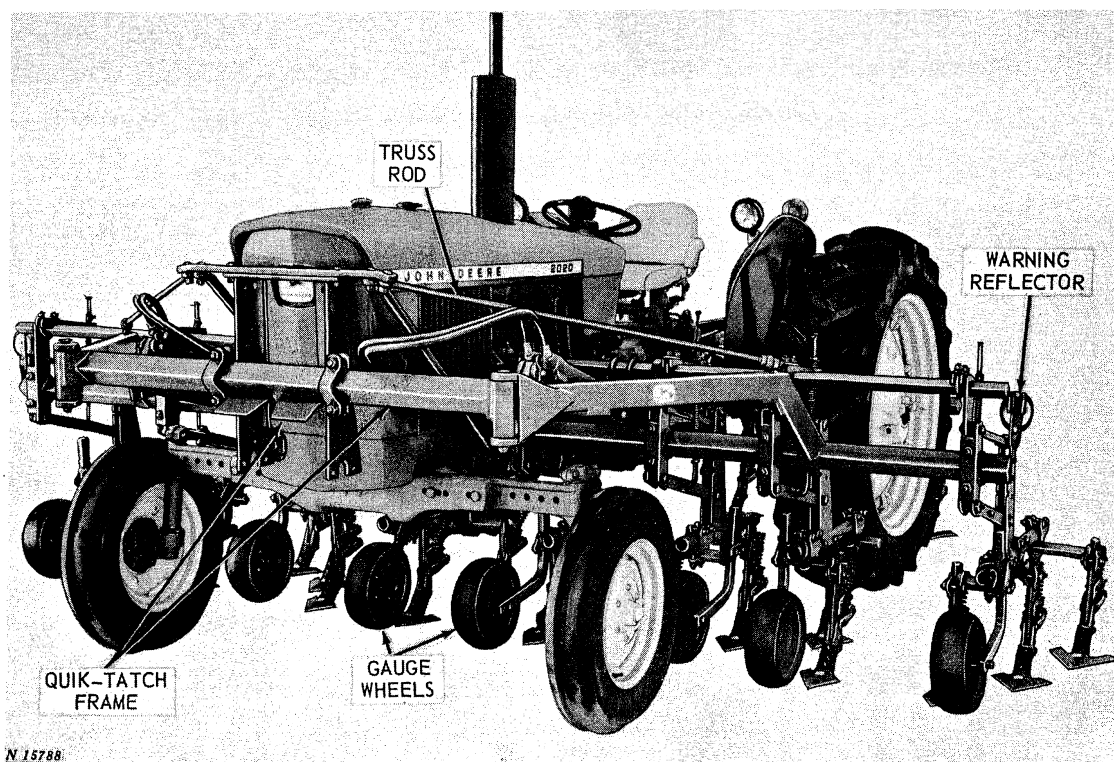
John Deere A20 Cultivator on 2020 Row-Crop Tractor



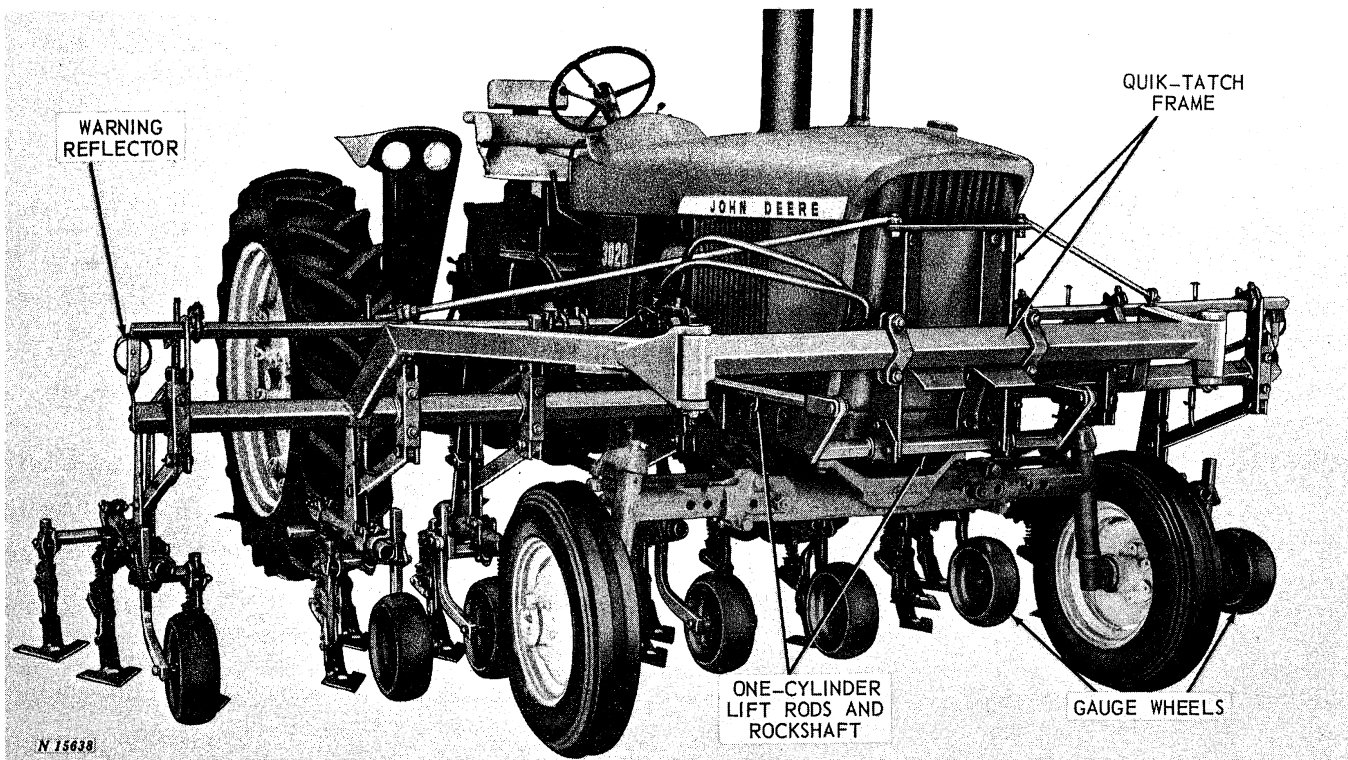
John Deere A20 Beet-Bean-Vegetable Cultivator on 4020 Row-Crop Tractor



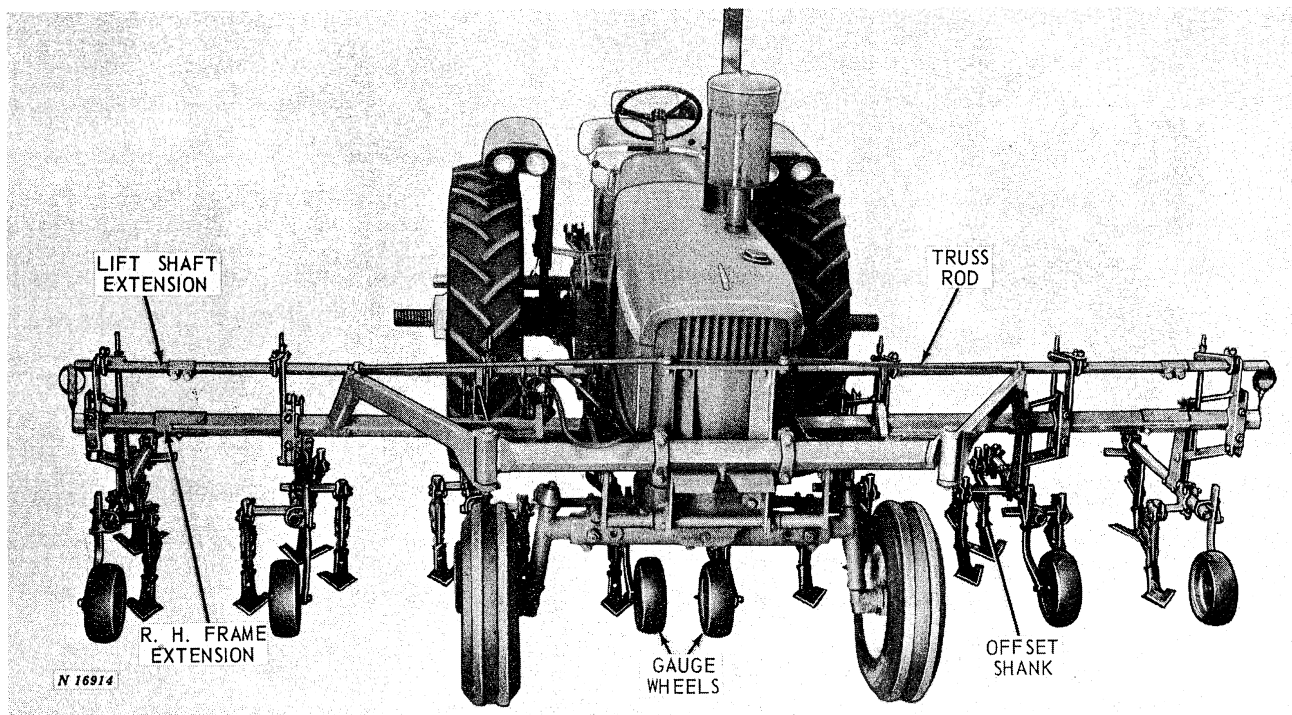
John Deere A20 Cultivator on 2520 Row-Crop Tractor



John Deere AU40 Cultivator on 2020 Row-Crop Tractor



John Deere AT40 Cultivator on 3020 Row-Crop Tractor



John Deere AT630 Cultivator on 4020 Row-Crop Tractor



Operation

CONTROLS

Refer to your tractor operator's manual for complete familiarization and use of the rockshaft and hydraulic controls.

On front rockshaft operated cultivators, front rigs are controlled by the remote cylinder operating levers. If cultivator is equipped with one remote cylinder, one lever operates rigs on both sides of tractor. If cultivator has two cylinders, the left-hand remote cylinder lever controls rigs on left side of tractor, the right-hand remote cylinder lever controls rigs on right side of tractor.

Push lever forward to raise rigs; pull lever back to lower rigs. Reverse hoses at outlets on tractor if rigs do not respond correctly.

On rear rockshaft operated cultivators, both front and rear rigs are controlled by the rockshaft control lever. Push the lever forward to raise the cultivator; pull the lever back to lower the cultivator.

IMPORTANT: Do not attempt to raise cultivator unless storage stands are fastened to rig coupling plates. See page 6.

Place load selector lever on the tractor in "D" position for level land cultivation or "L" position for rolling land cultivation.

TRACTOR TIRE INFLATION AND BALLAST

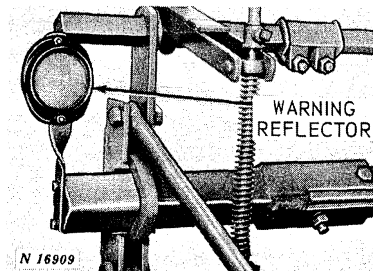
Refer to your tractor operator's manual for proper tire inflation pressures and rear wheel ballast with front-mounted implement.

TRANSPORTING

Never ride or allow others to ride on the cultivator or tractor. The tractor operator should be the only person on the tractor.

Drive at speeds slow enough to insure your safety. Reduce speed before turning or applying brakes. Drive slowly over hills and rough ground to avoid tipping over.

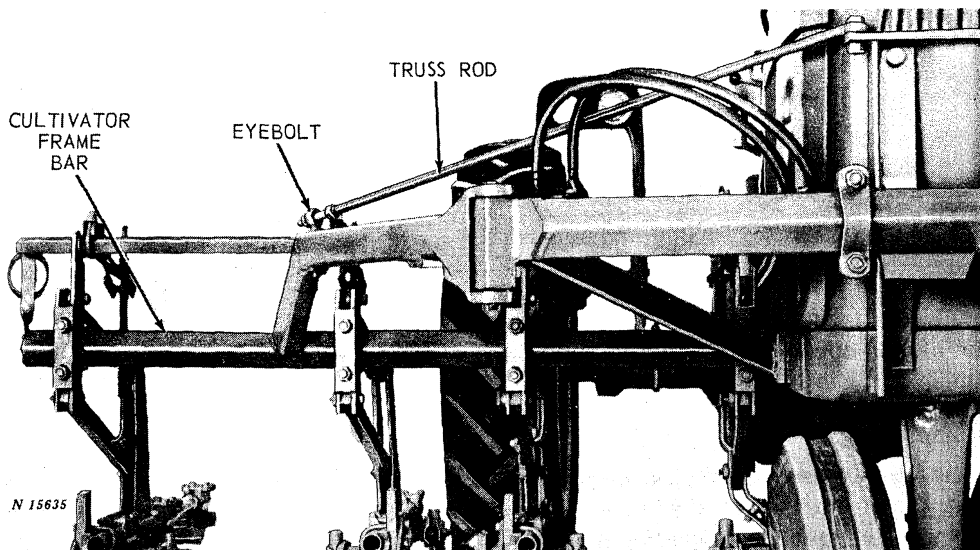
Always keep the tractor in gear when driving down steep grades.



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

Make sure protective cover has been removed from reflective tapes.

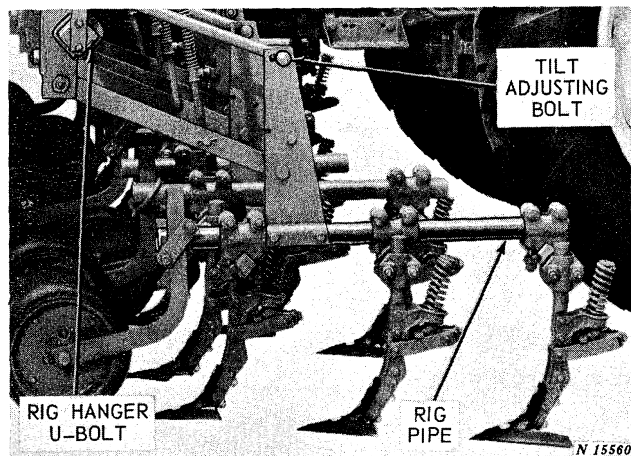
LEVELING CULTIVATOR FRAME BARS



For level cultivation, the cultivator frame bars should be 1 inch higher at the outer ends than at the tractor. Check frame bar angle by sighting under frame bar and tractor rear axle or by measuring distance between frame bar and ground with tractor and cultivator on a level surface.

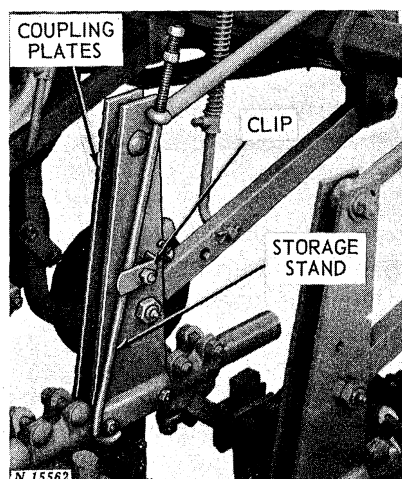
Adjust frame bar angle by tightening nuts against eyebolt on threaded end of truss rod.

RIG TILT

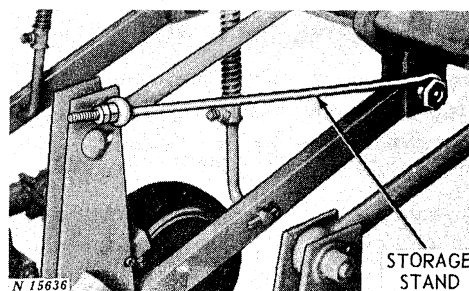


Rig pipes should be set $\frac{1}{4}$ inch higher at the front than at the rear so they will run level when cultivating. Loosen the top bolt in the rig coupling plates to tilt rig pipes. Sight across rig pipes from side of cultivator to check level and tilt, then tighten the top bolts. If some rig pipes are high or low, check the rig hanger U-bolts. They should fit square on the frame bar.

STORAGE STANDS

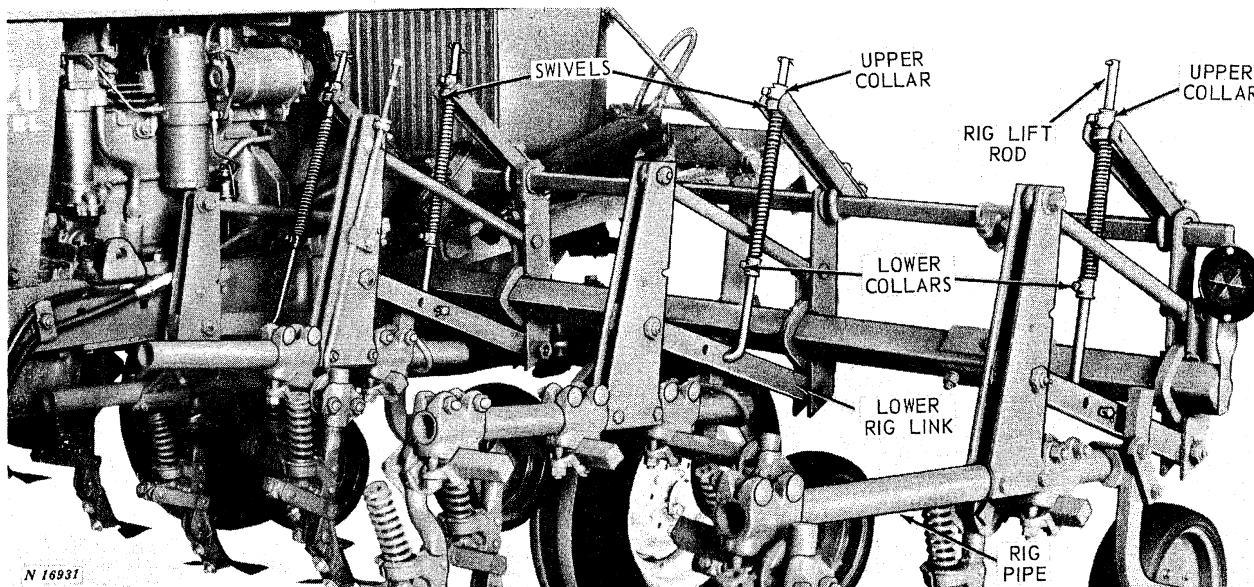


Before raising or operating cultivator, make sure the storage stands are fastened behind the clips against the rig coupling plates as shown above. Be sure the nut on the clip is tight.



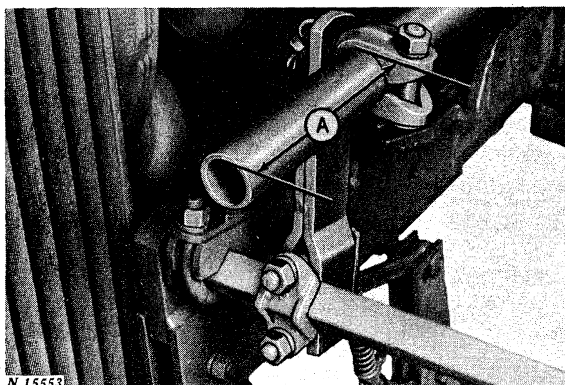
IMPORTANT: Do not attempt to raise cultivator with stands in storage position as shown above.

RIG LIFT HEIGHT



AT630 Row-Crop Cultivator Illustrated

The cultivator must be adjusted so the inner rigs do not strike the tractor and the rig pipes or tool frames do not contact the lower rig links when the cultivator is raised.



On rear rockshaft operated cultivator only, the lift pipes must be correctly positioned in the lift arm clamps before rig lift height can be adjusted.

On 2510, 2520, 3010 or 3020 Tractors, set the distance "A" from the end of the pipe to the edge of the clamp at 14 inches. On 4010 Tractor, distance "A" should be 8 inches. On 4000 and 4020 Tractors, distance "A" should be 7 inches.

To adjust the cultivator rigs for the maximum lift height, loosen the upper and lower collars on all the rig lift rods and raise the rigs as high as possible with the operating lever on the tractor.

Lift the inner rig on each side of the tractor by hand until the rig contacts the tractor. Lower the rig a 1/2 inch and tighten the upper collar set screw. The upper collar should be resting on the lift arm swivel.

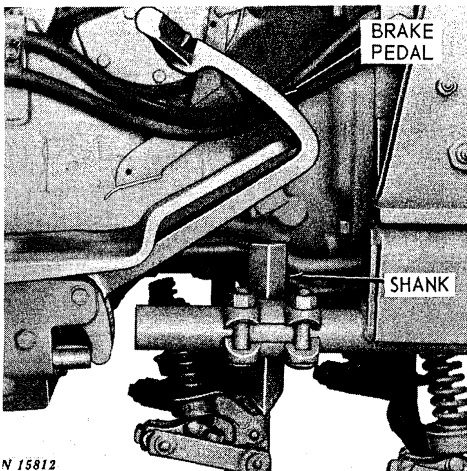
On rigs without gauge wheels, lift the rig by hand until there is about a 1/2-inch gap between the rig pipe or tool frame and the lower rig link. Tighten the upper collar set screw.

On rigs equipped with gauge wheels, lift rigs by hand until there is a 1/2-inch gap between the rig pipes and lower rig link or between the gauge wheel and rig hanger. Tighten the upper collar set screw.

IMPORTANT: Once the upper collars are set, do not change their position without repeating the adjustment procedure described above. Otherwise, changing the collar settings could cause the rigs to strike the tractor or parts of the cultivator when the cultivator is raised.

After setting the upper collars, position the lower collars so they are just touching the bottom of the lift rod spring as shown above. Tighten the set screw after adjusting.

RIG LIFT HEIGHT—Continued

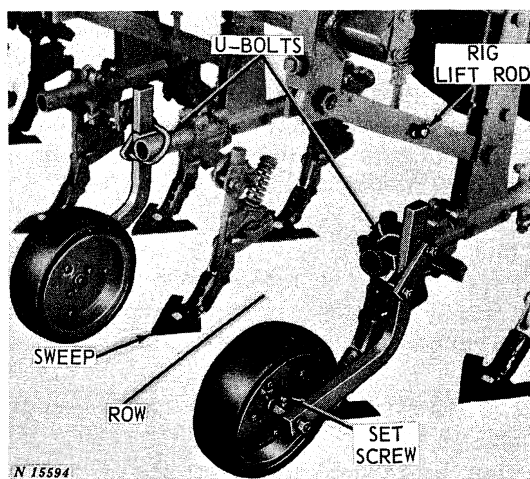


On 1020 Tractor, make sure rear shank on inner rig on right-hand side of cultivator does not come in contact with brake pedals. Slide shank forward for additional clearance.

CULTIVATING DEPTH

Row-Crop Cultivators

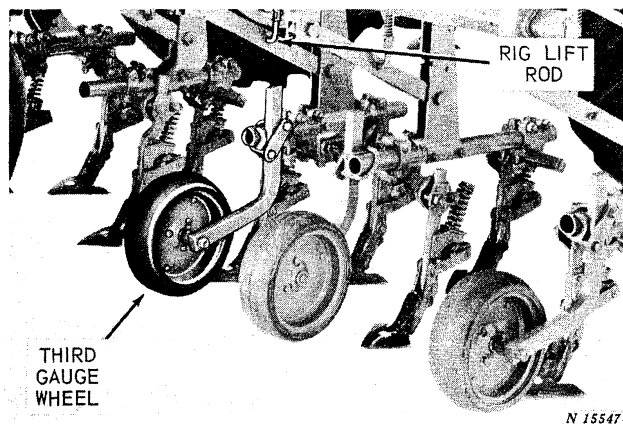
Gauge wheels and rig depth stops, not the tractor hydraulic system, determine the depth of cultivation. Make sure gauge wheels and rig depth stops are set so sweeps penetrate the soil to an equal depth.



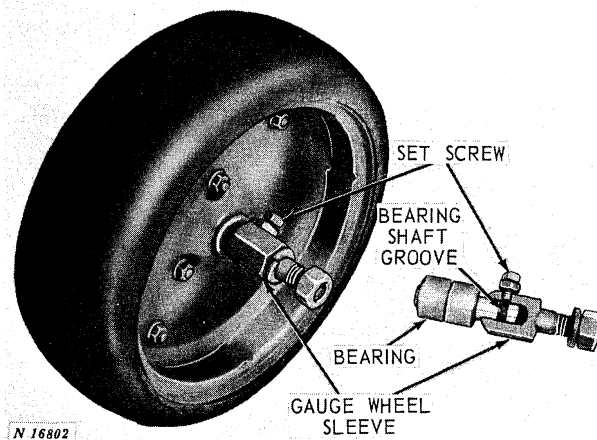
Loosen nuts on U-bolt clamps to set gauge wheels. Average position is one to two inches above the sweeps. Make sure gauge wheel shanks are vertical, then tighten the U-bolt nuts.

Periodically check gauge wheel set screws and shank nuts; make sure they are tight.

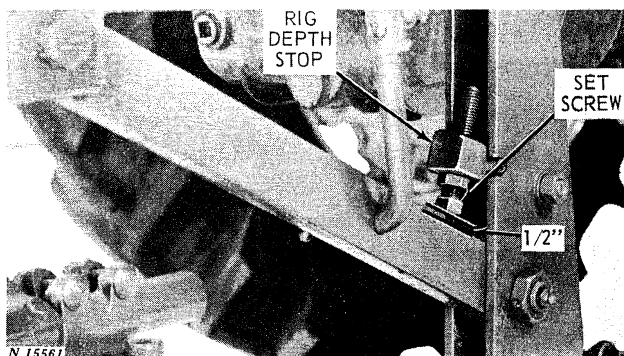
Gauge wheel shanks and the lower end of rig lift rods should be on the same side of the rig away from the row.



On cultivator with 6 or 8 gauge wheels, the end of the rig lift rod on the second rig on the left side of the tractor must be next to the row because of the storage stand.



Gauge wheel set screw must be positioned in the groove on bearing shaft as shown above. If set screw is not positioned in groove on bearing shaft, loss of gauge wheel or undue failure to bearing may occur. Check periodically to be sure set screw is tight.



On rigs without gauge wheels, rig depth stops determine cultivating depth. With cultivator resting on the ground, 1/2 inch clearance between the lower rig link and depth stop set screw is an average setting. For more depth, loosen the lock nut and turn the set screw in. Tighten the lock nut.

If cultivating depth is changed, reset cylinder or rear rockshaft stops to maintain the clearance between the upper collars and swivels on the rig lift rods.

Beet-Bean-Vegetable Cultivators

The depth of cultivation can be adjusted by the depth stop on the cylinder of the front-rockshaft-operated cultivators when on 2510, 3010, 3020, 4010, and 4020 Tractors or by the depth stop on the rockshaft control lever of the rear-rockshaft-operated cultivators on 2010, 2510, 3010, 3020, 4010 and 4020 Tractors.

To go deeper with the front-rockshaft-operated cultivators, move the cylinder depth stop up next to the cylinder yoke.

For the rear-rockshaft-operated cultivators, adjust the quadrant depth stop to obtain the same effect as the front-rockshaft-operated cultivators.

NOTE: If gauge wheels are installed, they control the depth of cultivation. See page 32.

DOWN PRESSURE ON SWEEPS

If soil conditions prevent sweeps from penetrating to the desired depth, down pressure can be applied in several ways.

Compressing Rig Lift Rod Springs

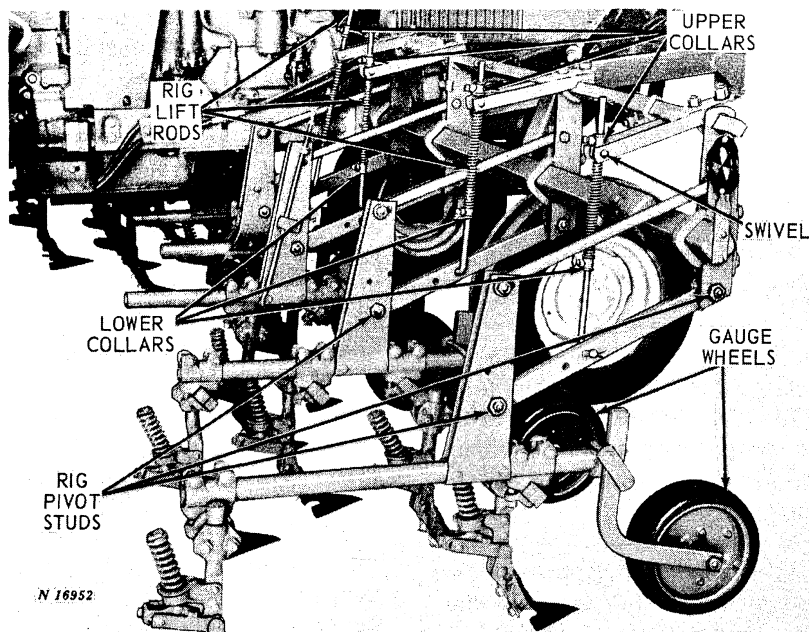
Raise the cultivator. Loosen the lower collars on the lift rods. Lift the collars up tighter against the springs to obtain the desired compression and tighten the collar set screws.

NOTE: On rear-rockshaft-operated cultivator, down pressure can only be applied by compressing springs on rig lift rods.

Overriding Cylinder Depth Stop

If hydraulic remote cylinder has a depth stop, hold the remote cylinder operating lever in the slow retract position. This will cause the cylinder rod to retract beyond the depth stop. This is a convenient way of applying down pressure when encountering only occasional spots of hard ground.

RIG FLEXIBILITY



Rigs equipped with gauge wheels will "float" with the surface of the ground if they are properly adjusted.

Rig pivot studs should be loose enough so rigs work up and down freely but do not wobble excessively from side to side. To adjust pivot studs, loosen the nut on the end of each stud. Turn the stud to loosen or tighten the coupling plates on the lower rig link. After adjusting the stud, tighten the nut.

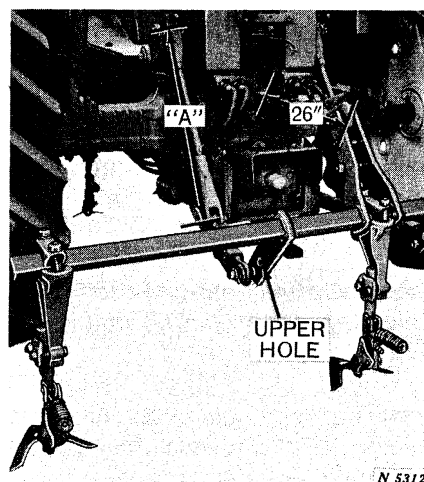
When cultivating, there should be about two inches of clearance between the upper collars and swivels on the rig lift rods to allow rigs to float.

On cylinder-operated cultivator, this clearance is controlled by the position of the cylinder depth stop. To increase the clearance, move the stop back or away from the cylinder.

On rear-rockshaft-operated cultivator, this clearance is controlled by the position of the depth stop on the rear rockshaft control lever. To increase the clearance, move the stop to the rear.

NOTE: All final adjustments should be made while in the field.

REAR RIGS



Hitch Links and Sway Blocks

Refer to tractor operator's manual and set sway blocks in the Category 2, "down" position.

Set the length of the center link at 26 inches. On 3010 Tractor, set lift link length (dimension "A") at 26-3/4 inches. On 2510, 2520, 3020, 4000, 4010 or 4020 Tractors, set lift link length (dimension "A") at 28-1/2 inches.

Make sure collars on lift links are locked up against the adjusting cranks.

Adjust lift links to minimum length on 1020 and 2020 RU Tractor or 25 inches on HU Tractor. Adjust center link so shanks are in vertical position.

Position stop blocks on lift links to lock lift links if rear rig does not have gauge wheels. Place stop blocks in float position if rear rig is equipped with gauge wheels. See page 51.

Cultivating Depth

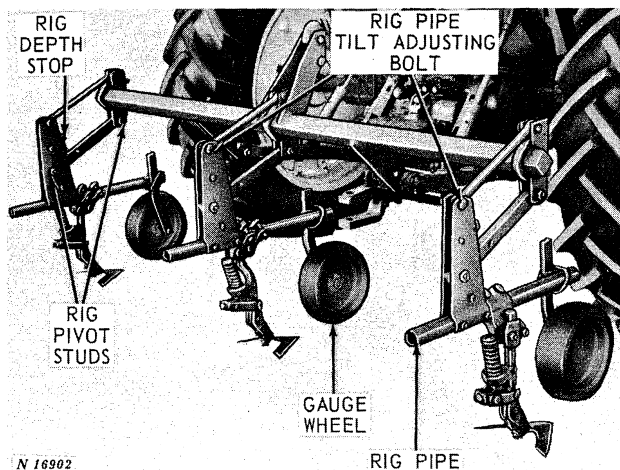
On rear-rockshaft-operated cultivator, the working depth is controlled by the length of the lift links. Set cultivating depth of front rigs first, then turn lift link adjusting cranks to match depth of rear rig with front rigs. Reset center link, if necessary, so shanks are vertical.

On cylinder-operated cultivator, the working depth is controlled by the depth stop on the tractor rockshaft control lever. Set depth stop so rear rig works at same depth as front rigs. Adjust lift link length if necessary.

For deeper cultivation, lower shanks in standards or reattach rear rig to draft links with hitch pins in upper holes of hitch pin brackets.

After setting depth of cultivation, adjust center link so shanks are vertical.

Rig Adjustment on 253B Rear Rig



Make sure rig pivot studs are loose enough so rigs float with level of the ground to maintain even cultivating depth.

Rig pipes should be level with the ground and level with each other. Loosen the top bolt in the rig coupling plates to make this adjustment.

Adjust the height of the shanks so all sweeps will cultivate at the same level.

Set gauge wheel shanks in the clamps so bottom of each gauge wheel is one to 2 inches above the sweep.

Set rear rig depth stops so there is about one inch clearance between the set screw and lower rig link. Set screw should be high enough so stop does not interfere with operation of gauge wheels. Rig depth stops hold rigs up when cultivator is raised for transport.

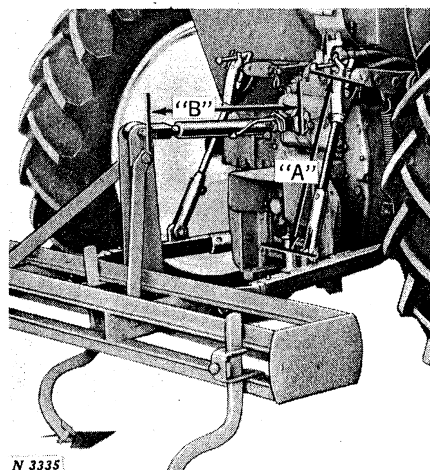
Gauge wheels, not cylinder or rockshaft depth stops or lift links, control cultivating depth of 253B Rear Rig. But tractor depth stop on rockshaft control lever or 3-point hitch lift links should be set to maintain about 1-inch clearance between rig stop and lower rig link on each rig.

REAR TOOL FRAME Beet-Bean-Vegetable Cultivator

Cultivating Depth

On 2510, 2520, 3010, 3020, 4000, 4010, or 4020 Tractor, use the adjustable depth stop on the rockshaft control lever to set the working depth. The length of the lift links on the 3-point hitch can be changed for leveling if required.

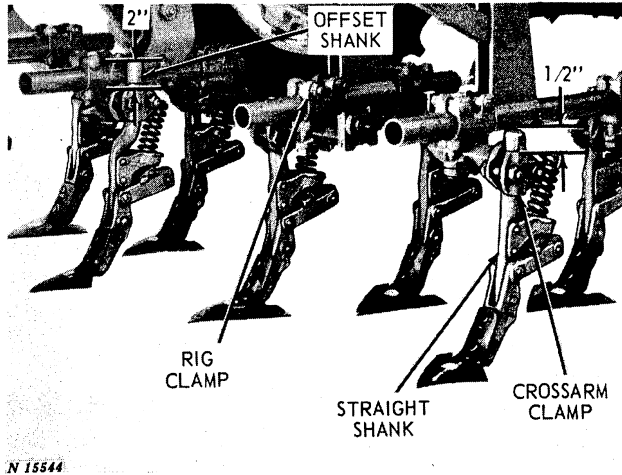
Adjusting 3-Point Hitch



On 2510, 2520, 3010, 3020, 4000, 4010 or 4020 Tractors, the recommended length "A" for the right- and left-hand links is 28 inches.

The length of the center link at "B" is 25-1/2 inches on the 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Tractors.

CLAMPS, SHANKS, AND CROSSARMS



When cultivating, sweeps should penetrate the soil to an equal depth. Shanks should be perpendicular to the ground. Crossarms should be level and properly set for row spacing and crop conditions.

A good method to follow for positioning rigs, shanks and sweeps is as follows.

Park the tractor with cultivator on a hard surface such as a livestock cement feeding floor. This will enable you to set all rigs, shanks and sweeps the same level.

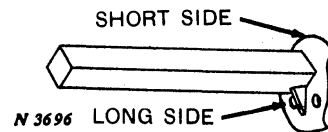
Cut two 15 inch high blocks of wood from a 2 x 4 piece of wood. Lower the cultivator to the surface. Place the two wood blocks under the front and rear of rig pipe.

Loosen shank clamps and position all shanks with sweeps level on the surface.

To place shanks perpendicular to the ground, loosen the nuts on top of the rig clamps. Move the crossarms up or down to position the shanks. Tighten the nuts on the rig clamps securely.

To position the crossarms, loosen the nuts on the bottom of the rig clamps. Move the crossarms away from or closer to the row as crop size or cultivating requirements dictate. Tighten the clamp nuts securely.

The clamp end of the crossarm is 3/4 inch longer on one side than it is on the other side.



When used with straight shanks, position the crossarms with the short side of the clamp up.

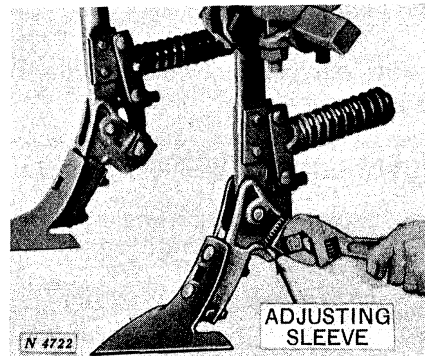
When used with offset shanks, position the crossarms with the long side of the clamp up.

To place sweeps at the same level, loosen the nuts on the crossarm clamps. Adjust shanks up or down and tighten the clamp nuts securely.

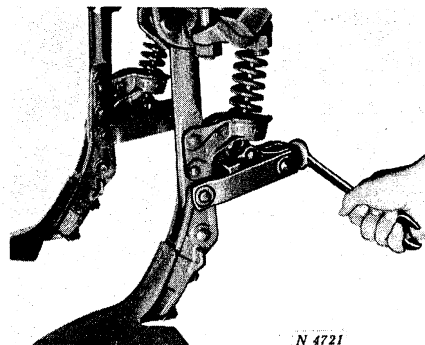
Set straight shanks with about 1/2 inch of shank showing above the crossarm clamp.

Set offset shanks with about 2 inches of shank showing above the crossarm clamp.

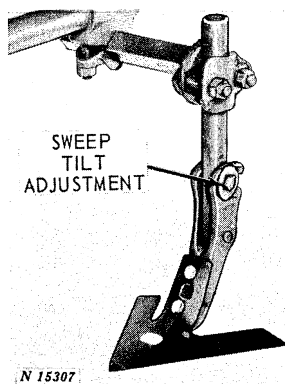
SETTING SWEEPS



Regular Spring-Trip Shank



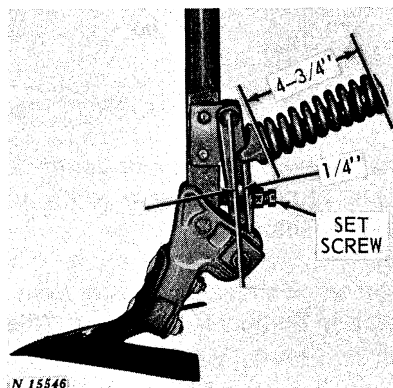
Quick-Adjustable Spring-Trip Shank



Friction-Trip Shank

Adjust spring-trip and friction-trip shanks so the sweeps are tilted as shown below. In some soils, it may be necessary to lower the sweep points for better penetration.

ADJUSTING SPRING-TRIP

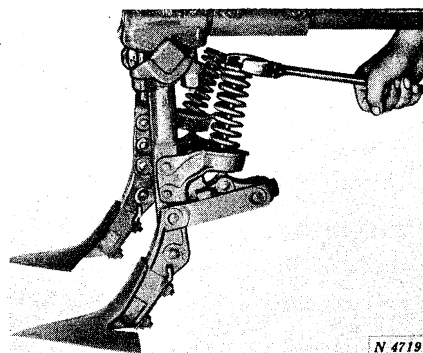


Regular Spring-Trip Shank

On regular spring-trip shanks, adjust shanks for desired trip by turning the set screw. Turn set screw in to make trip release easier. An average setting is illustrated above.

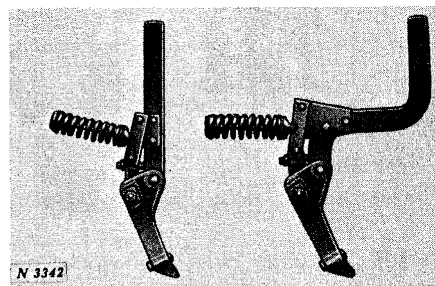
IMPORTANT: Adjust tripping action of regular spring-trip shanks with the set screw only. Do not set trip by turning the nut at the rear of the spring. Spring should be adjusted, however, to a length of 4-3/4 inches.

On friction-trip shanks, tighten the tilt adjustment bolt to control trip.



Quick-Adjustable Spring-Trip Shank

On quick-adjustable spring-trip shanks, adjust tripping action by turning nut at the top of the spring so shanks do not trip under ordinary cultivating conditions.



Straight Spring-Trip

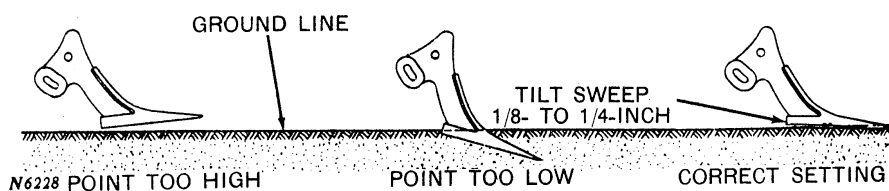
Curved Spring-Trip

If your beet-bean-vegetable cultivator is equipped with adjustable standards, it is important that the sweeps or shovels be properly set.

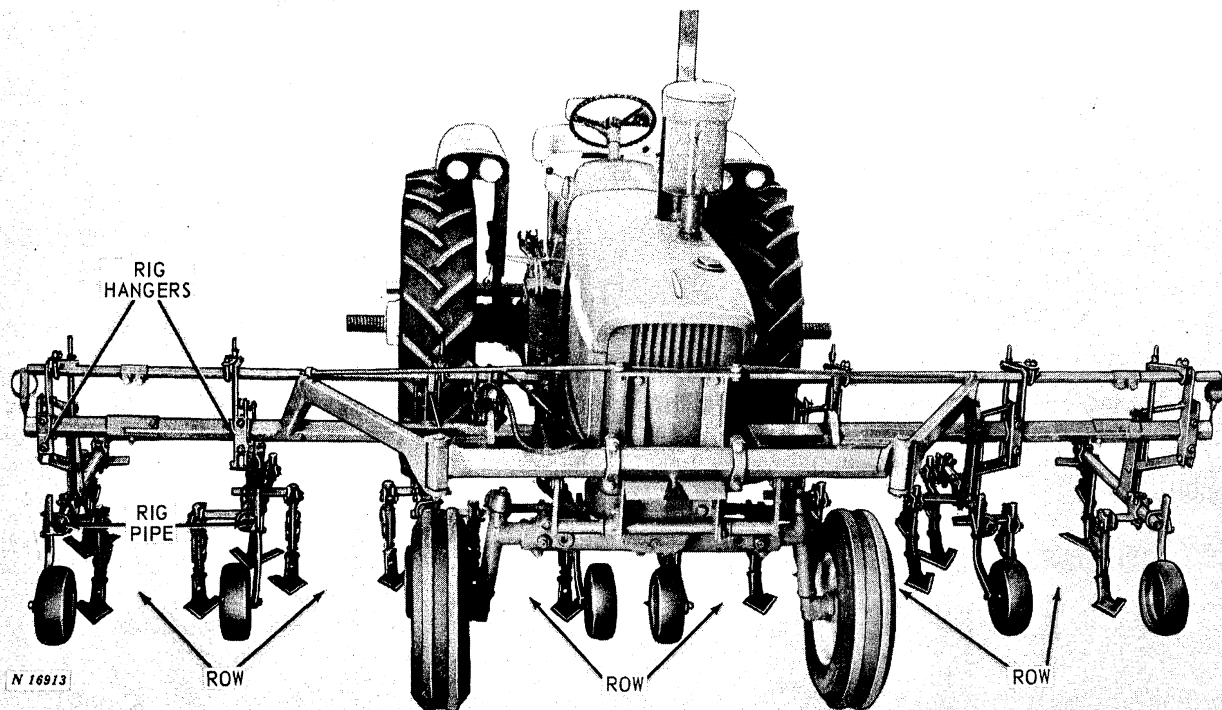
When using straight spring-trip or curved spring-trip standards, adjust the sleeve to tilt sweep so that it is in correct relationship to the ground as illustrated below.

Adjust spring-trip shanks so they do not trip under ordinary cultivating conditions. Turn set screw out and trip holds tighter. Turn set screw in and trip releases more easily.

IMPORTANT: Adjust tripping action of shank only at set screw. Do not set trip by adjusting nut on spring.



ROW SPACING



The AT630F Cultivator illustrated above can be set for 28 or 30-inch rows. The A20, AT40 and AU40 Cultivator can be set for row spacings ranging from 36 to 42-inch rows.

AT40 and AU40 Cultivators are factory-set for 40-inch rows.

Dimensions for rig, sweep or shovel and shank positions are listed in the corresponding chart for each diagram on the following pages.

To determine rig positions, measure from the center of one rig hanger and rig pipe to the center of the next rig hanger and rig pipe.

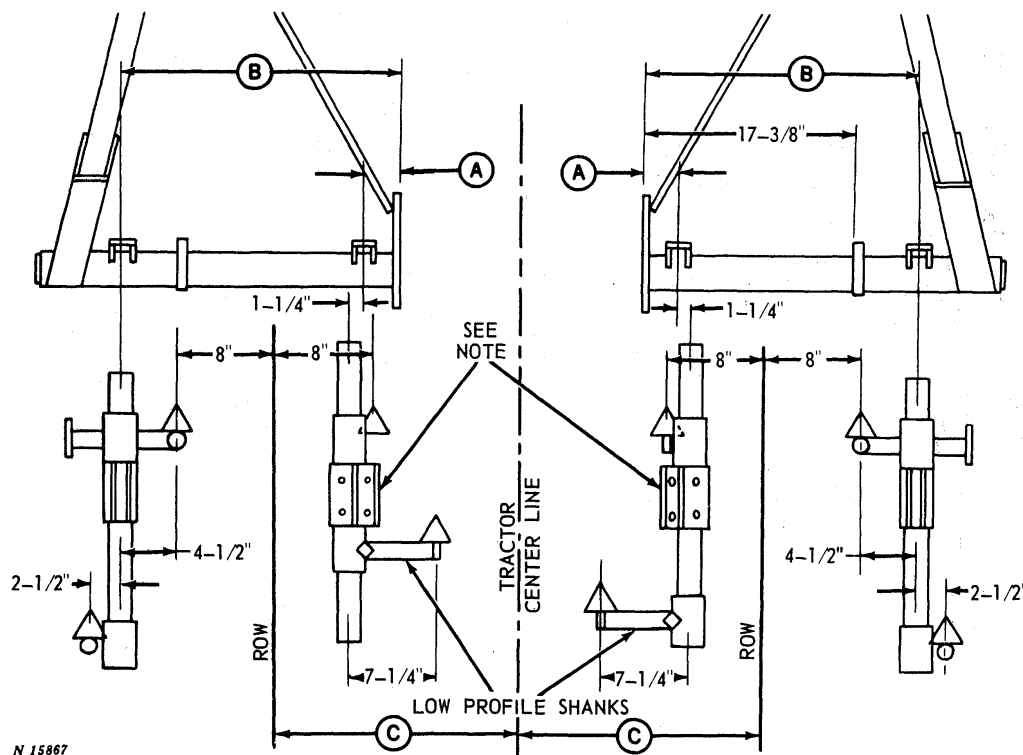
To position sweeps, shovels or spring teeth, measure from the center of the row to the point of the sweep, shovel or shank.

To position offset shanks, measure from the center of the rig pipe to the top of the shank. Offset shanks should angle in toward the rig pipe.

Row Spacing For A20 Row-Crop Cultivator

A20 Cultivator can be adjusted for 36 to 42-inch row spacings. Rig crossarm and shank positions are listed in the following charts and keyed to the row spacing diagram.

Measure from center of one rig hanger to another to determine rig positions. Measure from center of row to point of sweep and from center of rig pipe to center of shank to determine sweep or shovel positions.

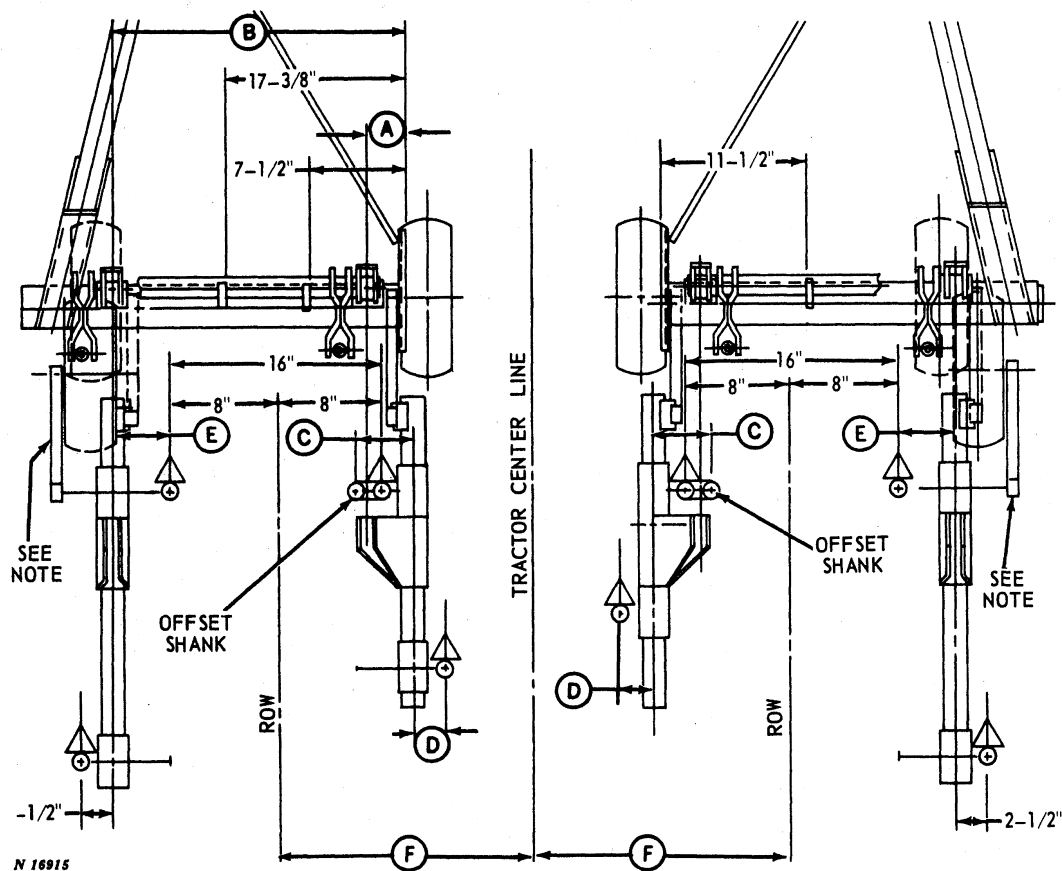


Shank and Sweep Row Spacing for A20 Row-Crop Cultivator on John Deere 1020, 1520 and 2020 Tractors

Dimensions in Inches

Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	2-5/8	2-5/8	2-5/8	2-5/8
B	20-1/2	21-1/2	22-1/2	23-1/2
C	18	19	20	21

Row Spacing For A20 Row-Crop Cultivator—Continued



Shank and Sweep Row Spacing for A20 Row-Crop Cultivator On
John Deere 2510, 2520, 3010, 3020, 4000, 4010 and 4020 Tractors

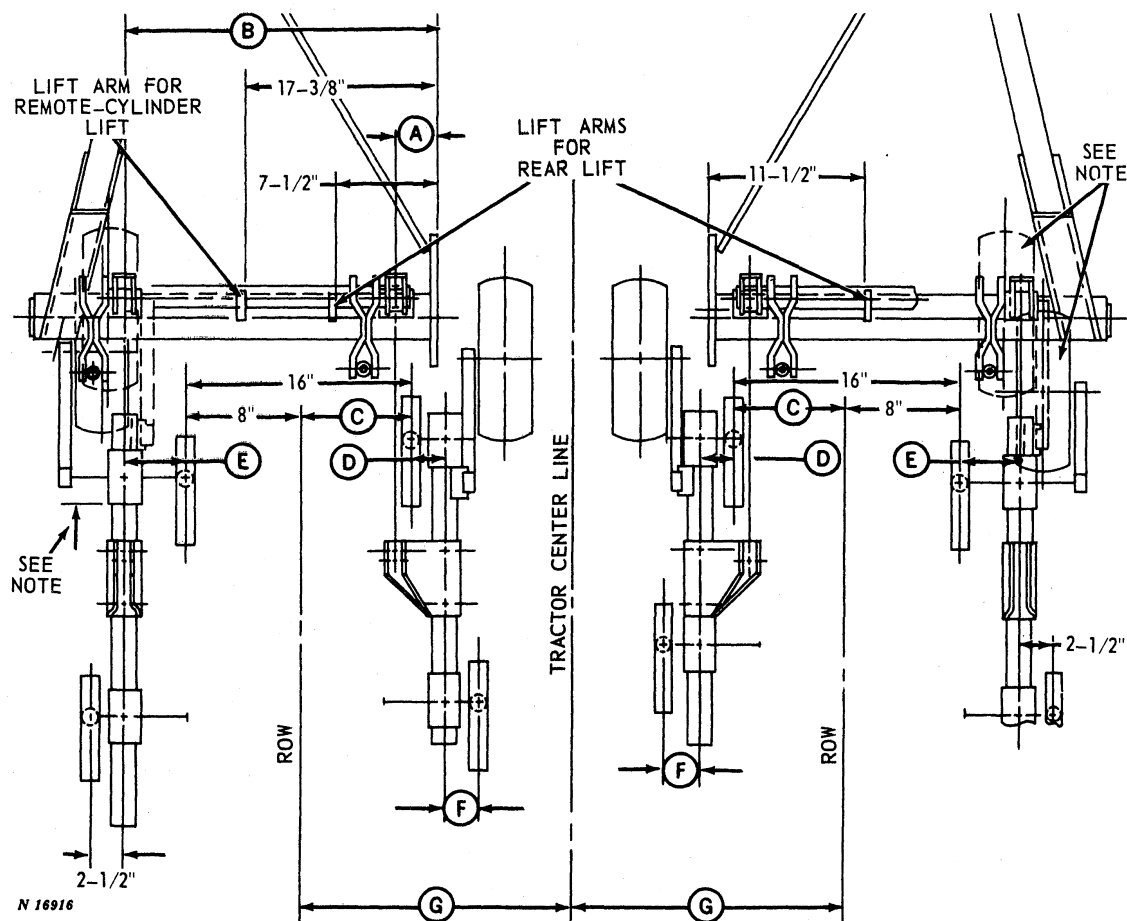
Dimensions in Inches

Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	2-3/4	2-3/4	3	3-1/4
B	20-1/2	21-1/2	22-1/2	23-1/2
C	3	4	4-3/4	5-1/2
D	2-1/2	2-1/2	2-1/2	2-1/2
E	5-1/2	4-1/2	4-1/2	4-1/2
F	18	19	20	21

Position gauge wheel on crossarm when cultivator is mounted on tractors with adjustable tread front axle.

Position gauge wheel on front of beam when cultivator is mounted on tractor with single or dual front wheel.

Row Spacing For A20 Row-Crop Cultivator



Row Spacing for A20 Row-Crop Cultivator with Spring Teeth On
John Deere 2510, 2520, 3010, 3020, 4000, 4010 and 4020 Tractors

Dimensions in Inches

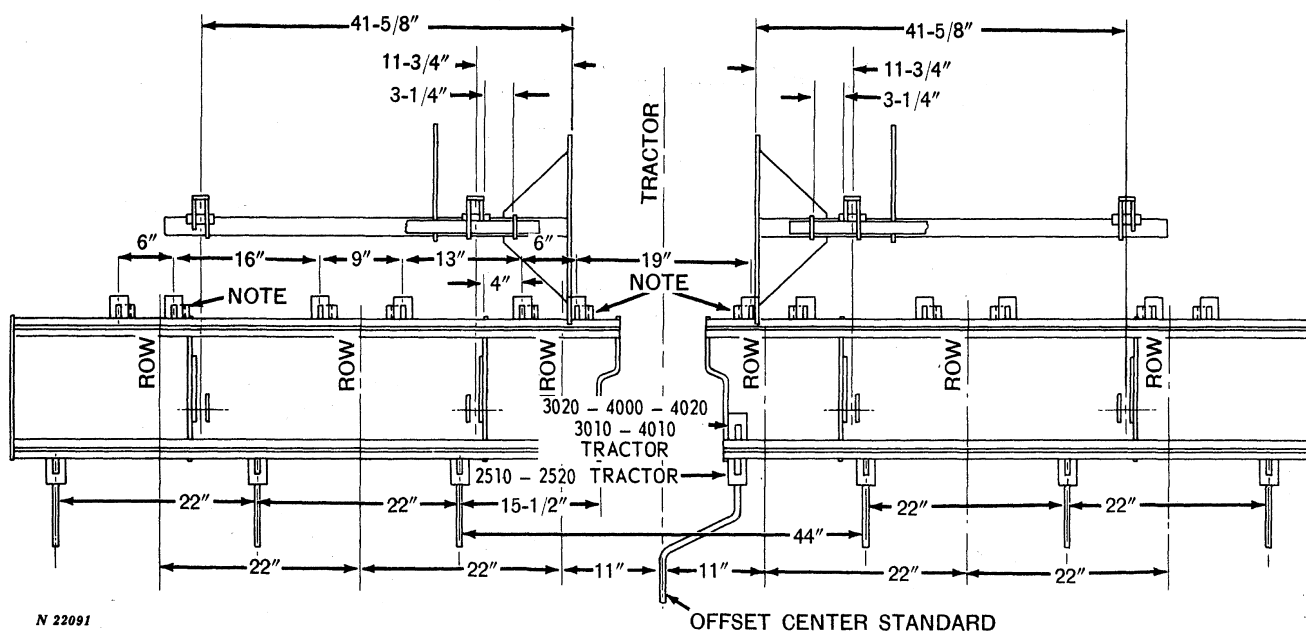
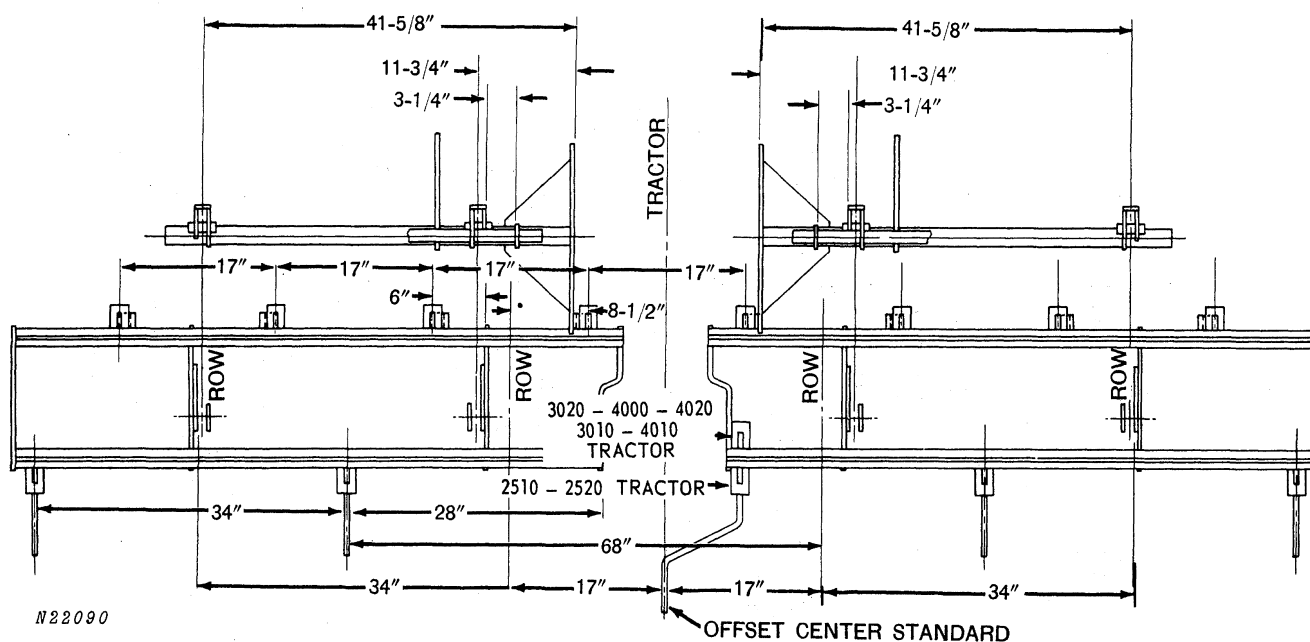
Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	3	3	3	3-1/4
B	21-1/2	21-1/2	22-1/2	23-1/2
C	6-1/4	7-1/4	8	8
D	2-1/2	2-1/2	2-3/4	3-1/2
E	5-1/2	4-1/2	4-1/2	4-1/2
F	2-1/2	2-1/2	2-1/2	2-3/4
G	18	19	20	21

NOTE: When cultivator is mounted on tractor with adjustable tread front axle, position gauge wheel on crossarm.

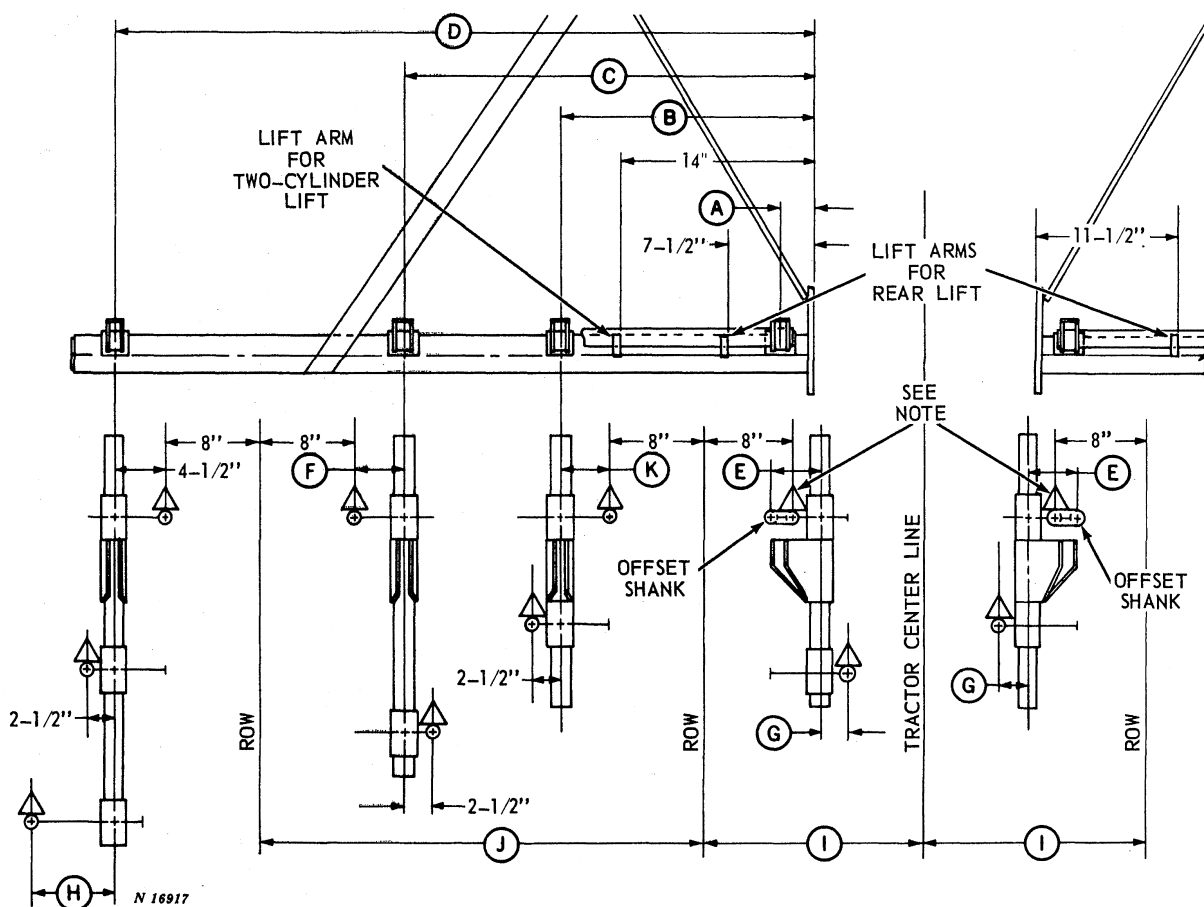
When cultivator is mounted on tractor with single or dual front wheel, position gauge wheel on front of beam.

Move clamp in front of coupler plates on outer rigs, 3 inches forward for tractors with dual front wheels. Move clamp forward as far as possible to clear front tire on tractors with adjustable tread front axle.

Row Spacing For A20 Beet-Bean-Vegetable Cultivator



Row Spacing for AT40 Cultivator



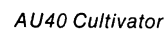
36, 38, 40, and 42-Inch Row Spacing for AT40 Cultivator

Dimensions In Inches

Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	2-3/4*	2-3/4*	3	3-1/4
B	21-1/2	21-1/2	22-1/2	23-1/2
C	31-1/2	34-1/2	37-1/2	39
D	56-1/2	59-1/2	62-1/2	65-1/2
E	3	4	4-3/4	5-1/2
F	4-1/2	4-1/2	4-1/2	6
G	2-1/2	2-1/2	2-1/2	2-1/2
H	5-1/2	6-1/2	7-1/2	8-1/2
I	18	19	20	21
J	36	38	40	42
K	5-1/2	4-1/2	4-1/2	4-1/2

* With double spring-tooth shanks this dimension should be 3 inches.

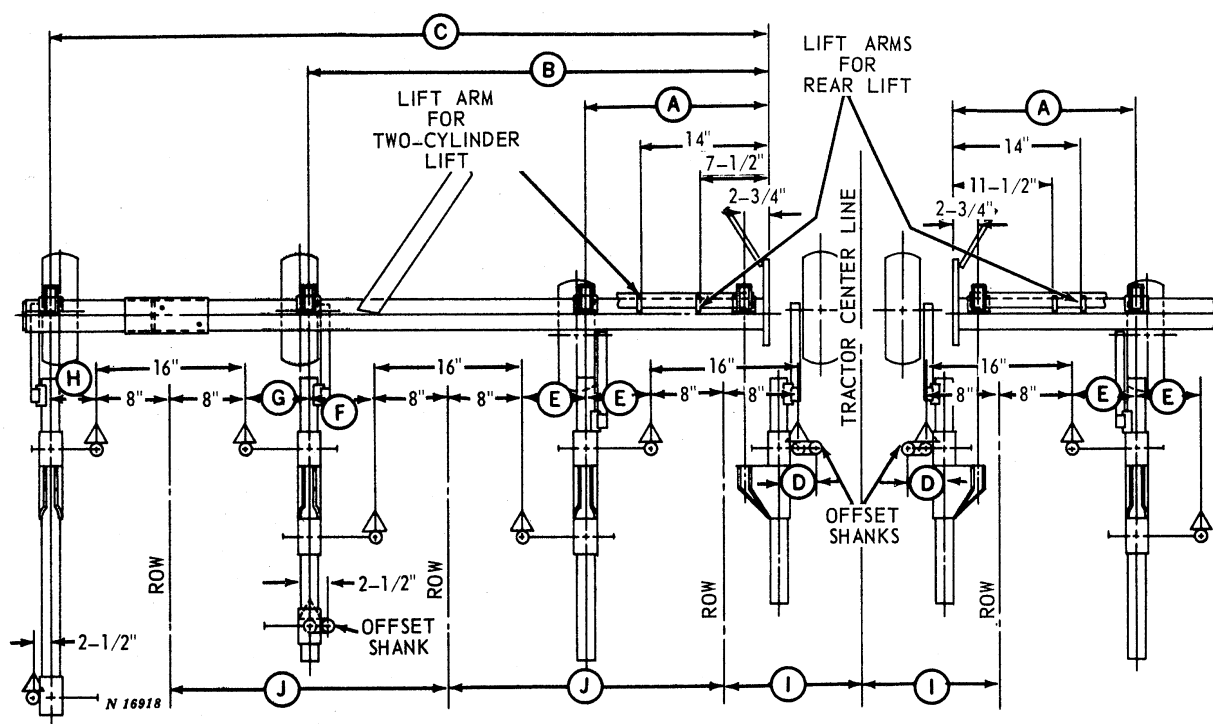
NOTE: With single or double spring-tooth shanks, place point of shovel on front of inner rig on each side of tractor 6-1/4 inches away from row on 36-inch rows, 7-1/4 inches away from row on 38-inch rows.



Dimensions In Inches

Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	2-5/8	2-5/8	2-5/8	2-5/8
B	21-1/2	21-1/2	22-1/2	23-1/2
C	31-1/2	34-1/2	37-1/2	39
D	56-1/2	59-1/2	62-1/2	65-1/2
E	5-1/2	6-1/2	7-1/2	8-1/2
F	4-1/2	4-1/2	4-1/2	6
G	18	19	20	21
H	36	38	40	42
I	5-1/2	4-1/2	4-1/2	4-1/2

Row Spacing for AT630 Cultivator

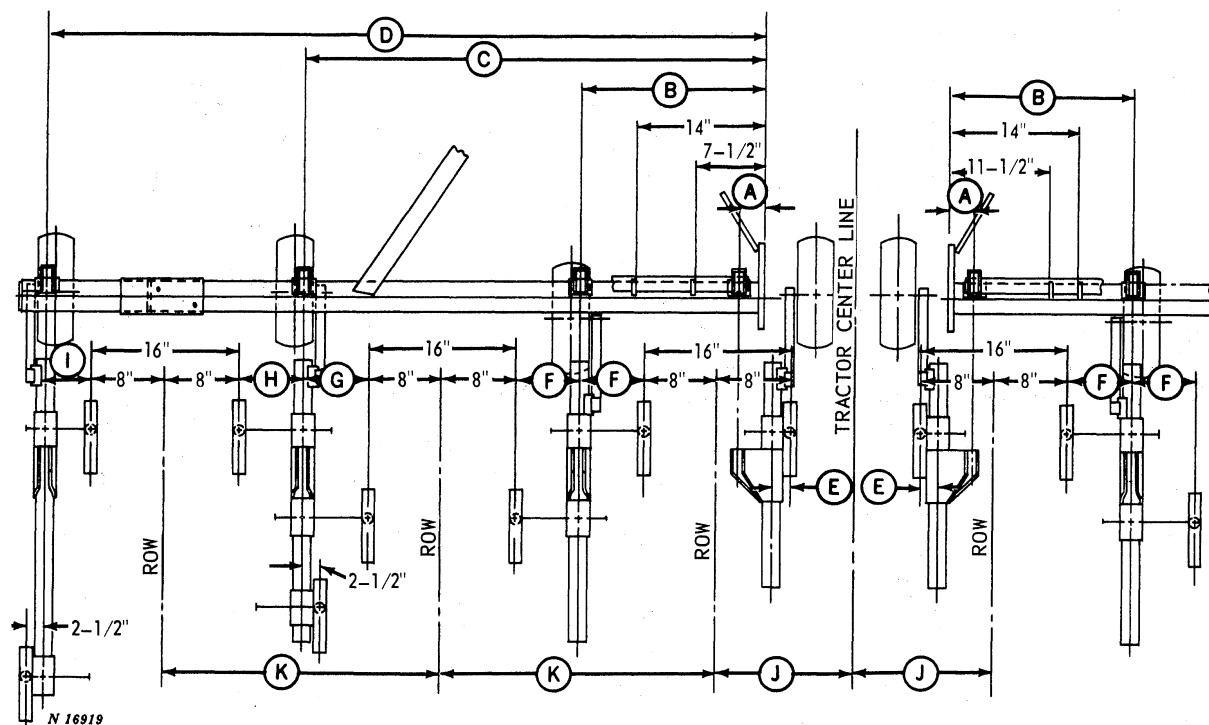


28 or 30-Inch Row Spacing for AT630 Cultivator

Dimensions In Inches

Location	28-Inch Row	30-Inch Row
A	18	20
B	46-1/2	50
C	72	77-1/2
D	5	4
E	6	7
F	6-1/2	7
G	5-1/2	7
H	4	4-1/2
I	14	15
J	28	30

Row Spacing for AT630 Cultivator—Continued

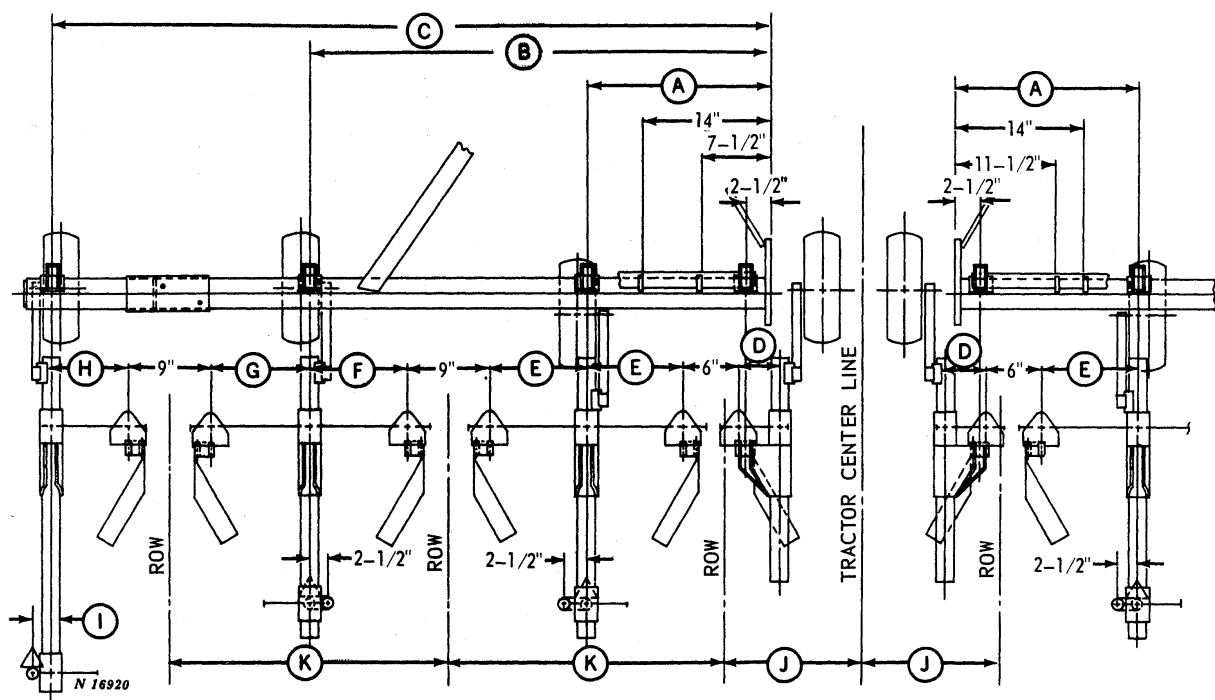


28 or 30-Inch Row Spacing for AT630 Cultivator with Spring Teeth

Dimensions In Inches

Location	28-Inch Row	30-Inch Row
A	2-3/4	3-1/4
B	18	20
C	47-1/2	51-1/2
D	71-1/2	77-1/2
E	3	2-1/2
F	6	7
G	7-1/2	8-1/2
H	4-1/4	5-1/2
I	3-1/2	4-1/2
J	14	15
K	28	30

Row Spacing for AT630 Cultivator



28 or 30-Inch Row Spacing for Beet and Bean Equipment on AT630 Cultivator

Location	Dimensions In Inches	
	28-Inch Row	30-Inch Row
A	18	20
B	46-1/2	50
C	70-3/4	74-1/2
D	3-3/4	4-3/4
E	9-1/2	10-1/2
F	10	10-1/2
G	9	10-1/2
H	6-1/4	5
I	3-1/4	5-1/2
J	14	15
K	28	30

SAFETY SUGGESTIONS



At the beginning of each season, be sure you and other operators read the safety section of the tractor operator's manual.

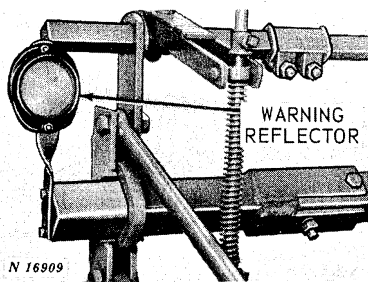
Always stop the tractor and lower the rigs before lubricating or adjusting the cultivator.

Support the cultivator rigs on stands or blocks before working under the cultivator with rigs raised.

Never ride or allow others to ride on the cultivator or tractor. The tractor operator should be the only person on the tractor.

Drive at speeds slow enough to insure your safety. Reduce speed before turning or applying brakes. Drive slowly over hills and rough ground to avoid tipping over.

Always keep the tractor in gear when driving down steep grades.



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

For AU40, AT40, and AT630 Cultivators, warning reflectors are provided and should be installed on left and right-hand ends of frame as illustrated above.

STORAGE SUGGESTIONS

At the end of the season, completely clean and lubricate the cultivator. Store the implement where it is adequately protected from the weather.

Before the next season, inspect the cultivator for worn or damaged parts and replace them.

KEEP YOUR CULTIVATOR A JOHN DEERE CULTIVATOR

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

MAINTENANCE SUGGESTIONS

To keep your cultivator in good working condition, follow these recommendations.

Nuts and Bolts

Keep all nuts and bolts tight, all cotter pins spread. If allowed to work loose, bolts may bend, strip threads and cause parts to fall off.

Rigs

Keep rig hangers bolted tight to the frame.

Periodically check pivot studs on lower rig links. Tighten if necessary to keep rigs from wobbling.

Shovels and Sweeps

Clean sweeps or shovels after each cultivating day to maintain a good scouring surface.

Sharpen dull sweeps or shovels for better soil penetration.

Between seasons and during periods of intermittent use, coat the polished face of sweeps or shovels with grease or oil.



Lubrication

⚠ Always lower the rigs and stop tractor engine before lubricating the cultivator.

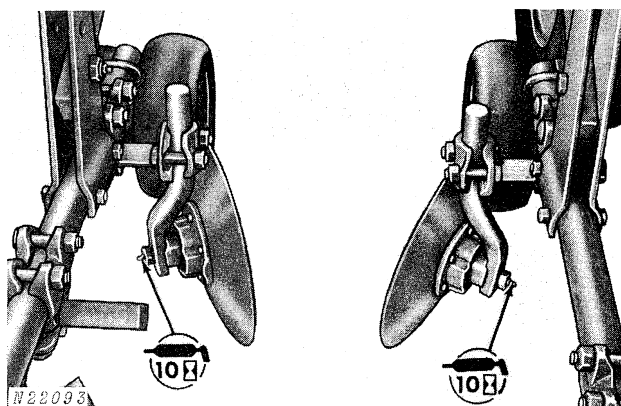
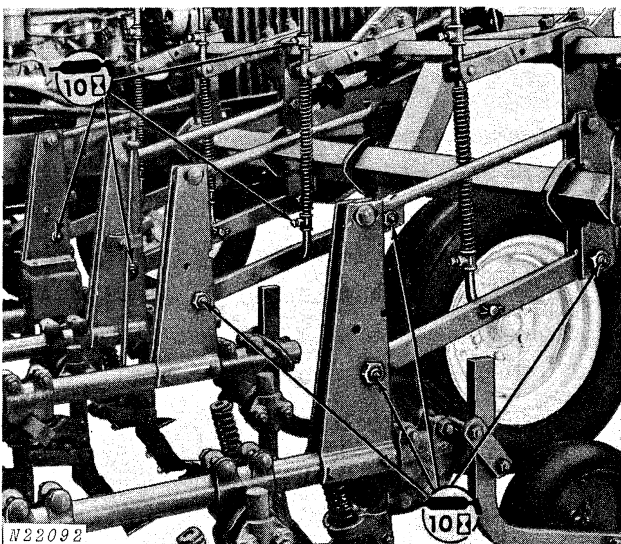
SYMBOLS



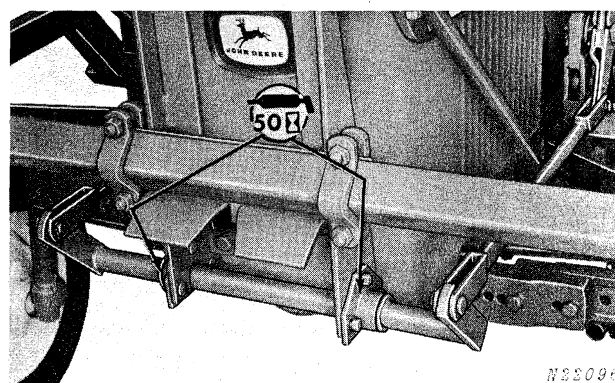
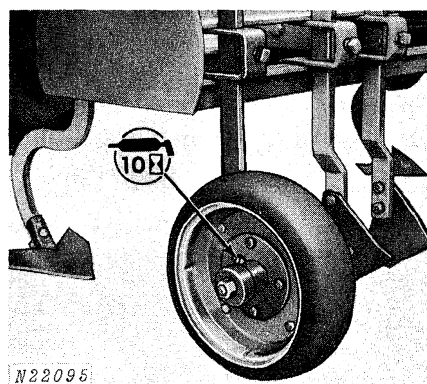
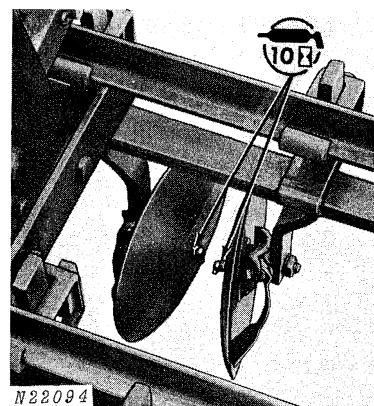
"Lubricate every 10 hours of operation with John Deere Multi-Purpose lubricant or an equivalent SAE multipurpose-type grease."



"Lubricate every 50 hours of operation with John Deere Multi-Purpose lubricant or an equivalent SAE multipurpose-type grease."



Lubricate all moving parts and pivot points. All parts should work smoothly. Make sure grease fittings are firmly installed before lubricating.

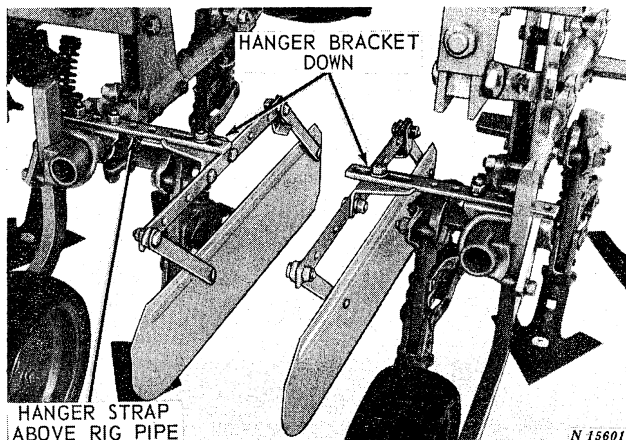




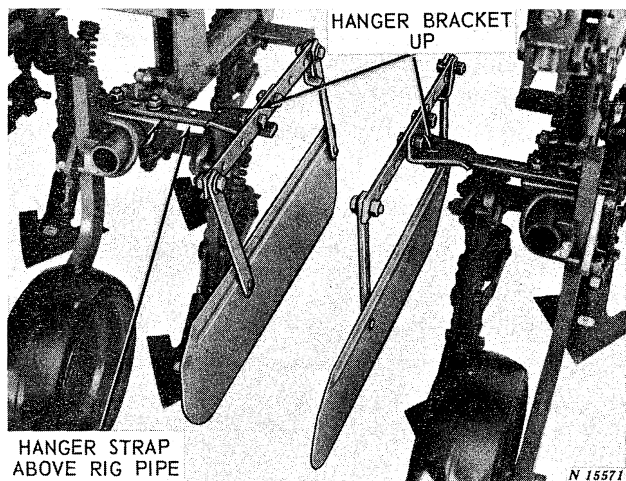
Special Equipment

RIG-MOUNTED SHIELDS

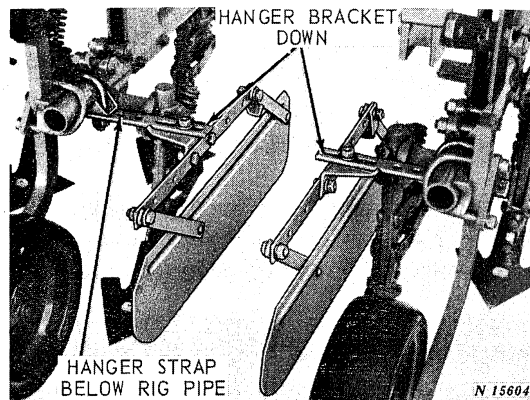
Rig-mounted shields can be positioned to suit a variety of crop conditions. Attach them to the cultivator to meet the type of planting practice followed.



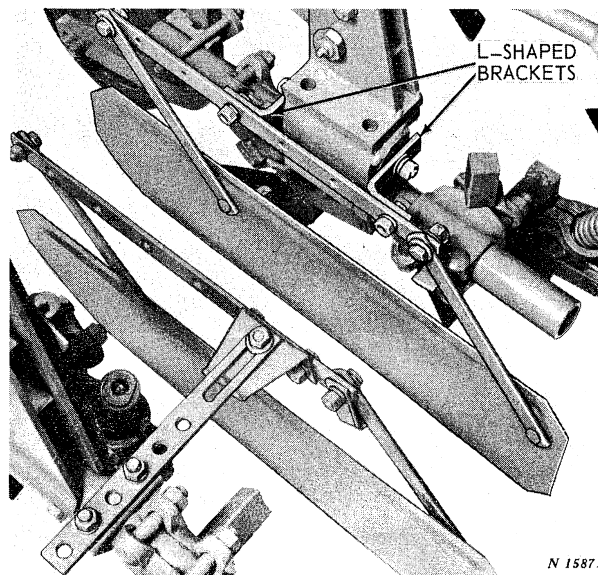
For level land crops, position shields with hanger straps on top of the rig pipes and hanger brackets turned down.



For crops planted on beds, attach shields with hanger straps above rig pipes and hanger brackets turned up.

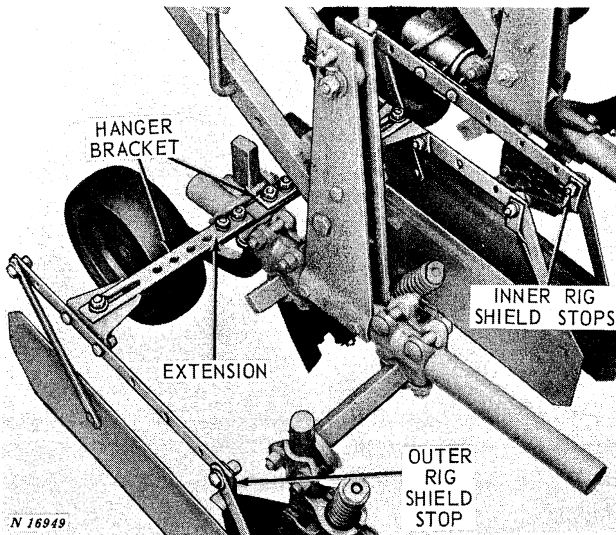


For listed crops, place shields with hanger straps below the rig pipes and hanger brackets turned down.



AU40 Cultivator only. Attach shield to rig coupling plates on inner rig pipe on each side of tractor, with L-shaped brackets as shown above.

RIG-MOUNTED SHIELD ARM EXTENSIONS (AT630 Cultivator)

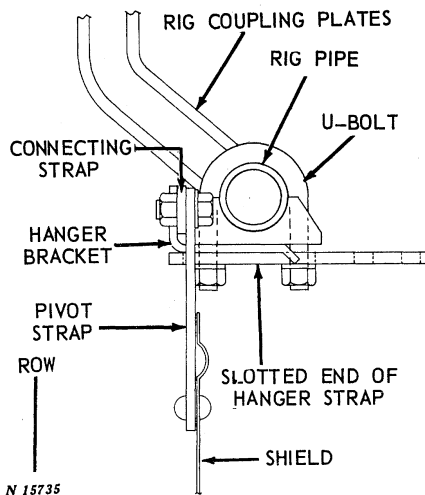


For ease of assembly, install hanger strap extension on U-bolt on all rigs, except outer and inner rig pipes, on each side of cultivator.

Place hanger straps on strap extension and install nuts on U-bolt.

Bolt hanger straps and strap extension together with two 1/2 x 1-1/4-inch cap screws as shown above.

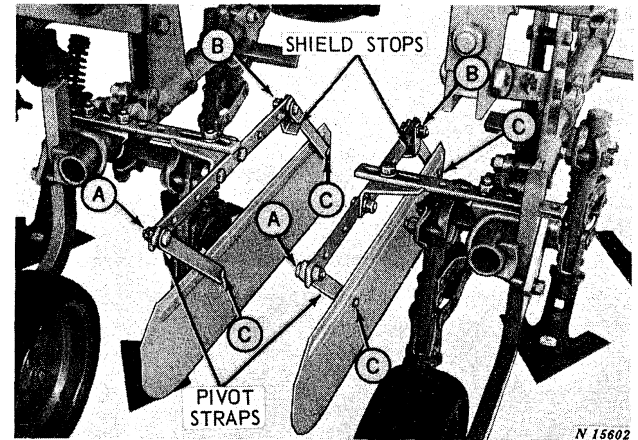
Shields On Inner Rigs



Attach the hanger strap to the U-bolt below the rig pipe and turn the hanger bracket up. The diagram above illustrates the inner rig on the right-hand side of cultivator. View is from the front.

Remove the pivot straps from the connecting strap and attach the pivot straps to the opposite side of the connecting strap. Attach the shield stop to the opposite side of the connecting strap.

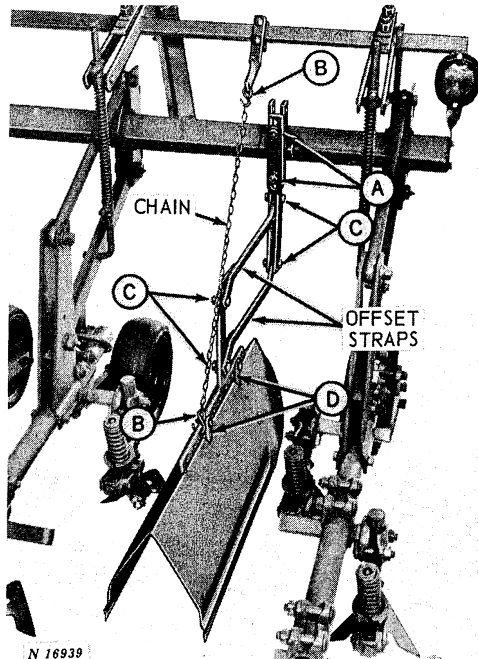
Shield Adjustments



Set bolts "A" and "B" loose enough to allow shields to float up and down freely. Be sure rivets "C" and straps do not bind to limit shield movement. Pull shield stops back against pivot straps to set shield height. Tighten nuts on bolts "B" to hold stops in position.

Slide hanger brackets in or out in hanger straps to position shields next to plants. If further adjustment is required, reposition hanger straps on U-bolts.

HOODED SHIELDS



Attach hooded shields with hanger and U-bolt to the rear of the frame bar as shown at "A."

Fasten chain to top of hanger as shown at "B." Attach the "S" link to the chain and the shield as shown to obtain the desired crop clearance.

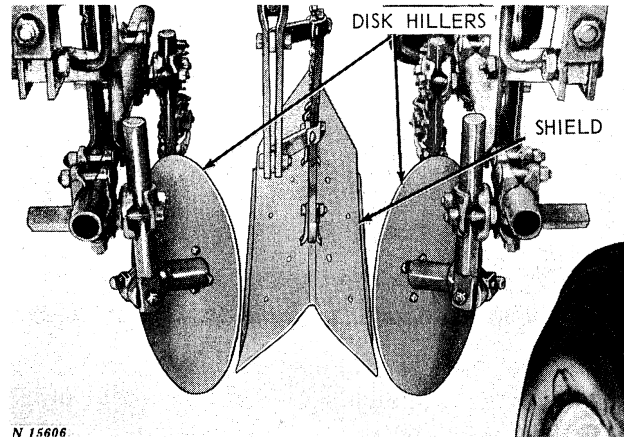
Adjust the shield for side sway at "C." Loosen the bolts to allow shield to swing; tighten the bolts to keep the shield rigid.

Place the shield between the shovels or sweeps where plants receive the most protection. Position the shield on the shield strap using the bolts at "D."

To position shield as far forward as possible, bolt hanger to the front of the frame bar.

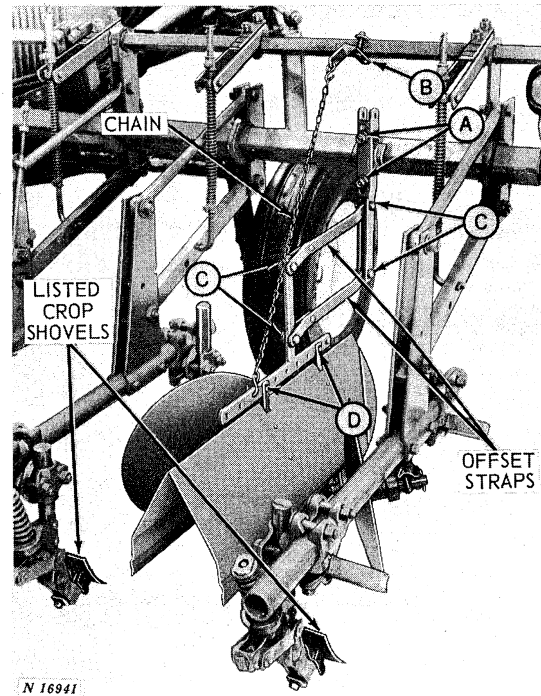
If more clearance is needed, change shield and shield hanger position by reversing the offset straps.

NO. 10 LISTED CROP ATTACHMENT



Attach the disks in the front crossarms to replace the two inside shanks and sweeps. Set disks as shown for barring off, or switch disks in crossarms for hilling.

NOTE: Gauge wheels have been removed from rig pipes for illustrative purposes.

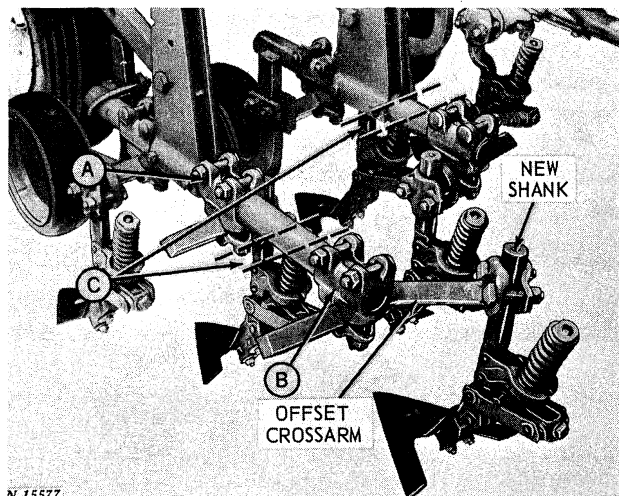


Attach the hooded shields to frame bar at "A." See instructions at left for adjusting hooded shields.

Remove sweeps or shovels from rear shanks and bolt listed crop shovels to shanks. Reposition crossarms and shanks next to row as shown.

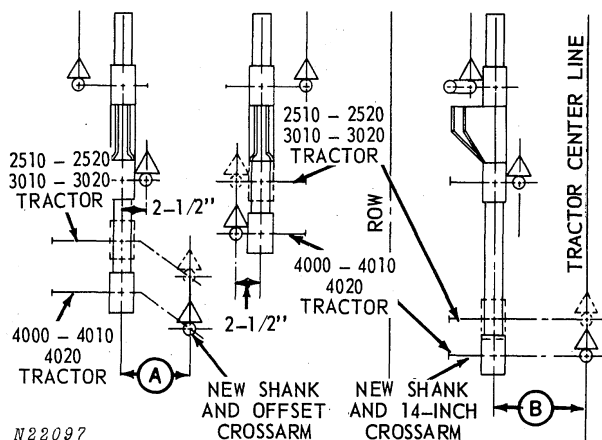
NO. 13 FRONT RIG ATTACHMENT (AT40 Cultivator)

This attachment adds three shanks to the cultivator. It cannot be used if cultivator is mounted on 3010 or 3020 Row-Crop Utility Tractor.

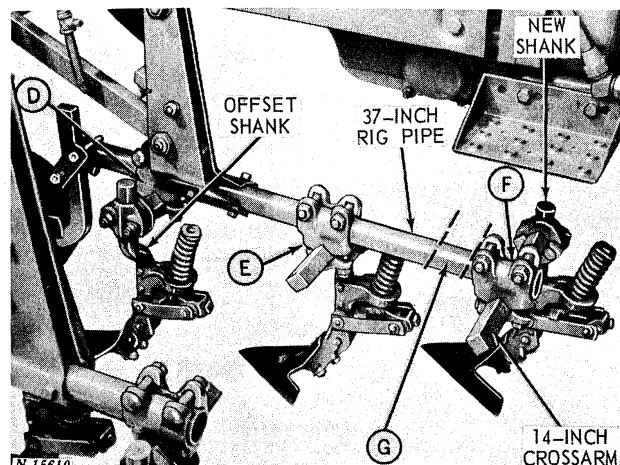


On third rig out from the tractor on both sides of cultivator, move the rear shank, crossarm, and rig clamp up against the coupling plates at "A."

Install rig clamp with offset crossarm on rear of third pipe on both sides of cultivator at "B." Bolt sweep or shovel to shank and install shank in clamp on offset crossarm. Position crossarms as shown in row spacing diagram below.



NOTE: On 2510, 2520, 3010, or 3020 Row-Crop Tractor, move rig clamps on rear of second and third rig pipes on both sides of cultivator closer to rig coupling plates to position "C."



On left-hand side of tractor, remove the short rig pipe from the inner rig and install the 37-inch rig pipe.

Remove rig clamp, crossarm and offset shank from short rig pipe and install them on rig pipe at "D" in front of coupling plates.

Remove rig clamp, crossarm and straight shank from short rig pipe and install them on rig pipe at "E."

Install rig clamp with 14-inch crossarm on the rear of the pipe at "F." Install shank and sweep in crossarm clamp. Position crossarm as shown in diagram.

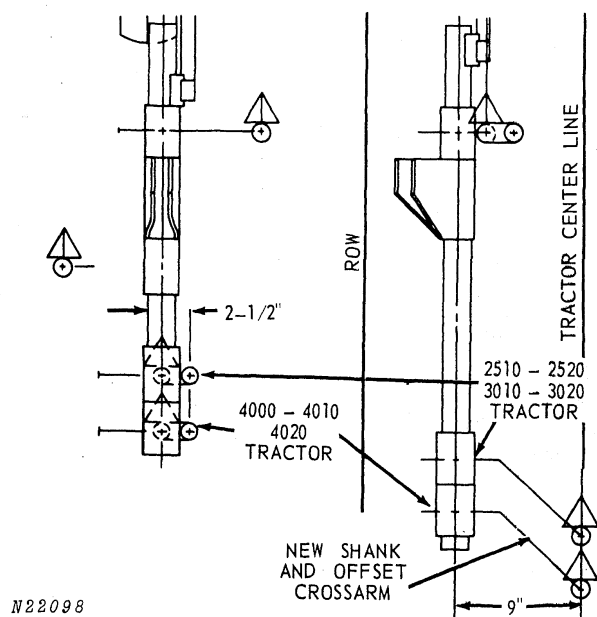
NOTE: On 2510, 2520, 3010, or 3020 Row-Crop Tractor, set rig clamp forward on rig pipe several inches to position "G."

New Shank Positions in Inches

Location	36-Inch Row	38-Inch Row	40-Inch Row	42-Inch Row
A	5-1/2	6-1/2	7-1/2	8-1/2
B	9	9	9-1/4	9-1/2

Other dimensions are the same as those shown on page 19.

NO. 13 FRONT RIG ATTACHMENT (AT630 Cultivator)



N22098

On the left-hand side of the tractor, remove the short rig pipe on the inner rig and install the 37-inch rig pipe.

Remove the rig clamp, crossarm and offset shank from short rig pipe and install them on the new rig pipe in front of the coupling plates.

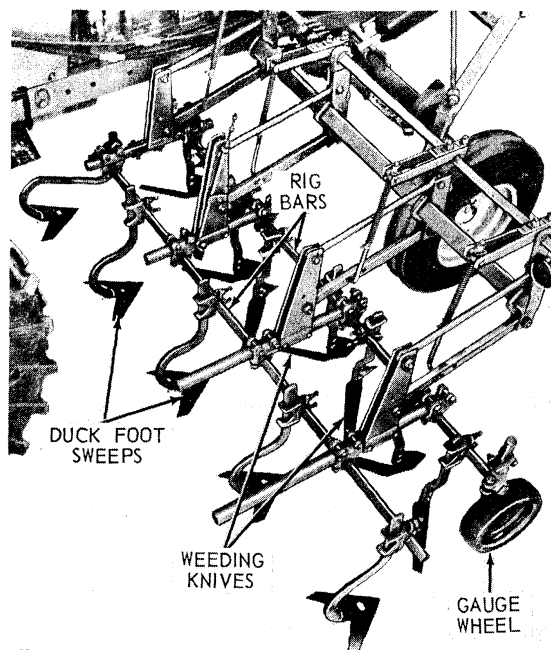
Install rig clamp with offset crossarm on rear of inside rig pipe on left-hand side of cultivator. Offset crossarm should angle in and to the rear.

NOTE: On 2510, 2520, 3010, or 3020 Tractor, move rig clamps on rear of inside rig pipe of cultivator up closer to rig coupling plates. See diagram.

On second rig out on both sides of the cultivator, bolt sweep or shovel to shank and install shank in straight crossarm clamp. Position the crossarm so sweep or shovel is centered between the two sweeps or shovels in front of it.

Other dimensions not shown on diagram above are same as on page 21.

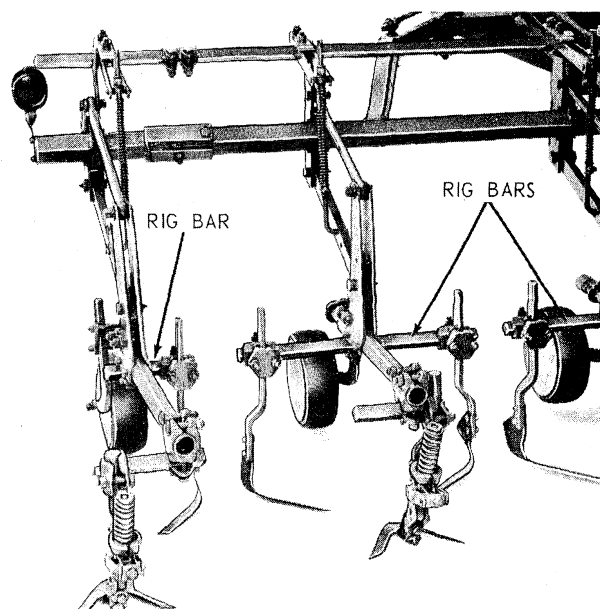
RIG BARS FOR VEGETABLE CULTIVATION (AT40 Cultivator)



N 16947

To convert AT40 Cultivator for vegetable cultivation, remove regular shanks and crossarms from the rig pipes. Bolt the rig bars, two on each side of tractor, to rig clamps. Attach clamps, shanks and tool equipment for vegetable cultivation to the rig bars. Reposition rig lift rods in rear holes in lower rig links as shown.

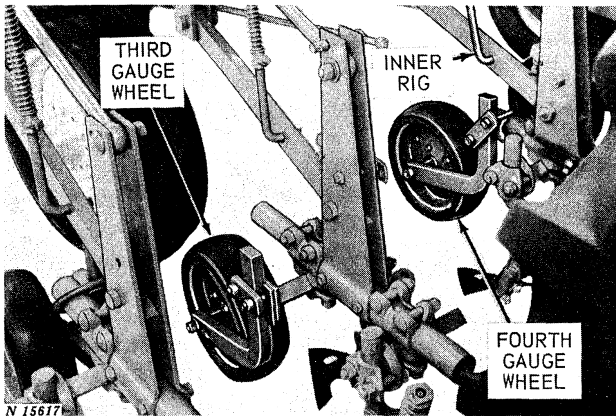
RIG BARS FOR VEGETABLE CULTIVATION (AT630 Cultivator)



N22099

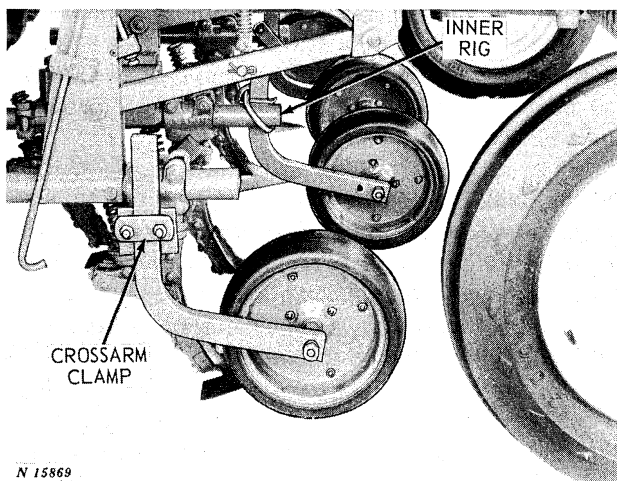
To convert AT630 Cultivator for vegetable cultivation, remove regular shanks and crossarms from the rig pipes. Bolt the rig bars to rig clamps. Attach clamps, shanks, and tool equipment for vegetable cultivation to the rig bars.

GAUGE WHEELS (AT40 and AT630 Cultivator) (Tractor with Adjustable-Tread Front Axle Only)



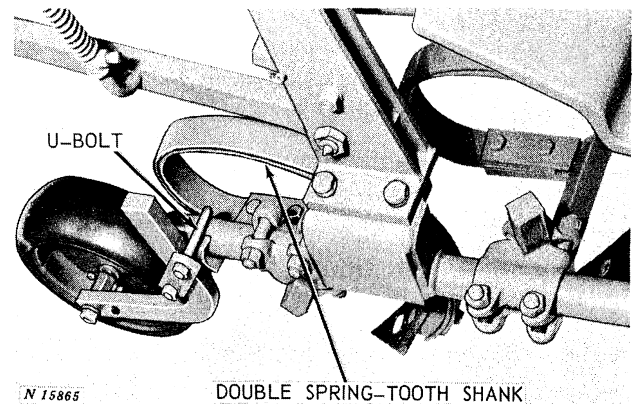
On tractor with adjustable-tread front axle, two or four additional gauge wheels can be added to the cultivator. Install gauge wheel shank with two holes in special crossarm clamp on second rig on both sides of tractor. Attach the gauge wheel in the front hole in the shank. Install gauge wheel and shank on inner rig on both sides of the tractor.

GAUGE WHEELS (AU40 Cultivator)



Attach four gauge wheels to rigs as shown above. Install gauge wheel shank with two holes on inside of inner rig. Use U-bolt clamp and attach to front of rig pipe. On second rig out, install gauge wheel shank in

crossarm clamp. Turn set screw on rig depth stops up against the stop to allow gauge wheels to control cultivating depth.

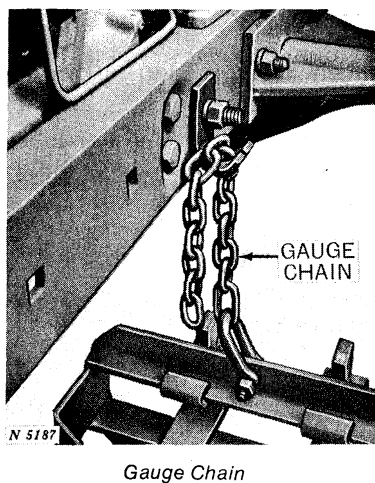
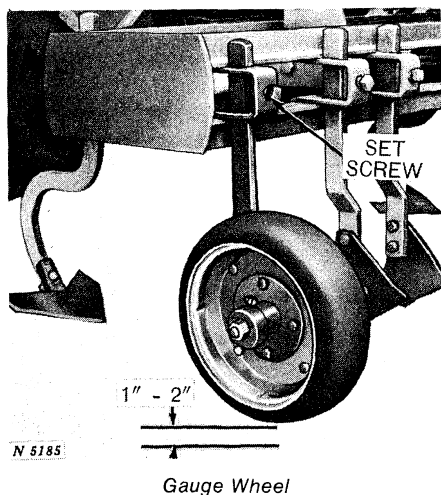


If cultivator is equipped with double spring-tooth shanks, attach gauge wheel shank to outer side of inner rig pipes as shown above.

Attach gauge wheel sleeve to shank in front hole of shank. Apply pressure only to the end of the gauge wheel shaft (not any other part of gauge wheel) when installing gauge wheel in sleeve. Tighten the set screw and set screw jam nut.

Position all gauge wheels at the same level, 1 to 2 inches above the sweeps. Tighten the U-bolt and crossarm clamp nuts securely.

GAUGE WHEELS (Beet-Bean-Vegetable Cultivators)



Whenever gauge wheels are used, they determine the depth of cultivation.

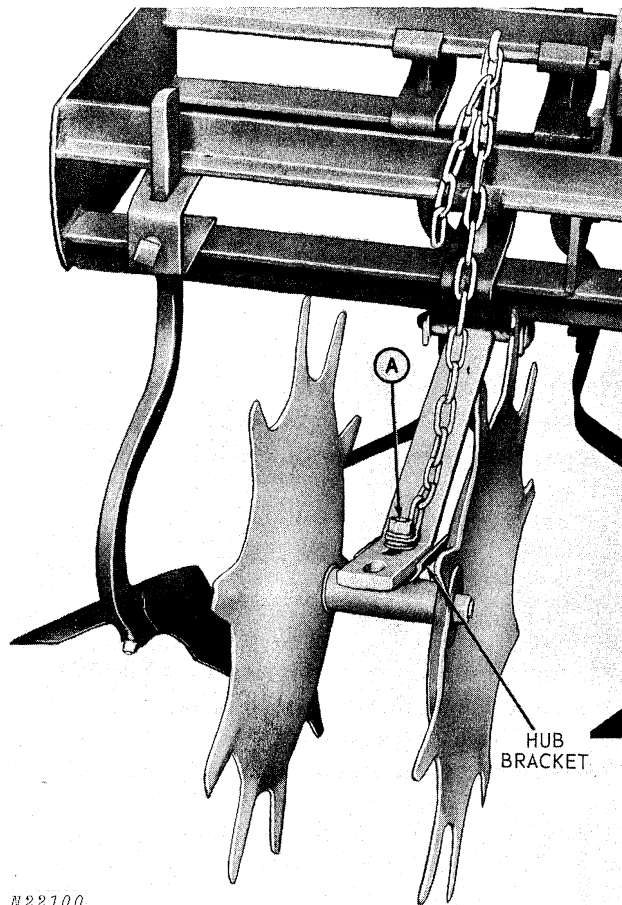
To adjust cultivating depth, loosen the set screw and adjust the gauge wheels one to two inches above the ground.

Position the gauge wheel shank on the front side of the tool frame and locate one wheel on each side of the cultivator.

Set gauge wheels to carry tool frame level so all tools operate at the same depth.

Gauge chains are also furnished with the gauge wheels. Set the chain so tools on the inside end of the tool frame operate at the same depth as those on the outside end of the frame.

ROLLING SHIELD (Beet-Bean-Vegetable Cultivator)

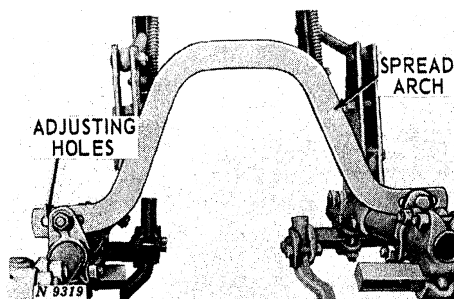


Rolling shields can be used to increase the speed of cultivation. The rolling shields are more immune to plugging than other types. The shields can be adjusted for-and-aft to control the amount of dirt flow around the crop. Bearings in the rolling shields require no lubrication.

In the field, the shields should be lowered to allow blades to roll freely on the ground. The lift chains should be slack to allow the shields to follow the ground contour. The shields should be adjusted fore-or-aft so that the dirt flows evenly in around the plant at the rear of the shield.

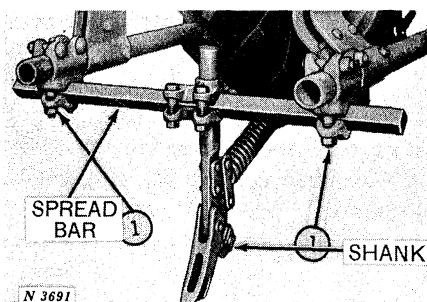
Position the shields fore-or-aft by loosening bolt "A". If it is necessary to move the shields further forward, remove bolt "A" and turn the complete shield assembly 180 degrees. This will position the hub bracket to the rear instead of to the front as shown, thereby allowing more forward adjustment.

SPREAD ARCH



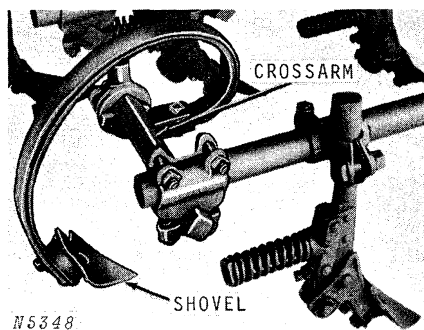
If using disk hillers or planting attachments, a spread arch holds rig pipes in line. Holes are provided to adjust spread arch for the desired row spacing.

SPREAD BAR



The spread bar is used in connection with planting attachments. A sweep or some type of tool equipment can be attached to the shank to open up a furrow for the seed to be planted.

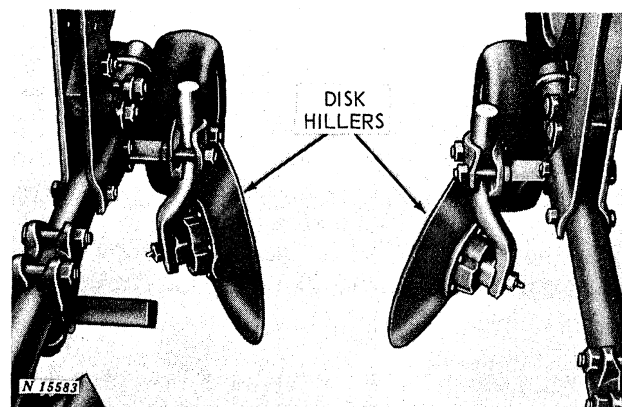
CENTER ATTACHMENT



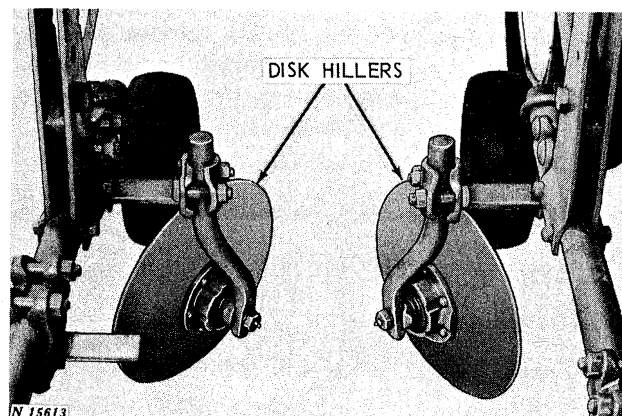
The No. 1 Center Attachment is available for converting the row-type cultivator to a field-type for use in open fields. This attachment is clamped to the pipe of the outside rigs back of the second shovel. The

crossarm is adjustable and should be positioned so the shovel of the center attachment cuts out the center left between the two front shovels.

DISK HILLERS



Hilling Position



Barring Off Position

Use disk hillers in place of sweeps or shovels in the front position to hill or barr off the rows.

To hill, set disks so shanks angle forward and toward the rig pipes. To bar, set disks so shanks angle forward and away from the rig pipes.

Disk hillers are available in 12, 14, and 16-inch sizes, with anti-friction or sleeve-type bearings.

ROTARY HOE ATTACHMENT

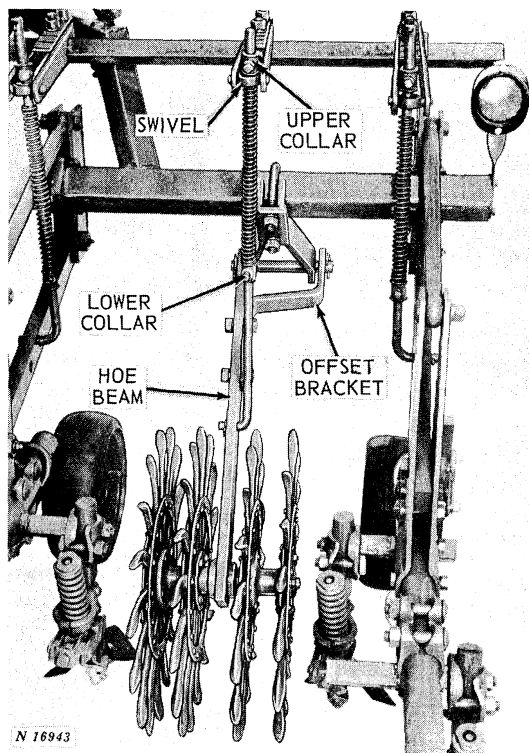
The No. 3C Rotary Hoe Attachment improves early cultivation by getting the weeds and breaking the crust in the rows. The hoe attachment fits between the cultivator rigs, directly over the row.

The offset bracket can be bolted to either side of the hoe beam to position the wheels over the row or to provide clearance for the hoe hanger.

When cultivating, set the upper collar on the hoe lift rod so there is at least a one-inch space between the collar and the swivel. Adjust the lower collar to keep the spring under tension. Raise the lower collar to increase spring tension.

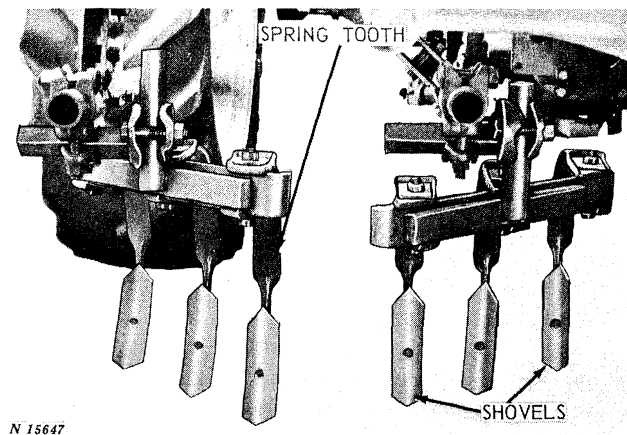
When crop is higher, remove the two inner hoe wheels and use only the outer hoe wheels as plant shields.

To remove the inner hoe wheels, remove the long hub bolt and hubs with wheels from the hoe beam. Remove the inner wheels from the hubs. Replace hubs and long hub bolt on the hoe beam.



The hoe wheels are shown in the packing position, with hoe tines facing backward. If a mulching effect is desired, reverse the hoe wheels so the tines face forward.

SPRING-TOOTH ATTACHMENT

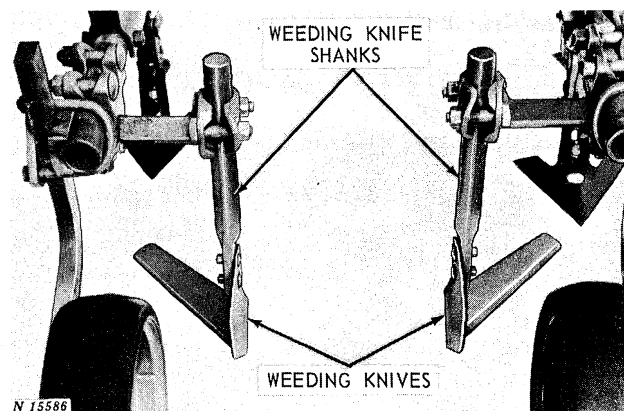


The No. 21 Spring-Tooth Attachment consists of short spring teeth and narrow shovels mounted on a stub bar.

Remove regular shank equipment from cultivator and position crossarms so they face the row with the long side of the clamp up. Install the spring-tooth stub bars in the clamps.

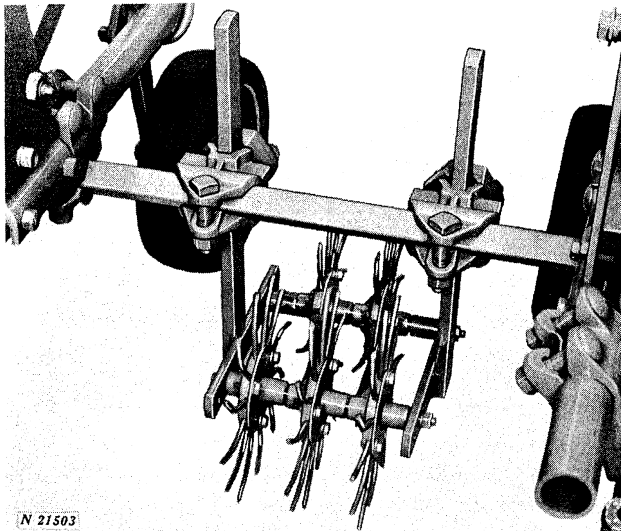
On both sides of the tractor, set inner rig 6-1/2 inches out from tractor and position inner rig lift arm and lift rod on the inner side of the rig.

WEEDING KNIFE SHANKS

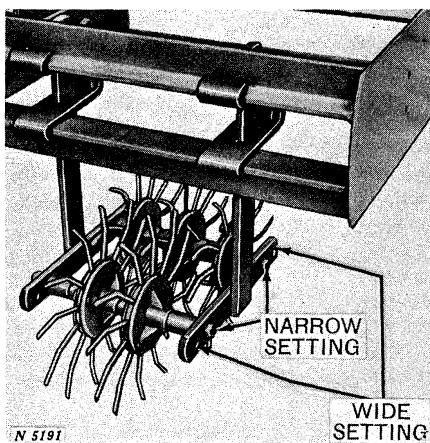


Weeding knife shanks are used for beet and bean weeding knives in combination with or in place of regular row-crop shank equipment.

IMPORTANT: Weeding knife shanks are solid, non-trip shanks. They should not be used in stone or stump-filled areas.

BEET AND BEAN ROTARY HOE

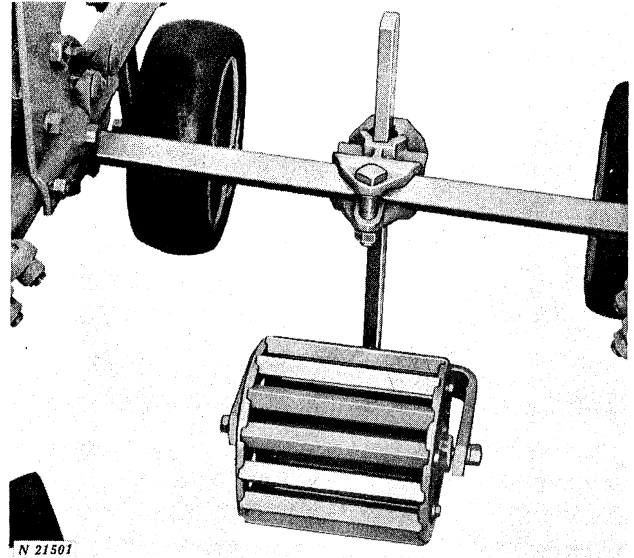
Rotary Hoe on
AT630 Vegetable Cultivator



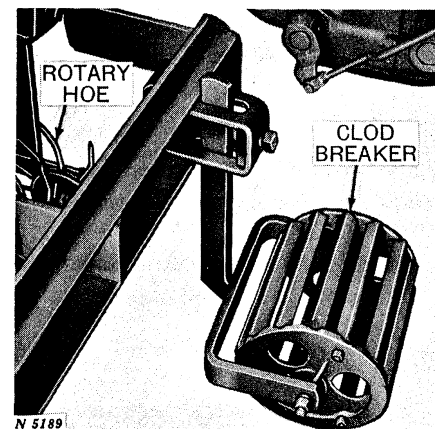
Rotary Hoe on
A20 Beet-Bean-Vegetable Cultivator

This attachment is ideal for breaking crusted soils and for early cultivation of beets, beans, and all other vegetables. It can be used alone or with the clod breaker.

The rotary hoe is normally used in its narrow setting as shown above. When operating in soils that contain a lot of trash or clods, the hoe sections can be moved to the wide setting to give more clearance between the wheel tines.

CLOD BREAKER

Clod Breaker on
AT630 Vegetable Cultivator

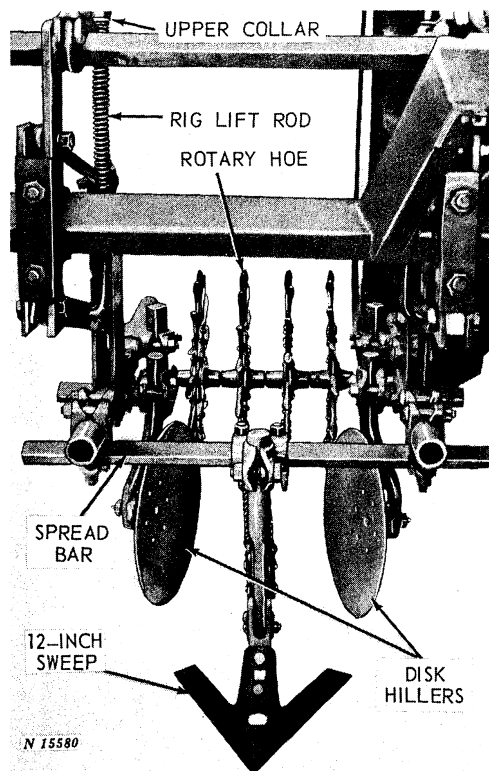


Clod Breaker on
A20 Beet-Bean-Vegetable Cultivator

This attachment is the ideal companion tool for the rotary hoe. When used behind the rotary hoe it firms the ground and breaks up the clods. It can also be used alone for breaking crust when the crust is thin and easily broken.

If used alone, the clod breaker should be attached to the front of the tool frame.

MINIMUM TILLAGE ATTACHMENT—AT40 Cultivator



The No. 4 Minimum Tillage Attachment consists of a 12-inch sweep, a pair of disk hillers, and four rotary hoe wheels for each row. This combination makes row-width seedbeds for planter-fertilizer units attached to the tractor drawbar or 3-point hitch.

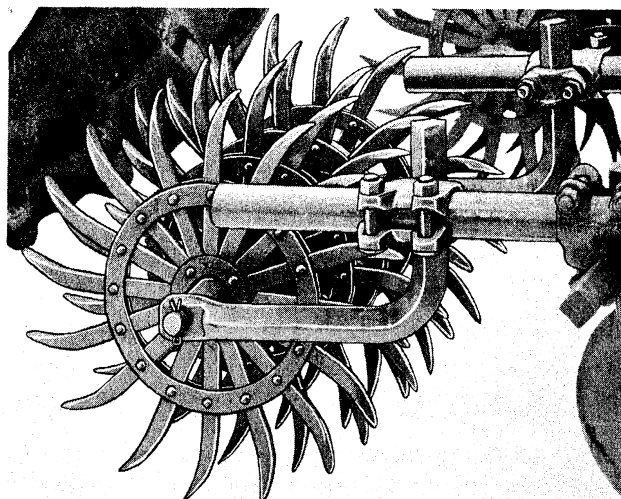
Assembly

Remove all gauge wheels, sweeps, shanks and crossarms from the cultivator, except the crossarms in the rig clamps directly behind the rig coupling plates.

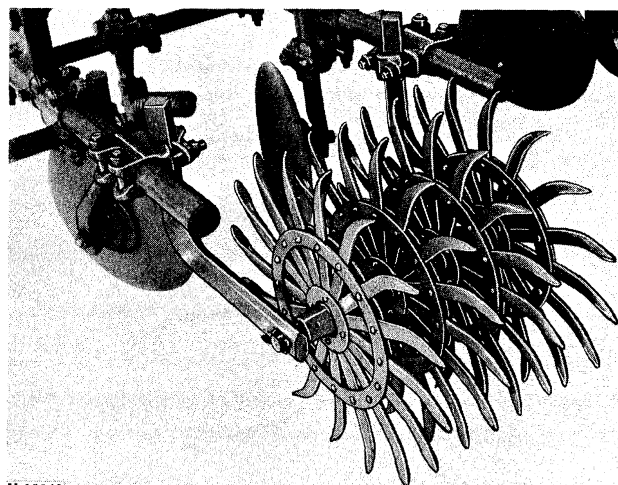
Position rigs for desired row spacing. See row spacing diagram on next page.

Install the spread bar on the rig pipes and center it above the row. On inner rigs, make sure spread bar doesn't come in contact with tractor. Install shank with 12-inch sweep on spread bar and center directly over the row.

Place rig clamps and crossarms behind the coupling plates with the long side of the crossarm clamps up and install disk hillers in the clamps.



Rotary Hoe in Mulching Position



Rotary Hoe in Packing Position

Bolt clamps to rig pipes as shown. Assemble rotary hoe shanks to hoe axle so hoe wheels are positioned to pack or mulch as desired. Install rotary hoe unit in clamps. Adjust hoe shanks in clamps so bottom of hoe tines sit about one inch above the level of the sweep.

Height of Lift Adjustment

Set the upper collars on the rig lift rods 1-1/2 inches from the top of the rod. Raise the cultivator slowly to check for possible interference with the tractor. If there is interference, lower the cultivator and reset the upper collars in a higher position on the rig lift rods. If there is no interference, and more transport clearance is desired, lower the cultivator and reset the upper collars in a lower position on the lift rods.

NOTE: Set both collars on each row unit at the same height.

IMPORTANT: When checking for interference, make sure the rotary hoe does not come in contact with the tractor step.

Depth of Operation Adjustment

All rig depth stop set screws should be turned in so they will not interfere with depth adjustments.

Depth of operation is controlled by the stops on the hydraulic cylinder and the control lever quadrant on the tractor.

Down Pressure Adjustment

To increase down pressure on the front rigs, raise the lower collars on the rig lift rods to increase spring tension. If no down pressure is desired, loosen the collars, let them slide to the bottom of the rod and tighten in place.

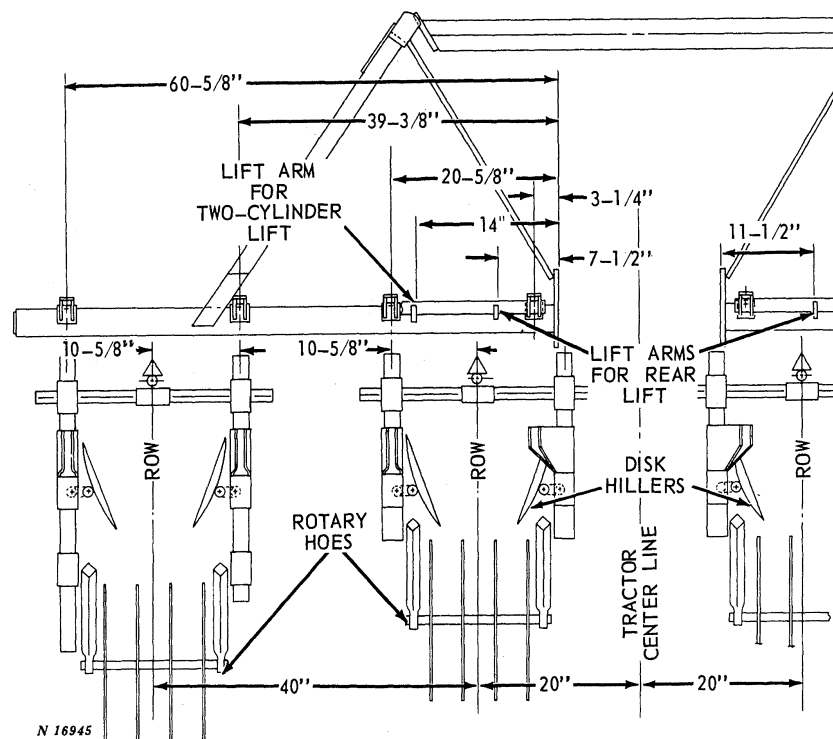
NOTE: Set both collars on each row unit the same distance from the top of the rod.

Shanks and Sweeps

Refer to pages 12 and 13 for adjusting sweeps and shanks.

Row Spacing

Set the rigs to the desired row spacing as shown below. Spacing on both right- and left-hand rigs should be the same.



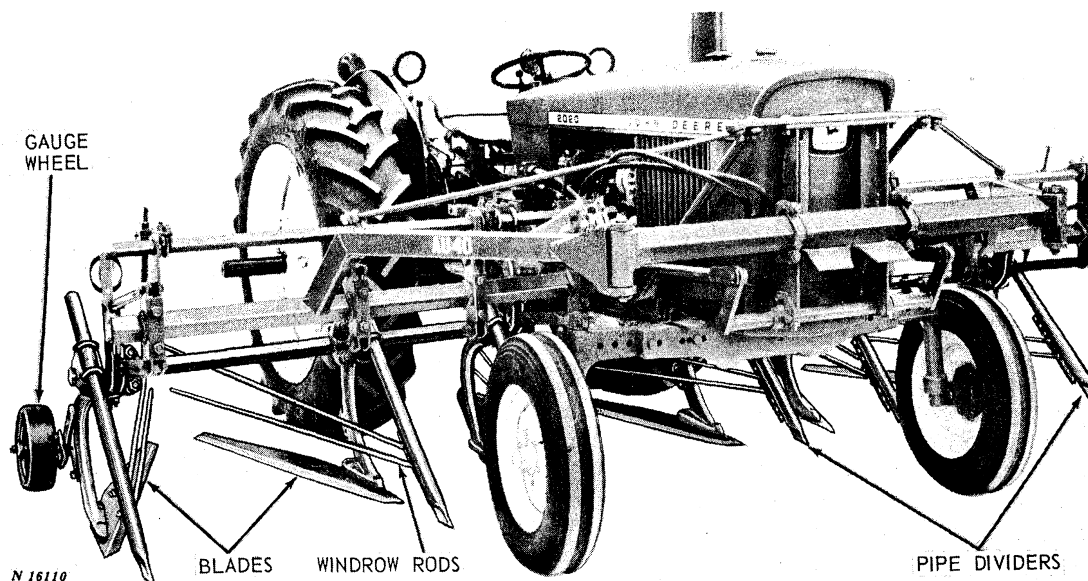
Row Spacing for 40-Inch Rows

The AB690F four-row Bean Harvester Attachment can be used for 18 to 34-inch rows on the A20 Cultivator.

The AB690G six-row Bean Harvester Attachment can be used for 18 to 30-inch rows on the AU40, AT40, and AT630 Cultivators.

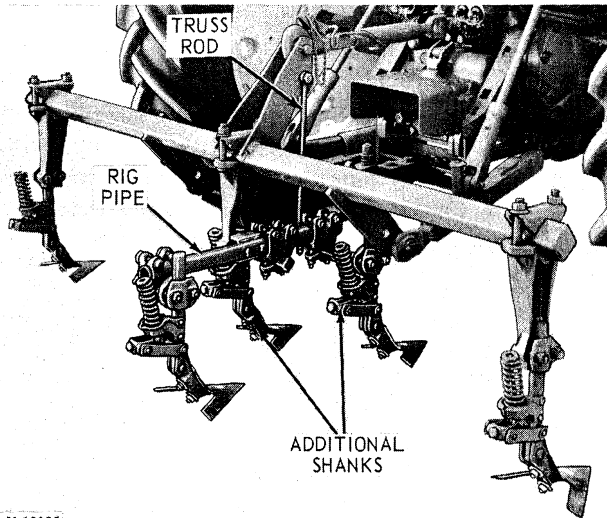
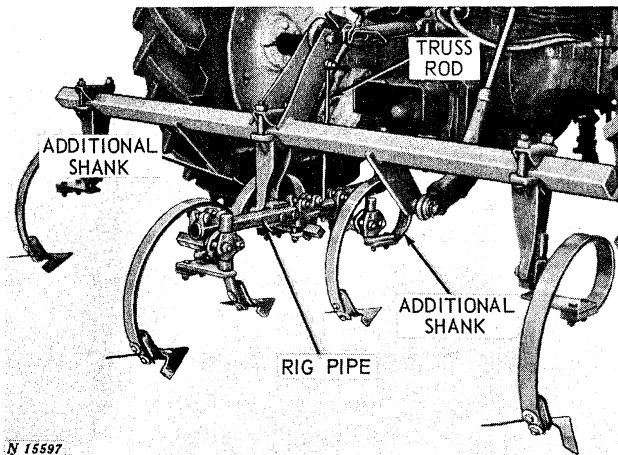
The AB690H eight-row Bean Harvester Attachment can be used for 18 to 30-inch rows on the AT40 and AT630 Cultivator.

NOTE: Bean harvester attachments cannot be used on cultivator mounted on 1020 RU Tractor.



AB690G Bean Harvester Attachment on AU40 Cultivator

REAR RIG EXTRA SHANK ATTACHMENT (For 250A Series Rear Rigs Only)



This attachment can be used if cultivator is on 1020, 2020, 3010, or 3020 Row-Crop Utility Tractor, or if two additional shanks are desired on the rear rig.

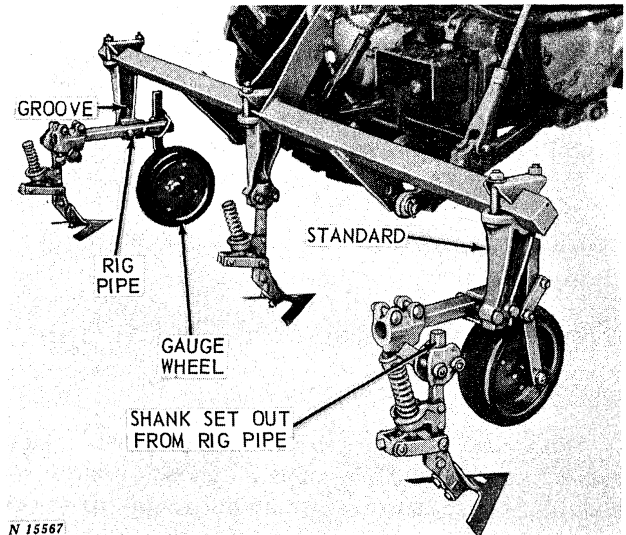
Replace shank in center standard with rig pipe.

Install the truss rod on the lower bolt in the hitch mast and insert threaded end of truss rod through holes in rig pipe. Tighten nuts up against rig pipe on threaded end of truss rod.

Install two shanks, crossarms and rig clamps as shown on front of rig pipe. If on 3010 or 3020 Row-Crop Utility Tractor, remove the shank on the rear of the inner rig pipe on both sides of tractor and install on rear rig.

Install the shank removed from the rear rig center standard in the crossarm clamp at the rear of the rig pipe.

NO. 12 REAR RIG GAUGE WHEEL ATTACHMENT (250A Series Rear Rigs Only)



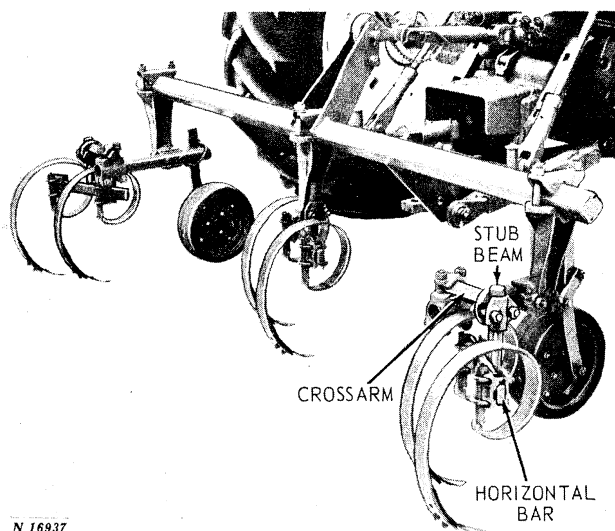
This attachment provides gauge wheels to maintain uniform cultivating depth on rear rigs.

Remove the shank from the outer standards and turn the outer standards around on the rear rig bar so the shank groove faces in rather than out.

Bolt rig pipe with crossarm to each outer standard.

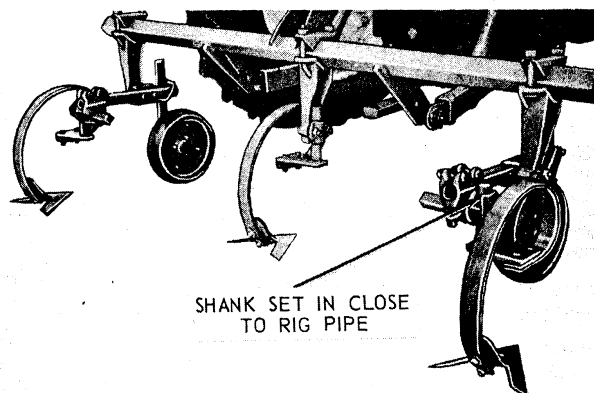
Assemble gauge wheel shank and clamp on front of each rig pipe as shown above. Attach gauge wheel sleeves to shanks and install gauge wheels in sleeves. Tighten sleeve set screw and jam nut.

When using spring-trip or friction-trip shanks, set crossarm clamps out from rig pipe and install shanks removed from standards.



N 16937

When using single spring-tooth shanks, place crossarms on top of rig pipes as shown. Shanks on stub beam must be reversed so horizontal bar is behind stub beam when spring teeth are attached to outer standards.

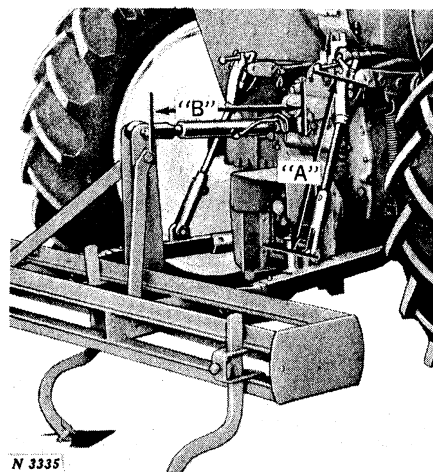


N 15569

When using double spring-tooth shanks, set cross-arm clamps next to rig pipes as shown. Install double spring teeth so spring sits out from crossarm clamp as shown.

BEET AND BEAN REAR TOOL FRAME

Rear tool frames are available as extra equipment. Rear tool frame is operated by tractor rockshaft and controlled by rockshaft control lever.



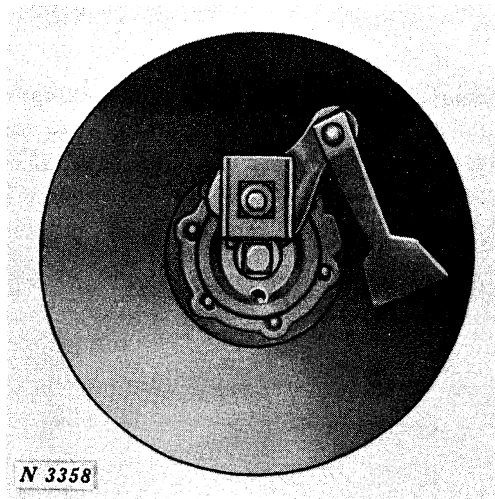
N 3335

The rear tool frame is attached to the tractor 3-point hitch. On the 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Tractors the recommended length "A" for the right- and left-hand links is 28 inches. The length of the center link at "B" is 24-1/2 inches.



Tool Equipment for Beet, Bean and Vegetable Cultivator

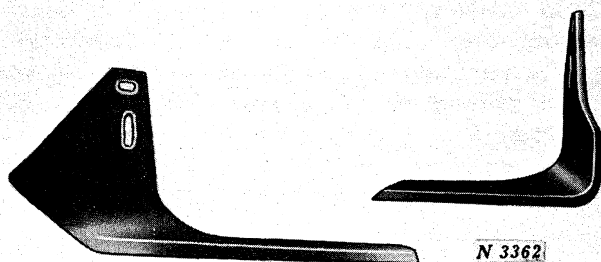
DISK WEEDERS



Disk weeders are available in 9- and 11-inch sizes, with adjustable scrapers and anti-friction or plain bearings.

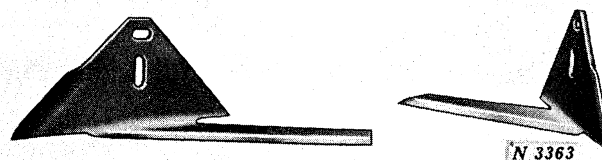
WEEDING KNIVES

Round-Turn Knives



Round-turn weeding knives are shaped to prevent damage to shallow crop roots. Their upward pitch assures good work in crusted soils. Made of tough, high-carbon steel, round-turn knives are available in 6-, 8-, 10-, and 12-inch sizes.

Low-Point Knives



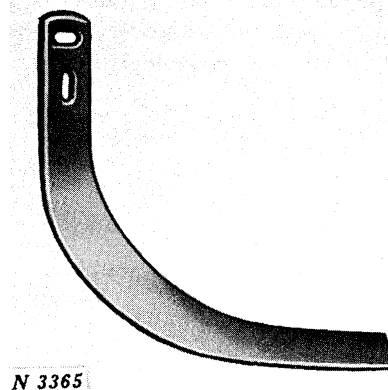
Six- and 8-inch low-point knives are made for very close work in young crops. The backward slope of the point lifts leaves up and out of the way to prevent plant damage.

Square-Turn Knives



Square-turn knives cut readily through soils packed by rain or irrigation. Bolt slots permit extremely flat adjustment to prevent ridging. Available in 6-inch and 8-inch sizes.

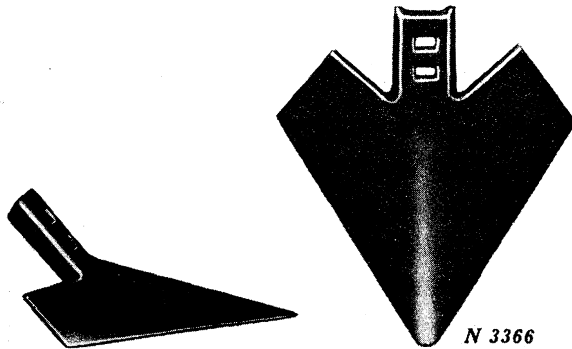
Bed Knives



Bed knives quickly and easily destroy heavy weed growth. The 1/4-inch-thick knives have two attaching slots. Available in 6-inch size only.

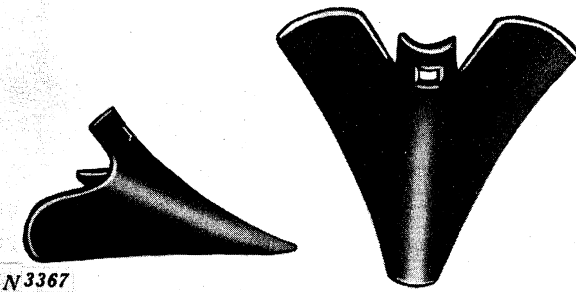
SWEEPS

Extra-Flat Duckfoot Sweeps



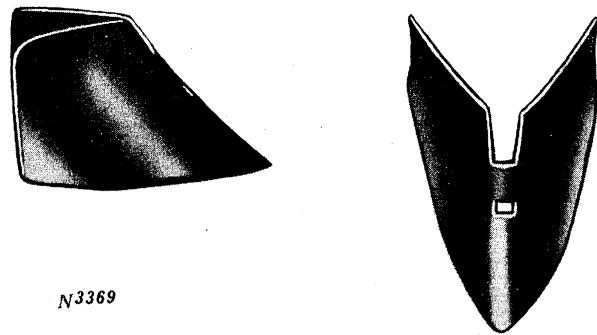
Extra-flat duckfoot sweeps are used for early cultivation of crops while plants are still in the seedling stage. Used for high-speed cultivation, these sweeps will cut weeds while hardly disturbing the soil. Available in 6- to 12-inch widths.

Flat Sweeps



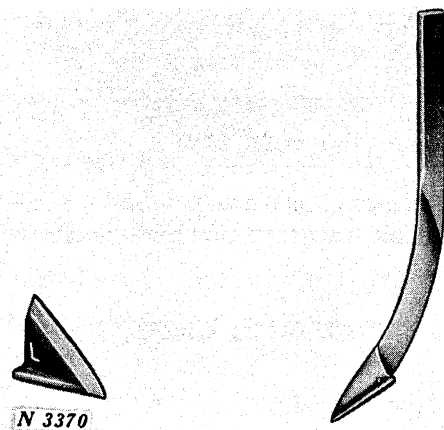
After crops have passed the seedling stage, use flat sweeps for both close and general-purpose cultivation. Smooth finish aids scouring in difficult soil conditions. Available in 6- to 12-inch widths.

IRRIGATING SHOVELS



Irrigating shovels are shaped for making small irrigation furrows between narrow-planted rows without throwing soil over small plants. They are highly polished for good scouring. Available in 6- and 7-inch sizes.

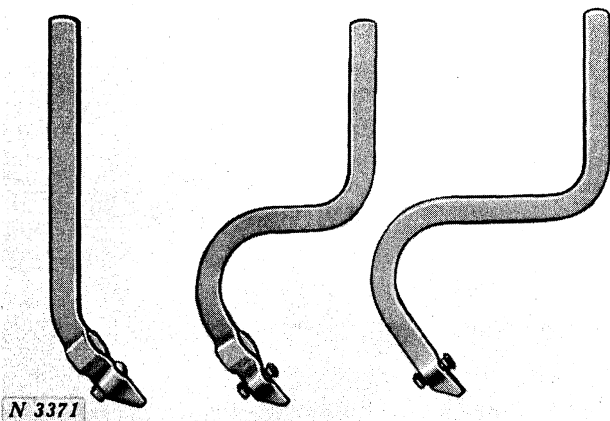
SPEAR POINTS



Spear points with standards are available for crust-breaking, deep cultivation, or deep hardpan-breaking. The front edge of the standard, just above the point, is beveled for better penetration and less soil resistance.

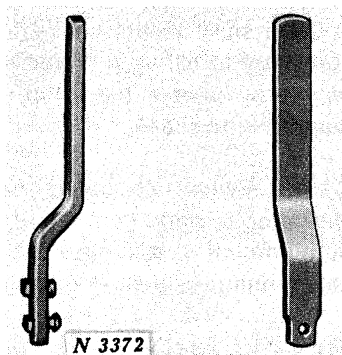
STANDARDS

Stiff Standards



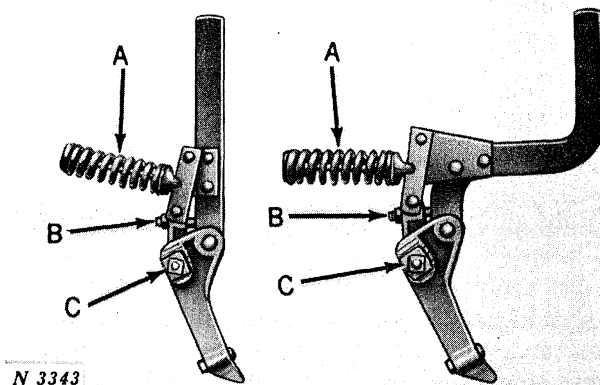
Stiff standards are available for use with sweeps, irrigating shovels and double point shovels.

Offset Standards



Use the offset standard at left with weeding knives or bed knives. Standard at right is used with disk weeder.

Spring-Trip Standards



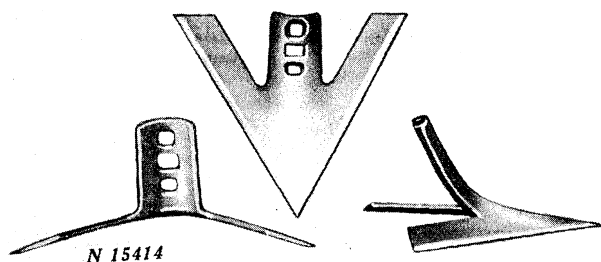
Spring-trip standards, straight or curved, are designed for high-speed cultivation in rough soils. The spring tension (A), spring-trip pressure (B), and angle or suck of tool (C) are easily adjusted to meet soil conditions.



Sweeps and Shovels

All sweeps and shovels are made from high carbon steel and heat treated to assure hardness for longer wear and toughness for greater shock resistance. A wide variety of sizes is available to meet your own needs. See your John Deere dealer.

UNIVERSAL SWEEPS

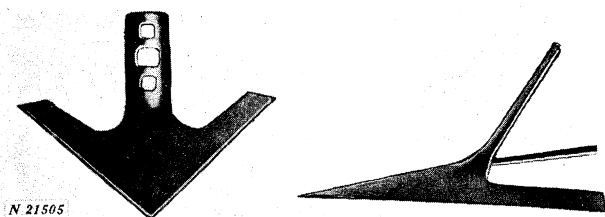


The Universal Sweeps are designed for high-speed cultivation. They are highly polished and will scour in all types of soil conditions.

These sweeps have a low-wing angle, a low crown, and long, narrow shank.

The sweeps lift and stir the top soil, leaving a loose mulch on top and destroying weeds at the same time, but still throw enough soil between plants to cover the weeds.

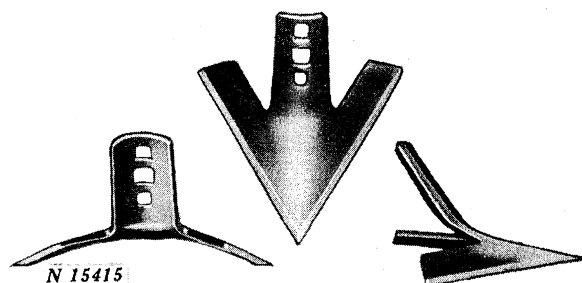
PEANUT SWEEPS



The Peanut Sweeps are designed to move a minimum amount of soil, even at high cultivating speeds.

These sweeps have a very narrow shank, narrow wings, and low profile for maximum efficiency when cultivating peanuts.

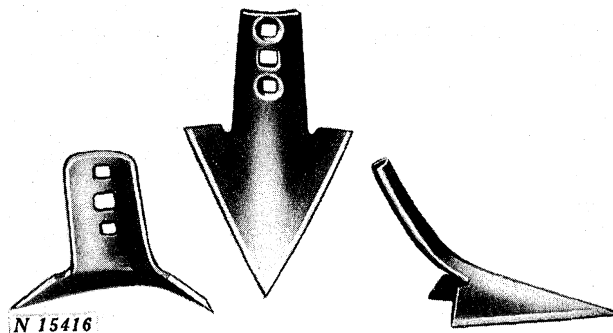
MIXED-LAND SWEEPS



The Mixed-Land Sweep is used 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 medium amount of soil, even at slow speeds, and leave a loose, mulched mellow topsoil.

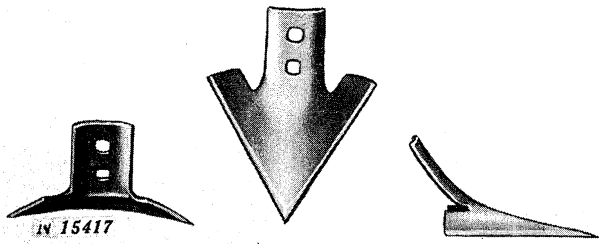
BLACKLAND SWEEPS



The husky Blackland Sweep is designed for cultivating in areas where scouring is difficult. It is excellent for hilling and ridging cotton beds as these sweeps throw a large amount of soil.

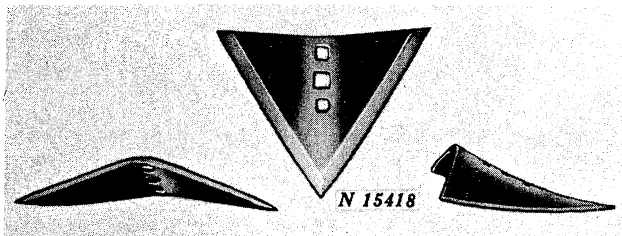
The Blackland Sweep is long and narrow with a high crown and an unusually high-wing angle which provides quick cleaning and scouring.

GENERAL-PURPOSE SWEEPS



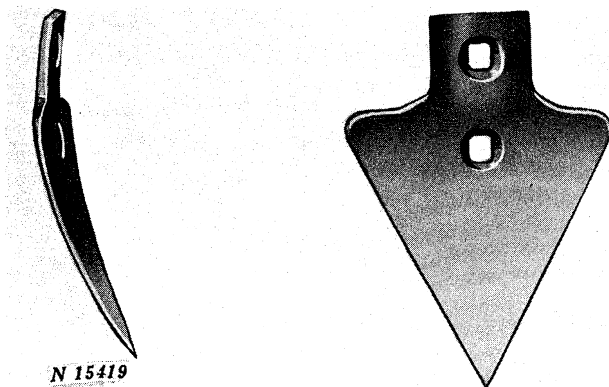
The General-Purpose Sweep is designed especially for use with a single spring-tooth standard on row-crop cultivators.

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.

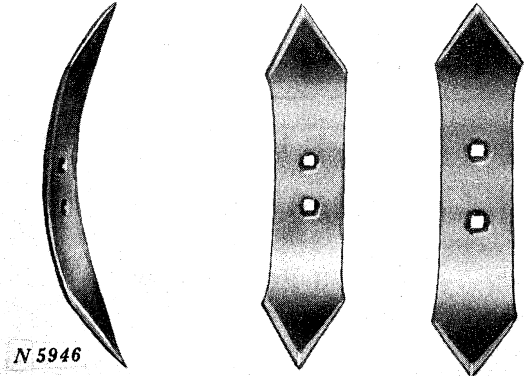
SINGLE-POINTED SHOVELS (Spear Points)



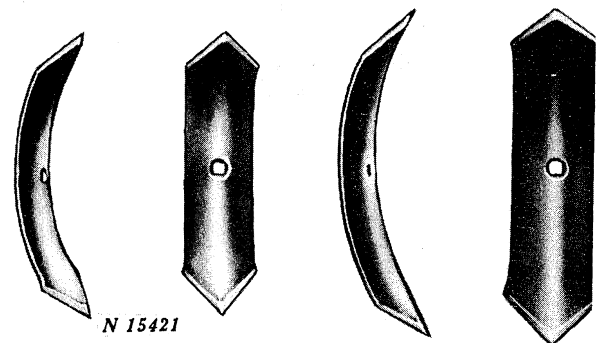
The Single-Pointed Shovel or Spear Points are particularly suitable for working in conditions where extreme care must be taken not to injure plants. These shovels are ideal for killing weeds and do an excellent job of cultivating in row-crops.

DOUBLE-POINTED SHOVELS

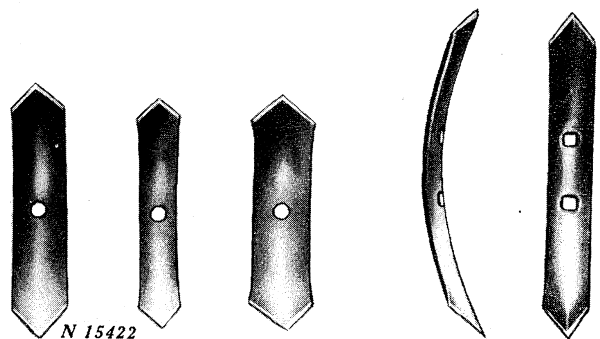
The Double-Pointed Shovels are strong and sturdy to withstand the most severe cultivating conditions; they're ideal for use where it's necessary to cultivate deep to stir up more ground. These shovels are also used to loosen the soil compacted by tractor wheels.



These shovels are available for single spring tooth standards and double spring tooth standards.



These shovels are used with open sleeve shanks.



These shovels are used for heavy-duty cultivating.

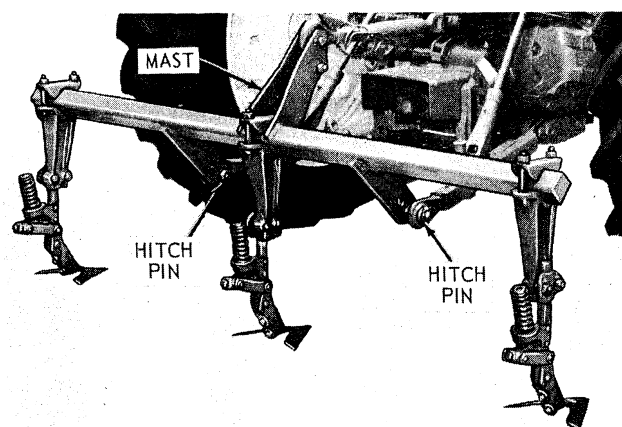


Attaching and Detaching

DETACHING CULTIVATOR FROM TRACTOR

REAR RIGS

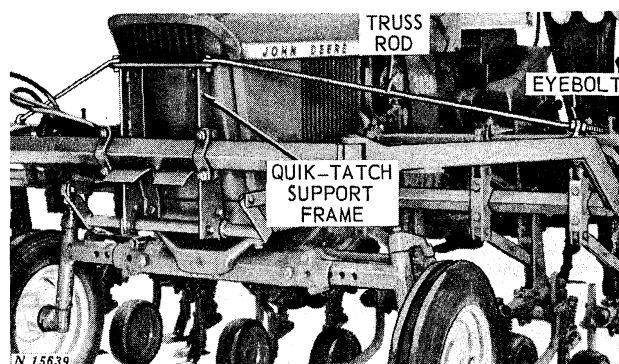
Toolbar-Type and 3-Point Hitch-Mounted Center Rig



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

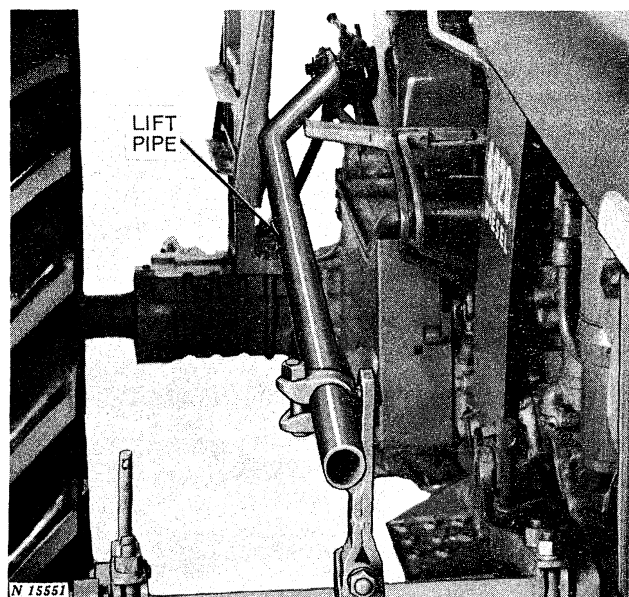
FRONT RIGS

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

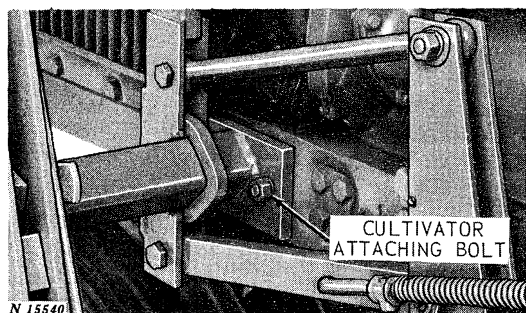


On all cultivators except the A20, loosen the nuts at the eyebolts on both truss rods. Remove the truss rods from the Quik-Tatch support frame.

Rear-Rockshaft-Operated Cultivator



Remove the lift pipe from each side of the tractor.



Set the storage stands on each side as shown on page 48.

Remove the cultivator attaching bolt from each side of the tractor.

Back the tractor until both sides of the cultivator fold into the position shown in the lower illustration on page 48.

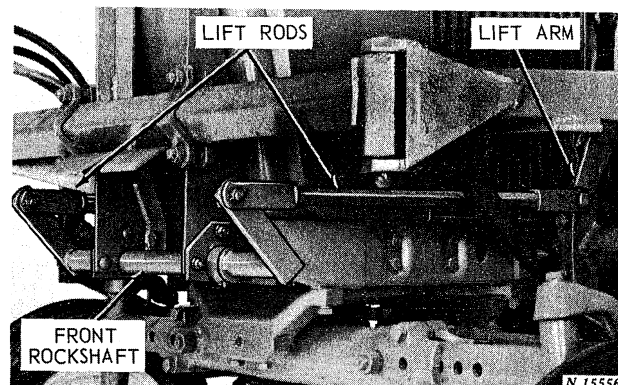
Two-Cylinder-Operated Cultivator

Remove the cultivator attaching bolt from both sides of the tractor.

Using the hydraulic cylinders, raise the rigs. Swing both sides of cultivator out by hand to the position shown in the illustrations on pages 48 and 49.

Lower the rigs to the ground and set the storage stands on each side as shown on page 48.

One-Cylinder-Operated Cultivator



Remove the lift rods from the lift arms and the front rockshaft.

Remove the cultivator attaching bolt from the left-hand side of the tractor only. (See illustration.)

Using the hydraulic cylinder, raise the rigs on the right-hand side of the tractor.

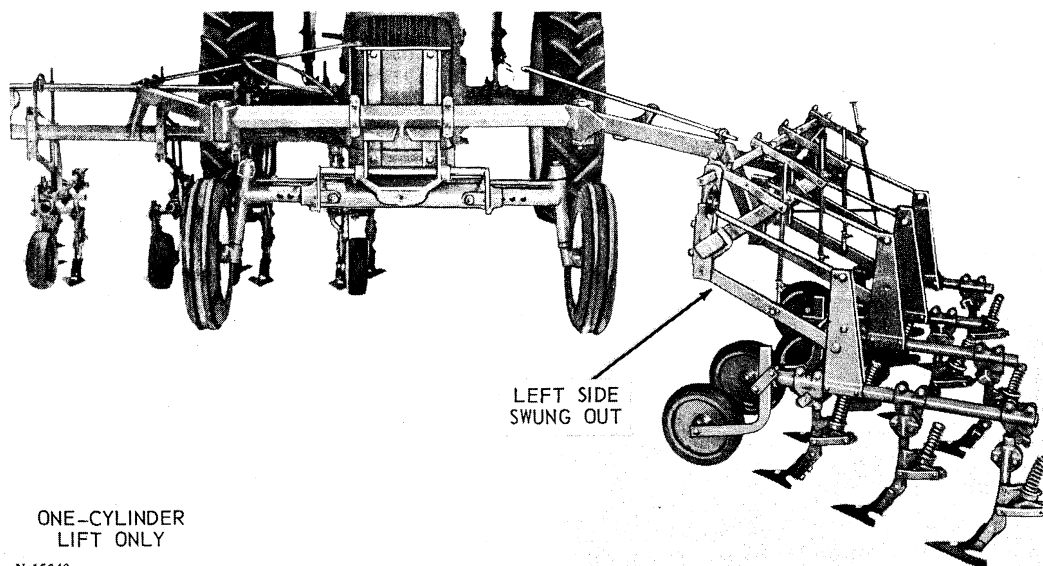
Turn tractor front wheels "hard-left" and back tractor until rigs on left-hand side fold into position shown in upper illustration on page 48.

On the A20 Cultivator, swing out left side only far enough so it is in line with Quik-Tatch frame bar. See illustration on page 49.

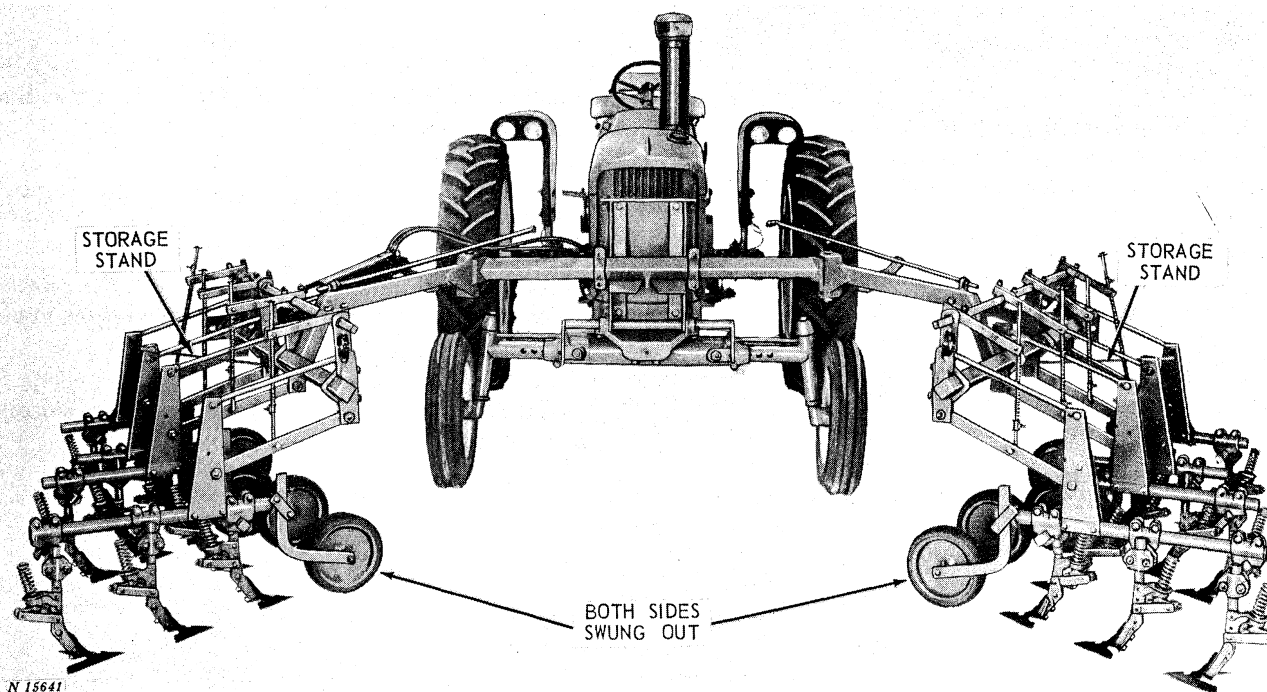
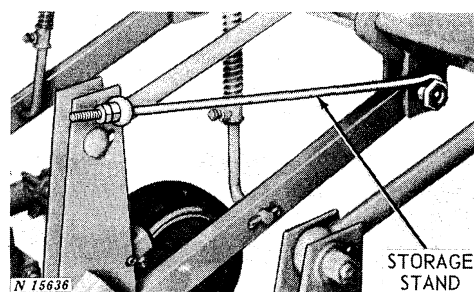
Lower the rigs on the right-hand side and remove the cultivator attaching bolt.

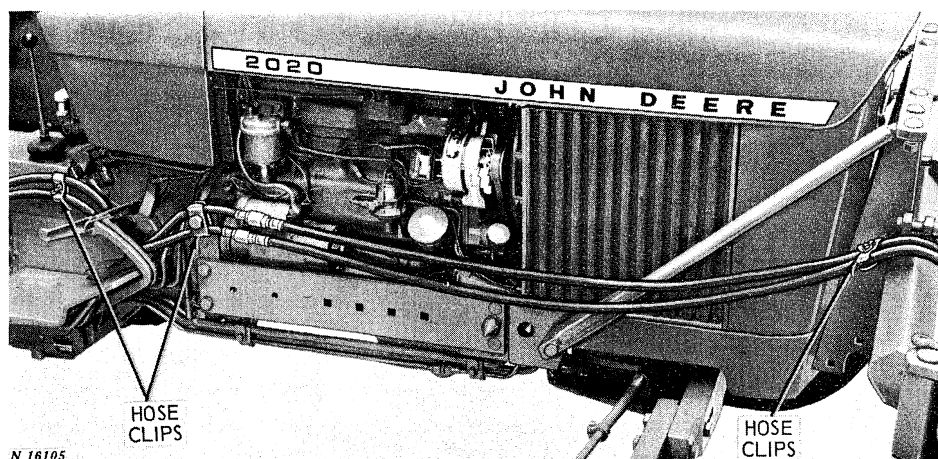
Using the hydraulic cylinder, raise the rigs. Swing the rigs out by hand to the position shown in the lower illustration on page 48.

Lower the rigs to the ground and set the storage stands on each side as shown on page 48.



CAUTION: Do not attempt to remove cultivator frame from front of tractor until storage stands have been set in place and tightened as illustrated at the right.

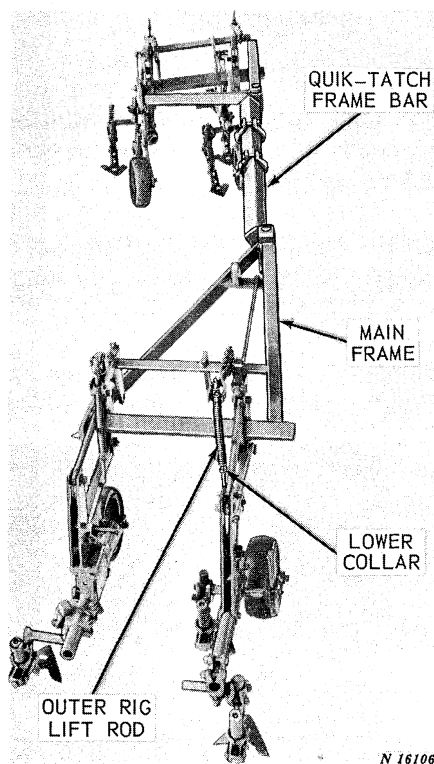




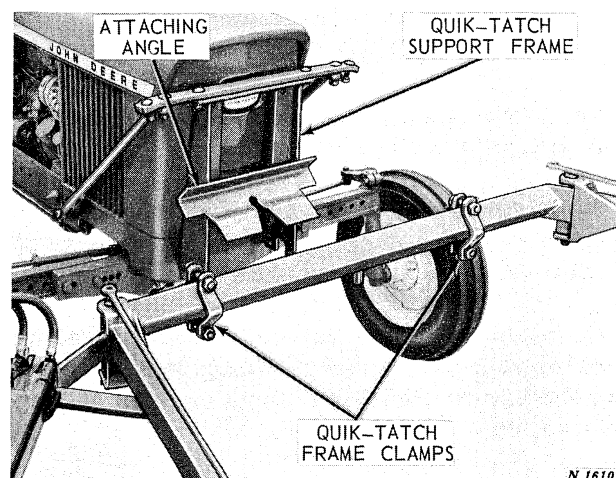
Remove hoses from hose clips on Quik-Tatch frame clamps and from side of tractor. If using two cylinders, remove hoses from both sides.

Disconnect hoses from remote cylinder outlets and coil hoses on cultivator frame. Remove cylinder from cultivator if desired.

QUIK-TATCH FRAME



Make sure A20 Cultivator main frames are aligned with Quik-Tatch frame bar as shown above before detaching from tractor. To increase stability in storage, set lower collar on each outer rig lift rod up against spring as high as possible.



Loosen the nuts on the Quik-Tatch frame clamps.

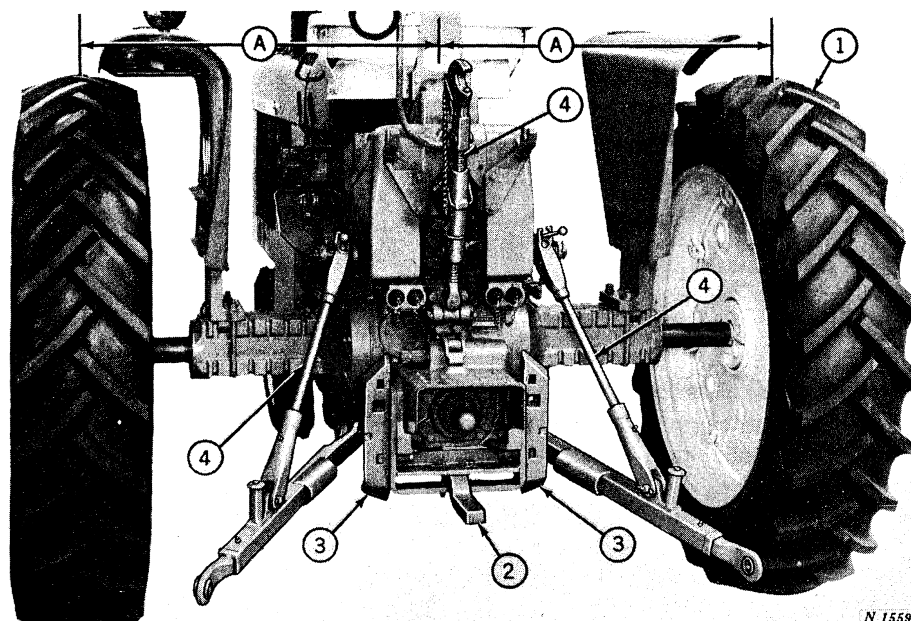
Slide the frame clamps off the attaching angle of the Quik-Tatch support frame.

Slowly back the tractor away from the cultivator.

Remove the Quik-Tatch support frame from the tractor if desired.

ATTACHING CULTIVATOR TO TRACTOR

TRACTOR PREPARATION



See tractor operator's manual for wheel tread adjustment and proper tire inflation.

1. Set tractor rear wheels for desired row spacing. Dimension "A"—from center of tire tread to center of tractor—should be the same as the row spacing.

On tractor with adjustable-tread front axle, set the front wheel tread 8 inches narrower than twice the row width to be cultivated (72-inch tread for 40-inch row spacing.)

2. Place drawbar as far forward as possible with offset portion down. Pin drawbar in a fixed, centered position.

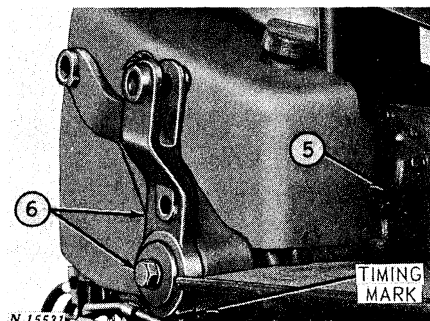
3. Install sway blocks in Category 2 down position for 250A Series and 253B Rear Rigs as shown above.

4. On 3010 Tractor, set length of lift links at 26-3/4 inches. Set center link length at 26 inches.

On 2510, 3020, 4010, or 4020 Tractors, set length of lift links at 28-1/2 inches. Adjust center link to a length of 26 inches.

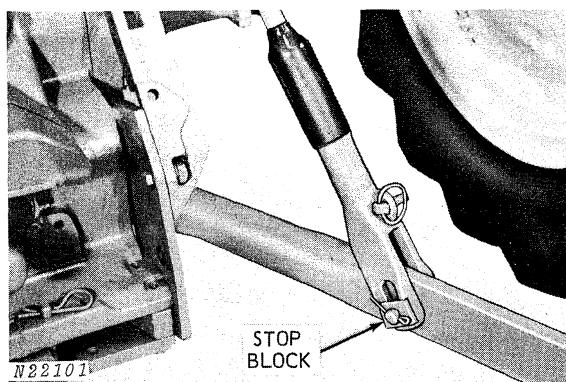
On 1020 HU and 2020 HU Tractors, set length of lift links at 25 inches. Set center link length at 26 inches.

On 1020 RU and 2020 RU Tractors, set lift links to minimum length. Set center link length at 26 inches.

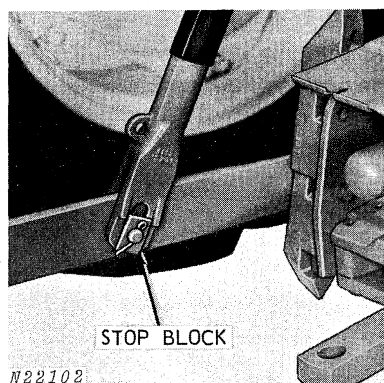


5. Place the load selector lever in the "D" position for level land cultivation or the "L" position for rolling land cultivation.

6. If cultivator will operate from rear rockshaft, install implement lift arms on rear rockshaft. Align the timing marks of the implement lift arms with the marks on the rockshaft arms.



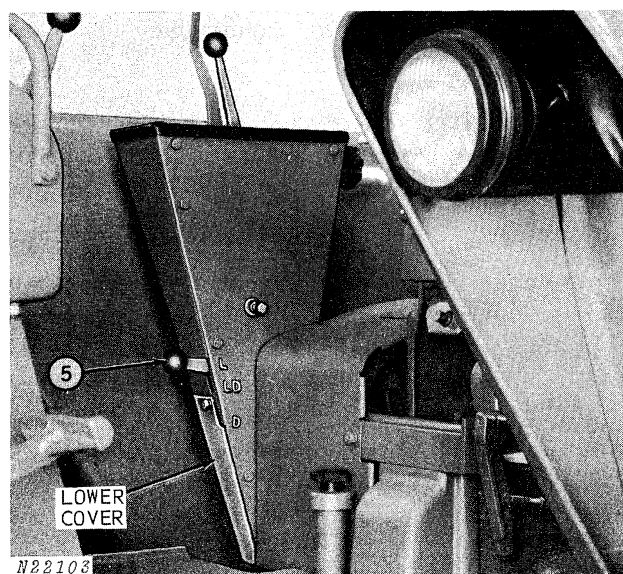
Locked Position



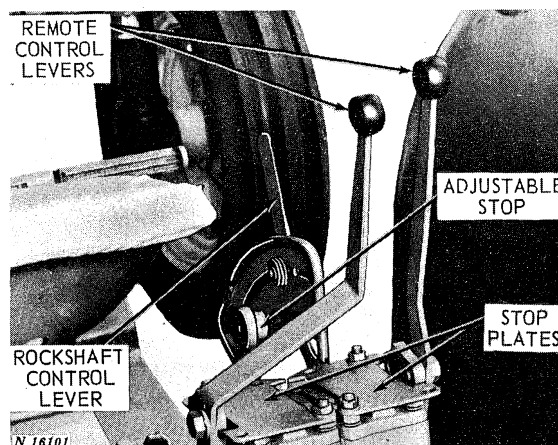
Float Position

On tractors with lift link stop blocks, set lift link stop blocks to lock lift links for rear rigs without gauge wheels.

For rear rigs with gauge wheels, place stop blocks in "float" position.



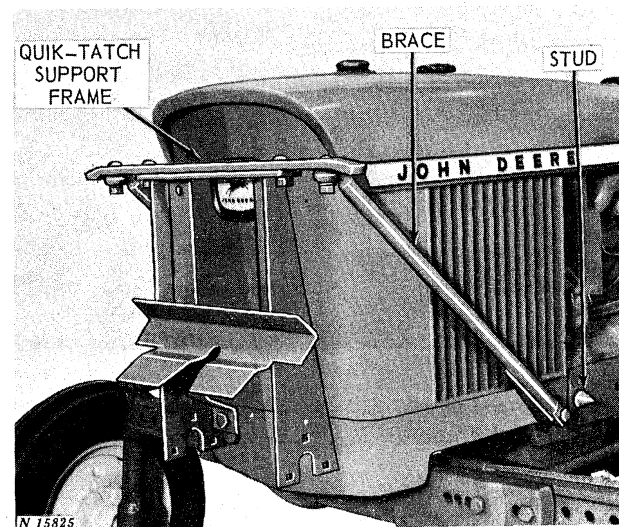
On tractors equipped with hydraulic console located to the right of the seat, the lower cover on the hydraulic control console must be removed before the lift pipes can be connected to the implement arms on the rockshaft.



On 1020, 1520, and 2020 Tractors, lock out "float" position of remote control levers with lever stop plates located on top of control box.

Place load selector lever on tractor in the "D" position for level land cultivation or the "L" position for rolling land cultivation.

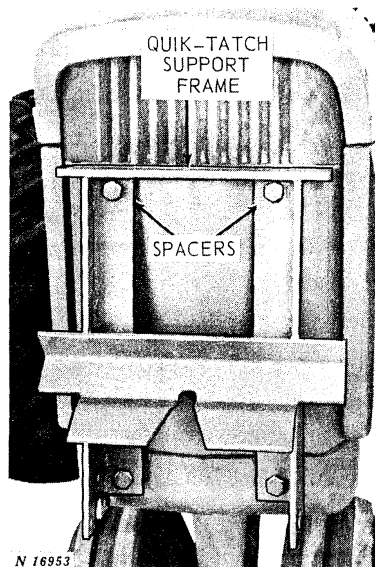
FRONT RIGS (A20 and AU40 on 1020, 1520, and 2020 Tractors)



Bolt Quick-Tatch support frame and braces to front of tractor. Use lock washer under each bolt head at bottom of frame.

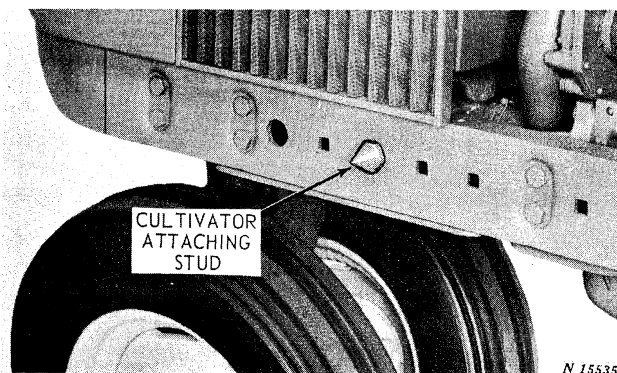
Install cone-shaped stud in front tapped hole on both sides of tractor.

FRONT RIGS (John Deere 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Tractors)

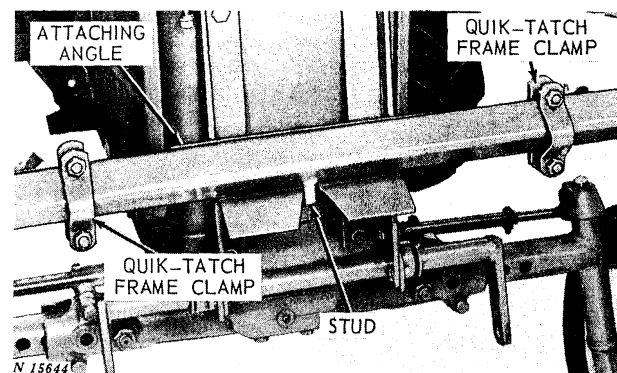


Bolt Quik-Tatch support frame to front of tractor. Use lock washer under each bolt head.

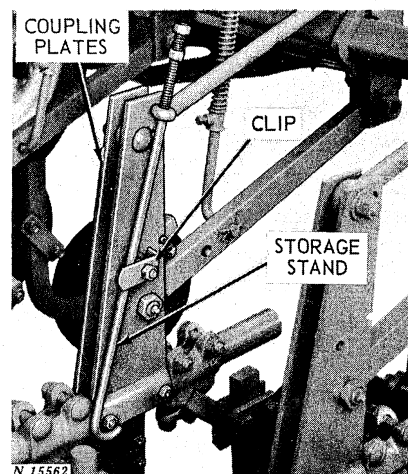
NOTE: Install the two spacers provided on top two bolts behind Quik-Tatch support frame if necessary to raise cultivator frames for ease in attaching cultivator attaching bolts.



Bolt cone-shaped stud in second square hole on each side of tractor.



Drive tractor into cultivator until stud on Quik-Tatch frame bar is firmly seated in notch on Quik-Tatch support frame. Slide frame clamps over attaching angle as close to Quik-Tatch support frame as possible and tighten clamp nuts.

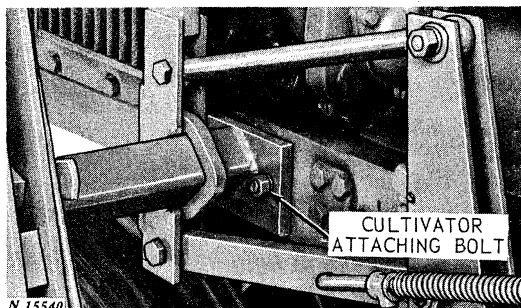


Loosen the nuts on the threaded end of the storage stands and place the stands behind the clip on the rig coupling plates as shown. Tighten the nut on the clips.

IMPORTANT: Do not attempt to raise cultivator rigs unless storage stands are fastened to rig coupling plates.

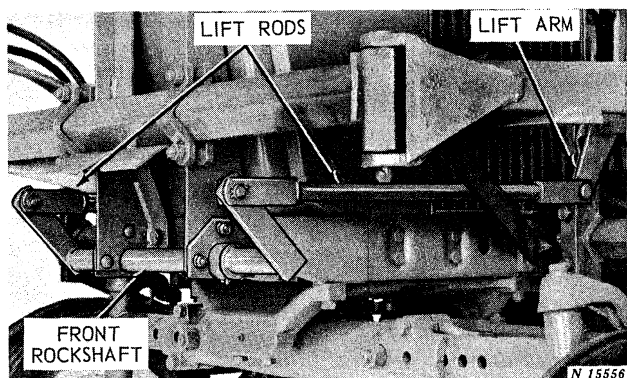
One-Cylinder-Operated Cultivator

Install cylinder on right-hand side of cultivator and attach hoses to hose clips as shown on page 54. Connect hoses to tractor couplers so rigs rise when cylinder operating lever is pushed forward.



Using cylinder, raise right-hand rigs. Swing right-hand rigs into tractor by hand. Lower rigs and bolt to tractor with attaching bolt as shown.

Turn tractor front wheels "hard-right" and drive tractor forward until left-hand rigs fold into tractor. Bolt rigs to tractor with attaching bolt.



Attach lift rods to front rockshaft and cultivator lift arms. Make sure spring locking pins are on side away from tractor.

NOTE: On cylinder-operated cultivator, raising or lowering rigs may help to align cultivator frame with side of tractor to insert attaching bolt.

Two-Cylinder-Operated Cultivator

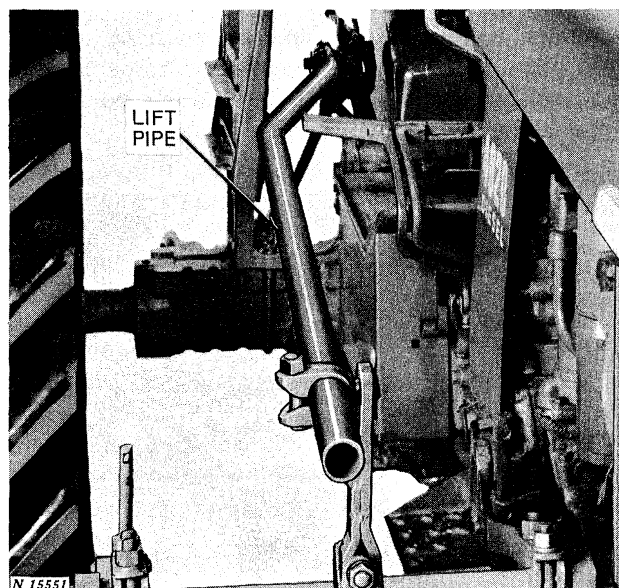
Install cylinders on both sides of cultivator and attach hoses in hose clips as shown on page 54. Connect hoses to tractor couplers so rigs rise when cylinder operating lever is pushed forward.

Using cylinders, raise the rigs and fold both sides of cultivator into tractor by hand.

Lower the rigs and attach cultivator to each side of tractor with attaching bolt.

NOTE: On cylinder-operated cultivator, raising or lowering rigs may help to align cultivator frame with side of tractor to insert attaching bolt.

Rear Rockshaft Operated Cultivator

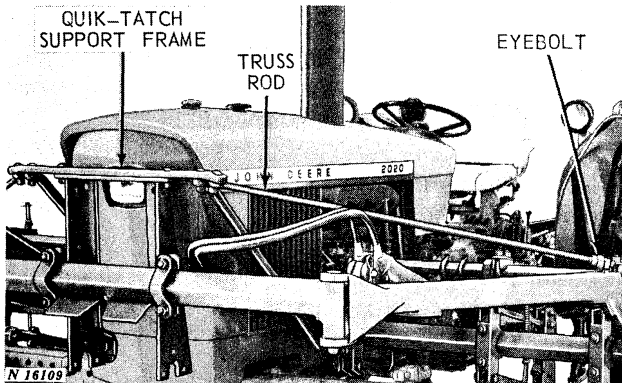


Drive tractor forward until both sides of the cultivator fold into the tractor.

Attach the cultivator to the tractor with attaching bolts on both sides as shown in opposite column.

On each side of tractor connect lift pipe to tractor rockshaft and cultivator lift arm.

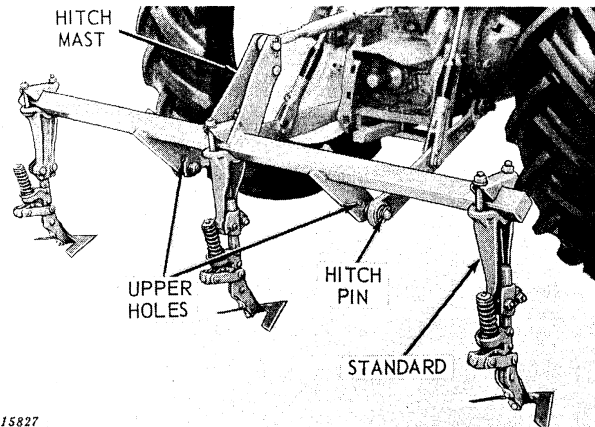
All Cultivators—Except A20



Bolt truss rods to bar on top of Quik-Tatch support frame. On AU40 Cultivator the truss rods go under the bar. On AT40 and AT630 Cultivators the truss rods go on top of the bar.

Tighten nuts against eyebolt on threaded end of truss rods. Check angle of cultivator frame bar on each side of tractor. Frame bars should be 1-inch higher at the ends than next to the tractor.

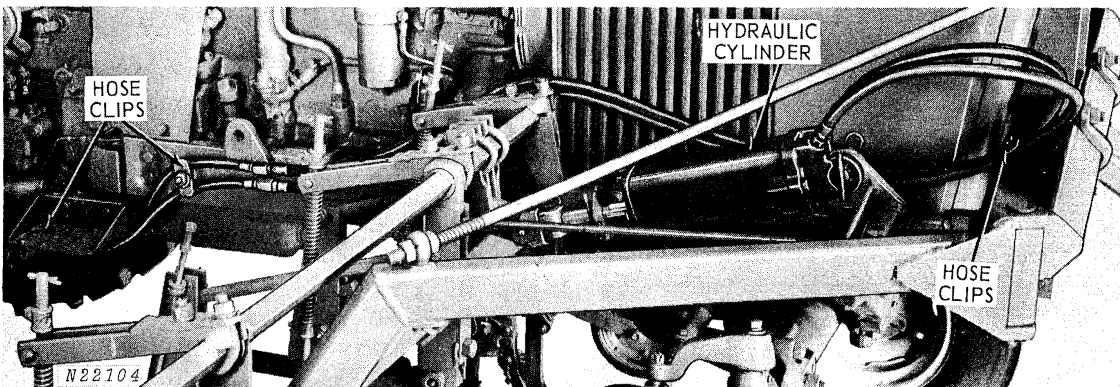
REAR RIGS



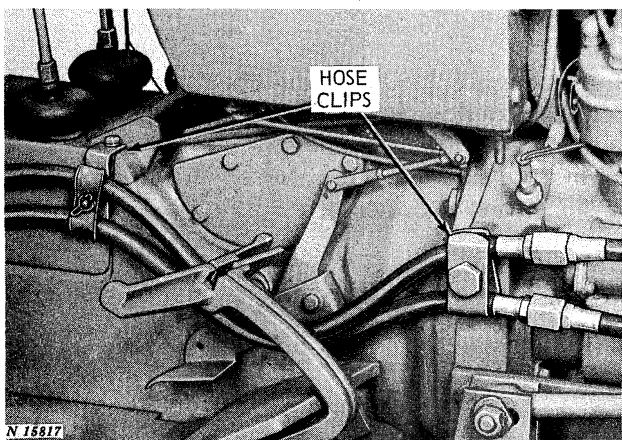
N 15827

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

CAUTION: Always shut off tractor engine before working on cultivator rear rigs. If tractor engine is running, the sensing device of hitch can cause cultivator to raise if weight is applied to cultivator.



John Deere 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Tractors



John Deere 1020, 1520, and 2020 Tractors

If tractor is equipped with rear outlets, attach hoses to hose clips on side of tractor and connect hoses to outlets.



Specifications

TRACTOR REQUIRED

A20 Row-Crop - John Deere 1020RU, 1020HU, 1520, 2020RU, 2020HU, 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Row-Crop Tractors with single or dual front wheels or adjustable-tread front axle.

A20 Beet-Bean-Vegetable - John Deere 2510, 2520, 3010, 3020, 4000, 4010, and 4020 Row-Crop Tractors with single or dual front wheels or adjustable-tread front axle.

AU40 Row-Crop - John Deere 1020RU, 1020HU, 1520, 2020RU, and 2020HU Tractors with adjustable-tread straight front axle, single or dual remote cylinder control with one or two remote hydraulic cylinders.

AT40 and AT630 Row-Crop - John Deere 2510, 2520, 3010, 3020, 4010, and 4020 Row-Crop Tractors with single or double front wheels or adjustable-tread front axle.

Only front-rockshaft-operated cultivators can be used on John Deere 3010 and 3020 Row-Crop Utility Tractors with adjustable-tread front axle, long wheel base and upright muffler.

Cultivator cannot be mounted on 3010 or 3020 Row-Crop Utility Tractors with fixed-tread front axle, short wheel base or rear muffler and tail pipe.

ROW SPACING

A20 Row-Crop Two-Row - 36, 38, 40, and 42 inches

A20 Beet-Bean-Vegetable Four-Row - 24 to 34 inches
Six-Row - 20 to 22 inches

AU40 Row-Crop Four-Row - 36, 38, 40, and 42 inches

AT40 Row-Crop Four-Row - 36, 38, 40, and 42 inches

AT630 Row-Crop Six-Row - 28 or 30 inches

CULTIVATOR WEIGHT

A20 Row-Crop 975 pounds (approximately)

A20 Beet-Bean-Vegetable

Six-row 988 pounds (approximately)

Four-row 933 pounds (approximately)

AU40 Row-Crop 1600 pounds (approximately)

AT40 Row-Crop 1700 pounds (approximately)

AT630 Row-Crop 1550 pounds (approximately)

CULTIVATOR WIDTH

A20 Row-Crop 6 feet 8 inches (set for 40-inch rows)

A20 Beet-Bean-Vegetable 11 feet 10 inches

AU40 Row-Crop 14 feet 2 inches (set for 40-inch rows)

AT40 Row-Crop 14 feet 2 inches (set for 40-inch rows)

AT630 Row-Crop 18 feet 2 inches (set for 30-inch rows)

GAUGE WHEELS (Row-Crop Cultivator)

Anti-friction rigid-type. Four gauge wheels are regular on AT40, AT630, and AU40 Cultivators. Two additional gauge wheels can be used for tractor with dual or single front wheels and four additional gauge wheels can be used for tractors with adjustable-tread front axle.

FRONT RIG EQUIPMENT (Row-Crop Cultivator)

Regular spring-trip shanks with universal sweeps

Quick-adjustable spring-trip shanks with universal sweeps

Friction-trip shanks with universal sweeps

Single spring-tooth shanks with double-pointed shovels

Heavy-duty single spring-tooth shanks with single-pointed shovels

Double spring-tooth shanks with single-pointed shovels

Heavy-duty double spring-tooth shanks with single-pointed shovels

Beet and Bean Shank equipment

REAR RIGS (Row-Crop Cultivators)

250A Series for Tractor 3-point hitch
250B Series for Tractor 3-point hitch

REAR RIG SHANKS (Row-Crop Cultivators)

Regular Spring-Trip Shanks
Quick-Adjustable Spring-Trip Shanks
Friction-Trip Shanks
Single Spring-Tooth Shanks
Double Spring-Tooth Shanks

SWEEPS AND SHOVELS (Row Crop)

A wide variety of types and sizes available. See pages 44 and 45.

FRONT TOOL FRAME EQUIPMENT (Beet-Bean-Vegetable Cultivators)

Standards are straight or curved; rigid or spring-trip for sweeps and irrigating or double-point shovels. 1-1/2-inch offset for weeding knives, disk weeders, and bed knives; spear point.

Offset center standard can be used when rear tool frame is not used.

REAR TOOL FRAME (Beet-Bean-Vegetable Cultivators)

91-inch tool frame for tractor 3-point hitch

REAR TOOL FRAME STANDARDS (Beet-Bean-Vegetable Cultivators)

Standards are straight or curved; rigid or spring-trip.

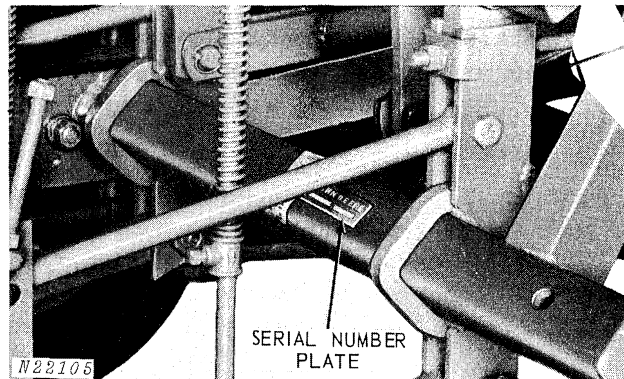
TOOL EQUIPMENT (Beet-Bean-Vegetable Cultivators)

A wide variety of knives, sweeps and shovels are available. See pages 41 and 42.

SPECIAL EQUIPMENT

Rig-Mounted Shields
Hooded Shields
No. 10 Listed-Crop Attachment
No. 13 Listed-Crop Attachment
Rig Bars for Vegetable Cultivators
Gauge Wheels
Rolling Shields
Spread Arch
Spread Bar
Center Attachment
Disk Hillers
Rotary Hoe Attachment
Spring-Tooth Attachment
Weeding Knife Shanks
Beet and Bean Rotary Hoe
Clod Breaker
Minimum-Tillage Attachment
AB690F Four-Row Bean Harvester Attachment
AB690G Six-Row Bean Harvester Attachment
AB690H Eight-Row Bean Harvester Attachment
Rear Rig Extra-Shank Attachment (For 250A Series Rear Rig Only)
No. 12 Rear Rig Gauge Wheel Attachment (For 250A Series Rear Rig Only)
Beet and Bean Rear Tool Frame

SERIAL NUMBER



Record the serial number of the cultivator and the date purchased in the space below. The serial number plate is located on the right-hand main frame.

Model

Serial No.

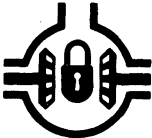
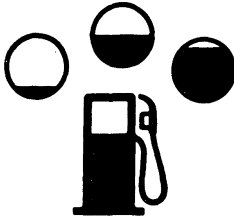
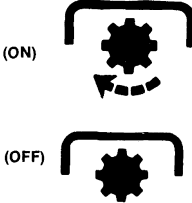
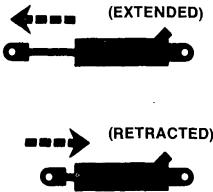
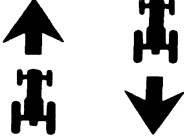
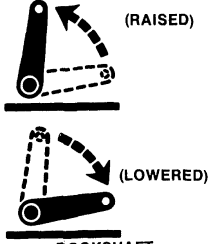
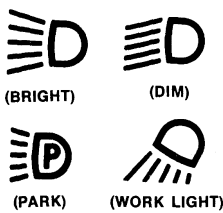
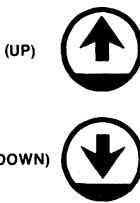
Date Purchased

(To be filled in by purchaser)

(Specifications and design subject to change without notice.)

WORLDWIDE SYMBOLS FOR OPERATOR CONTROLS

Symbols instead of words; that's what John Deere is using to promote worldwide identification of operator controls. Once standardized, they give a quick, positive message anywhere in the world — without translation. Study the symbols below and learn to recognize them at a glance.

				
TRANSMISSION OIL PRESSURE	TRANSMISSION OIL TEMPERATURE	TRANSMISSION OIL FILTER	ENGINE OIL PRESSURE	ENGINE R P M
				
DIFFERENTIAL LOCK	WATER TEMPERATURE	PRESSURIZED — OPEN SLOWLY	AIR FILTER	CHOKE
				
AMMETER OR GENERATOR LIGHT	FUEL	FUEL SHUTOFF	POWER TAKE-OFF	REMOTE CYLINDER
				
SPEED RANGE	VEHICLE FORWARD VEHICLE REVERSE	NEUTRAL	PARK	ROCKSHAFT
				
LIGHTS	WINDSHIELD WIPER	WINDSHIELD DEFROSTER	IMPLEMENT MOVEMENT	CIGAR LIGHTER
				
HORN	ROCKSHAFT LOAD AND DEPTH CONTROL		GREASE FREQUENCY	OIL TYPE AND FREQUENCY

