

AT4-6BB Beet-Bean Vegetable Cultivator



JOHN DEERE

OPERATORS MANUAL AT4-6BB Beet-Bean Vegetable Cultivator

OMN97522N (01OCT60) English

OMN97522N (01OCT60)

LITHO IN U.S.A.
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 new 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 this manual 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, and 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 AT4-6BB FOUR- OR 6-ROW CULTIVATOR

Model of Cultivator.....

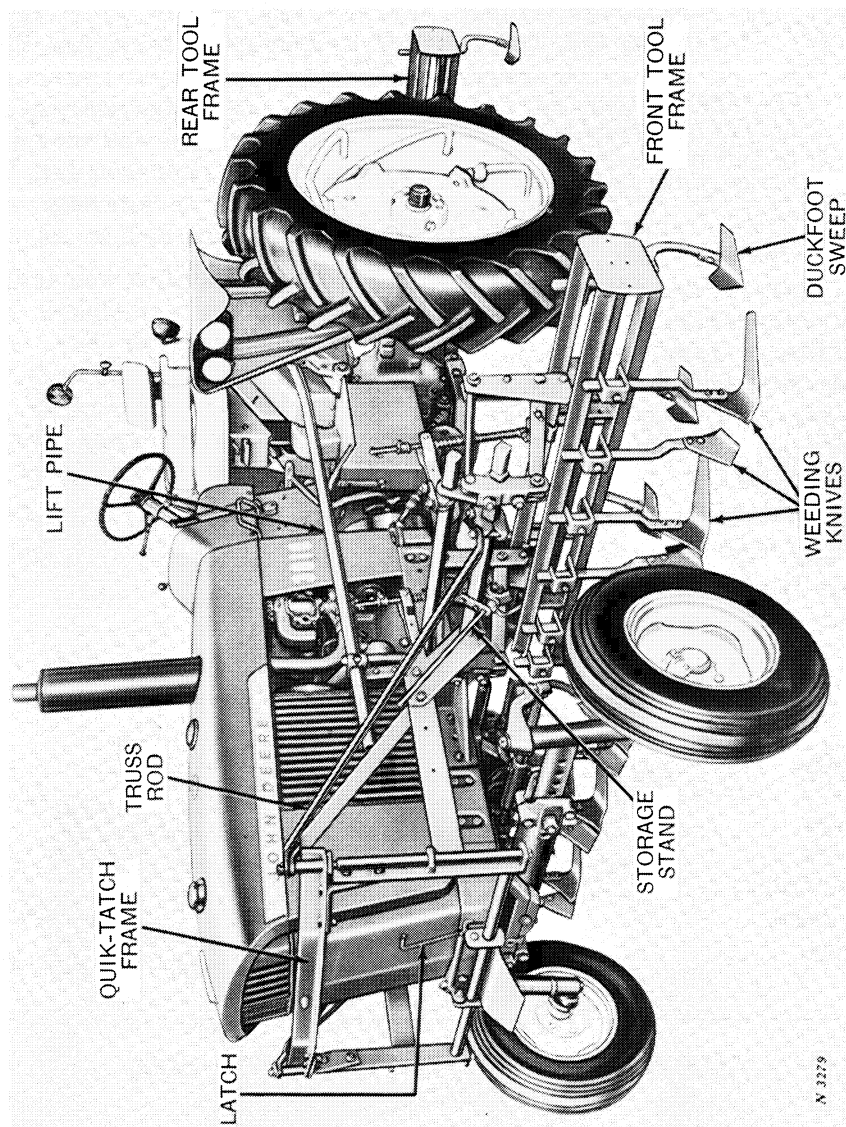
Date Purchased.....19.....

(To be filled in by Purchaser)

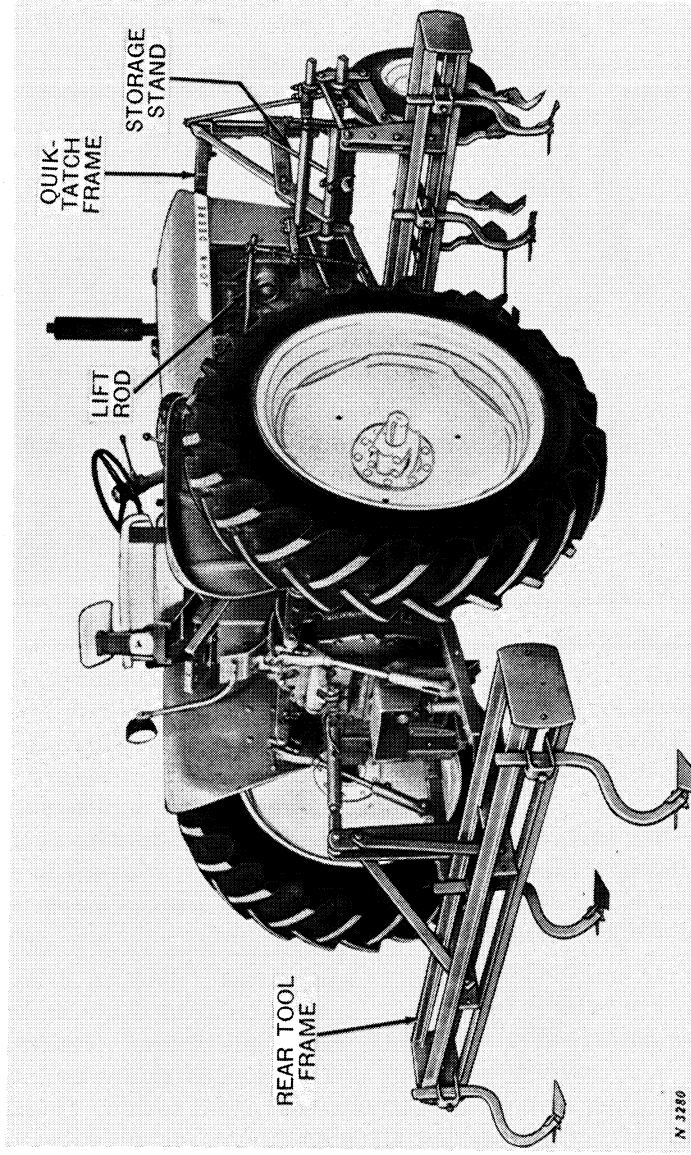
Price \$

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John Deere AT4-68B Cultivator with Weeding Knives and Duckfoot Sweeps



N 3280

John Deere AT4-688 Cultivator with 91-Inch Rear Tool Frame

Specifications

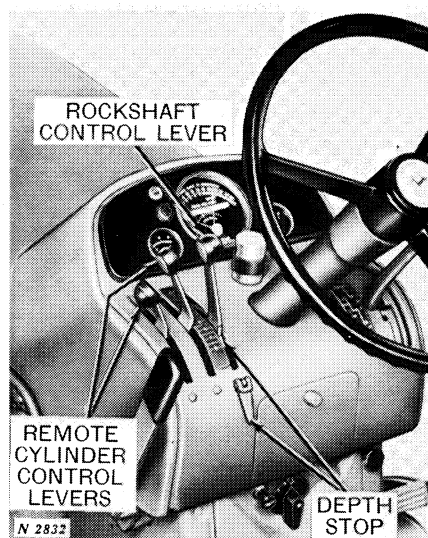
Tractor	John Deere 2010, 3010, and 4010 Row-Crop Tractors with Dual or Single Front Wheels or with Adjustable Tread Front Axle. Tractor must be equipped with 3-Point Hitch.
Cultivator Models . .	AT4-6BB-R Operated by Rear Rockshaft on 3010 and 4010 Tractors. AT4-6BB-F Operated by Front Rockshaft on 2010, 3010, and 4010 Tractors.
Row Spacing	When set for six rows—20 or 22-inch rows. When set for four rows—24 to 34-inch rows.
Rear Tool Frames . .	91 inches (Regular equipment). 124 inches (No. 125) (Optional equipment). 136 inches (No. 135) (Optional equipment).
Standards	Straight or curved rigid, spring or pin break for shovels, sweeps, and irrigating or double-point shovels; 1-1/2-inch offset for weeding knives, disk and bed knives; spear-point. Only the regular standards can be used on this cultivator. Long and high clearance standards cannot be used.
Tool Equipment . . .	Weeding Knives: Round turn—6-, 8-, 10-, and 12-inch. Square turn—6- and 8-inch. Low point—6-inch. Sweeps: Extra flat duckfoot sweep—6-, 8-, 10-, and 12-inch. Flat sweeps—6-, 8-, 10-, and 12-inch. Shovels: Irrigating shovels—6- and 7-inch. Double point shovels. Spearpoints Bed Knife Disk Weeders Shields
Extra Equipment . . .	Rotary hoe attachment. Clod breaker attachment. Gauge wheels and chains (steel). Gauge wheels and chains (rubber).

(Specifications and design subject to change without notice.)

Operation

Controls

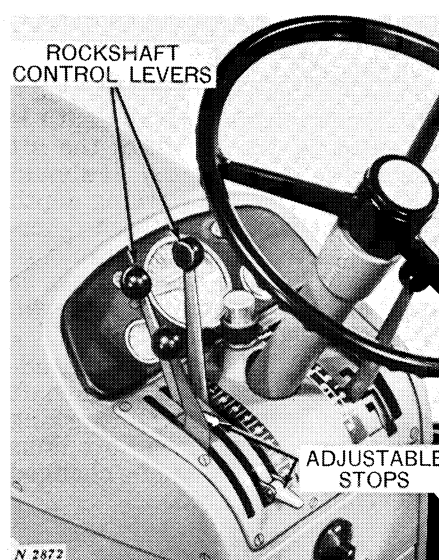
3010 and 4010 Tractors



The AT4-6BB-R Cultivator on a 3010 or 4010 Tractor is controlled by the rockshaft control lever on the tractor. Push the lever forward to raise the cultivator (both front and rear frames) and pull it to the rear to lower the cultivator. Use the depth stop to regulate the working depth of the cultivator. See your tractor operator's manual.

When the AT4-6BB-F Cultivator is on a 3010 or 4010 Tractor, the front frames are controlled by the remote cylinder operating levers. The rear frames are controlled by the rockshaft control lever. Install hydraulic cylinders and operate the hydraulic controls as instructed in your tractor operator's manual.

2010 Tractor



The AT4-6BB-F Cultivator on the 2010 Tractor is controlled by the rockshaft control levers. When the tractor dual hydraulic system is set for independent lift arm operation and the front rockshaft is "split," the front frames can be raised and lowered independently. The rear frame, however, is raised and lowered with the right-hand frame.

When the dual hydraulic system is set for parallel lift arm operation, all frames are raised and lowered at the same time. See your tractor operator's manual for instructions regarding independent and parallel lift arm operation.

6 Operation

Rear tool frame

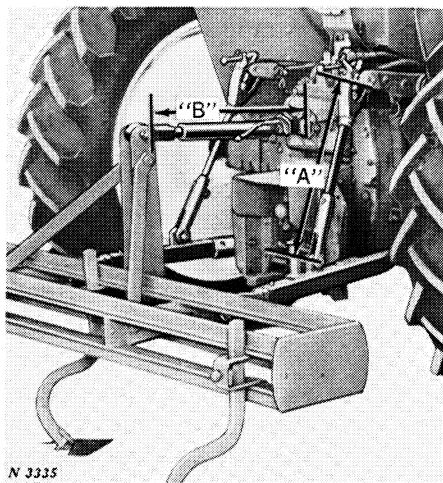
The rear tool frame is operated by the tractor rockshaft and controlled by the rockshaft control lever.

Working depth

On all AT4-6BB-R Cultivators and the AT4-6BB-F Cultivator on a 2010 Tractor, the working depth is controlled by the length of the lift links on the 3-point hitch. It should be checked after the working depth of the front frames has been determined. Use the adjusting cranks to lengthen or shorten the lift links as required. Keep the tool frame level.

On AT4-6BB-F Cultivators on a 3010 or 4010 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.

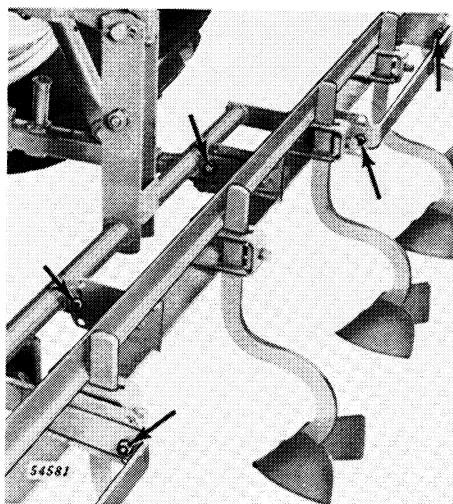
Adjusting 3-point hitch



On the 3010 and 4010 Tractors, the recommended length "A" for the right- and left-hand links is 28 inches. On the 2010 Tractor, set the distance at "A" to the minimum setting as stated in your tractor operator's manual.

The length of the center link at "B" is 25-1/2 inches on the 3010 and 4010 Tractors. On the 2010, set the center link at its minimum length. The 3-point hitch should be adjusted so that the standards are vertical when the frame is at working depth.

Adjusting 124- or 136-inch rear tool frame



Additional adjustments are provided on the 124- and 136-inch tool frames.

The pitch and suction of the tools can be adjusted by changing the angle of the tool frame. This is done by relocating the six bolts used to connect the tool frame to the inner and outer frame bars as shown by the arrows. A choice of five bolt holes is provided for each bolt.

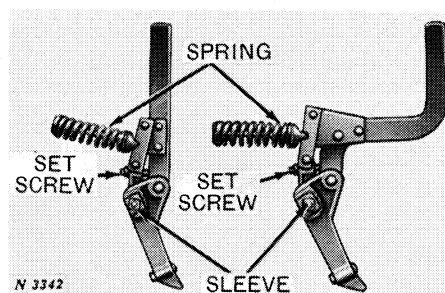
Set the standards so all the tools operate at the same depth.

BE SAFE

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

Adjusting tilt of sweeps and knives

Spring-trip standard



Straight spring trip Curved spring trip

If your cultivator is equipped with adjustable standards, it is important that the sweep or shovel be set properly.

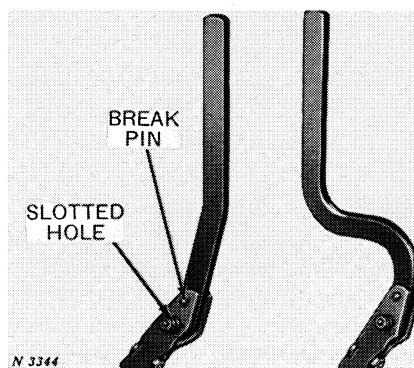
When using straight spring-trip or curved spring-trip standards, adjust the sleeve to tilt sweep so that it is in correct relationship to the ground as illustrated below.

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.

Additional tension 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.

Pin break standard

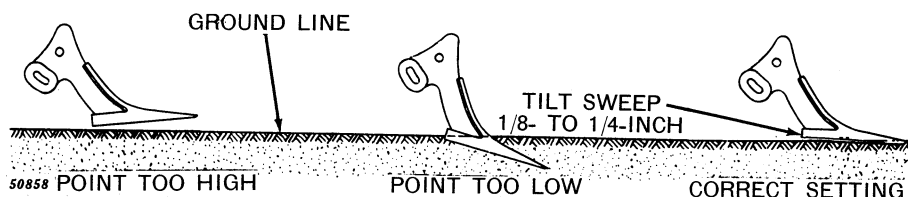


Straight pin break Curved pin break

Tilt adjustment can be made on the straight pin break and curved pin break shanks at the slotted hole.

Weeding knives

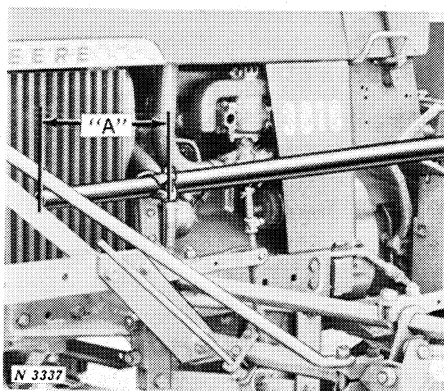
Use slotted holes in the knives to adjust the knives to various soil and crop conditions.



Height of lift of front frames

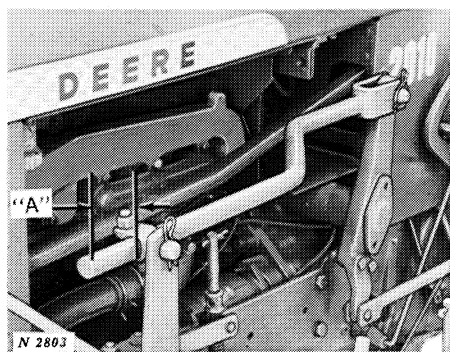
Adjustments are provided on the lift rods and lift pipes to secure the correct height of lift. Make these various adjustments on the cultivator as shown.

Lift pipe for AT4-6BB-R cultivator on 3010 or 4010 Tractor



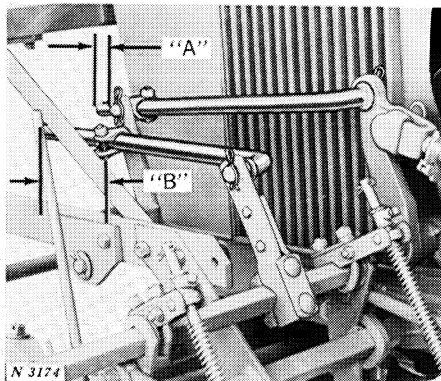
Set the distance "A" from the end of the lift pipe to the clamp, on both sides of the tractor to 12 inches on the 3010 Tractor and five inches when the cultivator is on the 4010 Tractor.

Lift rod for AT4-6BB-F cultivator on 2010 Tractor



Set the distance "A" from the end of the lift rod to the clamp at three inches when the cultivator is mounted on the 2010 Tractor.

Lift rod for AT4-6BB-F cultivator on 3010 or 4010 Tractor



There are two places where adjustments can be made when using a front mounted rockshaft on a 3010 or 4010 Tractor.

The main setting "A" from the end of the lift rod to the clamp, should be set at three inches when the cultivator is on a 3010 or 4010 Tractor.

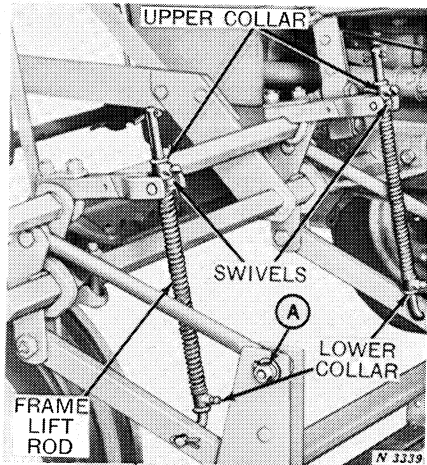
The setting "B" on the secondary lift rod should be seven inches from the end of the rod to the clamp on the 3010, and four inches on the 4010 Tractor.

All cultivators

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

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

Storage stand



Loosen the upper and lower collars on the tool frame lift rods.

To adjust the frame, raise the lift pipe or lift rod to the fully raised position by operating the rockshaft control lever.

Raise the frame either by hand or by a mechanical jack 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.

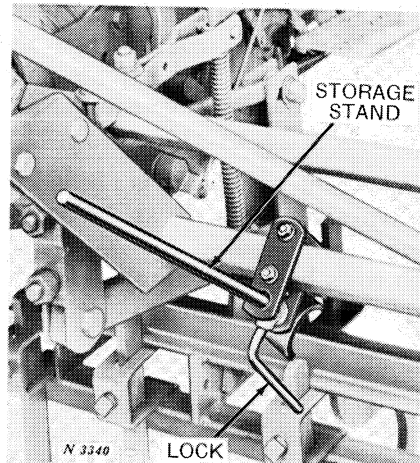
Adjusting down pressure

To increase the down pressure raise the lower collars (above) on the frame lift rods.

Tilting front frames

Each frame can be tilted at "A" (above) so the frames will be level.

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



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.

Maintenance suggestions

Sweeps, shovels, and knives

Cover the polished surfaces of shovels, sweeps, or knives, with a coating of grease, or heavy oil during short idle periods and between seasons to make them more effective and to make them last longer.

Sharpening shovels and sweeps

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

Tool frames

The cultivator parts 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.

Front frame row spacing

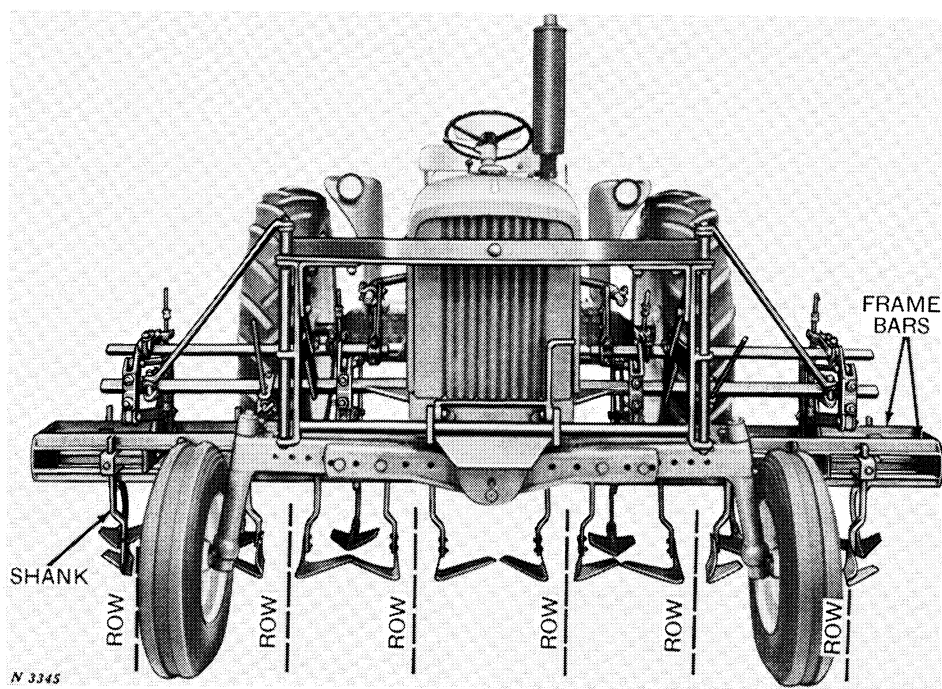
The Beet and Bean Vegetable Cultivator can be set to cultivate either four or six rows. When the cultivator is set to cultivate four rows, the row spacing can be adjusted from 24- to 34-inch rows.

When the cultivator is needed to cultivate six rows it can be set to handle rows spaced for 20- or 22-inch rows by positioning the standards on the tool frame.

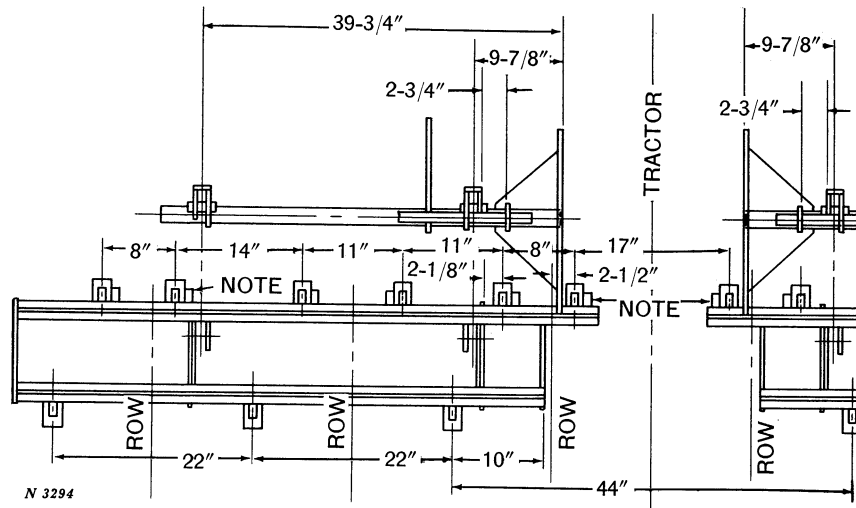
When moving the shanks on the frame bars, both sides must be set exactly the same.

Rear frame row spacing

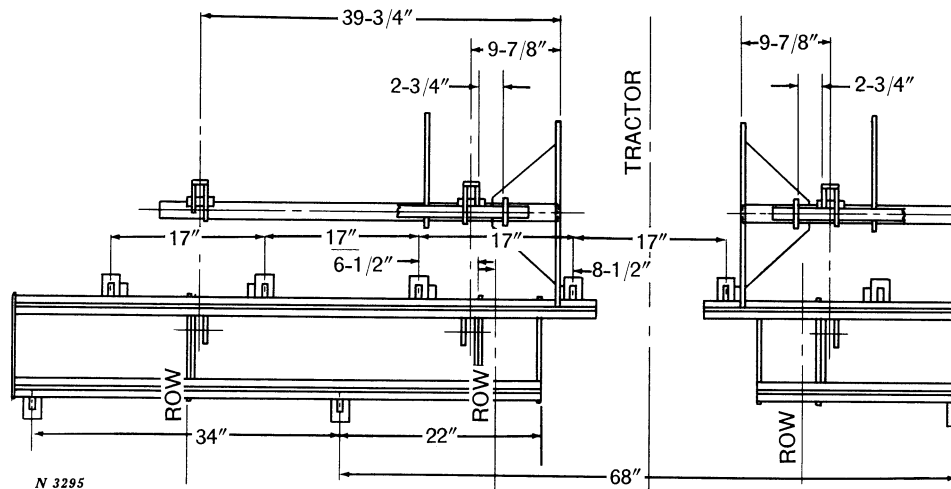
The tools on the rear frames must be set so they are centered to cultivate between the rows.



Tools spaced for six 20-inch rows



Row spacing for six 22-inch rows



Row spacing for four 34-inch rows

Safety suggestions

The safety of the operator is one of the prime considerations in the minds of John Deere engineers when designing farming equipment. Shielding, simple adjustments, and other safety features are built into machines whenever possible.

However, investigation of thousands of farm accidents shows that careless use of farm machinery causes nearly 1/3 of all farm accidents. You can make your farm a safer place to live and work if you observe the safety suggestions given below. Study these suggestions given below carefully and insist that they be followed by those working with you and for you.

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

Never ride or allow others to ride on the cultivator or the tractor. The tractor operator should be the only person on the tractor while it is being operated.

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

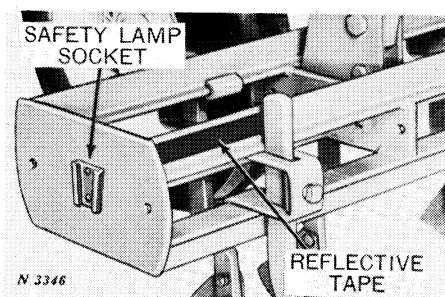


Be sure that clothing worn by tractor or machine operator is fairly tight and belted. Loose jackets, skirts, shirts, or sleeves should not be permitted because of the danger of getting into moving parts.

All women operators should wear trousers or slacks.

Always keep tractor in gear when going down steep grades.

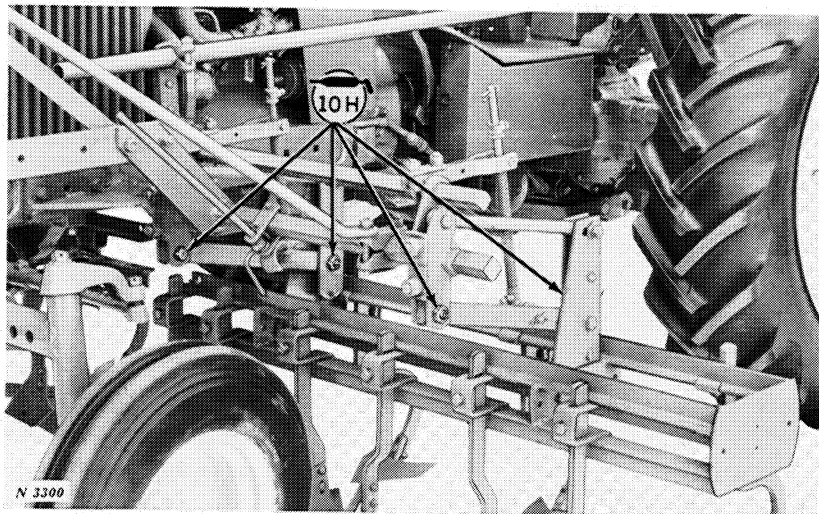
Keep a firm grip on the steering wheel at all times when the speed is increased.



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

Make sure the protective cover has been removed from the reflective tape on the rear of the tool bar.

Lubrication



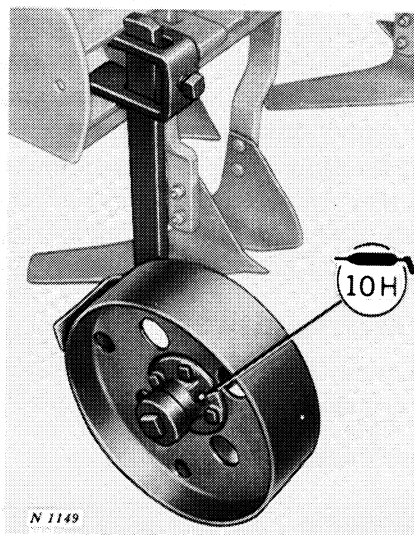
To avoid possible injury and to insure best result, always stop tractor operation and lower all units before lubricating the cultivator.

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.



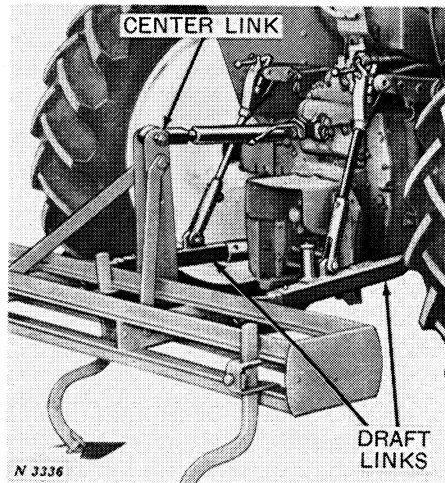
SYMBOLS

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



Detatching cultivator from tractor

Rear cultivator frame



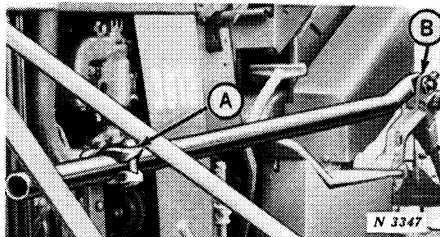
Lower the rear tool frame to the floor or ground. Disconnect the draft links from the hitch pins and the center link from the mast.

If the Quik-Coupler is used, lower the rear frame onto a level surface. Push down on the spring-loaded latches and lower the 3-point hitch.

Front cultivator frame

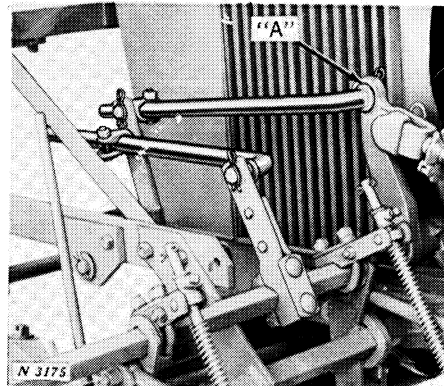
Lower the front cultivator frame on a level surface.

Rear rockshaft control



If the cultivator is operated by the rear rockshaft, remove the lift pipes, first at "A" and then at "B."

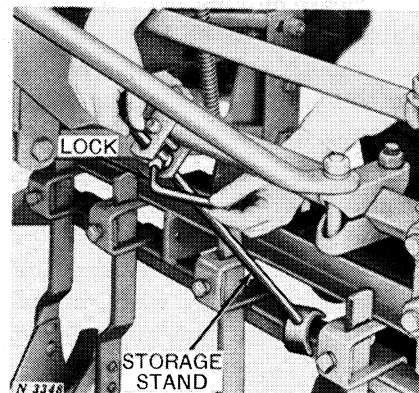
Front rockshaft control



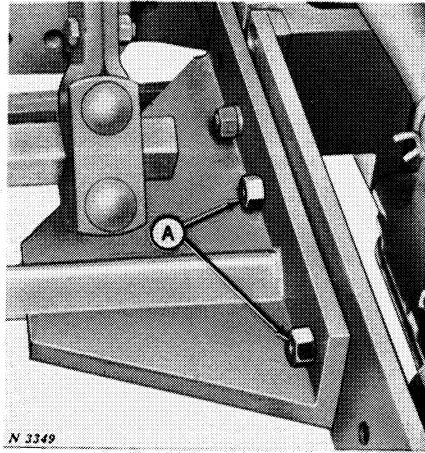
Front lift rod on 3010 or 4010 Tractor

If the cultivator is operated by the front mounted rockshaft, remove the front rockshaft lift rods at "A."

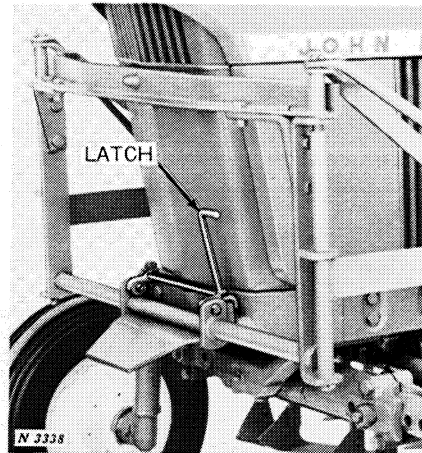
All cultivators



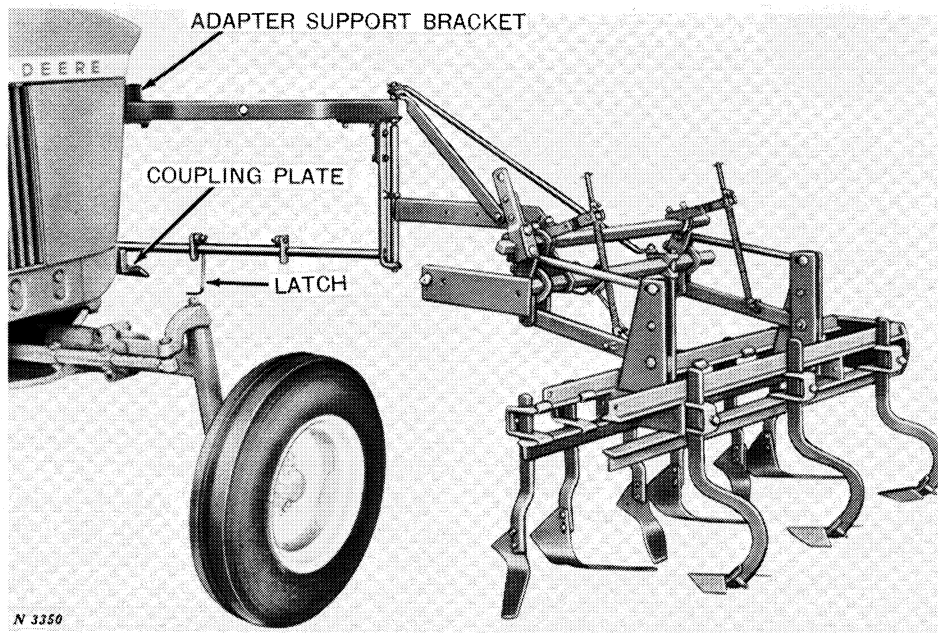
Lower the storage stands so they contact the cultivator beet and bean frame. Tighten lock securely.



On both sides of the tractor, remove the two nuts at "A" holding the cultivator to the tractor.



With the Quik-Tatch latch in the locked position as shown, back up the tractor until the front frames swing out far enough to clear the tractor front wheels.

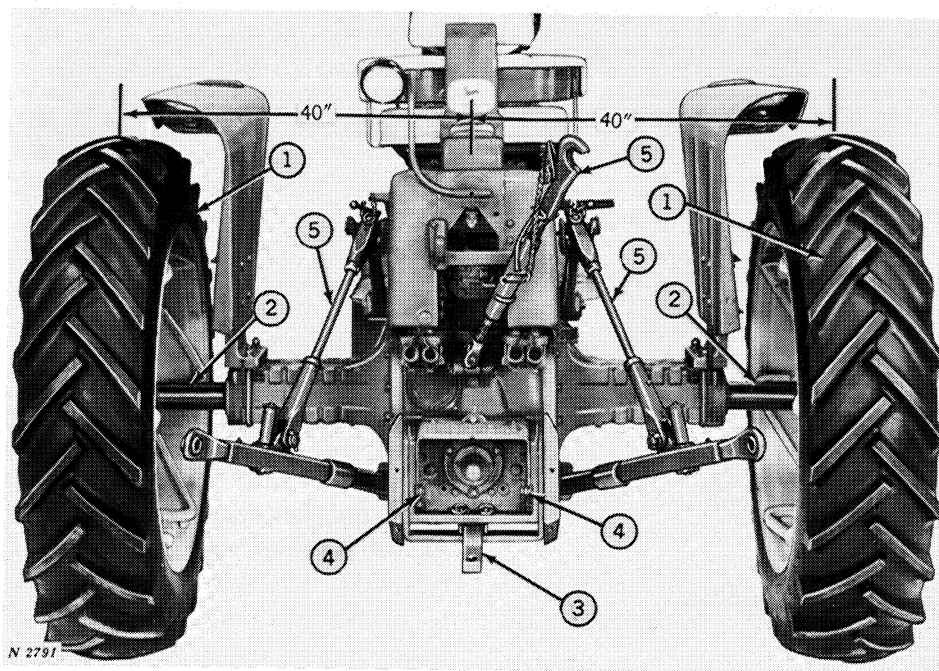


Release the latch and back the tractor away from the cultivator. The front coupling plate and

adapter support bracket can be left on the tractor unless they interfere with other equipment.

Attaching cultivator to tractor

Preparing the tractor



1. Set the tractor rear wheels for the row spacing desired. The setting shown is for 20-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 offset portion of drawbar down. Insert the locking bolts to prevent drawbar from swinging.

4. Sway blocks are required on the tractor. Use them in the category 2 position as shown so that all implement side sway is eliminated. See tractor operator's manual.

5. Set the lift links to the proper length. See page 6.

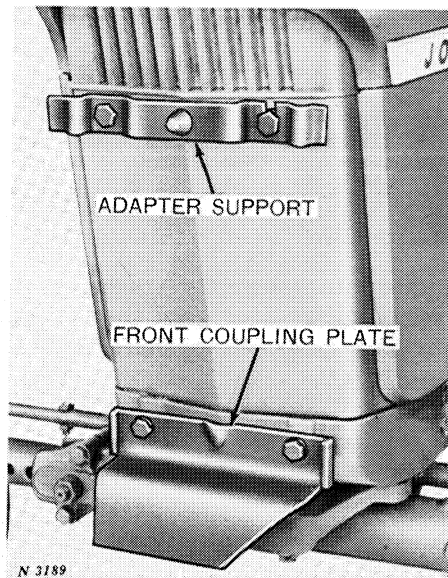
6. On the 3010 and 4010 Tractors, move the load selector lever to the "D" (lower) position.

On the 2010 Tractors, move the load selector lever to the "D" (forward) position.

7. (Not illustrated.) For tractors with adjustable tread front axle, set the front wheel tread the same width as the rear wheels.

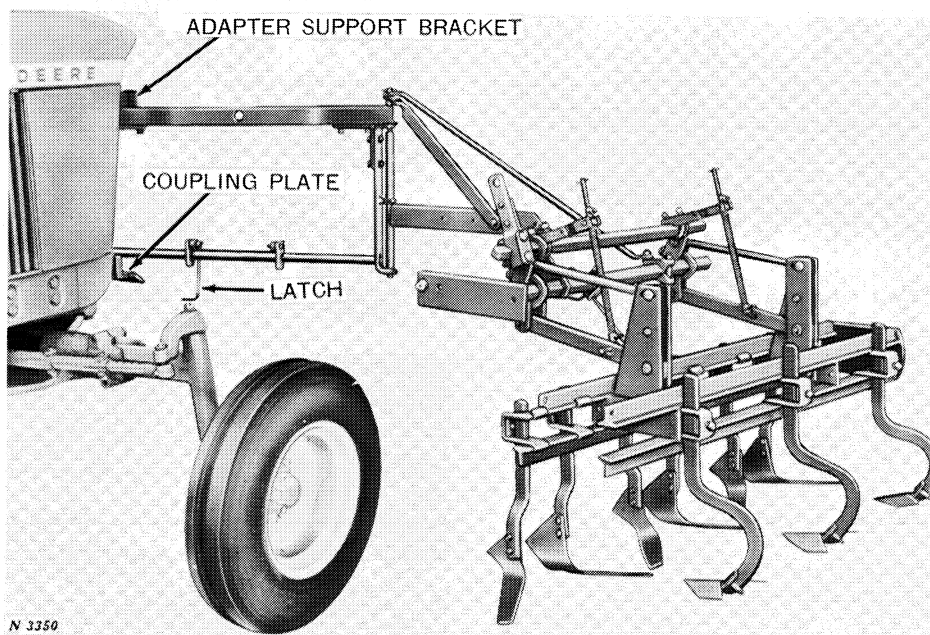
EXAMPLE: For 20-inch rows, set the front wheels to 80-inch tread. When adjusting the wheels, remember the spacing must be spaced equidistant from the center of the tractor. Refer to the tractor operator's manual for operating instructions.

Front rigs



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

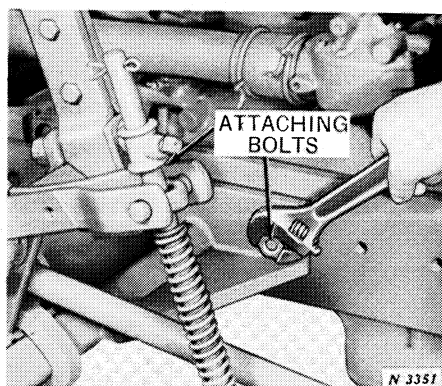
Bolt the front coupling plate to the front of the tractor.



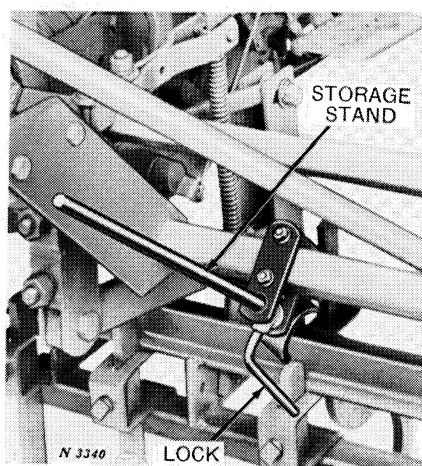
Making sure the latch is in the forward position as shown, drive the tractor firmly into the cultivator. Drive the tractor forward until the

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

18 attaching cultivator to tractor

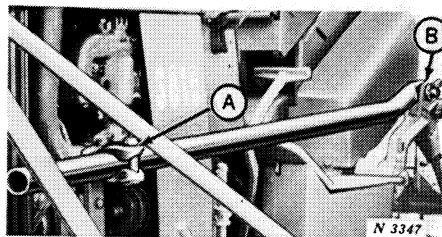


On each side secure the cultivator frames to the tractor with the attaching bolts and nuts.



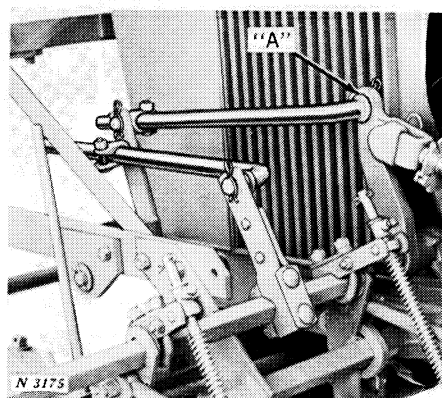
Release and raise the storage stands. Tighten the lock securely.

Rear rockshaft control

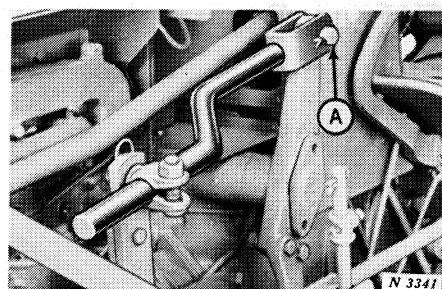


On cultivators controlled by the rear rockshaft, connect the lift pipe to the tractor rockshaft at "A" and "B."

Front rockshaft control



On 3010 or 4010 Tractor

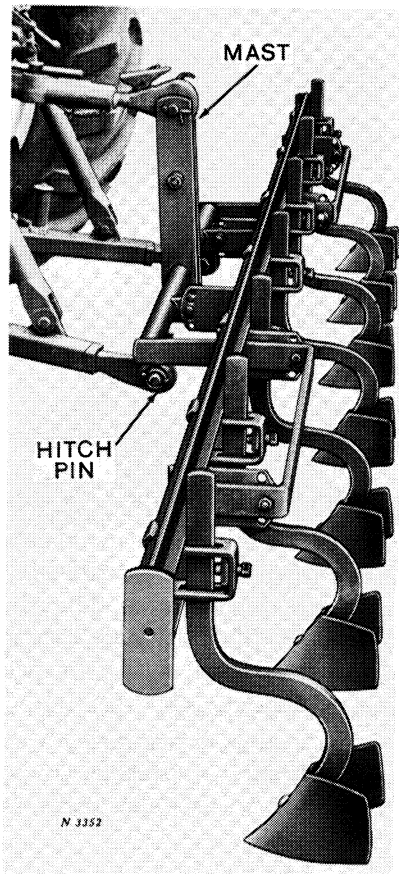


On 2010 Tractor

If the cultivator is operated by the front mounted rockshaft, attach the lift rods at "A."

Rear tool frames

Without quik-coupler

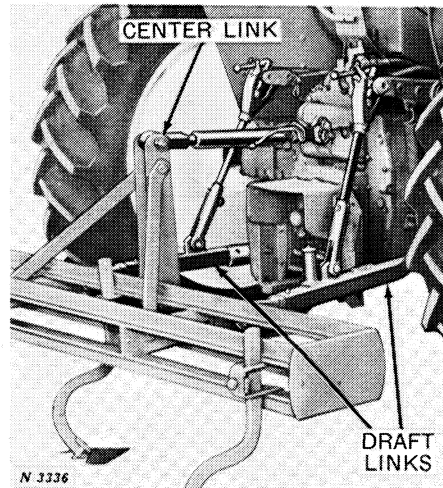


124- or 136-Inch rear tool frame

Have the rear frame resting on a level surface. Back the tractor until the draft links are approximately in line with the ends of the hitch pins.

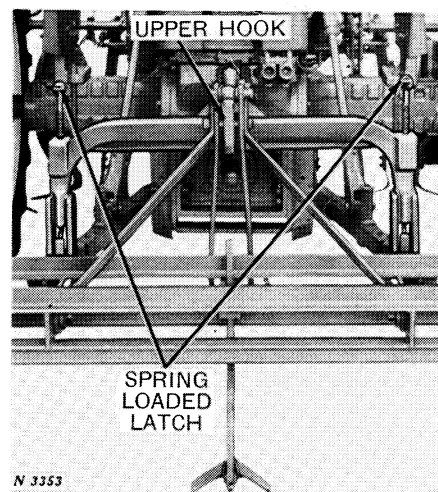
Attach the left-hand lift link first and then the right-hand lift link. If necessary the leveling screws on the tractor can be used to line up the draft links with the hitch pins.

Attach the center link to the tool frame mast.



91-Inch rear tool frame

With quik-coupler



Have the rear frame resting on a level surface.

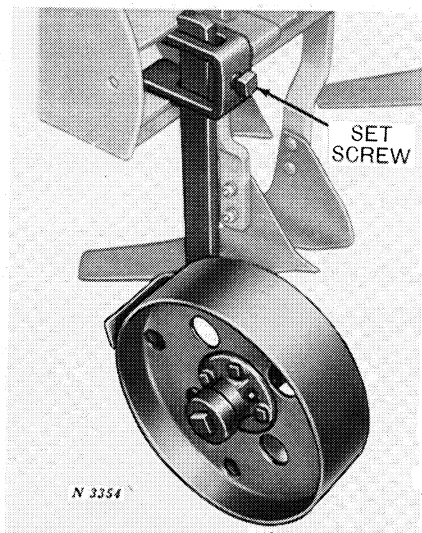
Lower the 3-point hitch so the upper hook will pass under the spacer between the tool frame mast plates.

Back the tractor up until the three jaws are under their respective hitch points and raise hitch. The lower jaws automatically lock in place.

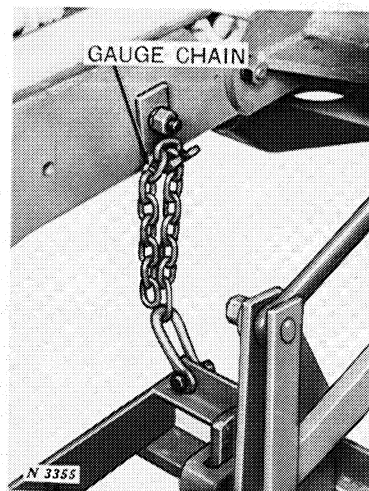
Special equipment

Gauge wheels and chains

Whenever gauge wheels are used, they determine the depth of cultivation. Two types of gauge wheels are available—the rubber gauge wheel and the steel gauge wheel.

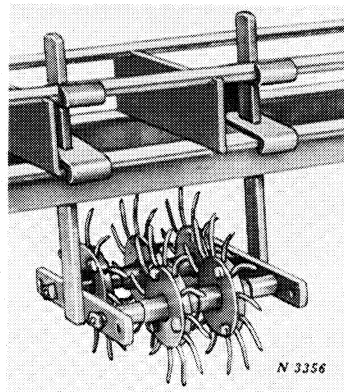


Loosen the set screw and adjust the cultivating depth by setting the gauge wheels one to two inches above the floor or ground.



Also furnished with the gauge wheels are gauge chains. They hold the inside of the cultivator beet and bean frame level with the front wheel of the tractor.

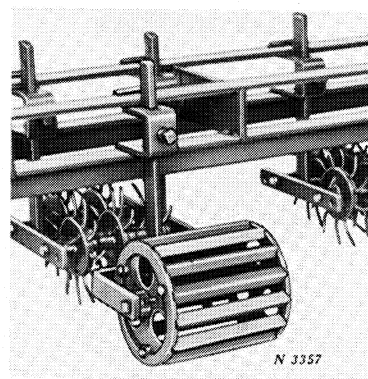
Rotary hoe



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 shown at the right.

The rotary hoe attaches to the front tool frame with two MD254DN clamps. One attachment is required for each row. If less penetration and less digging are desired, the rotary hoe attachment can be reversed so the wheel tines point rearward.

Clod breaker

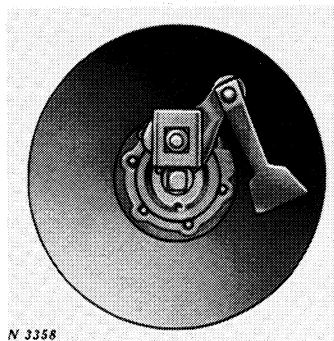


This attachment is the ideal companion tool for the rotary hoe. When used behind the rotary hoe it firms the ground and breaks up the clods. It can also be used alone for breaking crust when the crust is thin and easily broken.

It has a single standard which attaches to the rear of the tool frame with one ND254DN clamp. If used alone, the clod breaker roller should be attached to the front of the tool frame.

Tools and standards

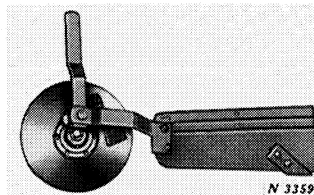
Disk weeders



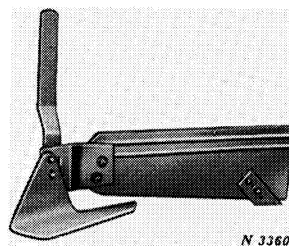
Disk weeders are available in either 9- or 11-inch sizes. They both have adjustable scrapers. Disk weeders are shipped in pairs, with one right-hand and one left-hand in each set. Use one N1916N standard and one MD312DN clamp with each weeding disk.

Size	Part Number	Description
9"	MD 377 DN	Right-hand
9"	MD 378 DN	Left-hand
11"	MD 61R DN	Right-hand
11"	MD 61L DN	Left-hand

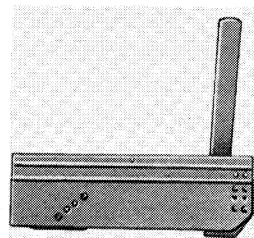
Shields



Shield for disk weeders



Shield for weeding knives



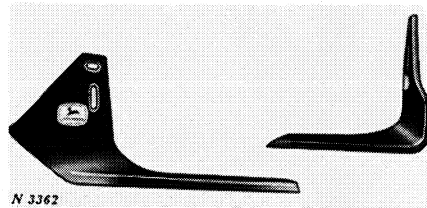
Shield attaches to tool frame

Three different types of shields are available with this cultivator. One shield is used in conjunction with the disk weeders. Another shield is used when the cultivator uses weeding knives. The third type of shield attaches to the tool frame with ND254DN clamp and is used if disk weeders or weeding knives are not being used.

Part Number	Description
MD 129 DN	Pair of shields for disk weeders
MD 130 DN	Pair of shields for weeding knives
MD 148 DN	Pair of shields for attaching direct to tool frame

Weeding knives

Round-turn knives



Round-turn weeding knives can be used in abrasive soils and are designed to prevent cutting shallow feeder roots. The upward pitch of the points provides exceptional work in soils that tend to crust after rain or irrigation.

These weeding knives are shaped to do the fast, accurate and close work required for growing vegetable crops profitably. The high sides protect the small, tender plants.

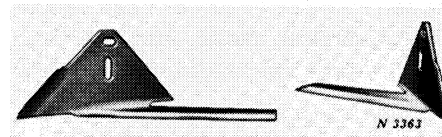
They are made of tough, durable, high-carbon 5/32-inch thick steel with a smooth surface.

Round turn knives are available in several sizes.

All knives have two slotted holes. This permits more adjustments to meet varying soil and cultivating conditions.

Size	Knife Number	Description
6"	M 2325 DN	Right-hand
6"	M 2324 DN	Left-hand
8"	M 2333 DN	Right-hand
8"	M 2332 DN	Left-hand
10"	Y 982 N	Right-hand
10"	Y 983 N	Left-hand
12"	Y 984 N	Right-hand
12"	Y 985 N	Left-hand

Low-point knives



Low-point knives are extremely tough and durable and are available in square turn only. They are designed to work very close to young plants. The backward slope of the point lifts leaves up and out of the way preventing plant damage.

Like other weeding knives, they are made of wear-resistant 5/32-inch steel and slotted for easy adjustment.

The low-point is available in only one size.

Size	Knife Number	Description
6"	M 2322 DN	Right-hand
6"	M 2323 DN	Left-hand

Square-turn knives



Square-turn knives are designed for close work in young crops and can be set extremely flat to prevent ridging. The upward pitch of the points makes them favorable for work in soils that tend to crust after rain or irrigation.

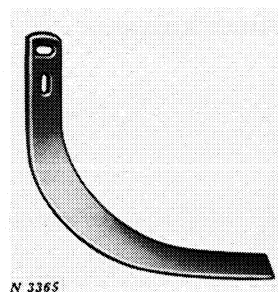
John Deere square-turn knives are often preferred by growers for close work in young crops. They are shaped properly to do fast, accurate, and close work, and the high sides protect the small tender plants.

They are made of tough, durable, high-carbon 5/32-inch thick steel with a smooth surface.

All these knives have two slotted holes. This permits more adjustments to meet varying soil and cultivating conditions.

Size	Knife Number	Description
6"	M 2320 DN	Right-hand
6"	M 2321 DN	Left-hand
8"	M 2340 DN	Right-hand
8"	M 2341 DN	Left-hand

Bed knives



Bed knives quickly and easily destroy heavy weed growth. These high-carbon steel knives are made for heavy-duty work.

The knives are 1/4-inch thick and have two attaching slots for proper cutting angle, according to the weed growth that is being destroyed. They are available in one size only.

Size	Knife Number	Description
6"	M 1617 DN	Right-hand
6"	M 1618 DN	Left-hand

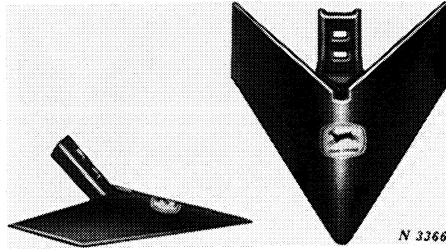
A Careful Operator

**IS THE BEST INSURANCE
AGAINST AN ACCIDENT**

—National Safety Council

Sweeps

Extra-flat duckfoot sweeps



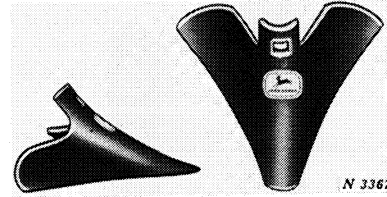
The extra-flat duckfoot sweeps are for early cultivation of crops while the plants are still in the seedling stage. These sweeps can be set down flat for high-sweep cultivation and will cut the weeds with hardly disturbing the soil.

The extra-flat sweeps are available in 6-, 8-, 10-, and 12-inch widths and are attached with a 3/8-inch carriage bolt. They are made of thin, tough 1/8-inch steel. They will cut weed roots but will not ridge soil over seedlings as other sweeps may do. They have a smooth finish.

A frog is riveted to the sweep blade to make possible the extra-flat design. Two holes are provided in the frog for varying suction.

Size	Sweep Number	Description
6"	MD 36 DN	Full sweep
8"	MD 30 DN	Full sweep
10"	MD 32 DN	Full sweep
12"	MD 34 DN	Full sweep

Flat sweeps



Flat sweeps are for general-purpose cultivating and close cultivating after the crops have passed the seedling stage. They are one-piece construction in 6-, 8-, 10-, and 12-inch sizes and are attached by one 3/8-inch carriage bolt.

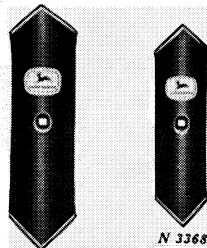
They will scour under difficult soil conditions due to their smooth finish.

The flat sweeps are made of tough, durable, high-carbon 5/32-inch steel.

Size	Sweep Number	Description
6"	M 2334 DN	Full sweep
8"	M 2335 DN	Full sweep
10"	M 2336 DN	Full sweep
12"	M 2337 DN	Full sweep

Shovels

Double point shovels



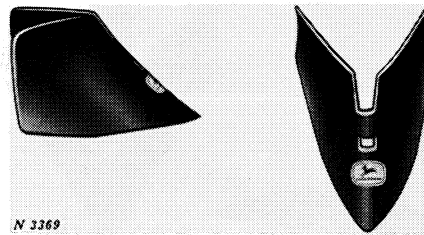
John Deere double pointed shovels are oval-shaped and pointed on both ends. Their length and shape permit either deep or shallow cultivation.

They are regularly furnished with a bolt polished to fit the curve of the shovel.

The points are reversible for extra life and are made from high-carbon steel.

Size	Shovel Number	Description
1-1/4" x 8-1/4"	M 403 DN	High Carbon Steel, 1/4"
1-3/4" x 8-3/4"	Y 622 AN	High Carbon Steel, 5/32"
2-1/4" x 9"	Y 777 AN	High Carbon Steel, 5/32"

Irrigating shovels

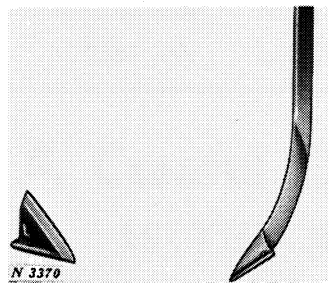


John Deere irrigating shovels are shaped for making small irrigation furrows between narrow-planted rows without throwing soil over small growing plants. These shovels are highly polished for good scouring.

The shovels are 1/8-inch thick and come in either 6- or 7-inch width. They are attached with a 3/8-inch carriage bolt.

Size	Sweep Number	Description
6"	M 588 DN	4-1/2 inches from the point to the top of the front face of the sweep.
7"	M 589 DN	5-1/4 inches from the point to the top of the front face of the sweep.

Spear points



A standard is available with spear points for crust-breaking, deep cultivation, or for breaking deep hardpan. Spear points are used for early

close cultivation. They are heat-treated for maximum durability and longer service.

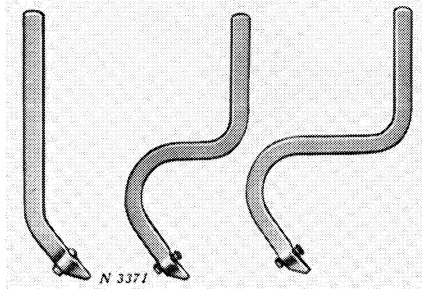
The lower part of the standard, just above the point, has a beveled edge for better penetration and less ground resistance in breaking up hard or tough soils.

The spear points are made of high carbon, are removable, and also replaceable.

Number	Description
MD 703 DN	Spear point and shank
MD 657 DN	Spear point with bolt

Standards

Stiff standards



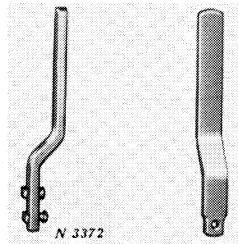
Three stiff standards are available for shovels, sweeps, irrigating and double point shovels on your AT4-6BB Cultivator.

The standards give ground-to-frame clearance of 14 inches. They are made from heavy 5/8- by 1-1/2-inch steel stock for high speed cultivation.

Size	Standard Number	Description
14"	MD 687 DN	Straight standard
14"	MD 686 DN	Curved standard
14"	MD 702 DN*	Long curved standard

*Used for moving working tool farther to the rear.

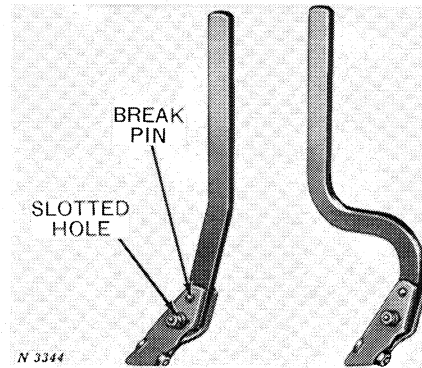
Offset standards



The offset standard illustrated at the left is available for use with weeding knives or bed knives. It is offset 1-1/2 inches and provides for 14-inch clearance from the ground-to-cultivator frame. Order MD464DN.

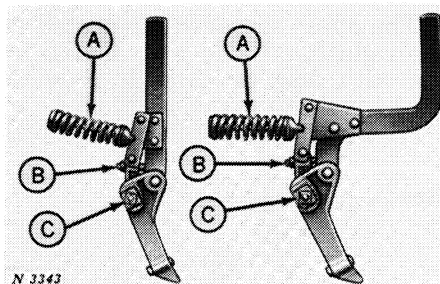
The offset standard illustrated on the right-hand side is available for use with disk weeders. It provides for 14-inch clearance and is 5/8- by 1-1/2-inch thick. Order M1916DN.

Break pin standards



These standards feature a trip-back action for low-cost protection of the ground working tool in soils where there are relatively few chances of the tool striking obstructions. They are available in two types, straight and curved. The sleeve, to which the ground tool is fastened, is pivot-attached to the lower part of the flat standard. When the ground working tool strikes an obstruction, the break pin shears, allowing the sleeve and ground tool to swing back, clearing the obstruction. It is a simple job to reset the sleeve and insert a new break pin. The lower attaching hole in the sleeve is slotted for changing the angle of the ground working tool.

Standard Number	Description
MD 780 DN	Straight standard
MD 779 DN	Curved standard

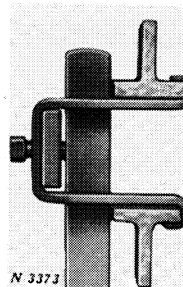
Spring-trip standards

The spring-trip shanks with straight or curved standards are designed for high-speed tractor cultivation in soils where the ground working tools may frequently encounter obstructions.

When the ground-working tool strikes an obstruction, the spring-trip automatically releases, permitting the tool to swing back until the obstacle has been cleared. The tension spring then returns the ground tool to its working position.

The spring tension (A), spring-trip pressure (B), and angle or suck of the tool (C), are easily and quickly adjusted to meet the soil conditions.

Standard Number	Description
MD 689 DN	Straight shank
MD 688 DN	Curved shank

Clamps

All standards shown on this page and the preceding pages are quickly and easily fastened to the cultivator frames by the simple but positive clamp shown above.

The standards are held in place by a single, sturdy set screw.

Clamp Number	Description
MD 312 DN	Used on all 5/8" x 1-1/2" standards except those mentioned below.
MD 254 DN	Used when shield attaches to tool frame; used also in attaching the rotary hoe and clodbreaker to the tool frame.
MD 468 DN	Used for attaching 1-1/8" round shanks to the tool frame.

Be Careful



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Put safety into each of your workdays; read the operator's manual thoroughly; know how to operate each machine properly; take the safety precautions specified; think before you act.

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As a member of the National Safety Council, we are privileged to use the John Deere logo to designate not only our products but also to emphasize and call attention to the safety cautions in this manual.

OM-N97522N-1060
John Deere AT4-6BB beet-bean
vegetable cultivator.

