

AT-4-6BV BEET BEAN-VEGETABLE CULTIVATOR



JOHN DEERE

OPERATORS MANUAL AT-4-6BV BEET BEAN-VEGETABLE CULTIVATOR

OMN97663 (01SEP65) English

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ENGLISH



To the purchaser

This manual contains valuable information about your new John Deere 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.

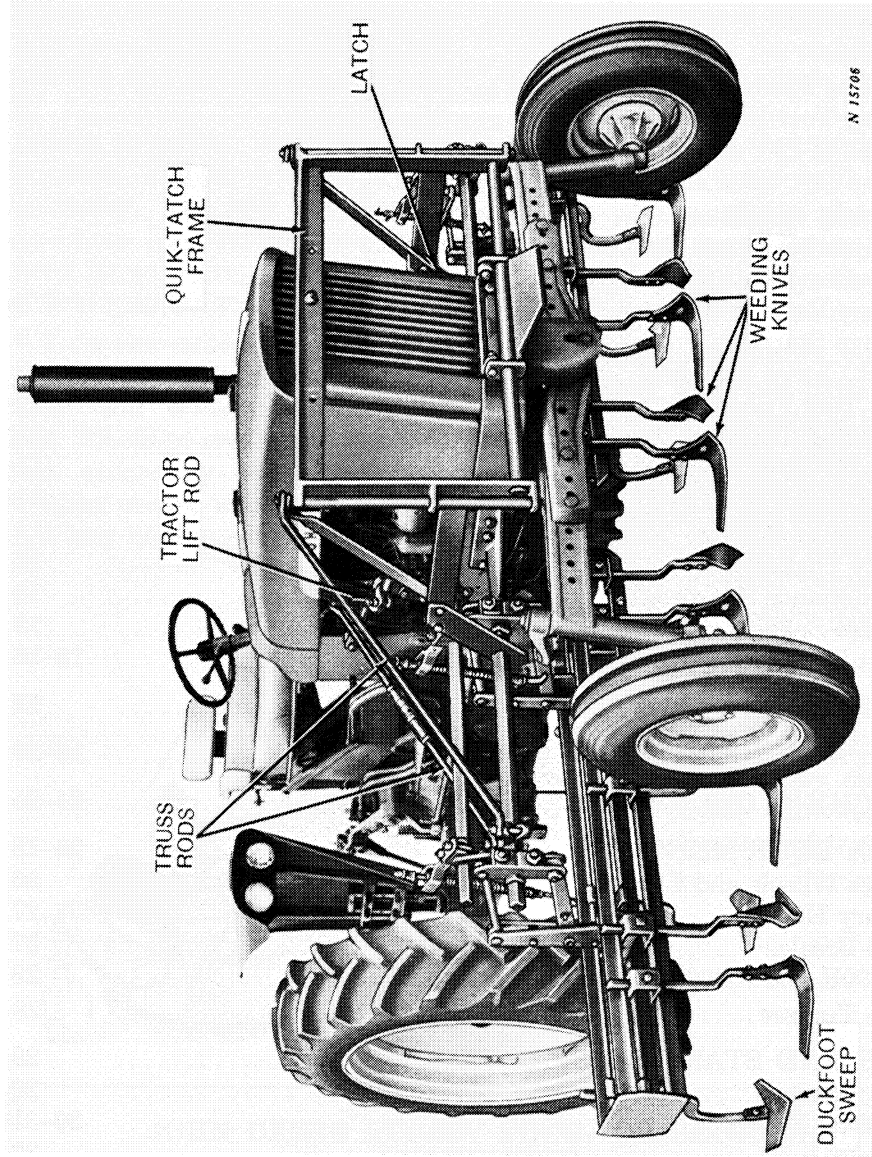
JOHN DEERE AT4-6BV FOUR- OR SIX-ROW CULTIVATOR

Date Purchased.....19.....
(To be filled in by Purchaser)

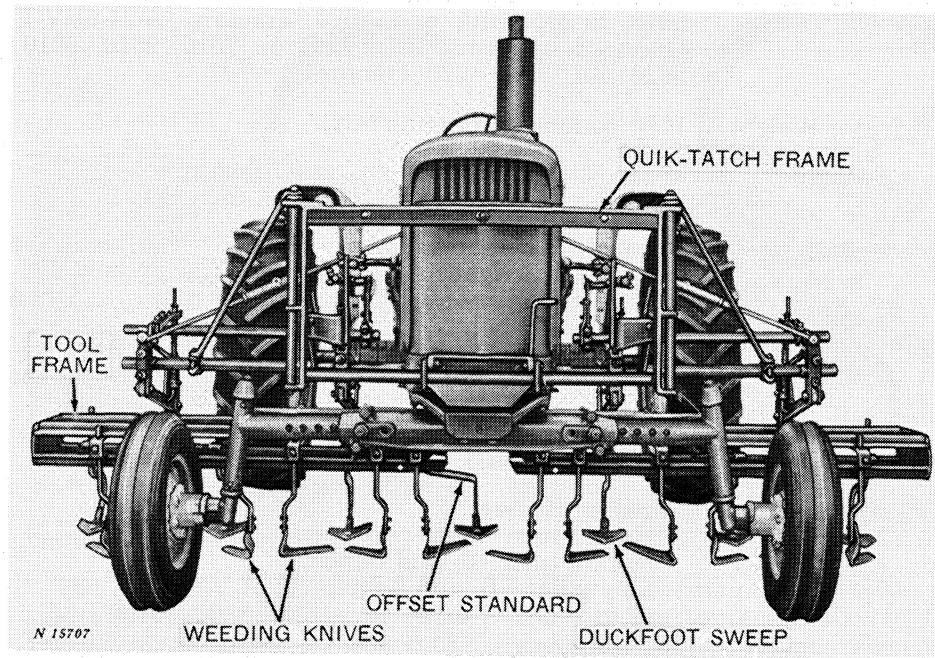
Price

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John Deere AT4-6BV Cultivator with Weeding Knives and Duckfoot Sweeps
on 2010 Tractor



*John Deere AT4-6BV Cultivator with Weeding Knives and Duckfoot Sweeps
on 3010 Tractor*

Specifications

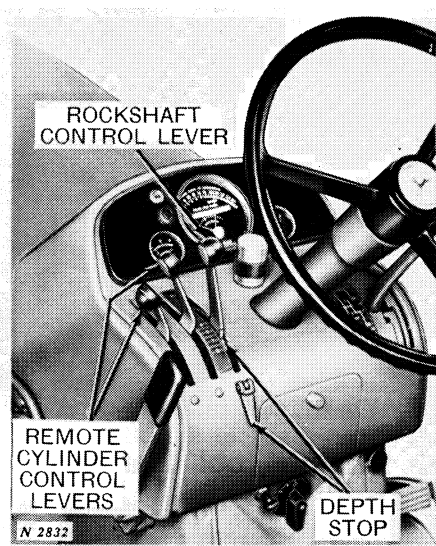
Tractor	John Deere 2010, 2510, 3010, 3020, 4010, and 4020 Row-Crop Tractors with Dual or Single Front Wheels or with Adjustable Tread Front Axle.
Cultivator Models . .	AT4-6BV-R Operated by Rear Rockshaft on 2510, 3010, 3020, 4010, and 4020 Tractors. AT4-6BV-F Operated by Front Rockshaft on 2010, 2510, 3010, 3020, 4010, and 4020 Tractors.
Cultivator Weight . .	1150 pounds (approximately)
Row Spacing	When set for six rows—20- or 22-inch rows. When set for four rows—24- to 34-inch rows.
Standards	Straight or curved rigid, spring-trip or pin break for sweeps and irrigating or double-point shovels. 1-1/2-inch offset for weeding knives, diskweeders and bed knives; spear-point. Only the regular standards can be used on this cultivator. Long and high clearance standards cannot be used. Offset center standard can be used when rear tool frame is not used.
Tool equipment	Weeding Knives: Round turn—6-, 8-, 10-, and 12-inch. Square turn—6- and 8-inch. Low point—6- and 8-inch. Sweeps: Extra flat duckfoot sweep—6-, 8-, 10-, and 12-inch. Flat sweeps—4-, 5-, 6-, 8-, 10-, and 12-inch. Shovels: Irrigating shovels—6- and 7-inch. Double point shovels. Spear Points Bed Knives Disk Weeders Shields
Extra Equipment . . .	Rotary hoe attachment. Clod breaker attachment. Gauge wheels and chains (steel or rubber). Cultivator stand and support. Rear tool frames— 91 inch (BN60163N) 124 inch (No. 125) 136 inch (No. 135) AB690E and AB690F Bean Harvester Attachment 12E, 13B, and 14C Vine Turners

(Specifications and design subject to change without notice.)

Operation

Controls

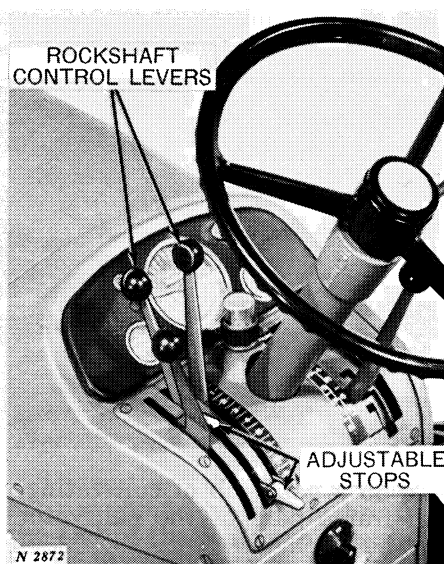
2510, 3010, 3020, 4010, and 4020 Tractors



The AT4-6BV-R Cultivator on a 2510, 3010, 3020, 4010, or 4020 Tractor is controlled by the rockshaft control lever on the tractor. Push the lever forward to raise the cultivator 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 AT4-6BV-F Cultivator is on a 2510, 3010, 3020, 4010, or 4020 Tractor, the front frames are controlled by the remote cylinder operating levers. If rear frames are used, they are controlled by the rockshaft control lever. Install hydraulic cylinders and operate the hydraulic controls as instructed in your tractor operator's manual.

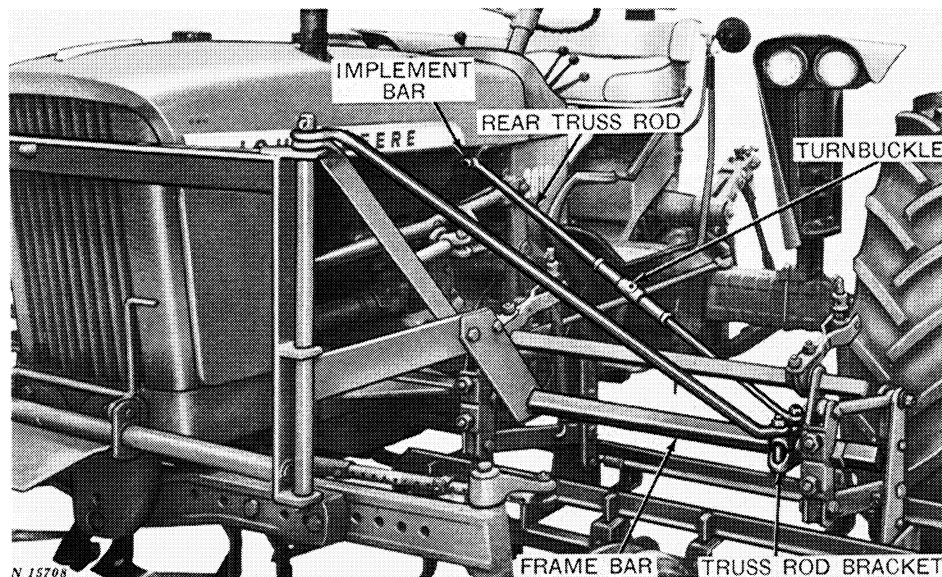
2010 Tractor



The AT4-6BV-F Cultivator on the 2010 Tractor is controlled by the rockshaft control levers. When the dual hydraulic system, of tractor having dual control front rockshaft, is set for independent lift arm operation and the front rockshaft is "split," the front frames can be raised and lowered independently. If a rear frame is used, however, it 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.

Leveling frame bars

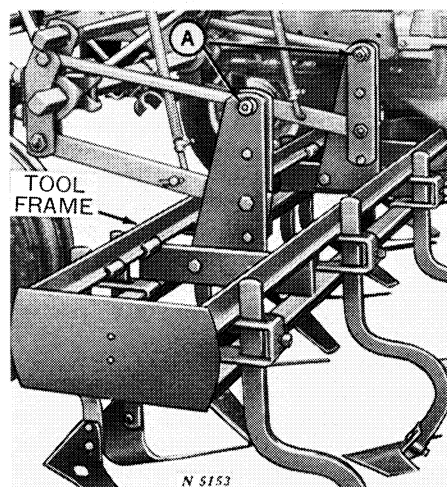


To do a good job of cultivating, both frame bars of the cultivator must be level.

To determine if the cultivator is level, raise the cultivator and sight along the frame bar.

If the cultivator is not level, adjust the turnbuckle on the rear truss rod until the cultivator is level. For best results, adjust the turnbuckle with the cultivator resting on the ground. Secure the turnbuckle in place with the lock nuts.

Tilting tool frames



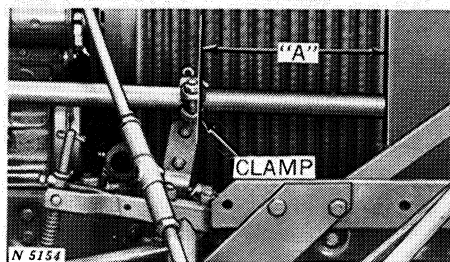
Each tool frame can be tilted at "A" (above) to change the pitch or suction of tools.

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

Height of lift of front tool frames

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

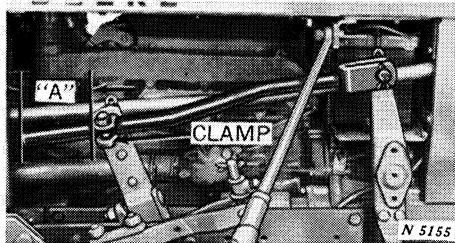
Lift pipe for AT4-6BV-R Cultivator on 2510, 3010, 3020, 4010, or 4020 Tractor



The lift pipes may be either 86-1/2 inches or 84-1/2 inches long. If the lift pipe is 86-1/2 inches long, the distance "A" from the end of the pipe to the clamp (on both sides of the cultivator) should be 14 inches on 2510, 3010, and 3020 Tractors, 7 inches on 4010 Tractor and 6 inches on 4020 Tractor.

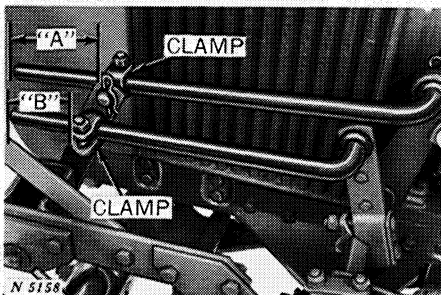
If the lift pipe is 84-1/2 inches long, the dimension "A" should be 12 inches on 2510, 3010, and 3020 Tractors, 5 inches on 4010 Tractor and 4 inches on 4020 Tractor.

Lift rod for AT4-6BV-F Cultivator on 2010 Tractor



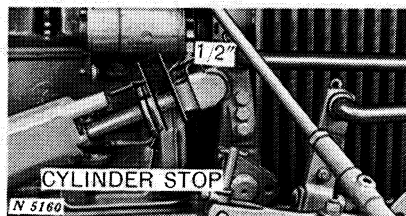
Set the distance "A" from the end of the lift rod to the clamp at four and one-half inches when the cultivator is mounted on the 2010 Tractor.

Lift rod for AT4-6BV-F Cultivator on 2510, 3010, 3020, 4010, or 4020 Tractor



The distance "A" from the end of the lift rod to the clamp should be two inches when the cultivator is on a 2510, 3010, or 3020 Tractor; three inches when on a 4010 or 4020 Tractor.

The setting "B" on the secondary lift rod should be four inches from the end of the rod to the clamp on the 2510, 3010, and 3020 Tractors, and one inch on the 4010 and 4020 Tractors.

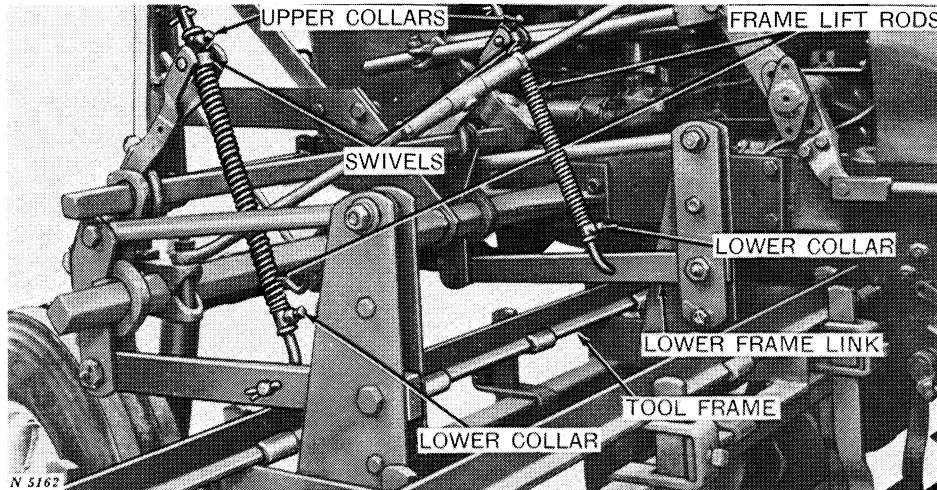


On 2510, 3010, 3020, 4010, or 4020 Tractor, set the hydraulic cylinder stop 1/2-inch away from the cylinder yoke for average conditions.

All cultivators

When raising the cultivator for the first time, raise it slowly. If the cultivator hits the tractor or the tool frame hits the lower frame link, loosen the upper collars on the frame lift rods. Adjust the upper collars as instructed on the next page before raising the cultivator again.

Frame lift rods and collars



Height of lift

To set the cultivator for the highest possible lift, raise it to its fully raised position making sure the cultivator doesn't hit the tractor. For additional lift, if needed and obtainable, raise the beet and bean frame evenly as high as possible by hand or mechanical jack and set the upper collars down next to the swivels as shown above.

When raising the cultivator make sure that the inner frame lift rods do not strike the rear truss rod on either side of the tractor.

If this does occur, shorten the distance at "A" on the lift pipes or lift rods (on page 7) until the inner frame lift rod does not come in contact with the rear truss rod.

Adjusting down pressure

Down pressure on the sweeps, knives, or shovels can be increased by raising the lower collars on the frame lift rods.

If no down pressure is desired, loosen the lower collars on the frame lift rods and let them slide down to the bottom of the rod. Secure the lower collars in place with the set screws.

Down pressure is desirable, when soil conditions do not allow for proper sweep, shovel, or knife penetration.

Adjusting depth of cultivation

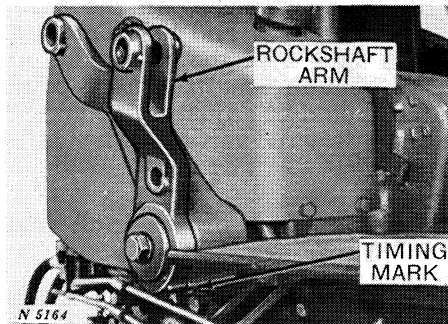
The depth of cultivation can be adjusted by the depth stop on the cylinder of the front rockshaft operated cultivators when on 2510, 3010, 3020, 4010, and 4020 Tractors or by the depth stop on the rockshaft control lever of the rear rockshaft operated cultivators on 2010, 2510, 3010, 3020, 4010, and 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 operated rockshaft 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 26.)

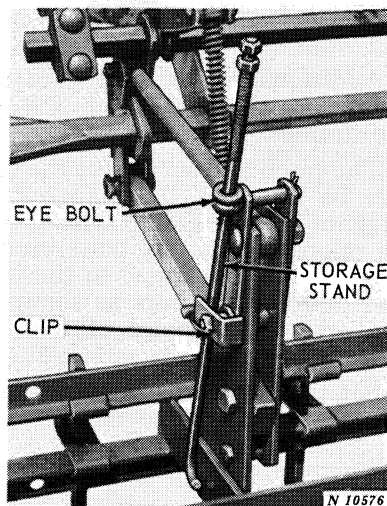
Timing rockshaft arm (AT4-6BV-R Cultivator only)



It is very important that the rockshaft arms attached to the tractor to operate the cultivator are properly timed. If the cultivator is equipped with a rear tool frame and the arms are not timed, it could mean the front and rear tool frames will not operate at the same depth.

The rockshaft arm is timed properly when the timing mark on the arm is in line with the timing mark on the tractor rockshaft.

Storage stand

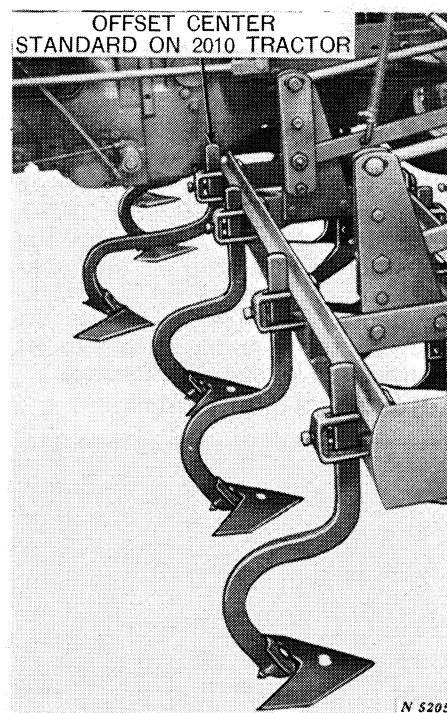


The storage stand is held next to the cultivator coupling plates by the clip.

Keep your cultivator a John Deere Cultivator

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

Offset center standard



An offset center standard can be used on the right-hand front tool frame, when a rear tool frame is not used. (See page 34.)

On the 2010 or 2510 Tractor, clamp the offset center standard on the right-hand side of the tractor, with the clamp at the rear of the rear T-bar of the tool frame.

On a 3010, 3020, 4010, or 4020 Tractor, clamp the offset center standard on the right-hand side of the tractor, with the clamp at the front of the rear T-bar of the tool frame.

Rear tool frame

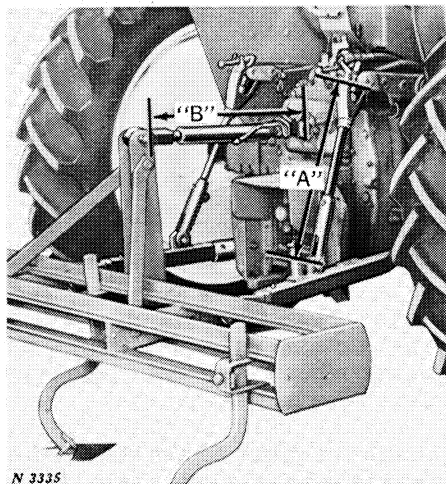
A rear tool frame is available as extra equipment. It is operated by the tractor rockshaft and controlled by the rockshaft control lever.

Working depth

On all AT4-6BV-R Cultivators and the AT4-6BV-F Cultivator on a 2010 Tractor, the working depth of the rear tool frame 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 AT4-6BV-F Cultivators with a rear tool frame on a 2510, 3010, 3020, 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.

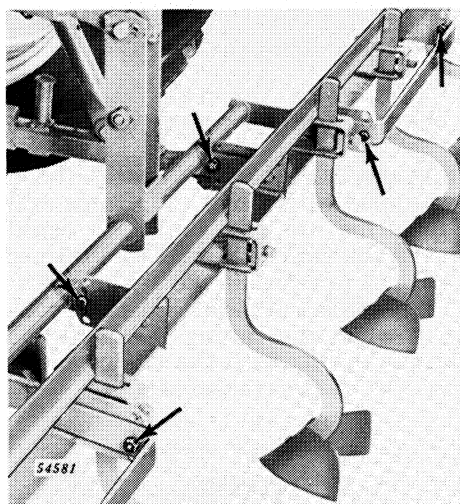
Adjusting 3-point hitch



On the 2510, 3010, 3020, 4010, and 4020 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 2510, 3010, 3020, 4010, and 4020 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.

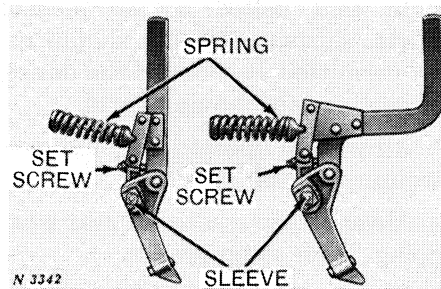
Set the standards so all the tools operate at the same depth.

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.

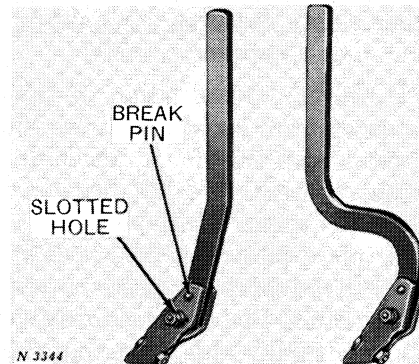
When using straight spring-trip or curved spring-trip standards, adjust the sleeve to tilt sweep so that it is in correct relationship to the ground as illustrated below.

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.

Tighten spring nut only enough to keep spring slightly compressed.

Pin break standard

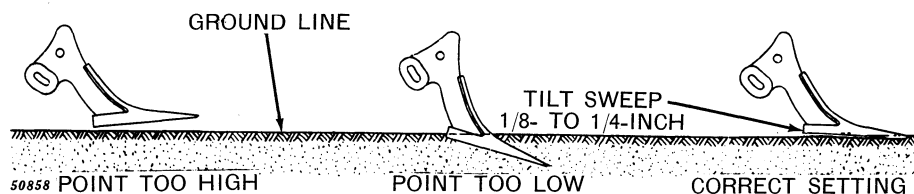


Straight pin break Curved pin break

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.



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.

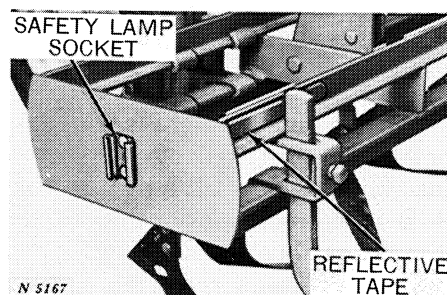


Be sure that clothing worn by tractor or machine operator is fairly tight and belted. Loose jackets, skirts, shirts, or sleeves should not be permitted because of the danger of getting into moving parts.

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.



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 such as those illustrated above, are available from your John Deere dealer.

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

Maintenance suggestions



Never attempt to clean, oil or adjust a machine while it is in motion

The following suggestions are recommended to help keep the cultivator in good condition.

Nuts and bolts

To insure trouble-free service, it is important to keep all nuts and bolts tight. If they are allowed to become loose, they may bend, strip threads, or cause parts to be lost. Check all nuts and bolts daily before operation.

It is also important that the pivot studs on the lower frame link be checked periodically and tightened, if needed, to prevent excessive wobble of the tool frames.

Tool frame

The cultivator tool frames 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.

Shovels, sweeps and knives

The life of shovels, sweeps and knives can be increased and their

work made more efficient by greasing the polished faces with a coat of multipurpose grease or heavy oil during the periods of intermittent use and between seasons.

They will also scour much easier if they are cleaned at the end of each cultivating day.

Sharpening shovels, sweeps and knives

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 shovels and sweeps sharp!

Between seasons or during periods of intermittent use, inspect your cultivator for worn or damaged parts. Failure to do this may cause an expensive delay when attempting to put your cultivator back in service.

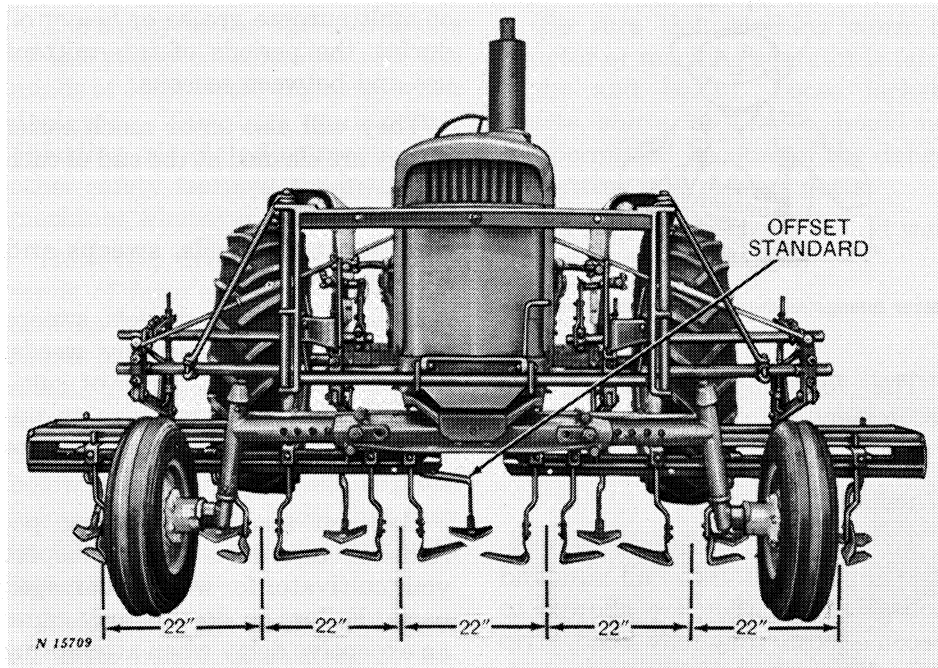
Storage suggestions

Before storing the cultivator at the end of the season, clean all mud, dirt, grease, or other foreign material from the cultivator.

Always replace the tractor attaching bolts in the cultivator so you won't have to spend valuable time looking for them when you go to put the cultivator back on the tractor.

Be sure to perform the maintenance suggestions on this page before storing the cultivator at the end of the season.

Front frame tool spacing

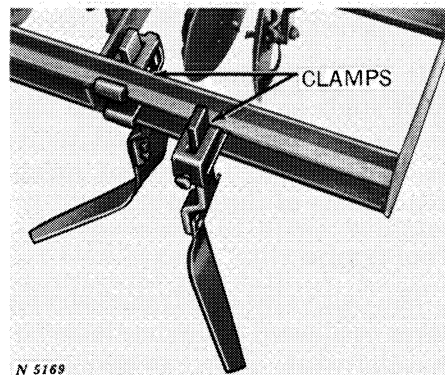


The tools can be spaced on the tool frame to cultivate four or six rows.

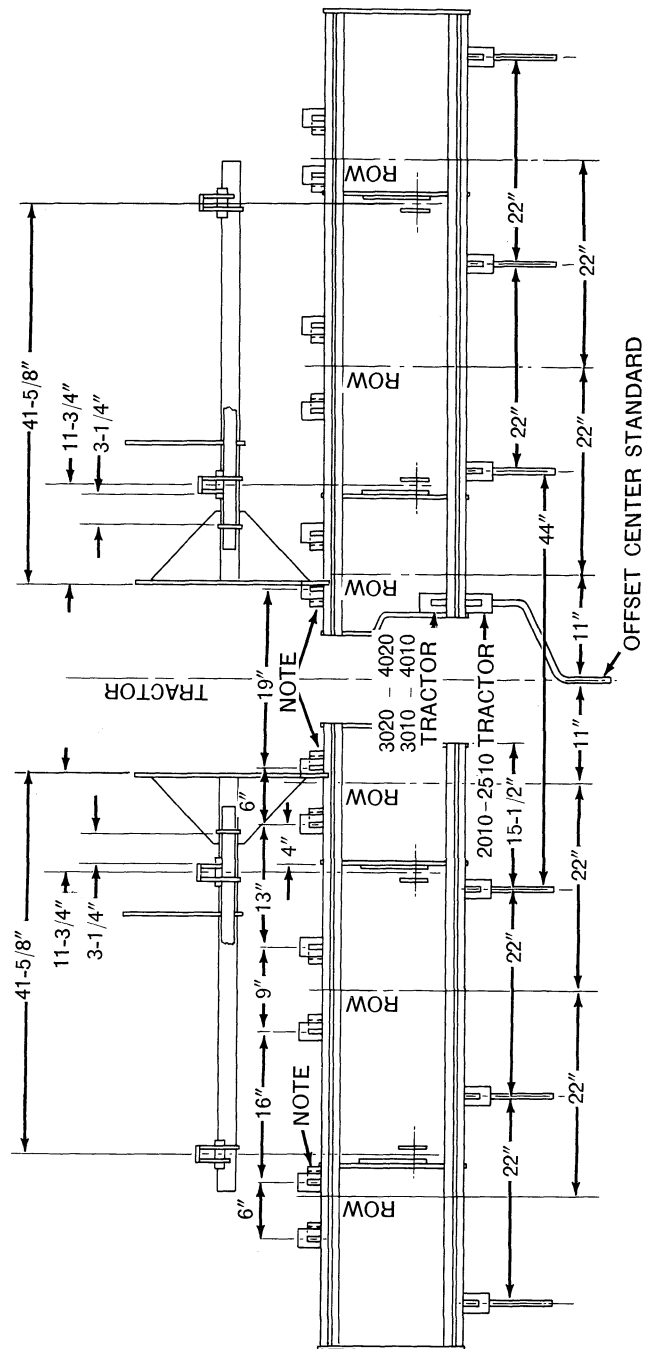
Four rows spaced 24 to 34 inches apart can be cultivated. Six rows spaced 20 or 22 inches apart can be cultivated.

The standards and tools on both right-hand and left-hand frame bars should be exactly the same, except for the offset center standard used on the right-hand tool frame.

NOTE: The offset portion of the standard normally points in toward the row, except in those places noted on the six 22-inch row spacing diagram on page 15. Then the offset portion points away from the row.

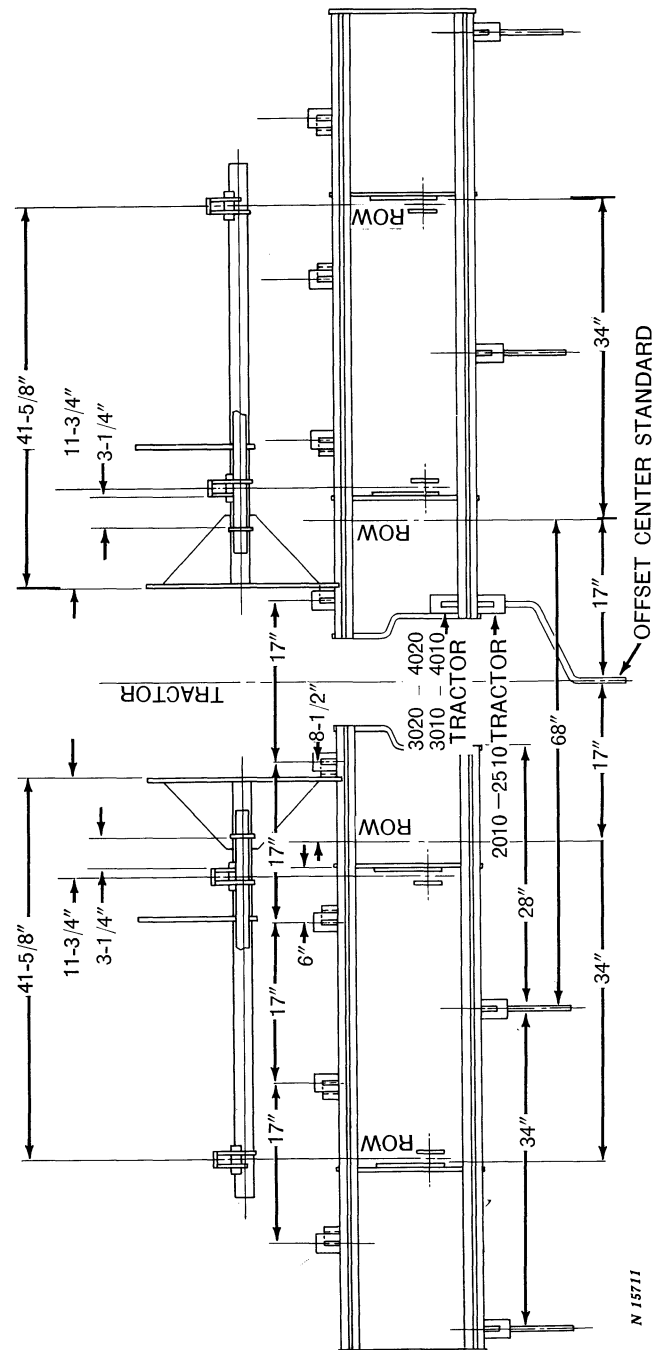


When cultivating in trashy soil or soil that has formed a hard crust around the young seedling, it is recommended that the position of the weeding knives be staggered. This is done by using one clamp on the front of the bar and one on the rear as shown above.



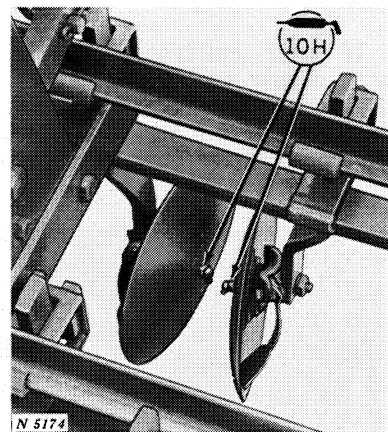
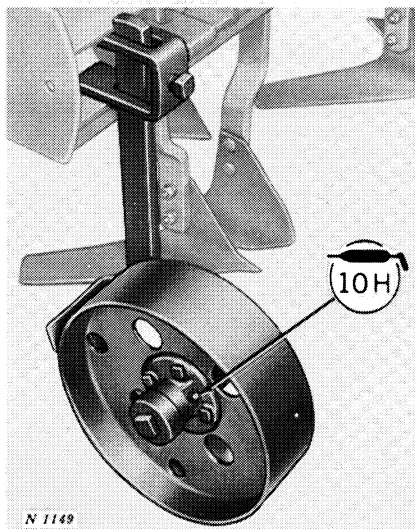
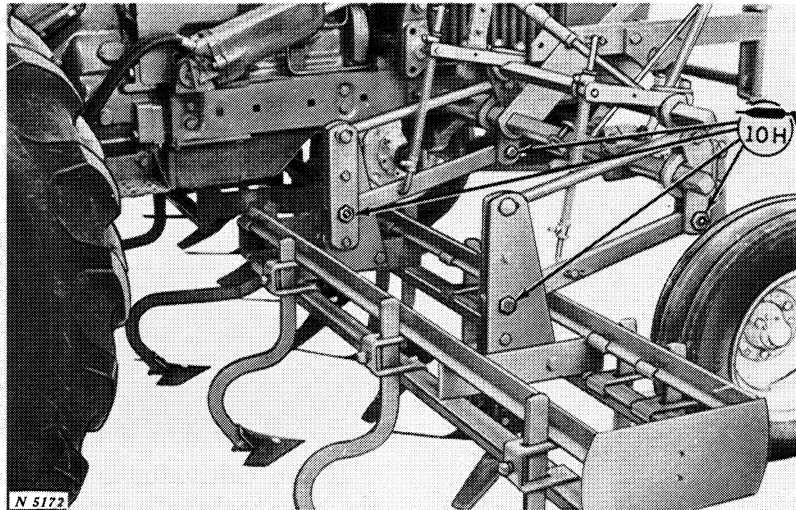
Standard and Tool Spacing for Six 22-Inch Rows

N 15710



Standard and Tool Spacing for Four 34-Inch Rows

Lubrication



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.

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

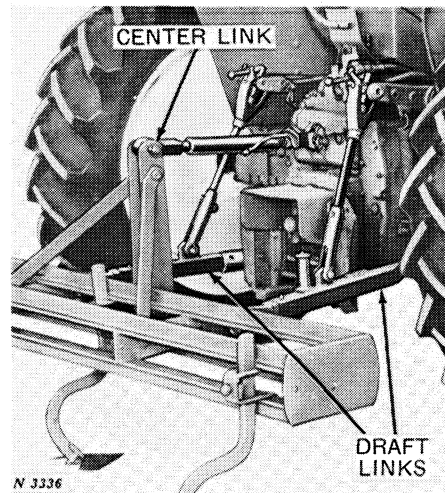
SYMBOLS



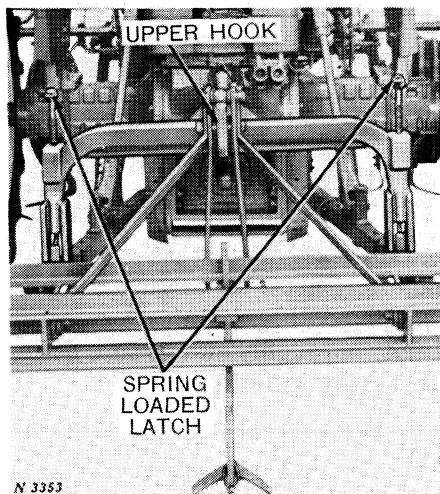
Lubricate every 10 hours with SAE Multi-purpose type grease.

Detaching cultivator from tractor

Rear cultivator frame



If your cultivator is equipped with a rear tool frame, lower it to the floor or ground. Disconnect the draft links from the hitch pins and the center link from the mast.

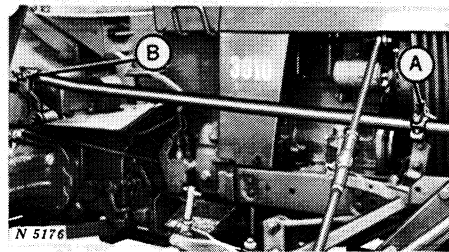


If the Quik-Coupler is used, lower the rear frame onto a level surface. Push down on the spring-loaded latches and lower the 3-point hitch.

Front cultivator frame

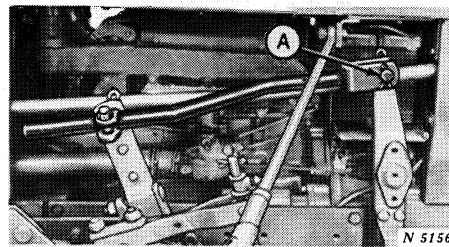
Lower the front cultivator frame on a level surface.

Rear rockshaft control

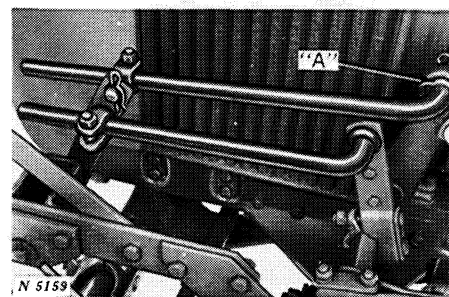


If the cultivator is operated by the rear rockshaft, remove the lift pipes, first at "A" and then at "B."

Front rockshaft control



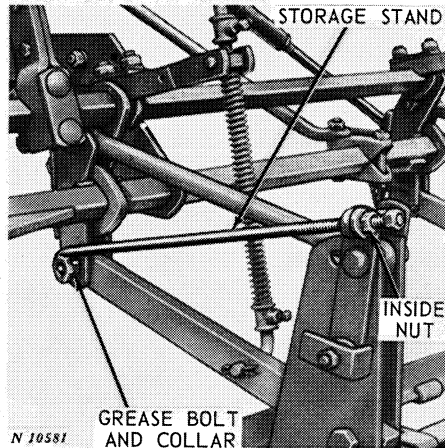
Front lift rod on 2010 Tractor



Front lift rod on 2510, 3010, 3020, 4010 or 4020 Tractor

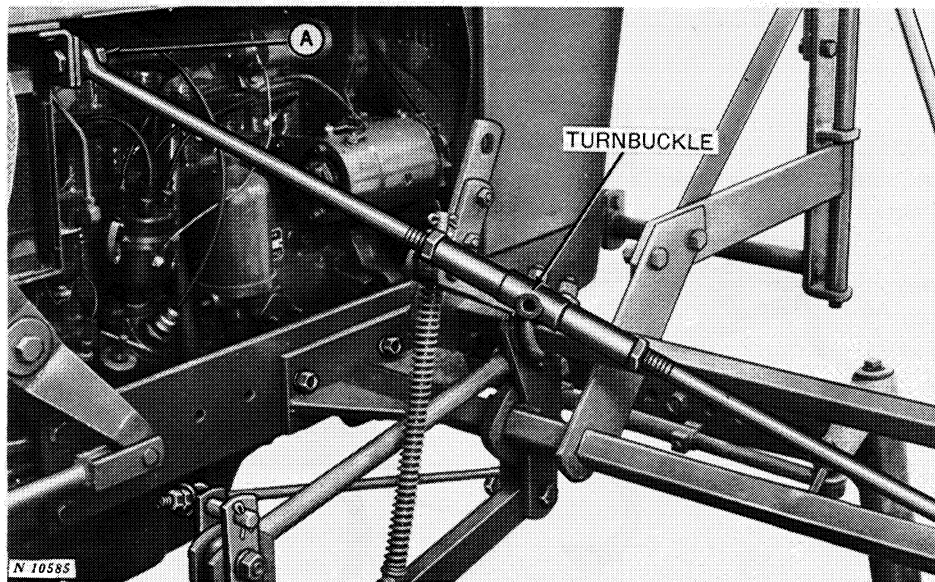
If the cultivator is operated by the front mounted rockshaft, remove the rockshaft lift rod at "A."

All cultivators

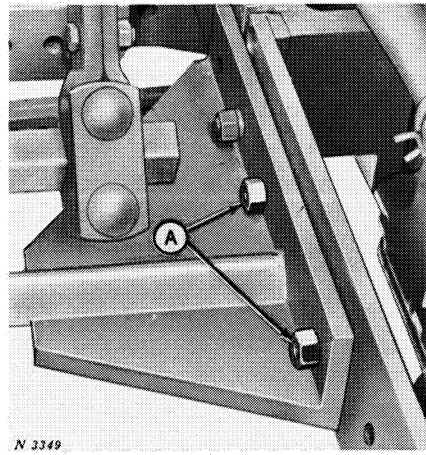


Pivot the storage stand and hook it over the collar on the lower rig link grease bolt as shown. Tighten the inside nut until the stand is securely in place.

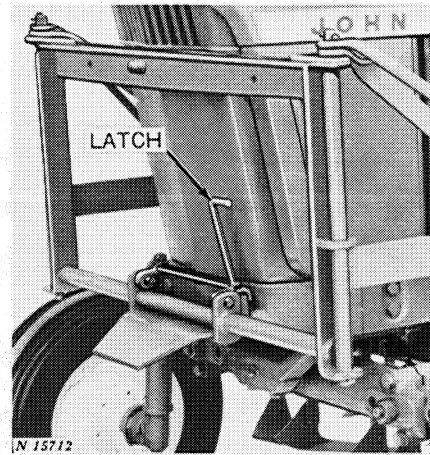
Disconnect the rear truss rod from the tractor implement bar at "A." To relieve the pressure from bolt "A," it will be necessary to loosen the lock nuts on the turnbuckle and turn it counter clockwise until loose.



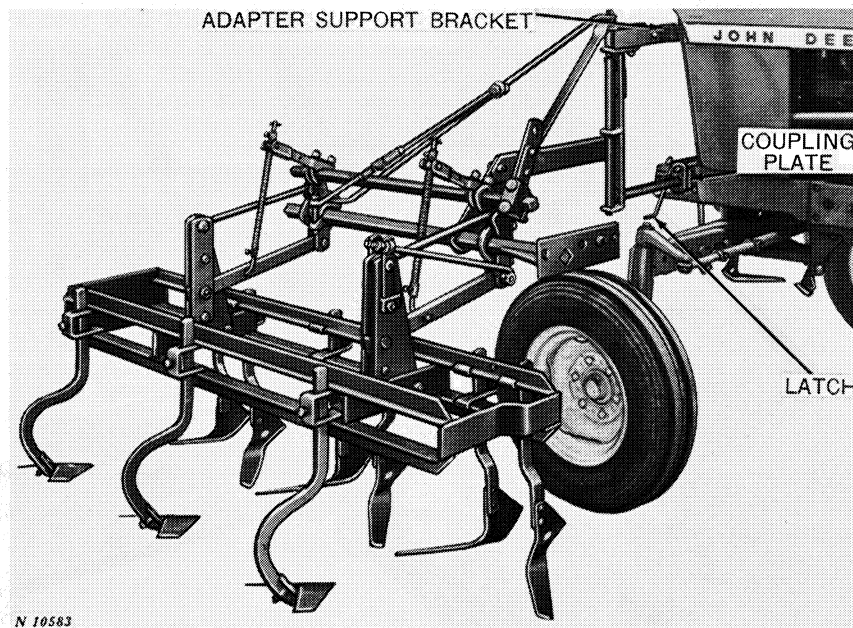
20 *detaching cultivator from tractor*



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.

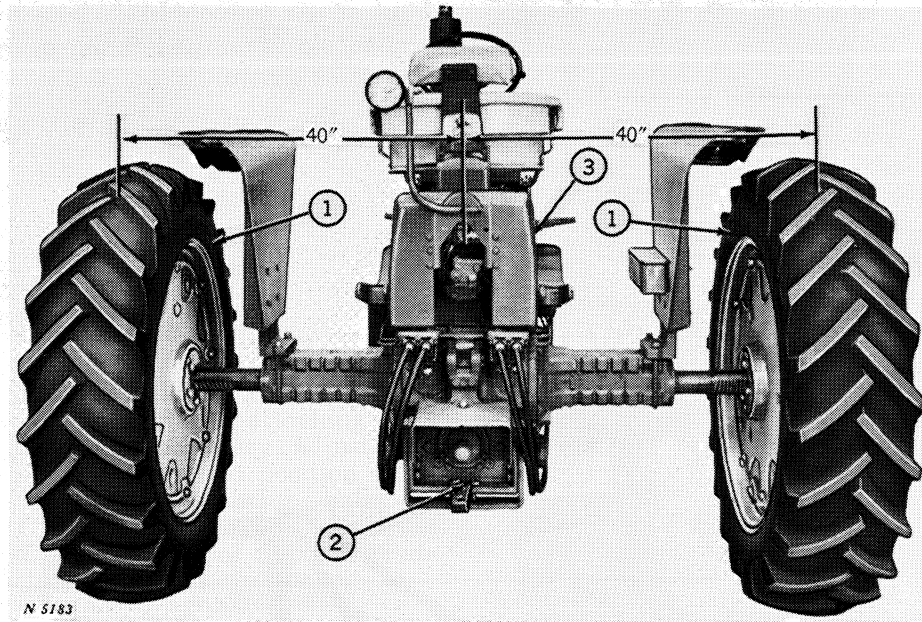


Release the latch and back the tractor away from the cultivator. The front coupling plate and

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. Insert the locking bolts in the tractor drawbar to prevent the drawbar from swinging.

3. On the 2510, 3010, 3020, 4010, and 4020 Tractors, move the load selector lever to the "D" (lower) position.

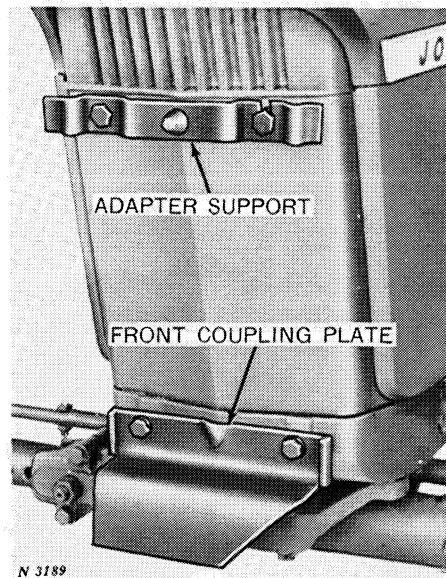
On the 2010 Tractors, move the load selector lever to the "D" (for-

ward) position.

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

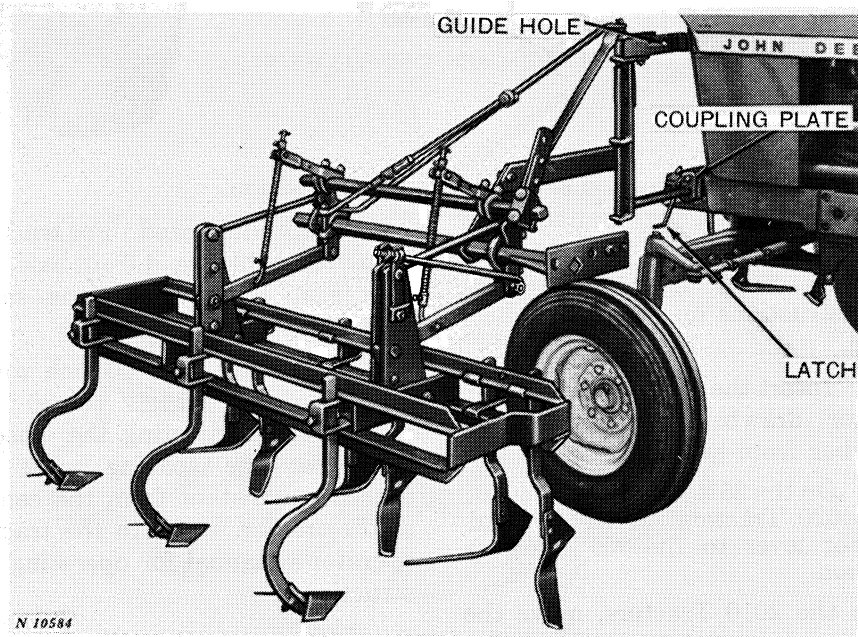
EXAMPLE: For 20-inch rows, set the front wheels to 80-inch tread. When adjusting the wheels, remember the spacing must be spaced equidistant from the center of the tractor. Refer to the tractor operator's manual for operating instructions.

Front rigs



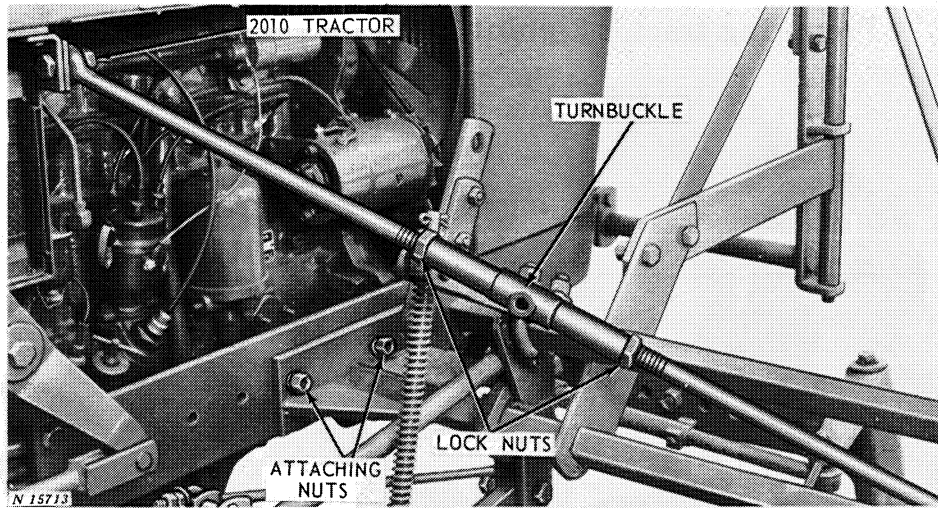
If removed, bolt the adapter support bracket for the upper portion of the Quik-Tatch frame to the front of the tractor. Make sure the vertical slot is on the left side of the tractor as shown.

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



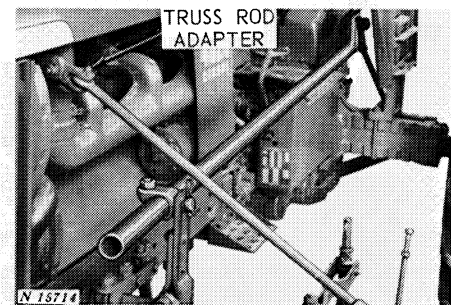
Making sure the latch is in the forward position as shown, drive tractor firmly into the cultivator. Use the guide holes in the Quik-Tatch frame to line up the cultivator properly with the tractor.

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



Fasten cultivator frames to each side of tractor with attaching bolts and nuts. If necessary, adjust nuts on storage stand to position cultivator frames on attaching holes.

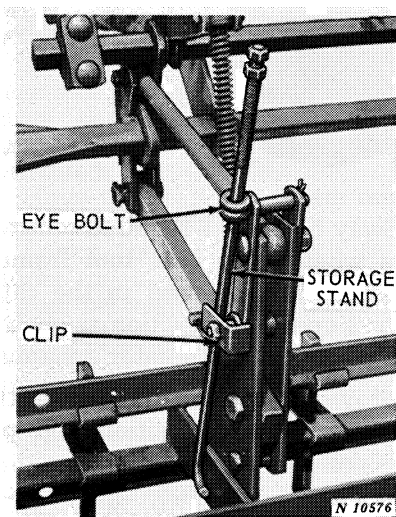
On 2010 Tractor, bolt rear truss rod to front side of implement attaching bar as shown above.



On 4010 or 4020 Tractor, bolt truss rod adapter and truss rod to rear of implement attaching bar as shown above. Adapter should offset to the rear.

On 2510, 3010, or 3020 Tractor, bolt truss rod adapter and truss rod to front of implement attaching bar. Adapter should offset to the front.

Adjust the turnbuckle to take up the slack in the truss rod. Tighten the lock nuts against the turnbuckle.

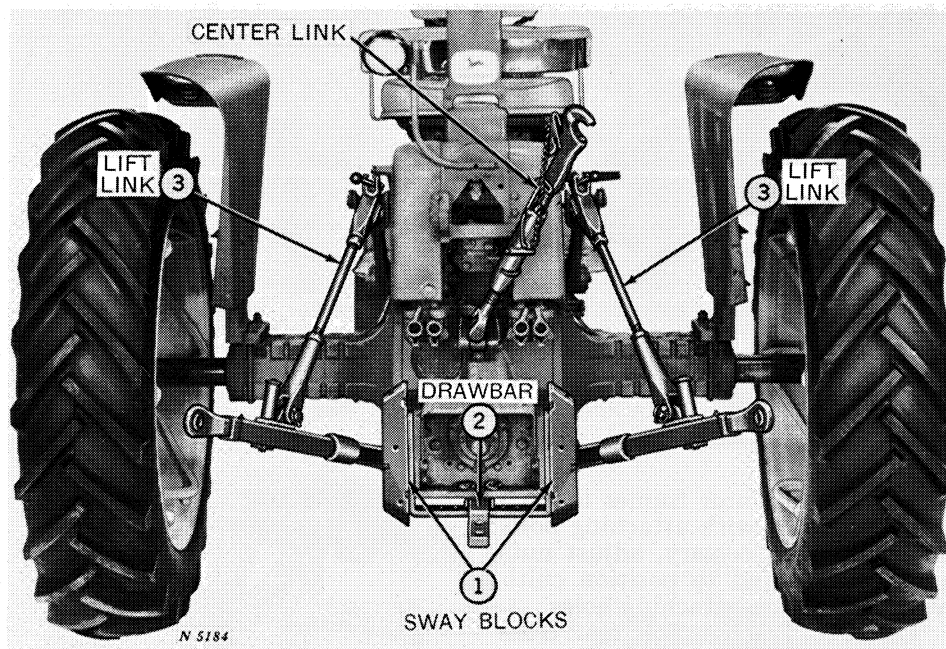


Disconnect storage stand from pivot stud on rig hanger and position stand against rig coupling plates as shown above. Tighten the nut against the clip. Do not raise the cultivator until the stand is in this position.

Lift rods or lift pipes

Refer to illustrations on page 18 and install lift pipes on rear rockshaft operated cultivator or lift rods on front rockshaft operated cultivator.

Preparing tractor 3-point hitch for rear tool frame



Sway blocks are required on tractors when using rear tool frames. Sway blocks are used in the category 2 operating position as shown. See your tractor operator's manual.

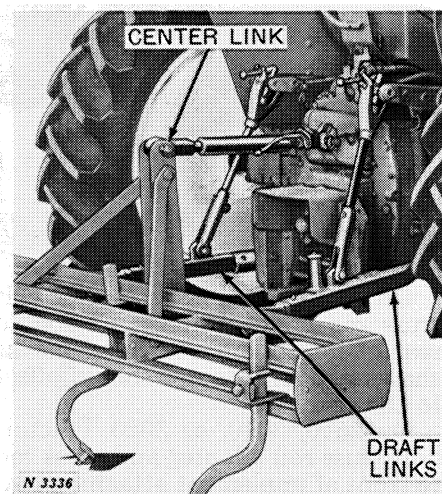
Move the tractor drawbar to the extreme forward position and pin in place.

On the 2510, 3010, 3020, 4010, and 4020 Tractors when using rear tool frames, set the length of the left- and right-hand lift links at 28 inches and the center link at 25-1/2 inches.

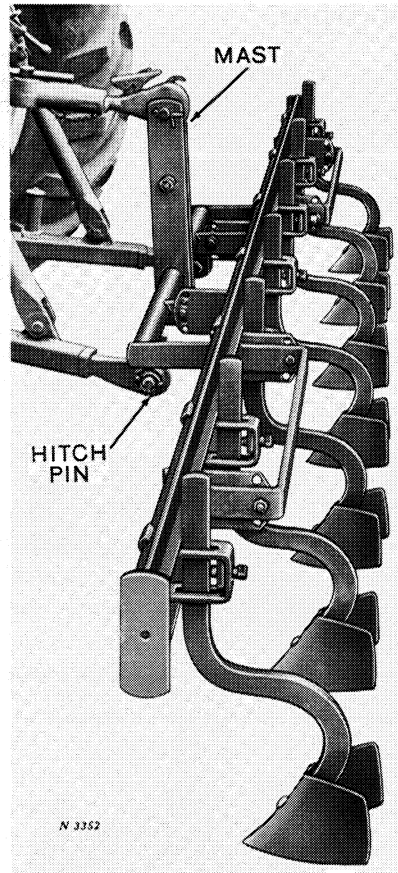
The lift links on the 2010 Tractor should be set at the minimum length.

Attaching rear tool frames

Without quik-coupler



Without quik-coupler



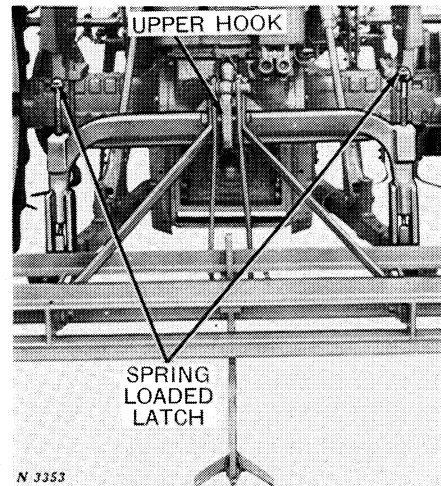
124- or 136-Inch rear tool frame

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.

With quik-coupler



Install the two adapters on the rear tool frame hitch pins, with the large parts outward. Secure the adapters in place with the roll pins provided.

Have the rear tool 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. This will allow the lower jaws of the quik-coupler to pass under the tool frame hitch pins.

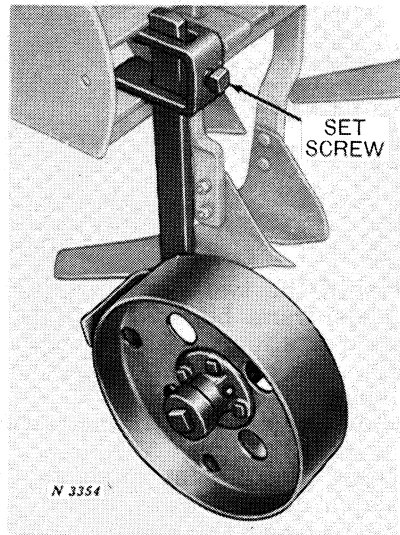
Back the tractor up until the three jaws are under their respective hitch points and raise hitch. The lower jaws automatically lock in place.

When the spring loaded latches are properly locked, an indicator rod will protrude through the slot in the coupler frame adjacent to the spring loaded latches. See your tractor operator's manual.

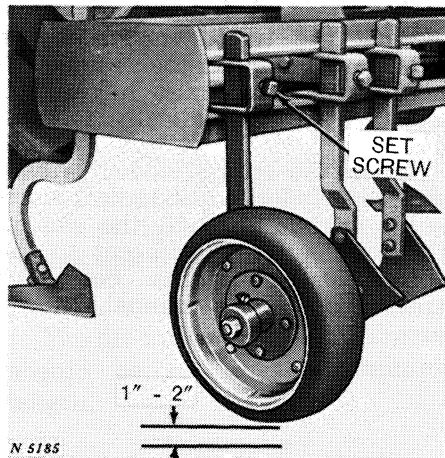
Extra equipment

Gauge wheels and chains

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



Steel gauge wheel

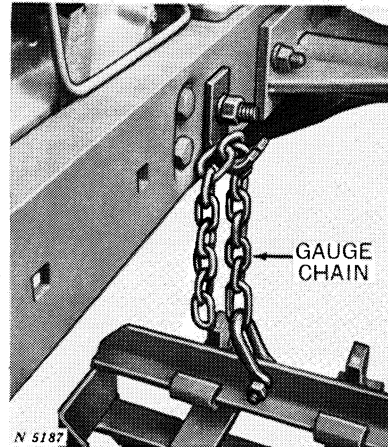


Rubber tire gauge wheel

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

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

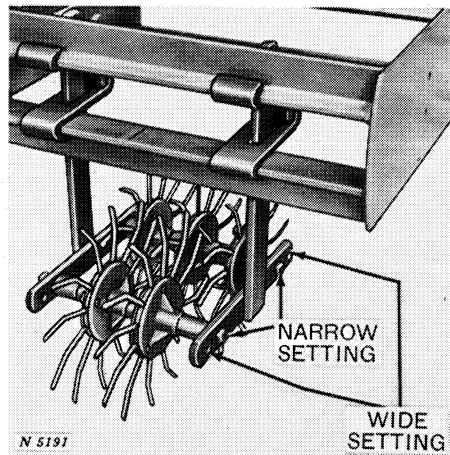
Set gauge wheels to carry tool frame level so all tools operate at the same depth.



Also furnished with the gauge wheels are gauge chains.

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.

Rotary hoe

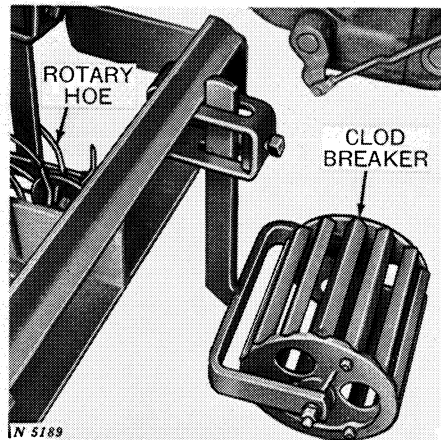


This attachment is ideal for breaking crusted soils and for early cultivation of beets, beans, and all other vegetables. It can be used alone or with the clod breaker shown at the right.

The rotary hoe attaches to the front tool frame with two MD312DN 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.

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.

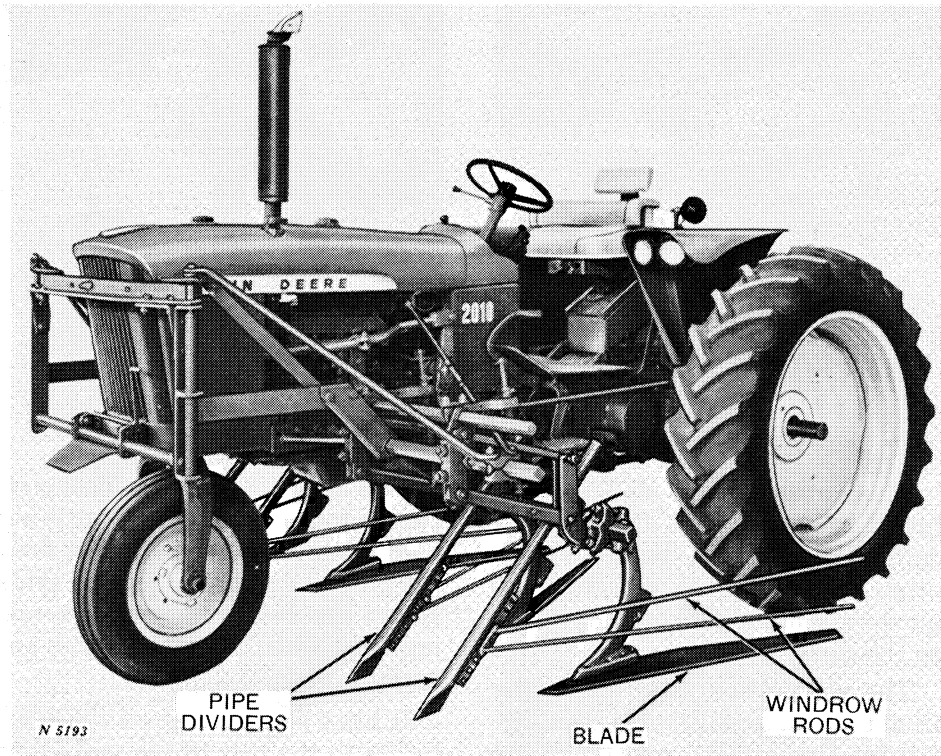
Clod breaker



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 MD312DN clamp. If used alone, the clod breaker roller should be attached to the front of the tool frame.

AB690E and AB690F Bean Harvester



AB690F Bean Harvester Attachment on 2010 Tractor

Both the AB690E two-row and the AB690F four-row Bean Harvesters can be used on the AT4-6BV Cultivator. The AB690E two-row can be used for rows spaced 18 to 42 inches apart. The AB690F four-row can be used for rows spaced from 18 to 34 inches apart.

Large blades cut the beans and the windrow rods deposit them in windrows.

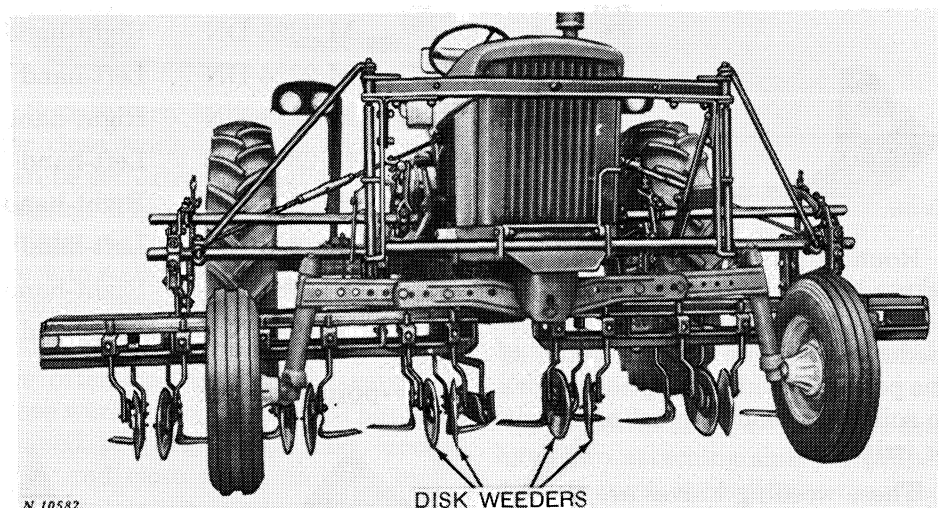
Vine Turners

The 12E one-roller, 13B two-roller, and 14C three-roller vine turners are available for use on the AT4-6BV Cultivator with the AB690E or AB690F Bean Harvester.

The vine turners separate plant growth to prevent bean vines from catching in tractor wheels.

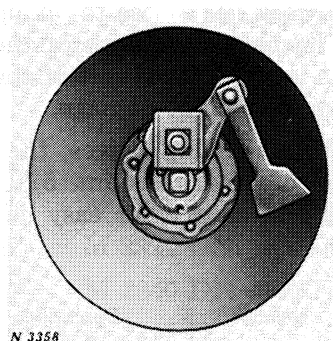
Tools and standards

Disk weeders



N 10582

Cultivator set up for six 22-inch rows



N 3358

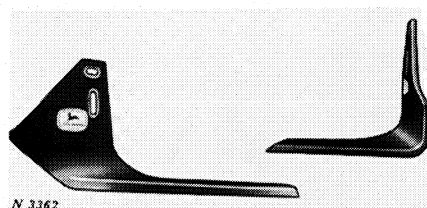
Disk weeders are available in 9- and 11-inch sizes. Both have adjustable scrapers; 11-inch disks available with anti-friction as well as plain-type hub bearings. Use one M1916DN standard and one MD312DN clamp with each weeding disk.

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
11"	AN 130086	Right-hand*
11"	AN 130087	Left-hand*

*Anti-friction bearings

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.

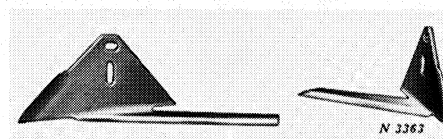
They are made of tough, durable, high-carbon 5/32-inch thick steel with a smooth surface.

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

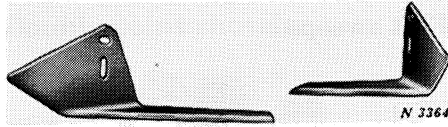
Low-point knives



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.

Size	Knife Number	Description
6"	M 2322 DN	Right-hand
6"	M 2323 DN	Left-hand
8"	Y 996 N	Right-hand
8"	Y 997 N	Left-hand

Square-turn knives

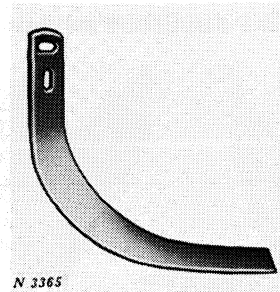
Square-turn knives are designed for close work in young crops and can be set extremely flat to prevent ridging. The upward pitch of the points makes them favorable for work in soils that tend to crust after rain or irrigation.

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

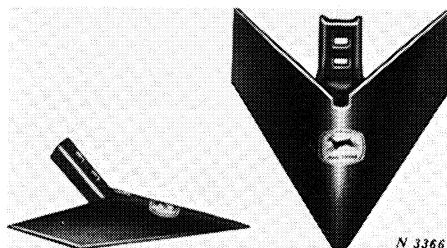
A Careful Operator

IS THE BEST INSURANCE AGAINST AN ACCIDENT

—National Safety Council

Sweeps

Extra-flat duckfoot sweeps



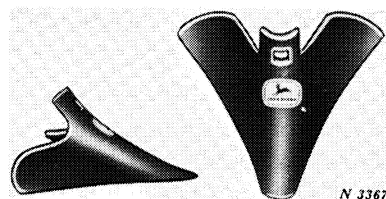
The extra-flat duckfoot sweeps are for early cultivation of crops while the plants are still in the seedling stage. Designed for high-speed cultivation, these sweeps will cut weeds while hardly disturbing the soil.

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 4-, 5-, 6-, 8-, 10-, and 12-inch sizes and are attached by one 3/8-inch carriage bolt.

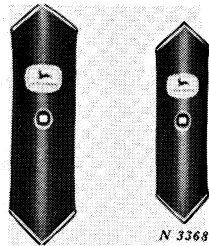
They will scour under difficult soil conditions due to their smooth finish.

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

Size	Sweep Number	Description
4"	N 61112 N	Full sweep
5"	N 61110 N	R. H. half sweep
5"	N 61111 N	L. H. half sweep
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



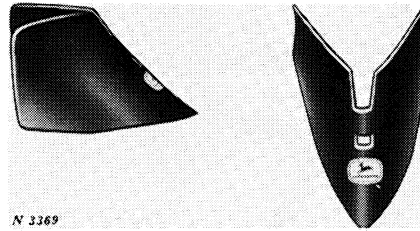
John Deere double pointed shovels are oval-shaped and pointed on both ends. Their length and shape permit either deep or shallow cultivation.

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 BN	High Carbon Steel, 1/4"
1-3/4" x 9"	Y 622 AN	High Carbon Steel, 5/32"
2-1/4" x 9"	Y 777 AN	High Carbon Steel, 5/32"

Irrigating shovels

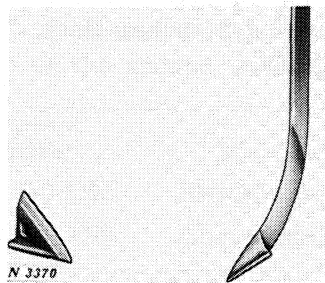


John Deere irrigating shovels are shaped for making small irrigation furrows between narrow-planted rows without throwing soil over small growing plants. These shovels are highly polished for good scouring.

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 BN	4-1/2 inches from the point to the top of the front face of the sweep.
7"	M 589 BN	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.

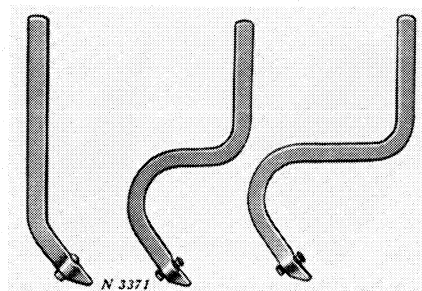
The lower part of the standard, just above the point, has a beveled edge for better penetration and less ground resistance in breaking up hard or tough soils.

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

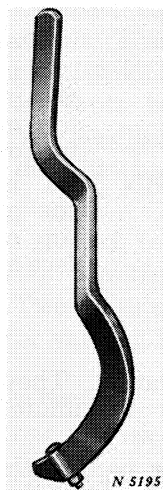
Standards

Stiff standards



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

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.

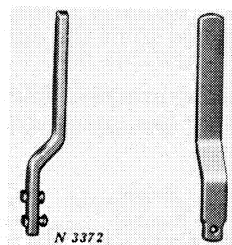


The offset center standard illustrated above attaches to the inside end of the right-hand tool frame. It then curves under the tractor to cultivate out the middle of the row.

Size	Standard Number	Description
14"	MD 687 DN	Straight standard
14"	MD 686 DN	Curved standard
14"	MD 702 DB	*Long curved standard
14"	AN 60619 N	Offset center standard

*Used for moving working tool farther to the rear.

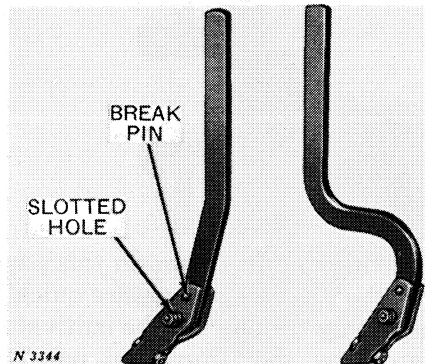
Offset standards



The offset standard illustrated on 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 ground to tool 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 inches thick. Order M1916DN.

Break pin standards



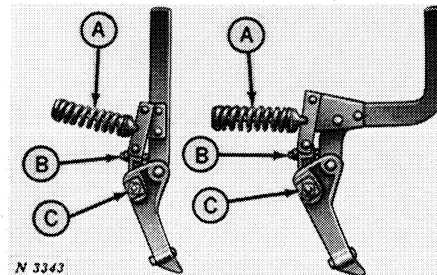
These standards feature a trip-back action for low-cost protection of the ground working tool in soils where there are relatively few chances of the tool striking obstructions. They are available in two types, straight and curved.

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



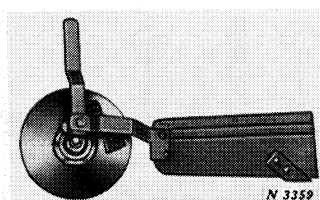
The spring-trip shanks with straight or curved standards are designed for high-speed tractor cultivation in soils where the ground working tools may frequently encounter obstructions.

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.

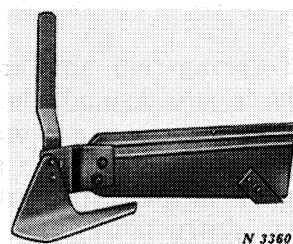
The spring tension (A), spring-trip pressure (B), and angle or suck of the tool (C), are easily and quickly adjusted to meet the soil conditions.

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

Shields



Shield for disk weeder

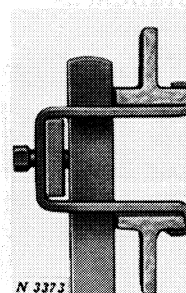


Shield for weeding knives

Two types of shields are available with this cultivator. One shield is used in conjunction with the disk weeder. The other shield is used when the cultivator is equipped with weeding knives.

Part Number	Description
MD 129 DN	Pair of shields for disk weeder
MD 130 DN	Pair of shields for weeding knives

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 5/8" by 1-1/2" standards; also used to attach the rotary hoe and clod-breaker to the tool frame.
MD 468 DN	Used for attaching 1-1/8" round shanks to the tool frame.



nobody can fill them like you can!

That's what the owner of this pair of work shoes is finding out—the hard way. Through a careless action, he has become the victim of an accident. It's a mighty tough way to find out that nobody else can wear your shoes or practice safety for you. And a needless, costly lesson to learn that safety is an everyday need.

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

Make sure you wear your "shoes" everyday. Outfit yourself with a safety program now.

As a member of the National Safety Council, we are privileged to use the Green Cross for Safety to designate not only our interest in Safety, but to emphasize and call attention to the safety precautions in this manual.



