RB1 ONE-ROW
RB2 TWO-ROW
ROW-CROP
CULTIVATORS

JOHN DEERE

OPERATORS MANUAL

RB1 ONE-ROW RB2 TWO-ROW
ROW-CROP CULTIVATORS

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TO THE PURCHASER

N 3211

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 conditions.

Your new cultivator was built to rigid manufacturing standards. Material and workmanship are the best. Precision production methods and accurately controlled heat-treating assure maximum strength and long life for every part.

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

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

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

Location References

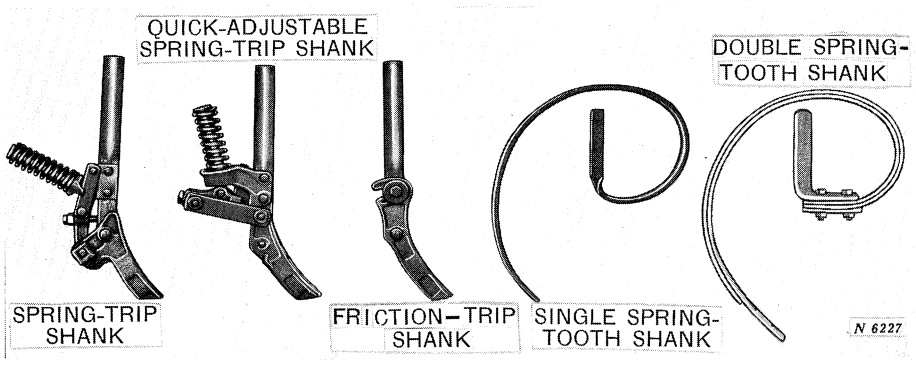
Right-hand and left-hand references are determined by standing at the rear of the cultivator and facing in the direction of travel.

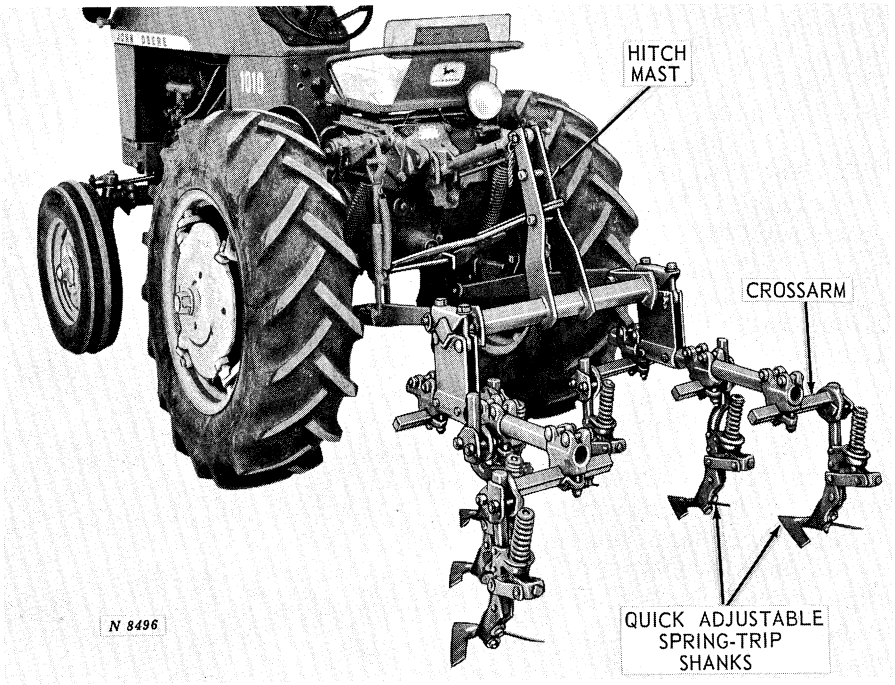
John Deere RB1 One-Row and RB2 Two-Row Rear-Mounted Cultivators

Model . . . . . .

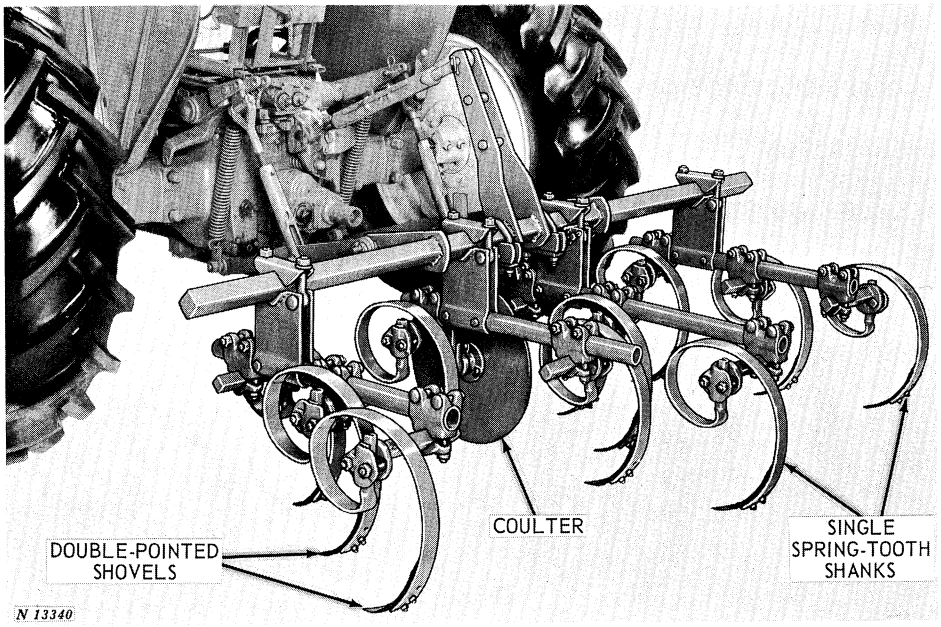
Date Purchased . . . . . .19. . . .

CONTENTS





John Deere RB1 One-Row Rear-Mounted Cultivator



John Deere RB2 Two-Row Rear-Mounted Cultivator

SPECIFICATIONS

TRACTOR

RB1 CULTIVATOR
John Deere 1010 Single Row-Crop Tractor or other comparable row-crop tractors with category 1, 3-point hitch.

RB2 CULTIVATOR
John Deere 40, 420, 430, 435, 1010, 2010 Row-Crop; 1010 Row-Crop Utility, 1020 and 2020 Row-Crop Utility and High Clearance Utility or other comparable tractor with 3-point hitch.

ROW SPACING

RB1 CULTIVATOR
36- to 50-inch rows.

RB2 CULTIVATOR
28- to 42-inch rows.

LIFT

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

BAR

Two-inch square bar.

CULTIVATOR SHANKS

RB1 CULTIVATOR
Regular Spring-Trip Shanks or Quick-Adjustable Spring-Trip Shanks with universal sweeps.

Optional Equipment (In lieu of regular sweeps)

A wide variety of sweeps and shovels - see pages 16 and 17.

RB2 CULTIVATOR
Single Spring-Tooth Shank with eleven double pointed shovels.

Optional Equipment (In lieu of single spring-tooth shanks)

Regular Spring-Trip Shanks, Quick-Adjustable Spring-Trip Shanks, Friction Trip Shanks, Double Spring-Tooth Shanks, or Heavy Duty Single Spring-Tooth Shanks. Also a wide variety of sweeps and shovels - see pages 16 and 17.

SPECIAL EQUIPMENT

RB1 AND RB2 CULTIVATORS
Disk Hillers
Weeding Knife Shanks

RB1 CULTIVATOR ONLY
Rig Mounted Shields

RB2 CULTIVATOR ONLY
No. 1 Center Attachment
No. 21 Spring-Tooth Attachment
Spread Bars
Rig Bars for vegetable cultivation
Storage Stands

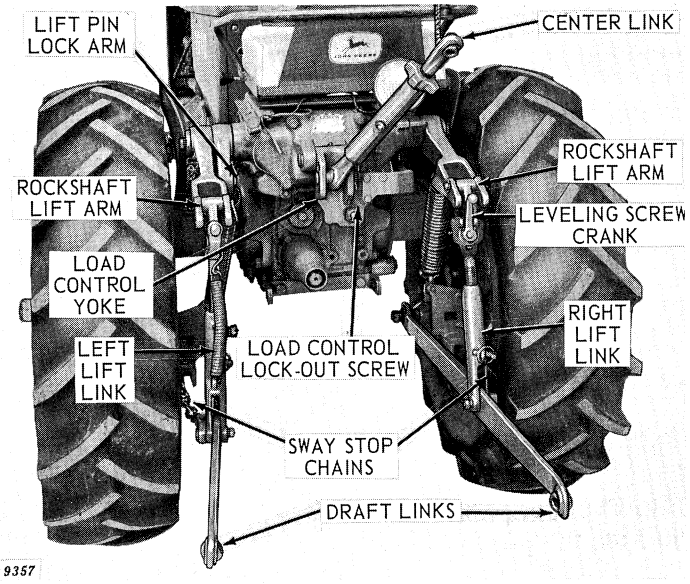
CONVERSION OF RB2 CULTIVATOR TO A TOOL BAR

Remove all rigs from the bar and use TB203 Coil Spring-Tooth Attachment (7 Spring Teeth and Y850AN Double Point Chisels).

(Specifications and design subject to change without notice.)

OPERATION

PREPARING THE TRACTOR



WHEEL SPACING

Set the tractor wheels for the row spacing desired. The proper setting of the wheels is important to do a good job of cultivating. When adjusting, the wheels must be spaced equi-distant from the center of the tractor. Refer to your tractor operator's manual for instructions on how to change the rear wheel spacing.

TIRE INFLATION

Refer to your tractor operator's manual for tractor tire inflation.

TRACTOR WEIGHTS

Front end weights are not required when using this cultivator. Refer to your tractor operator's manual for rear wheel ballast.

3-POINT HITCH AND HYDRAULIC SYSTEM

Sway blocks must be placed in the up position. See your tractor operator's manual.

On the John Deere 1020, 2010 and 2020 Tractors, move the load selector lever to the "D" (forward) position. On John Deere 40, 420, 430, and 1010 Tractors, pin the center link in the least sensitive hole in the load control yoke. Turn the load control lockout screw so the load control yoke will not operate.

Pin the upper end of the lift links to the inner holes in the rockshaft lift arms.

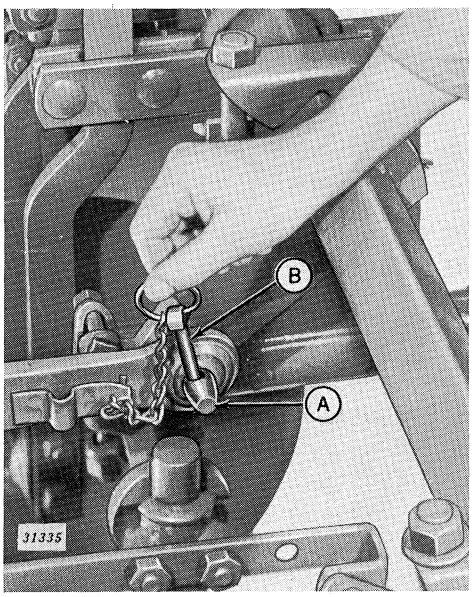
If possible, remove the tractor drawbar for crop clearance. See your tractor operator's manual.

If the tractor has a dual hydraulic system, set it for parallel lift arm operation. See your tractor operator's manual.

Use the depth stop on your hydraulic control lever quandrant to regulate the working depth of your cultivator.

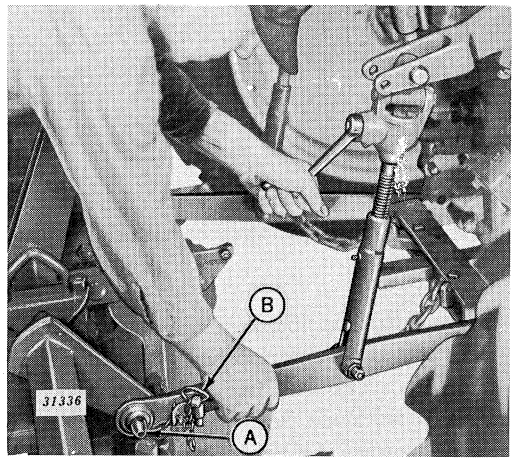
When the RB2 Cultivator is used on the 2010, 2020 Tractor or other tractor with category 2 hitch, it is necessary to install bushings on the cultivator hitch pins to accommodate the large diameter attaching holes in the draft links. Install a 3/4-inch diameter pin and adapter bushing in the center link. On John Deere 2010 and 2020 Tractors use AT12350T bushings and pin. On John Deere 530, 630, 730, 3010, 4010, and similar tractors use AF2710R hitch ball, pin and bushings. See your John Deere dealer for these adapting parts.

ATTACHING CULTIVATOR TO TRACTOR

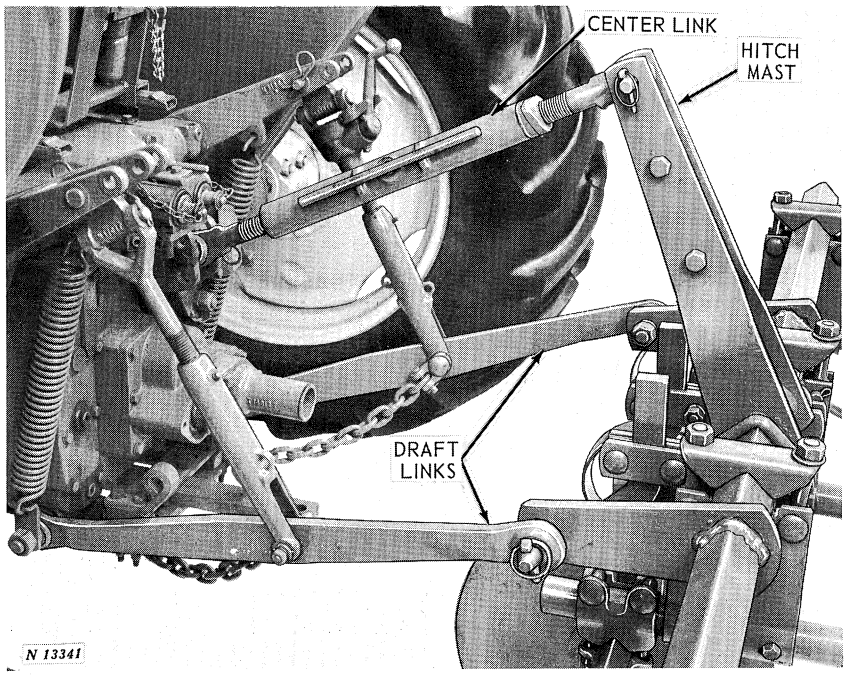


The cultivator should be standing on a level surface. Back the tractor until the draft links are approximately in line with the ends of the hitch pins.

Attach left-hand draft link first over pin "A" above, and lock with pin "B."



Attach right-hand draft link on pin "A," and lock with pin "B," above. If necessary the leveling screw can be used to line up right-hand draft link with the hitch pin.

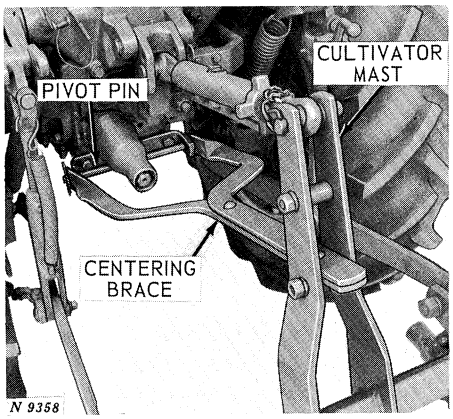


Attach center link to mast with pin and lock.

Use the turnbuckle to lengthen or shorten the center link for easy attaching. Adjust links to level cultivator as instructed on page 8.

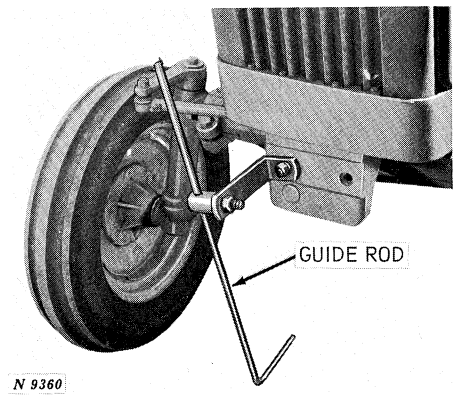
> Keeping your equipment in proper adjustment will help to keep it operating efficiently and economically.

CENTERING BRACE
RB1 Cultivator Only

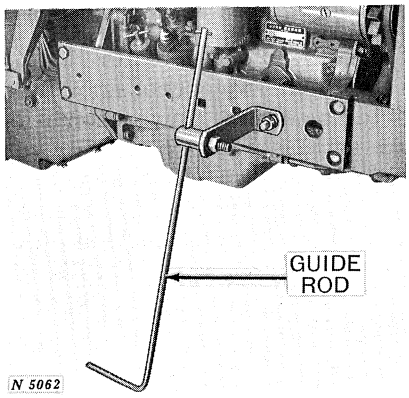


Slide the rear end of the centering brace between the two bolts in the cultivator mast and attach front end to the tractor with pivot pin. Secure with spring locking pin.

GUIDE ROD



Guide Rod for RB1 Cultivator



Guide Rod for RB2 Cultivator

Attach guide rod and bracket to tractor as shown.

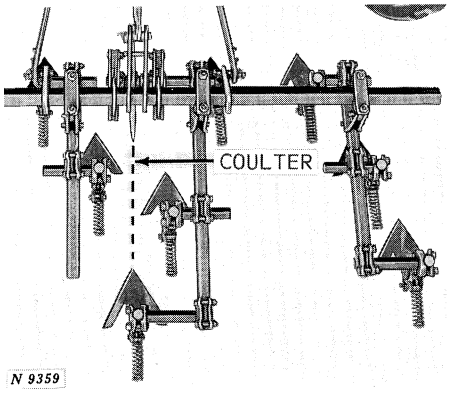
DETACHING CULTIVATOR

To detach the cultivator, lower the cultivator onto a level surface and disconnect the center link. Then disconnect right- and left-hand draft links.

Remove the centering brace, for RB1 cultivator, from tractor and cultivator mast.

Remove the guide rod from the tractor.

COULTER
RB2 Cultivator Only



The rolling coulter must be lined up so the coulter blade is directly in line with point on the rear sweep. The coulter blade should be set just deep enough to stabilize the cultivator, yet high enough so the coulter bearing will clear trash. Adjustment is made by loosening the bolts on the coulter clamps and moving shanks up or down.

ROW SPACING

On the RB2 Cultivator the row spacing can be set from 28 to 42 inches. On the RB1 Cultivator the row spacing range is from 36 to 50 inches. Row spacing is changed by moving the rig hangers in or out on the bar. See illustrations on pages 17 and 19.

NOTE: When moving hangers on the bar for different row widths be sure both sides are spaced exactly alike with relation to the mast.

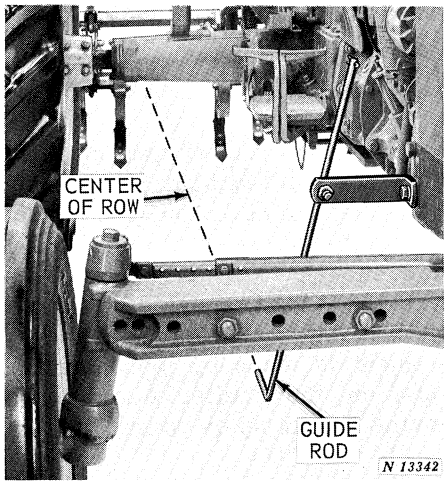
Set shovels or sweeps in or out by adjusting crossarms, to the distance desired from the row.

LEVELING CULTIVATOR

To level the cultivator fore-and-aft, adjust the center link on the tractor 3-point hitch.

To level the cultivator laterally, adjust the lift links on the 3-point hitch.

GUIDE ROD



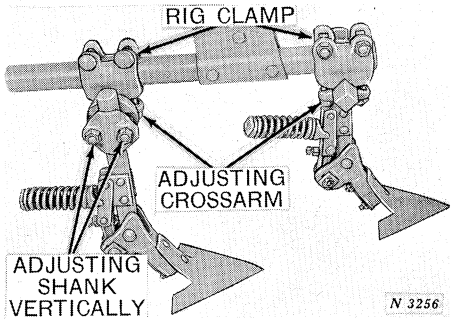
The guide rod enables the operator to keep the rear-mounted cultivator on the rows without constantly looking back at the cultivator.

For the RB2 Cultivator adjust the guide rod so the bottom of the rod runs over the center of the row next to the tractor.

The guide rod for the RB1 cultivator should center on the row directly beneath the tractor. The cultivator will stay right on the rows when the guide rod is adjusted properly, and the tractor is driven with the rod over the center of the row.

CLAMPS, SHANKS, AND CROSSARMS

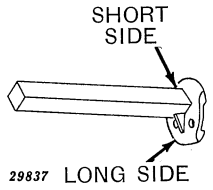
CLAMPS AND SHANKS



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

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

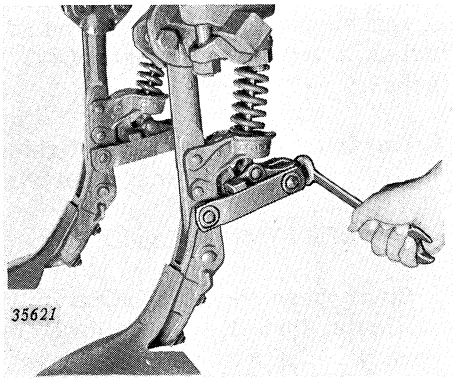
CROSSARMS



The clamp end of the crossarm is 3/4-inch longer on one side than on the other. The crossarm used with straight shanks should ordinarily be installed so that the longer side of the clamp end is down. If offset shanks are used, the crossarms should be installed in the clamp so the longer side of the clamp end is up. All crossarms can be set with the longer side up to gain more ground clearance for transporting cultivator.

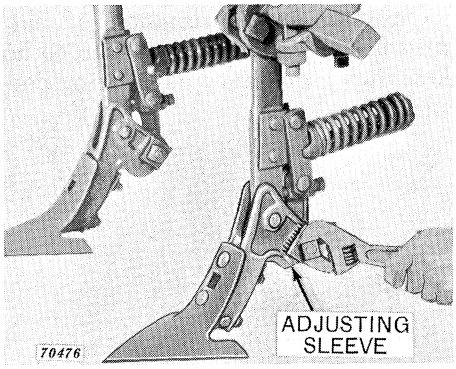
ADJUSTING TILT OF SWEEPS

SPRING-TRIP SHANKS



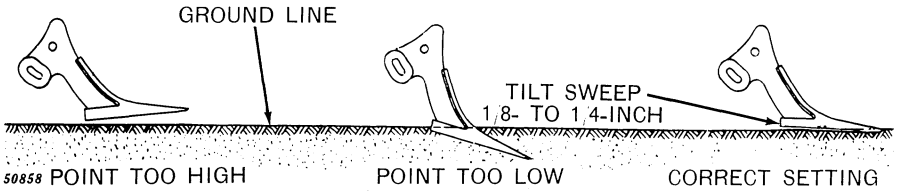
Quick-Adjustable Spring-Trip Shanks

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



Regular Spring-Trip Shanks

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

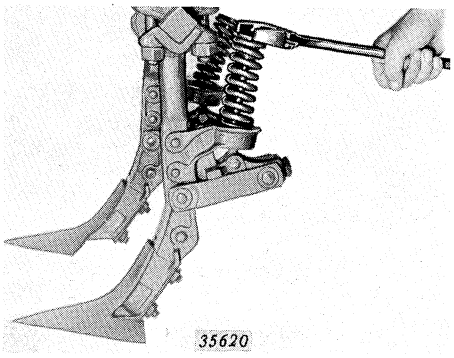


Be Careful

THE LIFE YOU SAVE MAY BE YOUR OWN...

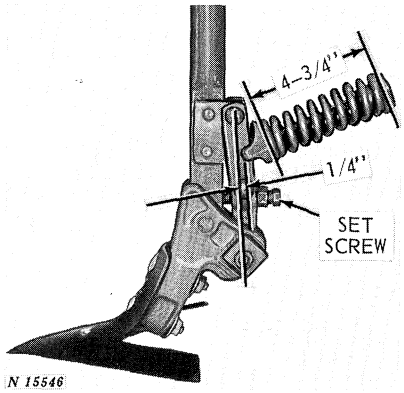
ADJUSTING SPRING TRIP

Adjust spring tension of each spring-trip shank so shanks do not trip under ordinary cultivating conditions.



Quick-Adjustable Spring-Trip Shank

On quick-adjustable spring-trip shanks, adjust tripping action by turning nut at the top of the spring.



Regular Spring-Trip Shank

On regular spring-trip shanks, adjust shanks for desired trip by turning the set screw. Turning the set screw out causes trip to hold tighter. Turning the set screw in causes trip to 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 adjusting bolt to control trip.

SAFETY SUGGESTIONS

Study these suggestions carefully and insist that they be followed by those working with you and for you.

Drive at speeds slow enough to insure your safety. Reduce speed before turning or applying individual brakes. Drive slowly over rough ground, hills and curves. Always keep tractor in gear when going down steep grades.

Wear fairly tight-fitting clothing. Loose clothing may catch in moving parts.

Always support the cultivator on stands or blocks before working under the rigs.

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.

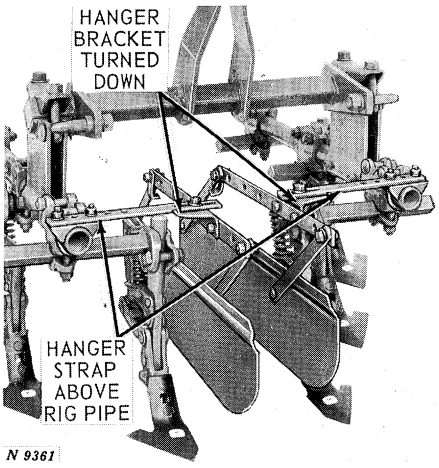
RIG-MOUNTED SHIELDS

Shields are furnished as regular equipment on the RB2 Cultivator and as special equipment on the RB1 Cultivator. The shields are assembled differently for specific types of field conditions.

SHIELD ASSEMBLY

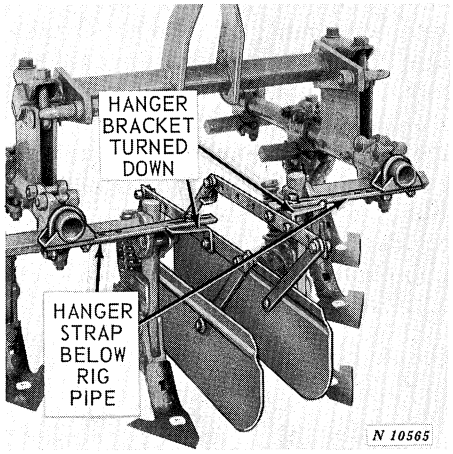
When attaching straps to rig pipes with U-bolts, use attaching holes in straps that will place shields in the best position in relation to the plants. Final adjustment can be made later using slots in inner ends of hanger straps.

Level Land



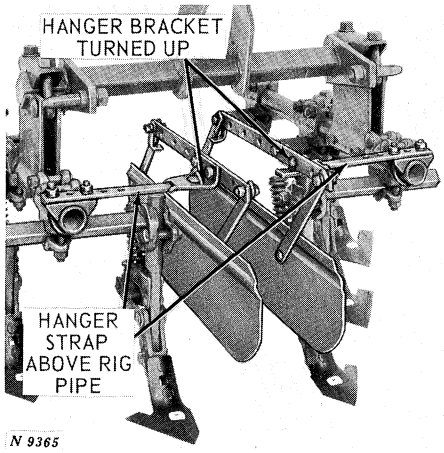
When working in crops planted on level land assemble shield as shown above, with hanger straps above rig pipes and hanger brackets turned down.

Listed Crops



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

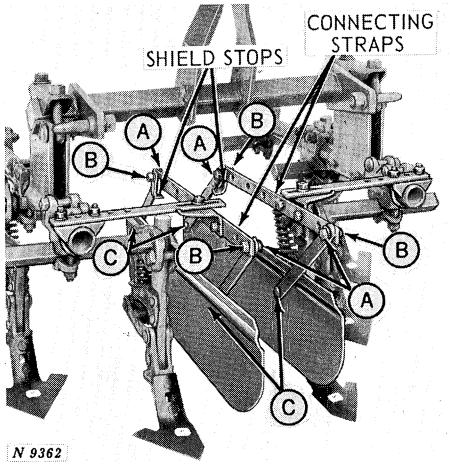
Beds



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

SHIELD ADJUSTMENT

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



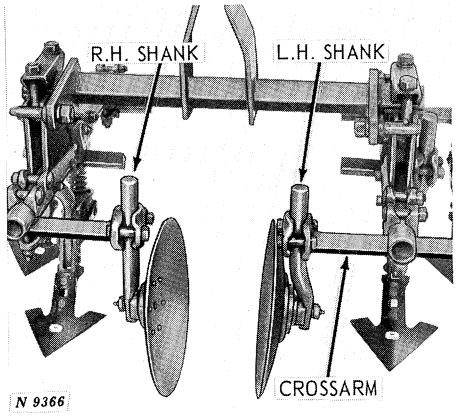
Setting Height of Shields

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

Positioning Shields to Plants

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

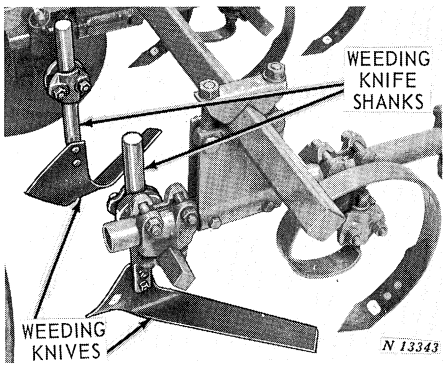
DISK HILLERS



Disk hillers can be used next to the row in place of sweeps and shanks. One pair (one right-hand and one left-hand) is required.

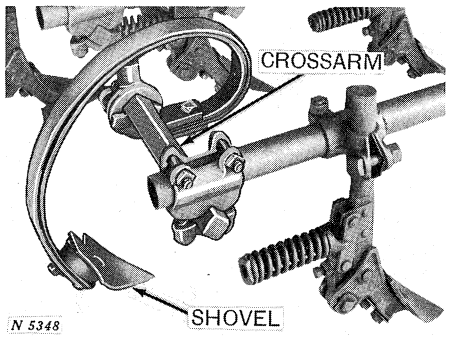
The disk hillers should be attached with the hub bearing ahead of the clamp which holds the shanks. This setting provides greater clearance and a larger range of adjustment.

WEEDING KNIFE SHANKS



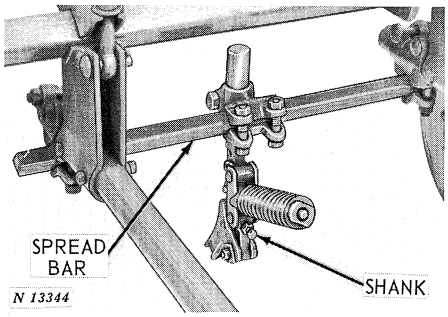
These round shanks enable you to use beet and bean weeding knives in combination with or in place of regular row-crop shank equipment. A solid, non-trip shank, the weeding knife shank should not be used where stones and stumps are encountered.

NO. 1 CENTER ATTACHMENT
RB2 Cultivator Only



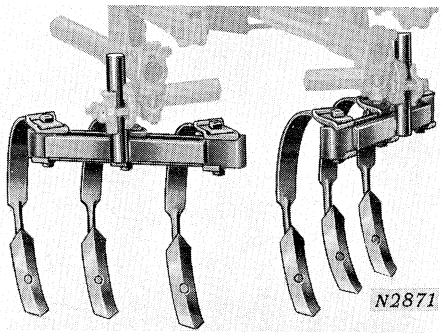
The No. 1 Center Attachment is available for converting the row-type cultivator to a field-type for use in open fields. This attachment is clamped to the pipe of the outside rigs back of the second shovel. The crossarm is adjustable and should be positioned so the shovel of the center attachment cuts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

SPREAD BAR



The spread bars can be used on the cultivator in combination with planting attachments. A furrow-opener or other type of tool can be bolted to the shank to open a furrow ahead of the planting attachment.

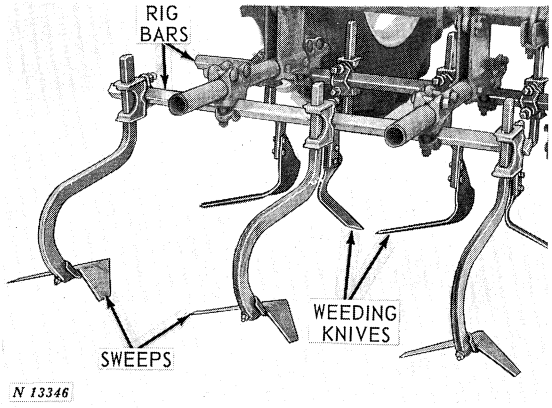
NO. 21 SPRING-TOOTH ATTACHMENT
RB2 Cultivator Only



The No. 21 spring-tooth attachment is designed for use in southern soils.

This attachment consists of right and left-hand combinations of spring-tooth shanks and narrow shovels.

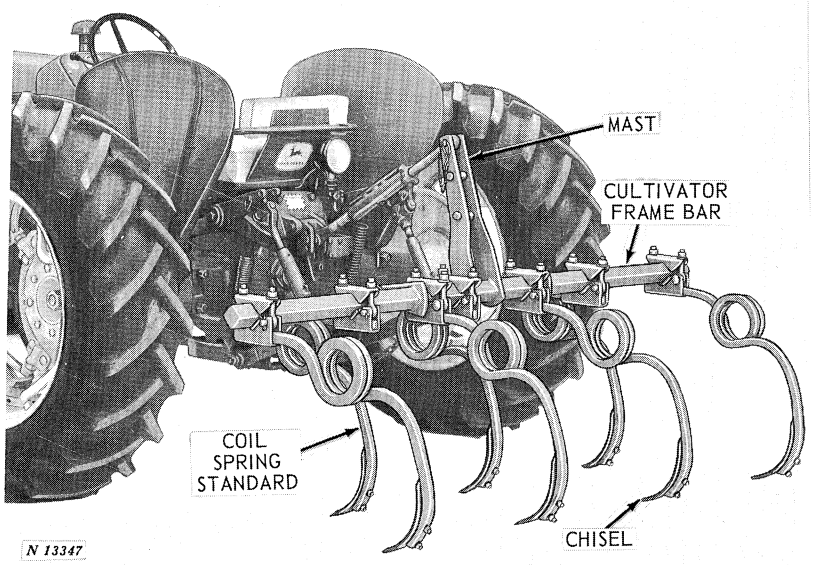
RIG BARS FOR VEGETABLE CULTIVATION



Square rig bars can be attached to the rig clamps on the RB2 Cultivator in place of the regular cross-arms and shanks to convert the cultivator for vegetable cultivation.

A variety of shanks and standards - with weeding knives, sweeps, and shovels - are available for vegetable cultivation. See your John Deere dealer.

RB2 CULTIVATOR TOOL BAR CONVERSION



The RB2 Cultivator may be converted for use as a tool bar by removing all the rigs from the frame bar and attaching the TB203 Coil Spring-Tooth Attachment.

This attachment consists of 7 coil-spring standards with clamps and 7 double-pointed chisels.

MAINTENANCE SUGGESTIONS

SHOVELS AND SWEEPS

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

SHARPENING SHOVELS AND SWEEPS

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

RIGS

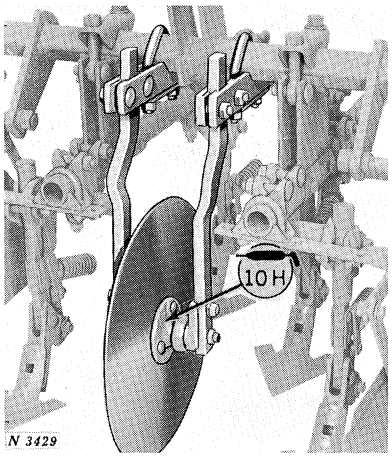
Rigs should never be allowed to become loose because of wear. They can easily and quickly be tightened. Keep all nuts tight and cotter pins spread.

KEEP YOUR CULTIVATOR A JOHN DEERE CULTIVATOR

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

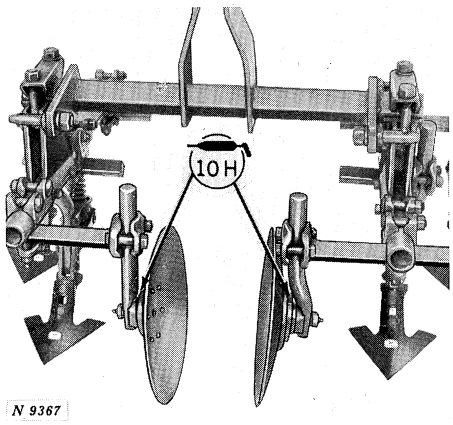
LUBRICATION

RB2 CULTIVATOR COULTER



If cultivator is equipped with anti-friction rolling coulters, lubricate coulter hub bearings once at the beginning of each season. Fill and flush bearings with lubricant at the end of each season to prevent moisture accumulation.

DISK HILLERS

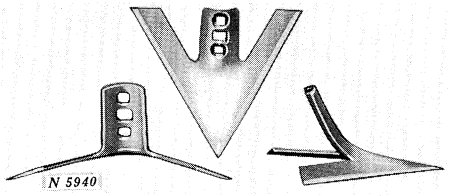


Symbol	
10H	Lubricate every 10 hours with SAE multipurpose-type grease.

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

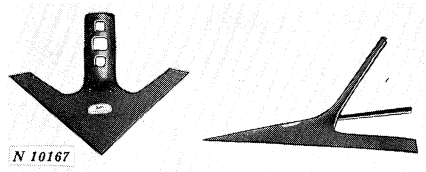


The Universal Sweeps are designed for high speed cultivation. They are highly polished and will scour in all types of soil conditions.

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.

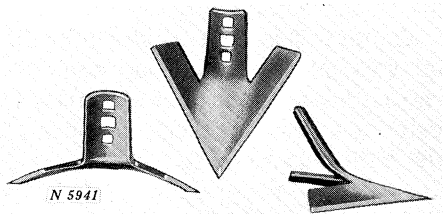
PEANUT SWEEPS



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.

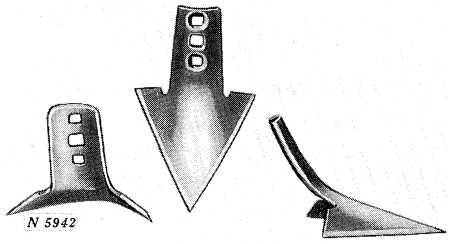
MIXED-LAND SWEEPS



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.

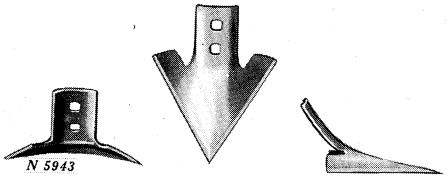
BLACKLAND SWEEPS



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.

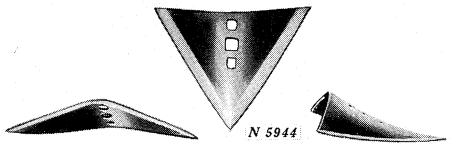
The Blackland Sweep is long and narrow with a high crown and an unusually high-wing angle which provides quick cleaning and scouring.

GENERAL-PURPOSE SWEEP



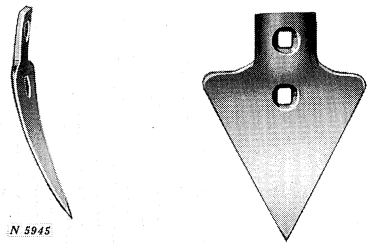
The General-Purpose Sweep is designed especially for use with a single spring-tooth standard on row-crop cultivators.

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.

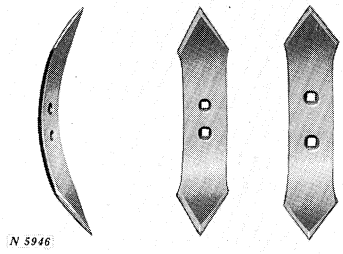
SINGLE-POINTED SHOVELS (Spear Points)



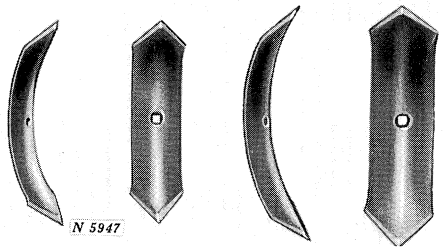
The Single-Pointed Shovels or Spear Points are particularly suitable for working in conditions where extreme care must be taken not to injure plants. These shovels are ideal for killing weeds and do an excellent job of cultivating in row-crops.

DOUBLE-POINTED SHOVELS

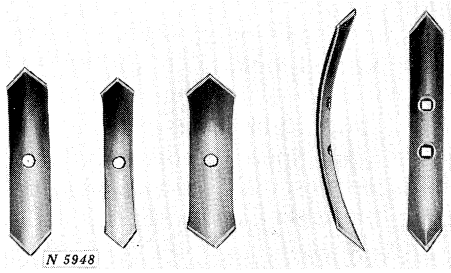
The Double-Pointed Shovels are strong and sturdy to withstand the most severe cultivating conditions; they're ideal for use where it's necessary to cultivate deep to stir up more ground. These shovels are also used to loosen the soil compacted by tractor wheels.



These shovels are available for single spring-tooth standards.



These shovels are used with open sleeve shanks.

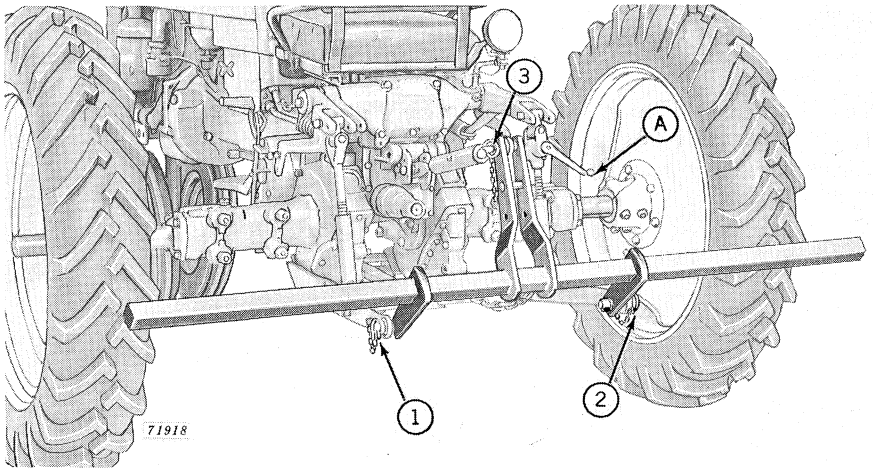


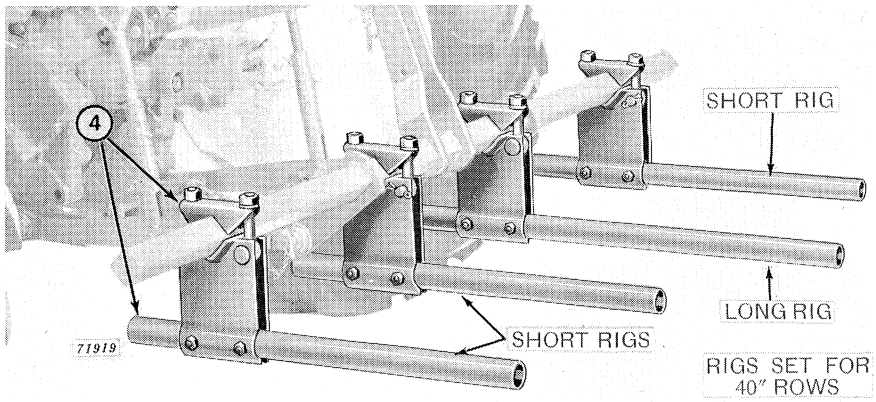
These shovels are used for heavy duty cultivating.

ASSEMBLY

RB2 CULTIVATOR

BAR AND RIGS



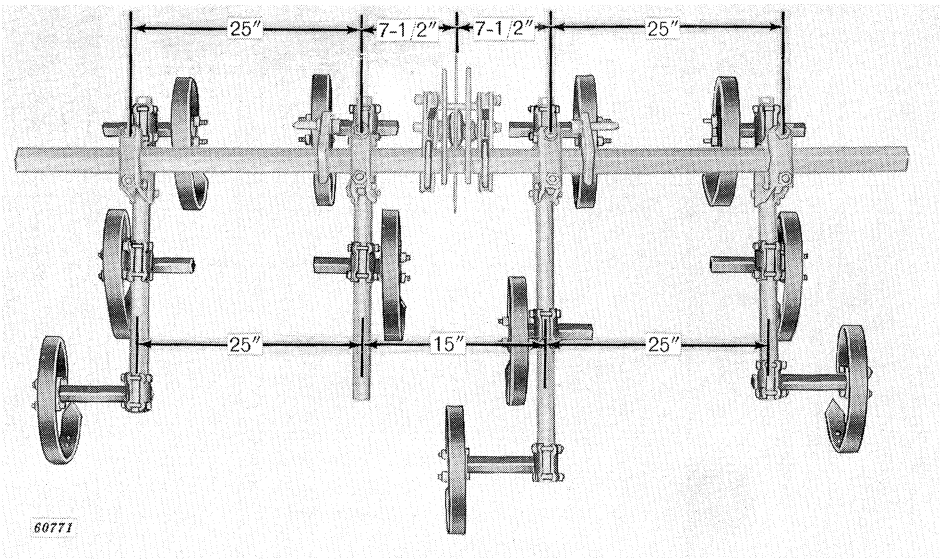


1. Attach left draft link first and insert pin and lock.

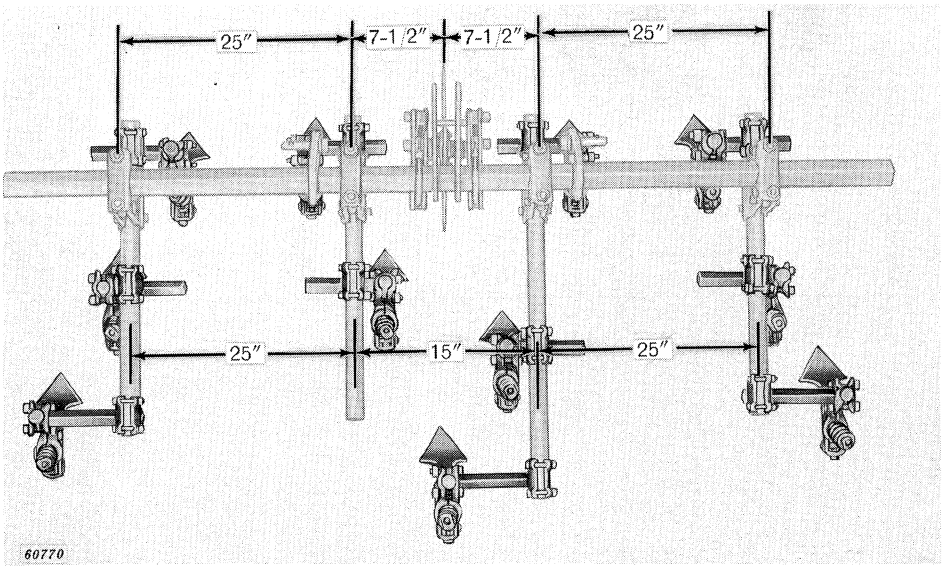
2. Attach right draft link and insert pin and lock. If necessary the leveling screw "A," can be used to line up the right-hand draft link with the draft pin.

3. Attach mast of bar to upper link of tractor with pin.

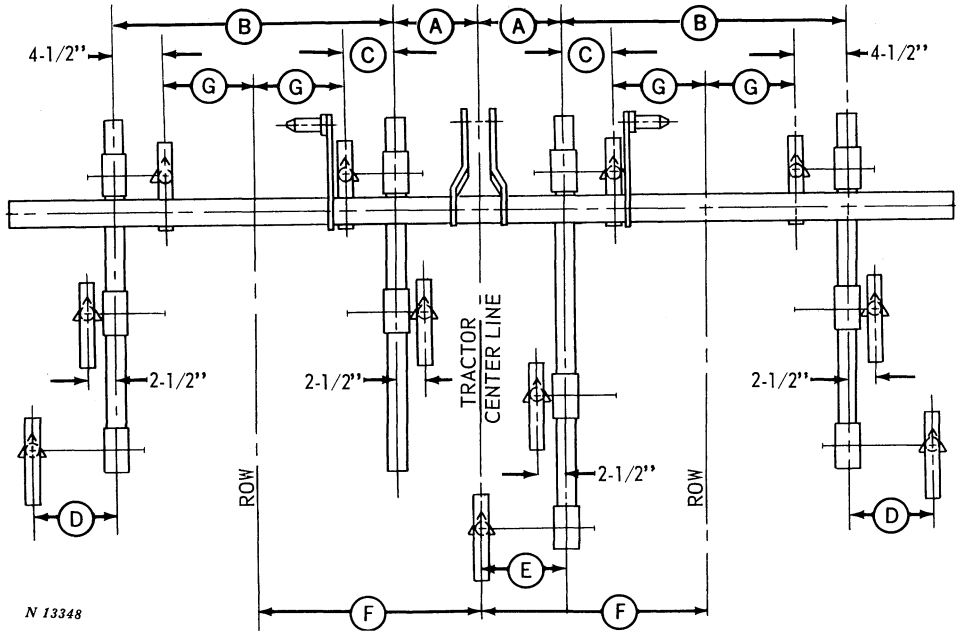
4. Attach the rigs to the frame bar as shown above. See overhead views on page 19 and row spacing diagram on page 20 for proper rig position. Make sure the long rig is attached in the proper position.



John Deere RB2 Cultivator Equipped with Single Spring-Tooth Shanks Spaced for 40-Inch Rows



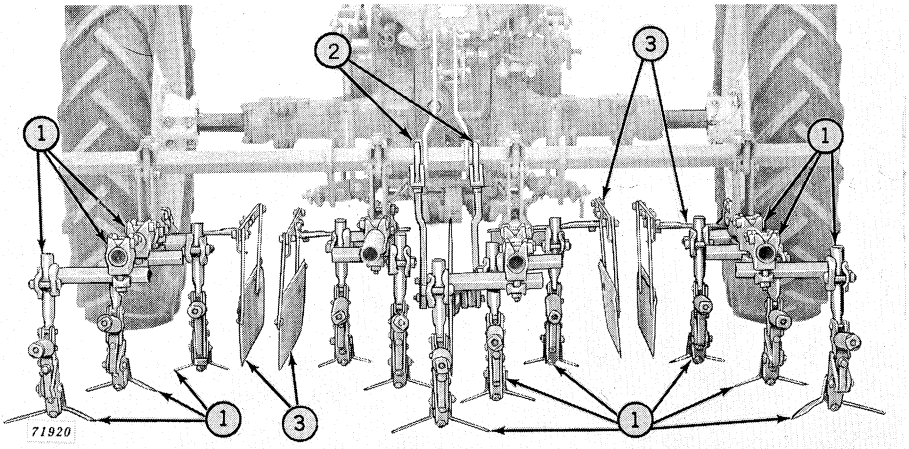
John Deere RB2 Cultivator Equipped with Quik-Adjustable Spring-Trip Shanks Spaced for 40-Inch Rows



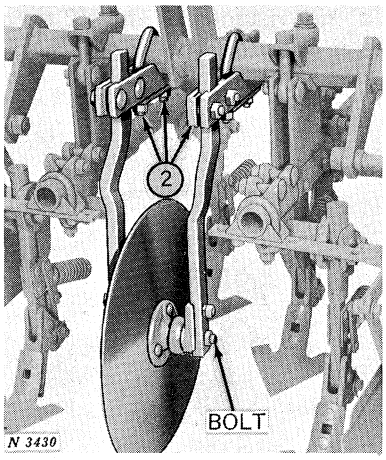
Dimensions in Inches								
Location	28-Inch Rows	30-Inch Rows	32-Inch Rows	34-Inch Rows	36-Inch Rows	38-Inch Rows	40-Inch Rows	42-Inch Rows
A	6-1/2	6-1/2	6-1/2	6-1/2	6-1/2	6-1/2	7-1/2	8-1/2
B	17	18	19	23	24	25	25	25
C	2-1/2	3-1/2	4-1/2	2-1/2	3-1/2	4-1/2	4-1/2	4-1/2
D	4-1/2	5-1/2	6-1/2	4-1/2	5-1/2	6-1/2	7-1/2	8-1/2
E	6-1/2	6-1/2	6-1/2	6-1/2	6-1/2	6-1/2	7-1/2	8-1/2
F	14	15	16	17	18	19	20	21
G	5	5	5	8	8	8	8	8

Row Spacings - RB2 Cultivator

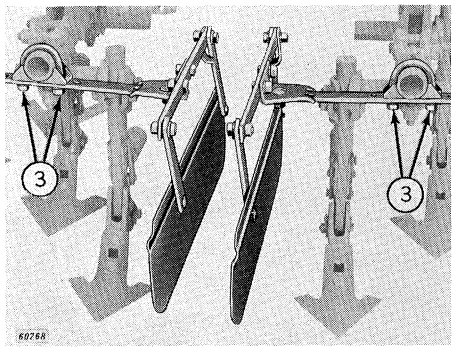
SHANKS, SWEEPS, COULTER AND SHIELDS



1. Attach shanks and sweeps to the rig pipes, see illustrations on pages 19 and 20.



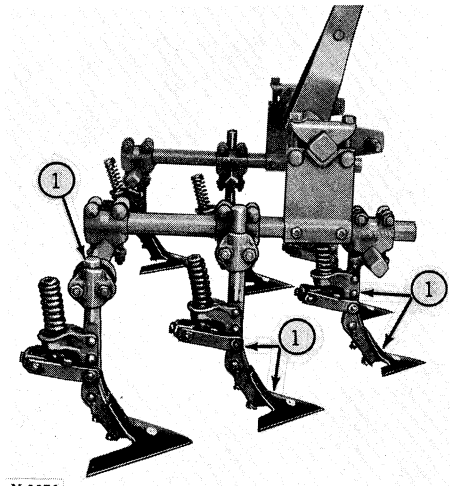
2. Attach the coulter to the cultivator tool bar. Make sure the bolt through the coulter hub is not set too tight. Although the coulter should not wobble it must rotate freely.



3. Attach the shields to the rig pipes. See pages 11 and 12 for the correct operating position.

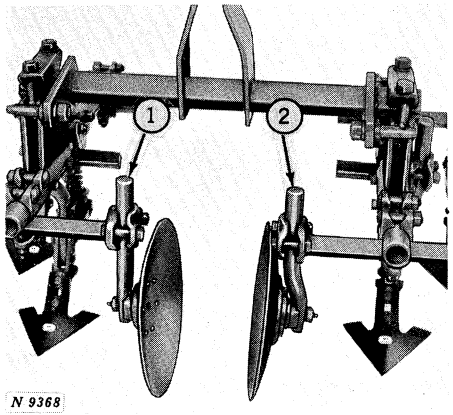
RB1 CULTIVATOR

SHANKS AND SWEEPS



1. Attach shanks and sweeps to the rig pipes. See illustrations on page 23.

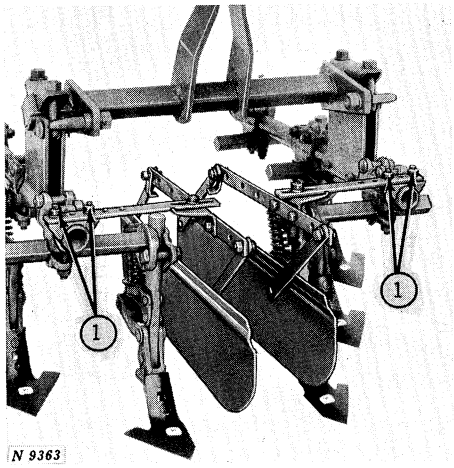
DISK HILLERS



1. Attach the right-hand disk hiller to the front crossarm, in place of shank, with the hub bearing ahead of the clamp holding the shank.

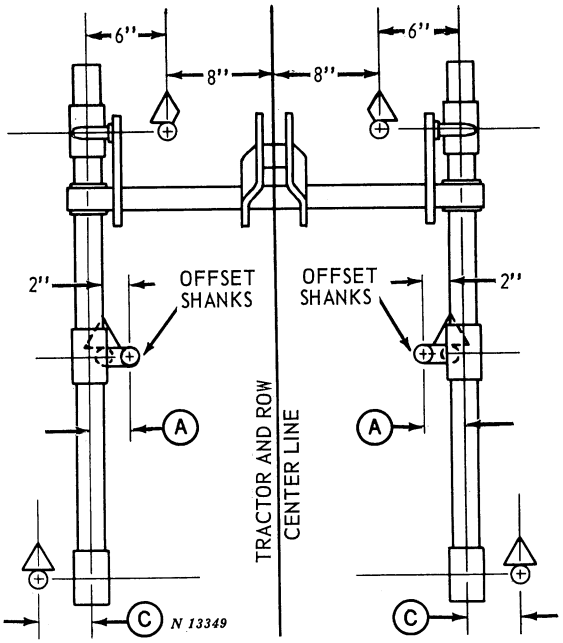
2. Attach the left-hand disk hiller to the front crossarm.

SHIELDS



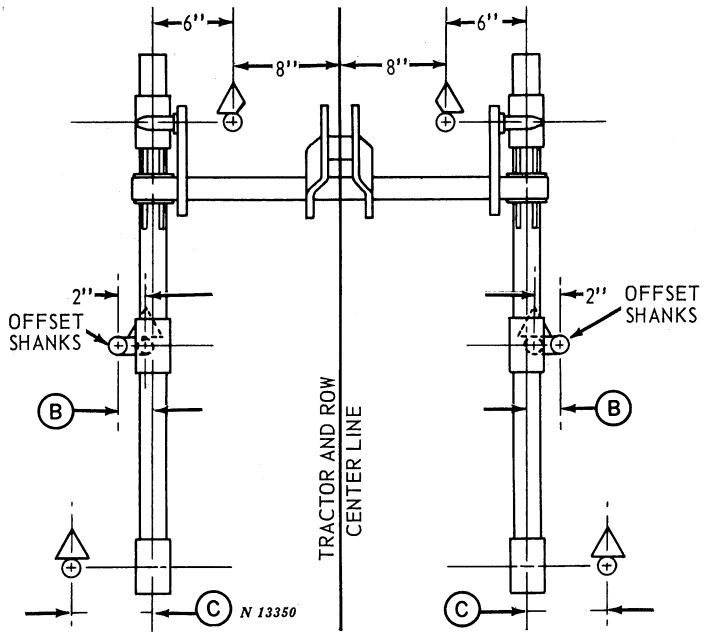
1. Attach the shields to the rig pipes. See pages 11 and 12 for the correct operating position.

Never Attempt to Clean, Oil or Adjust a Machine While it is in Motion.



RB1 Cultivator Spaced for 36 and 38-Inch Rows

Dimensions in Inches			
Row	Location on Diagram		
	A	B	C
36	3	-	4
38	2-1/2	-	5
40	-	2-1/2	6
42	-	2-1/2	7
44	-	3	8
46	-	3-1/2	9
48	-	4	10
50	-	4-1/2	11



RB1 Cultivator Spaced for 40 to 50-Inch Rows

MEMORANDA

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.