

494AN AND 694AN CORN PLANTERS



JOHN DEERE

OPERATORS MANUAL

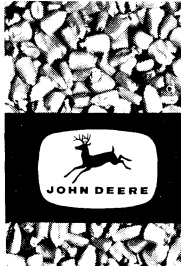
494AN AND 694AN
CORN PLANTERS

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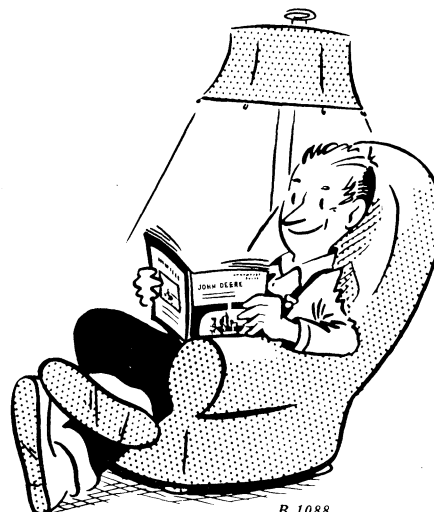
TO THE PURCHASER

Your new planter is sturdy and dependable. It will give long and efficient service if given proper care and operation.

This operator's manual is provided to furnish information on the proper operation, adjustment, maintenance, and lubrication of the planter.

When in need of parts, see your John Deere dealer. He will furnish genuine John Deere Parts and prompt and efficient service in the field or in the shop.

Right-hand and left-hand reference is determined by standing at the rear of the planter and facing the direction of travel.



B 1088

Study this manual carefully. Keep it handy, in a safe place, for future reference.

494AN OR 694AN CORN PLANTER

Check off model of your planter, special equipment obtained, and record date purchased.

Model:

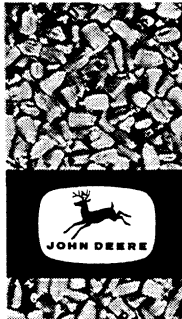
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|--------------------------------------|--------------------------|
| 494AN — With disk openers. | ☐ |
| 494AN — With runner openers. | ☐ |
| 694AN — With disk openers. | ☐ |
| 694AN — With runner openers. | ☐ |

Fertilizer Attachments:

- | | |
|-----------------------------------|--------------------------|
| Dry | ☐ |
| Liquid | ☐ |
| Gauge Shoes | ☐ |
| Trash Kickers | ☐ |
| Press Wheel Scrapers | ☐ |
| Press Wheel Bands. | ☐ |
| Rubber Press Wheel Tires. | ☐ |
| Row Leveling Blades. | ☐ |
| Compaction Seed Runner | ☐ |

- | | |
|---|--------------------------|
| Four Carrying Wheels | ☐ |
| 9-Inch Double Disk Furrowers and Covering Knives. | ☐ |
| 8-Inch Disk Coverers. | ☐ |
| Seed Packer Wheels. | ☐ |
| Minimum Tillage Attachment. | ☐ |
| Pea and Bean Attachment | ☐ |
| Insecticide Attachment. | ☐ |
| Granular Herbicide Attachment | ☐ |
| 14-Inch Double Disk Openers (Anti-friction bearing) | ☐ |

Date Purchased. _____



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SPECIFICATIONS

TYPE—

Drill Corn Planter.

6-Row - 28- or 30-inch row spacing.

4-Row - 38- or 40-inch row spacing.

OPENERS—

Runner openers - optional.

Disk openers - optional.

14-inch double disk openers with anti-friction bearings - optional.

ROW SPACING—

28-, 30-, 38-, or 40-inch rows.

TYPE OF LIFT—

Remote hydraulic cylinder.

TYPE OF DRIVE—

Sprocket and chain from ground wheels.

SEED HOPPERS—

1-1/5 bushel capacity, with seed gauges.

PRESS WHEELS—

18-inch press wheels that can be equipped with scrapers and/or press wheel bands, semi-pneumatic press wheel tires, or tractor tread press wheel tires.

MARKERS—

Disk type—automatically raise and lower when the planter is raised or lowered.

OVER-ALL TRANSPORT WIDTH—

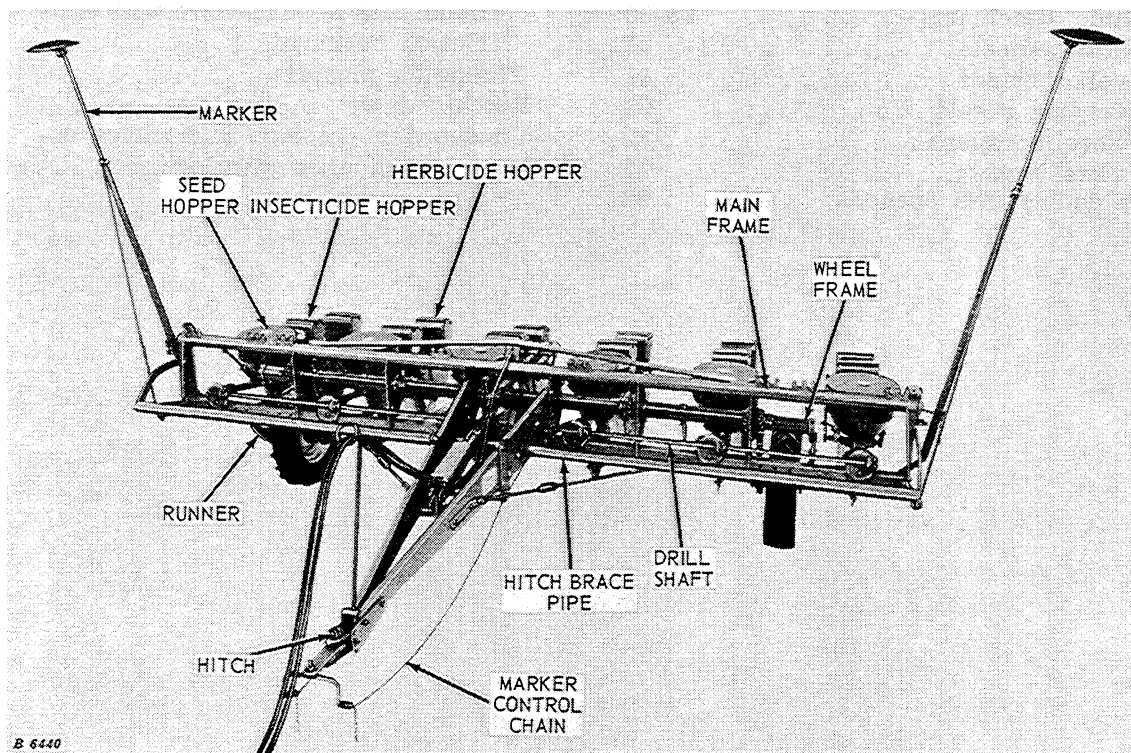
Approximately 15 feet 6 inches.

PLANTING UNITS—

Each unit individually mounted for maximum flexibility.

PLANTING DEPTH—

Controlled by press wheel on each planting unit.



DRY FERTILIZER ATTACHMENT—

Auger feed.
Capacity - approximately 1350 pounds.
Openers - runner or double disk.

LIQUID FERTILIZER ATTACHMENT—

Gravity feed.
Capacity - approximately 1600 pounds (160 Gal.).
Openers - runner or double disk.

PEA AND BEAN ATTACHMENT—

Available for planting peas or beans in the row with the corn.

GAUGE SHOE ATTACHMENT—

7-1/2-inch gauge shoes are available for loose ground conditions.

DOUBLE DISK FURROWING ATTACHMENT—

9-inch furrower available for planting the seed in shallow furrows.

COVERERS—

Knife or disk coverers are available for more positive seed coverage.

ROW LEVELING BLADES—

Spring controlled blades which mix either granular or sprayed herbicide in the soil from the surface to a depth of approximately 1/2 inch, depending on soil types and conditions. It is advisable to use covering disks or covering knives with the levelers to insure adequate loose soil in the banded herbicide area.

COMPACTION SEED RUNNER—

Will make a wider seed trench which results in a more uniform planting depth and a more uniform germination.

NO. 9A, 11, AND 12 COMBINATION HITCHES—

The purpose of the No. 9A, 11, and 12 Combination Hitches is to combine the tillage and planting operation.

FOUR CARRYING WHEELS—

The four carrying wheels are available for use in soil conditions where it is desirable to have more flotation when planting.

INSECTICIDE ATTACHMENT—

Will apply insecticide in the row with the seed at the time of planting.

TRASH KICKER—

Will push aside small stones and trash ahead of the runner.

GRANULAR HERBICIDE ATTACHMENT—

Available for applying granular herbicide over the row at the time of planting.

SEED PACKER WHEEL—

Will press the seed against the moist soil in the bottom of the furrow.

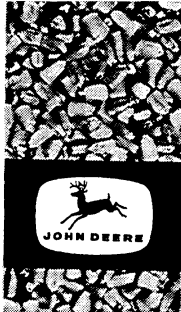
MINIMUM TILLAGE ATTACHMENT—

This attachment decreases tillage operations prior to planting. It smooths out the seed bed and assures a more uniform planting depth. Covering knives or disk coverers are recommended to be used in conjunction with the minimum tillage attachment.

PRE-EMERGENCE SPRAYER—

Will apply liquid herbicide over the row at the time of planting. The 22 or 25A Sprayer may be used for pre-emergence spraying.

(Specifications and design subject to change without notice.)



OPERATION

PREPARING THE TRACTOR

The tractor must be equipped with an 8-inch stroke remote hydraulic cylinder that conforms to ASAE-SAE standards.

On tractors with an adjustable drawbar, place the drawbar approximately 15 inches from the ground and bolt it in the center of the tractor.

If possible, set the tractor rear wheels 60 inches, center to center of tread and equal distance from center line of tractor. The planter ground wheels will then run in tracks left by the rear wheels of the tractor. If this cannot be done it is best to adjust the tractor rear wheels so the planter wheels run entirely out of the tractor wheel tracks.

PREPARING THE PLANTER

LUBRICATION

Consult the lubrication charts on pages 36-38 for guidance in lubricating your planter.

Regular and systematic lubrication is the best assurance against breakdowns and delays. It will help you get better service from your corn planter and save on your maintenance costs.

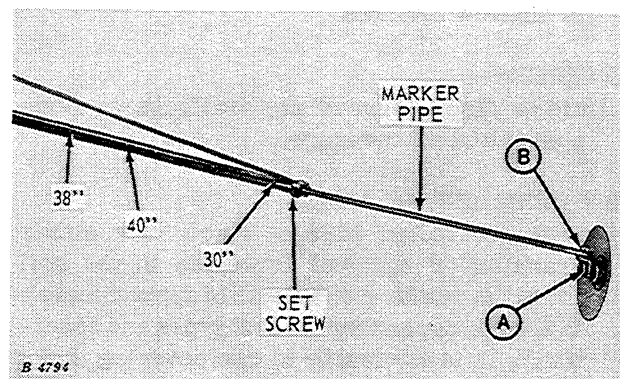
TIRE INFLATION

Inflate the planter 6.70 x 15 traction-type tires to 24 psi of air pressure.

ROW WIDTHS

The planter is a 30-inch row width drill type corn planter. It may also be used to plant six 28-inch rows or four 38- or 40-inch rows.

MARKER ADJUSTMENT



The markers are adjustable for 30-, 38-, or 40-inch row widths.

The marker illustrated is set for 30-inch row widths. To change the markers for other row widths loosen the set screws so marker pipes will slide. Set the inside end of each marker pipe to line up with the center of the hole in the marker arm, for desired row width. Turn each marker pipe so bracket "A" is in position illustrated. Tighten the set screws securely to hold markers in position. The angle of each marker disk may be adjusted for various soil conditions by loosening bolt "B" and turning the disk. After adjustment is made tighten bolt "B" securely.

SEED PLATES

The selection of the seed plates is one of the most important steps in preparing the planter for the field.

There is a great variety of John Deere seed plates available in various cell sizes and number of cells.

Growing conditions change from year to year, and the size of the seed will also vary. Therefore, it is quite likely that different seed plates are required to plant the same variety of seed from year to year.

There are two ways to select seed plates. One way is to follow the recommendations of the seed supplier, if available. The other way is to take a sample of the seed to be planted to a John Deere dealer and let him run the seed through his John Deere seed plate selector stand.

In either case the accuracy of the seed plate selected should be checked when installed in your planter and operated at the planting speed you intend to travel. The best check is to plant a short distance, at the desired planting speed, and then stop and dig up the hills of corn to determine the actual planting rate.

The planting speed is very important in determining which seed plate to use. The planting rate is determined by the cell fill of the seed plate. The faster the planter is operated the faster the seed plate revolves. Therefore at faster planting speeds it may be necessary to use seed plates with slightly longer cell length to obtain the proper cell fill for the planting rate that is desired.

A 24-cell seed plate revolves at a slower rpm than a 16-cell seed plate, the result being better cell fill at the same planting speed. It is therefore recommended that a 24-cell seed plate be used in all cases when available for drill planting.

NOTE: Due to the fact that a 24-cell seed plate revolves at a slower rpm than a 16-cell seed plate, a 24-cell seed plate will plant at a heavier rate than a 16-cell seed plate with the same cell size at a given drilling distance and planting speed. The recommended planting speeds on page 12 take this into consideration for both 16- and 24-cell plates.

The following is a list of the most popular corn plates available with 16 and 24 cells.

Plates for Flat Kernels of Corn		
16-Cell	24-Cell	Kind of Corn
H697B	H2571B	Extra small corn
H694B	H1302B	Small corn
H1572B	H2711B	Small slender corn
H695B	H950B	Medium corn
H2156B	H2594B	Long thick corn
H696B	H2836B	Large corn
H2504B	H2848B	Medium flat slurry treated corn
H2503B	H2847B	Large flat slurry treated corn
B12498B		Extra large flat slurry treated corn
Plates for Round Kernels of Corn		
16-Cell	24-Cell	Kind of Corn
H2295B		Extra small round corn
H2043B	H2824B	Small round corn
H1933B	B10853B	Medium round corn
H2044B	H2712B	Large round corn
H2820B		Extra large round corn.

6 Operation

The following is a list of the soybean plates and the edible bean plates:

Plates for Soybeans		
20-Cell		
H 1255 B		
H 2527 B	(Use with H1279B Floor Plate)	

Plates for Edible Beans		
16-Cell	20-Cell	24-Cell
H 1324 B	H 1300 B	H 1301 B
H 1071 B	H 954 B	H 983 B
H 956 B	H 1315 B	
.....	H 1258 B	
.....	H 1254 B	
.....	H 1255 B	
.....	H 1084 B	

It pays to be careful for your own sake!
Accidents can . . .

Pain

Lame

Maim

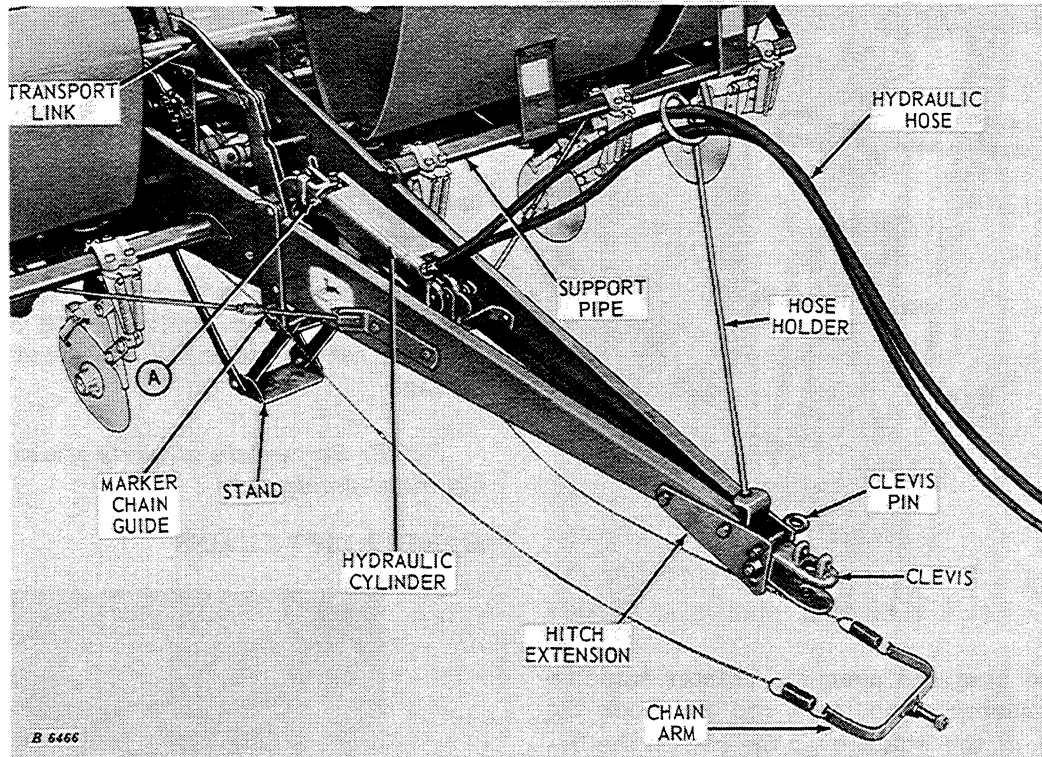
and cost you money!

The following is a partial list of seed plates which require a special false ring or floor plate, or the regular floor plate turned over:

Seed Plate No.	No. of Cells	Kind of Seed
uH 779B	16	Popcorn
uH 780B	16	Medium country gentleman sweet corn
uH 961B	16	Spanish corn and small popcorn
uH 963B	16	Large country gentleman sweet corn
uH 964B	16	Small sweet corn, small sunflower seed
uH1238B	16	Medium shoe peg corn
uH1239B	16	Medium sweet corn, large sunflower seed
uH1240B	16	Extra small country gentleman tapered sweet corn
kH1262B	16	Cantaloupes and cucumbers
oH1263B	16	Beet seed (thin plate)
oH1316B	16	Extra small round corn
sH1322B	16	Extra, extra small corn
sH1345B	16	Small round corn
sH1352B	16	Extra small narrow corn
nH1353B	16	Tomato seed (machined plate)
uH2505B	16	Popcorn
uH2671B	16	Popcorn
uH2709B	16	Popcorn
nB27768	16	Maize and grain sorghum
uH 781B	20	Popcorn
pH2527B	20	Soybeans—heavy planting
sH2672B	24	Maize and grain sorghum
uB27783	24	Maize and grain sorghum
nH1256B	25	Onion seed (machined)
nB27769	32	Maize and grain sorghum
uN2469	54	Maize and grain sorghum
uH 776B	...	Blankplate 5/32" thick (holes can be drilled up to 1/4")
kH1211B	...	Blankplate 5/32" thick (cells can be filed in edge)
nH1259B	...	Blank plate 5/32" thick (machined)

- k Use with Y3313B False Ring
- n Use with AH306B Floor Plate and Y5055B False Ring
- o Use with H1264B Floor Plate
- p Use with H1279B Floor Plate
- s Use with H1323B Floor Plate
- u Use with Y2630B False Ring or H1346B Floor Plate

HITCHING

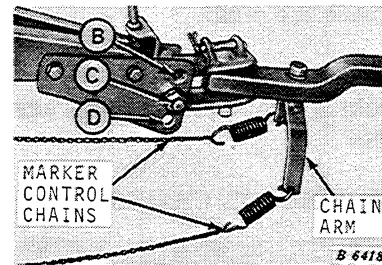


With the planter resting on the stand, back the tractor to the planter so the planter hitch is straight in line with the tractor drawbar. Install the remote hydraulic cylinder on the planter and set stop "A," as illustrated, so the cylinder will retract all the way. This will permit the planter press wheels to always gauge the planting depth. Install the hydraulic hose in the hose holder. Extend the cylinder and disconnect the transport links from the transport lug.

Remove the clevis pin from the clevis and place it in the hitch extension holes, as illustrated, to hold the clevis straight out. If the clevis is installed in the upper holes, place clevis pin in the lower hitch extension holes.

Place the marker control chains over the fertilizer drive, under the support pipes and through the chain guides. Attach the marker control chains to the springs and chain arm.

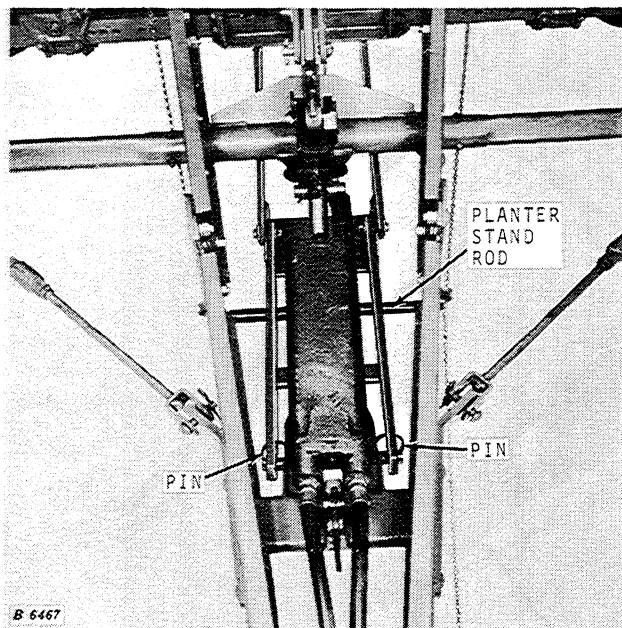
Retract the hydraulic cylinder until the planter hitch is the same height as the tractor drawbar. Attach the clevis to the tractor drawbar with the clevis pin and secure in place with the retaining pin as shown. Extend the hydraulic cylinder to raise the planter off of the stand.



Attach the chain arm at right angles to the tractor drawbar. Tighten the bolt securely as the marker chain arm must be held rigidly to the tractor drawbar.

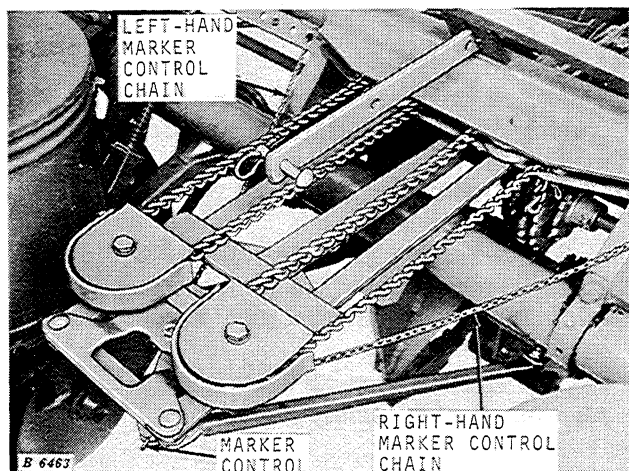
Set the clevis in holes "B," "C," or "D," so the lower edge of the planter hitch is parallel to the ground when in planting position.

NOTE: Retighten all bolts in hitch panel after planting approximately five acres.

HITCHING—Continued

Pull the pins and push the planter stand up over the planter stand hitch rod and hook the front legs of the stand over the rod on the hydraulic cylinder bracket. Hold the planter stand in place with the pins.

To place the planter stand back into position for unhooking from planter, reverse the above procedure.

MARKER CONTROL CHAINS

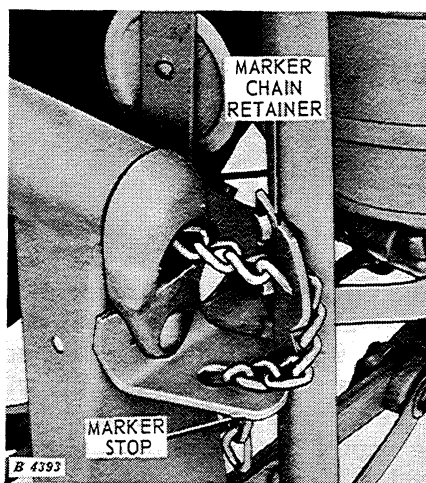
Pull the right-hand marker control chain until marker control lever points to left-hand side of planter, as illustrated.

Attach the spring to chain arm, and hook the left-hand marker control chain to spring at the shortest link possible, without stretching the spring.

Now pull the left-hand marker control chain until the marker control lever points to right-hand side of planter.

Attach the spring to chain arm, and hook the right-hand marker control chain to spring at the shortest link possible, without stretching the spring.

NOTE: Be certain all parts of marker assembly move freely.

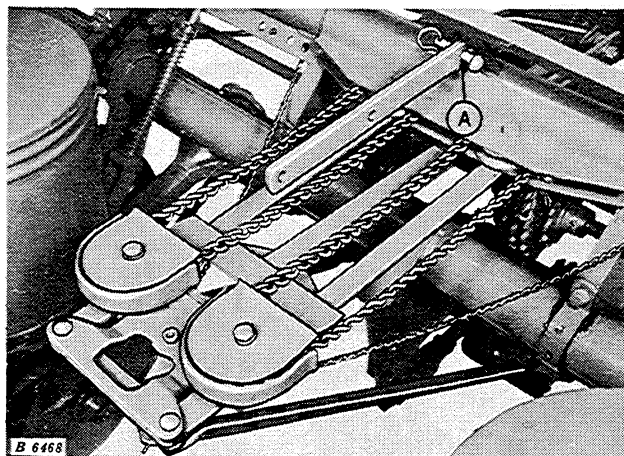
MARKER LIFT CHAINS

With the remote hydraulic cylinder extended to maximum length, pull marker lift chains tight at each end of planter and adjust each lift chain in the marker chain retainer so marker arm is snug against the marker stop.

Place the loose end of each marker chain in the marker stop.

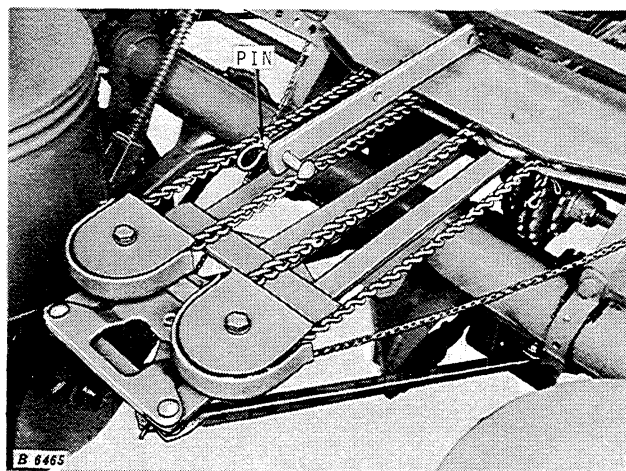
CAUTION: Keep the loose end of each marker chain in the marker stop at all times, except when planting.

TRANSPORTING



Extend the remote hydraulic cylinder and insert the pin in hole "A" as shown.

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



After reaching the field, extend the remote hydraulic cylinder and place the pin as illustrated.

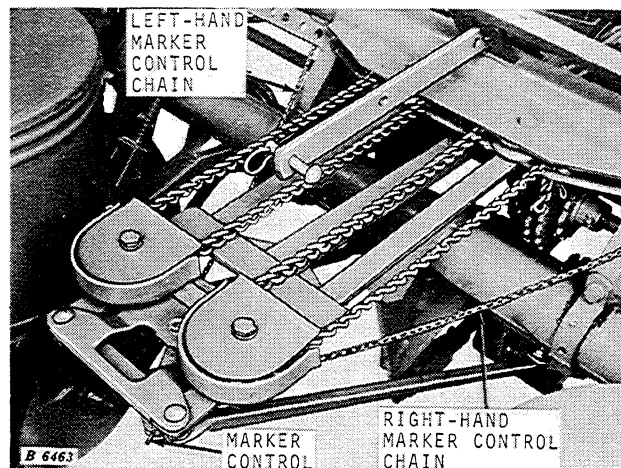
MARKERS

Remove the end of each marker chain from the marker stops before lowering the planter in the field.

NOTE: When planting the rows next to the fence, hold the markers up by inserting the marker chains in the marker stops. When markers

are latched up, chains will be slack. When raising planter, be very careful that slack chain does not catch and break.

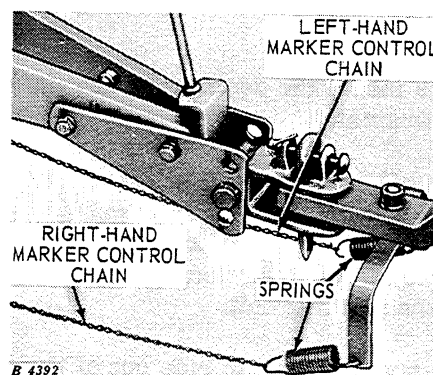
The position of the marker control lever will determine which marker will drop when the planter is lowered.



When the marker control arm points to the left-hand side of the planter, as illustrated, the right-hand marker will drop.

The marker control arm will stay in this position, and the right-hand marker will raise and drop when planter is raised and lowered until the tractor is turned sharply to the right. Then the left-hand marker control chain will tighten and point the marker control arm toward the right-hand side of the planter and the left-hand marker will drop when the planter is lowered.

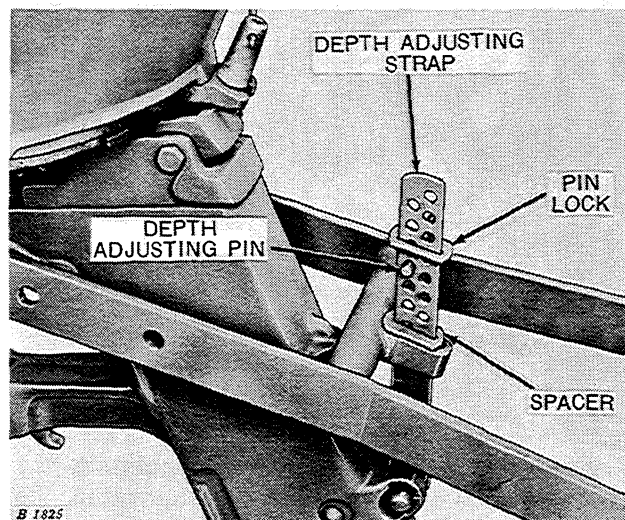
The marker that is down will automatically raise when the planter is raised.



If the right-hand marker will not drop after a sharp left turn, shorten the right-hand marker control chain at spring, one link at a time, until right-hand marker will drop after a sharp left turn. Shorten the left-hand marker control chain if left-hand marker fails to drop after a sharp right turn.

PLANTING DEPTH

The planting depth of the planter is gauged by the planter press wheels and not with the tractor remote hydraulic cylinder. The remote hydraulic cylinder must be fully retracted when planting.



The planting depth of each unit is determined by the setting of the depth adjusting pin in the depth adjusting strap. To change the planting depth move the pin up to increase the depth or down to decrease the depth. Hold pin in place with the pin lock.

Each hole in the depth adjusting strap represents a change of approximately 1/2-inch in the planting depth. To increase the planting depth by 1/4-inch remove the spacer from under the locking pin.

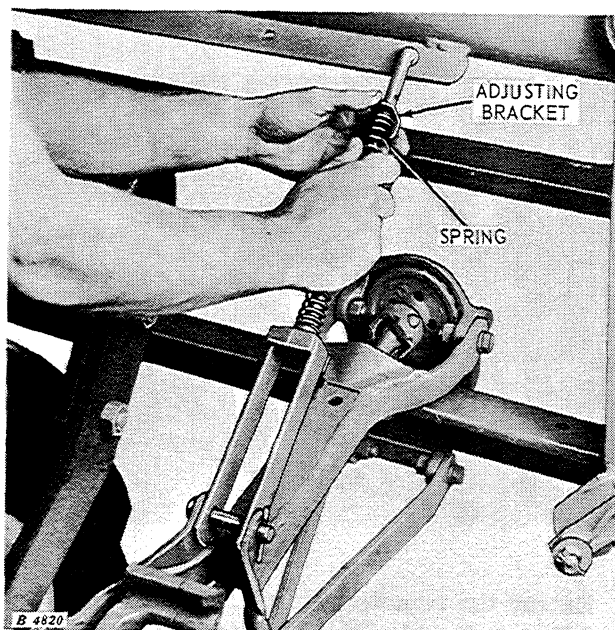
Always insert the depth adjusting pin and pin lock as illustrated.

Adjust all units to plant at the same depth.

Each planting unit has a spring which can be adjusted to increase or decrease the down pressure on the planting unit.

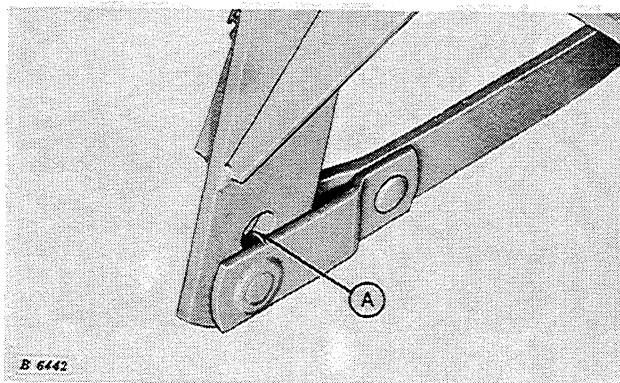
If the runner tends to ride out of the ground, raise the planter and move the adjusting bracket down to the next position as shown.

NOTE: Do not attempt to penetrate the plow pan. In hard ground conditions, this could cause the planter drive wheels to raise off the ground.



Adjust all planting units so the spring pressure is the same on each unit.

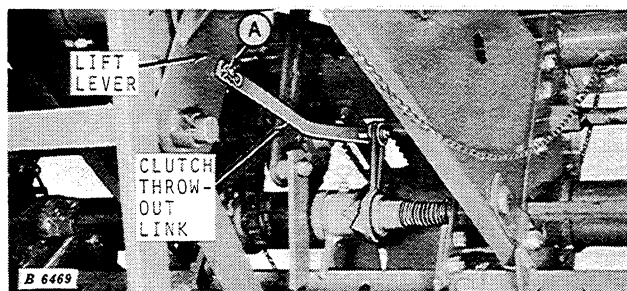
NOTE: When operating in the field, lower the planter only when the tractor is moving forward. This will prevent the planter runners from clogging in moist soil conditions.



In some field conditions where planter frame must be closer to ground than normal, and when there is no additional adjustment in pressure rod, position lift arm in hole "A" in wheel frame.

DRILL PLANTING

ENGAGING PLANTER DRIVE

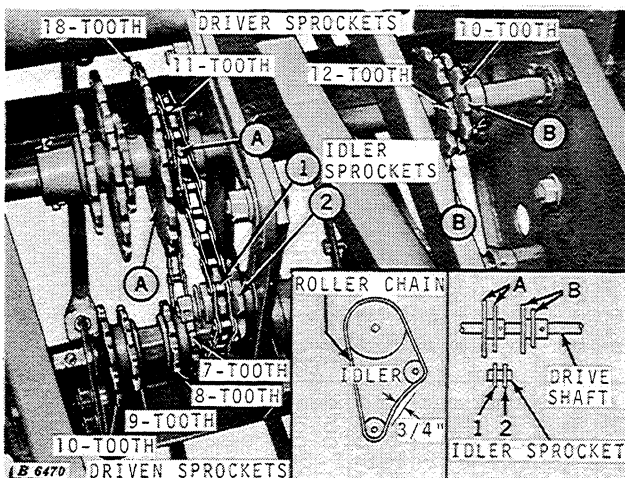


Pin the clutch throw-out link to the lift lever at "A" to engage the planter drive.

DRILLING DISTANCES

Sixteen different drilling distances can be obtained with each seed plate.

For drill planting, the sprocket setting varies the distance between seeds.



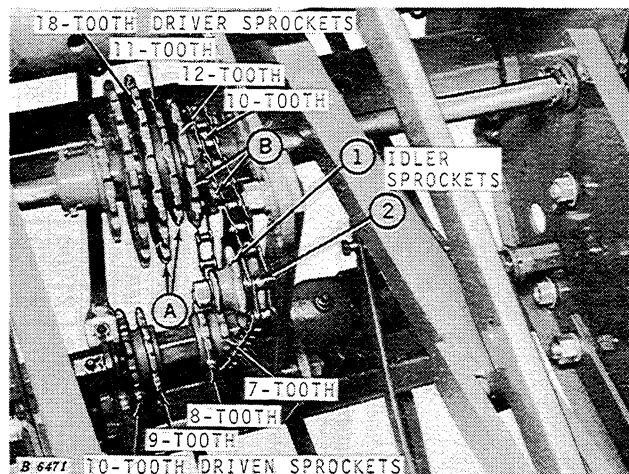
18- and 11-Tooth Driver Sprocket and No. 1 Idler Sprocket Combination

NOTE: No. 1 Idler Sprocket is used with the 18- and 11-Tooth Driver Sprocket combination at "A."

No. 2 Idler Sprocket is used with the 12- and 10-Tooth Driver Sprocket combination at "B."

The 12- and 10-Tooth Sprocket should be stored as shown above when not in use.

Position the chain idler so there is 3/4-inch slack in drive chain.



12- and 10-Tooth Driver Sprocket and No. 2 Idler Sprocket Combination

The chart on the following page gives the approximate drilling distances which are obtainable and the maximum recommended speed.

After planting about 80 rods, make a seed population check at selected operating speed. At speeds over 5 mph some seed grades may require a seed plate with slightly longer cells for better cell fill.

Approximate Drilling Distance in Inches and Maximum Recommended Speed

For Planter Equipped with 6.70 x 15 Tires Inflated to 24 psi Air Pressure

Maximum Recommended Speed (mph)	Drilling Distance		Sprocket Combinations		Idle Sprocket Number	Plant Population							
						28-Inch Rows		30-Inch Rows		38-Inch Rows		40-Inch Rows	
	16-Cell	24-Cell	Driver	Driven		16-Cell	24-Cell	16-Cell	24-Cell	16-Cell	24-Cell	16-Cell	24-Cell
2.75	5.8"	3.9"	18-Tooth	7-Tooth	1	38100	57490	36040	53600	28350	42410	27000	40200
3.25	6.6"	4.4"	18-Tooth	8-Tooth	1	33630	50950	31670	47500	24700	37410	23520	35630
3.50	7.5"	5.0"	18-Tooth	9-Tooth	1	29890	44840	27870	41810	21950	32930	20900	31360
4.00	8.3"	5.6"	18-Tooth	10-Tooth	1	26884	40040	25180	37510	19740	29400	18800	28000
4.25	8.8"	5.8"	12-Tooth	7-Tooth	2	25460	38650	23750	36040	18700	28380	17810	27030
4.50	9.5"	6.3"	11-Tooth	7-Tooth	1	23600	35580	22000	33180	17320	26120	16500	24880
4.75	10.0"	6.6"	12-Tooth	8-Tooth	2	22420	33640	20900	31670	16460	24700	15680	23520
5.00	10.5"	7.0"	10-Tooth	7-Tooth	2	21350	32030	19910	29860	15680	23520	14930	22400
5.25	10.9"	7.3"	11-Tooth	8-Tooth	1	20560	30730	19180	28640	15100	22570	14380	21490
5.50	11.3"	7.5"	12-Tooth	9-Tooth	2	19830	29890	18500	27870	14560	21950	13870	20900
5.75	12.0"	8.0"	10-Tooth	8-Tooth	2	18680	28030	17420	26130	13710	20580	13060	19600
6.00	12.2"	8.2"	11-Tooth	9-Tooth	1	18380	27340	17050	25490	13490	20080	12850	19120
6.25	12.5"	8.3"	12-Tooth	10-Tooth	2	17930	27010	16710	25190	13170	19630	12540	18890
6.50	13.5"	9.0"	10-Tooth	9-Tooth	2	16600	24910	15480	23230	12190	18290	11610	17420
6.50	13.6"	9.1"	11-Tooth	10-Tooth	1	16490	24640	15370	22970	12110	18090	11530	17230
7.00	15.0"	10.0"	10-Tooth	10-Tooth	2	14940	22420	13900	20900	10980	16460	10450	15680

SOYBEAN CHARTS

Approximate Pounds of Soybeans Per Acre							
With H2527B 20-Cell Seed Plate and H1279B Floor Plate - Groove Up							
Maximum Recommended Speed (mph)	Sprocket Combinations		Idler Sprocket Number	Pounds Per Acre			
				Row Widths			
	Driver	Driven		28''	30''	38''	40''
4.5	18-Tooth	7-Tooth	1	148	138	109	104
5	18-Tooth	8-Tooth	1	143	133	105	100
5	18-Tooth	9-Tooth	1	134	125	99	94
5	18-Tooth	10-Tooth	1	120	117	88	84
5	12-Tooth	7-Tooth	2	114	106	84	80
5	11-Tooth	7-Tooth	1	108	101	80	76
6	12-Tooth	8-Tooth	2	102	96	75	72
6	10-Tooth	7-Tooth	2	98	92	72	69
6	11-Tooth	8-Tooth	1	97	90	71	68
7	12-Tooth	9-Tooth	2	94	88	69	66
7	10-Tooth	8-Tooth	2	92	86	68	65
7	11-Tooth	9-Tooth	1	91	85	67	64
7	12-Tooth	10-Tooth	2	85	79	63	60
7	10-Tooth	9-Tooth	2	83	77	60	58
7	11-Tooth	10-Tooth	1	79	74	59	56
7	10-Tooth	10-Tooth	2	74	69	55	52

Approximate Pounds of Soybeans Per Acre							
With H1255B 20-Cell Seed Plate							
Maximum Recommended Speed (mph)	Sprocket Combinations		Idler Sprocket Number	Pounds Per Acre			
				Row Widths			
	Driver	Driven		28''	30''	38''	40''
4.5	18-Tooth	7-Tooth	1	114	106	84	80
5	18-Tooth	8-Tooth	1	108	101	80	76
5	18-Tooth	9-Tooth	1	100	93	74	70
5	18-Tooth	10-Tooth	1	91	85	67	64
5	12-Tooth	7-Tooth	2	88	82	65	62
5	11-Tooth	7-Tooth	1	85	79	63	60
6	12-Tooth	8-Tooth	2	83	77	60	58
6	10-Tooth	7-Tooth	2	79	74	59	56
6	11-Tooth	8-Tooth	1	77	72	57	54
7	12-Tooth	9-Tooth	2	74	69	55	52
7	10-Tooth	8-Tooth	2	72	68	54	51
7	11-Tooth	9-Tooth	1	71	67	53	50
7	12-Tooth	10-Tooth	2	68	64	50	48
7	10-Tooth	9-Tooth	2	67	63	49	47
7	11-Tooth	10-Tooth	1	66	61	48	46
7	10-Tooth	10-Tooth	2	60	56	44	42

MAIZE CHARTS**Approximate Pounds of Maize Per Acre**

With B27783 Seed Plate and Y2630B False Plate

Maximum Recommended Speed (mph)	Sprocket Combinations		Idler Sprocket Number	Pounds Per Acre			
				Row Widths			
	Driver	Driven		28''	30''	38''	40''
7	10-Tooth	10-Tooth	2	9.6	8.9	7.0	6.7
7	11-Tooth	10-Tooth	1	10.3	9.6	7.6	7.2
7	10-Tooth	9-Tooth	2	10.3	9.6	7.6	7.2
7	12-Tooth	10-Tooth	2	10.9	10.1	8.0	7.6
7	11-Tooth	9-Tooth	1	11.0	10.2	8.1	7.7
7	10-Tooth	8-Tooth	2	11.2	10.4	8.2	7.8
7	12-Tooth	9-Tooth	2	11.7	10.9	8.6	8.2
7	11-Tooth	8-Tooth	1	12.0	11.2	8.8	8.4
7	10-Tooth	7-Tooth	2	12.3	11.4	9.0	8.6
7	12-Tooth	8-Tooth	2	12.7	11.8	9.3	8.9
7	11-Tooth	7-Tooth	1	13.2	12.2	9.7	9.2
7	12-Tooth	7-Tooth	2	13.9	12.9	10.2	9.7
7	18-Tooth	10-Tooth	1	14.6	13.6	10.7	10.2
7	18-Tooth	9-Tooth	1	15.9	14.8	11.7	11.1
7	18-Tooth	8-Tooth	1	17.4	16.2	12.8	12.2
7	18-Tooth	7-Tooth	1	19.6	18.2	14.4	13.7

Approximate Pounds of Maize Per Acre

With N2469 Seed Plate and Y2630B False Plate

Maximum Recommended Speed (mph)	Sprocket Combinations		Idler Sprocket Number	Pounds Per Acre			
				Row Widths			
	Driver	Driven		28''	30''	38''	40''
7	10-Tooth	10-Tooth	2	7.6	7.0	5.6	5.3
7	11-Tooth	10-Tooth	1	8.2	7.6	6.0	5.7
7	10-Tooth	9-Tooth	2	8.2	7.6	6.0	5.7
7	12-Tooth	10-Tooth	2	8.6	8.0	6.3	6.0
7	11-Tooth	9-Tooth	1	8.7	8.1	6.4	6.1
7	10-Tooth	8-Tooth	2	8.9	8.2	6.5	6.2
7	12-Tooth	9-Tooth	2	9.2	8.5	6.7	6.4
7	11-Tooth	8-Tooth	1	9.6	8.9	7.0	6.7
7	10-Tooth	7-Tooth	2	9.7	9.0	7.1	6.8
7	12-Tooth	8-Tooth	2	10.2	9.4	7.5	7.1
7	11-Tooth	7-Tooth	1	10.4	9.7	7.7	7.3
7	12-Tooth	7-Tooth	2	11.2	10.4	8.2	7.8
7	18-Tooth	10-Tooth	1	11.7	10.9	8.6	8.2
6	18-Tooth	9-Tooth	1	12.6	11.7	9.2	8.8
5.5	18-Tooth	8-Tooth	1	13.7	12.8	10.1	9.6
5	18-Tooth	7-Tooth	1	14.9	13.8	10.9	10.4

Approximate Pounds of Maize Per Acre							
With B27769 Seed Plate and Y5055B False Plate							
Maximum Recommended Speed (mph)	Sprocket Combinations		Idler Sprocket Number	Pounds Per Acre			
				Row Widths			
	Driver	Driven		28''	30''	38''	40''
5	10-Tooth	10-Tooth	2	4.6	4.3	3.4	3.2
5	11-Tooth	10-Tooth	1	4.9	4.5	3.6	3.4
5	10-Tooth	9-Tooth	2	4.9	4.5	3.6	3.4
5	12-Tooth	10-Tooth	2	5.1	4.8	3.8	3.6
5	11-Tooth	9-Tooth	1	5.3	4.9	3.9	3.7
5	10-Tooth	8-Tooth	2	5.3	4.9	3.9	3.7
5	12-Tooth	9-Tooth	2	5.6	5.2	4.1	3.9
5	11-Tooth	8-Tooth	1	5.9	5.5	4.3	4.1
5	10-Tooth	7-Tooth	2	6.0	5.6	4.4	4.2
5	12-Tooth	8-Tooth	2	6.1	5.7	4.5	4.3
5	11-Tooth	7-Tooth	1	6.3	5.9	4.6	4.4



ATTACHMENTS

FERTILIZER ATTACHMENTS

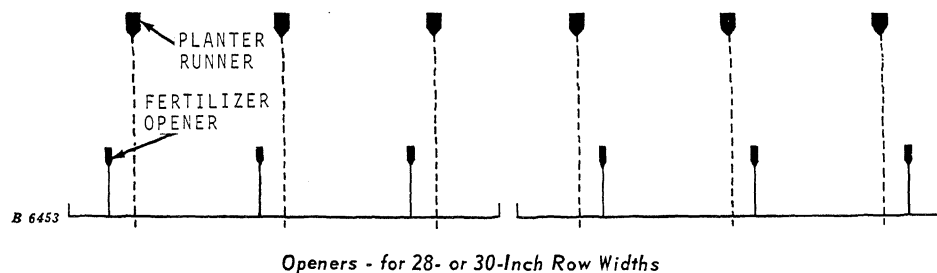
The planter can be equipped with either a dry or liquid fertilizer attachment.

OPENERS

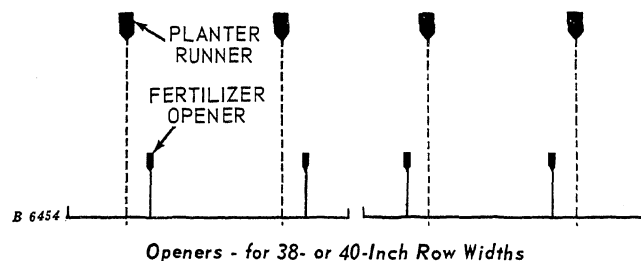
Either the dry or liquid fertilizer attachment can be equipped with runner openers or with disk openers. The openers will place the fertilizer approximately 3 inches to one side of the seed and from 2 to 6 inches deep depending on soil conditions.

NOTE: When using the 11-inch dry type fertilizer double-disk openers or the 12-inch anti-friction double-disk openers with the liquid fertilizer attachment, install a delivery tube extension (B10163B) in each metering head.

The following illustrations show the proper location of either the runner or disk openers for the various row widths:

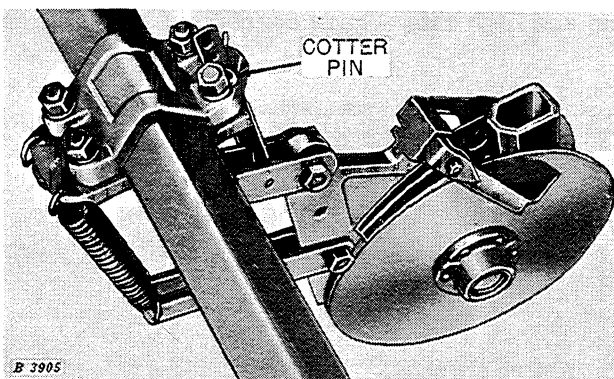


For 28- or 30-inch row widths, set all fertilizer openers to the outside of the planter seed openers.



For 38- or 40-inch row widths, set all fertilizer openers to the inside of the planter seed openers.

OPENERS—Continued



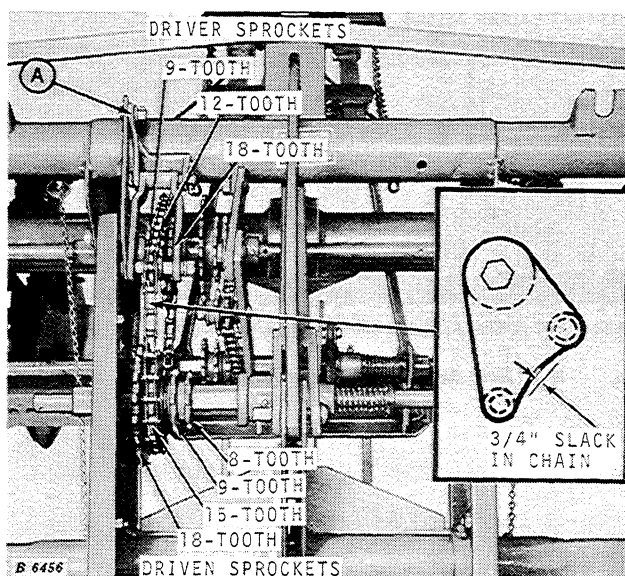
The cotter pin in each depth adjusting strap will determine how deep the fertilizer is placed in the soil. To change the depth, remove the cotter pin and move it up in the adjusting strap to place the fertilizer deeper, or down to place the fertilizer shallower.

Replace the cotter pin in the desired setting and adjust all units to place the fertilizer at the same depth.

DRY FERTILIZER

Rate of Application

The rate of fertilizer application is determined by the type of augers installed in the hoppers, and the drive and driven sprocket combinations.



The hoppers can be equipped with regular, low-rate, or high-rate augers.

To change the sprocket combinations, loosen the chain idler at "A," and remove chain. Slide sprockets on shafts until desired combination lines up with chain idler. Reinstall chain and tighten chain idler. Position the chain idler so there is 3/4-inch slack in drive chain.

The following delivery rates are approximate and will vary with changes in temperature, humidity, and the particular fertilizer being used.

Dry Fertilizer Approximate Delivery Rates In Pounds Per Acre (30-Inch Row Spacing) *				
Pounds Per Acre				
Type of Auger				
Low	Reg.	High	Drive Sprocket	Driven Sprocket
49	98	148	9-Tooth	18-Tooth
59	115	177	9-Tooth	15-Tooth
74	148	221	12-Tooth	18-Tooth
88	177	265	12-Tooth	15-Tooth
98	195	294	9-Tooth	9-Tooth
100	221	331	9-Tooth	8-Tooth
133	266	398	18-Tooth	15-Tooth
148	294	442	12-Tooth	9-Tooth
166	331	497	12-Tooth	8-Tooth
221	442	662	18-Tooth	9-Tooth
247	496	743	18-Tooth	8-Tooth

*For 28-inch rows divide above amounts by 0.93

*For 38-inch rows divide above amounts by 1.27

*For 40-inch rows divide above amounts by 1.33

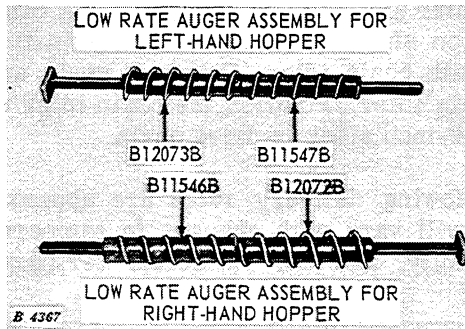
Because the dry fertilizer attachment meters volume and not weight, and because of the differences between the many brands and analysis of fertilizer, the weight metered out can vary as much as 100% from the weight calculated in the above chart.

To check the exact number of pounds of your fertilizer that will actually be delivered for 30-inch row spacing, proceed as follows:

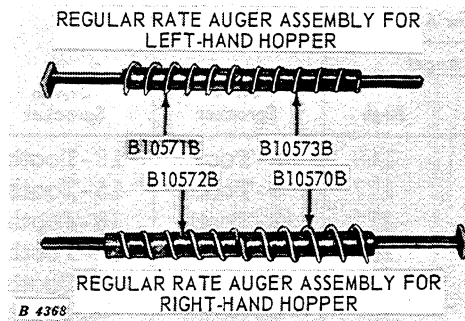
Remove one spout from one fertilizer hopper and attach a sack, or other suitable container, under the opening in the hopper. Engage the fertilizer attachment and drive forward for 130 feet. Weigh the amount of fertilizer caught in the container and multiply that amount by 100. The result will be the pounds of fertilizer delivered per acre when planting in 30-inch rows.

Low, Regular, and High Rate Augers - For 28- or 30-Inch Row Spacing

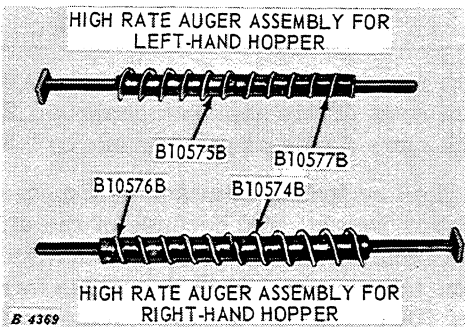
The following illustrations show the low, regular, and high rate augers correctly assembled for proper operation.



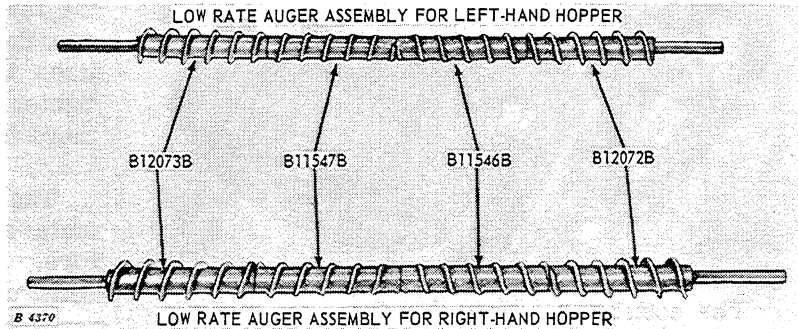
Low Rate Augers - For Outer Hoppers



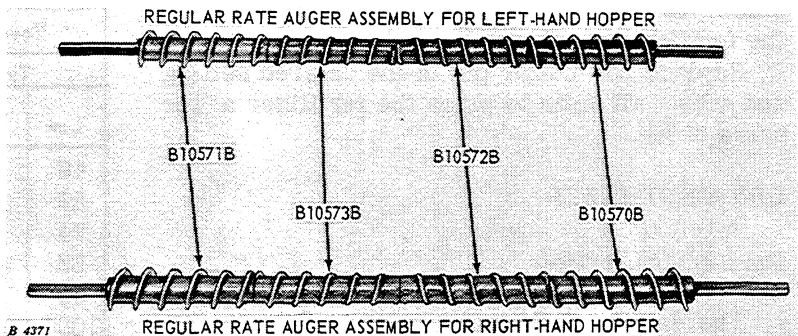
Regular Rate Augers - For Outer Hoppers



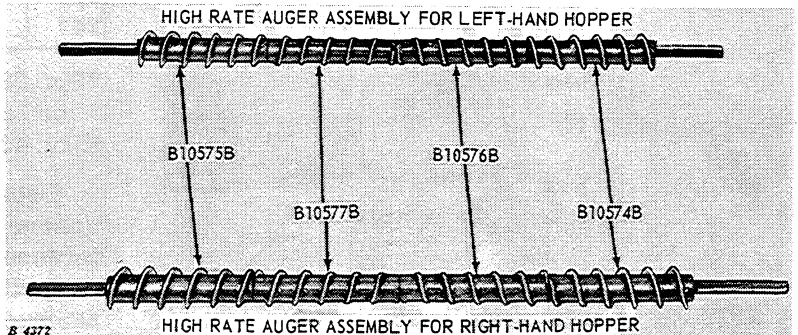
High Rate Augers - For Outer Hoppers



Low Rate Augers - For Inner Hoppers



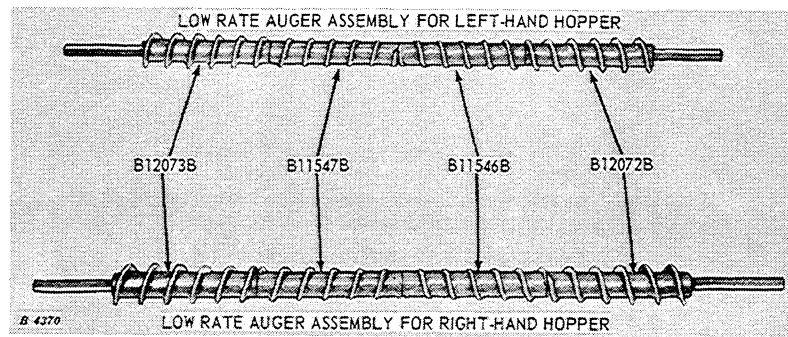
Regular Rate Augers - For Inner Hoppers



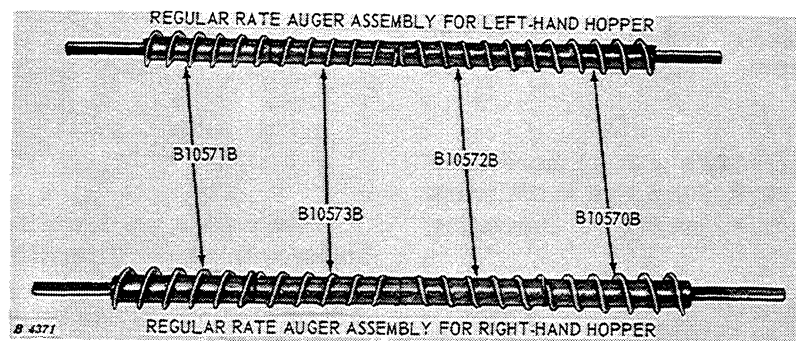
High Rate Augers - For Inner Hoppers

Low, Regular, and High Rate Augers - For 38- or 40-Inch Row Spacing

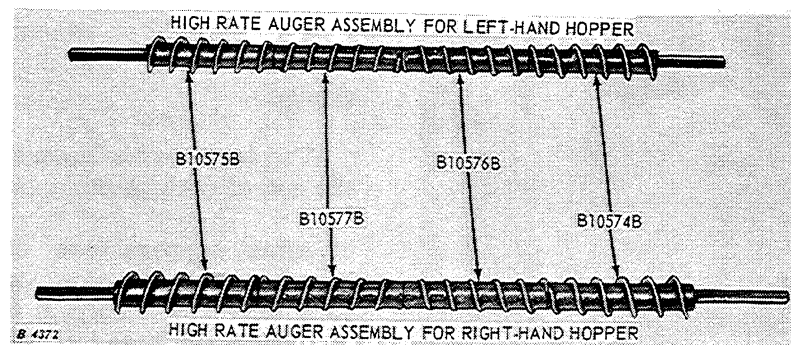
The following illustrations show the low, regular, and high rate augers correctly assembled for proper operation.



Low Rate Augers

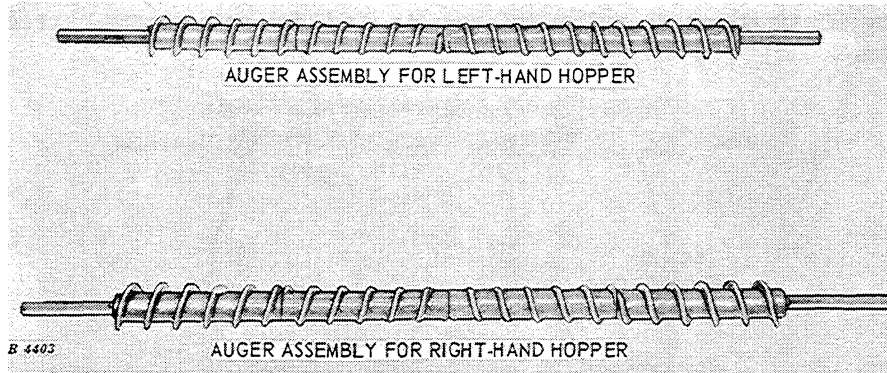


Regular Rate Augers



High Rate Augers

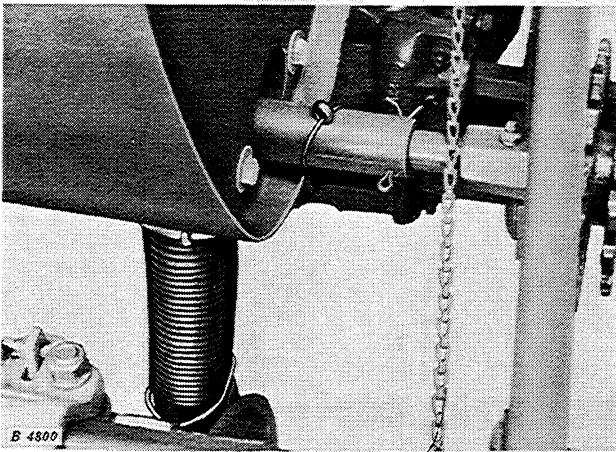
Cleaning the hoppers



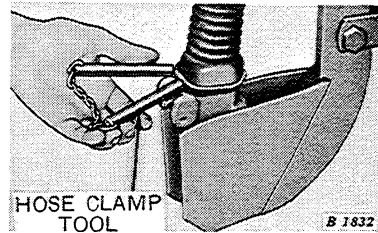
NOTE: Auger assemblies are right- and left-hand.

To clean the hoppers, pull the cotter pin out of each fertilizer drive shaft, and remove the auger assemblies.

At the end of each day's use, or more often if necessary, the fertilizer hoppers and delivery tubes, boots, and valves should be thoroughly cleaned.



Remove the hopper lids and delivery tubes, and tip the hoppers over forward.



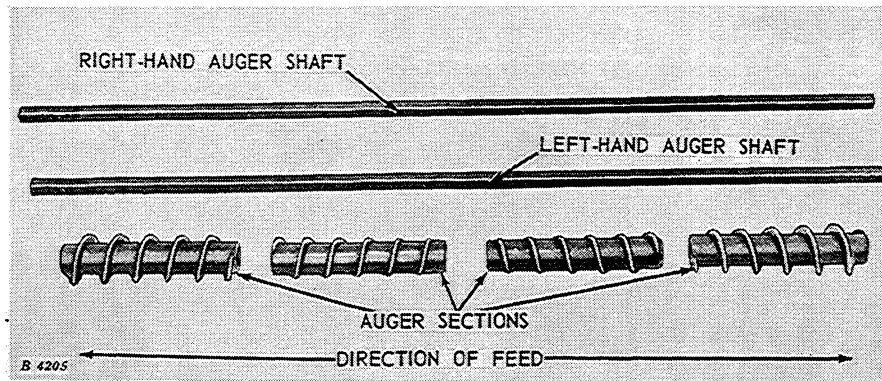
Flush all loose fertilizer from hoppers and tubes with water. If fertilizer has hardened and "caked" on any of the parts, saturate with diesel fuel until it can be removed. Check inside of each auger bearing on ends of tanks and, if necessary, clean with a wire brush.

If the fertilizer attachment is not to be used for some time, coat all unpainted parts with grease.

The hoppers and augers should be repainted at the end of each planting season.

After hoppers are clean and dry, swing hoppers back into position, replace the right-hand auger assembly in the right-hand hopper and left-hand auger assembly in the left-hand hopper. Connect the drive shafts and delivery tubes.

Replacing auger sections



If auger sections need to be replaced or different delivery rate auger sections are to be installed, remove the auger assemblies from the hoppers.

The auger assemblies are right- and left-hand.

Position new auger sections on the floor (as illustrated) so the flights on the auger sections will carry the fertilizer to the outside ends in each hopper.

Remove cotter pins holding old auger sections on shafts and slide old auger sections off the shafts.

Install new auger sections on shafts in proper order and insert cotter pins.

Replace the right-hand auger assembly in the right-hand hopper and the left-hand auger assembly in the left-hand hopper.

Handling fertilizer

Keep fertilizer dry. Do not store it in a damp place.

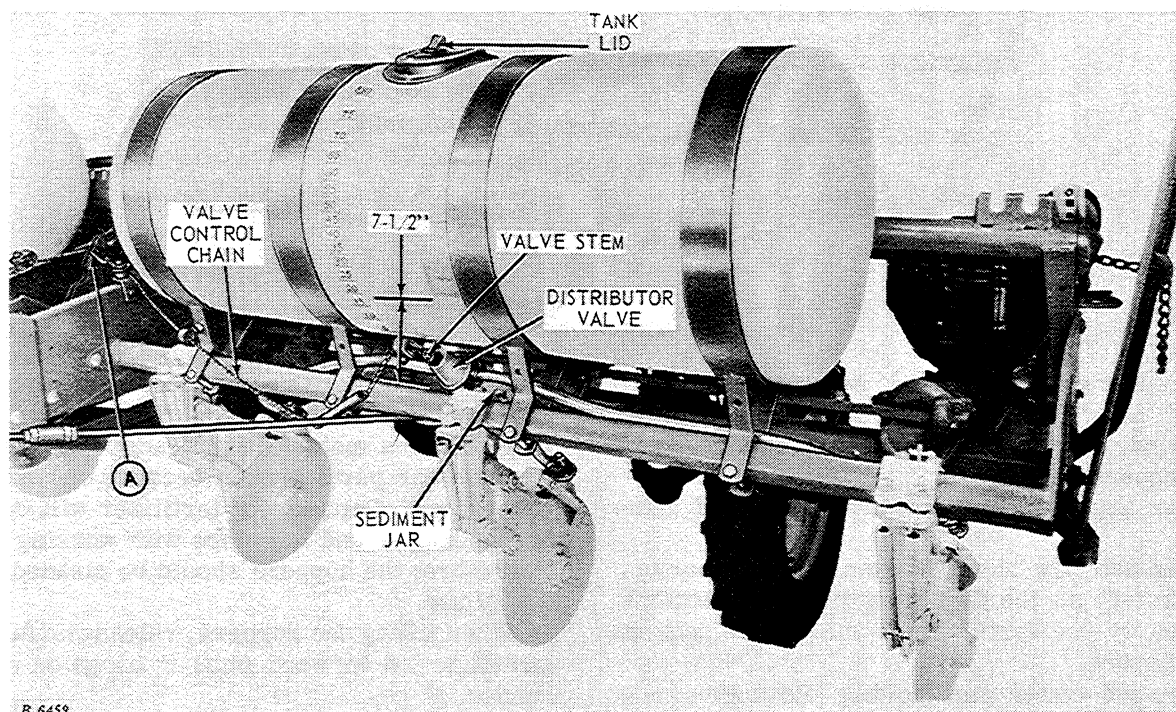
Most fertilizers readily accumulate moisture and cause metal to corrode. This corrosion not only shortens metal life but leads to unnecessary expense for parts broken because of binding or "freezing." Deposits of fertilizer will build up in the hopper and interfere with working parts. Therefore, the hoppers should be cleaned every day of use.

When filling the hoppers, release lid fastener and slide lid forward until it hangs on edge of hopper.

Agricultural chemicals can be dangerous. Improper selection or use can injure persons, animals, plants, soils, or other property. BE SAFE: Select the right chemical for the job. Handle and apply it with care. Follow instructions of the chemical manufacturer.

LIQUID FERTILIZER

Tanks and Metering Valves



Each tank should be installed so there is 7-1/2 inches between the support pipe and the 15-gallon mark on the decal. When planter is operated in the field each tank may have to be rotated slightly to give a correct level gauge reading.

After filling the tanks with liquid fertilizer, secure the tank lids tightly to assure uniform delivery of fertilizer in the field.

The distributor valves are controlled automatically. They open when the planter is lowered and close when the planter is raised. Tighten lower pipe in distributor valve if valves do not close. The valves can be closed when planter is lowered by disconnecting the valve control chains at "A."

Lubricate the valve stem in the distributor valve with a good grade of light oil each day of operation. For some fertilizers it may be necessary to use water in place of oil.

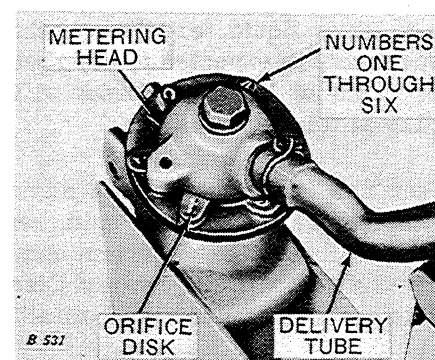
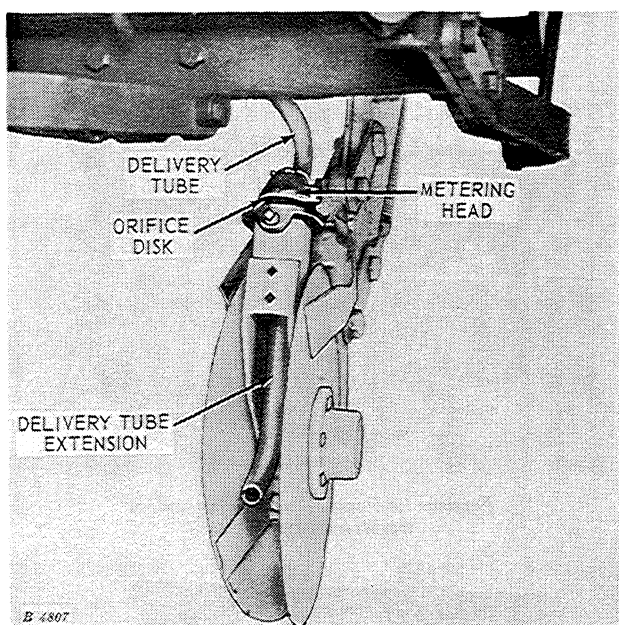
The sediment screen, just above the sediment jar in the distributor valve, should be cleaned at least once each day of operation, or more often, if necessary.

Metering Heads

The rate of application is determined by the orifice disk setting in the metering head and the rate of travel of the planter.

There are three orifice disks, low range (No. 1), high range (No. 2), and extra high range (No. 3), furnished with each metering head. The number is embossed on the tongue and the orifice disk must always be installed with the number up. Each orifice disk has six graduated holes which give six delivery rates. The tongue projects out over one of the six numbers on the metering head.

To change the delivery rate, loosen bolt in top of metering head. Turn orifice disk so tongue is over the number which will give the desired delivery rate and tighten bolt.



The delivery rates in the following tables are approximate and will vary with changes in temperature and the particular fertilizer being used.

Liquid Fertilizer Approximate Delivery Rates In Pounds Per Acre (For 30-Inch Row Widths)*						
Speed						Orifice Number
2 MPH	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	
Low Range Orifice Disk No. 1						
85	56	43	33	28	24	1
133	89	66	53	45	39	2
199	133	100	80	67	57	3
298	200	149	120	100	85	4
364	233	182	146	122	104	5
399	266	199	160	133	114	6
High Range Orifice Disk No. 2						
481	322	241	193	161	138	1
564	376	282	226	188	161	2
649	432	325	259	215	185	3
795	521	391	313	261	223	4
838	559	419	335	279	239	5
963	642	481	386	322	275	6
Extra High Range Orifice Disk No. 3						
1032	688	516	412	344	295	1
1146	765	573	459	383	327	2
1335	891	668	535	446	382	3
1404	935	702	561	467	400	4
1545	1031	773	618	515	442	5
1697	1130	849	678	565	484	6

*For 28-inch rows divide above amounts by 0.93

*For 38-inch rows divide above amounts by 1.27

*For 40-inch rows divide above amounts by 1.33

Maintenance

Do not leave liquid fertilizer in the tanks if the temperature is expected to drop below 40° F. as some types of liquid fertilizer will begin to crystallize at this temperature.

If after use the planter is to stand idle for some time before being used again, remove the sediment jar, hold the valve open and flush out the entire system with clean water. Disassemble the distributor valve, clean, and oil all parts.

If soil insecticides are used in this attachment, the solvents which are sometimes used as carriers for the insecticides may cause swelling of the seals, gaskets and hose.

To help overcome this difficulty, at the end of each day's use, hold valve open and flush the entire system with clean water. Then remove lid seals from lids and orifice disks from metering heads, wash with clean water and allow to dry overnight. Leave tank open and remove sediment jar. NOTE: If difficulty is still encountered it may be necessary to have an extra set of lid seals and orifice disks to alternate during the day's use.

At the end of the planting season, disassemble the distributor valves and metering heads. Thoroughly clean the tanks and all parts with clean water and a mild detergent. Reassemble the distributor valves and metering heads. Do not replace lids until tanks are completely dry. Oil all parts.

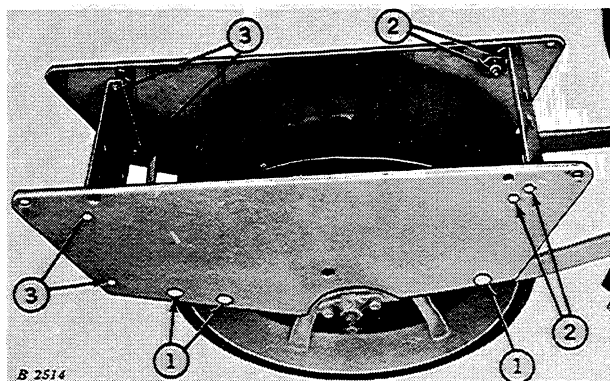
TRASH KICKERS



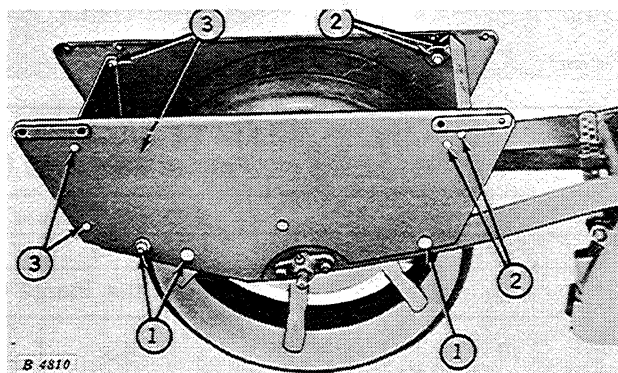
Trash kickers can be installed on the planter for fields which contain small stones and trash.

The trash kickers run directly in front of the planter runners and will push aside small stones and trash.

FENDERS FOR THE INSECTICIDE AND/OR HERBICIDE ATTACHMENTS



Fenders for Regular Insecticide and/or Herbicide Attachments



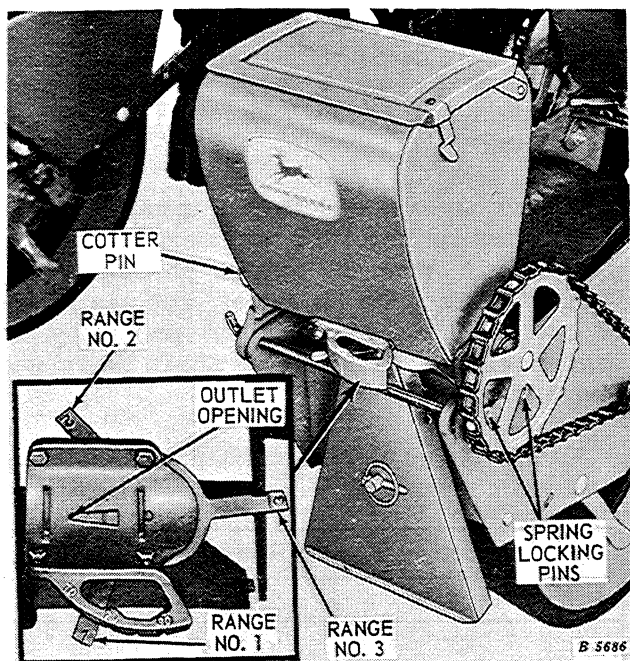
Fenders for Large Capacity Insecticide and/or Herbicide Attachments

NOTE: Fenders must be installed on the planter to attach the insecticide and/or the herbicide attachment.

1. Attach the fenders to the press wheel frame with the carriage bolts.
2. Install the front brace with the holes to the bottom.
3. Install the rear brace.

GRANULAR HERBICIDE ATTACHMENT

Each regular granular herbicide hopper has a capacity of approximately 15 pounds and each large capacity hopper has a capacity of approximately 30 pounds. The unit will apply 2 to 30 pounds per acre, in bands 14 inches wide, depending on the type of herbicide.



RATE OF APPLICATION

The chemical manufacturer may recommend the rate of application in the following ways:

1. Pounds per acre for a given band width and row spacing.
2. Pounds per acre for complete (broadcast) coverage.

When the chemical manufacturer recommends pounds per acre for your band width and row spacing proceed to "Metering Gate."

When the chemical manufacturer recommends pounds per acre for complete (broadcast) coverage only, it is necessary to find the pounds per acre for your band width and row spacing. This will give you the approximate pounds to apply to get the same chemical concentration per square inch as the chemical manufacturer recommends for complete (broadcast) coverage.

Use the following formula to find the pounds per acre for your band width and row spacing:

$$A \times \frac{B}{C} = \text{Delivery rate in pounds per acre for a given band width and row spacing}$$

Legend:

- A - Chemical manufacturers recommended rate in pounds per acre for complete (broadcast) coverage.
- B - Band width.
- C - Row spacing.

Example: The chemical manufacturer recommends 20 pounds per acre for complete (broadcast) coverage. The band width is 14 inches. The row spacing is 30 inches.

$$20 \times \frac{14}{30} = 9.3 \text{ pounds per acre}$$

The required delivery rate for 14-inch bands and 30-inch row spacing would be 9.3 pounds per acre when the chemical manufacturer recommends 20 pounds per acre for complete (broadcast) coverage.

Do not apply larger quantities of herbicide than recommended by the chemical manufacturer.

METERING GATE

The metering gate on the hopper can be adjusted for range 1, 2 or 3. The delivery rate will increase from range 1 through range 3. To change from one range to another push down slightly on the metering gate and rotate it to the desired range.

There are 33 intermediate notches for each range. The delivery rate will increase from notch 1 through notch 33.

Use the following metering gate settings as a starting point for distributing 14-inch bands, with 30-inch row spacing, at 5 miles per hour.

Metering Gate Setting* (Starting Point Only)		
For a 30-inch row spacing and a speed of 5 miles per hour		
Desired Rate of Band Application	Range	Notch
4.7 pounds per acre	1	23
6.7 pounds per acre	1	29
8.0 pounds per acre	1	33
9.3 pounds per acre	2	4
10.6 pounds per acre	2	7
12.0 pounds per acre	2	10
13.3 pounds per acre	2	13
16.0 pounds per acre	2	21
20.0 pounds per acre	2	32

*For 28-inch rows divide above amounts by 0.93

*For 38-inch rows divide above amounts by 1.27

*For 40-inch rows divide above amounts by 1.33

NOTE: For speeds faster than 5 miles per hour use a higher notch setting. For speeds slower than 5 miles per hour use a lower notch setting.

Set each unit at the desired starting point.

CHECKING RATE OF APPLICATION

The rate of delivery may be affected by change in temperature, humidity, speed, ground conditions or by any obstruction in the metering gate. Also, large variations may exist in the "flowability" of different herbicides or sometimes even within the same herbicides.

Check the herbicide attachment in the field at planting speed that can be maintained uniformly even when traveling up hill or down hill.

NOTE: Do not turn the press wheel by hand to check the rate of application.

Fill the herbicide hoppers. Empty all other hoppers on the planter.

To check the exact number of pounds of your herbicide that will actually be delivered, proceed as follows:

Attach one of the cloth bags furnished under each granular herbicide diffuser. Lower the planter and drive 80 rods at planting speed. Weigh the herbicide (in ounces) that was caught in one cloth bag. Multiply that amount by the number of rows per acre as shown below, and divide that amount by 16.

Check the herbicide caught in each cloth bag in the same manner.

Number of 80-Rod Rows Per Acre	
Row Width	Number of Rows
40"	10
38"	10.5
30"	13.3
28"	14.34

EXAMPLE: There are approximately ten 40-inch rows, 80 rods long per acre. If the amount of herbicide caught in one cloth bag (one-row) was 11.2 ounces, multiply 11.2 times 10 (number of rows), which is 112 ounces. Then divide 112 ounces by 16 and the result will be 7 pounds per acre.

If the desired pounds per acre is not obtained for each unit with the first setting, adjust the metering gate and repeat the check unit until desired amount is delivered.

FIELD OPERATION

While planting, protect against improper application by frequent checks and necessary adjustment of the metering gates on the hoppers.

NOTE: A slight amount of herbicide will be discharged through the hopper outlet opening when the planter is stopped or when turning at the end of the field. When transporting it may be desirable to close the outlet opening by setting range No. 1 in notch No. 1 to prevent leakage.

HANDLING GRANULAR HERBICIDE

Granular herbicide absorbs moisture readily. Keep granular herbicide dry. Do not store in a damp place. The granular herbicide attachment must be covered with canvas, plastic or other suitable waterproof material at night, or during wet weather. If the herbicide is allowed to absorb moisture the rate of application is greatly affected and it will be necessary to clean the hopper and fluted roller before using.

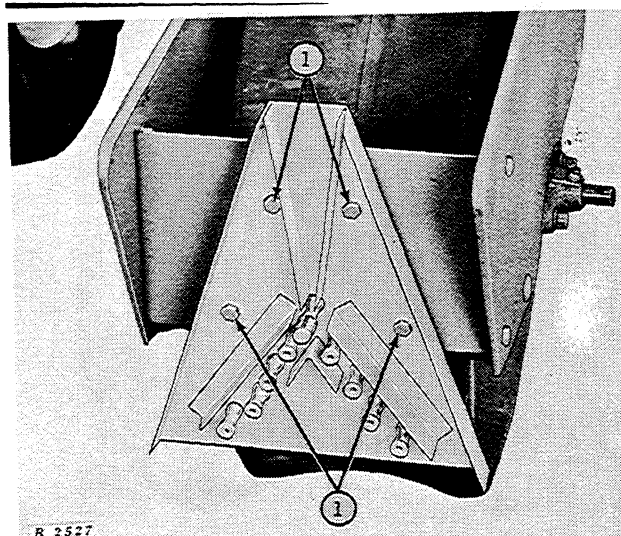
Agricultural chemicals can be dangerous! Improper selection or use can injure persons, animals, plants, soils or other property. BE SAFE: Select the right chemical for the job. Handle and apply it with care. Follow the instructions of the chemical manufacturer.

CLEANING HOPPERS

At the end of each day's use, the hoppers should be thoroughly cleaned. Remove the hoppers by removing the pins and spring locking pins.

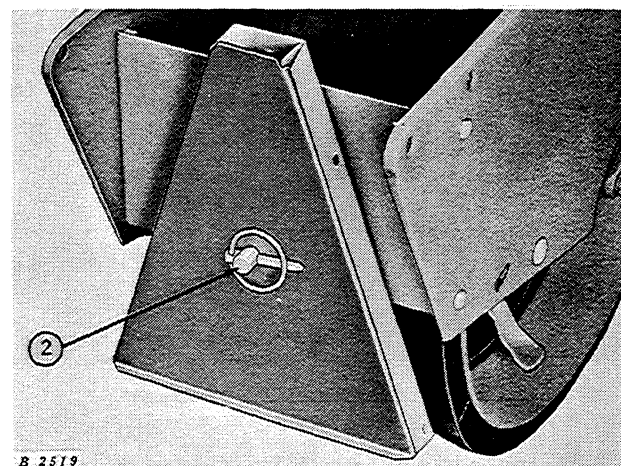
Remove the fluted roller from the hopper by first removing the cotter pin at the left end of the hopper drive shaft. Remove the spring loaded pin from the fluted roller. Pull the shaft from the right-hand side of the hopper and remove fluted roller from hopper. Clean the hopper, outlet opening and fluted roller thoroughly.

ASSEMBLY

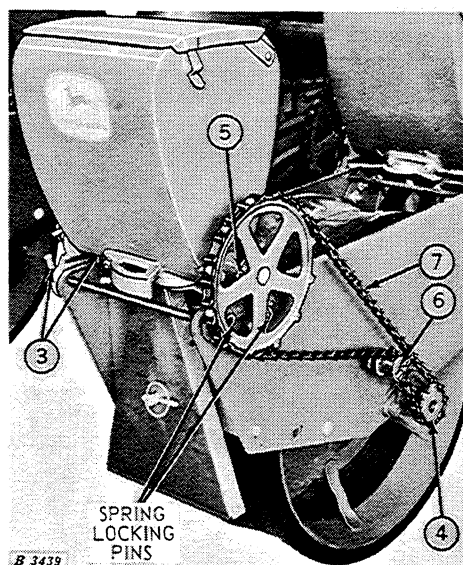


1. Attach the diffuser to the rear fender brace. Be sure there are nuts on all four bolts between the diffuser and the fender brace.

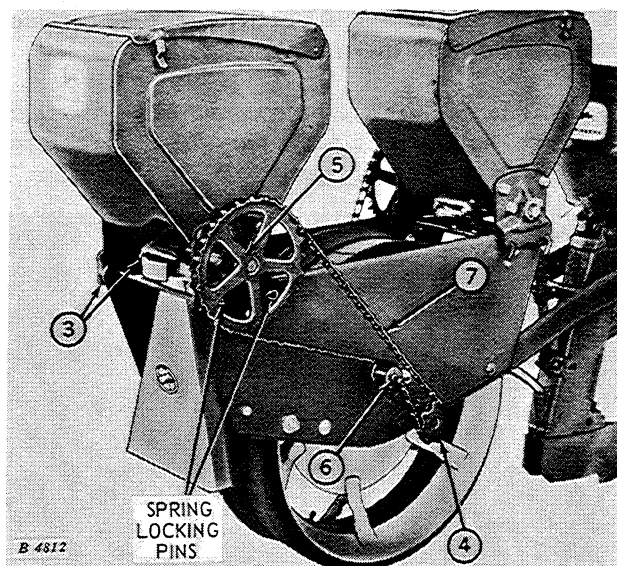
NOTE: The diffuser may have to be raised or lowered so there is clearance for the metering assembly to operate freely.



2. Attach the cover to the diffuser with the quik-lock pin.



Regular Herbicide Attachment



Large Capacity Herbicide Attachment

3. Attach the herbicide hopper to the fenders with the pins and spring locking pins.

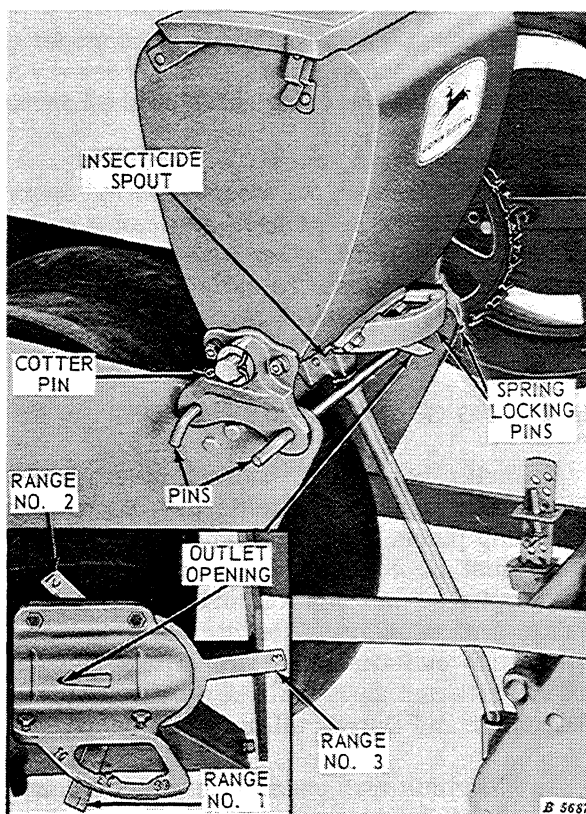
4. Install the drive sprocket.

5. Install the driven sprocket.

6. Install the chain idler.

7. Install the drive chain. Be sure the open end of the chain links run in the direction of travel. Tighten the chain idler.

INSECTICIDE ATTACHMENT



Each regular insecticide hopper has a capacity of approximately 15 pounds and each large capacity hopper has a capacity of approximately 30 pounds. The unit will apply insecticide in the row with the seed at the time of planting.

RATE OF APPLICATION

The chemical manufacturer will recommend the rate of application.

METERING GATE

The metering gate on the hopper can be adjusted for range 1, 2, or 3. The delivery rate will increase from range 1 through range 3. To change from one range to another push down slightly on the metering gate and rotate it to the desired range.

There are 33 intermediate notches for each range. The delivery rate will increase from notch 1 through notch 33.

Use the following metering gate setting as a starting point for distributing with 30-inch row spacing, at 5 miles per hour.

Metering Gate Setting* (Starting Point Only)		
For a 30-inch row spacing and a speed of 5 miles per hour		
Desired Rate of Band Application	Range	Notch
4.0 pounds per acre	1	27
5.3 pounds per acre	1	31
6.7 pounds per acre	2	1
8.0 pounds per acre	2	6
10.3 pounds per acre	2	11
10.6 pounds per acre	2	16
12.0 pounds per acre	2	20
13.3 pounds per acre	2	24

*For 28-inch rows divide above amounts by 0.93

*For 38-inch rows divide above amounts by 1.27

*For 40-inch rows divide above amounts by 1.33

NOTE: For speeds faster than 5 miles per hour use a higher notch setting. For speeds slower than 5 miles per hour use lower notch setting.

Set each unit at the desired starting point.

CHECKING RATE OF APPLICATION

The rate of application of insecticide is affected by travel speed of the planter. Select a speed that can be maintained uniformly even when traveling up hill or down hill.

Check the insecticide attachment in the field at planting speed.

NOTE: Do not turn the press wheel by hand to check rate of application.

The rate of delivery may be affected by changes in temperature, humidity, speed, ground conditions, or by any obstruction in the metering device. Also, large variations may exist in the "flowability" of different insecticides or sometimes within the same insecticides.

Fill the insecticide hoppers. Empty all other hoppers on the planter.

To check the exact number of pounds of your insecticide that will actually be delivered, proceed as follows:

Attach one of the cloth bags furnished under the outlet of each insecticide hopper. Lower the planter and drive 80 rods at planting speed. Weigh the insecticide (in ounces) that was caught in one cloth bag. Multiply that amount by the number of rows per acre as shown below and divide that amount by 16.

Check the insecticide caught in each cloth bag in the same manner.

Number of 80-Rod Rows Per Acre	
Row Width	Number of Rows
40''	10
38''	10.5
30''	13.3
28''	14.34

If the amount of insecticide caught in one cloth bag (one-row) was 4.8 ounces, multiply 4.8 ounces times 10 (number of rows), which is 48 ounces. Then divide 48 ounces by 16 and the result will be 3 pounds per acre.

If the desired pounds per acre is not obtained for each unit with the first setting, adjust the metering gate and repeat the check until desired amount is delivered.

FIELD OPERATION

While planting, protect against improper application by frequent checks and necessary adjustment of metering gates in hoppers.

NOTE: A slight amount of insecticide will be discharged through the hopper outlet opening when turning at the end of the field or when the planter is stopped. When transporting it may be desirable to close the outlet opening by setting range No. 1 in notch No. 1 to prevent leakage.

HANDLING INSECTICIDES

Most insecticides readily accumulate moisture and cause metal to corrode. This corrosion not only shortens metal life but leads to unnecessary expense for parts broken because of binding or "freezing." Deposits of insecticides will build up in the hopper and interfere with working parts. Therefore, the hoppers should be cleaned every day of use.

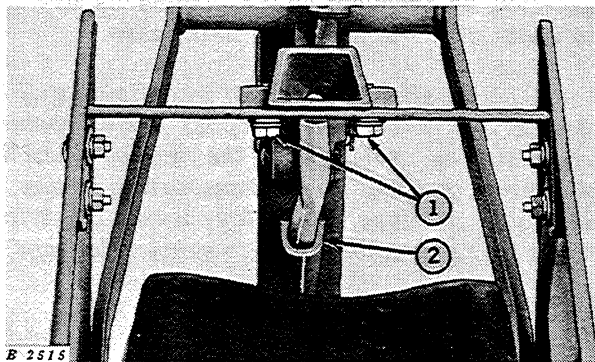
Agricultural chemicals can be dangerous. Improper selection or use can injure persons, animals, plants, soils, or other property. **BE SAFE:** Select the right chemical for the job. Handle and apply it with care. Follow instructions of the chemical manufacturer.

CLEANING HOPPERS

At the end of each day's use the hoppers should be thoroughly cleaned. Remove the hoppers by removing the pins and spring locking pins.

Remove the fluted roller from the hopper by first removing the cotter pin at the right-hand end of the hopper drive shaft. Remove the spring loaded pin from the fluted roller. Pull the shaft from the left-hand side of the hopper and remove fluted roller from hopper. Clean the hopper, outlet opening and fluted roller thoroughly.

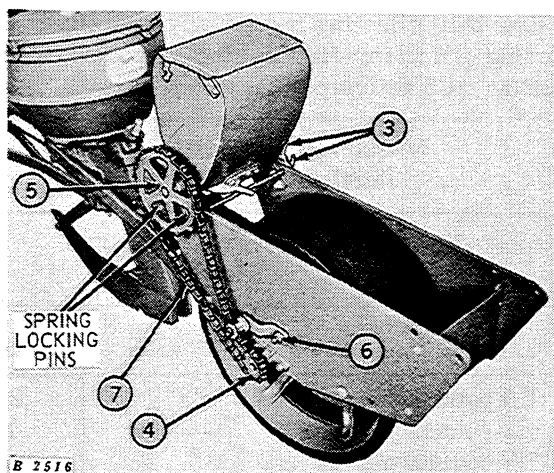
ASSEMBLY



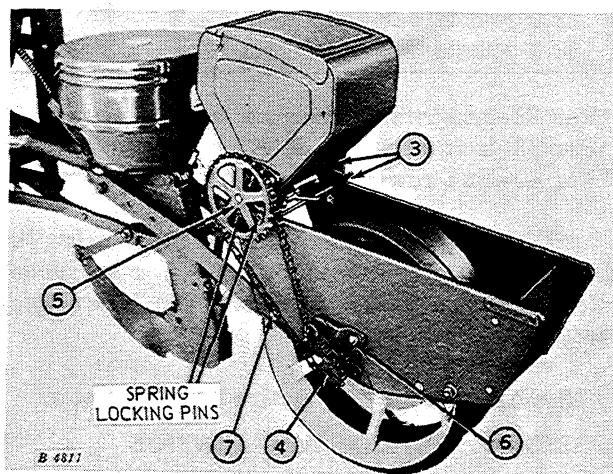
1. Attach the insecticide spout and delivery hose assembly to the front fender brace.

NOTE: Adjust the insecticide spout so it is exactly centered under the opening in the hopper bottom. This adjustment must be made for each setting.

2. Install the delivery hose in the shank.



Regular Insecticide Attachment



Large Capacity Insecticide Attachment

NOTE: Do not insert the hose too far into the shank. If it is necessary to cut off any of the hose, do so only when the planter is set for maximum planting depth.

3. Attach the insecticide hopper to the fenders with the pins and spring locking pins.

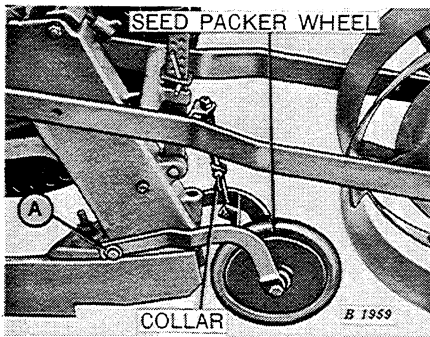
4. Install the drive sprocket.

5. Install the driven sprocket.

6. Install the chain idler.

7. Install the drive chain. Be sure the open end of the chain links run in the direction of travel. Tighten the chain idler.

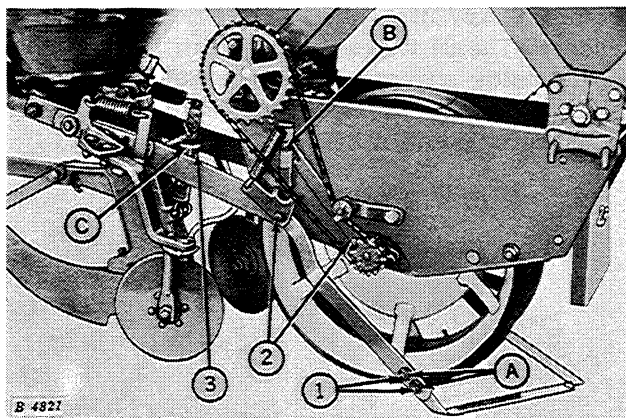
SEED PACKER WHEELS



The seed packer wheels run directly behind the planter runners and press the seed against the moist soil in the bottom of the runner furrows. They are not recommended for loose soils such as peat, or wet sticky soils.

A bushing through each shank at "A" permits the packer wheels to pivot up and down. Pressure can be applied to each packer wheel by moving the collar up and placing tension on the spring.

ROW LEVELING BLADES



This attachment will mix either granular or sprayed herbicide in the soil from the surface to a depth of approximately 1/2-inch, depending on soil types and conditions.

Covering knives or disk coverers are recommended to be used in conjunction with the row leveling blades.

ASSEMBLY

1. Bolt each covering blade to arm.

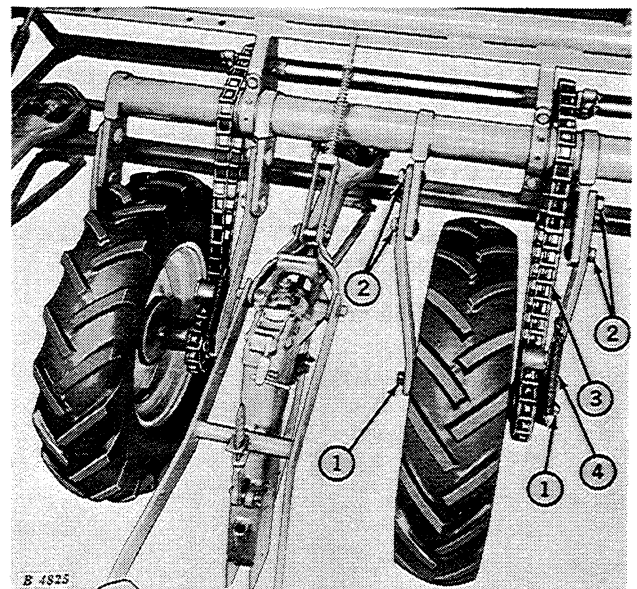
2. Attach each arm to frame.
3. Install stop on each depth gauge.

Adjust each leveling blade at "A" to change the pitch.

Adjust at "B" for depth or to raise the leveling blades for transporting.

The stop on each depth gauge holds the press wheel frame up so that the press wheel and covering blade will not drag when turning and transporting the planter. Adjust at "C."

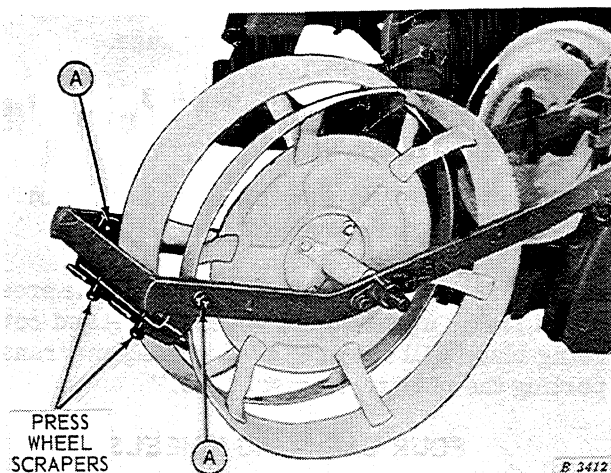
FOUR CARRYING WHEELS



The four carrying wheels are available for use in soil conditions where it is desirable to have more flotation when planting.

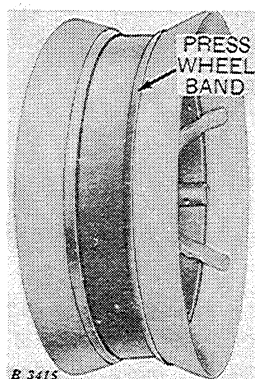
1. Install the complete wheel assemblies in the wheel frame brackets and secure in place with axle bolts and nuts.
2. Bolt wheel frame brackets to wheel frame.
3. Attach each chain so open end of links will run in direction of travel.
4. Hook chain idler spring to chain idler and wheel frame.

NOTE: Do not use larger than 9 inch Double Disk Furrowers when using Four Carrying Wheels.

PRESS WHEEL SCRAPERS

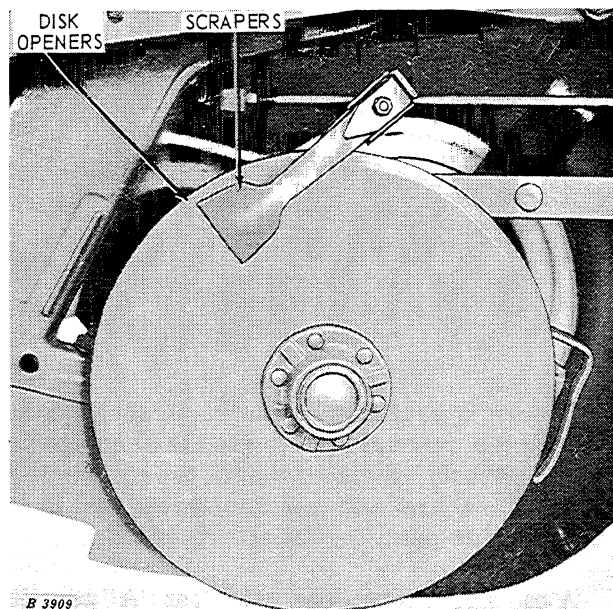
Press wheel scrapers will keep the wheels clean if the soil has a tendency to stick to the steel press wheels. The scrapers cannot be used when the press wheels are equipped with semi-pneumatic tires.

Adjust the scrapers at "A" so they just contact the press wheels.

PRESS WHEEL BANDS

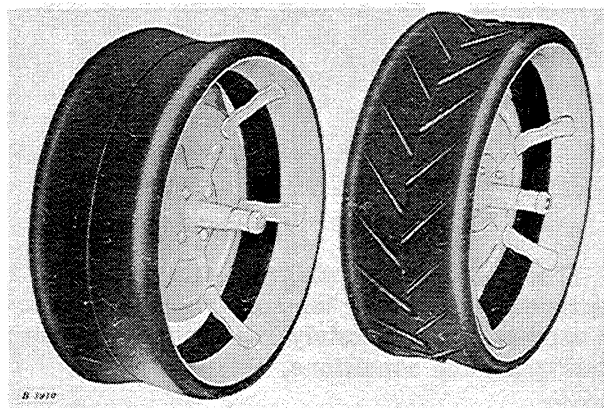
For a more compact seedbed, steel bands can be installed on the press wheels. These bands will close up the openings and make the press wheels solid.

Install a steel band on each press wheel so the top of the overlap points opposite the direction of wheel travel. This will prevent the press wheel scrapers from catching the overlap when the planter is in operation.

14-INCH DOUBLE-DISK OPENERS

The 14-inch double-disk openers with anti-friction bearings are available for fields which contain considerable amounts of cornstalks, quack grass or other trash.

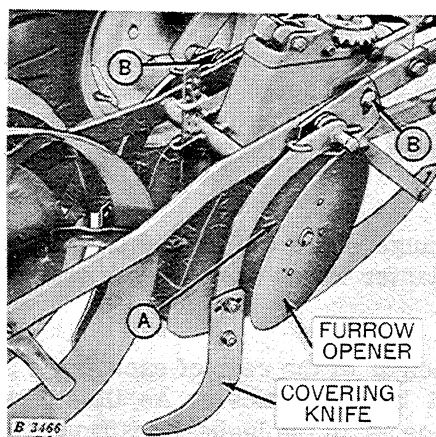
The double-disk openers consist of one 14-inch flat disk attached to each side of the planter runner. The disks are equipped with both inside and outside scrapers, and a shield to prevent small clods or stones from entering above the converging point of the disks.

RUBBER PRESS WHEEL TIRES

In wet, sticky soil conditions, where the scrapers do not clean the steel wheels properly, the flexing action of the semi-pneumatic rubber tires sheds the soil and keeps the wheels cleaner. No scrapers are used with the tires.

The tires (smooth type B16048B—cleated type B16049B) are attached to the wheels by stretching them over the steel rims much the same as an automobile tire; they require no cement and, of course, no air pressure. Attaching the tires is much easier if a tire soap is used on the tires as well as on the steel rims.

9-INCH DOUBLE DISK FURROWERS AND COVERING KNIVES



The 9-inch disk furrowers are available for planting the seed in shallow furrows. The disks will push aside clods and kill the weeds next to the row.

The disks can be adjusted up or down at "A" to make deeper or shallower furrows.

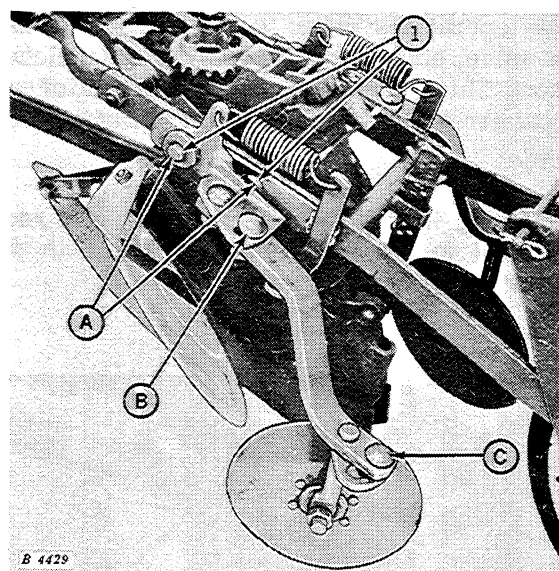
When installing the disk furrowers, it is necessary to remove one disk in order to get the assembly into position over planter shank.

Covering knives or disk coverers should be used with the disk furrowers for more positive covering, especially when planting shallow.

Adjust the covering knife at "B" to bring the desired amount of soil in over the seed.

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

8-INCH DISK COVERERS WITH ANTI-FRICTION BEARINGS



The 8-inch disk coverers are used for more positive coverage. Disk coverers are recommended to be used with disk furrowers and row leveling blades.

ASSEMBLY

1. Attach disk coverer to the planter frame as shown.

The bracket can be moved up or down at "A" for depth regulation.

The width of the cut can be adjusted at "B."

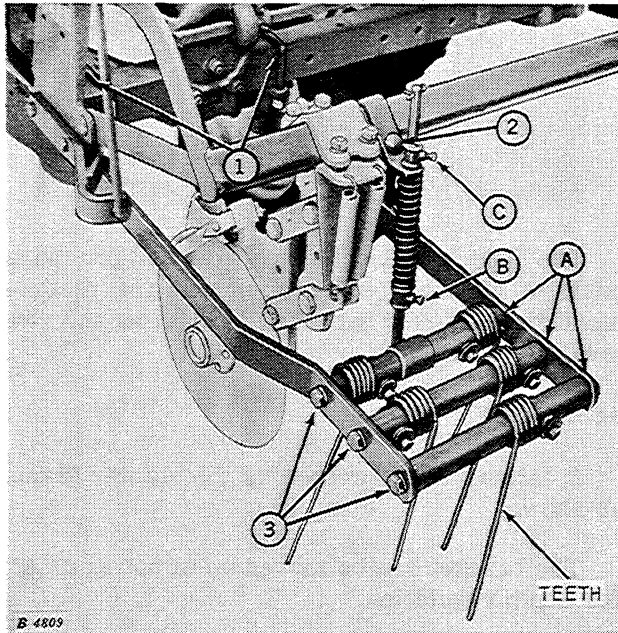
To angle the disks for degree of coverage adjust at "C."

MINIMUM TILLAGE ATTACHMENT

The minimum tillage attachment decreases tillage operations prior to planting. It pushes clods aside, eliminates air pockets and mulches the soil. This attachment prepares a band of soil approximately 10 inches wide in front of the seed opener.

Covering knives or disk coverers are recommended to be used in conjunction with the minimum tillage attachment.

ASSEMBLY



1. Attach the minimum tillage attachment to the planter sill bar.

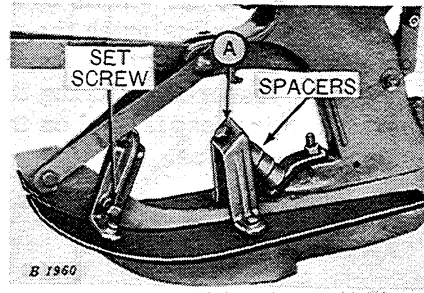
2. Attach the spring pressure rod bracket to the front support pipe.

3. Adjust the teeth to a 45 degree angle, so they are pointing to the rear of the planter. Final adjustment must be made in the field to suit field condition.

NOTE: The minimum tillage attachments are right- and left-hand. The offset arm should be on the same side of the row as the fertilizer opener and the teeth should be pulling against the rod.

The angle of the teeth may be adjusted at points "A." Spring pressure may be adjusted up or down at "B." Transport clearance is adjusted at "C."

GAUGE SHOES



In extremely loose ground conditions a more uniform planting depth can be obtained by installing gauge shoes on the planter runners. The gauge shoes will add flotation to the planter runners.

The gauge shoes are adjustable up and down on the planter runner for deeper or shallower planting.

The height of the rear of each gauge shoe is regulated by the spacers. As illustrated, the gauge shoe is in the highest position. To lower the rear of the gauge shoe, and reduce the planting depth, move one or more spacers on top of bracket "A."

A set screw holds the front of each gauge shoe to the planter runner. To lower the front of the gauge shoe, loosen the set screw, move gauge shoe down to desired position and tighten the set screw securely.

PEA AND BEAN ATTACHMENT

The pea and bean attachment is available for planting peas or beans in the row with the corn.

It consists of a pea or bean hopper, special combination corn and pea cut-off plate, and pea or bean plates. The pea hopper fits inside the corn hopper; however, it leaves plenty of room for the seed corn.

This attachment can be quickly and easily inserted or removed. For planting soybeans or peas alone, special plates can be obtained for the regular corn hopper.



SAFETY SUGGESTIONS

Be careful when operating the planter, to avoid injury to the operator and his assistants.

The planter should always be lowered to the ground when not in use. Whenever possible, service work and adjustments should be performed with the planter on the ground.

If the planter must be in a raised position while working on or near it, it should be securely supported by blocks.

Only one person—the operator—should be permitted on the tractor platform while tractor and planter are in operation.

Keep the loose end of each marker chain in the marker stop at all times, except when planting.

Never clean, lubricate, or adjust a machine that is in motion.

Refuel the tractor only when the engine has been shut off. Do not smoke or use an oil lantern when working around inflammable fuel, especially when refueling the tractor.

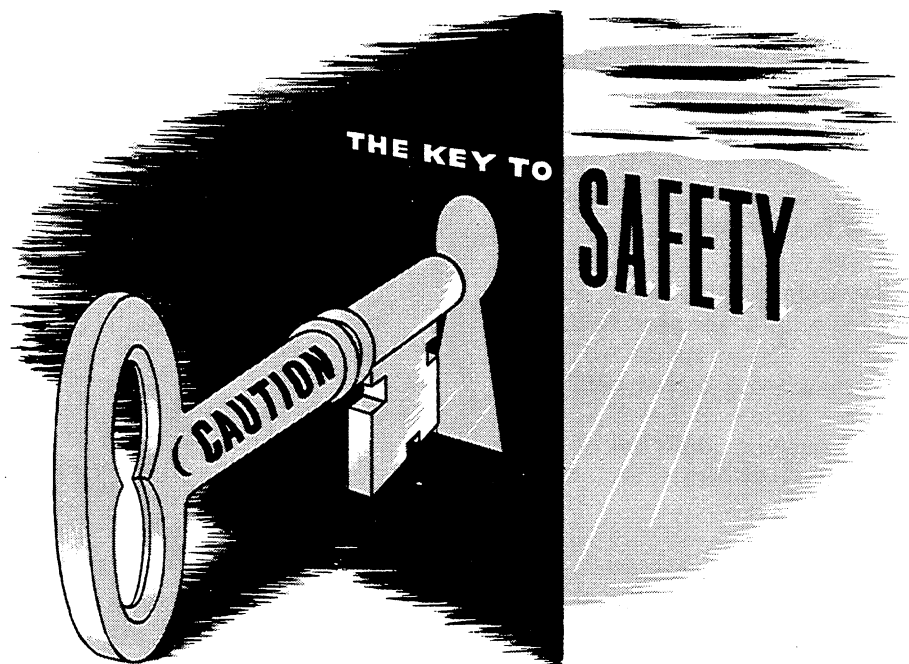
Never ride or permit others to ride, on the drawbar of the tractor or on the planter.

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

Be careful when operating on hillsides because the tractor may tip sideways if it strikes a hole, ditch, or other irregularity.

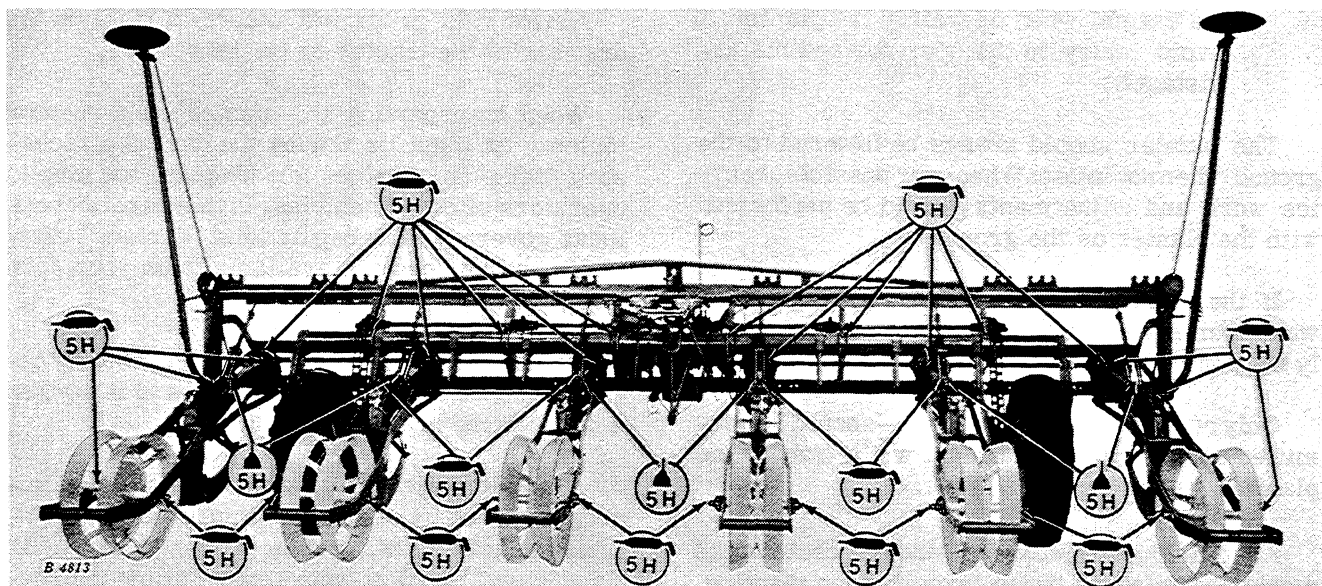
Agricultural chemicals can be dangerous. Improper **selection** or **use** can injure persons, animals, plants, soils, or other property. **BE SAFE:** Handle and apply it with care. Follow instructions of the chemical manufacturer.

Finally, remember this: An accident is usually caused by someone's carelessness, neglect, or oversight.





LUBRICATION



Symbols



Lubricate every 5 hours of operation with SAE Multipurpose grease.



Oil every 5 hours of operation.



Lubricate every 5 hours of operation with SAE Multipurpose grease.

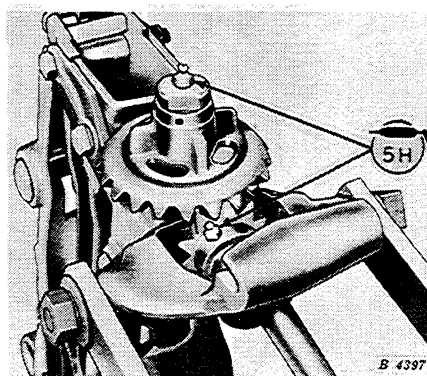
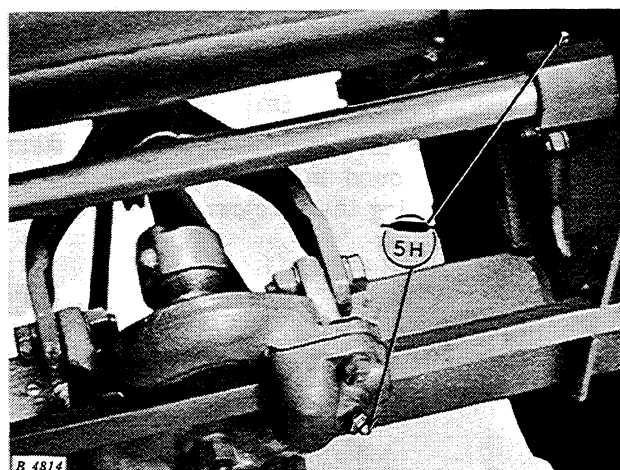
Clean grease fittings before using grease gun. Replace any lost or broken fittings immediately.

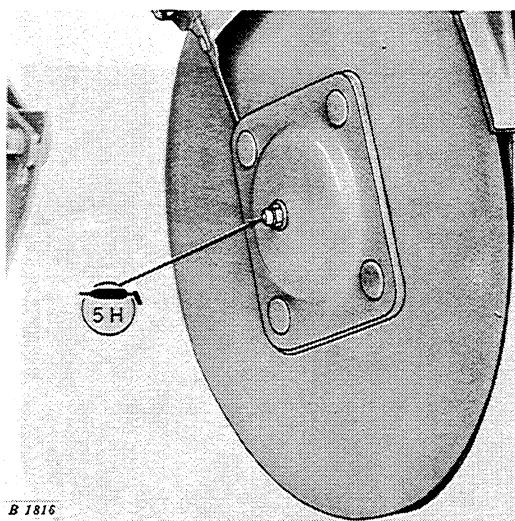
CAUTION: Do not oil or grease a machine while it is in motion.

IMPORTANT: Sprinkle a teaspoonful of powdered graphite over the top of the seed each time the hoppers are filled. The graphite will filter throughout the seed insuring a better cell fill.

The graphite does not eliminate the need for proper and regular lubrication as indicated in the lubrication charts.

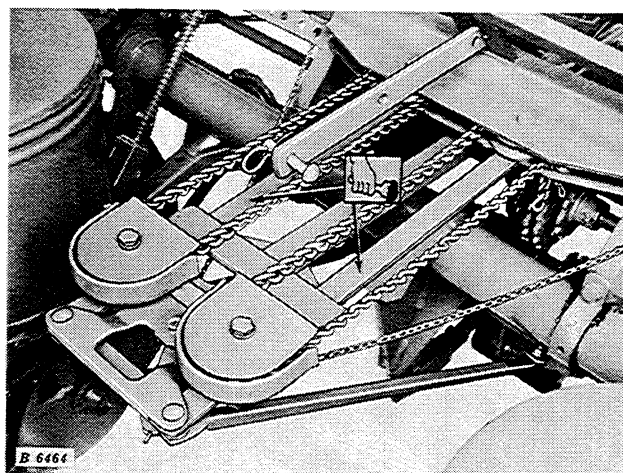
Regular and systematic lubrication is the best assurance against breakdowns and delays. It will provide better service from your Corn Planter and save on your repair bills.



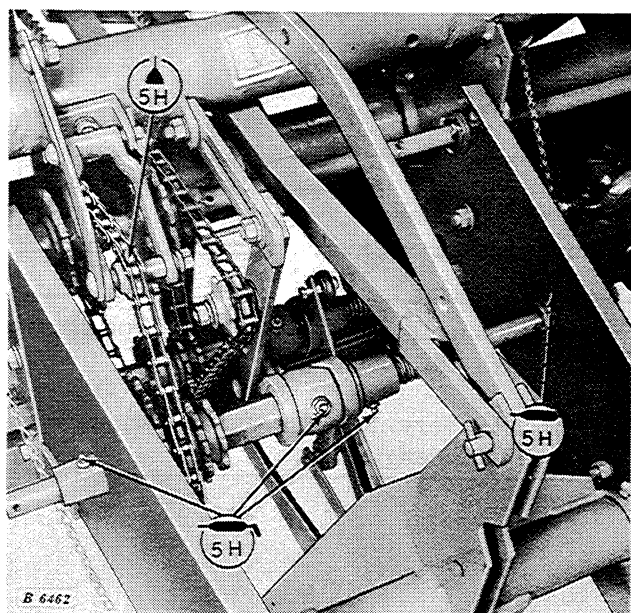


B 1816

11-Inch Double-Disk Fertilizer Opener

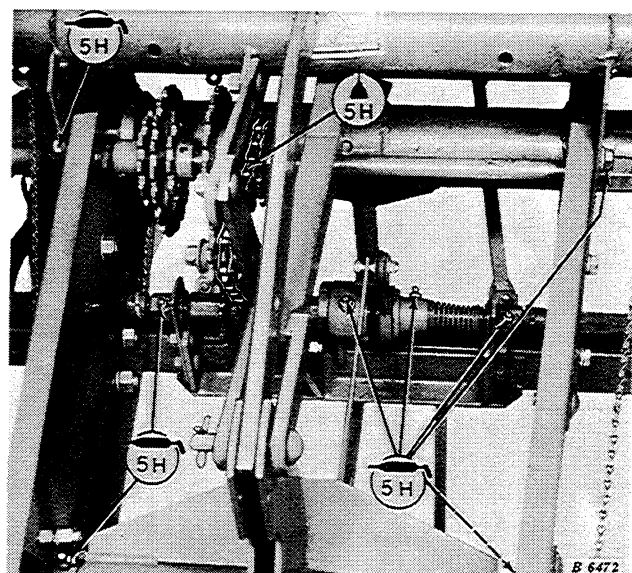


B 6466



B 6462

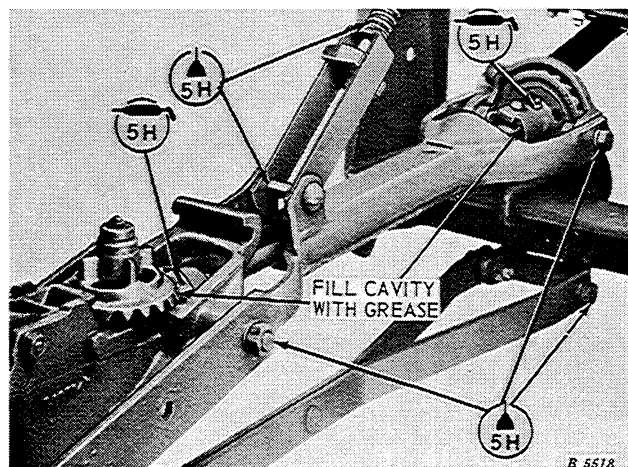
Fertilizer Drive



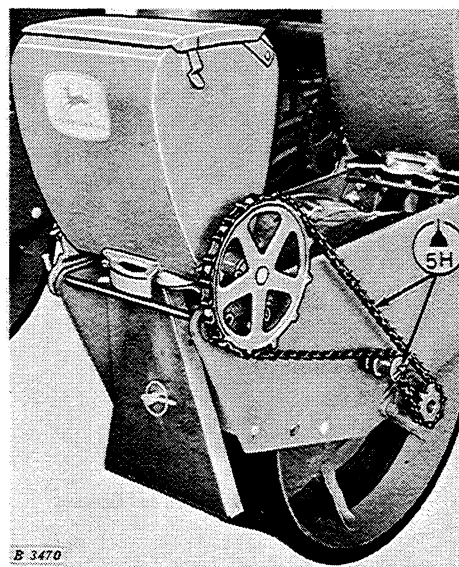
B 6472

Lift Lever and Countershaft Bearings

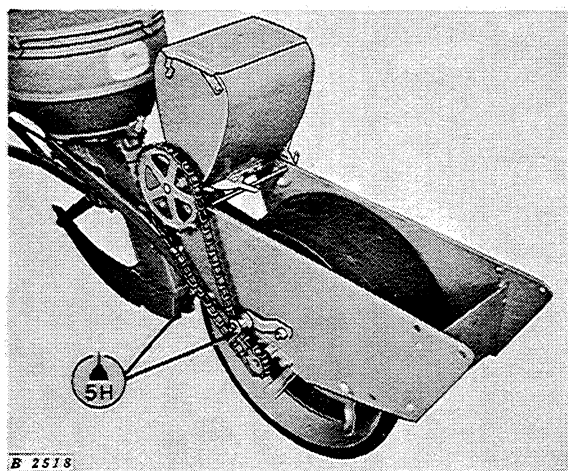
LUBRI CATION—Continued



*Lubricate Each End of the Counter Drill Shaft
Twice Each Year*



Granular Herbicide Attachment



Insecticide Attachment

An accident is usually caused by someone's carelessness, neglect, or oversight.

Symbols



Lubricate every 5 hours of operation with SAE Multipurpose grease.



Oil every 5 hours of operation with SAE 30 engine oil.



SERVICE

AT THE BEGINNING OF THE SEASON

CLEANING

Clean planter thoroughly. Be sure there are no obstructions in the shanks.

Clean and oil the marker control latch, in the center of the planter frame, so it operates freely.

Inspect the seed hopper bottoms, cut-off tongues, and roller knockers.

If dry fertilizer parts were oiled when the planter was stored, wipe all parts dry.

Be sure all hose connections and gaskets are tight on the liquid fertilizer attachment.

Check and tighten all nuts and bolts. Replace any worn or broken parts, if this was not done when planter was stored. Inflate tires to 24 psi air pressure.

LUBRICATION

Grease and oil planter thoroughly. Do not use oil on the valves in the planter shanks.

Turn to pages 36 through 38 for guidance to lubricate your planter. These charts show you the proper places to lubricate and also the time intervals between lubrications.

AT THE END OF THE SEASON

Before storing the planter be sure the valves are empty.

At the end of each season, clean and grease the planter and inspect for worn or broken parts. Order needed replacement parts or make necessary adjustments at once. This will avoid needless delays when the next planting season arrives and will assure that the planter is ready to give satisfactory performance. Proper care will add years to the life of the planter.

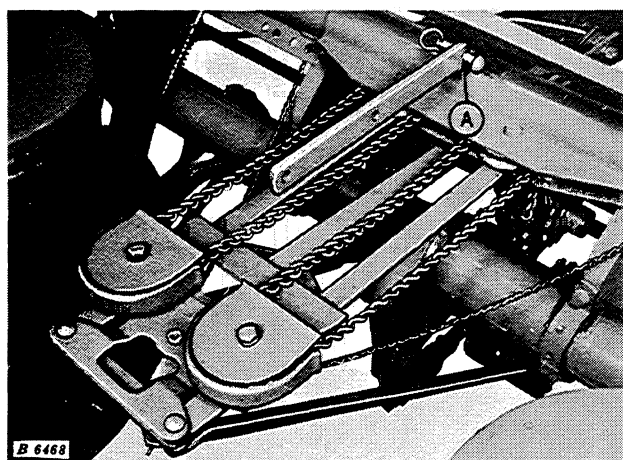
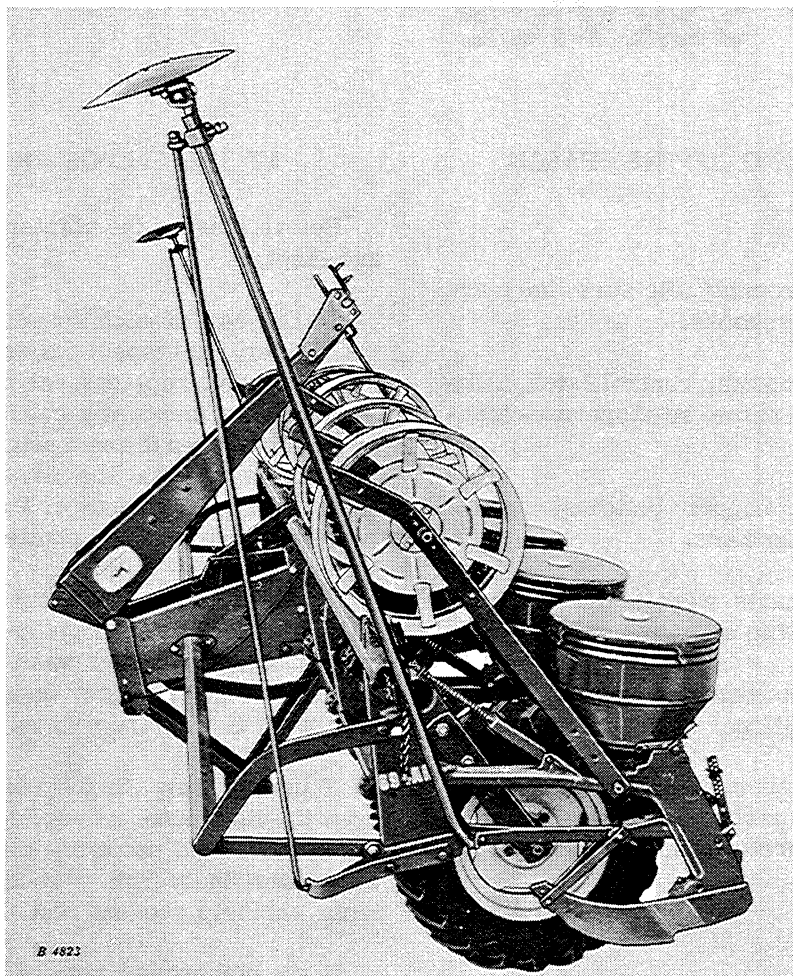
If planter has a dry fertilizer attachment, clean the fertilizer hoppers and openers thoroughly. Clean out and wash the rubber spouts. The life of the fertilizer hoppers will be greatly increased if they are painted on the inside.

If planter has a liquid fertilizer attachment, open the distributor valve and flush water through the system. Add about one pint of light oil to the last water flush. This will coat the inside of the tanks and help prevent rust.

If the planter is equipped with an insecticide and/or granular herbicide attachment, clean out the inside of the hoppers thoroughly. Remove the fluted rollers from the hoppers and clean the rollers and the shafts. (See pages 24 through 30.)

The world's best safety device is a careful operator.

STORING PLANTER



Extend the remote hydraulic cylinder and insert the pin in hole "A" as shown.

Remove the bottom bolts and loosen the top bolts that hold the front hitch panels to the rear hitch panels. Loosen truss rods and remove them from the hitch panel and main frame of planter. Swing the front hitch panels up over the planter.

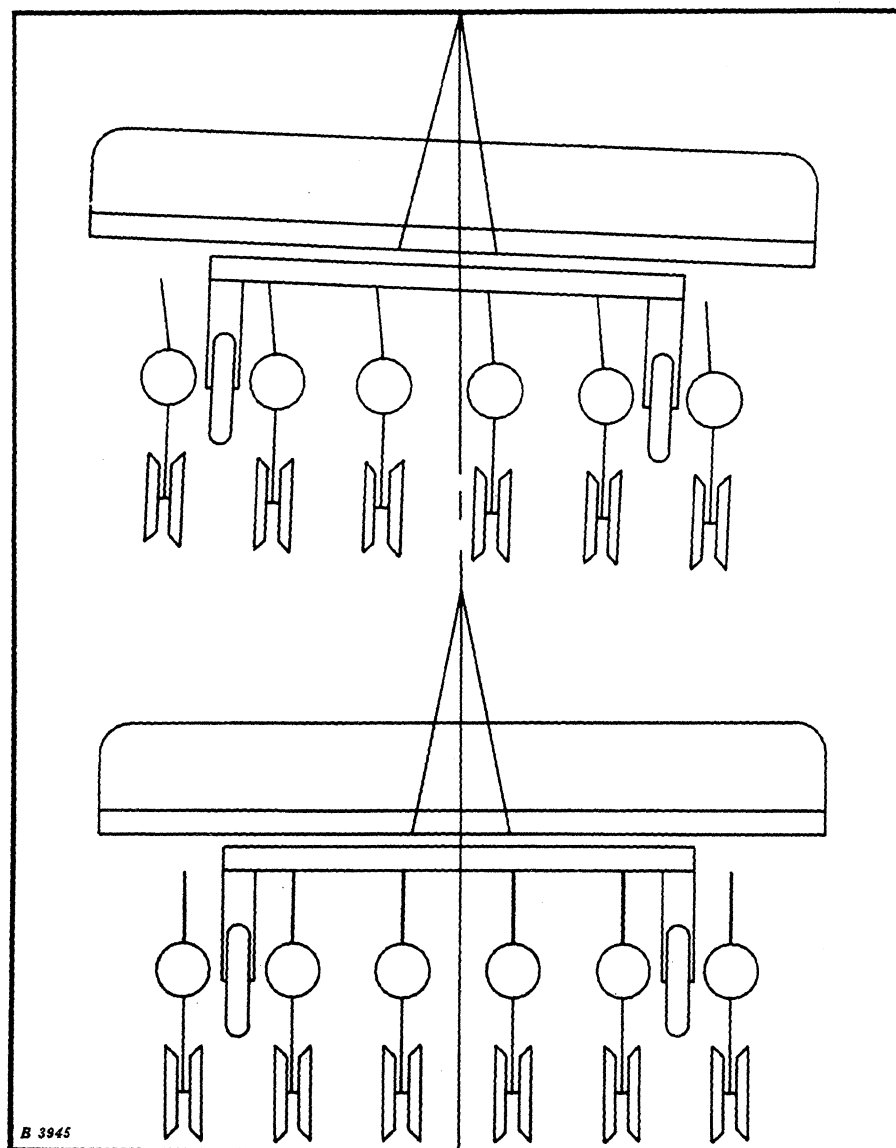
Remove the hoppers and swing the press wheels up until they rest on the mainframe. Set the hoppers on the shanks.

Place the loose end of each marker chain in the marker stop if the markers are not removed.

However, the markers can easily be removed. DO NOT lay the markers or anything else on the marker control mechanism as these parts may get bent and fail to operate correctly.

If the planter does not have protection from the weather, it is advisable to cover it with a canvas or other suitable material.

RUNNER ALIGNMENT



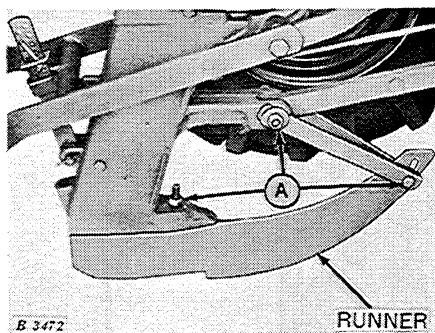
The above illustration is an exaggerated example of what happens to the planter when the runners are out of alignment. In the lower portion of the illustration, the planter has been lowered and stopped, squarely behind the tractor, immediately after turning at the end of the field. In the upper portion of the illustration, the

planter has been moved forward a few feet from the end of the field. This illustrates what happens when the runners point to the left.

The runners can be forced out of alignment by turning the planter around in hard ground without raising the planting units.

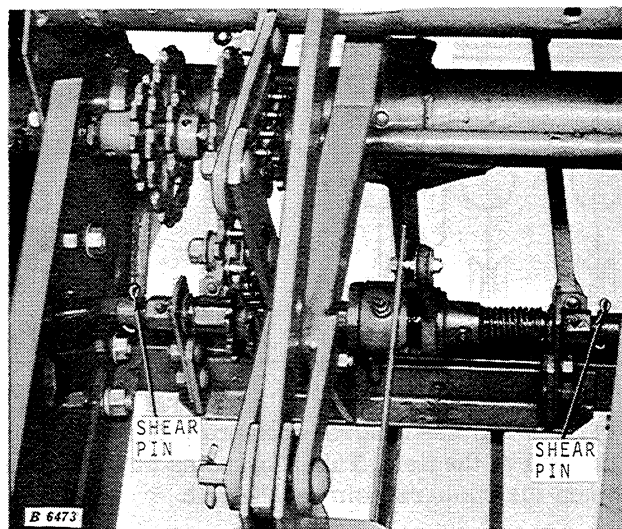
RUNNER ALIGNMENT—Continued

The planter runners act as rudders for the planter. If the runners get out of alignment, the planter will run diagonally through the field causing increased draft and difficulty in spacing rows.



If the runners are out of line, loosen bolts "A," which hold the runners and runner braces. Set the runners straight (at right angles to front frame) and tighten bolts "A," securely.

DRILL SHAFT PINS



The shear pins, which connect the drill shaft to the gear shaft, will shear when an excessive load is put on the drill shaft.

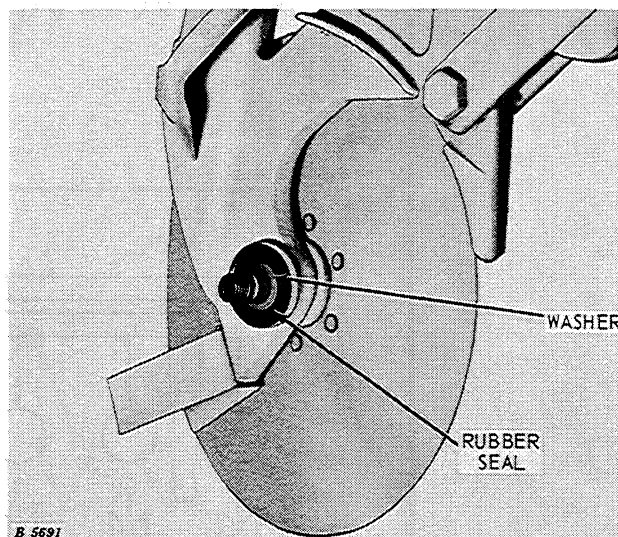
Infrequent or improper lubrication causes "binding" of moving parts within the planter. This "binding" will cause the shear pins to shear, thus preventing breakage of other planter parts.

If these shear pins break, turn the drill shaft by hand to locate where the "binding" is occurring. When the drill shaft can be turned freely by hand, replace the broken shear pins.

NOTE: Replace shear pins only with shear pins of the same size and specifications. Do not replace with other type pins.

The best preventive measure against "binding" or breakage of parts on your Corn Planter is proper and frequent lubrication. See the lubrication charts on pages 36 through 38 for guidance to lubricate your Corn Planter.

DOUBLE DISK FERTILIZER OPENERS AND DOUBLE DISK SEED OPENERS WITH ANTI-FRICTION BEARINGS



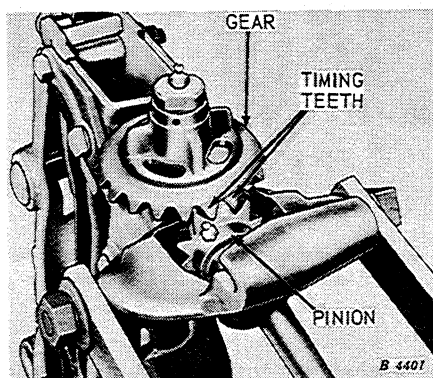
If the double disk openers are disassembled for any reason, before assembling fill the cupped portion of the rubber seal with special grease. (One pound can of special grease—part no. AM12000M.)

NOTE: Add or remove metal washers as necessary to space disk blades until they make contact, yet turn freely.

TIMING THE PLANTER

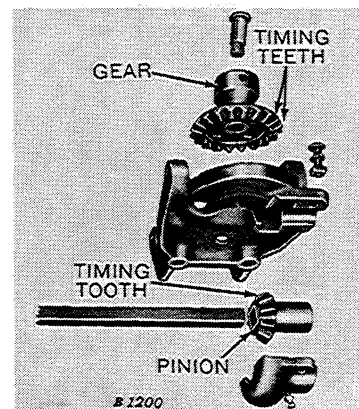
The only gears that need to be timed are located under the hoppers, on the front sill bar brackets, and in the gear case. These gears are all timed at the factory, but if for any reason any of these gears are removed from the planter, they will have to be correctly timed when reinstalled.

TIMING OF GEARS UNDER EACH HOPPER



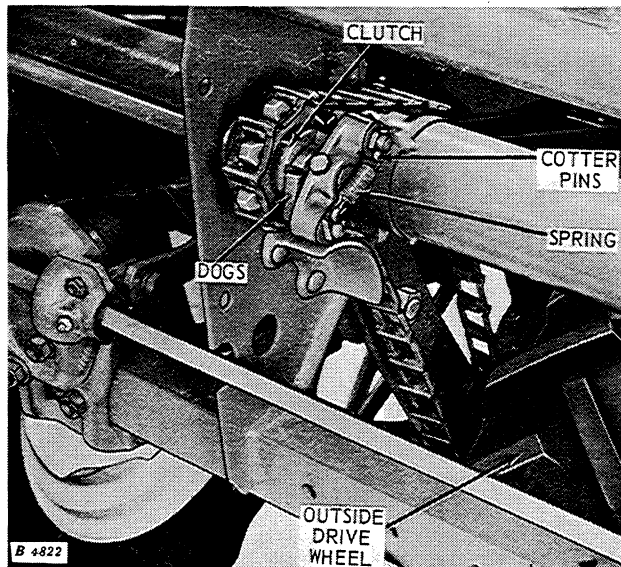
Turn the pinion so the timing mark is up, and place the drive gear so the two marked teeth mesh with the marked tooth on the pinion. The timing marks will line up every other revolution of the small pinion gear.

TIMING OF GEARS ON FRONT SILL BAR BRACKET

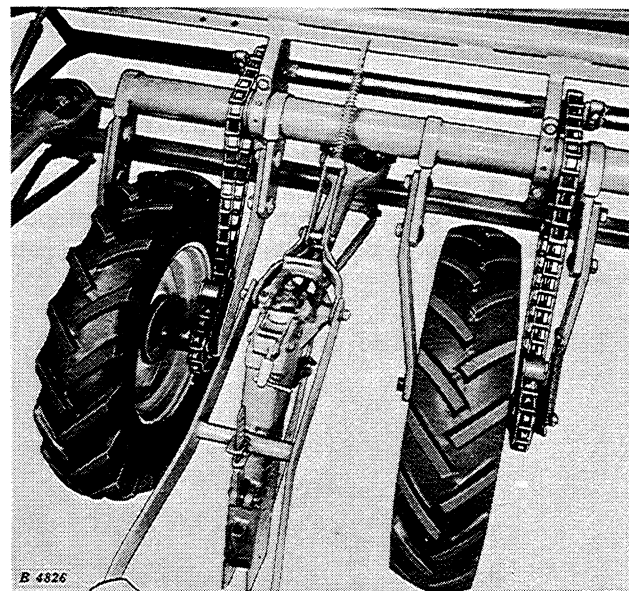


The timing teeth must be together when the gears are installed on the front sill bar bracket. Mark the timing teeth on both gears with chalk. When properly timed, the timing marks will line up every other revolution of the small pinion gear.

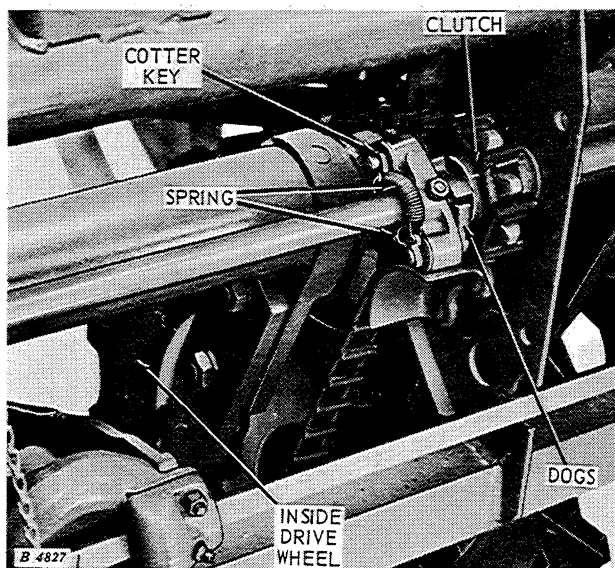
RATCHET DRIVE



Ratchet Drive Positioned for Planting Six 28- or 30-Inch Rows



Dual Wheel Positioning of Ratchet Drive for Planting Six 28- or 30-Inch Rows



Ratchet Drive Positioned for Planting Four 38- or 40-Inch Rows

The ratchet assembly must operate freely and the spring must bring the dogs back against the clutch.

If the spring does not bring the dogs back against the clutch, push the cotter pins all the way in and spread the cotter pins.

CAUSES FOR COMMON DIFFICULTIES ENCOUNTERED WHEN PLANTING**Inaccurate Drop**

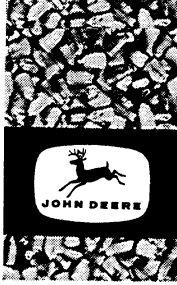
- A - Poorly graded corn.
- B - Wrong seed plates.
- C - Floor plate turned wrong side up or wrong false ring used.
- D - Planter out of time. (See page 43.)
- E - Alternating plates used with variable drop set on 2 or 3.
- F - Cut-off or knocker worn or not working freely.
- G - Seed interfering with proper action of cut-off and roller knocker. (Seed may drop into cut-off and knocker housing, if hopper is inverted when changing seed plates.)
- H - Chain on wrong sprocket or too loose.
- I - Obstruction in shank.
- J - Planting too fast. (See page 12.)

Planting More Corn in Some Rows Than in Others

- A - Seed interfering with proper action of cut-off and roller knocker. (Seed may drop into cut-off and knocker housing if hopper is inverted when changing seed plates.)
- B - Cut-off tongue worn or out of position.
- C - Weak or broken cut-off spring.
- D - Floor plate turned wrong side up.
- E - Wrong seed plate or false ring in one hopper.
- F - Warped false ring.
- G - Hopper not clamped down tight.



MEMORANDA



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