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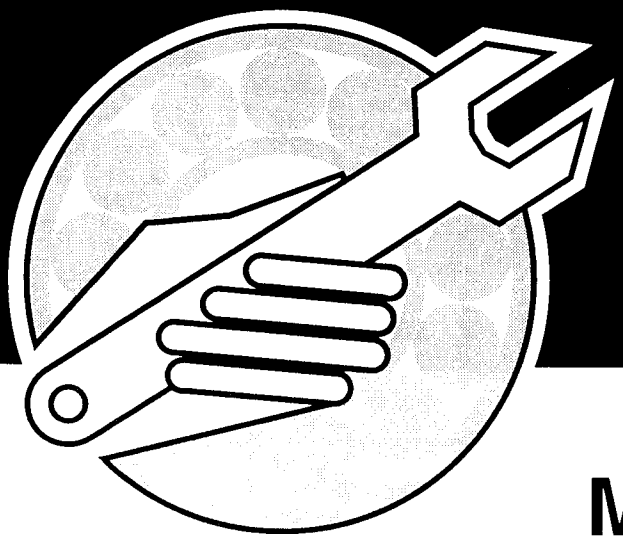
MORRIS Industries Ltd.

Operator's Manual



M-11
Seed-Rite

Part Number S12989

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PRE-DELIVERY CHECK SHEET
PLEASE FOLLOW CAREFULLY

PLEASE PRINT

Model _____

Serial No. _____

Dealer _____

Town _____ Prov. (State) _____

Serviced By _____

BEFORE DELIVERING MACHINE — The following pre-service check list should be completed.
Use the OPERATORS MANUAL as a guide.

LUBRICATION

[✓] **GREASE**

_____ 1. Castor Wheel Pivot (1 Per Machine)

_____ 2. Castor Wheel Hub

_____ 3. Shank Trips

_____ 4. Weeder Support Bars

_____ 5. Rocker Tube

_____ 6. Drive Sleeve

_____ 7. Main Axle Bearing

_____ 8. Rocker Shaft Stubs

TIRE PRESSURE

_____ Castor Wheel — 7.60 x 15 4 Ply Rib Implement — 24 lbs. (165 kPa)

_____ Outer Wheels — 7.50 x 20 6 Ply Rib Implement — 36 lbs. (248 kPa)

DRIVE CHAINS

_____ Check alignment and tension

[✓] **OIL**

_____ Fertlizer Drive Box (Check through sight glass)

_____ Pressure Shaft Bearings

_____ Seed Drive Box (Check through sight glass)

_____ Feed Chain Tightener (Oil Pivot)

TRANSPORT

_____ Wedge should be in transport lock position on depth control cylinder

_____ Remove the Drive Chain on Rod Weeder Drive

GENERAL

_____ Check if assembled correctly

_____ Check wheel bolts for tightness

_____ Check hydraulic hose connections

_____ Turn feed shafts by hand to check for binding

_____ **The Operator's Manual was delivered to the owner and he has been instructed as to its contents.**

I HAVE READ THE INSTRUCTIONS AND AGREE TO LUBRICATE AND CARE FOR THE EQUIPMENT AS REQUESTED

OWNER
OPERATOR _____

DATE _____

WARRANTY IS AFFECTED UNLESS CHECKSHEET IS COMPLETED AND SIGNED BY DEALER REPRESENTATIVE

NOTE: DO NOT REMOVE FROM BOOK

THIS PAGE IS NOT WARRANTY APPLICATION

Take Time to Take Care

IN THE OPERATION OF TRACTORS AND IMPLEMENTS

— Shut tractor off before making adjustments or lubricating machine.

— Stand clear when raising or lowering machine.

— Hydraulic oil escaping under pressure from a very small hole can penetrate skin. Use cardboard or wood to detect leaks. **NEVER USE YOUR HANDS** - if injured seek medical help immediately - serious infection or reactions can develop.

— Block machine securely when making reparis. Never remove hoses or hose ends with machine elevated.

— Check behind machine when backing.

— Do not allow anyone to ride oi climb on machine when working or transporting.

— Do not transport in poor visibility.

— When transporting machine adhere to recommended safe speeds.

— When transporting be sure transport lock wedge is in transport position.

— Double check that all is clear before activating hydraulics.

— Use SMV (Slow Moving Vehicle) emblem for warning vehicles approaching from the rear.

— When filling the grain box or climbing on the drill always use the foot boards.

— When using treated grain avoid direct contact with seed.

— When using compressed air to clean the drill, wear safety glasses.

TAKE SAFETY SERIOUSLY — DON'T TAKE NEEDLESS CHANCES

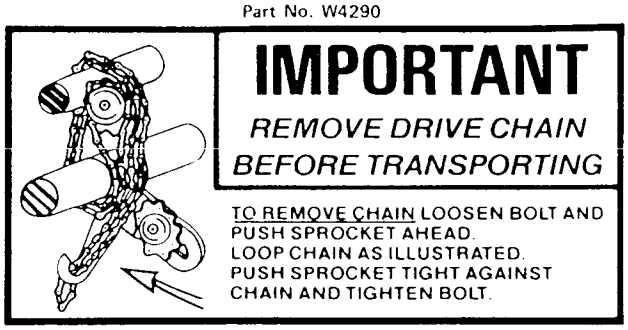
UNIVERSAL SAFETY

FARM ACCIDENTS can be prevented with your help

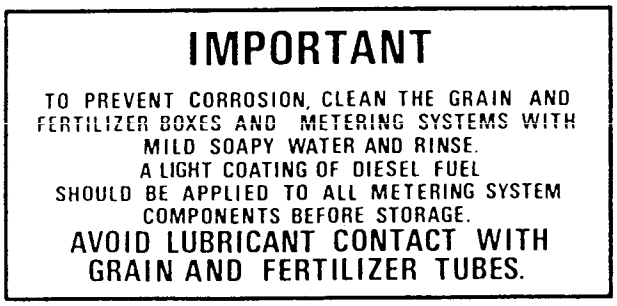
IMPORTANT MACHINE DECALS

Familiarize yourself with their locations and read them carefully to understand the safe and proper operation of your machine.

Part No. W4290



ON ROD-WEEDER FRAME



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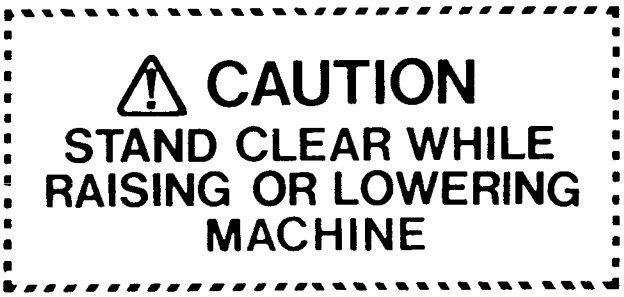
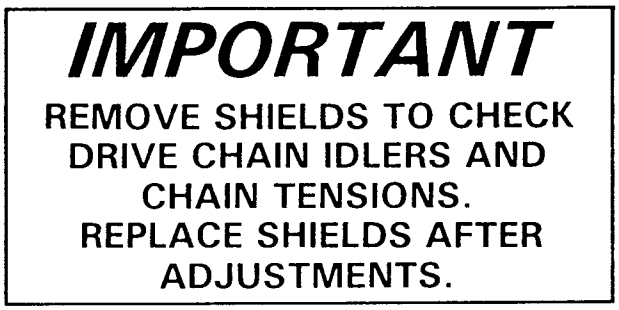
ON ROCKER TUBE

Part No. S-4785



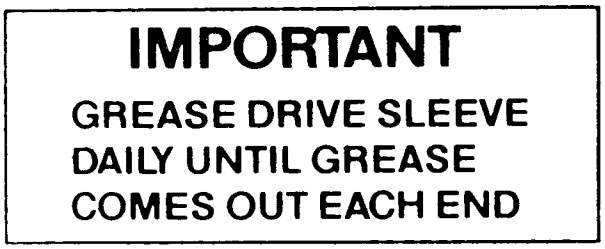
ON ROCKER TUBE

Part No. S10521



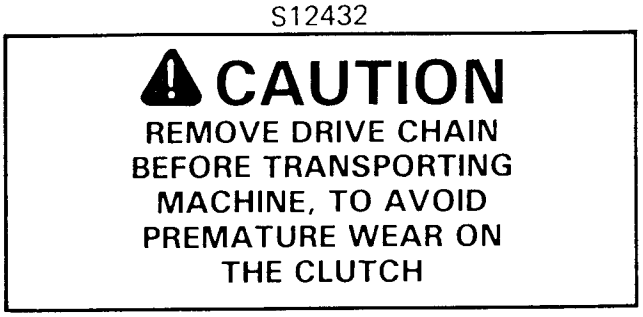
ON ENDS OF BOX

Part No. W-4292



ON ROD-WEEDER DRIVE SLEEVE

S12432



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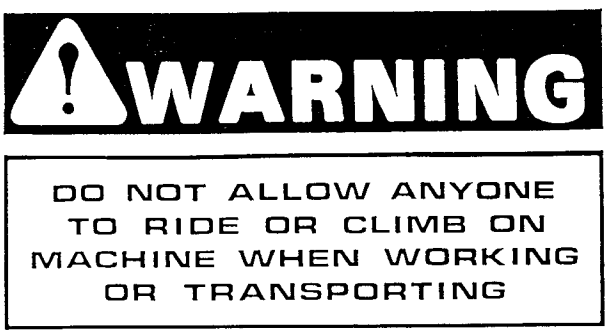

THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES THROUGHOUT THE MANUAL.

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TABLE OF CONTENTS

*NOTE:

OPERATING AND MAINTENANCE TIPS ARE ON RED BORDERED PAGES FOR QUICK REFERENCE!

Various Important Information is Printed in Red Type.

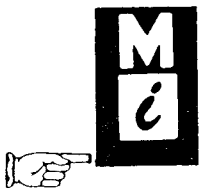
NOTE:

After a new machine has been in the field for several hours, all bolts should be checked and retightened.

INDEX OPERATORS SECTION

NOTE: To The Owner

IMPORTANT OPERATING AND MAINTENANCE TIPS ARE MARKED WITH THIS SYMBOL



This Operator's Manual has been carefully prepared to provide necessary information regarding the operation and the adjustments, so that you may obtain maximum service and satisfaction from your new Morris M-11 Seed Rite.

The Purpose of this Operator's Manual is to explain maintenance and the routine adjustments which are necessary for the most efficient operation of your machine. To protect your investment, study your Manual before starting or operating in the field.

If you should find that you require information not covered in this Manual, contact your local Morris Dealer. He will be glad to answer any questions that may arise regarding the operation of your machine. Our Dealers are kept informed on the best methods of servicing and are equipped to provide prompt efficient service if needed.

Occasionally, your machine may require replacement parts. If you furnish your Dealer with the part number, description and full information of the part he will be able to supply you with the necessary replacement part required. If the Dealer does not have the necessary part, our Factory will supply him with it promptly.

Your machine is designed to give satisfaction even under difficult conditions. A small amount of time and effort spent in protecting it against rust, wear and replacing worn parts will add longer life and give higher trade-in value to your machine.

KEEP THIS BOOK HANDY FOR A READY REFERENCE AT ALL TIMES

It is the policy of the Morris Rod Weeder Co. Ltd., to improve its products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to make such changes on machines sold previously.

IMPORTANT - SPRING DELIVERY

TO PREVENT CORROSION FROM HIGHWAY SALT, WASH DOWN THOROUGHLY WITH GARDEN HOSE OR PRESSURE WASHER AS SOON AS THE UNIT IS DELIVERED.

M-11 DRILL YEARLY PREPARATION BEFORE SEEDING

1. Check for grain or debris in grain and fertilizer box.
2. Turn all feed shafts by hand. If they bind check for obstructions.
3. Check all seed tubes for wear and obstructions.
4. Check drive chains and sprockets for wear. Replace worn parts.
5. Check chains and sprockets for proper alignment.
6. Properly lubricate drill.
7. Check that frame is level.
8. Check adjustment of weeder pressure springs.
9. Inspect tires for wear and proper inflation.
10. Check hex block adjustment for rod depth.
11. Check for proper tripping of dragbars.
12. Inspect wheel bearings.
13. Remove traces of oil from metering system components to reduce dust buildup.

IMPORTANT

Before each new seeding day, or after moving the drill a considerable distance, turn the feed shaft by hand. Check to see that all parts move freely and that the feed wheels are not binding.

SEED TREATMENT

CAUTION

When using seed that has been treated with any substance such as Copper Carbonate, Blue Stone (Copper Sulphate), Red Copper Oxide, etc., precaution should be taken to keep feeds clean and free in operation.

NOTE: Seed treatment may create enough friction to retard the flow, reduce the quantity and require more power. Adding fine graphite ("Dixon's Microfine" or equivalent, one-half as much graphite as treating material) will counteract this friction.

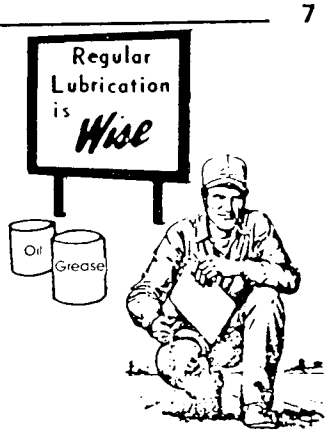
Spraying treated seed with water at time of filling drill box (about 5 tablespoonfuls per bushel) will also counteract friction, however, the use of graphite is preferred. Never spray with water until ready to sow, as it may swell the seed and cause greater difficulty.

IMPORTANT: When stopping the drill for over an hour during sowing of treated seed, it is advisable before resuming operations to rotate the grain feed shaft to free any jammed feeds.

Clean the hopper and tubes thoroughly after seeding is finished, as many of these substances may cause corrosion of the metal, especially if moisture is present.

PROPER PREPARATION MAKES YOUR WORK EASIER

LUBRICATION

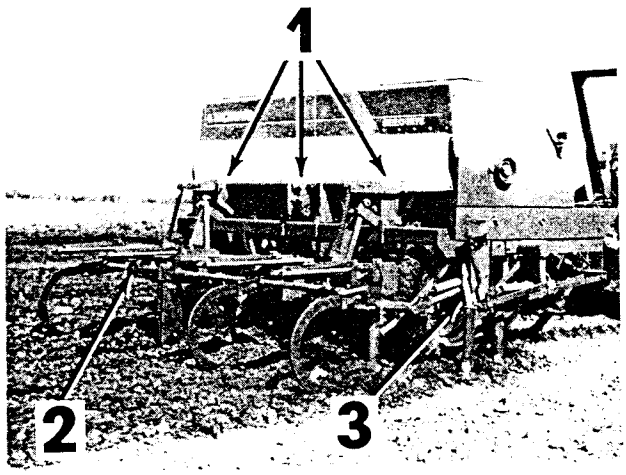


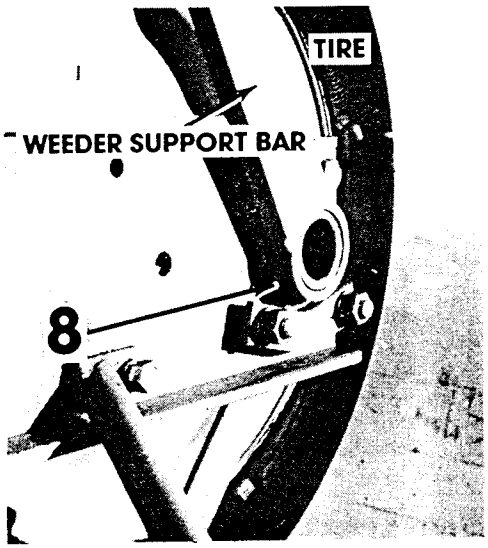
General

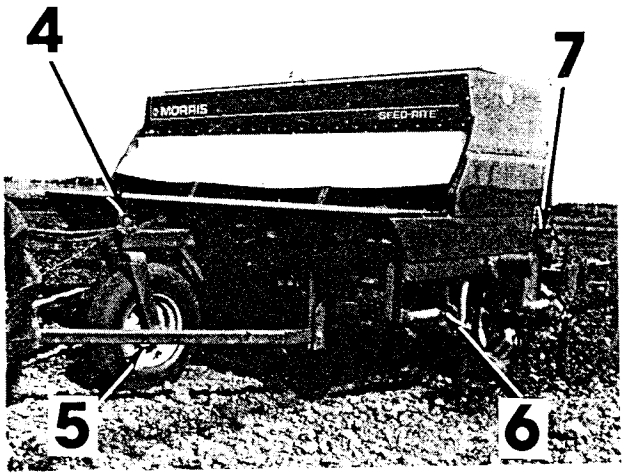
In order to obtain the maximum life and the most efficient operation of your Morris M-11 Seed Rite it is important the complete machine be lubricated regularly, as recommended in the lubrication chart. Careful and sufficient lubrication is the best insurance against delays. It increases the life of your machine and will save you many dollars in parts. Use a high grade grease to lubricate the following fittings as specified.

MACHINE LUBRICATION

1. **Rocker Tube** — 8 Fittings — Grease Daily
2. **Drive Sleeve** — 1 Fitting — Fill with grease. Refill daily.
3. **Main Axle Bearing** — 4 Fittings — 2 Shots beginning of each Season and before Storing. CAUTION - Excessive pressure may blow seals **if over greased.**
4. **Castor Wheel Pivot** — 1 Fitting — Grease Daily.
5. **CASTOR HUB —** 1 Fitting — 2 shots beginning of each season and before storing.
6. **Shank Trips** — 17 Fittings — Grease every 300 Acres. (120 Hectares)
7. **Pressure Shaft Bearings** — Oil Daily. (12)
8. **Weeder Support Bars** — 2 Fittings — Grease Daily.







NOTE: FEED METERING SYSTEM:
Check that oil is up in drive box.
Top with hydraulic oil 2.SE/50°.

NOTE:
USE A GOOD GRADE
MACHINE OIL

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LUBRICATION CONTINUED

Keep Dirt Out

When dirt enters a bearing it combines with the lubricant and becomes an abrasive grinding paste, more destructive, in many cases, than grit alone. Bearings that are not positively sealed against dirt and dust should be kept filled with new lubricant during operation as this will prevent dirt and dust from entering. Wheel bearings should be repacked and end play adjusted at least once a season.

Cylinder Shafts and Storage

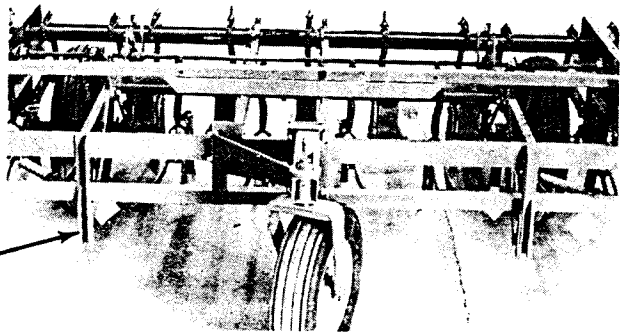
Our cylinder shafts are coated with a maximum amount of chromium. However, when the cylinder shafts are exposed for any length of time protect them against weathering, rust and corrosion by coating the shaft with grease.

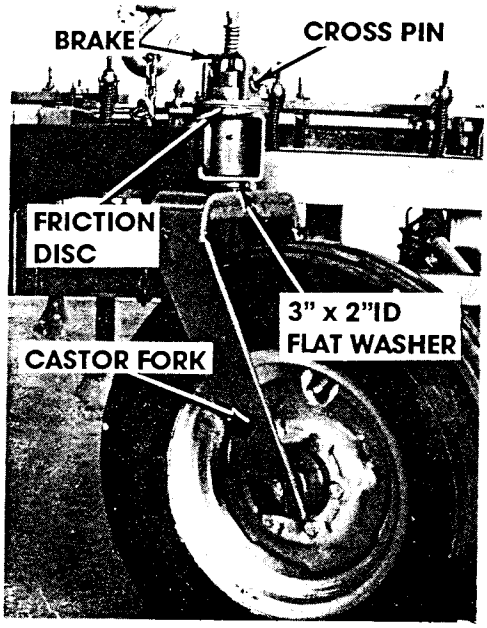
When storing the machine, release the hydraulic pressure from the cylinders by lowering the machine so that the pressure is taken up by the transport lock.

ADJUSTMENTS — MAINTENANCE

Hitch

Adjustment holes at rear of "V" hitch change point of pull, which may affect level operation of machine. Raise or lower as required to level with your tractor hitch.

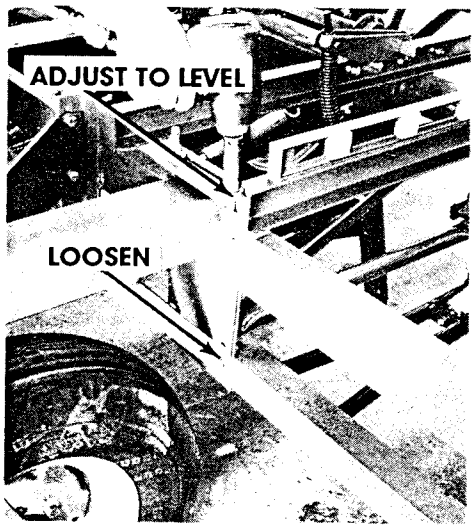




FRAME LEVELLING

HAVE YOUR M-11 HOE DRILL ON A FLOOR OR LEVEL SURFACE AND CHECK WITH A LEVEL. IF NECESSARY LOOSEN THE CASTOR WHEEL FRAME BOLTS (IN SLOTTED HOLES) AND ADJUST THE TWO EYE BOLTS TO LEVEL.TIGHTEN FRAME BOLTS SECURELY.

FINAL ADJUSTMENTS SHOULD BE MADE IN THE FIELD



ADJUSTMENTS — MAINTENANCE

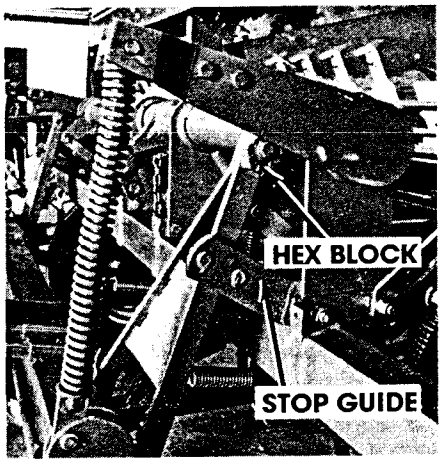
Hexagon Block — Rod Depth Setting

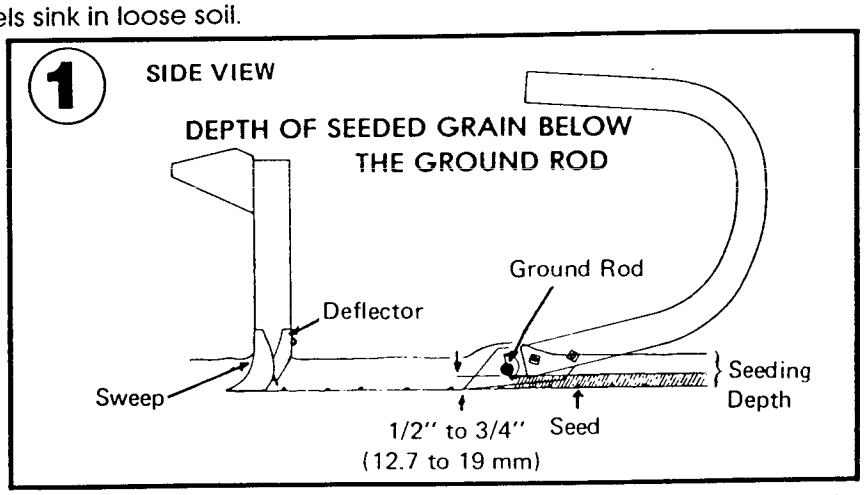
One of the primary functions of the rod on the Rod Weeder as well as killing weeds, is to pack the soil immediately above the seed for good germintation. The rod should travel approximately 3/4" (19 mm) above the seed. (See drawing #1). A wrong setting on the hex block could have the rod travelling too far above or below the seed, affecting germination. **NOTE:** The hex blocks must rest on the stop guide (see Photo) when machine is in the ground. Check that the rod is not floating while machine is being worked.

There are upper and lower hex block mounting holes in the A frame angle arm, to facillitate a wide variety of rod depth adjustments. With the hex block in the top hole and the #6 position to the bottom (towards stop), the rod weeder would be approximately 3/4" (19mm) above the seed when seeding at a depth of 3".

IMPORTANT: The hex block setting must be changed when seeding depth changes. Be sure the hex blocks are seated properly on the stop guide and that all hex blocks are set the same.

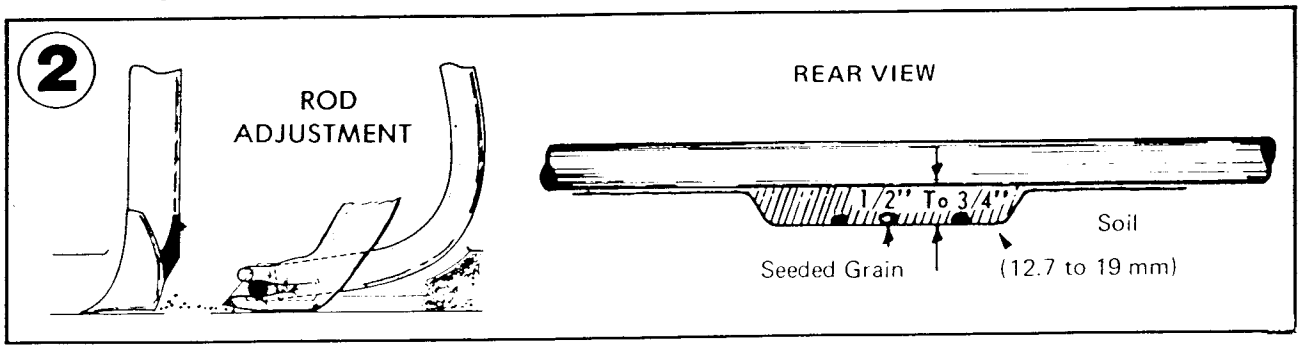
NOTE: The hex blocks should be moved to the bottom hole for shallower seeding. See drawing #2 for rod depth check. On initial strike out this should be done in several places in the field. Double check setting as sweeps wear down and when wheels sink in loose soil.





Due to the excellent penetration of the M-11 Seed-Rite, **CARE** must be taken that the grain is not seeded too deep. For instance, the Agricultural Machinery Administration recommends that wheat or oats would normally be sown between 2" and 3-1/2" (50.8 - 88.9 mm) deep (loose soil) for best results on a long term average. The two illustrations above and below indicate the depth of the seed along with the distance the rod operates above the seeded grain.

To check the height or distance of the rod above the seed, carefully remove the loose soil away from and under the rod directly behind one of the sweeps. Measure from the bottom of the rod to the firm soil below. See illustration below. Normally the rod should be 5/8" to 3/4" (12.7mm to 19mm) above the seed or you should be able to slide your fingers under the rod. This adjustment should be checked with the hexagon blocks resting on the stop guides for best results.

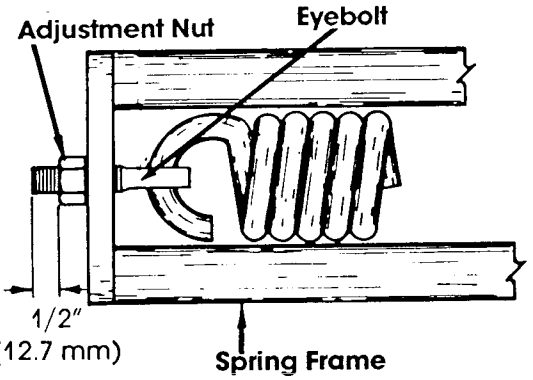


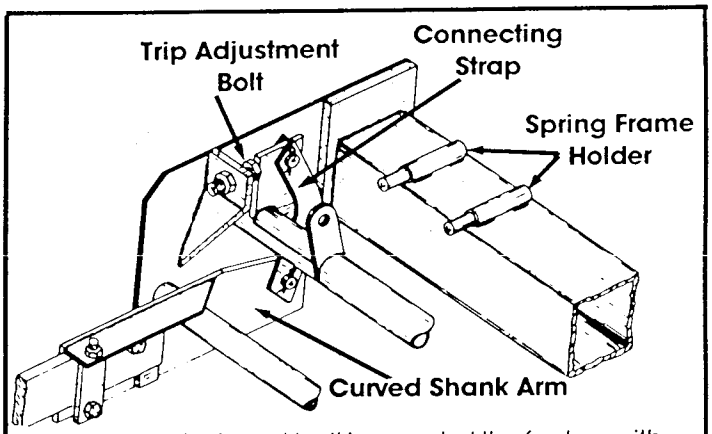
ADJUSTMENTS — MAINTENANCE

Rod-Weeder Trip Adjustments

Loose Soil: Loosen the adjustment nut leaving only enough tension to return the rod to its normal working position after it has tripped .

Heavy Soil: Tighten the adjustment nut to apply more pressure to the gangs.

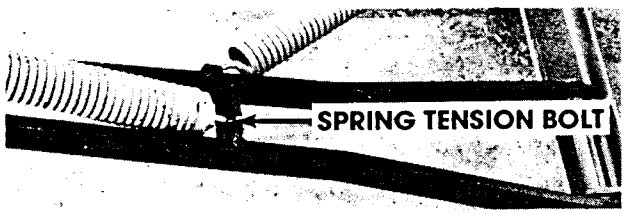




The trip adjustment bolt is preset at the factory with approximately 3/8" (9.5mm) between the head and the bracket, and this should be correct for average soil conditions. Turning the bolt into the bracket will lock the trip tighter. Turning it out, toward the rocker, will decrease the tripping pressure. **NOTE: Do not over adjust — 1/4 of a turn changes tripping pressure considerably.**

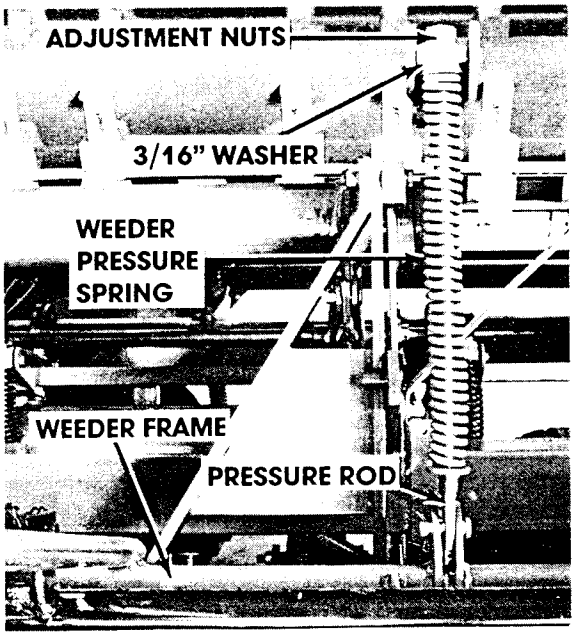
Trip Adjustment — Drag Bar
If dragbar trips too easily, tighten tension bolt on spring.

CAUTION:
Adjust only if necessary.



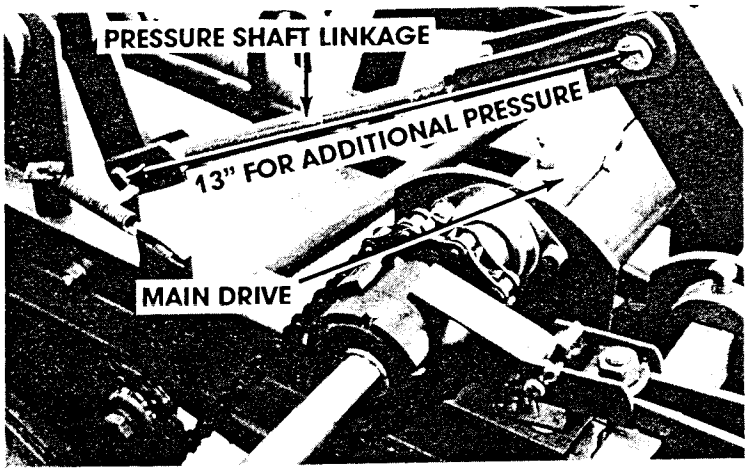
Weeder Pressure Springs

Pressure springs are located on the rear of the machine. Under normal working conditions the pressure springs should be compressed 1-1/2" (38 to 50mm) to 2" to keep the rod from floating . When set for normal conditions the end of the pressure rod should be flush with the two jam nuts. To increase the pressure on the rod-weeder an additional 3/16" (4.8mm) washer (S251) may be purchased to be used between the top of the spring and the swivel block.



ADJUSTMENTS— MAINTENANCE

Pressure Shaft Linkages



These are preset at the factory with long front linkage rod at 19-3/4" (342.9mm) to centre.
The front linkage rod is used to equalize the depth of the front and back rows and normally should not be adjusted.
The rear linkage rod is used to increase or decrease the penetration of all hoes and maintain pressure on the weeder.
In conditions where weeder pressure (see opposite page) spring does not have sufficient pressure to hold weeder in the proper position in the ground, the rear linkage could be adjusted to 13" (330mm). This will lift the hoes so that the depth control will have to be adjusted to maintain seeding depth.
NOTE: These are approximate adjustments. Final adjustment **MUST** be made in the field.

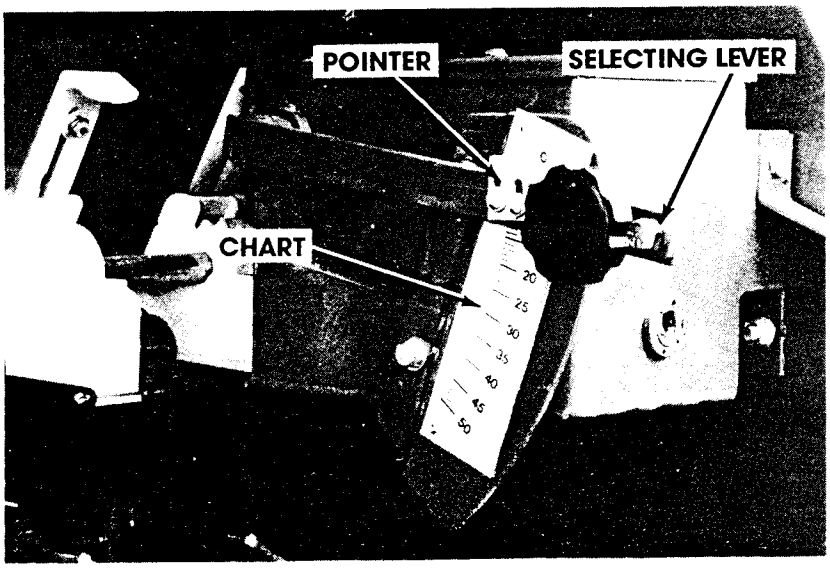
Pressure Rod Springs

Pressure rod springs are assembled at the factory. No further tension adjustment should be necessary.

Drive Box

Drive Box is timed at the factory, and should require no further adjustments unless components are replaced. Then the following procedure should be followed:

- Remove Acre Meter and insert special crank (Part No. D-5080)
- Have someone rotate crank to turn drive box input.
- While rotating crank, move speed selecting lever until there is no motion on the output sprocket on drive box. To do this — hold output sprocket by hand while moving selecting lever.
- Ensure that knocking action of cams has stopped, then secure the selecting lever.
- Indicator should now be pointing to zero. If not, loosen screws on pointer or chart and adjust.



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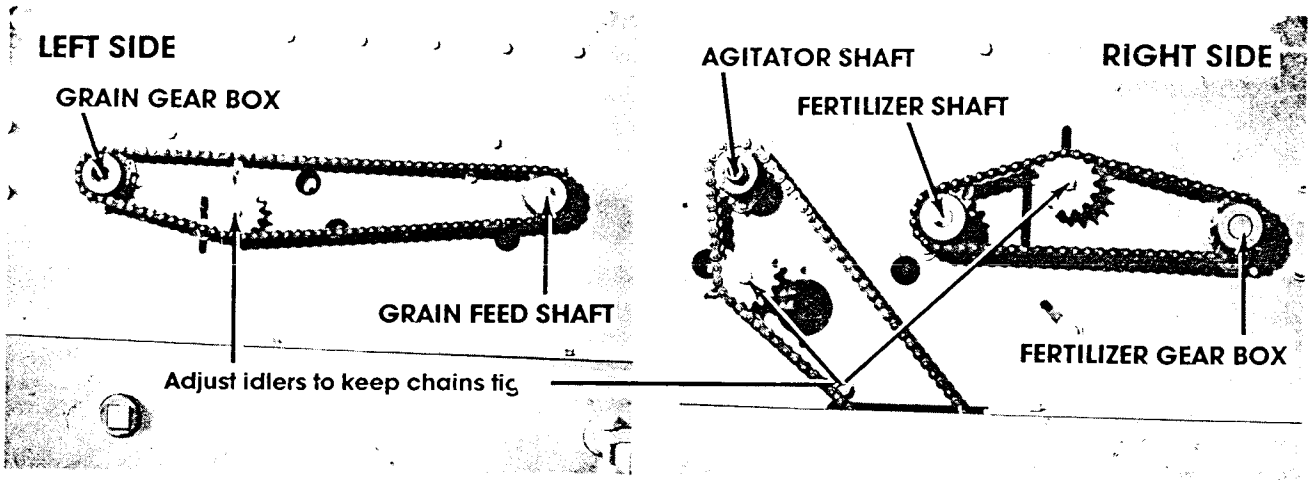
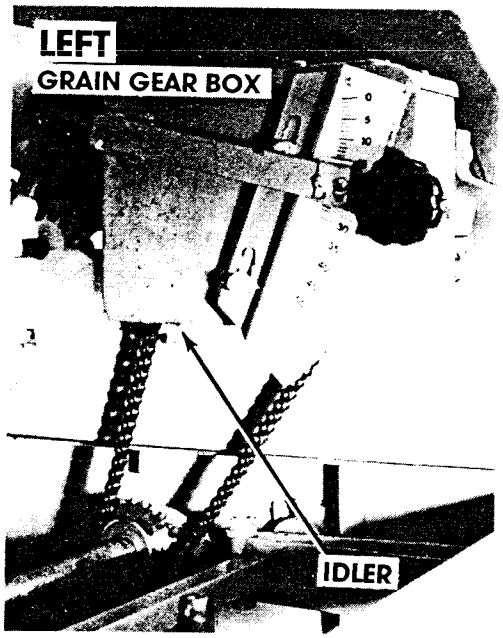
ADJUSTMENTS

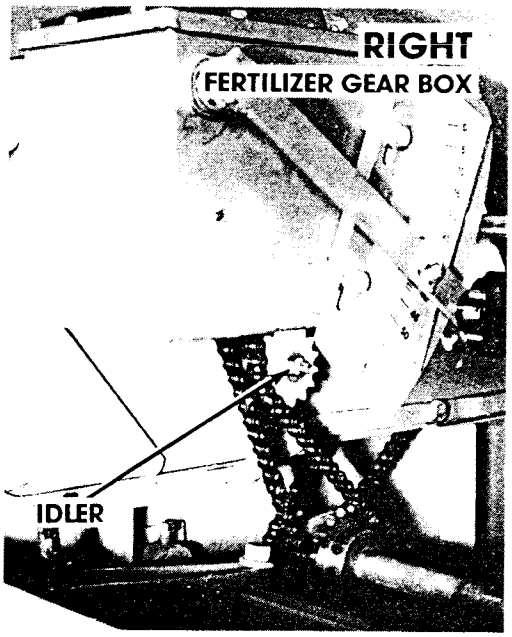
Drive Chains

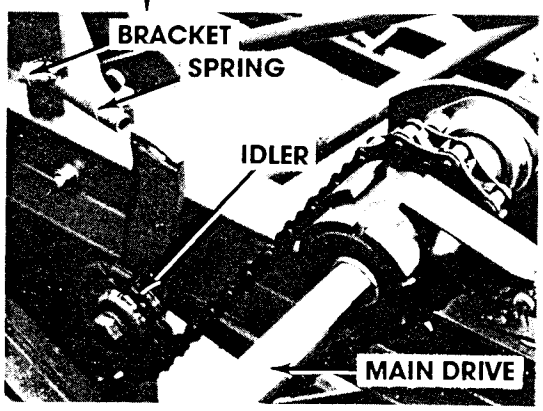


IMPORTANT:
—ALWAYS REPLACE CHAIN GUARDS AFTER ADJUSTING IDLERS
—CHAINS SHOULD BE REMOVED AND OILED FOR STORAGE.

Idler on main drive chain may be tightened by pivoting the bracket which attaches the spring to the main frame. Overtightening may damage spring.







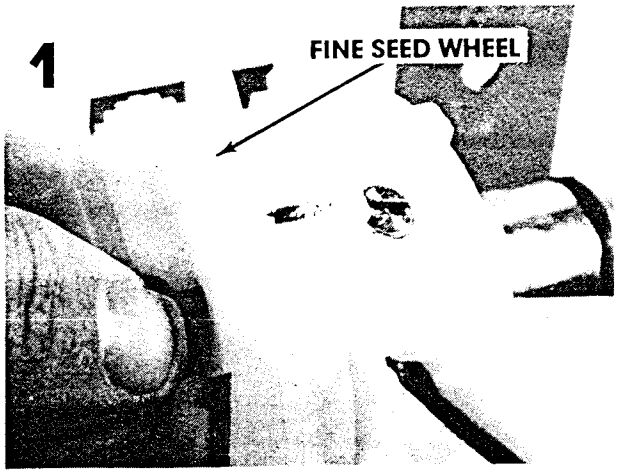
IMPORTANT — CHAIN TENSION

Chains should be adjusted to be snug but not overly tight. Too much tension can cause undue sprocket wear. Not enough tension can cause chain to skip or whip causing chain and sprocket damage.

ADJUSTMENTS

Seed Metering Wheel Settings

— Fine metering wheel rotates constantly
— Large metering wheel is coupled to fine wheel by a pin.

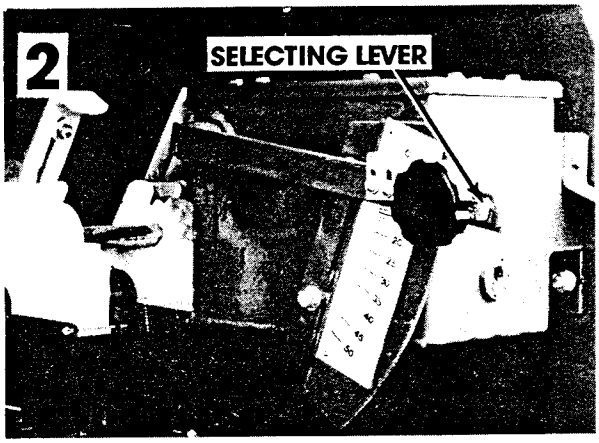


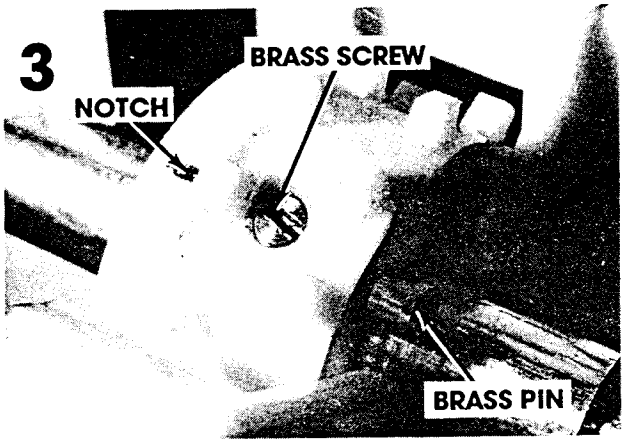
Small Seed Setting (Fine Wheel Turns)

— Push lock pin out from wheel side until it protrudes through large wheel, and large wheel is free. (Use setting tool (Photo 1) supplied or small pin).

Standard Seed Setting (Both Wheels Turn)

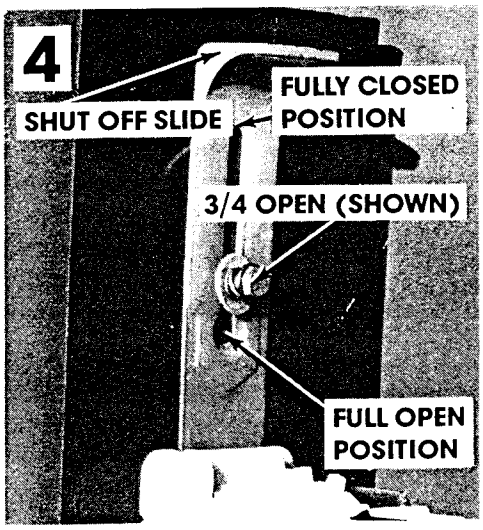
— Move selecting lever at drive box up and down (Photo 2), which will rotate feed shaft, until notch in fine wheel is visible.
— Turn large metering wheel by hand until its brass screw lines up with notch on small wheel. (Photo 3)
— Push Pin through, locking both wheels at each cup.





Shut Off Slide Setting

— Shut Off Slides are set at either fully open or 3/4 open, as indicated by Seed Chart. Slide can also be fully closed, completly shutting off all seed flow to metered wheels. M-11 may be used for row crop seeding by shutting off appropriate cups. (Photo 40)



Fertilizer Metering

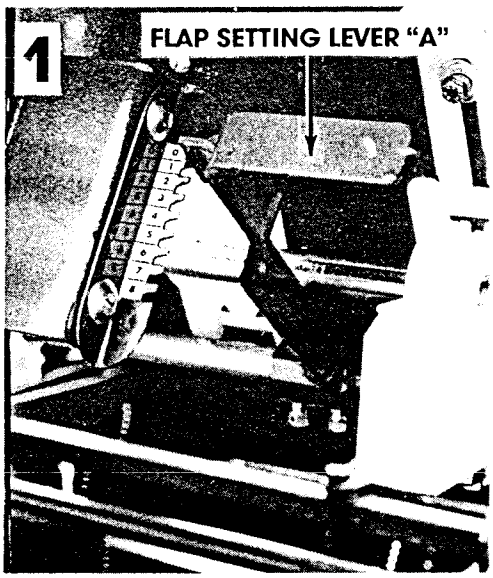
— The fertilizer Metering Cup is identical to the Seed Cup except for the feed wheels.

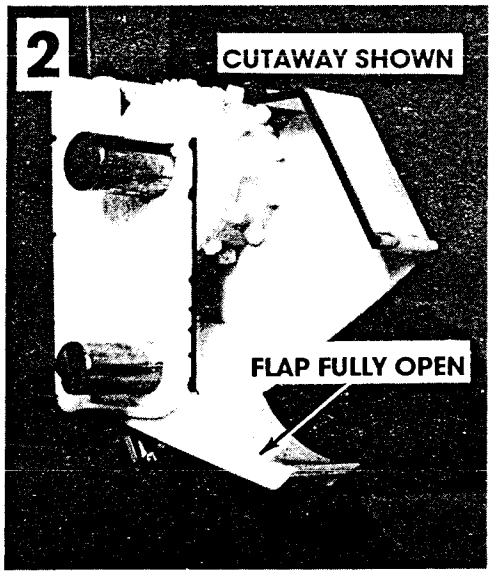
ADJUSTMENTS

METERING SYSTEM

Bottom Flap Setting

— The spring loaded flap is set with Lever "A" (Photo 1) as indicated by Rate Chart for different size material.
— Because it is spring loaded, foreign material can pass without damage to cup.
— To clean drill move adjusting lever until flap is fully open, allowing seed to run out freely. (Photo 2).





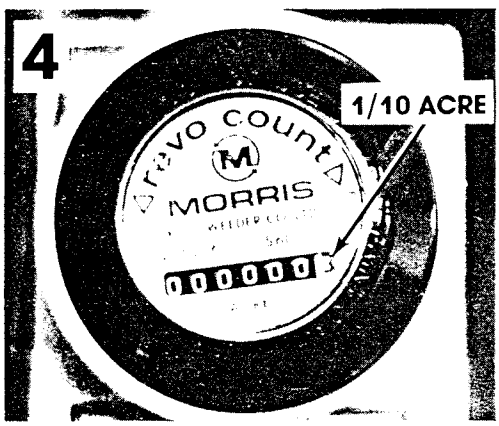
Bottom Flap Adjustment (Photo 3)

— Check that all Allan screws are tight.
— Set Screw "A" is adjusted at factory and should not be changed.
— To check bottom flap clearance set flap lever at "O" position, use a .005 inch feeler gauge between flap and feed wheel.
— If clearance is incorrect adjust set screw "A" until clearance is .005.
— Make certain all flaps are adjusted identically.

NOTE: Make certain notched plate has not moved when checking flap clearance.

Acreage Meter

— Because the meter cannot be reset to zero, and records total acres drill has sowed, you must record numbers on meter before you start on a particular field. Acreage meter is based on one unit. Multiply reading by number of machines to get actual acreage. (Photo 4)



ADJUSTMENTS AND MAINTENANCE

Drive Clutch

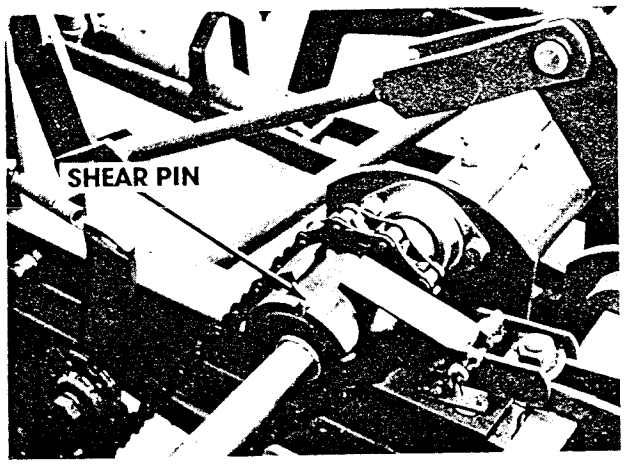
The drive system is protected with a shear pin which secures the clutch to the jackshaft. If the pin shears:

(a) Determine the cause.

(b) Remove the remaining portion of the pin with a punch.

(c) Replace the pin using only the correct Morris part.

(d) When replacing the pin do not drive it in any farther than being flush with the outside surface of the clutch.



Servicing the Drive Clutch

For cleaning the clutch disassemble as follows:

(a) With the Clutch assembly removed from the driveshaft, remove the sprocket and retaining ring.

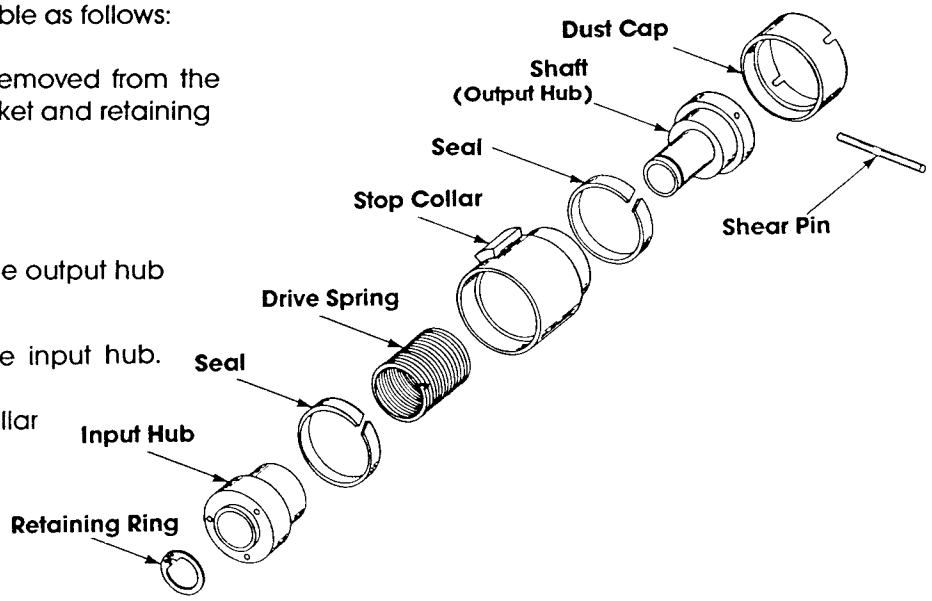
(b) Remove the output hub.

(c) Remove the dustcap from the output hub or shaft.

(d) Remove the spring from the input hub.

(e) Remove the seals from the collar and input hub.

(f) Clean all internal parts.



(Refer to Parts Section Page 15 for Part No's.)

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ADJUSTMENTS AND MAINTENANCE

Servicing the Drive Clutch (cont.)

NOTE:

When reassembling the clutch, rotate the parts in the direction as to unwind the spring. This expands the spring allowing the parts to slide into place easier.

(a) Slide the spring (ear first) into the input hub.

(b) Place the input and spring assembly inside the collar and rotate until the ear on the spring sets in the slot in the collar.

(c) Holding the collar and input hub firmly together slide the output hub into the collar assembly.

(d) Place one seal on the input hub end of the clutch with the flanged edge of the seal toward the outer end of the clutch using a slender object, press the seal into the clutch assembly until the inner edge is against the inside of the collar.

(e) Place the other seal on the output hub end of the clutch again, the flanged edge of the seal must be toward outer end of the clutch. Slide the seal onto the clutch assembly until the inner edge is up against the collar.

(f) Slide the dust cap onto the output hub and rotate until the shear pin holes are properly aligned.

(g) Rotate the input hub, it should spin freely in one direction and drive in the opposite direction.

(h) Place the retaining ring aound the end of the output hub and attach the clutch sprocket.

MORRIS ROD-WEEDER CO. LTD.

FEED RATE CHART M-11

METER SETTING		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	REFERENCE DENSITY Lb. Bus.	REFERENCE DENSITY KG Cu. M.	Flap Position	Shut off Slide Open Position	Metering Wheel Normal or Fine	Spacing
	Lbs./A				30	36	43	49	55	62	68	74	80	87	93	99	106	112	118	125	131						63					
Wheat	Kg/Ha				34	41	48	55	62	69	76	80	90	97	104	111	118	125	132	140	147							807	2	¾	N	8"
	Lbs./A	10	13	15	18	20	23	26	29	32	35	38	43	47	51	55	60	64	68	72	77						45					
Oats	Kg/Ha	11	14	17	20	23	26	29	33	36	39	43	48	52	57	62	67	71	76	81	86							577	2	Full	N	8"
	Lbs./A	15	19	23	27	31	35	40	44	49	54	59	64	70	75	81	87	93	99	105	111						50					
Barley	Kg/Ha	17	22	26	30	35	39	44	50	55	60	66	72	78	85	91	97	104	111	117	124							640	2	¾	N	8"
	Lbs./A	12	15	19	22	26	29	33	37	41	45	49	54	58	62												60					
Corn	Kg/Ha	13	17	21	25	29	32	37	42	46	51	55	60	65														769	3	Full	N	16"
	Lbs./A	4.7	5.9	7.1	8.2	9.4	10.6	12.2	13.7	15.2	16.7	18.3															32					
Sunflower	Kg/Ha	5.2	6.6	7.9	9.2	10.6	11.9	13.6	15.3	17.1	18.8	20.0																410	3	Full	N	16"
	Lbs./A	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.1	4.5	4.8	5.2	5.6	6.0	6.4	6.8	7.3							50					
Rape	Kg/Ha	1.2	1.6	1.9	2.2	2.6	2.9	3.1	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.3	6.7	7.1	7.6	8.2								640	1	¾	F	8"
	Lbs./A	1.3	1.6	2.0	2.3	2.6	3.0	3.4	3.8	4.3	4.7	5.1	5.5	6.0	6.5	7.0	7.4	8.0	8.5	9.2							50					
Mustard	Kg/Ha	1.4	1.8	2.2	2.6	3.0	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.8	7.3	7.8	8.3	9.0	9.5	10.3								640	1	¾	F	8"
	Lbs./A	1.0	1.2	1.4	1.7	2.0	2.2	2.6	2.9	3.2	3.6	3.9	4.3	4.6	4.9	5.4	5.8	6.2	6.6	7.1							60					
Alfalfa	Kg/Ha	1.0	1.3	1.4	1.9	2.2	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.1	5.5	6.0	6.5	7.0	7.4	7.9								769	1	¾	F	8"
	Lbs./A	11.6	14.4	17.2	20.0	22.8	26.0	28.9	32.3	35.7	39.2	43.0															56					
Flax	Kg/Ha	13.0	16.1	19.2	22.4	25.5	29.2	32.4	36.2	40.0	43.9	48.0																718	1	¾	N	8"
Fertilizer	Lbs./A	14.5	19.9	25.3	30.7	36.1	41.5	48.2	54.9	61.6	68.3	75	83.8	92.6	101.4	110.2	119	127.6	136.2	144.8	153.4						75					
11-51-0	Kg/Ha	16.3	22.3	28.4	34.4	40.5	47	54	62	69	77	84	94	104	114	124	133	143	153	162	172							961	2	¾	N	8"

NOTE: — THE FEED RATE CHART SHOULD ONLY BE TAKEN AS A GUIDE FOR FINDING THE APPROXIMATE GEAR BOX SETTING NO
— DUE TO DIFFERENT GRAIN VARIETIES & VARYING DENSITIES, THE RATES SHOWN CAN VARY SIGNIFICANTLY.
— SEE OPERATORS MANUAL FOR DETAILED GRAIN CALIBRATION PROCEDURE.
— FERTILIZER APPLICATION RATES ARE AFFECTED BY HUMIDITY, MOISTURE CONTENT OF MATERIAL, ALONG WITH THE SIZE & TYPE OF GRANULATION. REFER TO OPERATORS MANUAL FOR FERTILIZER RATE CHECK.
— TO AVOID POSSIBLE FERTILIZER METERING PROBLEMS THE "SHUT-OFF" SLIDES SHOULD BE CLOSED WHEN THE MACHINE IS NOT IN USE DURING HIGH HUMIDITY WEATHER. SPECIAL CARE IS REQUIRED WHEN METERING HIGH NITROGEN FERTILIZER.
— PERIODICALLY CHECK THE FLAPS FOR FERTILIZER BUILD-UPS & CLEAN AS REQUIRED.

NOTE: LBS./ACRE TO KG/ACRE - MULTIPLY POUNDS BY .4536 EXAMPLE - WHEAT 20 LBS./A × .4536 = 9.07 KG/A

ADJUSTMENTS

Sowing Rate Calibration (Seed or Fertilizer)

To determine exact sowing quantity with various weight of materials and sizes of seed, use the following procedure:

- Place container under cup or cups.
- Set drive box not being tested to zero.
- Use Feed Rate Chart to make all proper settings (rate, bottom flap, shut off slide) on machine.
- For initial rate check put crank on agitator shaft and turn a few times until seed flows uniformly from cup or cups
- Empty container.
- Now, turn crank 56 times in a clockwise direction. If you are using one cup, multipiy by 17 to get 1/10 of an acre. For more precise calibration use all 17 runs.
- Weigh sample.
- For a more precise calibration, drive machine 384 feet with drive engaged rather than turning agitator crank.

A Len Digney Gauge may also be used on individual cups. (Part No. S-3252) (NOTE: TURN CRANK 20 TIMES OR DRIVE EXACTLY 112-1/2 ft. TO OBTAIN AMOUNT IN BUSHELS PER ACRE).

For an approximate field check on fertilizer rates using the Len Digney gauge, collect a sample as you would for grain. Multiply the bushel measure collected by the appropriate fertilizer density. This will give you the pounds per acre that you are fertilizing at.

Lb./Bushel weight of several fertilizer blends (density)

11-55-0	75 lb/bus	**27-27-0**	**69 lb/bus**
11-48-0	75lb/bus	**21-0-0**	**82 lb/bus**
11-51-0	75 lb/bus	**46-0-0**	**60 lb/bus**
16-20-0	75 lb/bus	**34-0-0**	**72 lb/bus**
22-24-	72 lb/bus	**0-0-60**	**84 lb/bus (granular)**

Example: Sample collected - 1 bushel/acre
11-55-0 at 75 lb/bus
1 bus/acre x 75 lb/bus = 75 lb/acre.

Metric Calibration (Use same procedure to arrive at Kg. per Hectare)

— 138.3 revolutions of crank equals 1/10 hectare. — 1 Kilogram (Kg) = 2.2 lbs. 1 Lb. = .45 Kg
NOTE: 1 Acre = .404 Hectares
1 Hectare = 2.47 Acres)

NOTE:

When calibrating small seed it may be necessary to equal rotations of crank 1/2 acre or hectare to get a large enough sample to weigh.

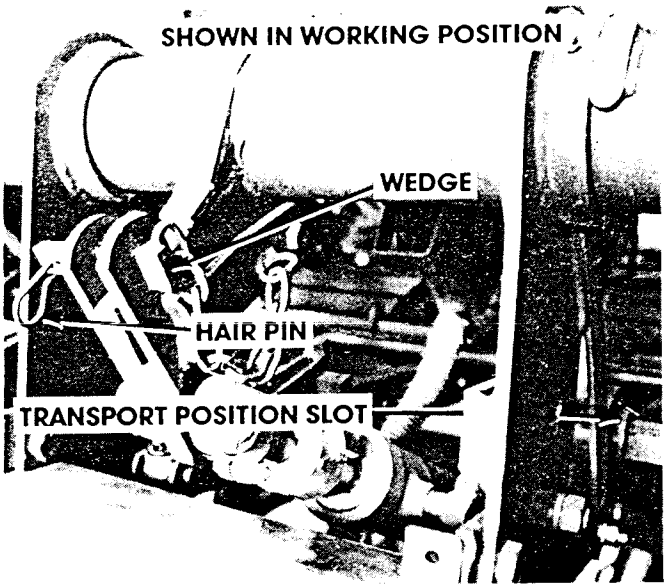
TRANSPORT

(General)

Before transporting the Seed-Rite raise the machine to the very top with the hydraulic. Install transport lock wedge at rear, this will prevent the machine from dropping if a hose should break or if hydraulic control lever is moved accidentally.

Tighten down the nut on bolt of spring on top of the castor wheel to prevent it from whipping at high speeds.

REMOVE ROD WEEDER DRIVE CHAIN WHEN TRANSPORTING AT HIGH SPEEDS OR OVER LONG DISTANCES.



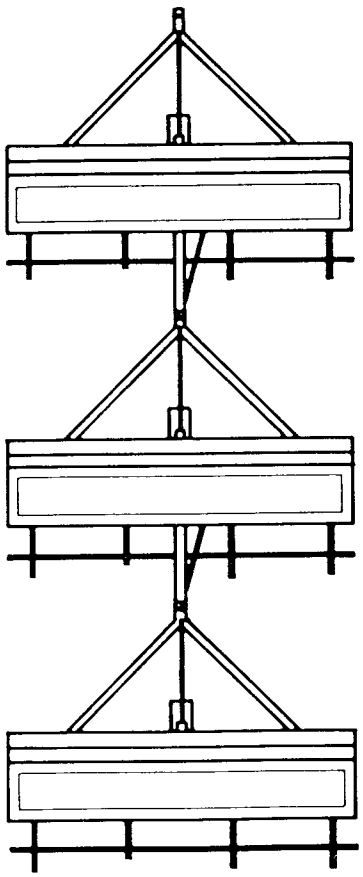
CAUTION:
DO NOT EXCEED RECOMMENDED TIRE PRESSURES.

TIRE PRESSURE:

2 Outer Tires (7.50 x 20) (19.05 x 50.8 cm) — 6 Ply - 36 Lbs (248 kPa) pressure.
Castor Wheel Tire (7.60 x 15) (19.30 cm x 38.1 cm) — 4 Ply - 24 Lbs. (165 kPa) pressure.

Transport Procedure

Disassemble hitches and load on foot boards of machine that is equipped with hitch carrying brackets. To facilitate easy hook up of machines in transport, the trailing hitches are telescoping and enable some side to side movement. If roadway is wide enough a triplex unit can be moved in some cases with 2 machines side by side with the third machine behind. This requires only partial disassembly of triplex hitch.



IMPORTANT:
Use extreme caution in transport to prevent hitch damage.

DO NOT TRANSPORT MACHINES AT MORE THAN 5 M.P.H. 98 (km/h) WHEN LOADED.

STORAGE

CHAINS — should be removed, cleaned in fuel and oiled for storage.
METERING CUPS — CLEAN OUT ALL MATERIAL.

IMPORTANT:

To prevent corrosion and damage by rodents, clean the grain and fertilizer boxes and metering systems thoroughly and wash with mild soapy water solution. Rinse with water hose and dry thoroughly.

A light coating of diesel fuel should be applied to all metal metering system components before storage.

Avoid lubricant contact with grain and fertilizer tubes.

The machine should be stored in a building or at least under cover.

If machine is stored on a dirt or moist floor, boards should be placed under the tires. Tires should be inflated to proper air pressure.

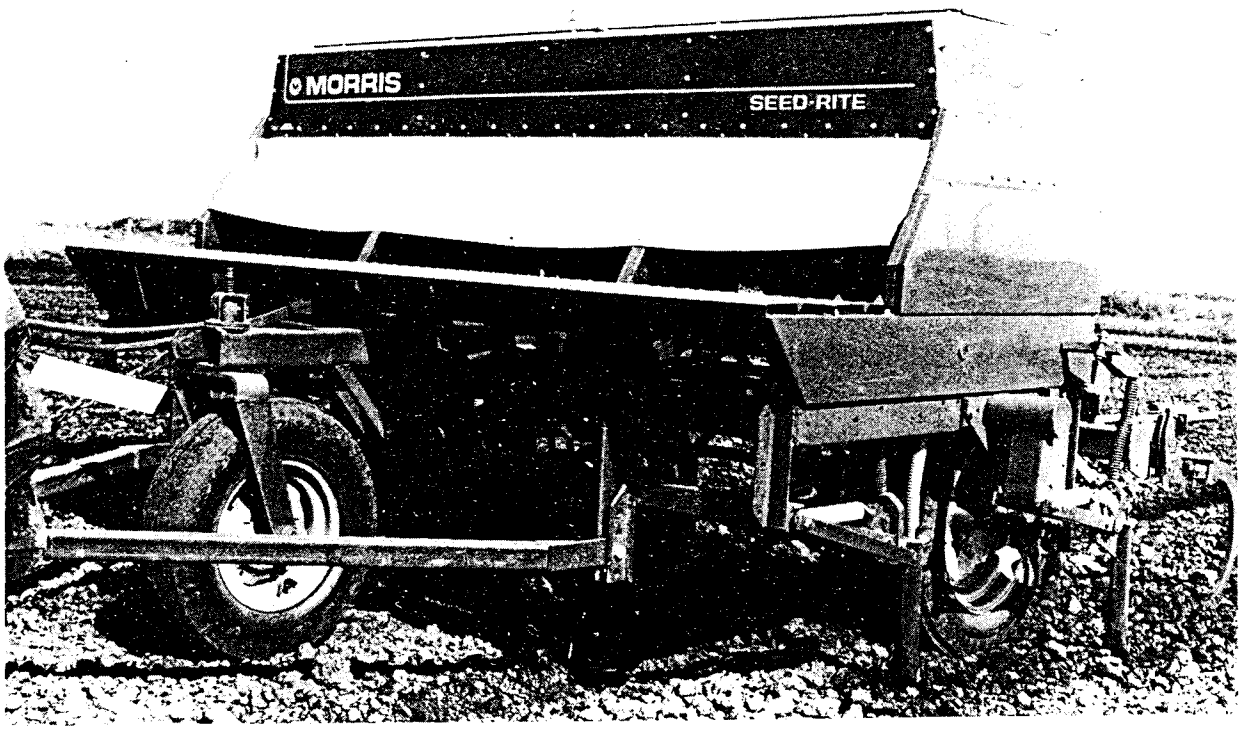
Bearings and lubrication fittings should have enough lubricant forced into them to seal them from dirt and moisture.

Coat sweeps with oil to prevent rusting.

Hydraulic Cylinders — coat shafts with grease.

For longer life and better trade-in value, store unit inside and touch up paint scratches — worn or broken parts should also be looked after before storing unit to prevent seeding time delays.

NOTE: After a new machine has been in the field for several hours, all bolts should be checked and retightened.



Operating and Maintenance Tips

CONDITION	CORRECTION
MACHINE STOPS SEEDING	1. Check chains. 2. Check clutch to determine whether shear pin has broken. 3. Check clutch lever. Insure it is engaging properly.
UNEVEN SEEDING THROUGH CUPS	1. Check flap spring. Replace if rusted or broken. 2. Check flap adjustments. All flap settings should be identical. — See Manual.
CALIBRATION CHART INCORRECT	1. Make sure drive box timing is correct (Page 5). 2. Self caibration may be necessary due to specific weight, size of seed, moisture content.
EXCESSIVE TIRE WEAR	1. Check and correct tire pressure.
UNINTENTIONAL GRAIN BOX EMPTYING	1. Be sure flap levers are secure and in proper position.
RODENT DAMAGE TO FITTINGS AND SEEDCUPS	1. When storing machine be sure all grain is cleaned out of cups and bins.
POOR DRIVE CHAIN PERFORMANCE	1. Check chain tension and keep tight by adjusting chain idlers. 2. After each season chains should be disassembled and washed in diesel fuel then oiled with No. 30 oil and stored in a dry place.
PRESSURE SHAFT COLLARS S-11 LOOSENING	Tighten set screw on collar. Strike the head of the set screw a sharp blow with the hammer and then retighten the set screw. Check occasionally.
PERSISTENT EXTERNAL OIL LEAKS — HOSE CONNECTIONS	1. Use thread sealant on N.P.T connections. 2. Carefully retighten hose connections. 3. Check hoses for cracks. **CAUTION:** Hydraulic oil under pressure can penetrate skin.
GROUND ROD WORKING BELOW SEED	This can be remedied by adjusting the hex blocks so they strike the stop guide sooner. This then stops the weeder from going deeper. The remainder of the travel by the rocker tube arm only increases the pressure on the spring to hold the weeder at it's desired depth.
GRAIN TUBE COVERS COMING OFF	After installing the grain tube cover crimp the front side of the cover with a plier or vise grip.
CLUTCH SEIZING	Check for dirt build-up inside clutch, clean with S.A.E. 80 W90 Bearing Lubricant and replace damaged or worn parts which allow dirt to enter.

Operating and Maintenance Tips

CONDITION	CORRECTION
FLEXIBLE GRAIN TUBES COMING OUT OF GRAIN TUBE COVER ON 3RD ROW	Check that 3rd row has the S-3082 spring clip installed on the side to hold flexible tube in place.
HOES SEEDING UNEVENLY	After the first day of operation tighten the bolts on the S1013 and S1258 pressure arms and check occasionally thereafter. Check that roll pins in the pressure rods are installed correctly as follows: Front row — centre hole Second row — bottom hole Third row — top hole Fourth row — bottom hole All "L" shaped pressure rods on hoes behind the wheels - the roll pins are placed in the top hole. Also check that tire pressure is correct as indicated on page 16.
HAIRPINS ON REAR ROW GRAIN TUBE BEING PUSHED OUT BY TRASH	Reverse position of hair pins.
WEEDER RIDGING EXCESSIVELY	Check to see that the weeder isn't working in partly tripped position. It may be necessary to tighten the tension on the trip springs.
WEEDER GOING DEEPER ON ONE SIDE	Check that hex blocks are set at the same number on either side.
MACHINE NOT LEVEL FRONT TO BACK	Adjust up or down on castor wheel bracket as necessary. Use a spirit level on the frame to check for accuracy.
PRE-CULTIVATING	It has been found undesirable to pre-cultivate ahead of the Seed-Rite, except where an additional weed kill is necessary — then a very shallow operation may be used so as not to loosen the soil more than necessary to be able to effectively control the depth of seeding. Plugging in stubble can quite often be overcome by harrowing a field angleways to spread the straw more evenly.
HOES PLUGGING	Keep flexible tubes snug so grain can flow freely. It is important to check that flexible tubes aren't plugged periodically. When stopping with the machine in the ground, all hoes can be checked at the rear, to see if there is grain and fertilizer in behind the sweep. This **MUST** be checked frequently, especially in wet conditions, to avoid missing strips in the field, which show up only after the crop has emerged out of the ground.

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SPECIFICATIONS

M-11 Seed-Rite Specifications

Drill Weight

3,775 Lbs. (1,712 kg)

Working Widths Available:

Basic Unit Working Width — 11'-4" (3.45 m)
2 Units w/Dual Hitch — 22'-8" (6.9 m)
3 Units w/Triplex Hitch — 34' (10.36 m)

Transport Width

Single Unit — 11'-4" (3.45 m)
2 Units — 11'4" (3.45 m)
3 Units — 11'4" (3.45 m)

Box Capacity

Grain/Fertilizer Combination
Grain — 18 Bu (60 Lbs./Bu Wheat)
Fertilizer — 15 cu.ft. (900 Lbs. of 11-51-0)
All Grain
3-1/4 Bu/Ft.-Grain (290 kg/m)

Wheel Markers

Optional hydraulic wheel markers are available for duplex and triplex units.

Acreage Meter

An optional non tamperable acreage meter is available.

Tires

Front Castor Wheel

TIRE: 7.60 x 15 inch — 4 Ply Tubeless
WHEEL: 15 inch x 6 inch — 6 hole wheel

Main Wheels

TIRES: Two — 7.50 x 20 inch — 6 Ply tube hole
WHEELS: Two — 20 inch x 6 inch — 6 hole wheels.

Feed Metering System

TYPE: Amazone Feeding Mechanism — triple cam and ratchet bearings running in an oil bath. Positive roller chain drive action off the drive wheel to the clutch on a 1" dia. main drive shaft. The seed metering wheel combines normal seed and fine seed metering mechanisms.

Feed Cups

TYPE: Constructed of molded high-impact durable nylon. Anti-static material will not draw moisture. Each cup has a moveable flap that opens for cleaning. Cups may be shut off individually for row cropping.

Drive

Wheel drive with roller chain to clutch which operates 2 separate metering systems. One for fertilizer and one for grain.

Sweeps

The M-11 has 17 runs with 6" sweeps spaced at 8", Broadcast is 3" — 8" sweeps are optional.

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