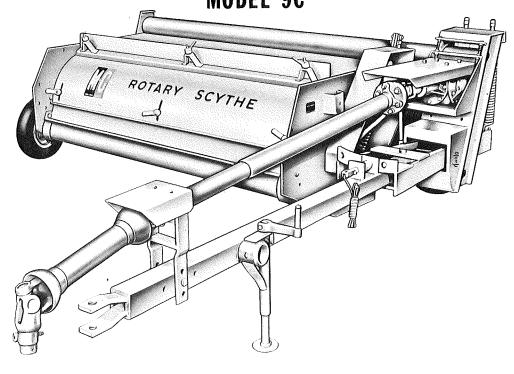


ASSEMBLY-OPERATION AND MAINTENANCE INSTRUCTIONS

MODEL 7C MODEL 9C

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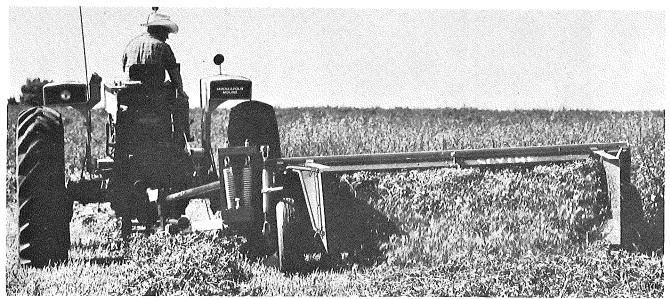
RS68

MANUFACTURED UNDER PATENTS NOS. 2999346, 3035393, 3159957 AND 3159959, OTHER PATENTS PENDING.

MATHEWS COMPANY . CRYSTAL LAKE, ILLINOIS, 60014 . U.S.A.

ASSEMBLY INSTRUCTIONS

CHECK PACKAGES AND BUNDLES TO MAKE SURE THAT THEY CORRESPOND WITH YOUR SHIPPING DOCUMENTS. MAKE CLAIMS FOR SHORTAGES IMMEDIATELY.



Your M-C Rotary Scythe was completely factory assembled prior to shipment to insure proper alignment and operation of all working parts. However, certain components were removed before actual shipment of the machine and will have to be reassembled by the customer.

The mechanical ratcheting jack is the first item to be mounted using the two pins provided in jack, see Figure 7–Point D. Raise jack to tightest position. Now, the two wheels can be mounted. The rear of machine may have to be slightly raised for mounting of wheels.

Floating frame must be raised up to allow pole to be mounted. The under side of pole adjusting plate should be greased before pole is mounted. Figure 1, Arrow No. 1. Pole can now be mounted with jack in the up position. Locate hole and use $3/4-10 \times 5-1/2$ " Hex Head Cap Screw and double nut, Figure 1, Arrow No. 2. Jack can now be lowered to steady machine. Remove the bolt on female end of long power shaft and slide the power shaft onto gear box input shaft. Figure 1, Arrow No. 3. Lock power shaft in place with previously mentioned bolt. Attach the PTO "H" yoke to pole with a $5/8-11 \ge 6$ lg. bolt and double nut, allowing the "H" yoke to move easily back and forth. Assemble tractor take-apart to the splined end of long power shaft. Tighten securely into place using fasteners provided. Bolt U joint shield to top of "H" yoke, insert shim between bearing and shield using 5/16-18 x 1 hex head bolt flat washers and lock washers. See Illustration on page 8.

The rear baffles can be assembled now including baffle No. 71, the hinge plate weld No. 118, guide mount No. 119, and adjusting rod weld No. 68. See assembly illustration on page 8 for assembly of windrow baffle assembly left. The right assembly is basically the same.

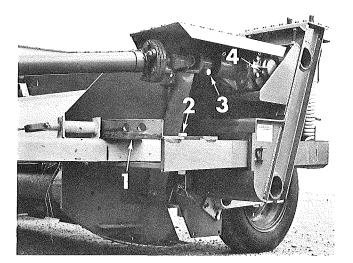
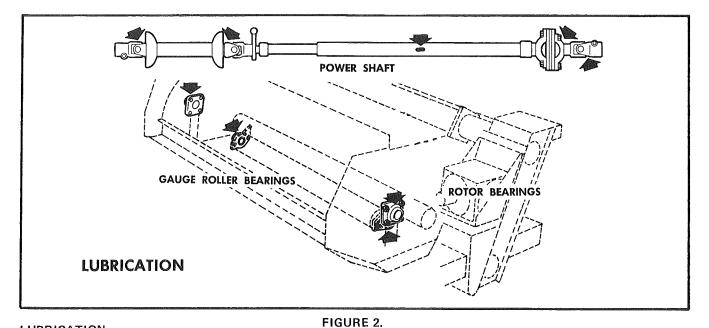


FIGURE 1.





LUBRICATION

Check oil level in gear box. Use No. 140 oil. Oil level should be up to oil level plug, see Figure 1, Arrow No. 4 at side of gear box. Chain oiler should be filled with a light engine oil to within 1/8" of top of cup. Be sure oiler is positioned so that oil will drip between the double row of sprocket teeth, see Figure 11, Arrow No. A. Above illustration shows points to lubricate with grease gun. All points should be lubricated once a day if machine is getting constant use. Use grease sparingly, and just enough to do the job. When you put the machine away at the end of the season fill the bearing with grease to illiminate any cavities where condensation may occur.

READ OPERATING AND MAINTENANCE INSTRUCTIONS CAREFULLY.

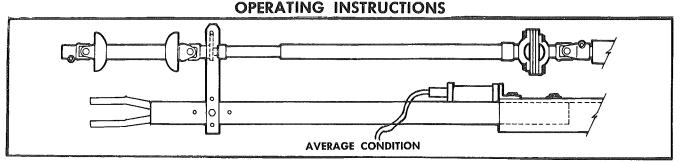
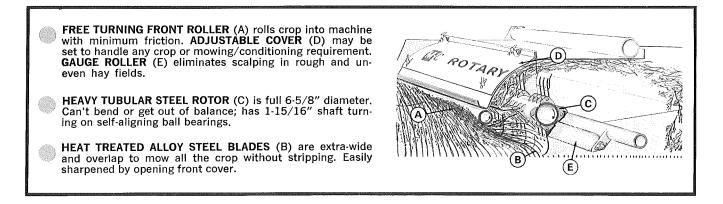


FIGURE 3

THE POWER TAKEOFF SHAFT should run as level as possible. There are adjustment holes in the "H" bracket for vertical adjustment and also front to back adjustments in the pole.



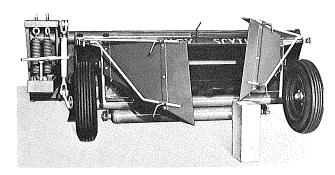


FIGURE 4

HINGED ADJUSTABLE WINDROW WINGS are hinged horizontally and vertically. Horizontal hinge on each wing permits wing to raise over obstacles without damage to the wings. Vertical hinges lets you adjust the width of the windrow from 18" to full swath.

GAUGE ROLLER

The gauge roller is standard on the 7C and 9C Rotary Scythe. This roller prevents the knives from scalping the ground.

The Gauge Roller is not designed to carry the full weight of the machine so some caution should be observed when operating on rough ground. Do not let the wheels of the scythe drop in gullies or holes and expect the roller to carry the whole weight of the machine for any great length of time.

Lubricate bearings on Gauge Roller once a day and check to see that attaching bolts are tight.

FRONT MOUNTED

GAUGE WHEEL helps raise the machine up and over banks, dead furrows and rough ground. This is standard on 9C, optional on 7C.

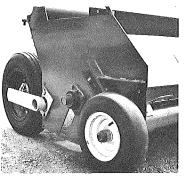


FIGURE 5

POLE ADJUSTMENT

Point "A" Figure 7. Both Inner and Outer Floating Frame should rest on Point "A" when machine is level. To adjust pole to draw bar height, adjusting screw Point "B" Figure 7 to be turned until pole lines up. Tighten lock nut to hold position.

TRACTOR-WIDE FRONT WHEEL TRACTOR BEST FOR MODEL NO. 7C - 9C



FIGURE 6

For Model 7C - 9C Rotary Scythe a wide front wheel tractor is desirable because the wheels will straddle the hay cut on the previous round. This will allow the hay to remain fluffy for fast drying.

FLOATING FRAME SPRING TENSION

The two large springs at the rear of the "Floating Frame" Point "C" Figure 7, greatly increase the performance of your Rotary Scythe. When properly adjusted, they will cause your scythe to respond more quickly to irregularities in the ground. This feature helps to eliminate scalping, and makes the machine easier to handle. If the tension in these springs is too much, the scythe will rock up and down when in operation. Reduce the spring tension enough to avoid this rocking motion. (Fig. 7.)

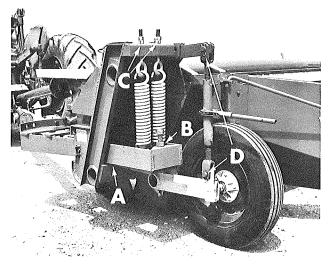


FIGURE 7.

ADJUSTMENT-FRONT ROLLER AND FRONT COVER FOR MOWING HAY

In meduim to heavy hay crops, the front roller should be set in either of the two uppermost positions. This adjustment is made at the bolt holes at each side of the machine (Fig. 8, letter A). In a light, short crop, the roller should be lowered to hole locations (Fig. 8, letter B). When moving roller down, it also moves in closer to the Scythe blades and accomplishes two things. First it gives better control of the hay going between the blades and roller, and as the roller moves inward, it holds the heads of the short plants away from the blades while the stems are being cut. Much can be accomplished by making these adjustments. If you want a lot of crimping action for quicker drying, moving the roller down on a heavy crop will accomplish this-however, some may complain about excessive leaf loss. Before you move the roller down, the clamping handles (Fig. 8, letter C), holding the upper and lower sections of the front cover together, must be lo-osened. THE FRONT ROLLER SHOULD ALWAYS TURN FREELY. The roller with its turning action reduces friction of the hay going through the machine and is the prime factor allowing this mowing principle to function without excessive leaf loss. The right combination of roller setting, tractor RPM and forward speed will accomplish excellent results in all types of hay.

TRACTOR GROUND SPEED AND POWER TAKE-OFF SPEED

Operating with a power take-off speed of 540 RPM and with a ground speed of from three to six miles an hour, you can mow heavy crops of hay provided you have power available. The Model 9C Sycthe requires 45 to 65 horsepower; and Model 7C requires 40 to 50 horsepower. Horsepower requirements vary with the weight of crop and the type of crop being mowed. With crops weighing one and one-half to two tons per acre (dry weight), horsepower will be the lower figure shown. Horsepower is reduced by traveling at a slower forward speed. If you get into light crop and find you are getting too much leaf loss, reduce your throttle and try faster forward speeds. The right combination of power take-off speed and ground speed will produce good results.

BREAKING IN PERIOD

It takes approximately 10 to 15 acres of mowing to get the inside of the machine and the blades polished to get the best performance. As the machine works in, performance will get better. After machine has been operated a few hours, check all nuts and bolts to make sure they are tight. Open front cover and check knife bolts—also knife pin rod end bolts to be sure they are tight.

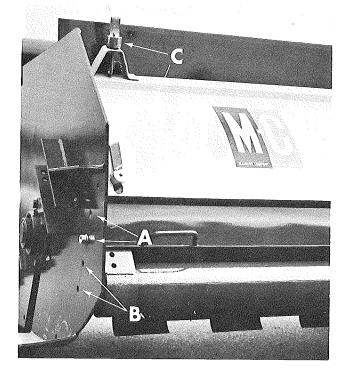


FIGURE 8 CUTTING HEIGHT ADJUSTMENT

Cutting Height Adjustment is made by cranking machanical ram furnished on machine, or by using a hydraulic cylinder such as used on a plow. Skid shoes on the sides of machine should operate about one inch above the ground. If your field is rocky, the machine should be adjusted higher. A hydraulic cylinder is desirable in rocky fields, especially if you see a rock you can raise the machine up and over. It is best, however, to stop and pick up the rocks.



FIGURE 9 SHARPENING SCYTHE BLADES

There are two ways to sharpen the scythe blades—you can remove them and sharpen them on a bench grinder or you can sharpen them right in the machine with a portable electric grinder. Picture shows front cover open with operator sharpening the blades. When you sharpen scythe blades, try to maintain original angle of cutting edge as close as possible.

SAFETY SHEAR PIN DEVICE

All Scythes are equipped with safety shear bolts which fasten the drive sprocket to a flange on the gear box output shaft. These shear pins are to protect the gear box and drive chain from damage. They will snap if you let out your clutch on the tractor too fast or if the machine is submitted to severe impact from an unseen object in your line of travel.

DO NOT USE HARDENED BOLTS FOR SHEAR PINS.

CUTTER BAR ATTACHMENT FOR STALK SHREDDING

In place of the Front Roller we have a Cutter Bar Attachment available for all models. This attachment consists of an "L" shaped section which replaces the front roller assembly and a steel cutter bar that fastens to the bottom with adjustment for setting close to the knives in their path of travel. When using the Cutter Bar the material is cut off at the ground level and that which overhangs the knife is again cut between the blades and the adjustable bar. This Cutter Bar was made at the request of farmers who wanted to shred stalks finer and it is doing a very acceptable job.

Cutter Bar Attachment Kit for Model 9C No. 0939019. Cutter Bar Attachment Kit for Model 7C No. 0939022.

MAINTENANCE OF CHAIN DRIVE AND SPROCKET

The sprockets must be lined up so that the chain runs perfectly straight on the sprockets. If chain runs extremely hot, this means the sprockets are not in line and the chain is dragging on the side of one of the sprockets. When your chain becomes excessively worn, it will then cause excessive wear on the sprockets. Be sure the sprockets are in line and set screws are tight. This is your best assurance of good service. Keep Chain Oiler reservoir filled (See lubrication instructions). Chain can be adjusted by using the two bolts at point C, Figure 11. Chain should be adjusted per instruction decal on chain guard. After chain is set, bolt B, Figure 11, should be adjusted to rest on base of end frame. Caution: Excessive tension on this bolt will misalign the sprockets. This bolt is for support only of gear box.

MAINTENANCE OF SCYTHE BLADES

The machine is designed for easy inspection of the Scythe blades and rotor. To make this inspection, loosen "J" bolts and swing Front Cover out from top and down to ground exposing the inside of the machine. The scythe blades will last a long time with only occasional sharpening. It is important to check the blades occasionally to get good mowing action. The blades are eccentrically pivoted to the rotor shaft so that when they cut into the stem of the plant they swing back slightly causing an extended arc of cutting, thereby giving a smoother cut. The plants are carried up through the machine butts first, and then released from blades by centrifugal force. The momentum carries the knife forward for the next cut. It is therefore important that the knives swing freely. Check these occasionally. The blades should swing on the hanger pin. When you remove and replace the blades to the hanger, make sure the whole blade assembly swings free. Be sure to re-tighten all bolts.



TEDDING OR RECONDITIONING HAY

The scythe works well to pick up mowed hay that has been flattened with a heavy rain. Also in periods of very high humidity or where ground is extremely damp, you can speed up the drying of the hay by picking it up and fluffing it. Run back over the hay using a reduced throttle on your tractor with a good forward speed, and you will get surprising results. The hay will dry much faster and be better than if you were to turn it over with a rake.

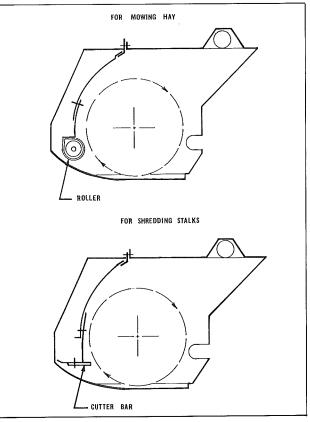


FIGURE 10

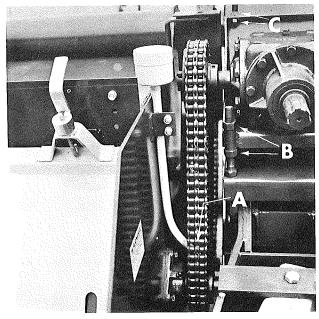


FIGURE 11

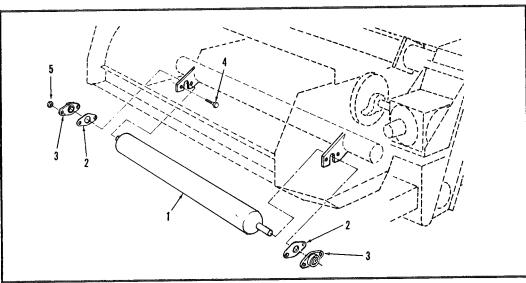


FIGURE 13. GAUGE ROLLER

REF. NO.	PART D	ESCRIPTION	REF. NO.	PART	DESCRIPTION
1. 2.	0910100 0914454	Gauge Roller Weldment Bearing Shim Shield	3. 4. 5.	0006001 0018169	2-Bolt Flange Bearing 7/16-20 x 1-1/2" 1g. Hex Head Cap Screw Lock Nut, 7/16-20

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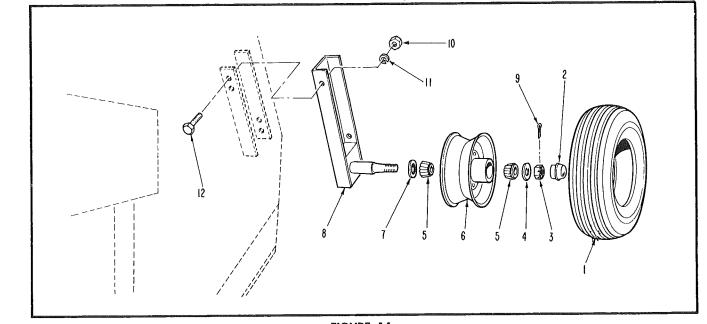
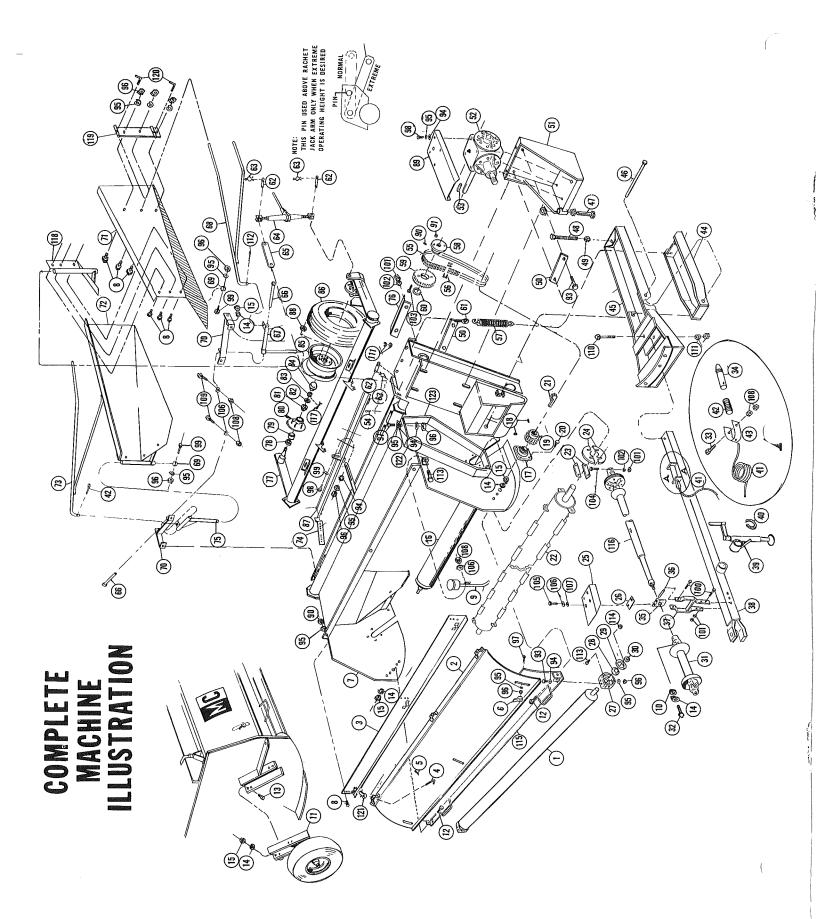


FIGURE 14. GAUGE WHEEL KIT-STANDARD MODEL 9C OPTIONAL 7C 0901001

REF. NO.	PART	DESCRIPTION	REF. <u>NO.</u>	PART	DESCRIPTION
1 2 3 4 5 6	0928994 0928992 0928990 0928993 0928993 0928995	Tire and Tube 4.00 x 8" Smooth Impl. Wheel Hub Caps Wheel Spindle Nut 1" Flat Washer Bearing Cone, Guage Wheel Wheel 8", w/non Demountable Hub	7 8 9 10 11 12	0928991 0900018	Wheel Seal Guage Wheel Mount Weld. 1/8" x 1-3/4" Cotter Pin 1/2-13 Hex Nut 1/2" Lock Washer 1/2-13 x 1-1/4" Hex Head Cap Screw



DESCRIPTION	rindrow Baffl Sket Weld. Sket Weld. Cof: Baffle A S of: Baffle drow Baffle Junt Weld. Fow Baffle A Fow Baffle A for Weld. Late Weld. Indrow Baffle A for Weld. Int Weld.	THE - 091070 Le Assy. 9C FFL - 091476 FFL - 091015 FFL - 091500 FFL - 091016 Le Assy. 7C EFL - 091015 . Rt 091015	Windrow Baffle - 091500 us Rod RL 9C us Rod RL 9C us Rod RL 0 us Rod RL 0 us Baler dusther duster duster duster du 9C du 9C	abat W4 snock Ulse 1 Cotter Pin Plate Weld. Lt. Mount Weld. Windrow Baffle Front Cover Clampi Guard Front Guard Rear
DADT		0911030 0911040	0910166 09110165 09110164 09110161 09110161 00118364 00118399 00118399 00118399 00118399 00118399 00118399 00118399 001183989 001183989 001183989 00118122 00118122 00118122	9166 9101 91501 91444 91444
REF.	71 71 71 71	72		116 117 118 119 120 122 123 123

Also Sold As Front Roller Hanger Assembly 0911C Front Roller Weld. 7C Front Roller Weld. 7C Upper Front Cover Weld. 7C Upper Front Cover Retainer Weld. 7C 18 x 314 Cotter Phn Clamping Handle Weld. 9C Body Weld. 9C Body Weld. 9C Body Weld. 9C Diler Assembly Consisting of: 011er Meld. 0 011er Weld. 0 011er Meld. 0 011er Meld. 0 011er Meld. 1 011er Meld. 1 011er Meld. 1 011er Stambry 011er Welker 1 1/2" That Washer 1/2" That Washer 1/2" 1/4 H.H.C.S. 1/2" 1/4" Head Set Screw Sprocket Redo.2 1/2 res Scoket Head Set Screw Sprocket Redo.2 1/2 res Scoket Head Set Screw Sprocket Redo.2 1/2 res Scoket Head Set Screw Sprock Meld. 9C Rotor Weld. 7C Stud Anchor Front Sheld Shim Front Roller Hanger Weld. 1-1/4" Bearing Stamping 1-1/4" Eccentric Lock Collar 1-1/4" Eccentric Lo PTO Tractor Take-Apart 1/2-20 × 5/16-18 × 20 H.H.C.S. Faring Flan Weld. T. Voke PrO Bearing "H" Yoke Weld. PrO Bearing Sleve Prole Wild. 7C - 9C Jack Assembly Pole Wild. 7C - 9C Jack Assembly Pole Wild. 7C - 9C Jack Assembly Pole Pin Rope 132 L. Prole Pin Rope 132 L. Compression Spring Frame Hinge Pin Weld. To acting Frame Hinge Pin Weld. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.L.L.C.S. 1.4.8 x9 L.L.L.C.S. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.H.L.C.S. 1.4.8 x9 L.G.C.ET PIN Cear Box Slide Hold Down Chain RC60-2 w/Spring Clip Fin - Retcher Jack Mindrow Hinge Pin Weld. Hinge Rod Weld. Left Mindrow Haffle 7G Adj. Rod Left Windrow Baffle 9G Adj. Rod Left Windrow Baffle 9G Adj. Rod Left Windrow Baffle 7G Adj. Rod Left Windrow Baffle 7G Adj. Rod Left Windrow Baffle 9G Adj. Rod Left Windrow Baffle 9G Adj. Rod Left Windrow Baffle 7G Adj. Rod Left Win DESCRIPTION (27-28-29-30) 0026303 0918255 00184651 0016401 0018100 0918100 0918160 0028253 0028253 0013718 0910165 0910167 0910167 0910167 0913405 0910156 0916604 0015139 0018987 0910140 00151755 00151755 0015653 0914783 0913569 0913569 0913569 0913569 0016003 0016002 0910110 0916003 0916003 09116028 0910143 0911028 09111028 0911128 09113504 0911366 0910136 0109100 0916301 0910133 0910128 0910154 0910154 0910180 0910158 0910181 0018132 0010014 0910155 0910177 0901001 0018163 0916607 0916403 0911035 PART Шų 32222553 22109876543211 n 000 Н 2 4000

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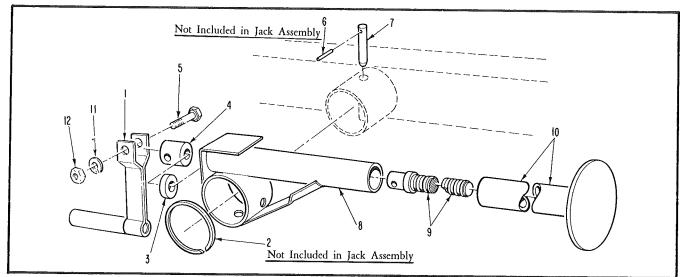


FIGURE 15. JACK ASSEMBLY – 0911028

EF. O.	PART D	ESCRIPTION	REF. NO.	PART	DESCRIPTION
1	0000004	Handle Weld. Ram Jack	7	0015000	Jack Positioning Pin
2	0918131	External Snap Ring, 3" Shaft	8	0010009	Jack Fixed End Weld.
3	0006000	Ram Bearing	9	0910138	Jack Screw Weld.
4	0005600	Retainer Sleeve, Ram Jack	10	0910137	Jack Floating End Weld.
5		3/8-16 x 2" Lg. Hex Head Cap Screw	11	0720207	3/8" Lock Washer
6		5/16 x 1 3/4" Lg. Roll Pin	12		3/8"-16 Hex Nut

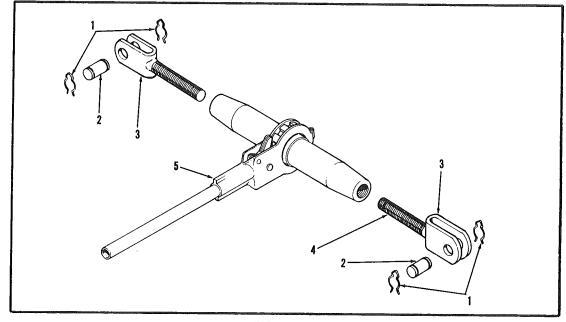
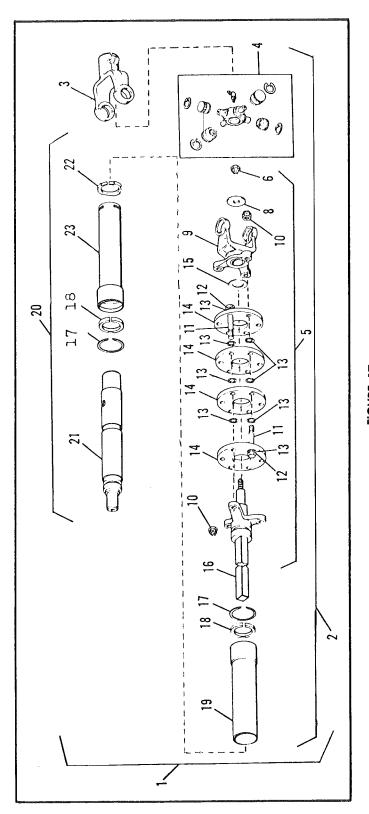


FIGURE 16. MECHANICAL RATCHETING JACK Part No. 0018995.

REF. NO.	PART	DESCRIPTION
1	0028253	Ratcheting Jack Pin, Clip
2	0028254	Ratcheting Jack Pin 1" dia. x 2-3/4" Lg.
3	0028255	Ratcheting Jack End Weld. L.H. Thrd.

REF. NO.	PART	DESCRIPTION
4	0028256	Ratcheting Jack End Weld. R.H. Thrd.
5	0028257	Ratcheting Jack Handle Assy.



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FIGURE 17.

P. T. O. SHAFT Part No. 0916606

2 2 2	PART	DESCRIPTION	N. O.	PART	DESCRIPTION
H	0916606	Main PTO Shaft (Complete)	12	0026611	Special Flat Washer
101	0026640	Rear Half Assy. Complete w/Clamp Yoke	13	0026610	Beaded Washer
n	0026641	Clamp Type Spline Yoke	14	0026609	Rubber Shock Disc
4	0026633	Universal Joint Center Parts Kit	15	0026614	Thrust Washer
ŝ	0026642	Spider-Yoke, Male Shaft and	16	0026647	Spider and Shaft
9		Shock Coupling Assy	17	0028250	Snap Ring Bearing Retainer
1	0026650	Male Guard Tube Assy.	18	0026004	Nylon Bearing
00	0026643	Special Flat Washer	19	0026646	Female Guard Tube Weld.
6	0026644	Spider Yoke Assy.	20	0026648	Stub Shaft and Tube w/Nylon QDFWG
10		Castle Nut (1/2-20 x 3-1/8 Lg.)	21	0026649	Stub Shaft and Tube
H	0026645	Cap Screw (1/2-20 x 3 1/8 1g.)	22	0026613	Nylon Centralizer

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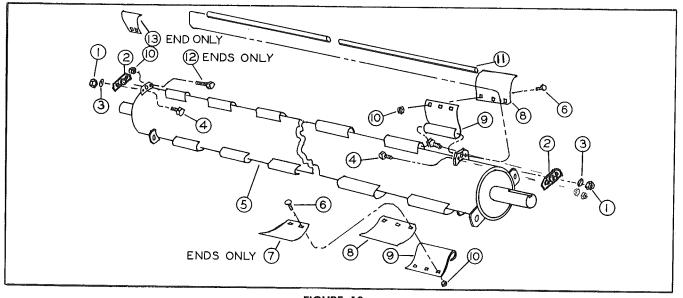


FIGURE 18. ROTOR ASSEMBLY

EF. O. PART	DESCRIPTION	REF. NO.	PART	DESCRIPTION
1 001001 3 4 5 091014 6 001000 6 001813 7 001520	3/8 Lock Washer 3/8 x 1" HHCS 0 Rotor Weld. 9C 5 Rotor Weld. 7C 1 Knife Carriage Bolts	8 9 10 11 11 12 13	0015208 0015205 0018149 0918995 0918994 0015207	

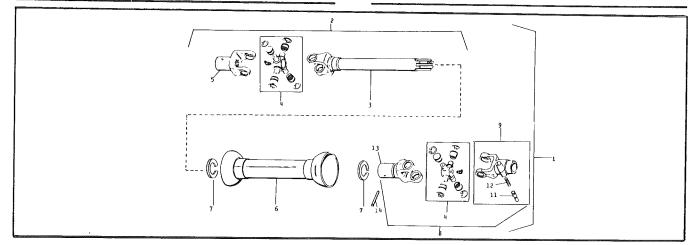


FIGURE 19. P. T. O. TRACTOR TAKE-APART Part No. 0916607

REF. NO.	PART	DESCRIPTION	REF. NO.	PART	DESCRIPTION
1	0916607	"L55" Universal Joint & Hitch Assy. w/Nylon ODFWG	8	0926628 0026656	and therefore outre
2 3 4 5 6 7	0926624 0926625 0026633 0926632 0926627 0026634	"L55" Universal Joint & Shaft Yoke and Shaft Repair Kit Yoke (1-3/8 - 6B Spline) Guard Assy. Nylon Bearings	10 11 12 13 14	0026629 0026601 0026602 0926629 0926631	 Saf*T Pin & Spring Kit Saf*T Pin Saf*T Pin Lock Pin Spring Yoke (1-5/8-6B Spline)

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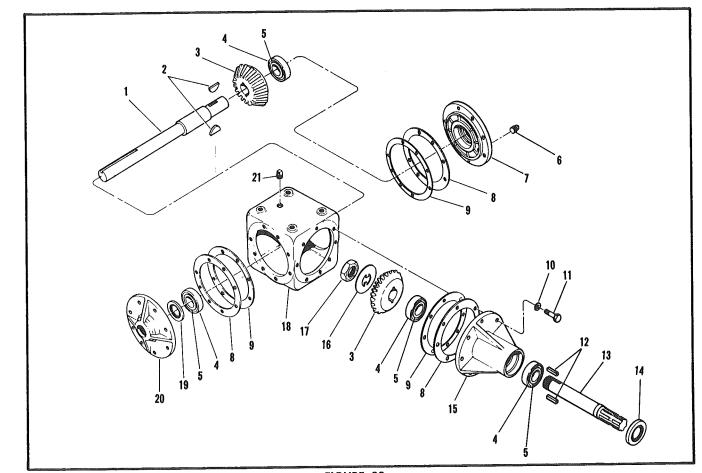


FIGURE 20. GEAR BOX Part No. 0916605

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REF. NO.	PART DESC	IPTION	REF. NO.	PART DESC	CRIPTION
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	0926621 0018988 0026500 0026011 0026010 0028000 0027655 0026636 0026637	Output Shaft, Gear Box Woodruff Key, 3/8 x 1-1/2" Bevel Gear Bearing Cup Bearing Cone Oil Level Plug Cover, Solid, Gear Box Gasket Shim .005 Thick Gasket Shim .010 Thick 1/2" Lock Washer	11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21.	$\begin{array}{c} 0015134\\ 0026638\\ 0026639\\ 0027656\\ 0028252\\ 0028251\\ 0027654\\ 0026635\\ 0027653\\ 0026607 \end{array}$	<pre>1/2-13 x 1-1/2" lg. Hex Bolt Key, 3/8 x 3/8 x 1-3/8" lg. Input Shaft Grease Seal Hub Lock Washer Nut, Input Shaft Gear Housing Grease Seal Cover, Gear Box Output Plug Vent</pre>



NEW GEAR BOX NO	. 0916608
BEGINNING W/ SERIA	L NO. 16811
OLD NO.	NEW MO.
REF. NO. 16-0028252 17-0028251	- 0026668
19-0 026635	- 0026667
20-0 027653	- 0027657

INSTRUCTIONS FOR ORDERING PARTS

- 1. ALL PARTS MUST BE ORDERED FROM YOUR DEALER.
- 2. GIVE MODEL NAME, NUMBER and SERIAL NUMBER that is stamped on the NAME PLATE of your machine.
- 3. Order from your PARTS LIST as this is the ONLY means we have of identifying the parts you need. Order by the QUANTITY DESIRED, the PART NUMBER and the DESCRIPTION OF THE PART.
- NOTE: The Company reserves the right to incorporate any changes in design without obligation to make these changes on units previously sold.

OWNERS NOTICE

TO INSURE WARRANTY CLAIMS, BE CERTAIN TO FILL OUT AND MAIL WARRANTY CARD WITHIN 30 DAYS.

