



CHOPPER

ASSEMBLY-OPERATION AND MAINTENANCE INSTRUCTIONS

MODELS 60G1, 60GS1 and 60W1
From Serial #25830

CM 80



MATHEWS COMPANY

P.O. Box 70, 500 Industrial Ave.
CRYSTAL LAKE ILL., 60014 · U.S.A. 2-80

DANGER

1. KEEP ALL GUARDS IN PLACE.
2. STOP MOTORS OR ENGINE BEFORE ADJUSTING, LUBRICATING, CLEANING, OR UNLOADING MACHINES, UNLESS OTHERWISE SPECIFICALLY RECOMMENDED IN THE "OPERATOR'S MANUAL".
3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING THE MACHINE.
4. KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER DRIVEN PARTS.
5. KEEP OFF EQUIPMENT UNLESS SEAT OR PLATFORM FOR OPERATION AND OBSERVATION IS PROVIDED.
6. KEEP ALL OTHERS OFF.
7. USE FLASHING WARNING LIGHTS WHEN OPERATING ON HIGHWAYS EXCEPT WHEN PROHIBITED BY LAW.
8. MAKE CERTAIN EVERYONE IS CLEAR OF MACHINE BEFORE STARTING OPERATION.

SET UP INSTRUCTIONS

1. Remove the Shear Flange Guard (item 39, page 3).
2. Check oil level in gear box. See Lubrication Instructions.
3. Remove the snap ring (item 40, page 3).
4. Grease the PTO Shaft. See Lubrication Instructions.
5. Insert chopper half of PTO shaft into shear flange guard, with mounting flange of the guard facing gear box.
6. Push PTO Shaft Shear Flange Yoke (item 13, page 7) onto the Input Shaft (item 12, page 5).
7. Fasten shear flange yoke to Shear Flange (item 10, page 3), using one (not two) special Shear Bolts (item 38, page 3). **SUBSTITUTION OF OTHER SHEAR BOLTS MAY CAUSE DAMAGE TO CHOPPER AND/OR TRACTOR.**
8. Reinstall snap ring on input shaft.
9. Fasten shear flange guard (see page 5).
10. Hook chopper pole to tractor draw bar. Fasten securely.
11. On a level surface lower chopper until the skids are two inches above ground. The skids will be nearly parallel to the surface when hooked to a tractor with standard tires and draw bar.
12. If chopper is level, check tightness of bolts fastening pole to body. If not level, change pole position where fastened to chopper. For more height in front, relocate front pole bolts to bottom positions. For less height in front, put front pole bolts in upper positions. **MAKE SURE ALL BOLTS ARE TIGHTENED WHEN FINISHED.**
13. Attach the Spout (item 7, page 6) to the chute.
14. Fasten Spout Link (item 8, page 6) to spout by inserting rivet into lower hole at top of spout link.
15. Move Lever Assembly (item 11, page 6) to be sure spout hinges freely and the lever positioning pin seats in quadrant holes (item 12, page 6).
16. Check ALL nuts and set screws for tightness.
17. Securely fasten PTO Shaft to tractor.
18. With all guards in place, start tractor, engage tractor PTO and let chopper rotor turn at low speed a few times. Gradually increase PTO speed to 540 RPM to verify satisfactory operation at top speed.
19. To stop, idle tractor down and disengage clutch. Clanging noise of knives is a normal sound.
20. Attach the wagon to the hitch tab located on the chopper axle. **MAKE SURE THE HITCH PIN IS SECURE AND WILL NOT COME LOOSE.**

LUBRICATION

Use hand operated grease gun when applying grease to the three bearings and two universal joints on the chopper. Excess greasing can cause grease seals to rupture, permitting grease to escape and dirt to enter which shortens bearing life.

1. Using standard gun grease, apply one or two shots of grease to the output shaft bearing and rotor bearings every 75 to 100 hours of operation. Apply to universal joints every 25 to 30 hours of operation.
2. With chopper sitting level, check oil level in gear box two or three times during seasonal use. Check more frequently if grease seal is suspected of leaking. Use 90 weight oil when needed to bring oil up to Level plug.
3. During initial set up, separate PTO shaft and put liberal amounts of grease in the female tube (item 12, page 7). Apply grease whenever needed for easy telescoping.
4. Oil chain and sprockets once a week letting oil seep into the roller links of chain. Wipe off excess oil before running.

MAINTENANCE

1. Follow greasing and oiling instructions during seasonal use--grease and oil when storing during off season.
2. Operate with knives at least 2" above ground.
3. Replace broken or missing knives immediately.
4. When dull, sharpen knives on back side at 30° angle.
5. Tighten chain after a few hours of operation. Tighten chain by moving gear box and outboard bearing forward equal amounts. **DO NOT MOVE ONE WITHOUT MOVING THE OTHER.**

INSTRUCTIONS FOR CHOPPING & LOADING

The Chopper does an excellent job of cutting standing crops. Rotating knives create a vacuum which picks up and cuts hay or crop residue under all conditions. This vacuum principle helps prolong knife life because there is no need to operate them lower than two (2) inches above ground—higher, if fields are rocky.

The chopped material floats and is carried up the chute on a cushion of air created by the blowing action of the knives, allowing the chopped material, wet or dry, to flow up the chute without plugging. Under most conditions the deflector angle (item 42, Page 3) should be set in its uppermost position. When chopping light, dry material, it may be necessary to lower the deflector a little to force the material downward into the air stream.

The length of cut is determined by ground speed and cutter bar position. The closer the cutter bar (item 22, Page 3) is adjusted to the knives, the shorter the length of cut.

The multi-edged Super Cutter Bar Kit (optional) may be installed to produce a finer than standard cut when placed ¼" from the swinging knives.

NOTE: The Chopper is designed for green feeding and not for silage. The length of cut material that results is not fine enough to be used for silage and should be run through a re-cutter before being ensiled.

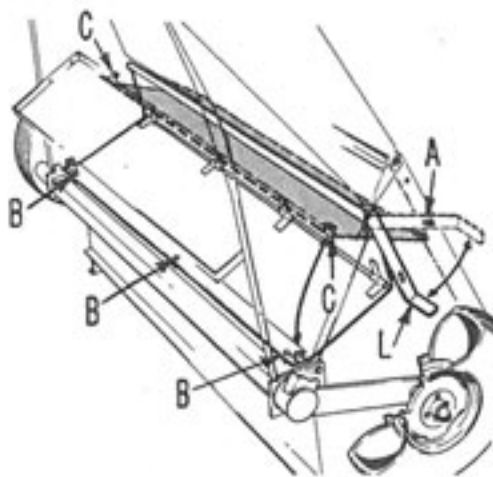
It is important that the rear of the wagon be filled first and progressively fill forward until full. The spout must be adjusted properly by use of the lever assembly.

Because of numerous wagon lengths, heights, and sizes, four possible positions to assemble the spout link and adjusting lever have been provided to throw the material to the desired spot in the wagon.

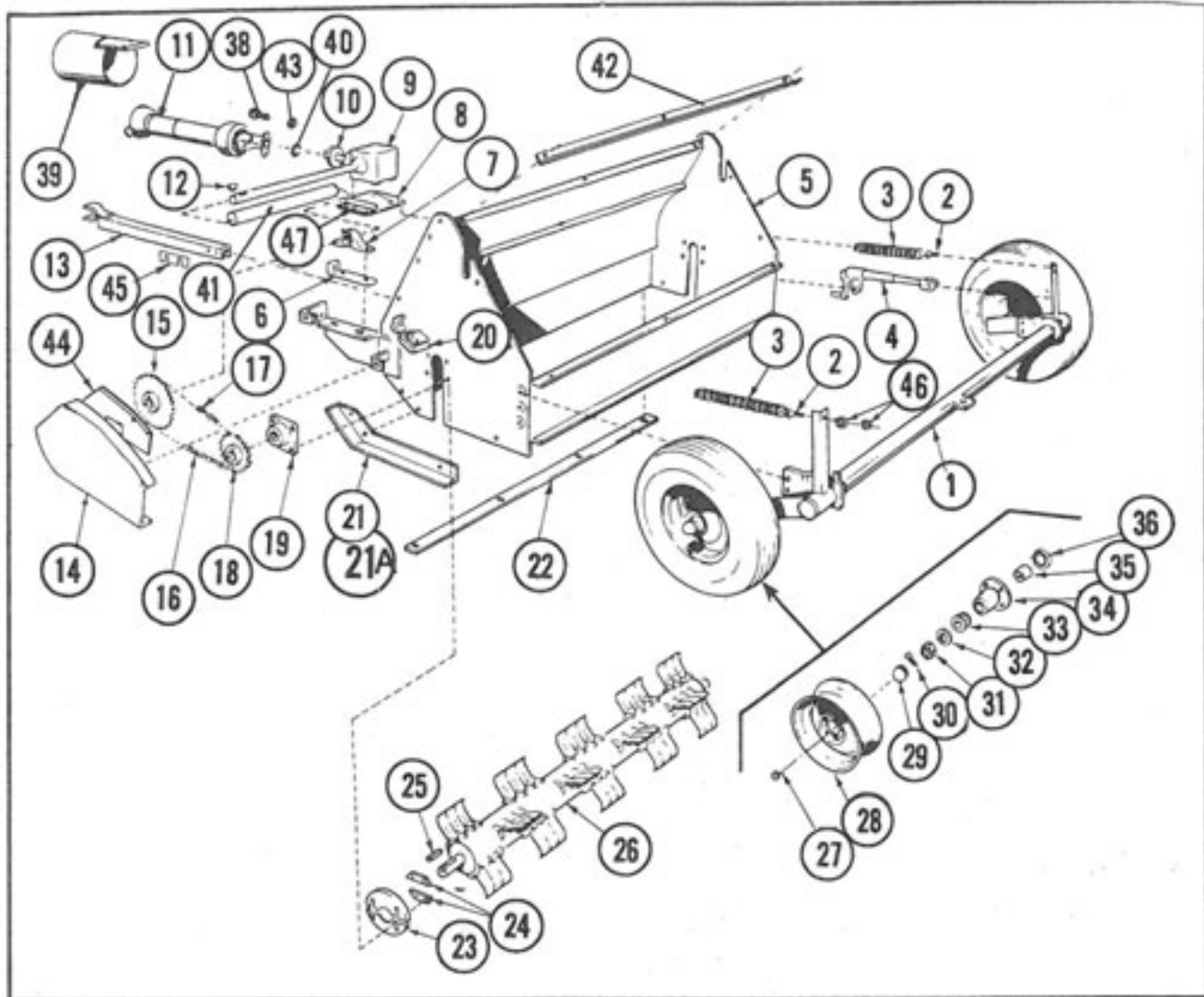
A little practice with different settings of the spout adjusting lever and various ground speeds will enable the operator to do an excellent job of green chopping and proper filling of a wagon.

INSTRUCTIONS FOR MOWING, CHOPPING, SHREDDING (For direct ground return)

1. Remove three bolts at point (B).
2. Raise handle (L) so it may be fastened with a ¾ x 1¼ bolt at point (A).
3. Using two of the bolts removed at point (B) fasten the tabs on closing cover weldment (item 2, page 6) at point (C).
4. Replace remaining bolt (B) in center hole.
5. Adjust deflector weldment (if necessary) to prevent material from falling on and building up on hitch tab of axle.



M-C CHOPPER MAJOR ASSEMBLIES

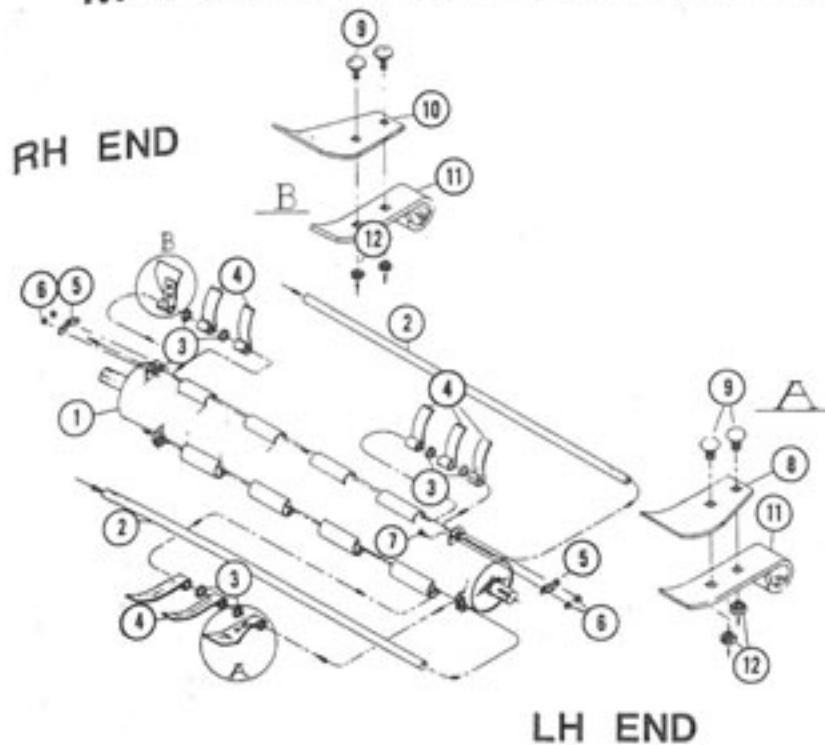


REF.	PART #	QTY.	DESCRIPTION	REF.	PART #	QTY.	DESCRIPTION
*1	8038	1	Axle Weldment w/ Wheel Hubs	24	0015175	4	½-13 Stud Anchor Rotor Brg. Bolt
2	7190	2	Turned Eye Bolts	25	0015145	1	½ × 1- 15/16" Lg. Key
3	7165	2	Lift Spring	26			Rotor Ass'y. (See Page 4)
4	0001001	1	Ram Assembly (See Page 7)	27	0018989	10	Wheel Lug Nut ½-20
5	8000	1	Body Weldment	28	0018993	2	Wheel Rim Only (5-Bolt)
6	6227	1	Bearing Mount Adjusting Bar	29	0018996	2	Wheel Hub Cap
7	0016011	1	1- 7/16 Pillow Block Bearing	30	0008199	2	Spindle Cotter Pin
8	8045	1	Gearbox Mount Weldment	31	0018253	2	Spindle Nut
9	7268	1	Gearbox	32	0018254	2	Spindle Washer
10	0017650	1	Shear Flange	33	0016000	2	Wheel Outer Bearing
11	0016600	1	Power Shaft (See Page 7)	*34	0018992	2	Wheel Hub w/ Cups
12	0018998	1	Woodruff Key	35	0016001	2	Wheel Inner Bearing
13	8055	1	Hitch Pole Weldment	36	0018991	2	Wheel Seal
14	8072	1	Chain Guard Weldment (Outer)	37	0008999	2	Tire 5.90 × 15" and Tube
15	7120	1	RC60 - 48T Sprocket	38	0018133	1	Shear Bolt ¾" × 2¼"
16	7130	1	RC60 - Drive Chain	39	8047	1	Shear Flange Guard
17	0026300	1	RC60 - Connecting Link	40	0018250	1	Snap Ring 1¼"
18	0016402	1	RC60 - 17T Sprocket	41	6073	1	Output Shaft Guard
19	0016010	2	1- 15/16 Flange Bearing	42	6430	1	Deflector Angle
20	6459	1	Wood Block	43	0018149	1	¾ × 16" Lock Nut
21	6010	1	Left Skid	44	8052	1	Chain Guard Weld Inner
21A	6015	1	Right Skid	45	6157	AR	Pole Shim
22	6325	1	Cutter Bar	46	0008163	4	½-13 Hex Nut
23	0014652	4	Rotor Anti-Wrap Device	47	6215	2	Gearbox Mounting Strip

* Axle weldment prior to serial #25830 were made to accommodate a 4-bolt hub and rim. These weldments used a spindle with a 4¾" shank with over-all length of 8" (Part #0018994). Axle weldments beginning with serial #25830 accommodate a 5-bolt hub and rim. These weldments use a spindle with a 3" shank with over-all length of 7" (Part #0018981). If complete, weldment is needed for models prior to serial #25830, 5-bolt rims will also be required.

ROTOR ASSEMBLY FOR 60G1 & 60GS1

M-C #8120 (USED FROM SERIAL #15930)



REF.	PART #	QTY.	DESCRIPTION
1	8119	1	Rotor Weldment
2	6457	4	Hanger Rod
3	6524	40	Knife Spacer Bushing
4	0018999	56	"G" Knife
5	0012000	8	End Locator Bracket
6	0008168	16	3/8-16 Flanged Whiz Lock Nut
7	0008134	16	3/8-16 x 3/4 Truss Head Screw
8	6064	2	Left Hand End Knife
9	0018131	8	Sp. Carriage Bolt 3/8-16 x 3/8
10	6063	2	Right Hand End Knife
11	0015203	4	Knife Hanger (H-Type)
12	0018149	8	3/8-16 Lock Nut

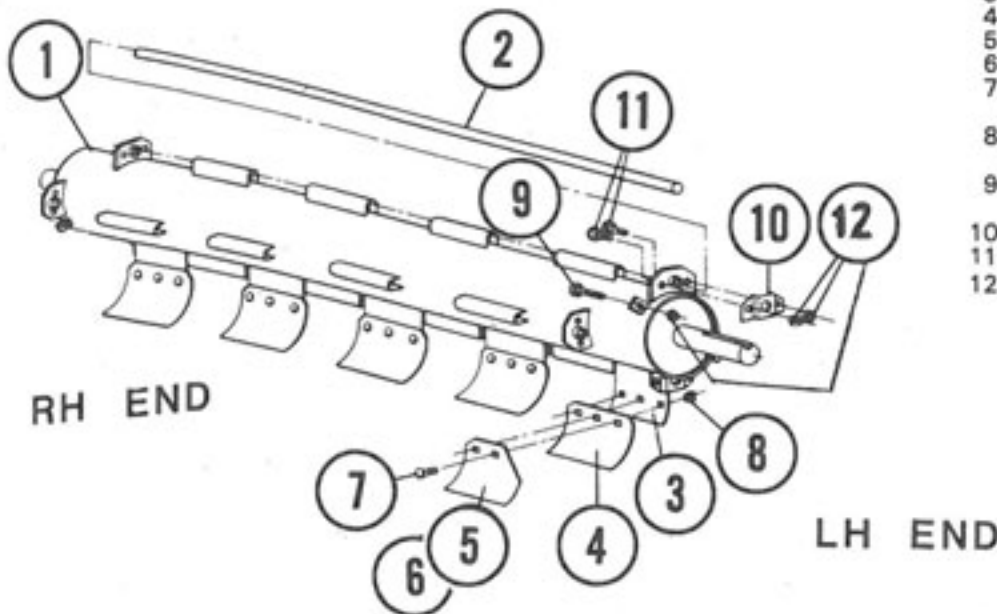
KNIFE KITS FOR G MODELS

Kit #7618 - for machine w/ serial #15930 and up (consists of items 4 and 8 thru 12.)

Kit #7605 - used prior to serial #15930. Consists of:
 56-0018999- G-Knife
 4-0015203- H-Knife
 8-0018131- Sp. Carriage Bolts
 8-0018149- Lock Nuts
 2-0015200- Right Hand End Knife
 2-0015201- Left Hand End Knife
 4-0015202- H-Type Knife

ROTOR ASSEMBLY FOR 60W1

M-C #8125 (WIDE KNIVES)

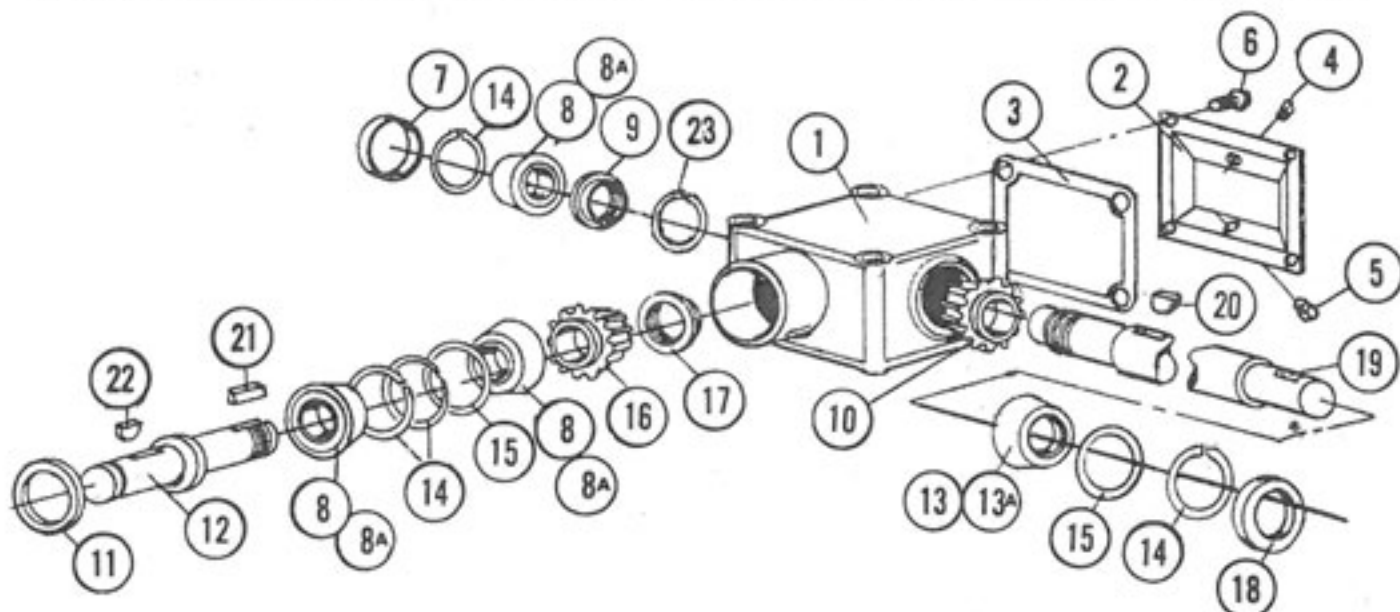


REF.	PART #	QTY.	DESCRIPTION
1	8119	1	Rotor Weldment
2	6457	4	Hanger Rod
3	0015205	20	Wide Knife Hanger
4	0015208	20	Wide Knife Blade
5	0015206	2	End Knife Left
6	0015207	2	End Knife Right
7	0018131	60	3/8-16 x 3/4" Carriage Bolt
8	0018149	60	3/8-16" 2-Way Lock-nut
9	0008125	4	3/8-16 x 1 1/2" Carriage Bolt
10	0012000	8	End Locator Bracket
11	0008134	16	3/8-16 x 3/4" Truss Head
12	0008168	20	3/8-16" Whiz Nut

KNIFE KIT FOR W MODEL

Kit #7635 consists of:
 20-0015208- Wide Knife Blade
 2-0015206- End Knife Left
 2-0015207- End Knife Right

GEARBOX 7268 (USED FROM SERIAL NO. 25830)

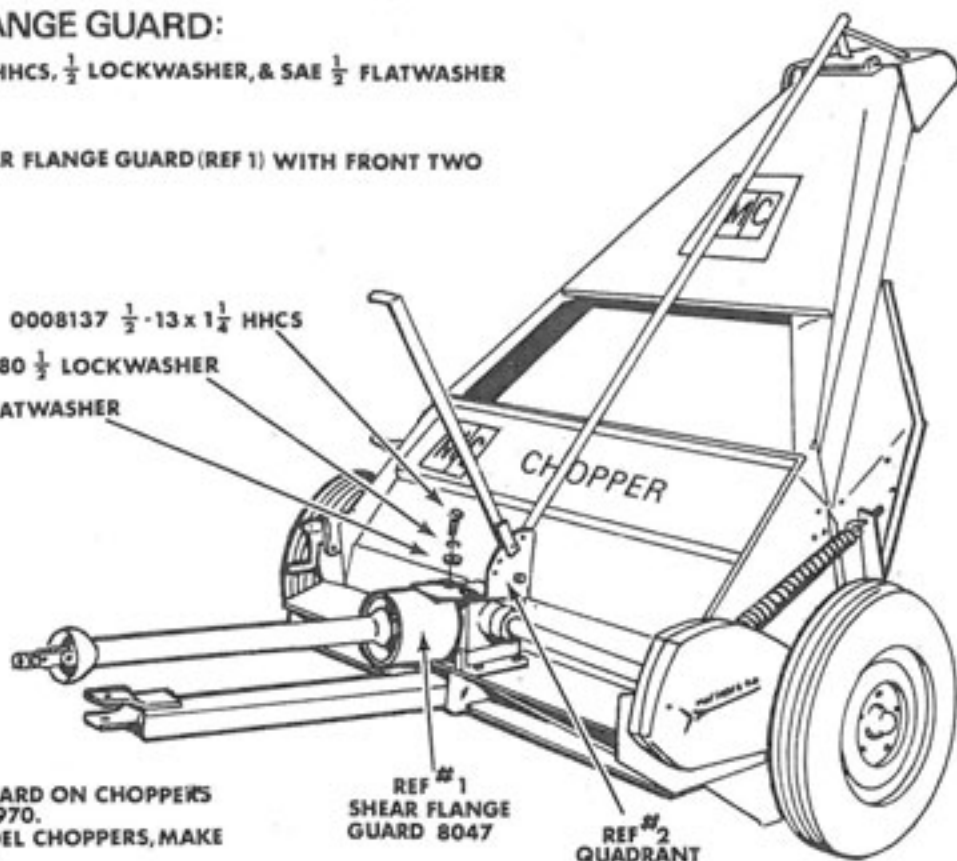


REF.	PART #	DESCRIPTION	REF.	PART #	DESCRIPTION
1	0027659	Gearbox Housing	13	7633	Bearing Cone
2	7619	Gearbox Cover	13A	7631	Bearing Cup
3	0026600	Gasket	14	0028258	Snap Ring
4	0026677	Vent Plug	15	7630	Shim
5	0027500	Level Plug	16	7535	Bevel Gear 17T x 1 1/2" Bore
6	7622	Cap Screw	17	0028260	Stake Nut (D-106)
7	0028601	Gearbox Cap	18	7627	Seal
8	0026012	Bearing Cone	19	7624	Output Shaft
8A	0026013	Bearing Cup	20	7626	Woodruff Key
9	7270	Stake Nut (D-122)	21	0015134	3/4" sq. x 1 1/2" Lg. Key
10	7620	Bevel Gear 17T x 1 1/2" Bore	22	0018998	Woodruff Key
11	0026667	Seal	23	7632	Snap Ring
12	7623	Input Shaft			

TO INSTALL SHEAR FLANGE GUARD:

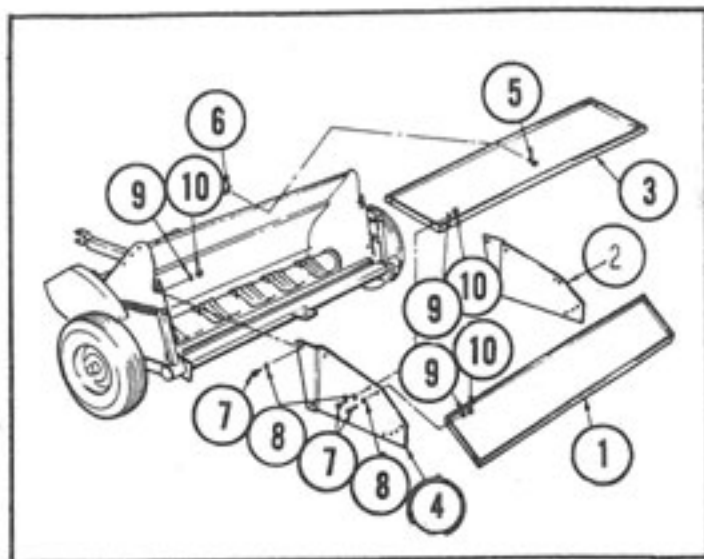
- 1) REMOVE FRONT TWO $\frac{1}{2}$ -13 x 1 $\frac{1}{2}$ HHCS, $\frac{1}{2}$ LOCKWASHER, & SAE $\frac{1}{2}$ FLATWASHER FROM QUADRANT (REF 2)
- 2) ALIGN OBOURND HOLES OF SHEAR FLANGE GUARD (REF 1) WITH FRONT TWO HOLES OF QUADRANT
- 3) REPLACE HARDWARE

0008137 $\frac{1}{2}$ -13 x 1 $\frac{1}{2}$ HHCS
 0008180 $\frac{1}{2}$ LOCKWASHER
 0008175 SAE $\frac{1}{2}$ FLATWASHER



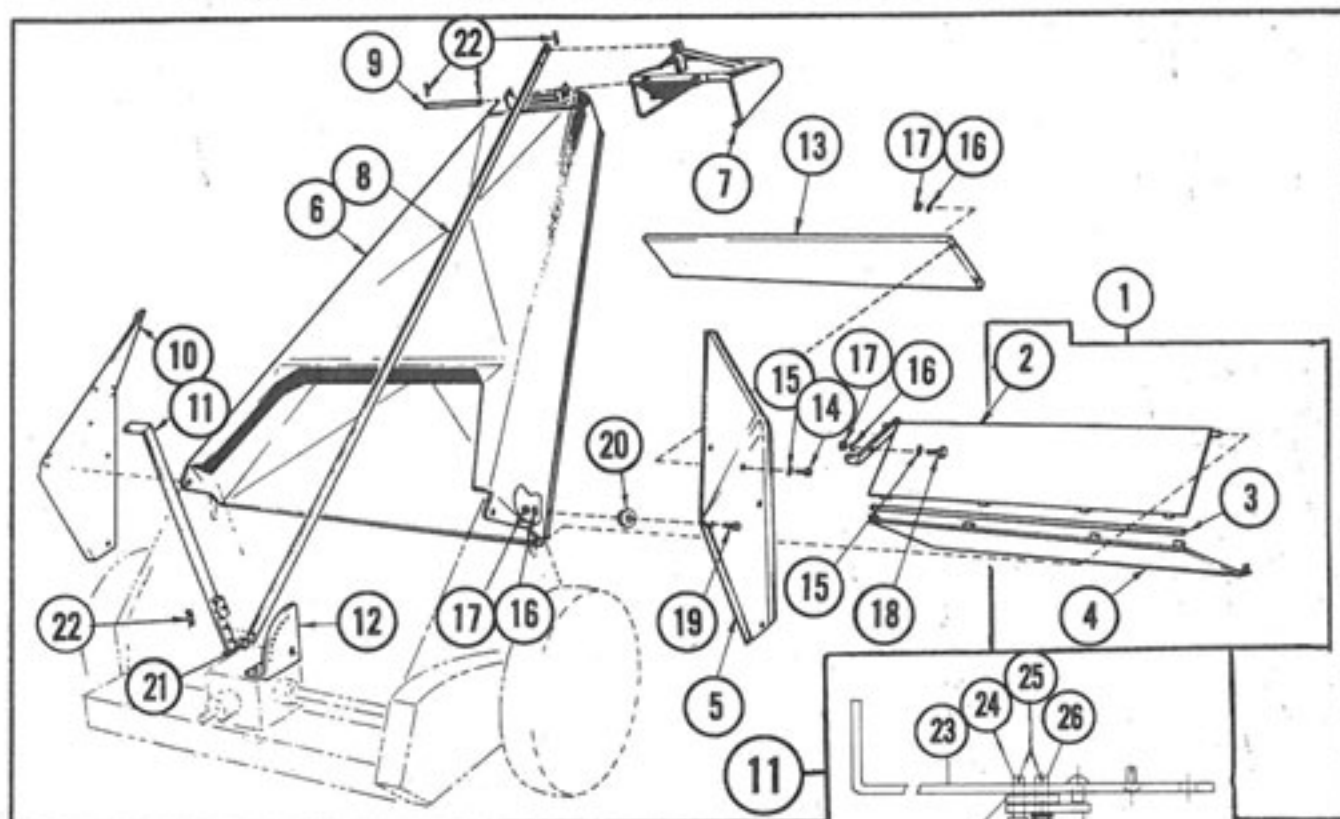
NOTE: GUARD IS STANDARD ON CHOPPERS AFTER SERIAL NUMBER 29970. ON EARLIER MODEL CHOPPERS, MAKE SURE BOLT LENGTH IS 1 $\frac{1}{4}$

REAR DEFLECTOR (USED ON MODEL 60GS)



REF.	PART #	QTY.	DESCRIPTION
1	8110	1	Adjustable Deflector Weldment
2	6057	1	Rear Deflector Side Plate RH
3	6102	1	Rear Deflector Pan
4	6056	1	Rear Deflector Side Plate LH
5	0008106	3	5/16" x 3/4" HHCS
6	0008159	3	5/16" Hex Nut
	0008222	3	5/16" Lockwasher
7	0008121	12	3/8" x 1" HHCS
8	0008174	12	3/8" Flatwasher
9	0008179	12	3/8" Lockwasher
10	0008162	12	3/8-16" Hex Nut

LOADING CHUTE (USED ON MODEL 60G)

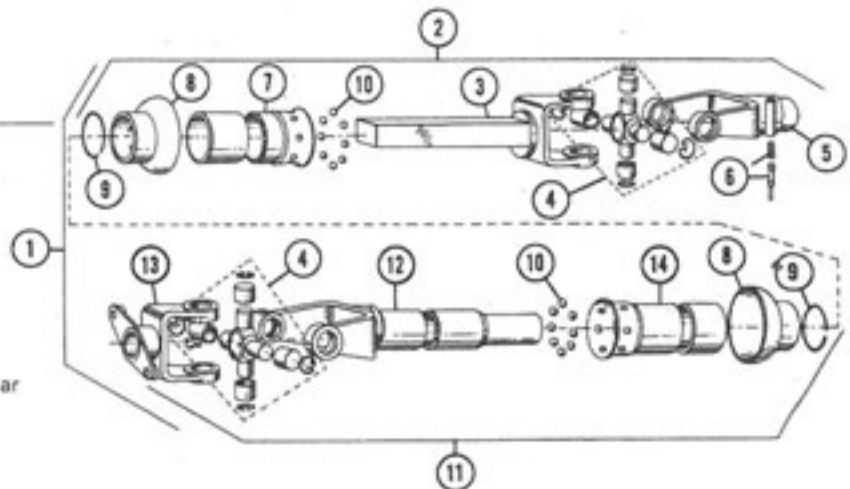


REF.	PART #	QTY.	DESCRIPTION
1	8117	1	Switch Plate and Closing Cover Ass'y.
2	8040	1	Switch Plate Weldment
3	6495	1	Hinge Rod
4	8060	1	Closing Cover Weldment
5	8049	1	Left Chute Brace Weldment
6	8030	1	Chute Weldment
7	8020	1	Spout Weldment
8	7010	1	Spout Link
9	6485	1	Spout Hinge Pin
10	8048	1	Right Chute Brace Weldment
11	8500	1	Lever Assembly
12	6458	1	Quadrant
13	8110	1	Adjustable Deflector Weldment
14	0008121	8	3/8-16 x 1" HHCS
15	0008174	4	3/8" Flatwashers
16	0008179	13	3/8" Lockwashers

REF.	PART #	QTY.	DESCRIPTION
17	0008162	13	3/8-16 Hex Nut
18	0008290	1	3/8-16 x 1 1/2" HHCS
19	0008123	4	3/8-16 x 1 1/4" HHCS
20	6529	2	Chute Brace Spacer
21	6521	1	Lever Spacer
22	0008251	4	3/32" Hair Cotter Pin
23	8080	1	Lever Arm
24	1205702	1	Rivet 1/2" x 2" Lg.
25	0008249	2	1/8" x 3/4" Cotter Pin
26	6486	1	Rivet 1/2" x 2 1/4" Lg.
27	6340	1	Inner Clip
28	0018256	1	Compress Spring 3/8" I.D. x 2" Lg.
29	6345	1	Outer Clip

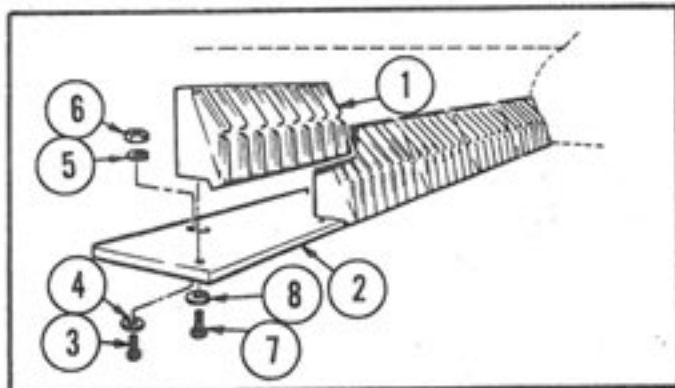
TELESCOPING POWER TAKE OFF SHAFT

REF. NO.	PART NO.	DESCRIPTION
1	0016600	PTO Drive Shaft
2	0026620	Tractor Half Ass'y w/Q.D. Yoke
3	0026627	Male Shaft & Yoke
4	0026628	Universal Joint Repair Kit
5	0027651	Quick Detachable Yoke Ass'y
6	0026629	Safety Lock Pin & Spring Kit
7	0026624	Female Guard Tube
8	0026626	Bell Shield
9	0026625	External Snap Ring
10	0026606	3/4" Diameter Ball
11	0026621	Complete Machine half PTO w/Shear
12	0026622	Female Shaft & Yoke
13	0027652	Flange Yoke 1 1/4" Bore
14	0026623	Male Guard Tube

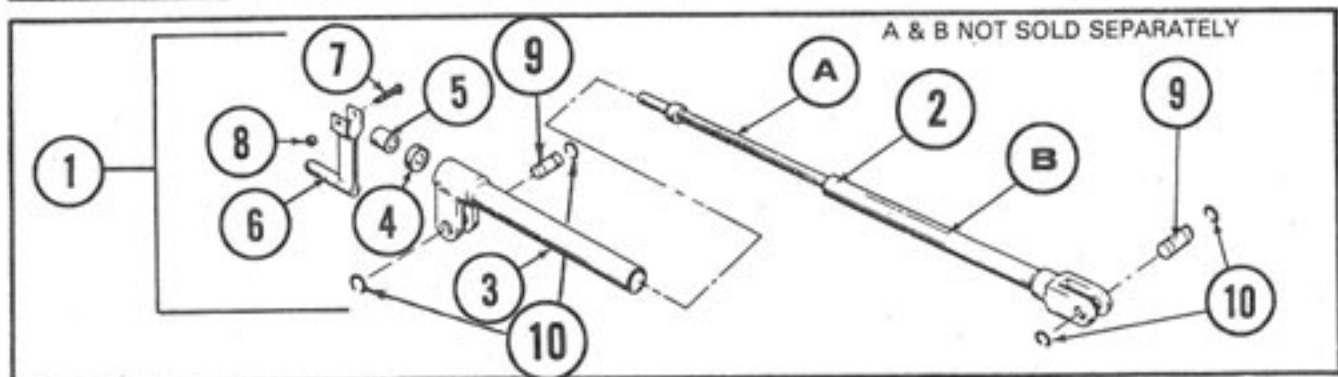


SUPER CUTTER BAR and MECHANICAL RAM

8116 - SUPER CUTTER BAR ASSEMBLY



REF.	PART #	QTY.	DESCRIPTION
1	6539	5	Super Cutter Bar Castings
2	6326	1	Super Cutter Bar
3	0008137	4	1/2-13 x 1 1/4" Lg. HHCS
4	0008175	4	1/2" Flat washers
5	0008180	4	1/2" Lock washers
6	0008163	4	1/2-13 Hex Nut
7	0008121	10	3/8-16 x 1" HHCS
8	0008179	10	3/8" Lock washer



0001001 - MECHANICAL RAM

REF. NO.	PART NO.	DESCRIPTION
1	0001001	Ram Assembly complete
2	0001008	Ram Screw Assembly
3	0000003	Ram Fixed End Weldment w/bearing inside
4	0006000	Ram Thrust Bearing
5	0005600	Retainer Sleeve

REF. NO.	PART NO.	DESCRIPTION
6	0000004	Handle Weldment
7	0008226	3/8-16 x 2" Lg. Bolt
8	0018149	3/8-16 Lock Nut
9	0008230	Ram Pin
10	0008250	Ram Pin Snap Ring

INSTRUCTIONS FOR ORDERING PARTS

To eliminate error and speed delivery:

1. Write your NAME and ADDRESS on your order PLAINLY.
2. Explain WHERE and HOW to make shipment.
3. GIVE MODEL NAME, NUMBER, and SERIAL NUMBER that is stamped on the NAME PLATE of your product.
4. Order from your PARTS LIST as this is the ONLY means we have of identifying the parts you need. Order by QUANTITY DESIRED, the PART NUMBER, and the description OF PART.
5. Order your parts from your LOCAL M-C DEALER or DISTRIBUTOR.
6. INSPECT ALL SHIPMENTS ON RECEIPT. If any parts are damaged or missing, file a claim with the carrier before accepting.
7. Do not return parts to Mathews Company without a "Return Goods Authorization" from the factory. A list of all returned parts, a letter of explanation, and your name and address should be included with the shipment. TRANSPORTATION CHARGES MUST BE PREPAID.



OWNERS NOTICE

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

NOTE: The Company reserves the right to incorporate any changes in design without obligation to make these changes on units previously sold.