$2.00

M-C
MATHEWS COMPANY

lawn genie®

Flail Pickup Mower

OPERATOR'S MANUAL

Model 36AP Starting w/Serial No. 44027 → 45553

Mathews Company /

500 Industrial Ave., Crystal Lake, IL 60014, U.S.A.
815/459-2210 Telex 72-2488

Form No. LG131 February 1983

NOTES

CONTENTS

INTRODUCTION

To The Owner

Before operating your Lawn Genie, read the Operating and Maintenance instructions in this manual. Check each item referred to and become familiar with the adjustments and/or settings required to obtain efficient operation and maximum trouble - free service.

Check to make sure that you have received all parts listed on your packing list. Make claims for any shortages immediately.

RIGHT or LEFT and FRONT or REAR of the Lawn Genie is determined by standing behind the Lawn Genie looking toward the tractor PTO.

Assemble the Lawn Genie on a solid flat level surface to insure safety and to aid in aligning parts during assembly.

Work Safely

This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

Warranty Registration

It is important to send in your warranty registration card as soon as your new Lawn Genie is delivered. Not only does the card validate your Lawn Genie warranty, but it is also our way of knowing who has purchased M-C equipment so that we can keep in touch with you.

Model and Serial Number Location

The model and serial number of your Lawn Genie are stamped on a plate located on the left front side of the body. For future reference, record the model and serial number in the blank spaces in Figure A.

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Figure A

Parts Ordering Instructions

1. Order parts from your local M-C dealer or distributor.
2. Always furnish the Lawn Genie model and serial numbers. This information is stamped on the serial number plate.
3. Service parts for your Lawn Genie are listed in the "Parts" section of this manual. When ordering parts be sure to furnish the part number, description and quantity required.
4. Inspect all shipments upon receipt. If any packages and/or boxes are missing, or parts are damaged, file a claim with the carrier immediately. Failure to do so may void a claim. Check the shipment against the packing list carefully. Report any shortages to the shipper immediately.
5. Do not return any parts to the Mathews Company without a "Return Goods Authorization" from the factory. All return parts shipments must be shipped prepaid (COD shipments will not be accepted). Shipments must also include the following:
   A. A letter of explanation including the "Return Goods Authorization Number," your name and address.
   B. A list of all parts being returned. List must include part number, description, quantity and original invoice number.

Capscrew Grade Identification

There are four grades of hex-head capscrews. Grade 1 and 2 are common capscrews, grade 5 and grade 8 are used when greater strength is required. Each grade can be identified by the marking on the head of the capscrew, see chart below.

When servicing the machine and/or replacing capscrews, be sure to use the correct size and grade. If in doubt, refer to the parts list. If a specific grade is not shown as part of the description, the capscrew is a grade 1 or 2.

CAPSCREW GRADE IDENTIFICATION CHART

S.A.E. Grade	Description	Capscrew Head Marking*
1 2	WILL HAVE A PLAIN HEAD - NO RADIAL LINES Low or Medium Carbon Steel Not Heat Treated	
5	WILL HAVE 3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	WILL HAVE 6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

*The center marking identifies the capscrew manufacturer.

Hardware Identification

Jam Nut

Jam Nut w/3 Distorts

Top Lock Flange Nut

Hex Nut w/NY Lock

Two Way Locknut

Truss Head Screw

Whiz Nut

Hex Washer Head Screw

Hex Head Capscrew w/NY Patch

Clip Nut

Cup Point Set Screw w/NYLK

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

SET-UP INSTRUCTIONS

Tractor Power Take-Off

1. The tractor power take-off speed must be 540 RPM. The LG36AP Lawn Genie is not designed to operate at any other PTO speed.
2. The gear box is installed at the factory to operate with the tractor PTO shaft rotating **clockwise at 540 RPM.**
3. To determine tractor PTO shaft rotation, start the tractor, set the brake and engage the PTO. Stand behind the tractor and observe the direction of PTO shaft rotation. If the PTO shaft rotation is **counterclockwise**, the gear box must be rotated (turned over) as explained in steps 4 thru 9. If PTO shaft rotation is **clockwise** proceed to "Chute Assembly".
4. Remove the Gear Box Guard. Remove the four ⅜ inch capscrews securing the gear box to the base.
5. Lift the gear box carefully and rotate it 90° and rest it on the gear box mount. It is not necessary to disconnect the gear box from the universal joint on the output shaft.
6. Remove the oil drain plug at the bottom of the gear box. Remove the bushing, with vent, at the top of the gear box and install the drain plug in this location. Be sure that the drain plug does not protrude beyond the four mounting bolt bosses on the gear box. Install the bushing, with vent, in the drain plug location.
7. Lift the gear box and continue to rotate it so that the shaft that was pointing to the rear of the Lawn Genie is now pointing toward the front of the Lawn Genie.
8. Install the four ⅜ inch mounting capscrews. Remove the vent plug and check the gear box oil level. It should be just below the shafts. Add SAE 90 gear oil if necessary. Install the gear box guard.
9. Remove the belt guard and check the drive belt to be sure it did not come off of the pulley when the gear box was turned over.

Chute Assembly (See Figure 1)

1. Tap the Rear Cover Locking Clips (Ref. 53, page 20) to the side and pivot the Rear Cover (Ref. 51) up and away from the top of the Lawn Genie. It is not necessary to remove the three capscrews at the bottom of the Rear Cover.
2. Bolt the left and right Chute Sides (Ref. 17 & 23) to the outside of the Lawn Genie body with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Keep the heads of the screws to the inside of the Chute.
3. Bolt the Chute Front Panel (Ref. 22) to the outside of the Chute Sides with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Keep the heads of the screws to the outside of the Chute. Start at the bottom and work both sides to the top. Bolt the left and right Chute Braces (Ref. 20 & 21) at bottom over the outside of Chute Front Panel with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Bolt the Hopper Stops (Ref. 44) in the fourth hole up from the bottom on each side of the Chute Front Panel. Use ¼-20 x ¾" hex-head capscrews, lockwashers and hex nuts.
4. Bolt Cut-Off Bar (Ref. 19) to the Chute Rear Panel (Ref. 18) with ¼-20 x ½" truss head screws, lockwashers and hex-nuts. Heads of screws must face front of machine. DO NOT TIGHTEN THESE SCREWS UNTIL STEP 5.
5. Bolt the Chute Rear Panel (Ref. 18) to the Chute Sides (Ref. 17 & 23) with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Heads of screws must be on outside of Chute Sides and sides of Lawn Genie body. Move the Rear Cover back into position and lock in place with Locking Clips. See step 1.
6. Adjust Cut-Off Bar (Ref. 19) so that the knives just clear, then tighten hex nuts. If you are going to use thatching blades, the Cut-Off Bar will have to be re-adjusted for proper clearance.
7. Mount Hopper Stops (Ref. 16) to the Chute Sides with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Leave these screws loose until Hopper is lifted onto Chute Assembly.
8. Bolt Hopper Pivot Bushings (Ref. 15) to Chute Sides with ½-13 x 2½" hex-head

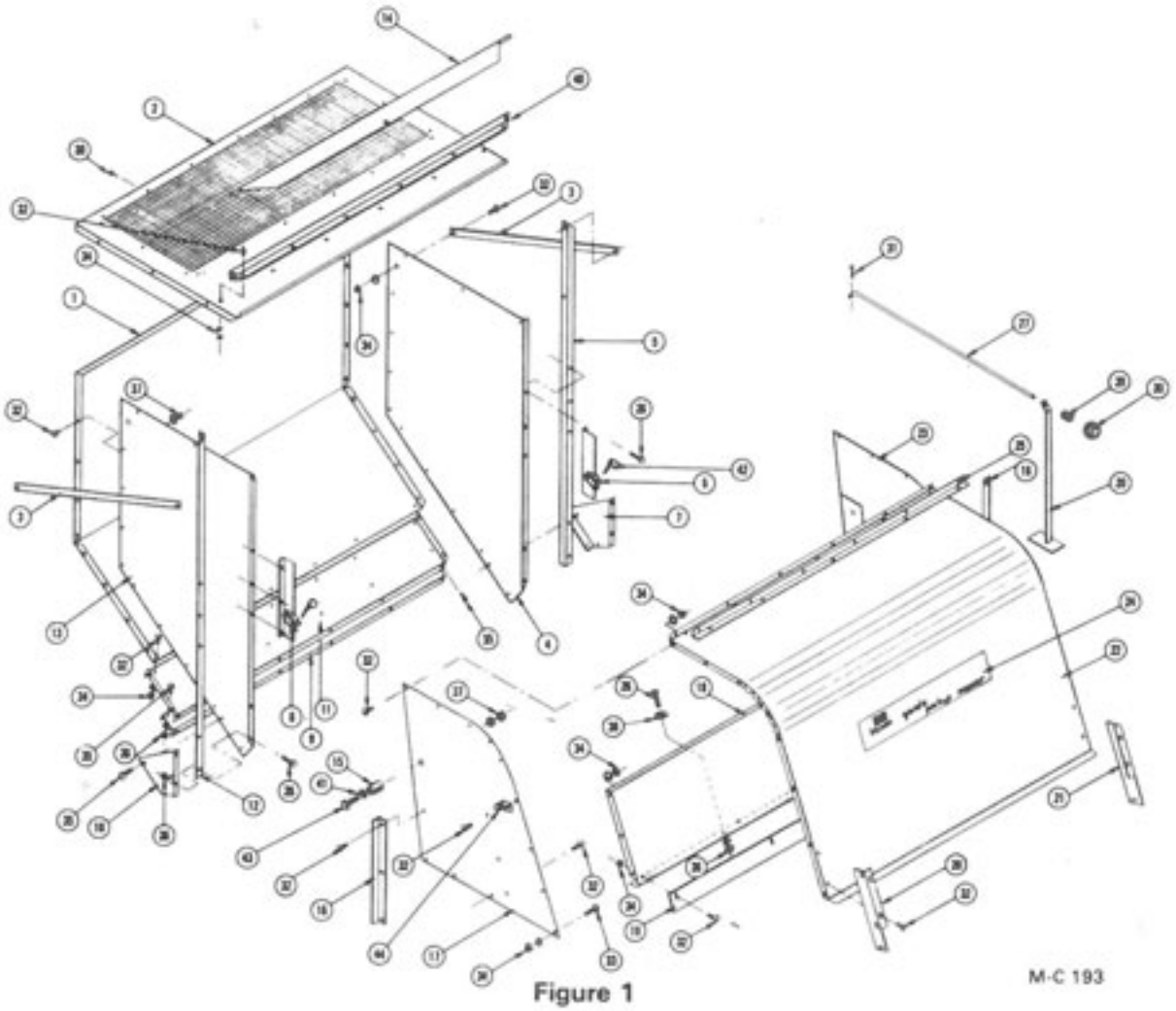


Figure 1

capscrew, flatwasher (next to bolt head), ½" lockwasher and ½" hex nut.

Hopper Assembly (See Figure 1)

1. Bolt right and left Hopper Side Panels (Ref. 13 & 4) to Hopper Rear Panel (Ref. 1) with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Heads of the screws must be on the outside of Hopper. Be sure Side Panels are placed to the inside of Rear Panel flange.
2. Bolt Bottom Rail (Ref. 11) to Hopper Rear Panel with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Keep heads of the screws to the inside of Hopper.
3. Bolt Stiffener Channel (Ref. 9) to Bottom Rail with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Keep heads of the screws to the inside of Hopper.
4. Bolt the Hopper Extension with Wind and Stone Flap to the Channel Stiffner (Ref. 9) with 5/16-18 x ¾" hex-head capscrews and Whiz nuts, see Figure 1A.
5. Bolt right Hopper Gusset (Ref. 10) to right Hopper Side Panel with ¼-20 x ½" truss head screws, lockwashers and hex nuts. Keep heads of screws to inside of Hopper.
6. Bolt right Side Post Angle (Ref. 12) to rear side of the flange of the Hopper Side Panel, to Right Hopper Gusset with 5/16-18 x ¾" hex-head capscrews, lockwashers and hex nuts. Heads of capscrews face to front.

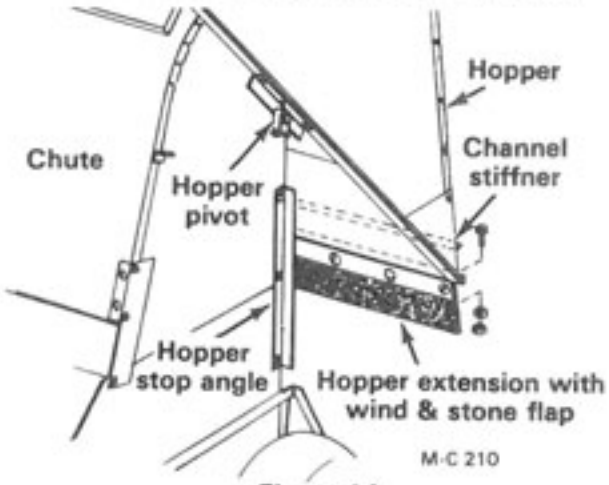


Figure 1A

7. Bolt right Hopper Pivot (Ref. 8) to right Side Post Angle with 5/16-18 x ¾" hex-head capscrews, lockwashers and hex nuts. Heads of capscrews face to front.
8. Insert one end of the Hopper Pull Rail (Ref. 14) through a Side Brace (Ref. 3) and then through the hole at the top of the right Side Post Angle. Secure with a ⅛" x ¾" cotter pin (Ref. 31).
9. Place other Side Brace (Ref. 3) onto left end of Hopper Pull Rail, then put end of Hopper Pull Rail through hole in left Side Post Angle and secure with ⅛" x ¾" cotter pin.
10. Bolt left Hopper Gusset (Ref. 7) to left Hopper Side Panel as in step 5.
11. Bolt left Side Post Angle (Ref. 5) to left Hopper Side Panel as in step 6.
12. Bolt left Hopper Pivot (Ref. 6) to left Side Post Angle as in step 7.
13. Install Hopper Top Assembly (Ref. 2) with No. 10 x ½" hex washer head screws across the top of the Rear Hopper Panel and ¼-20 x ½" truss head screws, lockwashers and hex nuts along both sides. Flange of Hopper Top Assembly must be on the outside of the Hopper Side Panels. Bolt the Hopper Top Support (Ref. 40) to the Side Post Angles with 5/16-18 x ¾" hex-head capscrews, lockwashers and hex nuts.
14. Bolt other end of Side Braces (Ref. 3) to top rear of Hopper Side Panels with 5/16" x ¾" truss head screw, lockwasher and hex nut.
15. Place Hopper Assembly onto Pivot Bushings of Chute Assembly and lock with (Ref. 42) 5/16" Klick Pin.
16. Push Hopper Stops (Ref. 16) against hopper Side Post Angles and tighten bolts that were left loose in Step 6 of Chute Assembly.

Winch Assembly (See Figure 2)

1. Remove the four ⅜-16 x 1" hex-head capscrews securing the gear box guard to the gear box and install the Winch Tower (Ref. 1) on top of the guard. Reinstall the four ⅜-16 x 1" hex-head capscrews.
2. Attach Winch (Ref. 8) to Winch Mount Tube (Ref. 3) with ⅜-16 x 2¼" HHCS and ⅜-16 hex nuts and lockwashers.
3. Slip Winch Mount Tube (Ref. 3) through Winch Tower (Ref. 1). Clamp down with Clamping Bolt (Ref. 2).
4. Place the "S" hook end of the cable into the hole in the center of the Hopper Pull Rail.

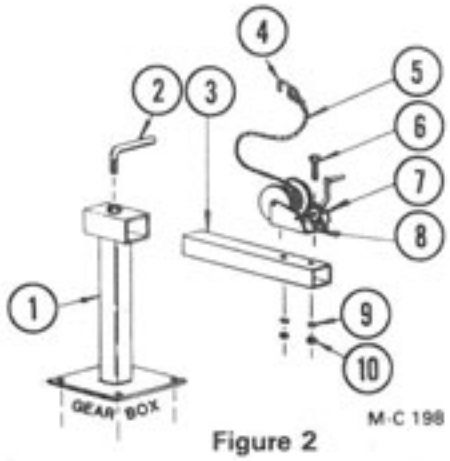


Figure 2

5. Anchor the end of the cable to the winch drum as shown in Figure 3. Crank the winch to take up the slack. Keep a minimum of four wraps of cable on the winch drum.

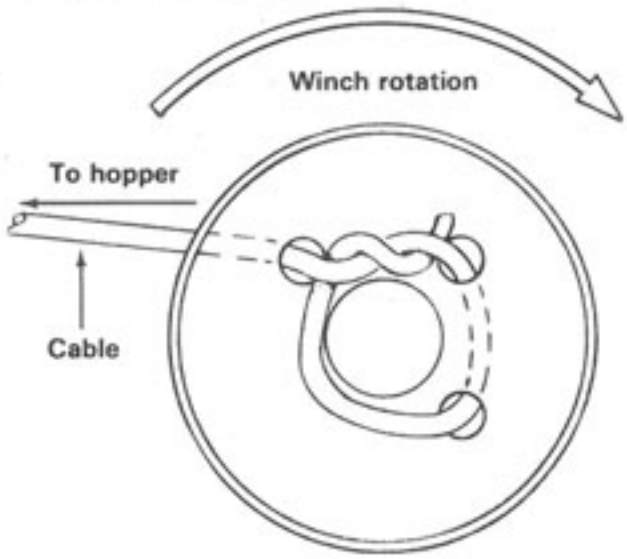


Figure 3

Power Take-Off Shaft

The power take-of shaft from the tractor to the mower should provide satisfactory operation over any terrain the Lawn Genie is likely to encounter. To meet any such operating conditions, provision should be made in the power take-off shaft to prevent any of the following from occuring:

1. The telescoping section of the power take-off shaft from separating.

2. The telescoping section of the power take-off shaft from shortening to a solid position.
3. The universal joints from reaching a lock angle.

Because tractors used with this equipment are so varied in size, we are providing a power take-off shaft that can be adapted to your particular tractor and ground irregularities.

If you will be mowing over abrupt dips and steep side turns we suggest you place the Lawn Genie and tractor in the most severe operating positions liable to be encountered (also consider turning positions) and then proceed with the fitting of the power take-off shaft to the tractor. In extreme cases, adjustments may have to be made to the tractor drawbar.

The following instructions explain fitting the power take-off shaft to the tractor.

1. Separate the telescoping half sections of the power take-off shaft.
2. Attach the Lawn Genie to the tractor.
3. Connect the splined end half section to the tractor and the keyed end half section to the Lawn Genie.

4. With the two halves laying side by side (as shown), mark the length required so that in no position will the guard tubes bottom out on each other.
5. Remove the half sections from the tractor and Lawn Genie.
6. Cut both the plastic guard tube and the steel drive tube of the tractor half of the PTO off at the mark.
7. Cut an additional ¾" off of the plastic guard tube only. This is necessary for ease of joining the two telescopic sections together.
8. Cut the same amount off of the plastic guard tube and steel drive tube of the gear box half of the PTO as in step 6. Do not cut an additional ¾" off of the plastic guard tube. The plastic and steel tubes are to remain the same length.

9. Remove rough edges where cuts were made.
10. Grease the steel drive tube and assemble both halves together, then check for smooth telescoping action.
11. When attaching the PTO shaft for operation, the guard chain must connect to the Lawn Genie so that there is enough slack to turn corners but tight enough to keep the plastic guard from revolving with the PTO shaft. See front cover illustration.
12. With the Lawn Genie attached to the tractor and the PTO **out** of gear, **slowly** make turns and watch the Power Take-Off Shaft. Make sure the shafts do not bottom out or come apart.

IMPORTANT

RUN YOUR LAWN GENIE AT A LOW RPM CHECKING TO MAKE SURE THAT ALL DRIVE LINE PARTS ARE MOVING FREELY.

OPERATION

Safety Precautions

A safe operator is the best insurance against accidents. The precautions listed below must be observed at all times.

- Do not operate the Lawn Genie above 540 RPM power take-off speed. To do so will overspeed the rotor and possibly cause personal injury.
- Do not operate the Lawn Genie without all safety shields in place and secure.
- Do not operate the Lawn Genie without the wind and stone flap. Operating without the wind and stone flap could cause personal injury.
- Do not make any inspections or adjustments while the Lawn Genie is operating or while the tractor is running.

NOTE: After the first two hours of operation, make sure all capscrews and nuts are tight.

Pole Adjustment

1. The pole has three positions for level adjustment under the front deck of the Lawn Genie. Depending on the tractor drawbar height (which should be between five and eight inches from the ground) select the position that levels the front deck to the ground.

Damper Adjustment

To mow and load the clippings, pull the damper control rod forward. To mow only, push the damper rod back. This opens or closes the damper panel which allows clippings to travel up the chute and into the hopper or directly back to the ground.

Mowing

CAUTION: On tractors not equipped with an over-running PTO clutch, the momentum of Lawn Genie rotor may propell the tractor forward when the tractor clutch is disengaged.

NOTE: To obtain an even cut, the tire pressure must be equal. Recommended pressure is 20 lbs. for 2 ply tires and 40 lbs. for 4 ply tires.

1. When mowing heavy grass from 4 to 6 inches tall, your ground speed should be lower than if the grass were only 2 inches tall. Determine the type of mowing job you have and govern your ground speed accordingly.

IMPORTANT: Never run the Lawn Genie with knives missing. this will cause vibration due to rotor unbalance and damage the machine.

2. An important feature of the Lawn Genie is the ability to pick-up leaves in the fall of the year. Mowing will cut up leaves and decrease their volume for pick-up.
3. A leaf mulching screen attachment is available. See "Leaf Mulching Screen" in the parts section of this manual. Order from your local M-C dealer. This mulching screen can easily be installed under the rear cover.
4. Leaves are mulched fine enough to be left on the ground to decopose and add nutrients into the soil. If you choose to pick-up the mulched leaves, pull out the damper control rod and go back over the lawn and load the mulched leaves into the hopper. It is not necessary to remove the leaf mulching screen for this part of the operation.

IMPORTANT: Do not use thatching blades with the leaf mulching screen because the tips of the blades will contact the screen.

Thatching

NOTE: Thatching Blade Kits and Thatching Blade and Wide Vacuum Paddle Kits are available. See "Knife, Thatching Blade and Vacuum Paddle Kits" in the parts section of this manual. Order from your local M-C dealer.

1. Much has been written about thatch; its causes, controls, and effects. Perhaps it may be best, first of all, to define what thatch is. It is the accumulation of non-decomposed plant residue in turf between the soil level and greening area of the grass plant. It is principally composed of decomposing stems and rhyzomes which are higher in cellulose, than more quickly decomposing leaves.
2. A heavy layer of thatch effectively impedes the movement of water through to the roots, traps fertilizer and keeps it from feeding the

growing plant. Many of the modern fungicides and insecticides rely on heavy watering to be efficient.

3. An even more serious problem is the increased probability of disease. Modern turf management is like walking a tightrope. We need vigorous grass to resist the invasion of weeds and other undesirable plants, and yet vigorous grasses produce thatch.

4. The Mathews Company has given the professional turf manager or homeowner his balancing pole in the form of the versatile Lawn Genie. When used as a thatching unit it not only thatches but picks-up the thatch in the same operation.

   This same machine can then be used as a pick-up mower and thus eliminate the clippings from becoming thatch.

NOTE: Before using thatching blades— the Mulching Screen Kit, if installed, must be removed. Also, the cut-off bar used with the chute and hopper must be adjusted. This will provide the needed clearance and prevent damage to these parts by the thatching blades.

Preparation For Overseeding

1. The Lawn Genie is an excellent machine for overseeding. With both the mowing knives and thatching blades installed on the rotor, it will do an excellent job of preparing an existing lawn for overseeding. The thatching blades hang down ⅜" lower than the mowing knives (See "C" in Figure 4) and will remove the mat of dead grass and give you a seed bed in the existing turf. You will be mowing your grass very short while you are preparing a seed bed.

NOTE: Some grasses will not withstand cutting at this short height, so knowledge of your particular strain of grass is necessary. If you do not want to cut your grass this short, then follow the steps listed under "Verti-Cutting", and you will have excellent results.

IMPORTANT: To insure maximum pick-up it is necessary to maintain specified power take-off shaft speed to provide a constant rotor speed of not less than 1900 RPM.

2. The depth and ground conditions will play a major role in determining ground speed for this operation. If the rotor starts to slow down, reduce your ground speed.

Verti-Cutting

1. To go along with the thatching operation— the same blade is used for verti-cutting. The operation is basically the same. The term verti-cut is used when your are working with different strains of grass such as Creeping Bent, Bermuda, St. Augustine, etc. These types of grass spread very rapidly in ideal conditions.

   They grow horizontally and have a tendency to grow on the surface of the ground. By verti-cutting you cut the plants horizontal growth and force the roots to grow downwards which makes for a healthier plant that is taking nutrients and moisture from the soil.

2. Only the thatching blades alone are used for this operation (See "B" in Figure 4).

3. The Lawn Genie is very useful for this operation because you can pick-up debris as you verti-cut. If you place a thatching blade on every hanger, the blades will strike the ground about ½" apart. By placing a thatching blade on every other hanger you will widen the distance between blades by ½".

4. For example—thatching blades on every hanger would be ½" apart, on every other hanger they would be 1" apart, and on every third hanger they would be 1½" apart. Whatever arrangement is used, they must be installed in same amounts 180° apart to keep the rotor in balance.

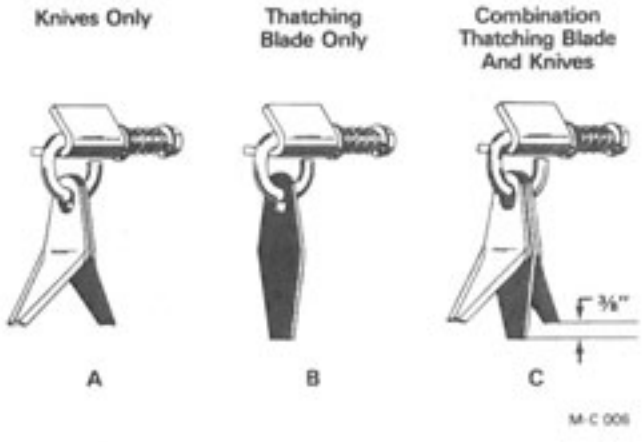


Figure 4

MAINTENANCE

CAUTION: Never do any maintenance on the Lawn Genie with the tractor running.

Drive Belt Replacement

1. Remove the belt guard.
2. Unhook the spring from the spring idler arm. Move the idler arm up and remove the belt.
3. Clean dirt and debris from inside the guard and from the bottom of the pulleys. Dirt build-up in the bottom of the pulleys can ruin the belt.
4. Install the new belt. Connect the spring to the spring idler arm. Install the belt guard.

Knives, Thatching Blades and Vacuum Paddles

1. Remove the rear cover and leaf mulching screen (if equipped).

CAUTION: Never run the Lawn Genie with the rear cover removed.

2 The knives can be reversed to expose a new cutting edge or replaced by pulling the knife hanger back until it clears the knife hanger support, see Figure 5. The knives can be sharpened on an electric bench grinder if desired.

CAUTION: Always wear safety glasses when sharpening knives with a grinder.

3. The knife hangers can be removed by removing the locknut, spring and flatwasher. The standard vacuum paddles can be removed by removing the locknut and sliding the vacuum paddle out of the support.

IMPORTANT: To get the correct overlap of knives, the hangers must be installed as follows: (see Figure 5).

Row 1 - All hanger nuts to the left.
Row 2 - All hanger nuts to the left.
Row 3 - All hanger nuts to the right.
Row 4 (Hidden) - All hanger nuts to the right.

One short knife hanger is installed at the extreme left of row 2 as shown in Figure 5 and one at the extreme right of row 4 (hidden).

4. When the optional wide vacuum paddles are to be installed, remove all of the standard vacuum paddles. The wide vacuum paddles mount between the standard vacuum paddle supports and are held in place with pivot rods, flatwashers and cotter pins.

NOTE: The rotor slot cover plate on the left side of the Lawn Genie must be removed in order to install the wide vacuum paddle pivot rods. This plate is located just below the rotor stub shaft guard and is held in place with four truss head screws and locknuts.

5. Thatching blades can be installed two different ways, see "B" & "C" Figure 4.
6. Install the leaf mulching screen (if equipped) and the rear cover.

NOTE: If thatching blades have been installed, do not install the leaf mulching screen because the tips of the thatching blades will contact the screen during operation.

Drive and Rotor Pulley Replacement

NOTE: The drive and rotor pulleys are held on the shafts with tapered bushings. Use the jackscrew holes in the pulleys to separate the pulleys from the bushings. Do not attempt to remove the pulleys with a gear puller as this could result in damage to the pulleys.

1. Remove the belt guard and drive belt.
2. Remove the three mounting capscrews in the pulley. Thread the capscrews into the three jack screw holes in the pulley. Tighten the three capscrews progressively and evenly until the pulley is loose on the bushing.
3. Remove the pulley and bushing from the shaft. If the bushing does not slip off of the shaft, wedge a screwdriver blade in the saw cut in the flange of the bushing (not the tapered surface) to spread the bushing.
4. Before installing the pulley and bushing thoroughly inspect the tapered bore of the pulley and the tapered surface of the bushing. Any paint, dirt, oil or grease must be removed.

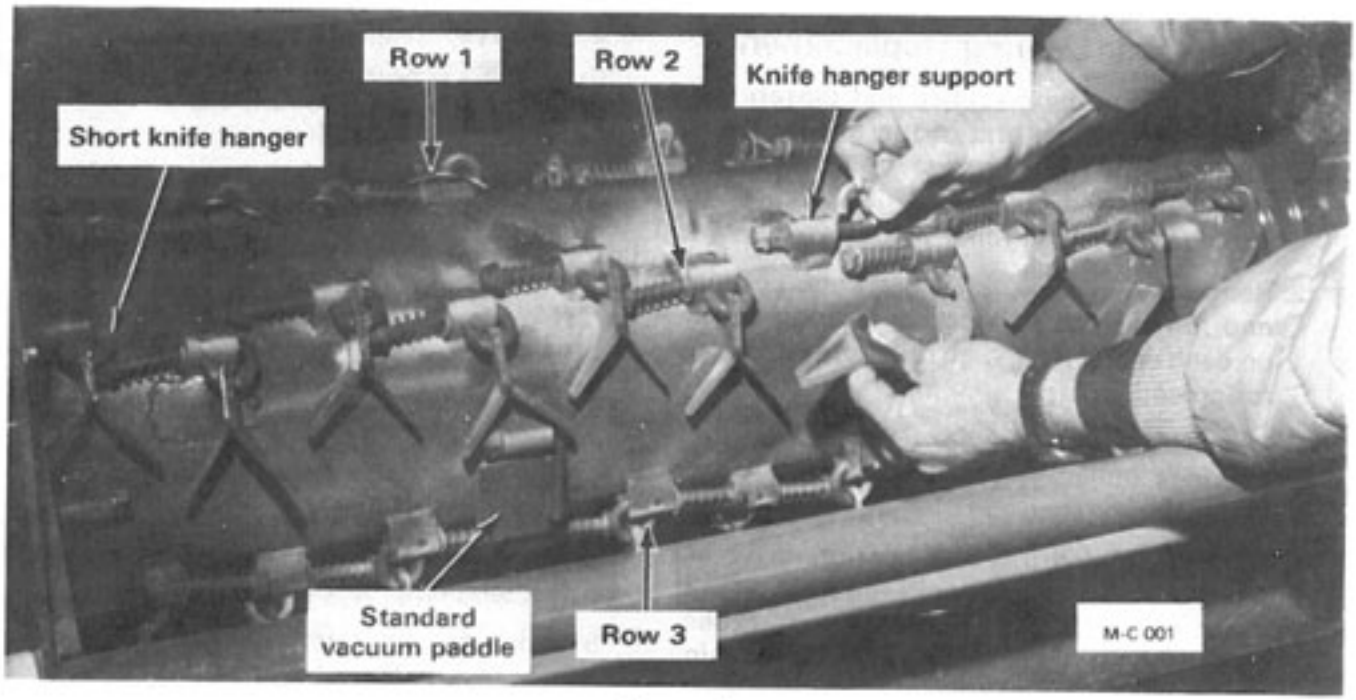


Figure 5

5. Place the bushing into the pulley from the rear so that the bushing flange is to the inside, see Figure 6. The bushing and the bore of the pulley are tapered. Be sure to install the bushing into the large ID of the pulley tapered bore. If the bushing is installed into the small ID of the pulley, the pulley hub will crack when the mounting capscrews are tightened.

6. Place the three capscrews through the open holes in the pulley and thread them into the bushing by hand. Do not tighten the capscrews.

IMPORTANT: The capscrew and pulley threads must be clean and dry. Do not lubricate.

7. Install the key in the output drive and/or rotor shaft. Slide the pulley and bushing assembly onto the shaft. If the bushing is too tight on the shaft, wedge a screwdriver blade into the saw cut in the flange (not the tapered surface) to spread the bushing.

8. Install the belt and move the pulley and bushing in or out until the belt is in alignment on the pulleys. Tighten the three capscrews evenly and progressively. Torque the drive pulley capscrews to 15 ft. lbs. and the rotor pulley capscrews to 9 ft. lbs.

IMPORTANT: The tightening force on the three capscrews is multiplied many times by the wedging action of the bushing tapered surface. Do not exceed the specified torque, or use a lubricant on the capscrew threads. To do so may create bursting pressures in the hub of the pulley.

NOTE: There should be a ⅛ to ¼ inch gap between the pulley hub and the flange of the bushing. If the gap is closed, the shaft is undersize.

9. Install the belt guard.

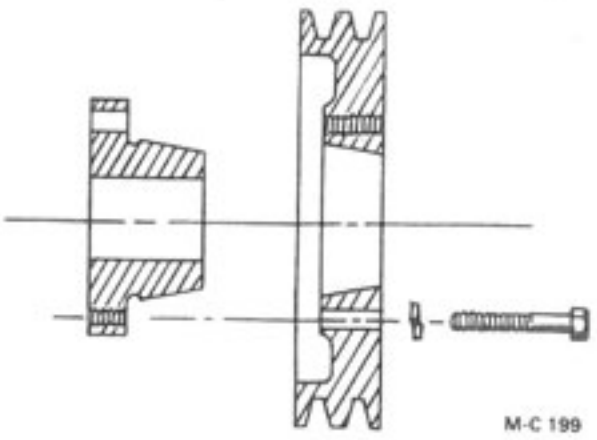


Figure 6

Gauge Roller Bearing Replacement

1. Block up the gauge roller and loosen the capscrew in each end of the gauge roller. Remove the two gauge roller bracket capscrews and hex nuts on each side. Remove the gauge roller with brackets.
2. Remove the gauge roller brackets. Loosen and remove the self-locking bearing collar on each end of the gauge roller. See page 15 for procedure.
3. Remove the gauge roller tie bar. Drive the bearings out of the gauge roller from the inside with a steel rod.
4. When installing the new bearing, drive or press on the outer race only. Pressing on the inner race will damage the bearing. Press the bearing in until it seats on the shoulder in the gauge roller.
5. Install the tie bar and the bearing self-locking collars, see page 15. Mount the brackets on the end of the gauge roller and install the gauge roller. Tighten all capscrews securely.

Rotor Bearing Replacement

Right Bearing

1. Raise the back of the Lawn Genie by turning the height adjustment crank all the way in. Block up the rotor so it cannot fall when the bearing is removed.

CAUTION: Be sure to use safety stands or blocking under the body. Do not rely on the height adjustment crank to carry the load.

2. Remove the belt guard and drive belt. Remove the rotor pulley. Refer to "Drive and Rotor Pulley Replacement" page 12 for procedure.
3. Clean the end of the rotor shaft with emery cloth. Remove the set screw in the bearing collar. Place a drift pin in the hole in the bearing collar and strike in **clockwise** direction to unlock the collar. Remove the bearing collar.

NOTE: See page 15 for "Self-Locking Bearing Collar" installation procedure. Removal is the reverse of this procedure. Lawn Genie rotor rotation is counterclockwise when viewed from the right side.

4. Remove the three capscrews and lockwashers from the flangette and remove both flangettes and bearing from the rotor shaft.
5. Lightly polish the rotor shaft with emery cloth. Lubricate the rotor shaft with motor oil. Remove the locking collar from the new bearing and install both flangettes with new rotor bearing on the rotor shaft. Install the three capscrews and lockwashers loosely.
6. Remove the blocking from under the rotor and turn the rotor by hand to align the bearing on the rotor shaft. Tighten the capscrews securely.
7. Install the bearing locking collar, see page 15 for detailed procedure.
8. Lubricate the rotor bearing with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seal.
9. Install the rotor pulley and belt. Refer to "Drive and Rotor Pulley Replacement" page 12 for procedure. Remove all blocking and lower the Lawn Genie.

Left Bearing

1. Raise the back of the Lawn Genie by turning the height adjustment crank all the way in. Block up the rotor so it cannot fall when the bearing is removed.

CAUTION: Be sure to use safety stands or blocking under body. Do not rely on the height adjustment crank to carry the load.

2. Remove the stub shaft guard and the rotor slot cover plate.
3. Clean the end of the rotor shaft with emery cloth. Remove the set screw in the bearing collar. Place a drift pin in the hole in the bearing collar and strike in a **counter-clockwise** direction to unlock the collar. Remove the bearing collar.

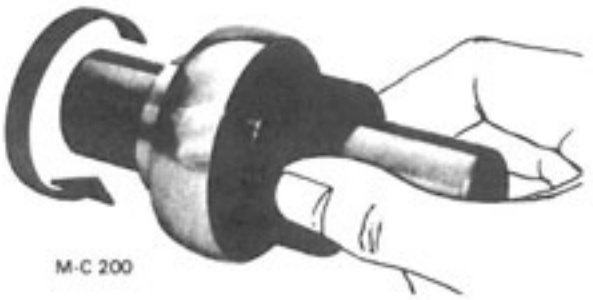
NOTE: See page 15 for "Self-Locking Bearing Collar" installation procedure. Removal is the reverse of this procedure. Lawn Genie rotor rotation is clockwise when viewed from the left side.

4. Remove the three capscrews and lock-washers from the flangette and remove both flangettes and bearing from the rotor shaft.

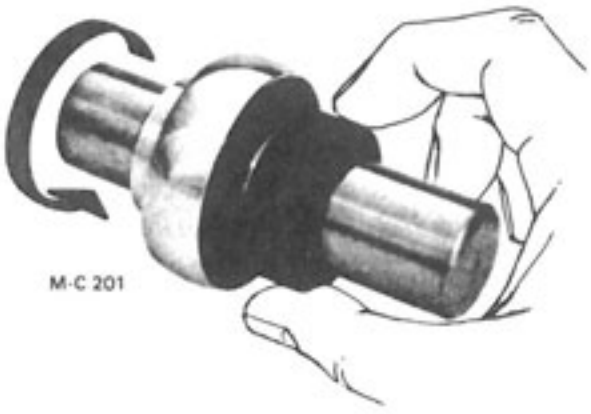
5. Lightly polish the rotor shaft with emery cloth. Lubricate the rotor shaft with motor oil. Remove the locking collar from the new bearing and install both flangettes with new rotor bearing on the rotor shaft. Install the three capscrews and lockwashers loosely.
6. Remove the blocking from under the rotor and turn the rotor by hand to align the bearing on the rotor shaft. Tighten the flangette capscrews securely.
7. Install the bearing locking collar, see detailed procedure below. Install the rotor slot cover plate and stub shaft guard.
8. Lubricate the rotor bearing with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seal. Remove all blocking and lower the Lawn Genie.

Self-Locking Bearing Collar Installation

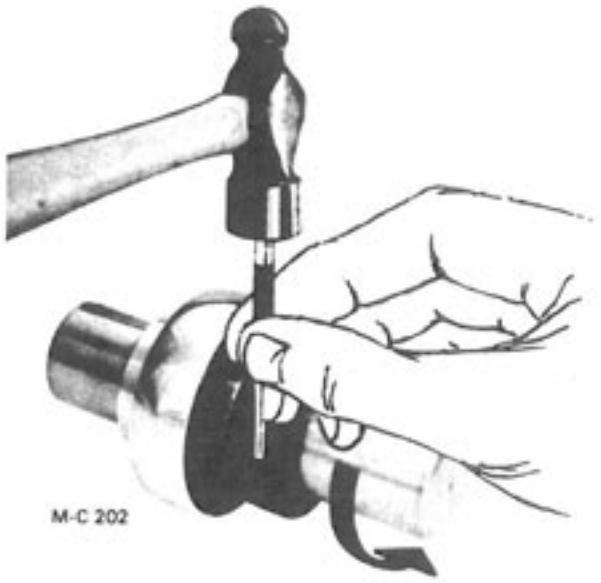
1. Be sure the shaft is free of rust, paint and nicks before the installing bearing.
2. Mate the cam of the collar with the cam of the bearing inner ring.


M-C 200

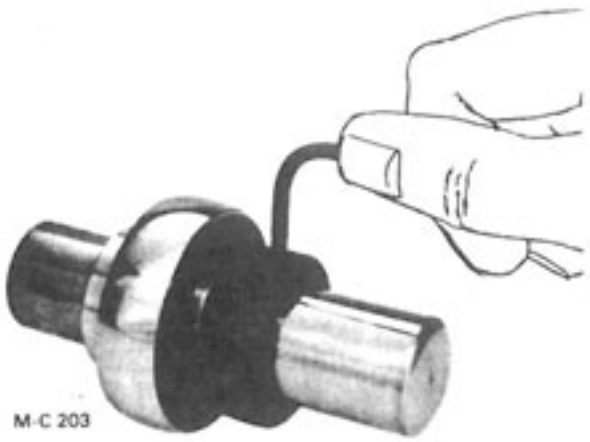
3. Flangettes must be tightened securely before tightening the locking collar.


M-C 201

4. Pressing the collar lightly against the inner ring, turn the collar in the direction of shaft rotation until engaged.


M-C 202

5. With the drift pin in the collar hole, strike in the direction of shaft rotation to lock.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6. Tighten the set screw in the collar.

Lubrication Schedule

Every 8 Hours

IMPORTANT: Use a hand grease gun. Grease sparingly to avoid damage to the bearing seals by forcing grease out.

1. Power take-off shaft universal joints (2). One fitting in each yoke.
2. Wheel bearings (2). One fitting on each wheel.

Every 20 Hours

1. Power take-off telescopic drive shaft. Pull the PTO shaft apart and apply grease to the inside of the outer steel drive tube.

Every 40 Hours

1. Rotor bearings (2). One fitting on each end of the rotor.
2. Output shaft bearing (1). Located on the right side under the gear box guard.
3. Output shaft universal joint (1). Located in the center under the gear box guard.
4. PTO shaft bell end bearings (2). One fitting in each bell.

Periodically During the Season

1. Remove the gear box guard. Remove the bushing with vent plug on top of the gear box. Check the oil level. It should be just below the shafts. Add SAE 90 gear oil as required.
2. Apply a few drops of motor oil to the following:
   A. Moving parts of the winch.
   B. Damper panel pivot points.
   C. Damper panel lever.
   D. Hopper pivots.
   E. Belt idler shoulder bolt (remove belt guard).
   F. Height adjustment crank bearing and screw.
   G. Spring pin in tractor half of PTO.

NOTE: The gauge roller bearings are sealed and can be serviced by replacement only.

Cleaning

1. When mowing in wet conditions, grass and mud may build up on the underside of the Lawn Genie. It is recommended that you hose down the housing, chute and rotor after use. A clean chute provides a smooth flow of material to the hopper.

Winter Storage

1. Remove the belt guard and disconnect the drive belt idler spring to relieve tension on the drive belt. Install the belt guard.

NOTE: Before next seasons use, be sure to reconnect the drive belt idler spring. See "Pre-Season Check".

2. Lubricate all of the bearings to eliminate any cavities where condensation may occur. Lubricate all items outlined in the "Lubrication Schedule" on this page.

IMPORTANT: Use a hand grease gun. Grease sparingly to avoid damage to the bearing seals by forcing grease out.

3. Clean the entire Lawn Genie. Paint all exposed surfaces inside the Lawn Genie with oil to prevent rusting and pitting during storage.

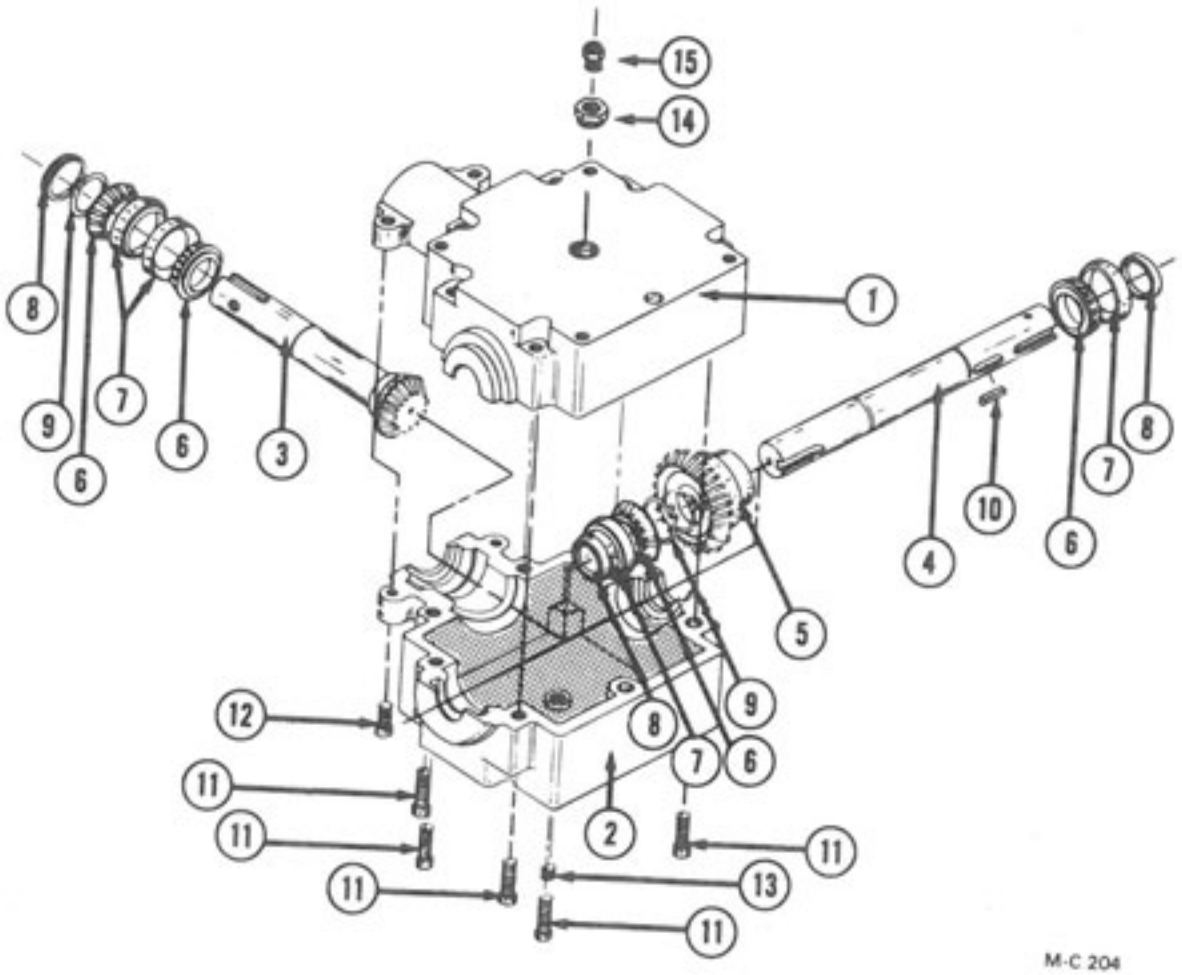
Pre-Season Check

1. Inflate 2 ply tires to 20 lbs. and 4 ply tires to 40 lbs.
2. Check the oil level in the gear box and lubricate all bearings. See "Lubrication Schedule" on this page.
3. Connect the drive belt idler spring to the idler.
4. Inspect for missing and/or broken knives. Replace as necessary. See "Knives, Thatching Blades and Vacuum Paddles" on page 12.
5. Be sure all safety shields are in place and secure.
6. Run the Lawn Genie at a low RPM checking to make sure that all drive line parts are moving freely.

PARTS

Gear Box

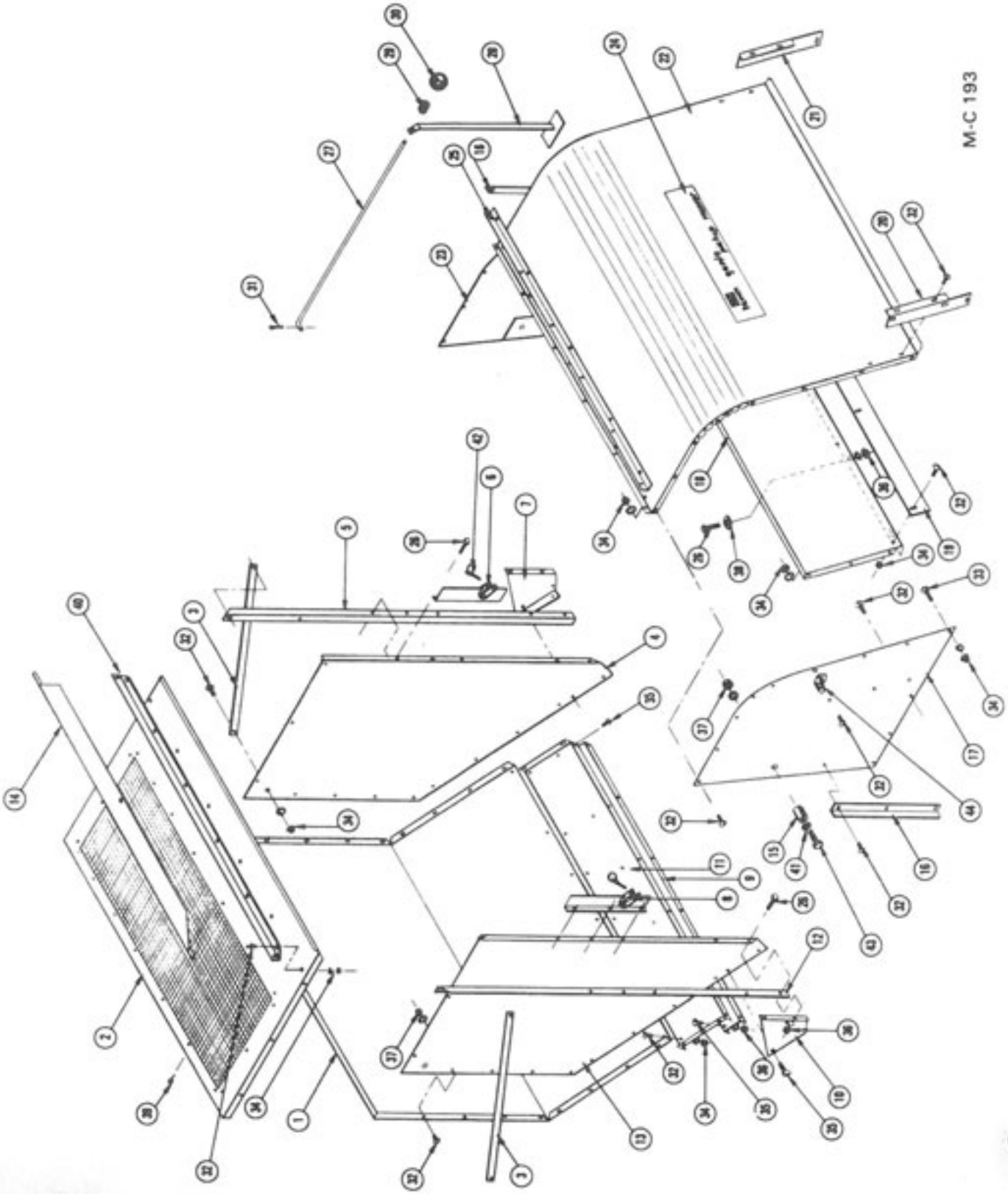
Complete Assembly 131 6610



Ref.	Part No.	Qty.	Description
1	132 6632	1	Threaded Half of Gearbox
2	132 6631	1	Thru Hole Half of Gearbox
3	132 6633	1	Input Shaft w/Gear
4	132 6634	1	Cross Shaft - Type C & F
5	132 6635	1	Gear; 32 Tooth
6	132 6636	4	Bearing Cone
7	132 6637	4	Bearing Cup
8	132 6638	3	Seal

Ref.	Part No.	Qty.	Description
9	132 6639	3	Retaining Ring
10	132 6640	1	Key ¼" Square x .930"
11	132 6641	8	⅜-16 x 2½" Socket Head Capscrew
12	132 6642	2	⅜-16 x 1½" Socket Head Capscrew
13	132 6643	1	Plug
14	123 7507	1	¼ to ⅛ Reducing Bushing
15	002 6677	1	Vent Plug ⅛-27 NPT

Chute and Hopper



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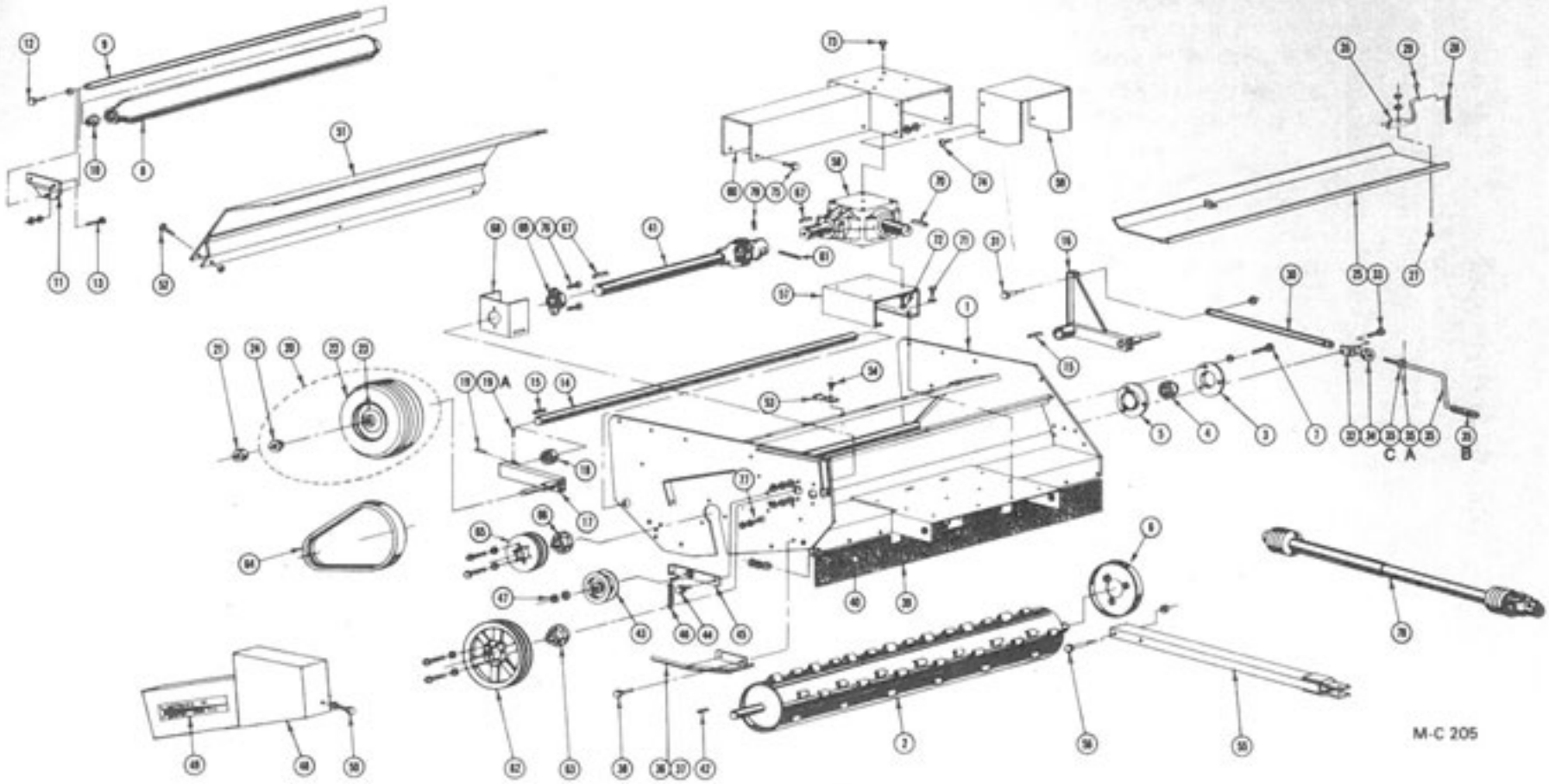
Complete Assemblies
133 1034 Chute Assembly
133 1035 Hopper Assembly
133 1036 Chute and Hopper Assembly

Ref.	Part No.	Qty.	Description
1	133 4880	1	Rear Hopper Panel
2	133 1045	1	Hopper Top Assembly
3	131 2005	2	Side Brace
4	133 2947	1	Left Side Panel
5	133 2605	1	Side Post Angle - Left
6	133 0053	1	Hopper Pivot - Left
7	133 2830	1	Hopper Gusset Left
8	133 0052	1	Hopper Pivot - Right
9	133 4452	1	Hopper Stiffening Channel
10	133 2831	1	Hopper Gusset - Right
11	133 4774	1	Hopper Bottom Rail
12	133 2606	1	Side Post Angle - Right
13	133 2946	1	Hopper Side Panel - Right
14	133 0042	1	Hopper Pull Rail
15	133 5605	2	Hopper Pivot Bushing
16	131 4431	2	Hopper Stop
17	133 0035	1	Chute Side - Right
18	131 4775	1	Chute Rear Panel
19	131 4428	1	Cut-Off Bar
20	133 4655	1	Chute Brace - Right
21	133 4654	1	Chute Brace - Left
22	133 4886	1	Chute Front Panel
23	133 0036	1	Chute Side - Left

Ref.	Part No.	Qty.	Description
24	131 8300	1	Lawn Genie Decal
25	- - - - - - -		Not Used
26	000 8106	15	5/16-18 x ¾ HHCS
27	131 8987	1	Damper Control Rod
28	133 0046	1	Damper Rod Post
29	- - - - - - -		Not Used
30	131 8999	1	Ball Knob
31	000 8249	3	⅛ x ¾ Cotter Pin
32	000 8212		¼-20 x ½ Truss Head
33	000 8211		¼-20 x ¾ Truss Head
34	000 8158		¼-20 Hex Nut
	000 8178		¼" Lockwasher
35	000 8104	14	5/16-18 x ¾ Truss Head
36	000 8159	29	5/16-18 Hex Nut
	000 8222	29	5/16" Lockwasher
37	000 8163	2	½-13 Hex Nut
	000 8180	2	½" Lockwasher
38	000 8173	5	5/16" Flatwasher
39	001 8264	7	No. 10 x ½ Hex Washer Hd.
40	133 2717	1	Hopper Top Support
41	000 8175	2	½" Flatwasher
42	000 8995	2	5/16" Klick Pin
43	000 8141	2	½"-13 x 2½" HHCS
44	001 3302	2	Hopper Stop
Not Shown			
	133 2607	1	Hopper Extension
	131 8985	1	Wind & Stone Flap

Body, Gauge Roller, Drive Line and Guards

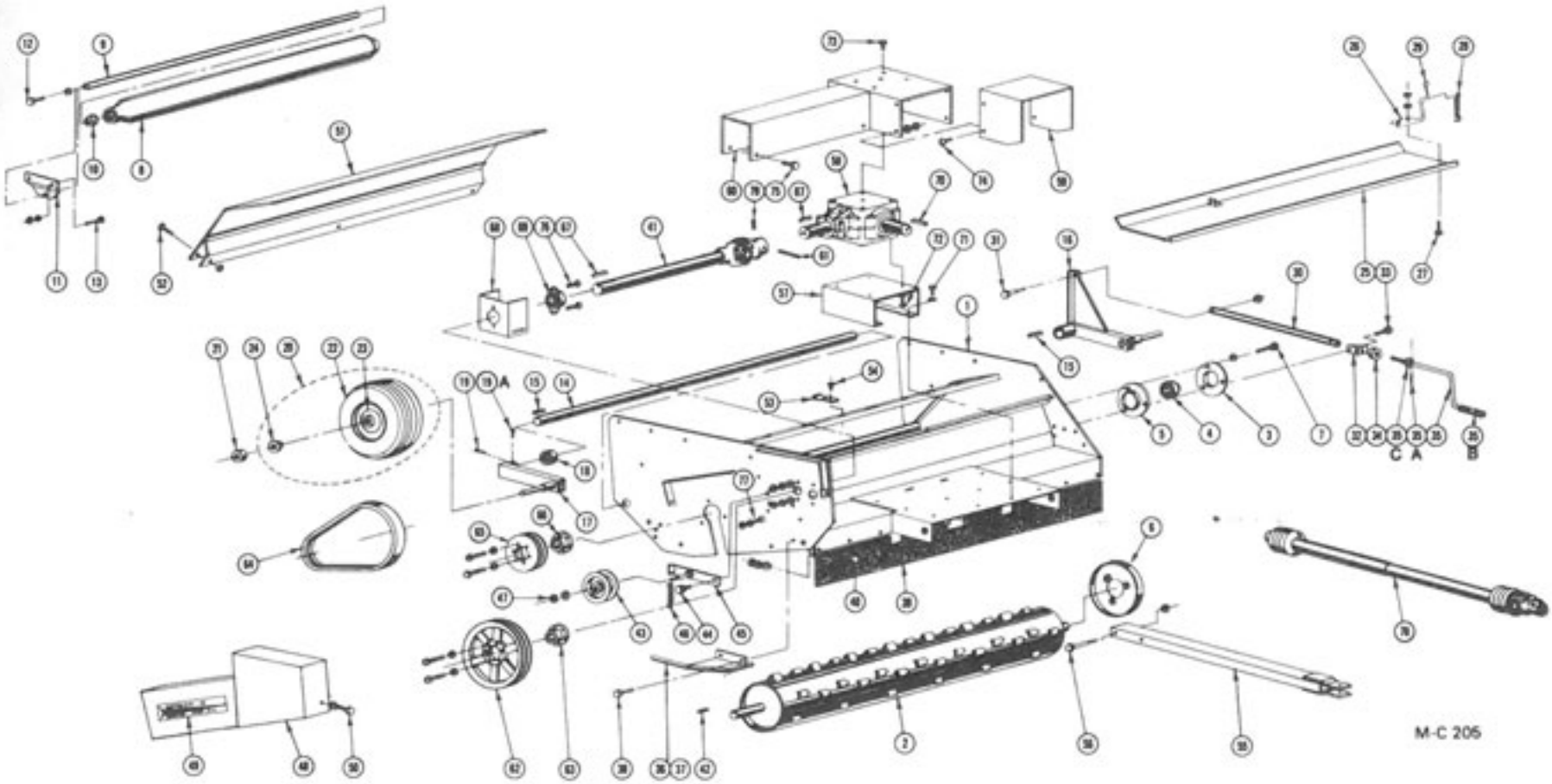


Ref	Part No	Qty	Description

Ref.	Part No.	Qty.	Description
1	- - - - - - -	—	Not Available
2	131 1040	1	Rotor Ass'y. (see pg. 25)
3	001 6019	2	1-7/16" 3-Bolt Flangette with Zerk
4	001 6020	2	1-7/16" Bearing with Collar
5	001 6021	2	1-7/16" 3-Bolt Flangette
6	131 0027	2	Anti-Wrap Flange
7	131 8133	6	⅜-16 x 1¼" HHCS Grd. 5 w/NY Patch
	000 8179	6	⅜" Lockwasher
8	131 0127	1	Gauge Roller (includes item 9 and 2 of item 10)
9	131 5006	1	Gauge Roller Tie Bar
10	131 6006	2	Gauge Roller Bearing
11	131 3474	2	Gauge Roller Bracket
12	133 8161	2	½-13 x 1½" HHCS Grd. 5
	000 8180	2	½" Lockwasher
13	131 8162	4	½-13 x 1" HHCS Grd. 5
	000 8180	4	½" Lockwasher
	000 8163	4	½-13 Hex Nut
14	131 5042	1	Main Axle
15	001 5132	2	⅜ x 2" Key
16	131 0092	1	Left Wheel Mount
17	131 0093	1	Right Wheel Mount
18	131 5624	1	Spacer
19	131 8131	2	⅜-16 x ⅜" Sq. Hd., Cone Pt. Set Screw
19A	128 8130	2	⅜ x 1" Sq. Hd. Cup Pt. Set Screw
	000 8162	2	⅜-16 Hex-Nut
20	131 8993	2	Tire and Wheel Complete
21	131 8995	2	Set Collar
22	132 8998	2	Tire 13 x 5.00-6 (4 ply)
23	132 8997	2	Wheel with Bearings
24	132 6000	4	Wheel Bearing ¾" Bore
25	131 4767	1	Damper Panel
26	131 0003	1	Damper Panel Crank
27	000 8212	2	¼-20 x ½" Truss Head
	000 8178	2	¼" Lockwasher
	000 8158	2	¼-20 Hex Nut
28	131 8990	1	Damper Spring
29	000 8249	2	⅛ x ¾" Cotter Pin
30	131 0005	1	Ram Tube
31	000 8290	1	⅜-16 x 1½" HHCS
	000 8204	1	⅜-16 Hex Nut w/ NY-Lock
32	131 0039	1	Crank Mounting Bracket
33	000 8108	2	5/16-18 x 1" HHCS
	000 8222	2	5/16" Lockwasher
	000 8159	2	5/16-18 Hex Nut
34	131 6000	1	Thrust Bearing
35	131 1033	1	Crank Screw Assembly (incl. 35A & B)
35A	133 8254	1	3/16 x 1" Roll Pin
35B	131 8991	1	Black Handle Grip
35C	000 8175	1	½" Flatwasher
36	131 0012	1	Left Tree Guard
37	131 0013	1	Right Tree Guard
38	000 8121	4	⅜-16 x 1" HHCS
	000 8204	4	⅜-16 Hex Nut w/NY-Lock
39	131 8985	1	Wind & Stone Flap
40	000 8100	8	¼-20 x ¾" HHCS
	000 8173	8	5/16" Flatwasher
	000 8178	8	¼" Lockwasher
	000 8158	8	¼-20 Hex Nut
41	131 6614	1	Universal Joint & Shaft
42	See Ref. 66	1	⅜" x ¼" x 1¼" Special Key
43	001 6200	1	Flat Back Idler 4⅝" O.D. x ½" Bore
44	001 8163	1	½-13 x 1½" Shoulder Bolt HH
	131 2945	1	Shim Washer 16 Ga. x ¾ I.D.
	000 8180	1	½" Lockwasher
	000 8163	1	½-13" Hex Nut
45	131 0094	1	Belt Idler

Continued on the next page

Body, Gauge Roller, Drive Line and Guards



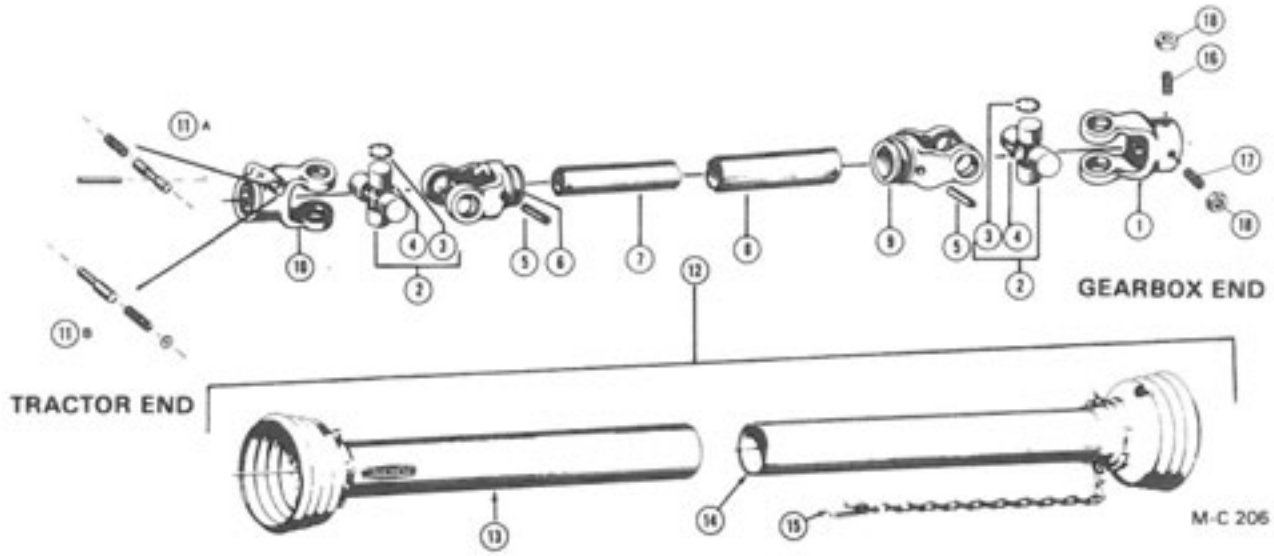
Ref.	Part No.	Qty.	Description
46	131 8256	1	Idler Spring
47	000 8163	1	½-13" Hex Nut
	000 8180	1	½" Lockwasher
48	131 0104	1	Belt Guard
49	001 8303	1	M-C Arrow Decal
50	000 8108	2	5/16-18 x 1" HHCS Grd. 5
	001 8111	2	5/16-18 Clip Nut
51	131 0010	1	Rear Cover
52	000 8101	3	¼-20 x 2" HHCS
	000 8210	3	¼-20 2-Way Lock Nut
53	131 3305	3	Rear Cover Locking Clip
54	000 8100	4	¼-20 x ¾" HHCS
	000 8210	4	¼-20 2-Way Lock Nut
55	131 0077	1	Pole
56	001 8287	2	⅜"-16 x 3¾" HHCS Grd. 5
	000 8204	2	⅜-16 NY-Lock Nut
57	131 4243	1	Gearbox Mount
58	131 6610	1	2 to 1 Gearbox (see pg. 17)
59	131 4801	1	Guard Extension
60	131 0128	1	Gearbox Guard
61	001 8292	1	¼" x 2" Roll Pin
62	131 6211	1	3V/10.6-2SK Drive Pulley
63	001 6204	1	SK-1" Bore Tapered Bushing (incl. cap-screws & lockwashers)
64	131 6102	1	2/3V/600 Belt
65	131 6212	1	3V/5.6-2SH Rotor Pulley
66	131 6214	1	SH 1-7/16" Tapered Bushing (incl. cap-screws, lockwashers & ⅜" x ¼" x 1¼" special key)
67	001 5118	3	¼ x ¼ x 1¼" Key
68	131 2834	1	Outboard Guard Bracket
69	131 6005	1	2-Bolt Flange Bearing 1" Bore
70	001 5120	1	¼ x ¼ x 1½" Key
71	131 8257	4	⅜-16 x 1" HHCS Grd. 5 w/NY Patch
	000 8179	4	⅜" Lockwasher
	000 8162	4	⅜-16 Hex Nut
72	131 8257	4	⅜-16 x 1" HHCS Grd. 5 w/NY Patch
	000 8179	4	⅜" Lockwasher
73	000 8121	4	⅜-16 x 1" HHCS
	000 8179	4	⅜" Lockwasher
74	000 8212	4	¼-20 x ½" Truss Head
	000 8178	4	¼" Lockwasher
	000 8158	4	¼-20 Hex Nut
75	000 8240	4	¼-20 x 1" HHCS
	000 8178	4	¼" Lockwasher
	000 8158	4	¼-20 Hex Nut
76	131 8110	2	5/16-18 x 1¼" Carriage Bolt Grd. 5
	000 8222	2	5/16" Lockwasher
	041 3439	2	Flatwasher ¼" Thick
	000 8159	2	5/16-18" Hex Nut
77	000 8208	1	¼-20 x 1¼" Slotted Truss Head (idler spring anchor)
	000 8178	1	¼" Lockwasher
	000 8158	1	¼-20 Hex Nut
	000 8210	1	¼-20 2 Way Lock Nut
78	131 6612	1	PTO Shaft (see pg. 24)
79	001 8118	1	5/16"-18 x 5/16" Set Screw

Not Shown

131 4676	1	Stub Shaft Guard
131 4466	1	Rotor Slot Cover Plate

Power Take-Off Shaft

Complete Assembly - 131 6612



Ref.	Part No.	Qty.	Description
1	132 6645	1	Outboard Yoke (machine half)
2	132 6646	2	Cross Assembly (consisting of ref. 3 & 4)
3	132 6647	8	Lock Ring
4	132 6648	2	Grease Fitting
5	132 6649	2	Roll Pin
6	132 6650	1	Inboard Yoke (male)
7	132 6651	1	Telescopic Section (male)
8	132 6652	1	Telescopic Section (female)
9	132 6653	1	Inboard Yoke (female)
10	132 6654	1	Outboard Yoke (tractor half) w/Spring Pin 1⅜-6B Spline
11A	132 6655	1	Spring Pin Kit — Consisting Of: Spring Pin, Spring, Spring Retainer (pin-type)
11B	132 6664	1	Spring Pin Kit — Consisting Of: Spring Pin, Spring, Spring Retainer (disc-type)
12	132 6659	1	Plastic Guard (incl. ref. 13, 14, 15)
13	132 6660	1	Plastic Guard (female half)
14	132 6661	1	Plastic Guard (male half)
15	132 6662	1	Plastic Guard Chain
16	131 8111	1	Dog Pt. Set Screw 5/16-18 x 1" w/nut
17	131 8211	1	Cup Pt. Screw 5/16-18 x ¾"
18	001 8120	2	5/16-18 Hex Jam Nut

Rotor

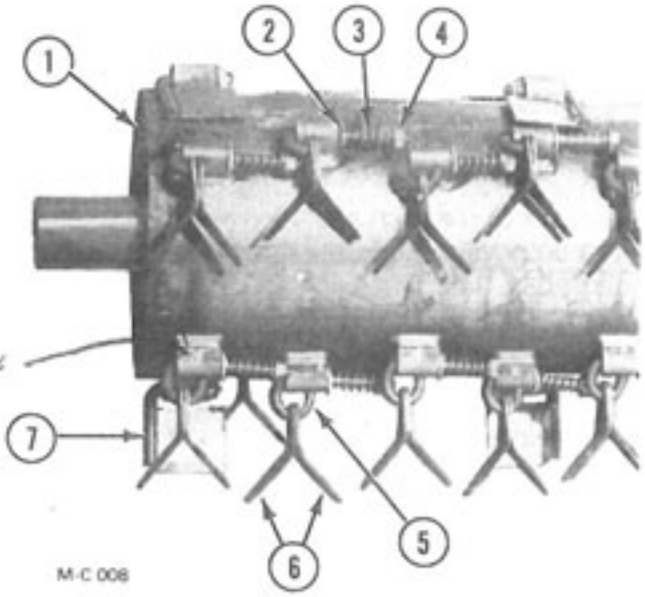
Complete Assembly 131 1040

Ref.	Part No.	Qty.	Description
1	131 0083	1	Balanced Rotor Weldment
2	000 8173	40	5/16" Flatwasher
3	131 8708	40	Spring
4	000 8205	50	⅜-16 Top Lock Flange Nut
5	131 8709	40	Knife Hanger
6	131 4446	84	Knife (see note)
7	131 0017	8	Vacuum Paddle

Not Shown:

	131 8707	2	Short Knife Hanger

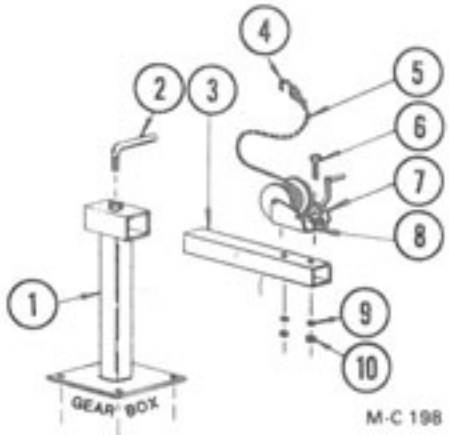
NOTE: Knife Kit is shown on page 26.



Winch

Complete Assembly 133 1056

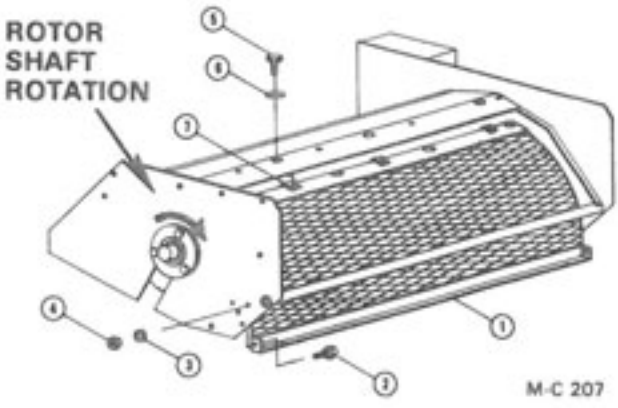
Ref.	Part No.	Qty.	Description
1	133 0047	1	Winch Tower
2	001 8162	1	½" Clamp Bolt
3	133 5612	1	Mount Tube
4	131 8259	1	"S" Hook Only
5	133 1015	1	Cable & "S" Hook Ass'y.
6	000 8129	2	⅜-16 x 2¼" HHCS
7	132 8250	1	Spring
8	131 8700	1	Winch
9	000 8179	2	⅜" Lockwasher
10	000 8162	2	⅜-16 Hex Nut



Leaf Mulching Screen (Optional)

Complete Assembly 133 9004

Ref.	Part No.	Qty.	Description
1	133 0001	1	Leaf Mulching Screen
2	000 8119	2	⅜-16 x ¾" HHCS
3	000 8179	2	⅜" Lockwasher
4	000 8162	2	⅜-16 Hex Nut
5	000 8106	3	5/16-18 x ¾" HHCS
6	000 8173	3	5/16" Flatwasher
7	001 8111	3	5/16-18 Clip Nut

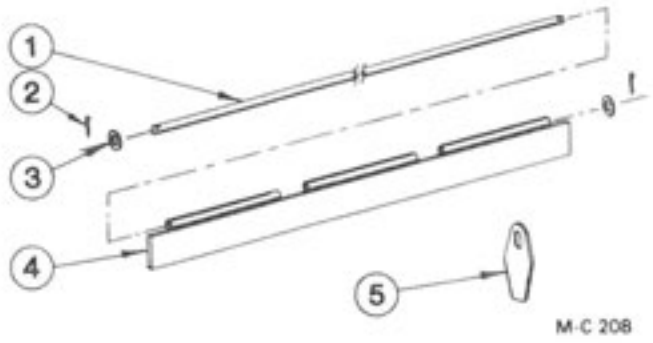


Knife, Thatching Blade and Vacuum Paddle Kits

Thatching Blade & Vacuum Paddle Kit
No. 133 9016

Consists of one each of the following:
133 9029 Vacuum Paddle Kit
133 9033 Thatching Blade Kit

Ref.	Part No.	Qty.	Description
1	133 5737	2	Pivot Rod (34 7/16")
2	000 8199	4	⅜" x 1" Cotter Pin
3	001 8134	4	⅜" SAE Flat Washer
4	133 0054	2	Vacuum Paddle (34¾")
5	133 4445	42	Thatching Blade



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Thatching Blade Kit No. 133 9033

Consists of 42 of 133 4445
Thatching Blade

Knife Kit No. 132 9008

Consists of 84 of 131 4446
Knife (Shown w/rotor)

Vacuum Paddle Kit No. 133 9029

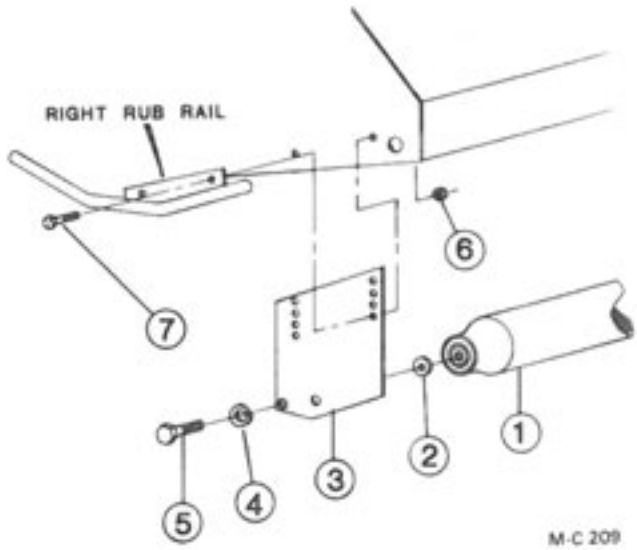
Consists of the following:
2 of 133 0054 Vacuum Paddle (34¾")
2 of 133 5737 Pivot Rod (34 7/16")
4 of 001 8134 ⅜" SAE Flat Washer
4 of 000 8199 ⅜" x 1" Cotter Pin

Front Roller Kit (Optional)

Complete Assembly 133 9021

Ref.	Part No.	Qty.	Description
1	131 1007	1	Gauge Roller (see note)
2	092 8255	2	¼" Thick Flatwasher
3	133 3413	2	Front Roller Bracket
4	000 8180	2	½" Lockwasher
5	000 8138	2	½-13 x 1½" HHCS
6	000 8204	4	⅜-16 NY-Lock Nut
7	000 8289	4	⅜-16 x 1½" HHCS Grd. 5

NOTE: Includes one 131 5193 Tie Bar and two 131 6006 Bearings (⅞" bore).



M-C 209

Metric (SI) Measurements

(English Units & Metric (SI) Equivalents)

Area
1 square inch = 6.4516 square centimeters
1 square foot = 0.0929 square meters
1 square yard = 0.8361 square meters
1 acre = 4047 square meters
1 acre = 0.4047 hectare

Force
1 pound (force) = 4.45 newtons

Length
1 inch = 25.4 millimeters
1 inch = 2.54 centimeters
1 foot = 304.8 millimeters
1 foot = 30.5 centimeters
1 foot = 0.305 meters
1 yard = 0.9144 meters
1 mile = 1.6093 kilometers

Mass
1 ounce = 28.35 grams
1 pound = 0.454 kilograms
1 ton = 907.1848 kilograms

Power
1 horsepower = 0.7457 kilowatts

Pressure
1 psi = 6.89 kilopascals
1 psi = 0.00689 megapascals
1 inch of mercury = 3.377 kilopascals

Temperature
1 degree Fahrenheit (°F – 32) - 1.8 = °Celsius

Torque
1 inch pound = 0.113 newton meters
1 foot pound = 1.356 newton meters

Velocity
1 mile per hour = 1.61 kilometers per hour

Volume
1 bushel = 35.24 liters
1 bushel = 0.0352 cubic meters
1 pint = 0.4731 liters
1 quart = 0.9464 liters
1 gallon = 3.7854 liters
1 cubic inch = 16.387 cubic centimeters
1 cubic foot = 0.0283 cubic meters
1 cubic yard = 0.7646 cubic meters

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

NOTES

M-C

MATHEWS COMPANY

Iron Horse Quality

Printed in the United States of America