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544853F
HEAVY DUTY SODCUTTER 11HP KOHLER 16"

544854F
HEAVY DUTY SODCUTTER 11HP KOHLER 18"



SCHILLER

GROUNDS
CARE

OPERATOR'S / PARTS MANUAL

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

 WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

CALIFORNIA

Proposition 65 Warning

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

WASH HANDS AFTER HANDLING.

HEAVY DUTY SOD CUTTER

IMPORTANT MESSAGE

Thank you for purchasing this Schiller Grounds Care, Inc. product. You have purchased a world class product, one of the best designed and built anywhere.

This machine comes with a Operation and Safety Manual and Parts Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand this manual. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Schiller Grounds Care, Inc. product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manual thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a Schiller Grounds Care, Inc. dealer for any service or parts needed. Schiller Grounds Care, Inc. service ensures that you continue to receive the best results possible from Schiller Grounds Care, Inc. products. You can trust Schiller Grounds Care, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

Schiller Grounds Care, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manual, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Schiller Grounds Care, Inc.
One Bob Cat Lane
Johnson Creek, WI 53038-0469

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NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Schiller Grounds Care, Inc. strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Schiller Grounds Care, Inc. Engineering Department. Any Schiller Grounds Care, Inc. product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Schiller Grounds Care, Inc. will result in the Schiller Grounds Care, Inc. Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Schiller Grounds Care, Inc. will be considered the responsibility of the individual(s) or company designing and/or making such changes. Schiller Grounds Care, Inc. will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Schiller Grounds Care, Inc. machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

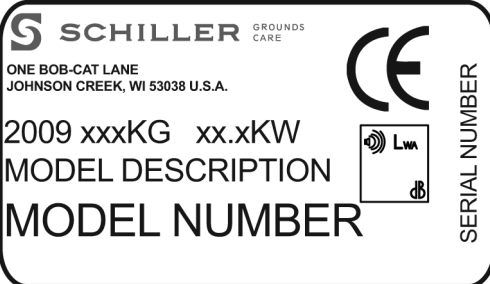
WARNING indicates a hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **COULD** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.



MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

PREPARING FOR SAFE OPERATION

Operator preparation and training

Read the Operation & Safety Manual

- If an operator or mechanic cannot read English, it is the owner's responsibility to explain this material to them. If any portion of this material is unclear, contact your factory representative for clarification.
- Become familiar with the safe operation of the equipment, operator controls and safety signs. Be prepared to stop the engine quickly in an emergency. Do not operate or allow another person to operate this machine if there are any questions about safety.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Wear appropriate clothing, including safety goggles or safety glasses with side shields when operating. Do not operate barefoot or wearing open sandals. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Wear hearing protection.
- Wear safety glasses.
- Never allow underage children, unskilled or improperly trained people to operate this equipment. Local regulations can restrict the age of the operator.
- Keep warning labels and this operator's manual legible and intact. Replacement labels and manuals are available from the factory.
- Do not operate machine while under the influence of drugs or alcohol.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.



SITE PREPARATION AND CIRCUMSTANCES

- Evaluate the terrain to determine how to safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Clear the area to be cut of objects such as rocks, toys, wire or other debris that may be thrown or get tangled in the sod cutter.
- Be sure the area is clear of pets and people, especially young children. Never assume they will remain where you last saw them. Stop the machine if any enter the area.
- Cut sod only in daylight or in good artificial light.

MACHINE PREPARATION

- Check operator presence interlock system and brake operation. Adjust or repair any problems before using.
- Do not tamper with or defeat safety devices. Keep guards, shields and interlock safety devices in place and in proper working condition. They are for your protection.
- Keep all fasteners such as nuts, bolts and pins well secured.
- Visually inspect blade and blade bolts for wear or damage. Replace worn or damaged blades and bolts.
- Verify that machine and attachments, if any, are in good operating condition.
- Do not engage blade until ready to cut sod.

OPERATING SAFELY

IN GENERAL

- Use extra care when loading or unloading the machine into a trailer or truck.
- Use caution when making turns and crossing roads and sidewalks. Stop blade when not cutting sod.
- Do not run the engine in an enclosed area where dangerous carbon monoxide fumes can collect.
- Never leave a machine unattended. Always turn off blade and stop engine when leaving the operator position. When leaving the machine be sure the wheel drive clutch is engaged.
- Use extreme caution when reversing or pulling machine towards you.

STARTING

- Start according to instructions in this manual or on the machine.
- Before attempting to start the engine, make sure the master clutch is disengaged.
- When starting the engine, make sure hands and feet are clear of the blade.
- Do not change engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.



OPERATING ON SLOPES

USE EXTRA CARE WHEN WORKING ON SLOPES

- Do not operate on slopes if uneasy or uncertain. Ultimate responsibility for safe operation on slopes rests with the operator.
- Do not operate on steep slopes.
- Keep all movement on slopes slow and gradual.
- Do not cut sod near drop-offs, ditches or embankments. The machine could suddenly turn over if a wheel runs over the edge or an edge caves in.
- Do not turn on slopes unless necessary, and then turn slowly and downhill when possible.
- Be sure of your footing on slopes.

INTERRUPTING OPERATION

- Before leaving the operator's position:
 - Park on level ground.
 - Disengage the master clutch.
 - Shut off the engine.
- Disengage the master clutch and wait until the blade stops moving then disengage the blade clutch:
 - when not cutting sod;
 - for transport;
 - when crossing surfaces other than grass.
- Stop the engine, disengage the master clutch and wait until the blade stops moving:
 - before refueling;
 - before making blade adjustment .
- Stop the engine, disengage the master clutch, and disconnect the spark plug wire(s):
 - before clearing blockages;
 - before checking, cleaning or working on the machine;
 - after striking a foreign object. Inspect the machine for damage and make repairs before restarting;
 - if the machine begins to vibrate abnormally: shut off machine immediately. Inspect and make repairs as needed before restarting;
 - except for repairs or adjustments as specifically noted, such as for carburetor adjustment, where the engine must be running. Keep hands and feet clear of moving parts in these circumstances.
- Allow the blade to come to a complete stop when stopping operation to clear blockages, unclog, inspect the machine, do maintenance or repair.
- Reduce the throttle setting during engine shut-down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of operation.

MAINTENANCE SAFETY

In general

- Maintain machine according to manufacturer's schedule and instructions for maximum safety and best results.
- Park machine on level ground.
- Never allow untrained personnel to service machine.
- Adjust or repair only after the engine has been stopped and the blade has stopped moving.
- Replace parts if worn, damaged or faulty. For best results, always replace with parts recommended by the manufacturer.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support, e.g. jack stands for lifted machine or parts if working beneath.
- Do not put hands or feet near or under rotating parts.
- Clean up spilled oil or fuel thoroughly.
- Replace faulty mufflers.
- To reduce fire hazards, keep the engine, muffler, and fuel storage area free of grass, leaves, debris buildup or grease.

MAINTENANCE AND ADJUSTMENTS

- Disconnect spark plug wire(s) before doing any maintenance.
- Particular care must be taken when adjusting the carburetor while the engine is running. Keep hands and feet clear. Shut off blades.
- When working underneath lifted parts or machines, make sure adequate support is provided.
- Do not dismantle the machine without releasing or restraining forces which can cause parts to move suddenly.
- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Replace worn or damaged parts for safety.

Blades

The sod cutter blade is sharp and can cut. Use extra caution when handling. Remove obstructions with care. Wrap the blade or wear gloves.

- Only replace blade. Never straighten or weld.
- Keep other persons away from blades.



Fuel

- Gasoline and diesel fuels are flammable; gasoline vapors are explosive. Use extra care when handling.
- Store only in containers specifically designed for fuel.
- When refueling or checking fuel level:
 - Stop the engine and allow to cool;
 - Do not smoke;
 - Refuel outdoors only;
 - Use a funnel;
 - Do not overfill;
 - If fuel is spilled, do not attempt to start the engine until the spill is cleaned up and vapors have cleared.



Sparks from static electricity can start fires or cause explosions. Flowing fuel can generate static electricity. To prevent static electricity sparks:






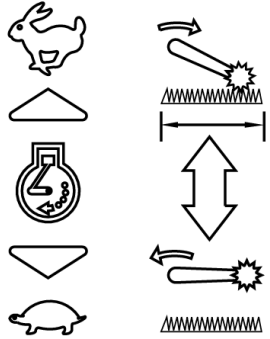
- Keep containers electrically grounded. Do not fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.
- When practical, remove gas powered equipment from the truck or trailer and refuel it on the ground. If equipment must be refueled on the truck or trailer, refuel from a portable container rather than a dispenser nozzle.
- Keep the dispenser nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock-open device.
- Replace caps on fuel cans and tanks securely.

STORAGE SAFETY

- Stop the engine and allow to cool before storing.
- Drain the fuel tank outdoors only.
- Store fuel in an approved container in a cool, dry place.
- Keep the machine and fuel containers in a locked storage place to prevent tampering and to keep children from playing with them.
- Do not store the machine or fuel container near heating appliances with an open flame, such as a water heater, or an appliance with a pilot light.
- Keep gasoline storage area free of grass, leaves and excessive grease to reduce fire hazard.
- Clean grass and debris from cutting units, drives, mufflers and engine to help prevent fires.

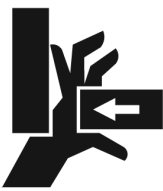

HEAVY DUTY SOD CUTTER

LABELS

 <p>ENGAGE</p>  <p>MASTER CLUTCH</p>  <p>DISENGAGE</p>	<p align="center"> WARNING</p> <p>BEFORE STARTING OR SERVICING:</p> <p> Read and Understand the Operator's Manual and Labels.</p> <ul style="list-style-type: none"> -Be sure the machine is in safe operating condition. -Make sure the Master Clutch is disengaged. <p>BEFORE LEAVING MACHINE:</p> <ul style="list-style-type: none"> -Disengage the Master Clutch. -Turn the engine switch to the OFF position. 	 <p align="right">4164043</p>
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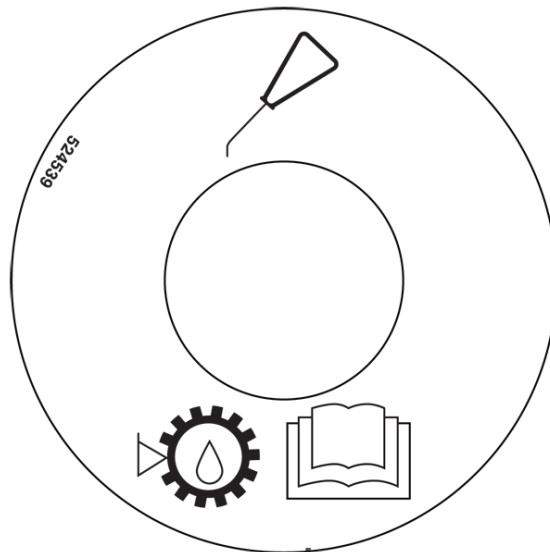
<p align="center"> WARNING</p>

<ul style="list-style-type: none"> -MOVING BLADE CAN CUT -KEEP HANDS AND FEET AWAY FROM MOVING PARTS -STOP ENGINE BEFORE SERVICING <p align="right">4164033</p>

	<p align="center"> WARNING</p> <p>MACHINE CAN CRUSH</p> <ul style="list-style-type: none"> -MOVEMENT CAN OCCUR UNEXPECTEDLY. -STAY CLEAR WHILE ENGINE IS RUNNING. -STOP ENGINE TO CLEAN OR SERVICE. <p align="right">4137371</p>
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Rotate lever counter clockwise to engage sodcutter blade drive.
Rotate lever clockwise to disengage sodcutter blade drive.



GEAR CASE LUBRICATION:
See Operator Manual for proper fluid, checking, and filling procedures.

SET-UP INSTRUCTIONS

GENERAL NOTE: Front, rear, right and left references below are as seen from the operator's position. NEVER disable the operator presence control by altering or modifying it in any way.

The HD Sodcutter is very heavy. To prevent serious injury, use an adequate lifting device (i.e., hoist, forklift, etc.) to remove from shipping pallet.

1. Cut the banding securing the aerator to the pallet.
2. Remove and discard cable ties securing handlebar assembly to unit.
3. Using an adequate lifting device, remove HD sod cutter from shipping pallet.
4. Remove hardware bag and empty content onto a surface where they will not be misplaced or lost.
5. Remove the two screws and lockwashers from upper rear of gear case **A**. Use those screws and lockwashers to install upper portion of handle. Secure the lower end of the handle **B** with one 1 1/2-13 x 2" screw and one 1/2-13 insert locknut. (Figure 1)
6. Rotate the master clutch control to the rear "Disengaged" position. Connect the clutch control links together and secure using two 5/16-18x1" serrated flange screws and two serrated flange nuts **C**. (Figure 2)
7. Attach metering wheel control link. Loosen the jam nut and turn the connecting screw into the casting **D**. Tighten the jam nut to secure. The adjuster links should move freely after installation. (Figure 3)

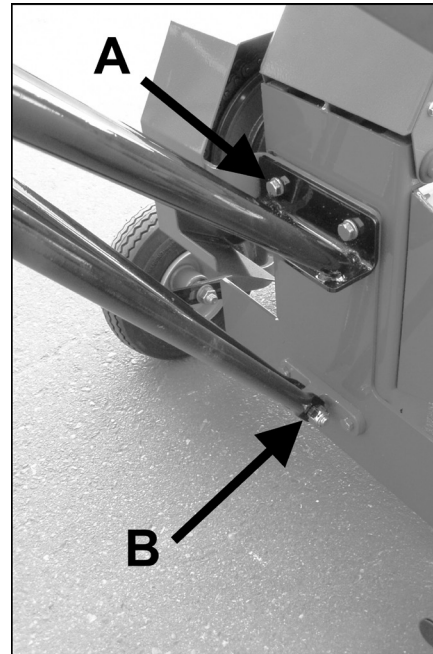


FIGURE 1

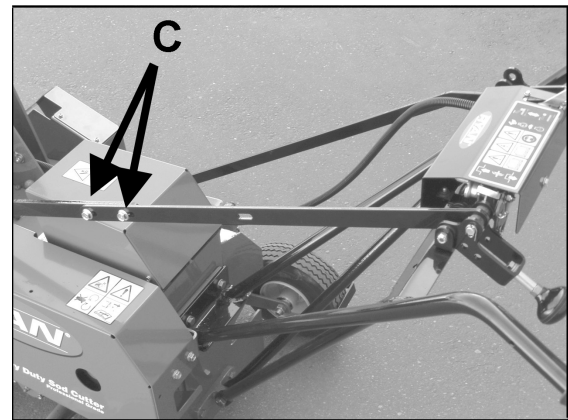


FIGURE 2

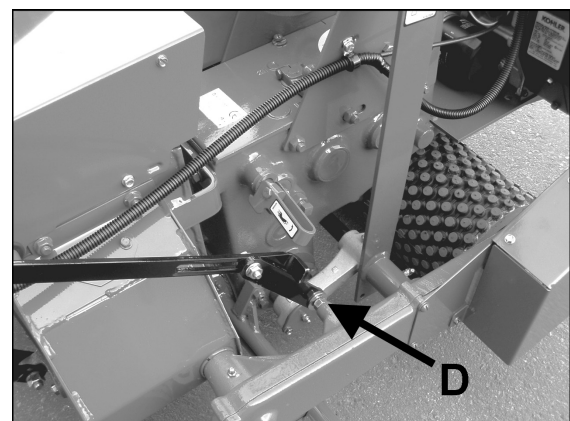


FIGURE 3

8. Route the convoluted tubing **E** along the handle, In tall tubing in clamp on side of gear case. (Figure 4)
9. Set throttle to 1/16-1/8" (1.5-3mm) from maximum. Connect the Z bend to the throttle lever on the engine. Pull back on the conduit to remove slack while securing the conduit to the engine with the cable clamp.
10. Connect wire from operator presence control to engine **F** at the top spade connector on engine control plate.(Figure 5)
11. Attach the cutting blade **H** to the side arms **G**. Secure with six 5/16-24x1" screws, lockwashers and nuts.Torque to 25 ft.-lbs. (34N·m) (Figure 6)

NOTE: If sod hold-downs are being used, install them at this time. Refer to the installation instructions included with the sod hold-down accessory P/N 535637.

12. Attach the cut-off blade **2** and blade mount **1** with 3/8-16x1-1/4" screws and nylon inserts. (6 bolts and nuts for 18" (457mm) and 4 for 16" (406mm)). (Figure 7)

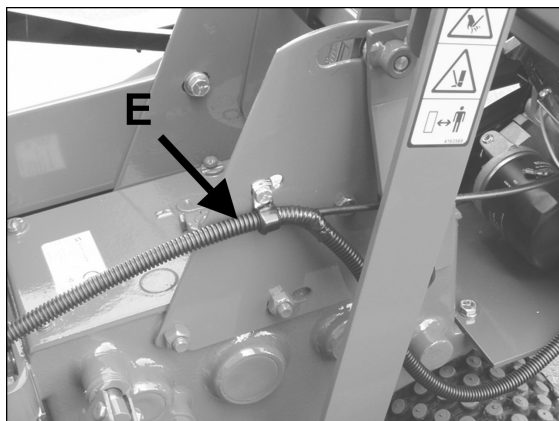


FIGURE 4

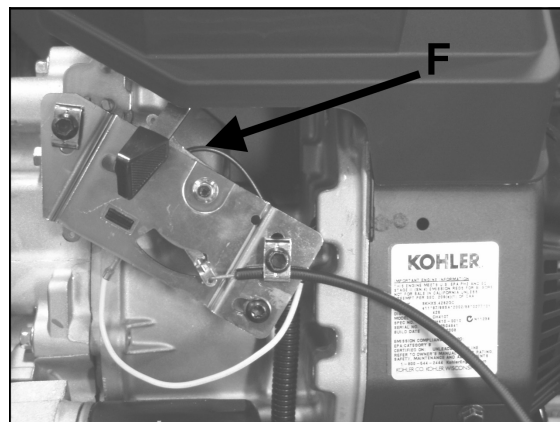


FIGURE 5

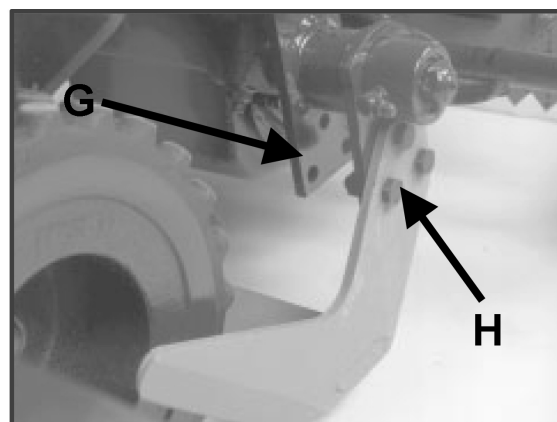


FIGURE 6

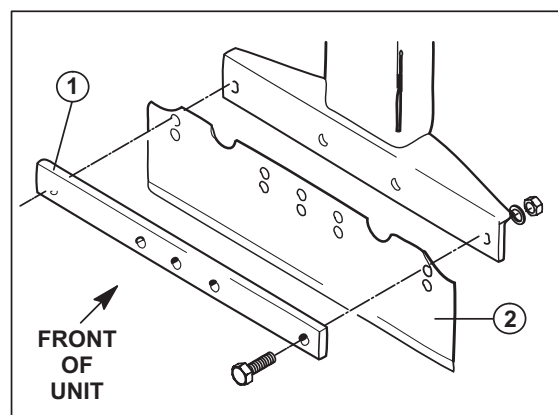


FIGURE 7

HEAVY DUTY SOD CUTTER

CONTROLS

MASTER CLUTCH CONTROL LEVER(A)

Engages / disengages drive belt. Applies brake to drive belt when pulled FIRMLY to rear.

THROTTLE CONTROL (B)

Controls engine speed. Moving it forward increases engine speed. Moving the control all the way rearward stops the engine.

OPERATOR PRESENCE CONTROL (C)

With master clutch control engaged, engine will stop if operator presence lever is not depressed.

METERING WHEEL CONTROL LEVER(D)

Raises /lowers metering wheel to engage/ disengage cut-off mechanism.

BLADE DEPTH CONTROL LEVER (E)

Raises or lowers cutting blade.

BLADE DEPTH CONTROL LOCKING LEVER (F)

Locking lever holds blade depth control in desired position.

BLADE ANGLE LOCKING LEVER (G)

Locks blades.

DEPTH STOP (H)

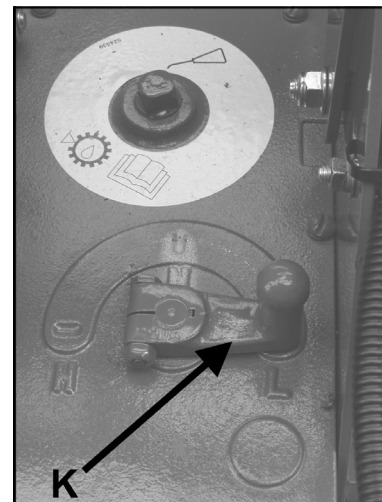
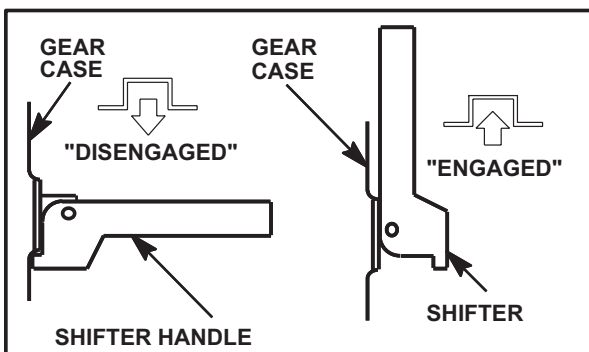
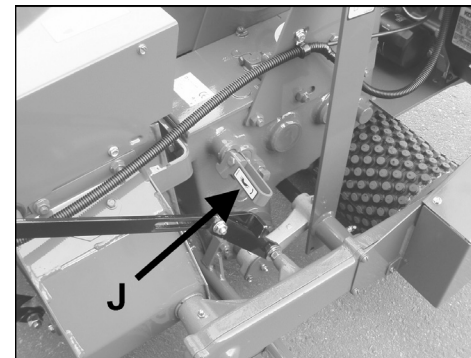
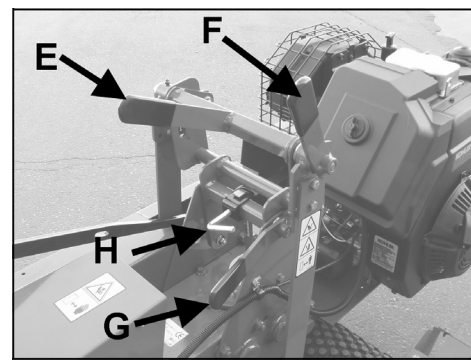
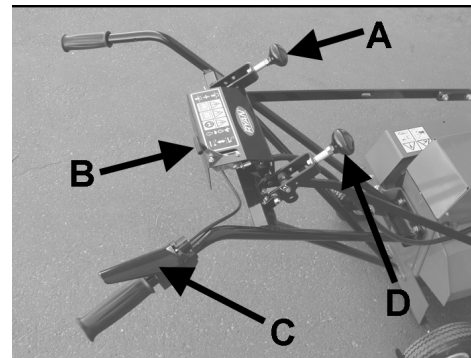
Allows resetting of blade depth to the previous cutting height.

BLADE SHIFTER HANDLES (J)

Engage and disengage blade for cutting and gears for driving Sodcutter.

WHEEL SHIFTER LEVER (K)

Allows selecting High, Low or Neutral for the wheel drive.



PRE-OPERATION CHECK LIST (OPERATOR'S RESPONSIBILITY)

- Review and follow all safety rules and safety decal instructions.
- Check that all safety decals are installed and in good condition. Replace if damaged.
- Check to make sure all shields and guards are properly installed and in good condition.
- Check that all hardware is properly installed and secured.
- Check to be sure engine is free of dirt and debris. Pay particular attention to the cooling fins, governor parts and muffler. Clean air intake screen. Check air cleaner; service is necessary.
- Inspect area. Remove stones or other hard objects that might cause damage.
- Check that there are no underground utilities in work area.
- Check all lubrication points and grease as instructed in manual.
- Perform a functional check of the safety interlock system each time you operate the unit. If it doesn't work, repair before using the machine.

WARNING

Gasoline is extremely flammable and highly explosive under certain conditions. BE SURE to install fuel cap after refueling.



Fill fuel tank with good quality, clean, unleaded regular gasoline to the level recommended by the engine manufacturer.

TO CHECK OR ADD FUEL:

- Use a funnel to avoid spilling.
- Do it outdoors.
- Do not smoke.
- Stop the engine; allow to cool.
- Do not overfill.
- Clean up spilled fuel.

BEFORE STARTING THE ENGINE

1. Be familiar with the controls, how each functions, and what each operates.
- 2.. Check engine oil level. Add oil if necessary, following the engine manufacturer's recommendations. Refer to engine manual included with literature packet.
3. Open the fuel valve under the fuel tank.
4. Fill the fuel tank with the amount and type of fuel recommended by the engine manufacturer.
5. CHOKER: For cold starts, set the throttle lever to the half-open position and move the choke to the ON position. For warm starts set the throttle to the half-open position and the choke to the OFF position.

OPERATOR PRESENCE INTERLOCK SYSTEM

To start the engine:

- The master clutch must be disengaged.

To operate the machine:

- The operator must hold down the operator presence lever or engaging the master clutch will kill the engine.

STARTING THE ENGINE

1. Pull the recoil starter to start the engine.
2. If the choke is ON when the engine starts, gradually back it off until the engine runs with no choke at all.

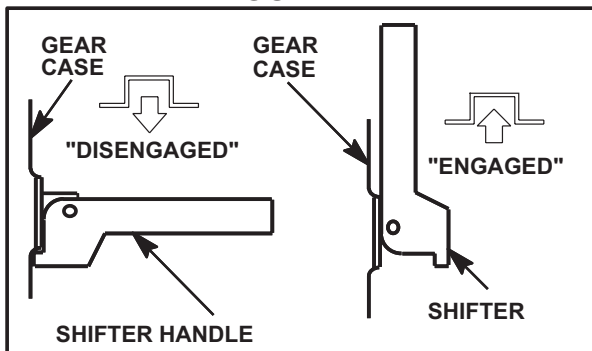
MOVING OF UNIT

To move unit without running blade:

1. Place blade shifter handle in "disengaged" position (handle will point straight out from unit) and raise the metering wheel. See **Figure 1**.
2. Set engine speed to slow.
3. Select High or Low speed with the shifter handle. (The machine may need to be rolled back and forth for the gears to line up to make the shift)
4. Depress operator presence control.
5. Engage master clutch control lever.
6. Adjust throttle to desired walking speed.

To move unit **without running the engine**, move drive shifter to neutral and master clutch control lever to the "disengaged" position. Push unit to move it.

FIGURE 1



CUTTING SOD

WARNING: Underground utilities. Electrocution, explosion, service disruption risk.

Before beginning any work, check with the local authorities for underground utility location and depth. Do not operate where there is any risk of contacting underground utilities. Contacting buried utilities could result in a service outage. Contacting buried electrical wires could result in electrocution. Contacting a buried gas line could result in an explosion.

1. Move machine to the area where sod is to be cut. Unlock the rear wheels by turning lock counter-clockwise. With the engine off and the master clutch disengaged, stand on the right side of the machine. Loosen the Blade Depth Control Locking Lever with your right hand, then use the handle bar to tip the machine forward and hold it with your left hand. Lower the Blade Depth Control Lever with your right hand until it hits the preset Depth Stop. Tighten the Locking Lever.
2. Start the engine, then select the wheel drive speed with drive shifter handle and engage the blade drive with the Blade Drive Shifter Lever.
3. Adjust the throttle to full speed. With the machine tipped forward, engage the Master Clutch. The machine will start moving forward and the blade drive will operate. Lower the machine into the sod and cut for a short distance.
4. Stop the machine and check the sod thickness. Adjust the Depth Stop and blade if necessary. See Adjustment section.
5. Continue cutting. At the end of each pass lift up on the handle to raise the blade out of the sod and turn around for the next pass.

SOD CUT-OFF AND METERING WHEEL OPERATION.

The Ryan Heavy Duty Sodcutter has a cut to length feature. The factory cut-off length setting is approximately 6feet (1.83M). See Adjustment Section to set cut-off length and depth.

WARNING

The sod cut-off blade can cut or crush.

- Keep hands and feet from beneath the machine.
- Stop the engine before performing service or making any adjustments.
- Raise the metering wheel before turning. The cut-off continues to operate as long as the metering wheel is on the ground.

NOTES:

- Operate at full engine speed to set cut-off length and depth. At slower speeds the cut-off may not work correctly.
- Cut-off length may vary for a setting depending on sod conditions.

To cut sod to the preset length:

- Lower the metering wheel at the start of the cut.
- As the machine moves forward the metering wheel rolls along the sod and trips the cut-off mechanism when it has traveled past the preset distance.
- When the cut-off mechanism is tripped, the cut-off blade comes down and cuts the sod strip. It is normal for the handle to jump slightly when the cut-off blade cycles.
- Raise the metering wheel before turning the sod cutter.

NOTE: If the handle jumps excessively when the cut-off blade cycles, depth may need to be adjusted. See Adjustment Section.

WALKING RAM AUTO CUT-OFF OR ROLLING RAM CUT-OFF AND SULKY ROLLER

If the Sulky Roller Accessory (P/N 545505) is to be used, the sodcutter must be converted from the auto walking ram cut-off. Use Rolling Ram Accessory(P/N 545395) for this conversion. Refer to the Accessories page.

SULKY ROLLER OPERATION

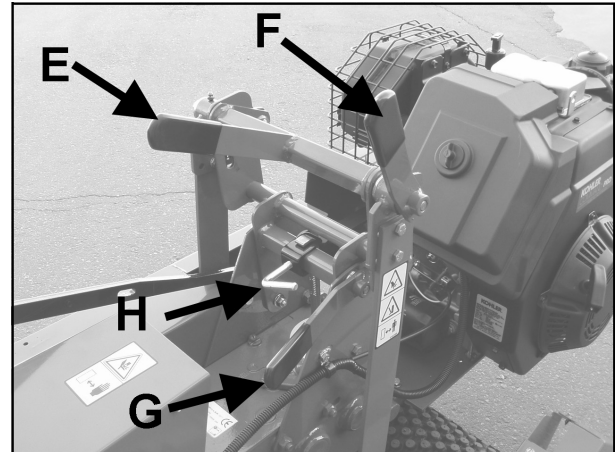
- Position the machine at the start of the cut.
- Connect the sulky with its hitch pin.
- Lower the blade to start cut.
- At the end of the pass, disengage the master clutch and disconnect the sulky roller.
- Re-engage the master clutch to run the machine as it is raised out of the cut and turn around.
- Disengage the master again before reconnecting the sulky for the next pass.

ADJUSTING SOD DEPTH OF CUT

3/4" (20mm) is a good general starting depth of cut. Depth of cut can be varied from there depending on conditions and what you are trying to accomplish.

1. Make an initial depth setting. Park the machine on a hard surface. Loosen depth control locking lever E and power depth control lever D until the blade rests on the surface.
2. Loosen the depth gauge lock F and set top of depth gauge G 3/4" (20mm) below the top of the depth crossbar. Tighten the depth gauge lock to secure the depth gauge setting.
3. Use your left hand to tip the machine forward while lowering the depth control lever D until the depth control crossbar hit the Depth Stop G. Tighten the locking lever E to lock in the depth setting, make a trial run in turf. Check the depth of cut.
4. Re-adjust the depth gauge G and depth control lever D if necessary.

NOTE: Numbers on depth gauge do not necessarily represent thickness of sod being cut. The numbers are useful as a reference for making changes.



CUT-OFF BLADE DEPTH ADJUSTMENT

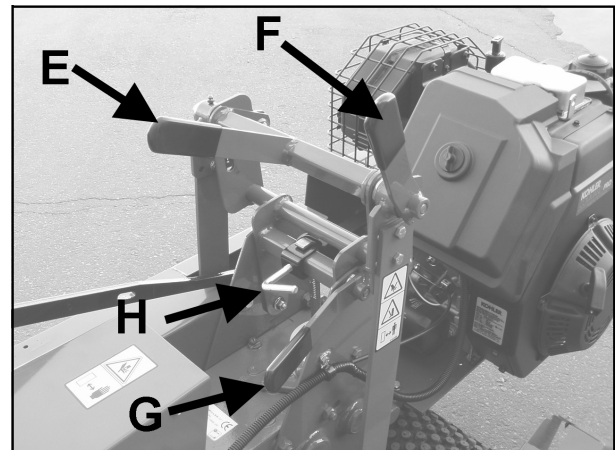
Set sod depth of cut before adjusting cut-off depth. To adjust cut-Off depth:

1. Loosen rear wheels so they can be moved up and down.
2. Adjust wheels so the cut-off blade will completely separate the sod without taking more of a cutting stroke than needed.
3. Make a test run to check both thickness and cut-off operation. Re-adjust if necessary.

NOTE: The handle will jump slightly at each cut. Excessive jumping means the cut-off blade is coming down too far. Correct excessive jumping by lowering rear wheels.

If sod is not cut completely, raise the rear wheels slightly to lower cut-off blade.

When cut-off blade is correctly adjusted, the sod will roll up slightly at each cutting stroke and there will be a slight penetration into the soil below the sod without excessive jumping of the handle.

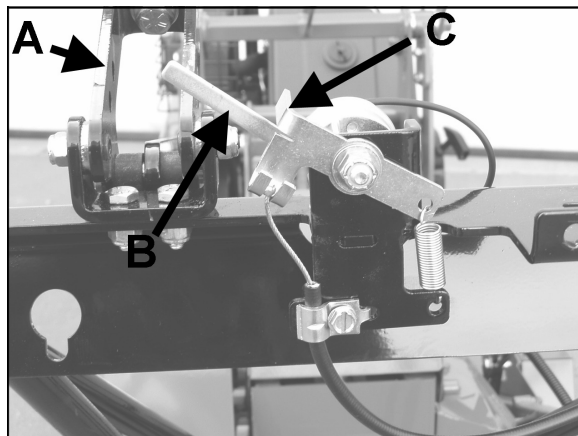


ADJUSTMENTS

HEAVY DUTY SOD CUTTER

ADJUSTING OPERATOR PRESENCE CONTROL

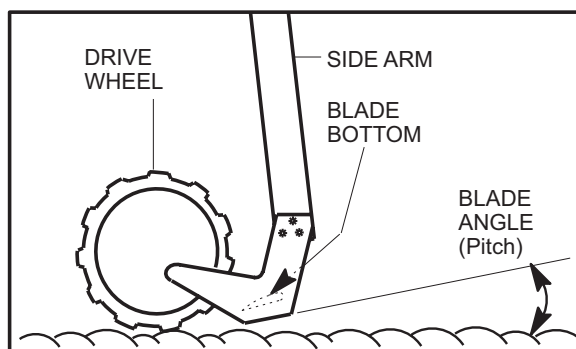
1. To adjust operator presence cable, pull clutch control handle **A** rearward as far as possible.
2. Press operator presence handle (right handlebar) down as far as possible.
3. Adjust cable until the pivot arm **C** contacts the arm extending from the operator presence switch **B**.
4. Tighten cable clamp to secure cable. Check for proper operation.



BLADE ANGLE (PITCH)

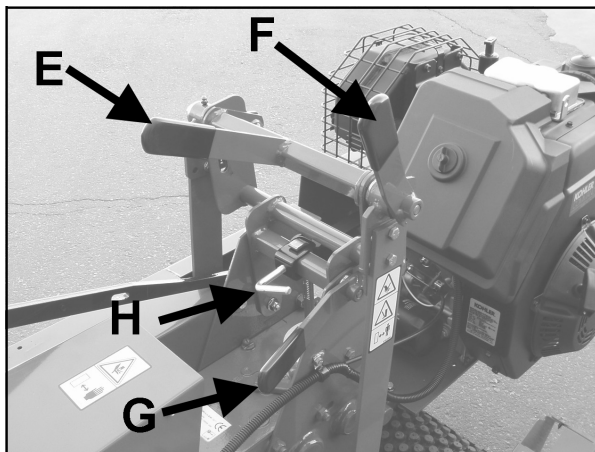
Under normal operating conditions, blade angle is minimal (blade bottom is flat). In extremely hard soil or when cutting with a dull blade, the blade may want to ride out of the ground. It may then help to adjust blade angle forward (see Adjusting Blade Angle below). A short trial run will indicate which is the best blade angle.

NOTE: Extreme blade angles put extra stress on the side arms. To reduce stress on the machine, operate with the flattest blade angle that gives satisfactory results.



ADJUSTING BLADE ANGLE (PITCH)

1. Loosen blade angle control locking lever **F** and move H-frame forward or backward until blade is at desired angle of pitch.
2. Tighten blade angle control locking lever **F**.

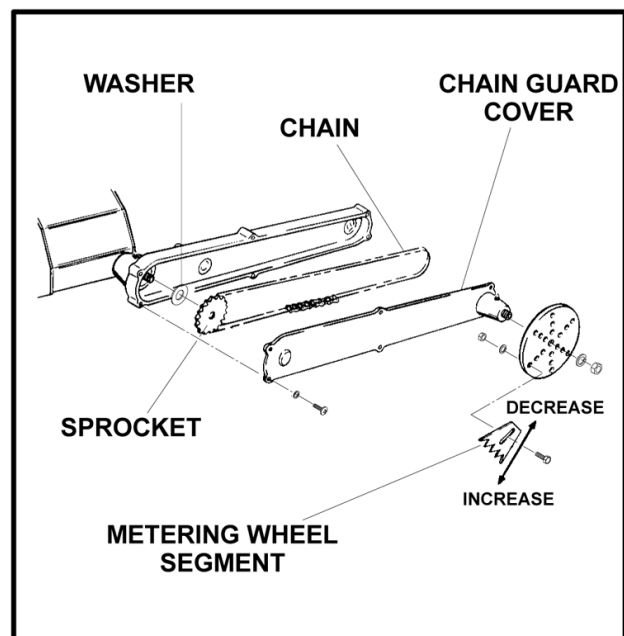
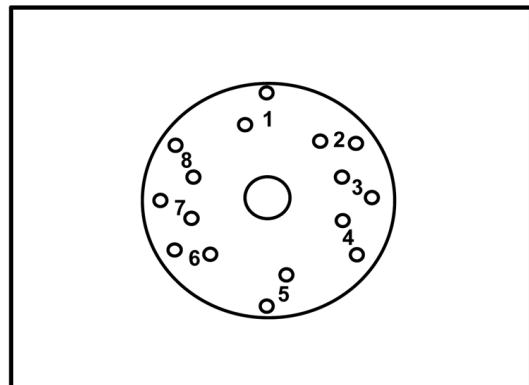


LENGTH OF CUT (METERING WHEEL)

The length of cut is determined by how far the metering wheel rolls before it turns the dog wheel to the point where a dog trips the cut-off mechanism. The length is adjusted by the number of dogs and the diameter of the metering wheel.

1. Select desired length of cut from the Length of Cut Chart. (See below)
2. use the chart to determine the number of dogs and dog positions. Set up the unit with the metering wheel segment slot centered on the mounting bolts.
3. Install the correct number of dogs at the positions indicated by the Dog Position Figure
4. Make several cuts.
5. Check for correct sod lengths. If fine adjustments need to be made, adjust the segments (P/N 515534) on the metering wheel. Segments can be moved out to increase cut length, or moved in to decrease cut length. Be sure all segments are adjusted uniformly.
3. Make a test run to check both thickness and cut-off operation. Re-adjust if necessary.

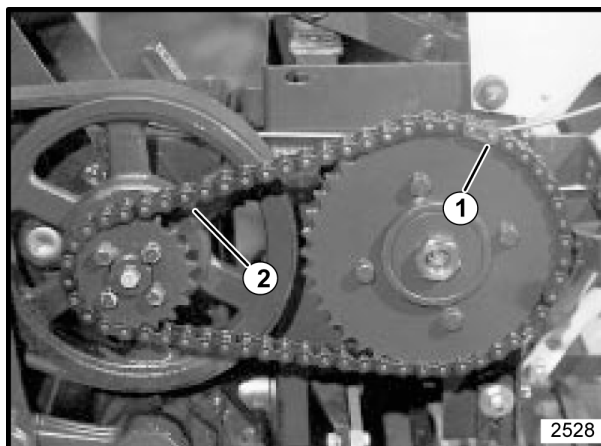
NOTE: The slot in the metering wheel segments allows adjustment of up to ± 1 " per foot (80mm per meter) from the nominal setting.



Number and Position of dogs on Dog Wheel	PN 515534		Roll Area	
	Inches	Meters	Square Feet	Square Meters
1	72	1.8	8.0	0.7
1-5	36	0.9	4.0	0.4
1-4-6	24	0.6	2.7	0.2
1-3-5-7	18	0.5	2.0	0.2
1-2-4-5-6-8	12	0.3	1.3	0.1

CUT-OFF CHAIN REPLACEMENT

1. Remove shield on left rear of unit.
2. Remove master link **2** from chain **1** and remove chain.
3. Check both sprockets for excessive wear. Replace if necessary. To replace sprockets, remove the four screws and lockwashers from the face of the sprocket. Remove and replace sprocket, then reinstall hardware.
4. Install new chain and replace shield.



BELT REPLACEMENT AND ADJUSTMENT

1. Remove cut-off chain. See Cut-off chain replacement.
2. Remove front shield.
3. Remove belt from Gear-case pulley, then push clutch lever forward to release belt brake. Remove old belt and install new one. Check belt tension adjustment.

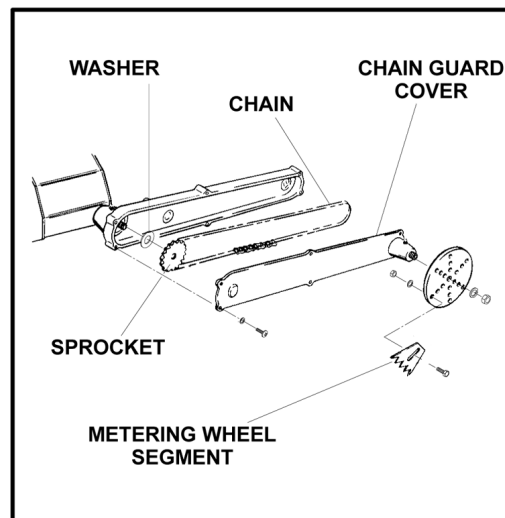
BELT TENSION ADJUSTMENT

The belt should be taut when the clutch lever is engaged (pushed forward) and loose enough to slip when the clutch lever is disengaged (pulled back).

1. To adjust belt tension, loosen the four engine mounting screws and shift the engine position. BE SURE to keep pulleys aligned.
2. Tighten the engine mounting screws. Check the tension. Re-adjust if necessary.
3. Re-install cut-off chain and both shields.

METERING WHEEL SPROCKET AND CHAIN REPLACEMENT

1. Remove metering wheel for easier access to screws in chain guard.
2. Remove chain guard and chain.
3. Remove upper sprocket from shaft. DO NOT remove washer from behind sprocket.
4. Install new sprocket and attach to shaft. Be sure key and key-way are aligned so the key will not be pushed out of the shaft. Install new chain.
5. Install chain on lower sprocket and install chain cover and metering wheel.

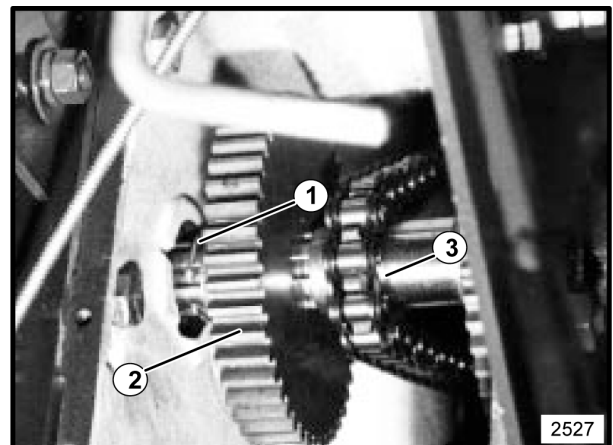


DOG WHEEL CHAIN REPLACEMENT

1. Disconnect metering wheel lever from metering wheel arm.
2. Remove the four screws securing the dog wheel assembly to cut-off case.
3. Remove the screw and washers securing the dog wheel.
4. Move dog wheel towards small sprocket to loosen chain for service.
5. Install new chain. Re-assemble dog wheel assembly and mount dog wheel assembly back onto the cut-off case.

WHEEL DRIVE CHAIN REPLACEMENT

1. Raise unit and place on adequate supports.
2. Remove cover from gear case. Rotate drive wheels until master link **3** is on top of upper sprocket.
3. Remove snap ring **1** from groove on shaft and slide gear **2** toward the outside of the unit.
4. Connect new chain to old chain with master link and rotate drive wheels until master link is back on top of upper sprocket. Remove old chain and connect new chain with a new master link.
5. Slide gear back into position and secure with snap ring.
6. Replace gear case cover.

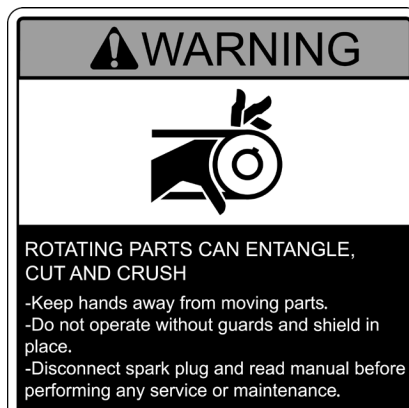


⚠ WARNING

When replacement parts are required, use genuine **Schiller Grounds Care, Inc.** parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or bystanders.

Carbon monoxide present in the exhaust is an odorless and deadly gas. Never start or run the engine inside where exhaust fumes can collect. Provide enough fresh air to keep fumes from getting too strong.

Replace any warning decal that becomes illegible immediately.



ROTATING PARTS:
Entanglement / Amputation Hazard
Do not operate with cover removed.
Stop engine before servicing.

ATTENTION:
-Read Operator Manual before servicing or repairing.
-Remove spark plug wire before servicing or repairing.

Use adequate lifting device (i.e., hoist, fork lift, etc.) to raise unit.

Use adequate supports when unit is raised for servicing.

Wear protective eye equipment when using hammers, chisels and punches.

DAILY MAINTENANCE

Operator Presence System

For the engine to run, the Operator Presence Lever must be held when the Master Clutch Control is engaged.

To Check:

1. Start the engine and run at 1/2 throttle with the master clutch disengaged.
2. Engage the master clutch holding the Operator Presence Lever. Release the operator presence lever and the engine should stop.

Repair the machine before using if the Operator Presence System does not kill the engine.

Blades:

Check for damage. Replace any broken, cracked or otherwise damaged blades. Do not weld or straighten blades. Replace or sharpen dull blades. See Sharpening instructions.

Hardware:

Tighten any nuts and bolts that are found loose. Replace any broken or missing cotter pins. Repair any other problems before operating.

Engine:

See engine manual for change intervals and oil specifications. See engine manual for air cleaner service intervals and service procedure.

Lubrication:

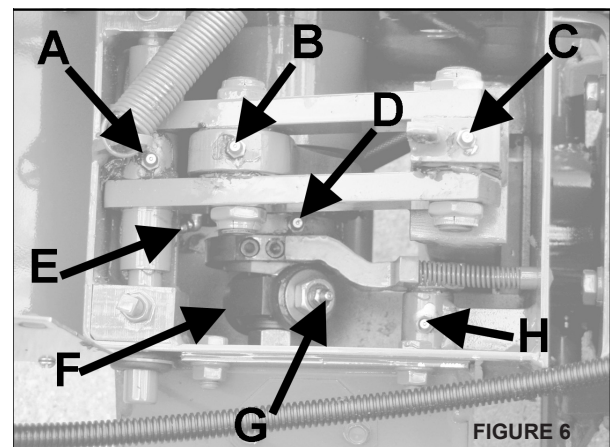
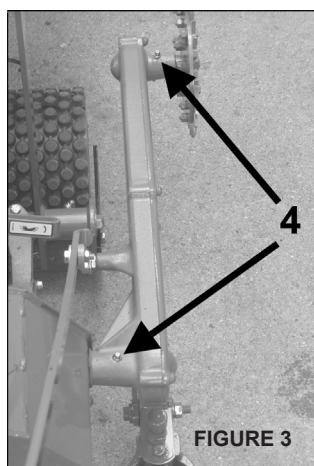
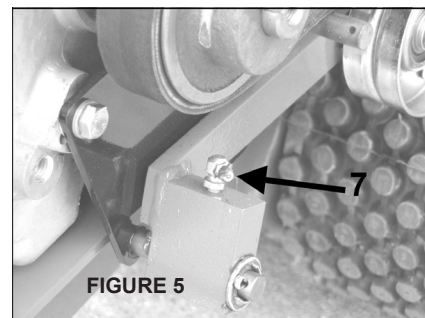
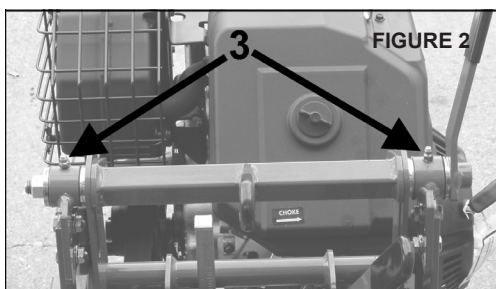
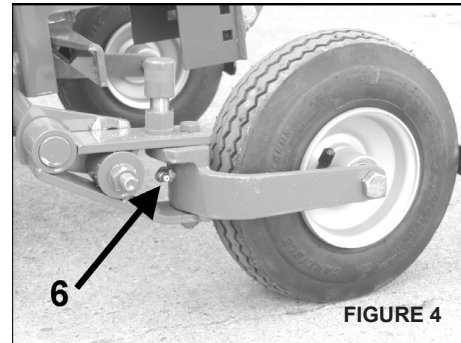
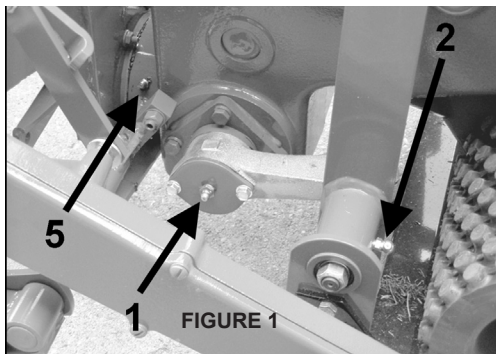
Grease Fittings:

The Heavy Duty Sodcutter has 16 grease fittings. Use a good grade of Lithium Based grease.

GREASE AS INDICATED BELOW:

Pitman arms (1 each side)	1.....	EVERY 4 HOURS OF USE (Figure 1)
Side arms (1 each side)	2.....	EVERY 4 HOURS OF USE (Figure 1)
Side arm pivots (1 each side-top of unit)	3.....	EVERY 8 HOURS OF USE (Figure 2)
Metering wheel shafts (2 points)	4.....	DAILY (Figure 3)
Rear axle pivot (1 point)	5.....	DAILY (Figure 1)
Rear wheel pivots (1 each side).....	6.....	DAILY (Figure 4)
Belt idler pivot (1 point)	7.....	DAILY (Figure 5)
Cut off mechanism(8 points)	A-H.....	DAILY (Figure 6)

Note: When lubricating the cut off mechanism, trip the cut-off by hand (turn the metering wheel by hand until the cut-off trips) and then turn the cut-off clutch drive by hand to rotate first the cam grease fitting **E**, and then the rear trunnion roller grease fitting **G** to where they can be accessed.



LUBRICATION CONT'D:

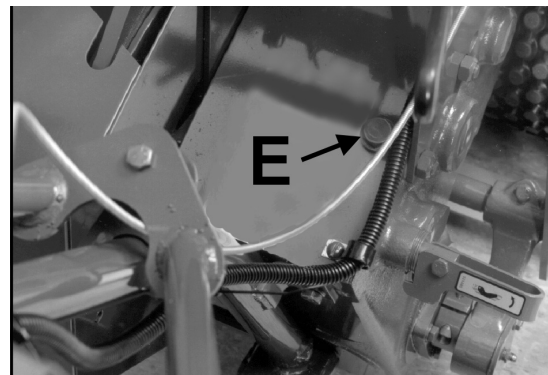
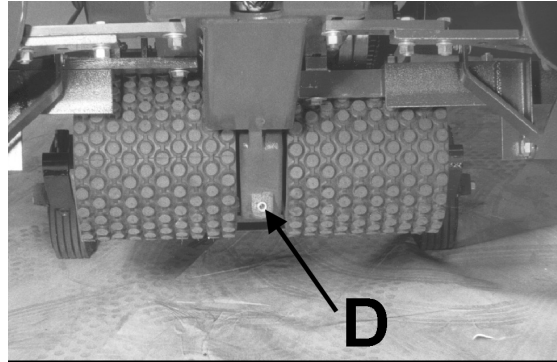
Gear Case:

The gear case is initially filled with 3 1/2 pints (1.7L) of EP 140 Gear Lube. Do not add to this amount unless the oil is changed or lost through leakage. Gear case drain plug **D**.

Check gear case lubricant level by removing one of the rear pitman bearing cap screws **E**. Add EP 140 gear lube through the pipe plug opening in the gear case cover until oil comes out of the pitman cap screw hole.

Drive Chain:

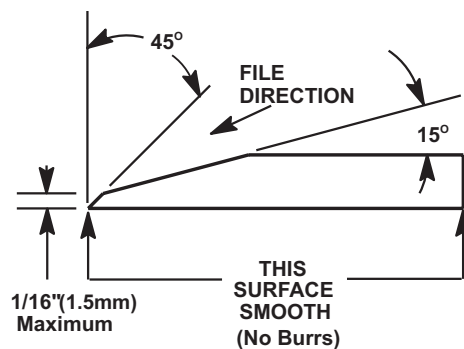
Oil every 25 hours.



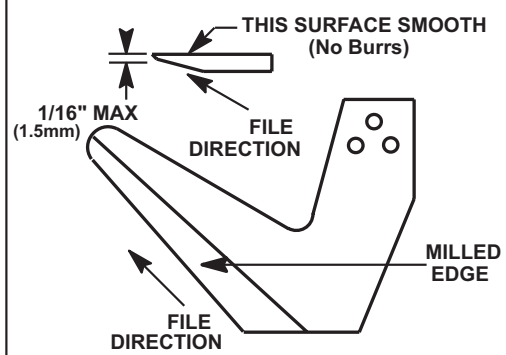
BLADE SHARPENING

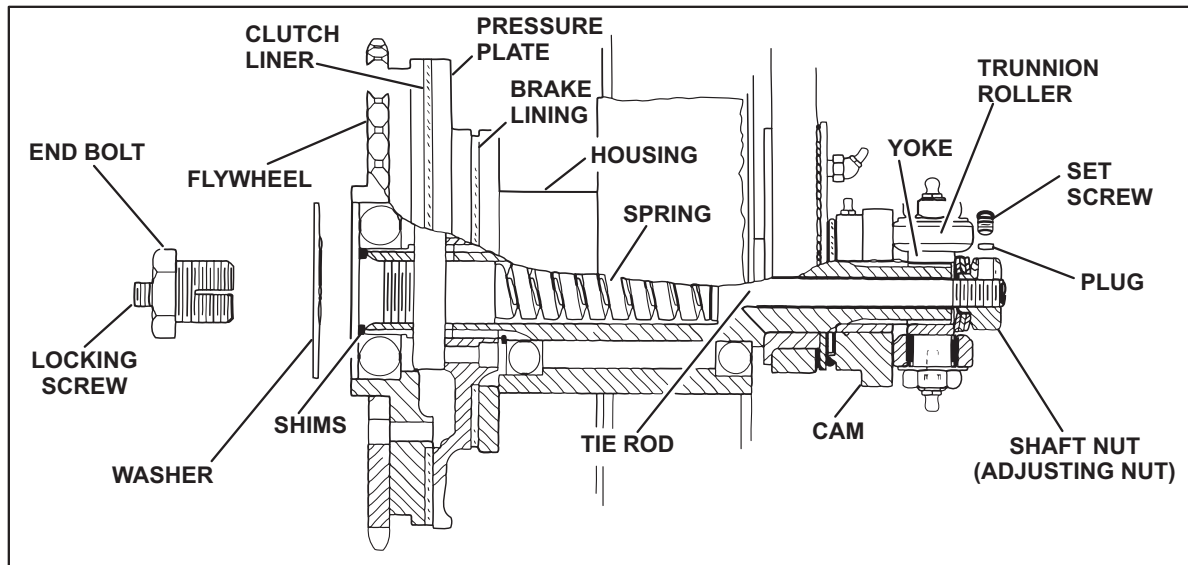
1. Hand file bottom blade at 45° angle until no flat remains.
2. To keep cutting edge less than 1/16" (1.5mm) on 45° angle, grind milled surface back at 15° to less than 1/16" (1.5mm).
3. Hand file side blades at 45° until no flat remains.
4. To keep cutting edge less than 1/16" (1.5mm) on 45° angle, grind milled surface back at 15° to less than 1/16" (1.5mm).

BOTTOM BLADE



SIDE BLADE





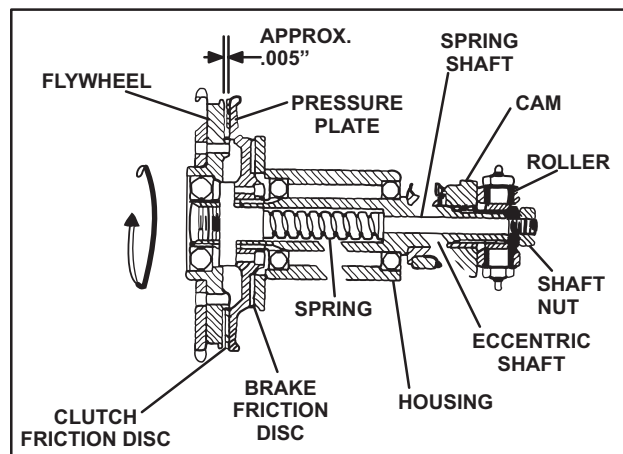
Cut Away View Of Automatic Cut-Off

CUT-OFF THEORY OF OPERATION PRESSURE PLATE

1. The cut-off Unit is a single revolution, self contained, friction clutch and brake unit.
2. A spring loaded pressure plate, with a horizontal friction clutch and brake unit single revolution, self-contained,
3. When the plate is pulled back (spring compressed) The braking friction disc makes contact with the stationary housing which stops the rotary movement of the plate.
4. When the plate is released (spring expanded) the clutch friction disc comes into contact with the revolving flywheel and rotates the plate is again pulled into its braking position.
5. As the pressure plate rotates through its single cycle, the connecting rod drives the cut-off blade in and out of the ground.

PRESSURE PLATE CONTROL

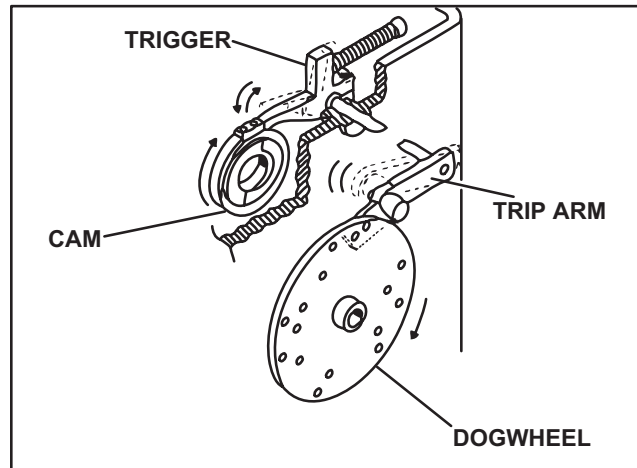
1. The control of the pressure plate is accomplished through the spring in the center of the clutch shaft and two rollers mounted on the cam end.
2. The rollers ride on an incline on the cam end, and when on the rise on the incline, pull the spring shaft (attached to the pressure plate) back against the spring into the braking position.
3. When the rollers are on the low spot of the incline, the spring forces the pressure plate against the flywheel.



Pressure Plate Operation

TRIGGERING

1. The triggering of the rotation cycle is accomplished through a dog wheel which is mounted on the right side of the clutch unit.
2. The dog wheel, which is chain driven by the metering wheel, trips the trigger which has locked the cam into the braking position.
3. A cycle begins with the trigger locking the cam, which places the rollers on the rise of the cam incline. (this has pulled the pressure plate into its braking position against the housing, and holds the connecting rod at the top of its stroke, which holds the cutting blade in the up position).
4. The metering wheel rotation, turns the dog wheel which lifts the trigger and releases the cam.
5. The cam rotates the pressure plate and eccentric shaft, to which the connecting rod is attached.
6. The down stroke of the connecting rod (attached to the cutting blade) produces the cutting stroke of the blade.



Trigger and Trip Arm

7. At the end of one revolution, the trigger slides into the notch of the cam locking it into position. The rollers are forced up the cam end incline, pulling the pressure plate into its braking position and locking the cutting blade in the up position.

AUTOMATIC CUT-OFF ADJUSTMENTS

1. If the cut-off is not operating properly, refer to the Trouble Shooting Guide and determine what problem is occurring. Use the following adjustments, as necessary, to correct the problem.



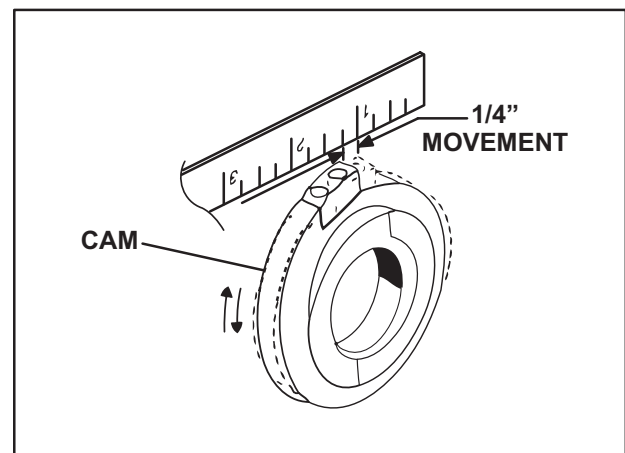
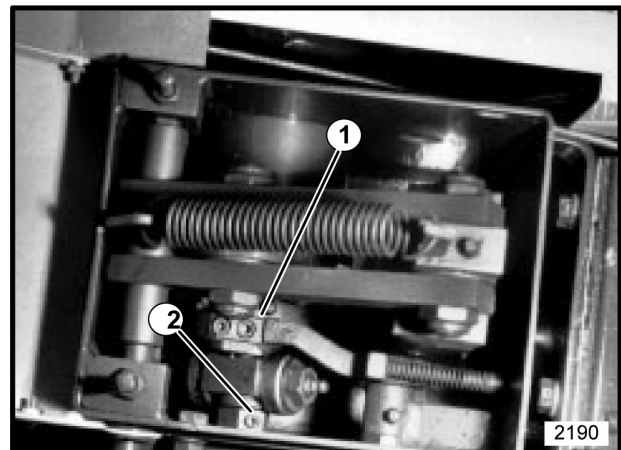
WARNING

When tripping the cut-off manually with the metering wheel, BE SURE to keep hands and feet away from ALL moving parts.

There may be tension on the cam stop and trigger. Slightly rock the cut-off flywheel to release the tension so the trigger can be lifted out of the way.

SHAFT NUT ADJUSTMENT

1. Be sure trunnion rollers are in the lowest position on the cam. This can be achieved by manually tripping the cut-off, by rotating the metering wheel by hand.
2. Remove set screws and brass plugs in the adjusting nut.
3. Lift the trigger so it does not interfere with the rocking movement of the cam. Adjust the nut enough to allow the cam to be rocked back and forth approximately 1/4" (6.4mm). Using a tape measure (or ruler) verify the 1/4" movement as shown in Figure 2. Be sure trigger does not interfere with cam stop.
4. Replace brass plugs, and tighten set screws. Run through a few cycles and recheck 1/4" (6.4mm) measurement. It may be necessary to loosen the set screws and readjust before final tightening.
5. Run sodcutter through a few cycles again and check for proper operation. Since the same problem or occurrence can be attributed to the shaft nut as well as the trigger, it is possible that an adjustment to the trigger may be needed.
6. When proper adjustment of the shaft nut has been completed and the problems still exists, continue with the trigger adjustment.

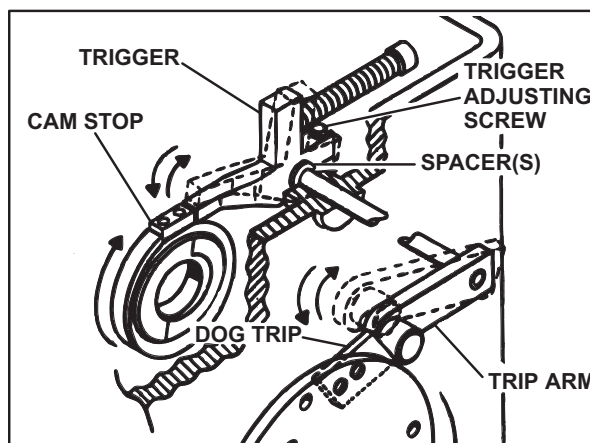


TRIGGER AND TRIP ARM ADJUSTMENT

1. Remove access cover on dog wheel assembly, and open access cover on cut-off unit.
2. If necessary, center trigger (side to side) on cam stop by adding .015" (.381mm) shims (P/N 516237) onto trigger shaft, between the case and trigger. Loosen set screw, and slide trigger off the shaft to allow installation of shims.
3. Trigger must ride squarely on cam surface when striking cam stop. If it does not, correct by loosening the set screw on trigger and press down on trigger until it rests on the cam. Check spring for proper tension.

NOTE: If the cam stop surface is not square, cam stop and trigger **MUST** be replaced.

4. With trigger against cam stop, the cam follower on trip arm should just touch the dog wheel.

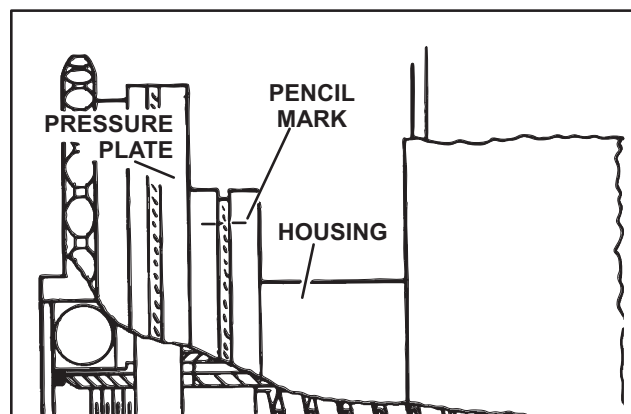


5. When all adjustments are made, re-tighten lock screw on trigger and run clutch through a few cycles. Determine if the clutch and brake system is working correctly, in not, additional adjustment will be required.

CHECKING BRAKE CLEARANCE

NOTE: As the clutch and brake liner become worn, the clearance between clutch liner and flywheel, and the brake lining and housing, will increase. If there is too much clearance, the brake will not hold tight enough and the rollers will run back down the slope of the cam. The pressure plate will then move back against the flywheel and cause extensive frictional wear and heat. Eventually the brake and clutch lining will need to be replaced. If the thickness of either liner measures less than .095" (2.4mm) it is advisable to install new liners.

1. Remove belt shield and cut-off blade for easier access to clutch assembly. With pressure plate in the locked position (ram is locked in to the "UP" position), draw a pencil mark across the housing and pressure plate.
2. With the engine running at half throttle or more (cut-off will not operate properly at low speeds) run the clutch through several cut-off cycles.
NOTE: Manually rotating the metering wheel will allow the dog to trip the cut-off allowing the clutch to operate. by loosening the set screw on trigger and press down on trigger until it rests on the cam. Check spring for proper tension.



3. After stopping at the end of each cycle, check the pencil mark on the pressure plate. If the mark has slipped back 1/8" (3.2mm) or more, the brake and clutch clearance will have to be adjusted. Refer to the following sections on "Disassembly and Assembly"

DISASSEMBLY OF CUT-OFF

NOTE: The following instructions will assist you in breaking down the cut-off assembly. These instructions are used to repair or replace a component within the cut-off assembly.



WARNING

When tripping the cut-off manually with the metering wheel, BE SURE to keep hands and feet away from ALL moving parts.

1. With engine stopped, manually trip the cut-off by rotating the metering wheel. Remove the cut-off blade and the dog wheel assembly from unit.
 2. From left side of cut-off, remove belt shield and loosen the locking screw **1** and end bolt **2**. (Figure 1) Remove cut-off drive chain and finish removing the locking screw and endbolt. Remove flywheel and clutch lining. If the ball bearing is worn, remove and replace.
 3. From the right side of the cut-off, remove set screws **1** and brass plugs from the adjusting nut **2**. Remove the adjusting nut **2**, washers **3**, yoke **4**, cam **5**, and thrust bearing. (Figure 2).
 4. Remove pressure plate, brake lining, spring and washer.
- NOTE:** If the tie rod is removed from the pressure plate, Loctite#290 or an equivalent must be applied to screw threads when reinstalling. Screws should be torqued to 8 ft-lbs (11 N·m) after reinstallation.
5. Remove springs from trigger and from cut-off ram assembly.
 6. Remove the two nuts **1** securing right side rocker arm. Slide rocker arm out until the arm can be turned back towards the rear of the unit. (Figure 3)
 7. Remove the two screws **1** hold the retainer on the connecting rod. Remove retainer, seal ring, and connecting rod **2**. (Figure 4)

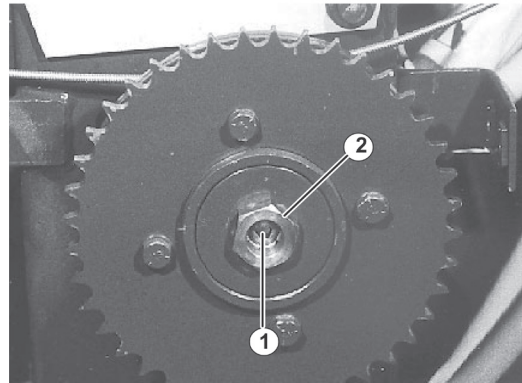


FIGURE 1

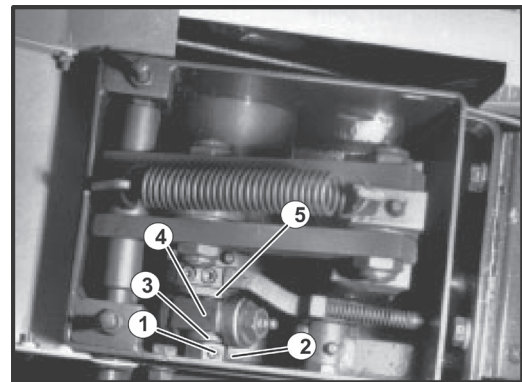


FIGURE 2

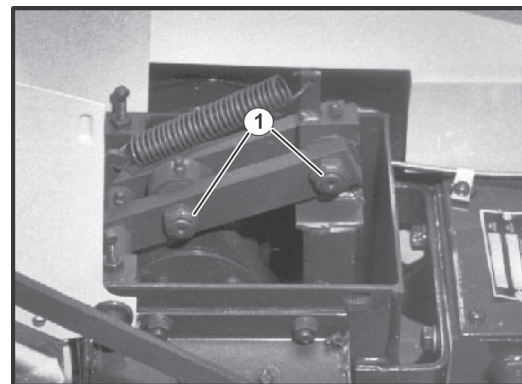


FIGURE 3

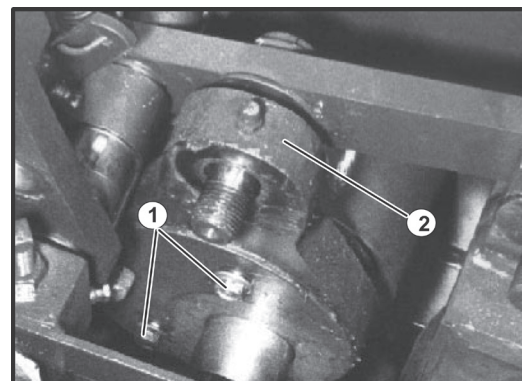


FIGURE 4

8. The eccentric is the next part on the shaft which may be removed from unit. DO NOT remove the eccentric unless wear is present..
9. Should the eccentric or the clutch shaft need replacing, remove the snap ring from shaft (left side of unit). and push shaft and eccentric out the right side of unit.
10. If the ball bearings in the housing are worn, it is advisable to replace them at this time.

NOTE: If the brass bushing **2** is removed from shaft, apply Loctite #209 or an equivalent to inside of bushing before installation.

If the eccentric is removed from the shaft, Loctite #209 or an equivalent, must be applied to the eccentric surface **1** and to the key on the shaft before reinstallation. After installation, apply more Loctite around the key surface still showing.

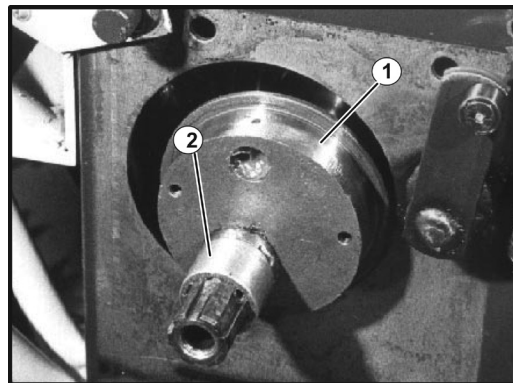


FIGURE 5

ASSEMBLY OF CUT-OFF

1. If the eccentric was removed, install from the right side of the unit, and push shaft with eccentric, into case and install snap ring.
2. Install the connecting rod, seal ring **1** (concave side toward the connecting rod) and retainer. (Figure 1)
3. Install the right side rocker arm and torque nuts to 100 ft-lbs (136 N·m). Be sure the key is in the shaft for the rocker arm.
4. Before installing the cam 3, remove the lubrication fitting and stretch "O" ring over cam 3. The "O" ring will be positioned later.
5. Install thrust washers **1** and thrust bearing **2** into cam and slide into place on shaft.

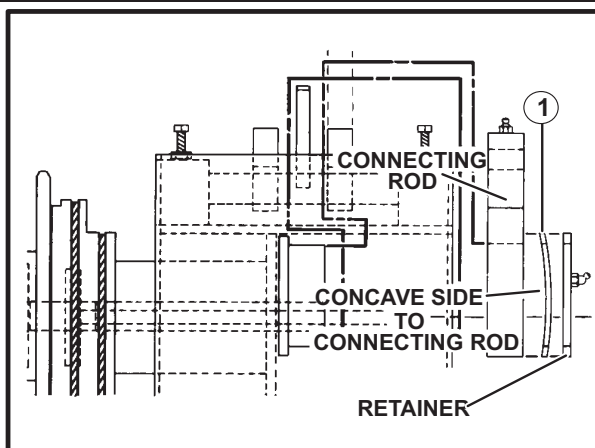


FIGURE 1

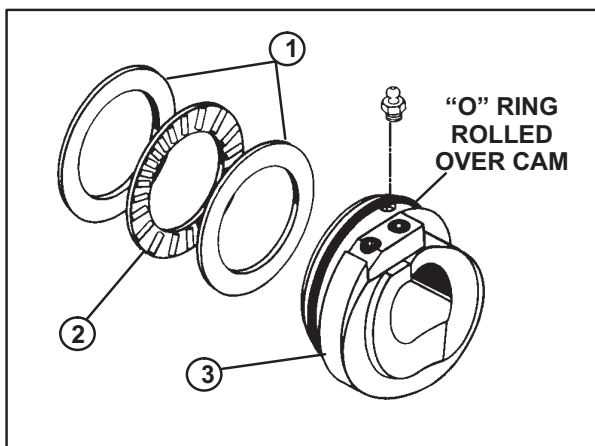


FIGURE 2

SPRING PRESSURE ADJUSTMENT

1. From left side of cut-off, install washers and spring on tie rod and pressure plate assembly (replace brake lining if needed). Check the length of the spring. The length of the spring must be $4" \pm .050"$ ($102\text{mm} \pm 3\text{mm}$).

NOTE: If the spring length is not $4" \pm .050"$ ($102\text{mm} \pm 3\text{mm}$) the spring MUST be replaced. DO NOT add washers or shims to make up the difference in the length of the spring.

2. Install assembly into cut-off case housing and push pressure plate (with tie rod) in shaft until the spring and spacer(s) are inserted as far as possible.
3. Measure the distance from the housing flange to the brake lining. This dimension should be $7/16" \pm 1/64"$ ($11.11\text{mm} \pm .395\text{mm}$). (Figure 1)
4. If spring length is correct and the measurement is not the $7/16"$ allowed, insert or remove the appropriate amount of the $.030"$ ($.762\text{mm}$) spacers (P/N 515200) to obtain the correct measurement.
5. On right side of unit, install trunnion roller assembly onto clutch shaft by aligning the timing marks ("O") 2. With the "O" on the trunnion roller 1 facing the cam, align the "O" on the roller with the "O" on the shaft 3. Slide assembly onto the clutch shaft (Figure 2).

NOTE: If the "O" on the shaft is not visible, align the "O" on the trunnion roller with the first groove to the right of the keyway on the shaft.

If the timing marks ("O") are not properly aligned, the cut-off will not operate properly. The timing on the cut-off revolution will not be correct and will cause premature and/or erratic cut-off.

6. Install the three spring washers 1 (with convex side facing the adjusting nut) onto the shaft (Figure 3).
7. With set screws and brass plugs removed from adjusting nut, install adjusting nut 2 onto connecting rod and tighten until pressure plate and brake lining are tight against housing.

8. Place the "O" ring into position over the thrust bearing and install the lubrication fitting.
9. On left side of cut-off, install clutch ling, (replace lining if necessary), flywheel and sprocket.

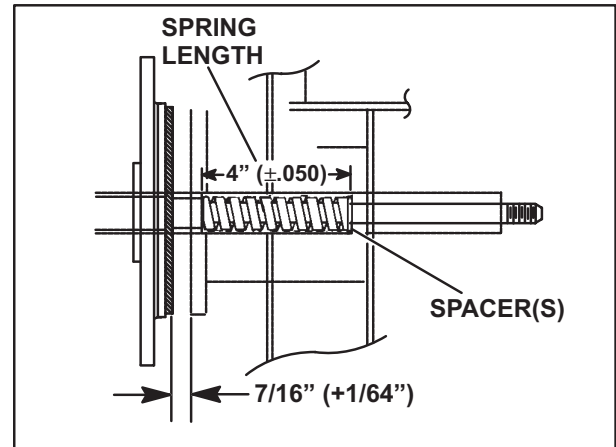


FIGURE 1

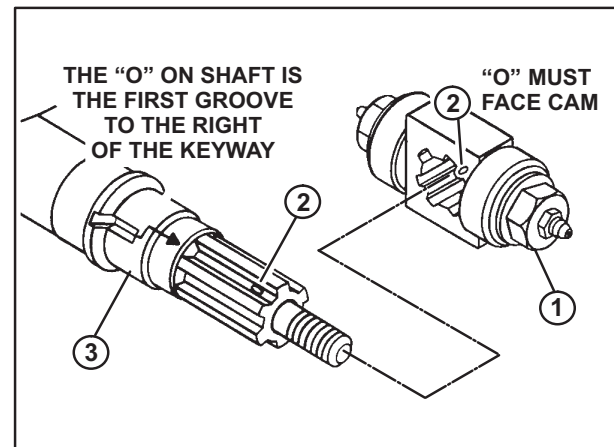


FIGURE 2

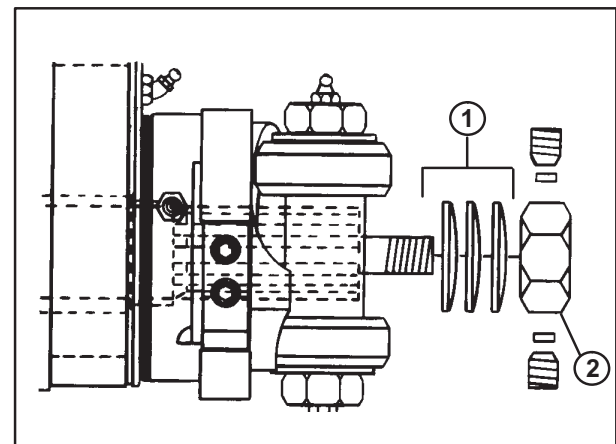


FIGURE 3

ADJUSTING PRESSURE PLATE CLEARANCE

1. Insert the locking screw partially into the end bolt, using a lithium based lubricant, or an anti-seize compound on the threads. Tighten the screw until hand tight.

NOTE: If locking screw is not into the end bolt far enough, the end bolt threads will strip when shimming flywheel.

2. Install end bolt (with locking screw inserted), washer and shim pack, placing the thicker shims onto the outside of the end bolt.
3. Tighten end bolt and torque to 75 ft-lbs (102 N·m). Tighten locking screw.
4. Using a feeler gauge, measure the distance between flywheel and clutch lining to determine how many shims to remove to obtain .005" (.127 mm) clearance. (Figure 1)

NOTE: The measurement of .005" may vary in places around the pressure plate. Some places may read .006" and some may read higher. As long as the narrowest measurement is .005", installation will be correct.

5. If adjustment is necessary, loosen the lock screw **1** in the end bolt **2**, and remove end bolt **2**, washer **3** and shim pack **4**. (Figure 2)
6. Remove shims as required to obtain the required .005" (.127mm) between the clutch liner and flywheel. When replacing shim pack to cut-off, place a .015" (.381mm) shim to the outside of the shim pack.
7. After required shim(s) is (are) removed, assemble in reverse order of removal. Insert the locking screw partially into the end bolt using a lithium based lubricant or anti-seize compound on the threads. Tighten screw until hand tight. If the lock screw is not started into the end bolt properly, the end bolt may strip the threads when being installed.
8. Tighten end bolt and torque to 75 ft-lbs (101.7N·m). Tighten locking screw.

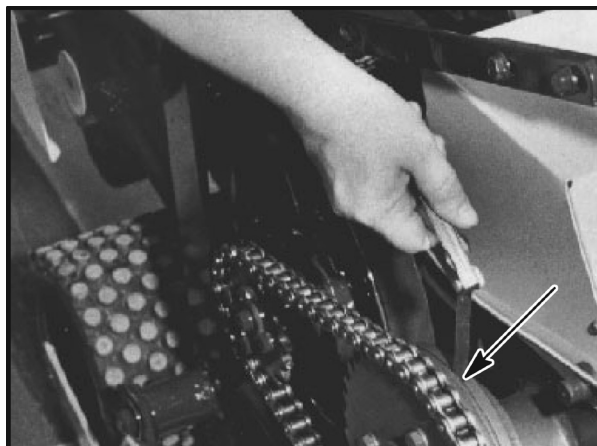


FIGURE 1

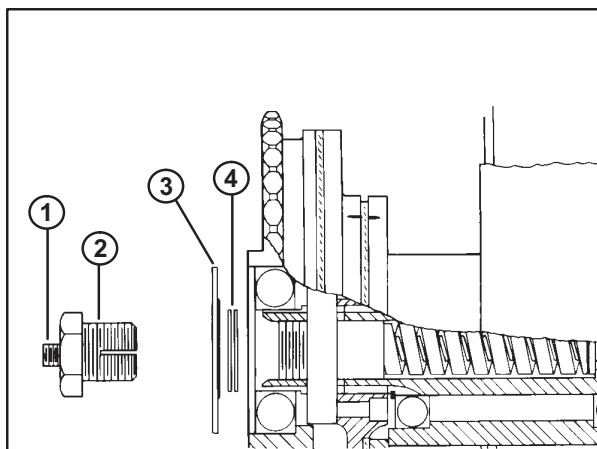


FIGURE 2

HEAVY DUTY SOD CUTTER

ADJUSTING PRESSURE PLATE CLEARANCE

9. From the right side of the unit, loosen the adjusting nut until the cam can be rocked back and forth approximately 1/4" (6.4mm). Be sure to raise the trigger to ensure complete movement. Trigger must NOT interfere with cam stop. (Figure 3)
10. Install brass plugs and set screws into adjusting nut and tighten set screws. Re-check the 1/4" (6.4mm) rocking dimension. If necessary, loosen the set screws, re-adjust nut, and re-tighten set screws.
11. After cam movement is adjusted properly, install the trigger spring, cut-off ram springs, dog wheel assembly and chain guards.
12. Lubricate all fittings in the cut-off before operating unit.

13. After assembly, refer to "Checking Brake Clearance" and follow instructions accordingly.

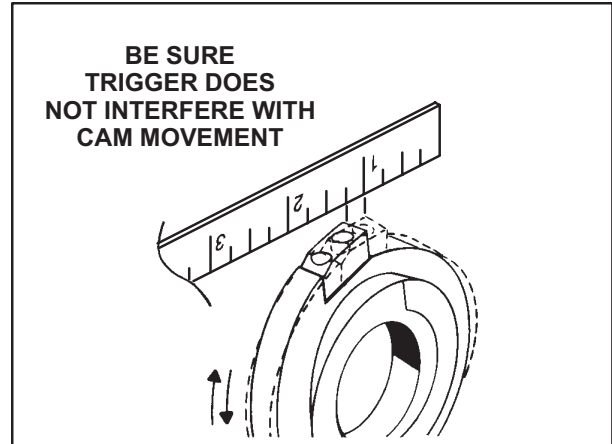


FIGURE 3

GEAR REPLACEMENT

1. Remove drain plug from front of gear case and drain gear case. Remove gear case cover. (Figure 1)
2. Remove belt shield and belt (if unit has cut-off, remove cut-off chain and dog wheel assembly).
3. Remove screw, lockwasher, and flatwasher from end of belt pulley (if unit has cut-off, remove the chain sprocket bolted to the belt pulley).

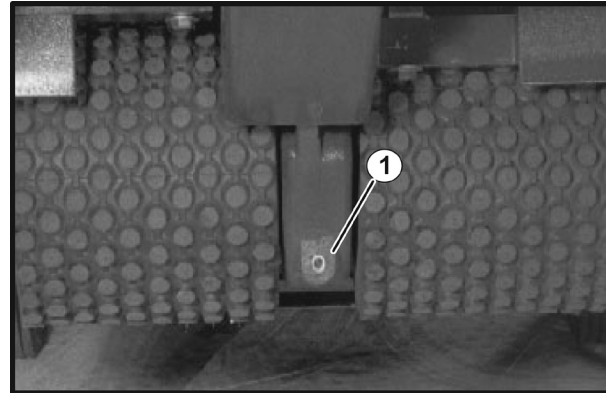


FIGURE 1

GEAR SHAFT LOCATIONS: (Figure 2)

1. Drive wheel Chain Sprocket Shaft
2. Gear and Upper Chain Sprocket Shaft
3. Sliding Gear Shaft
4. Pulley Shaft
5. Idler Gear Shaft
6. Drive Gear Shaft

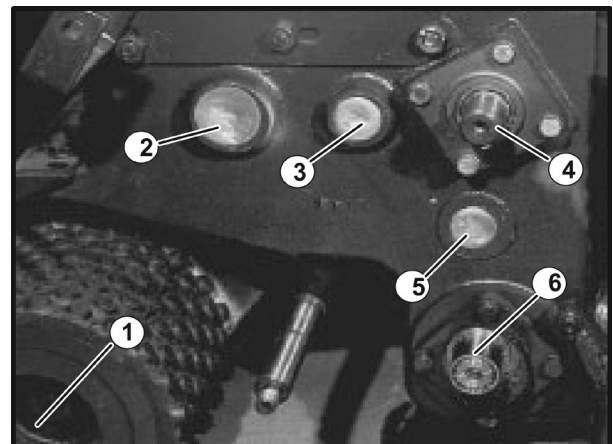


FIGURE 2

GEAR REPLACEMENT -CONT.

4. Remove the four screws securing the hub to pulley. Insert two screws into the threaded holes on hub and tighten against the pulley. Tap pulley with a soft hammer (rubber, lead, or brass) and continue turning the screws approximately 1/2 turn each time. Alternate screws until hub is free from pulley and remove pulley from shaft. (Figure 3).
5. Remove the four screws securing the bearing cage. Remove bearing cage and pulley shaft out of gear case (removing the blade drive gears as shaft is pulled out). (Figure 4)
6. Remove the plug covering the idler shaft from right side of unit.
7. Using a hammer and punch, drive idler shaft out the left side of unit and remove idler gear and bushings.

NOTE: DO NOT drive idler shaft out the right side of unit or damage to gear case may occur. When reassembling idler shaft, be sure bushings on shaft are installed correctly. (Figure 5)

8. Remove sodcutting blade from unit.
9. Remove side arm from one side of unit. Remove the two screws securing the top of side arm assembly and remove the nut securing side arm on lower shaft.

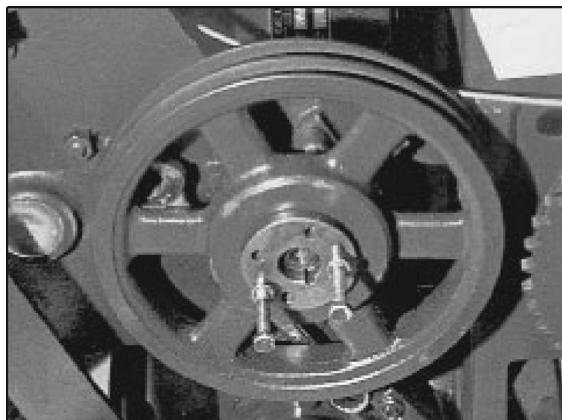


FIGURE 3

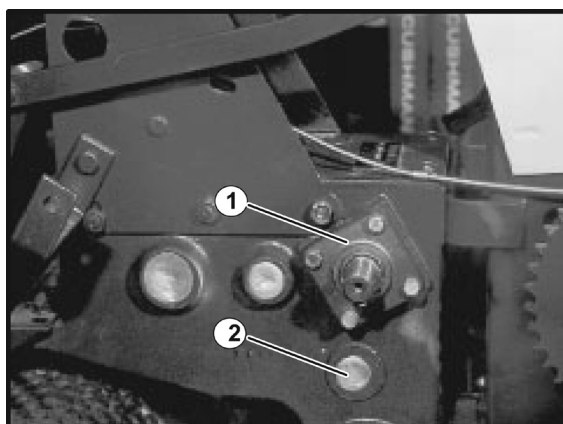


FIGURE 4

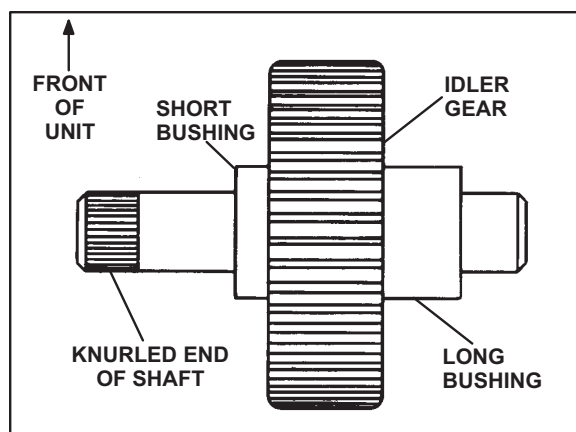


FIGURE 5

10. Loosen the clamp screw on the pitman arm **1** and the clamp screw on eccentric assembly **2**. Remove from shafts. (Figure 6)
11. Remove the two top screws securing the other side arm. Remove side arm, shaft, and pitman arm by pulling side arm out.
12. Remove eccentric. Remove bearing cage **3** from the left and right sides of unit (put a pan under rear portion of gear case to catch excess oil from the case cavities).
13. Using a soft hammer and punch, drive the drive shaft out the right side of the unit. Remove gear with counter-weights by rotating and lifting gear out through cover opening.
14. Remove the counter-weights on gear (remove set screws to remove counter-weights).
15. Install new gear.
16. When installing counter-weights to new gear, apply Loctite#290 or an equivalent to threads of set screws prior to assembly. Torque screws to 25 ft-klbs (34 N·m).
17. When installing gear onto shaft, keyways on the shaft must be centered between mounting holes of counter-weights to ensure proper timing. (Figure 7)

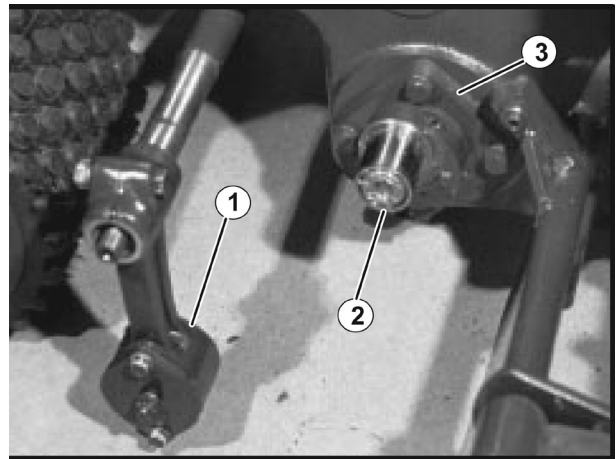


FIGURE 6

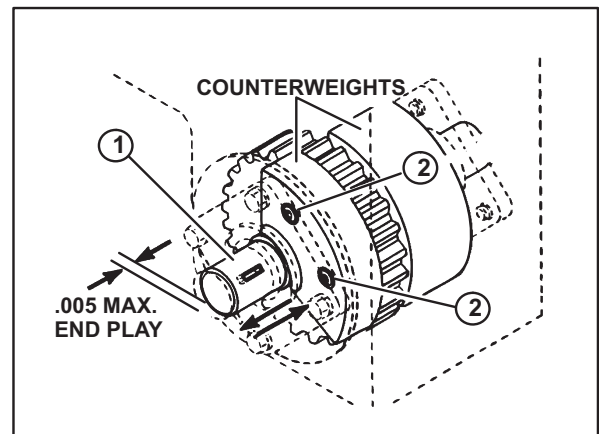


FIGURE 7

18. Re-assemble in reverse procedure using new seals and gaskets.
19. After installation of the drive gear and shaft, check the end play on the shaft. End play cannot exceed .005" (.13mm). If adjustment is required, add or remove shims (behind bearing cage) to obtain correct measurement. Be sure to keep an equal amount of shims on each side of shaft.
20. After installation of pulley shaft, check for proper clearance between dog clutch faces. With the blade shifter handle "Engaged", measure between the dog clutch faces. Remove or add shims to obtain .015" (39 mm) clearance (Figure 8)
21. Check gear adjustment screw for proper adjustment. To adjust screw, loosen locking nut and tighten screw against gear. Torque screw to 10 ft-lbs (14 N·m).
22. Back adjusting screw out until 1/16" (1.59mm) is obtained between screw and gear. (Figure 9)
23. Tighten locking screw.

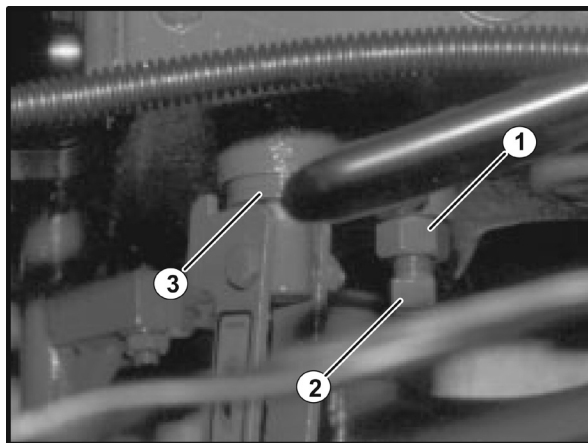


FIGURE 8

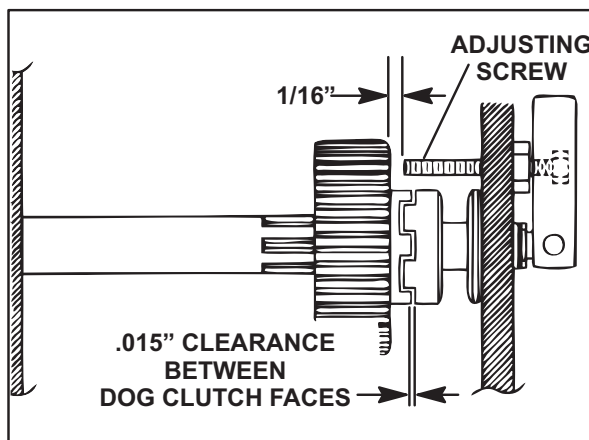


FIGURE 9

SLIDING GEAR

1. Remove gear case cover.
2. Remove belt shield and belt (if unit has cut-off, remove cut-off chain and dog wheel assembly).
3. Remove screw, lockwasher, and flatwasher from end of belt pulley (if unit has cut-off, remove cut-off sprocket bolted to the belt pulley).
4. Remove the four screws securing the hub to pulley. Insert two screws into the threaded holes on hub and tighten against the pulley. Tap pulley with a soft hammer (rubber, lead, or brass) and continue turning the screws approximately 1/2 turn each time. Alternate screws until hub is free from pulley and remove pulley from shaft.
5. Remove the four screws securing the bearing cage. Pull bearing cage and pulley shaft out of case, removing blade drive gears as shaft is pulled out.
6. Remove plugs from both sides of gear case to expose sliding gearshaft ends.
7. Remove large snap ring holding bearing in gear case.
8. Drive the shaft out the right side until the large gear can be removed. Remove large gear, spacer and snap ring.
9. Remove shaft and sliding gear will come off as shaft is removed.
10. Install new gear and assemble in reverse order.

GEAR AND UPPER CHAIN SPROCKET

1. Remove gear case cover.
2. Remove belt shield and belt from unit.
3. Remove the two top screws on both side arms and turn towards rear of unit for easier access to shaft ends.
4. Remove plugs from each side of case and remove the large snap ring securing the bearing to gear case on the left side of unit.
5. Expand snap ring inside of case, over the shaft and move gear over for easier access to master link.
6. Remove master link and lay chain of bottom of gear case (chain does not have to be removed from drive wheel sprocket.)
7. Drive shaft out the left side of unit, releasing gears, chain sprocket and spacers.
8. Install new gear and assemble in reverse order.

DRIVE WHEEL CHAIN SPROCKET

1. Drain gear case oil and remove gear case cover.
2. Remove belt shield and belt from unit.
3. Remove the two top screws on both side arms and lean them towards rear of unit for easier access to shaft ends.
4. Remove plugs from each side of gear case and remove the large snap ring securing the bearing to gear case on the left side of unit.
5. Expand snap ring inside of case, over the shaft and move gear over for easier access to master link.
6. Remove master link and lay chain of bottom of gear case (chain does not have to be removed from drive wheel sprocket.)
7. Drive shaft out the left side of unit, releasing gears, chain sprocket and spacers.
8. Use adequate jack stands and raise unit so drive wheels are off the floor and support. Remove both drive wheels and axle keys.
9. Remove seal in case and remove the snap ring holding bearing to case.
10. Install axle nut on end of shaft (opposite the side the snap ring was removed from).
11. Using a soft hammer (lead, rubber, or brass) drive shaft out of case. Remove sprocket by lifting up on chain.
12. Check top sprocket and chain for wear and replace as necessary.
13. Re-assemble in reverse order using new seals and gaskets.

STORAGE INSTRUCTIONS

WARNING

To prevent possible explosion or ignition of vaporized fuel, do not store equipment with fuel in tank or carburetor in enclosure with open flame (for example, a furnace or water heater pilot light).

Daily Storage

1. Check engine oil level and air filter element daily.
2. Check oil level in gear case.
3. Close fuel valve at bottom of fuel tank.
4. Clean cutting blade (grass, dirt, etc.).

EXTENDED STORAGE

Before the equipment is put into storage for any period exceeding 30 days:

1. Drain all fuel from fuel tank and lines (use a hose or fuel line, routed from fuel tank shut-off to proper container).
2. Start engine and run until all fuel is used from the carburetor float bowl.
3. While engine is warm, drain the crankcase oil and refill with the proper weight of oil corresponding to the season when the equipment will next be used.
4. Remove the spark plug and squirt a small quantity of engine oil into the cylinder. Turn the engine over a few times to distribute the oil.
5. Lubricate all lubrication fittings.
6. Clean and oil cutting blade to prevent rust.

To put equipment into operation after an extended storage:

1. Fill fuel tank with clean fresh fuel.
2. Check crankcase oil level, and start engine.
3. Check fuel system for fuel leaks.

TROUBLE SHOOTING SOD CUTTER		
PROBLEM	CAUSE	SOLUTION
Blade will not stay in ground.	a. Bottom of blade is probably rounded off. b. Blade angle is not properly set.	a. Sharpened or replace blade. b. In hard ground, the angle of cut should be slightly downward (pivot "A" frame forward).
Roots clogging blade on side or bottom.	Some types of turf and soil make this a problem.	Keep the blade extra sharp, and ground back at a low angle.
Belts jump off	a. Wrong type of belts. b. Too much slack when belt tightener is disengaged.	a. Use <i>only</i> the special banded factory belt. b. Slide engine forward and readjust control rod.
Locking levers not tight when pulled to limit of travel.	Thread wear on locking nut.	Tighten locking nut on opposite end of tie rod.
Belts grab in pulleys and unit creeps when clutch is NOT engaged.	a. Belts are old and frayed, or are not the type sent out with unit. b. Rust or paint in pulley grooves. c. Engine set too far forward.	a. These belts should be replaced with factory stock, anti-friction belts, designed for belt tightener clutches. b. Clean and polish pulleys. c. Move engine back.

Refer to instructions for set-up, operation and service to properly install or correct any problems stated in the above chart.

TROUBLE SHOOTING AUTOMATIC CUT-OFF		
PROBLEM	CAUSE	SOLUTION
No cutting	a. Shaft nut on cam end is too tight. b. Foreign material between rollers and cam surface. c. Metering wheel slipping or not turning.	a. Adjust shaft nut. b. Clean rollers and cam. c. Check bearing for free rotation, or broken chain.
Continuous cutting or double tripping.	a. Shaft nut on cam end too loose. b. Trigger out of adjustment, loose or broken. c. Broken or badly worn rollers or bearings. d. Weak trigger spring. e. Worn trigger end or cam stop. f. Trigger binding in housing. g. Trigger and cam stop not in line.	a. Adjust shaft nut. b. Adjust, tighten, or replace. c. Repair or replace as necessary. d. Stretch or replace spring. e. Grind square in emergency, replace as soon as possible. f. Remove and repair. g. Shim trigger for correct alignment.
Incomplete cut-off.	a. Dull blade. b. Improperly sharpened blade. c. Shaft nut improperly adjusted. d. Weak pressure on plate spring. e. Unit setting too high. f. Clutch overheating. g. Loose belts.	a. Sharpen blade. b. Resharpen blade. c. Adjust shaft nut. d. Replace spring. e. Adjust dual wheel height. f. Adjust pressure plate clearance. g. Secure with proper tension.
Clutch slips and/or overheats	a. Shaft not properly adjusted. b. Weak spring or improper shimming. c. Improper pressure plate clearance. d. Clutch linings glazed.	a. Adjust shaft nut. b. Replace spring or re-shim. c. Adjust pressure plate clearance. d. Roughen surface or replace.
Length of cut varies.	Trigger friction too great.	Lubricate end of trigger and shaft.

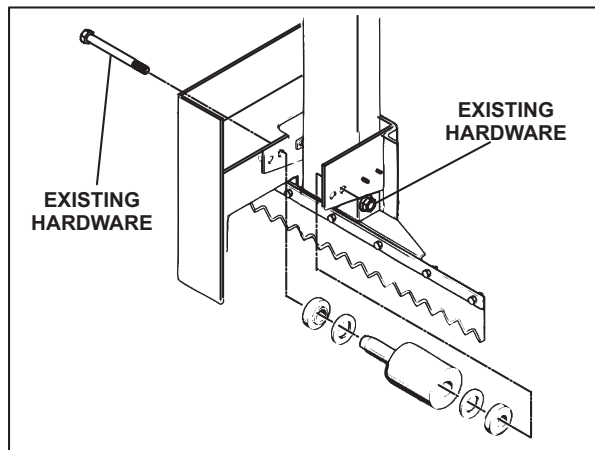
Refer to instructions for set-up, operation and service to properly install or correct any problems stated in the above chart.

ROLLING RAM ACCESSORY: P/N 545395

For conversion of Walking Ram to Rolling Ram, two accessories need to be used. Accessory part number 545395 Rolling Ram, MUST BE used with Accessory part number 545505 Sulky Roller.

This accessory allows the cut-off blade to pull the edge of the sod up, creating a lip for the Sulky Roller to catch on. This lets the primary rack grab the edge of the sod and begin the rolling process.

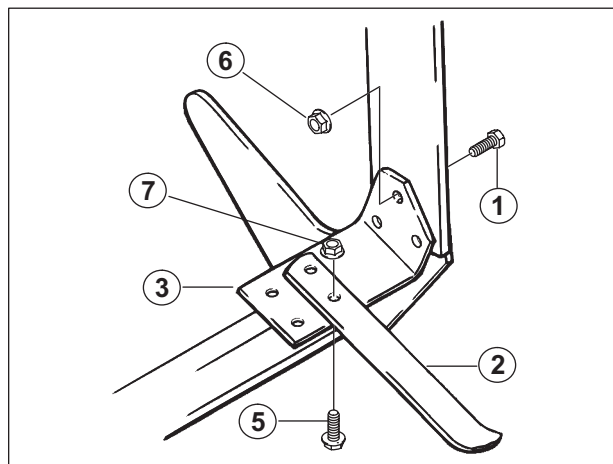
PART NUMBER	DESCRIPTION	QTY
521481	SEAL, FELT	2
521482	WASHER, THRUST	2
521483	PIN, ROLLER	1
521484	ROLLER	1



SOD HOLD-DOWN SKID: P/N 545637

Under certain (extremely dry) conditions, the sod will have a tendency to buckle up directly behind the cutting blade. The hold-downs mount between the side arms to prevent this.

PART NO.	DESCRIPTION	QTY
1 515011	SCREW, 5/16-24X1	6
2 520176	FINGER, SOD	2
3 520177	BRACKET, RH	1
4* 520178	BRACKET, LH	1
5 64139-04	BLT-WLF 1/4-20 X 3/4	4
6 64141-1	NUT-WLF 5/16-24	6
7 64141-2	NUT, 1/4-20 FLGLOCK	4



*NOT ILLUSTRATED

HEAVY DUTY SOD CUTTER

SPECIFICATIONS

Models: 544853F.....HD Sodcutter - 16 in.
544854F.....HD Sodcutter - 18 in.

Engine:

Model.....4 cycle 11H.P. Kohler, Model CH401T,
CH410-0010, 24.3 cu. in. (398 cc)

Starter..... Recoil
Governor..... 3600 RPM + 100 RPM, no load
Clutch..... spring loaded belt tightener type

Reduction

Engine to blade..... 2.50:1
Engine to drive wheels..... High 29.1:1
Low 36.2:1
Engine to Auto Cut-off..... 4.82:1

Wheels:

Drive..... 8" (203 mm) Dia. w/knobby
tread vulcanized to hub
Rear..... 2 x 2.80-4 pneumatic tires
with pre-packed ball bearings

Drive:

Engine to gear case.....Two banded A-section
belts from engine to gear case.
Ten-pitch gears and #50 roller chain
running in oil, in gear case to drive wheels.

Gear case:

Lubrication..... EP140 Gear lube
Capacity..... 3 1/2 Pints (1.7L)

Axles..... Drive Wheel; splined 1 3/4"
(44.5 mm) diameter mounted
in ball bearings.
Rear; center pivot rocking

Chasis.....One-piece cast iron gear
case

Blades..... High Carbon Steel
Hardened and Sharpened

Blade pitch:

Hand lever adjustment..... variable 0° to 9°

Blade speed:

1280 oscillations/min @ 3200 engine RPM

Cutting width:

544853F..... 16" (30.5 cm)
544854F..... 18" (45.7cm)

Cutting Thickness..... Precisely adjustable
to 2 1/2" (63.5)

Cutting Speed @ 3200 RPM....Low Gear: 145 ft/min
(56.3M/min)
High Gear: 231 ft/min
(70.5M/min)

Cut-Off drive..... Adjustable: 1 ft. to 9 ft.
(305mm to 2.7M)

Rolling Racks.. Adjustable to various sod lengths
6 ft.(1,829mm) to 9 ft.(2,743mm)

Dimensions:

Width..... 31" (787 mm)
Length..... 74" (1880 mm)
Height..... 42" (1067 mm)
Wheelbase..... 24" (610 mm)
Wheelbase with Sully..... 60 3/4" (1238 mm)

Weight:

544853F..... 534 lbs. (242 Kg)
544854F..... 563 lbs. (588 Kg)

TOUCH -UP PAINT:

16OZ. (0.5L) Spray can, order P/N 65334

STANDARDS:

NOISE:

Noise in the Environment Directive 2000/14/EC
Guaranteed Sound Power Level111dB(A)
Assessment ProcedureAnnex V

Machinery Directive 98/37/EC

Ear Operator (Sound Pressure) 95.1dB(A)

VIBRATION:

The machine was tested for hand/harm vibration.
The operator was in the normal operating position
with both hands on the hand grips. The engine was
running at maximum speed and the cutting mecha-
nism was operating with the machine stationary.
Measurement per **ISO5349-1-2001**.

744853F

Hand /Arm Acceleration: **18.0m/s²**
Max of right left vector sum of X, Y, and Z values

744854F

Hand /Arm Acceleration: **22.5m/s²**
Max of right left vector sum of X, Y, and Z values

EMC Directive 89/336/EEC

PARTS SECTION

FIGURE 1

HEAVY DUTY SOD CUTTER



HEAVY DUTY SOD CUTTER

CUT-OFF CLUTCH

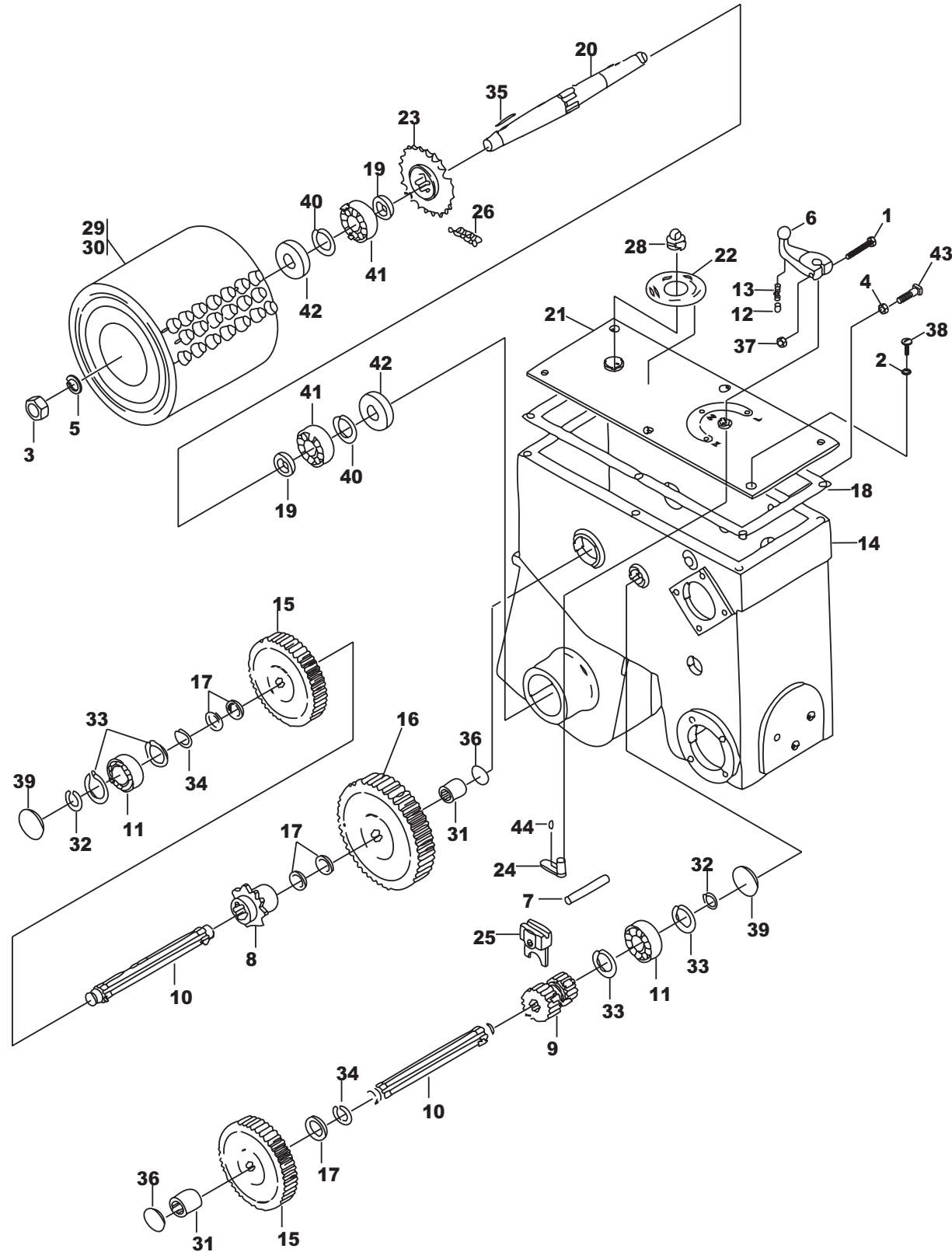
FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64006-03	WASHER, 3/8 HELICAL LCK	4				
2	64001-3	NUT, 1/2-20 HEX JAM	2				
3	306539	SCRW,.38-16.875 HX G5	4				
4	64164-28	KEY-#808 WOODRUFF	1				
5	641989-16	BLT-HEX EOC 1/4 - 20 X 1	2				
(APPLY LOCKTITE #290 OR EQUIVALENT TO THREADS PRIOR TO ASSEMBLY)							
6	316924	SCRW,.25-28.38 BS HS G8	2				
7	322494	O-RING,2.05.103 BUNA-N 70	1				
8	515200	WSHR,.47.97.03 YS FLAT	2				
9	516262	PLUG	2				
10	516333	DISC	1				
11	516338	SPROCKET	1				
12	516343	WASHER, SPECIAL	1				
13	518528	SPRING-PRESSURE PLATE	1				
14	519904	LINER	1				
15	520229	BEARING-THRUST	1				
16	520231	WASHER-THRUST	2				
17	521316	BOLT-SPECIAL	1				
18	521477	SHIM, .015 (.381mm)	5				
19	521478	SHIM, .005 (.127mm)	6				
20	521480	RING-SEAL	1				
21	521485	NUT-ADJUSTING	1				
22	521486	BUSHING-CAM	1				
23	521487	STOP-CAM	1				
24	521490	ROLLER-CAM	2				
25	521491	WASHER-THRUST	2				
26	521495	RETAINER	1				
27	521497	CAM	1				
28	521498	ECCENTRIC	1				
(APPLY LOCKTITE #290 OR EQUIVALENT TO THREADS PRIOR TO ASSEMBLY)							
29	521499	ROD-CONNECTING	1				
30	521500	TRUNNION	1				
31	521501	SHAFT-CLUTCH	1				
32	521508	FLYWHEEL	1				
33	521509	PLATE-PRESSURE	1				
34	521511	WASHER-BELLEVILLE	3				
35	545358	TIE ROD, COMPLETE	1				
36	548111	BEARING-BALL	2				
37	548112	BEARING-BALL	1				
38	548115	BEARING-NEEDLE	2				
39	548209	SET SCREW, 5/16-24x5/16	2				
40	85010N	ZERK-1/4-28 STR S-TAP	2				
41	548225	FITTING-LUBE, 1/4-28, 45	2				
42	548350	RING-LOCK	1				
43	64139-02	BLT-WLF 1/4-20X1/2	2				
44	800433	PLUG, 3/8-18 NPT	1				

GEAR CASE

FIGURE 2

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

GEAR CASE

FIGURE 2

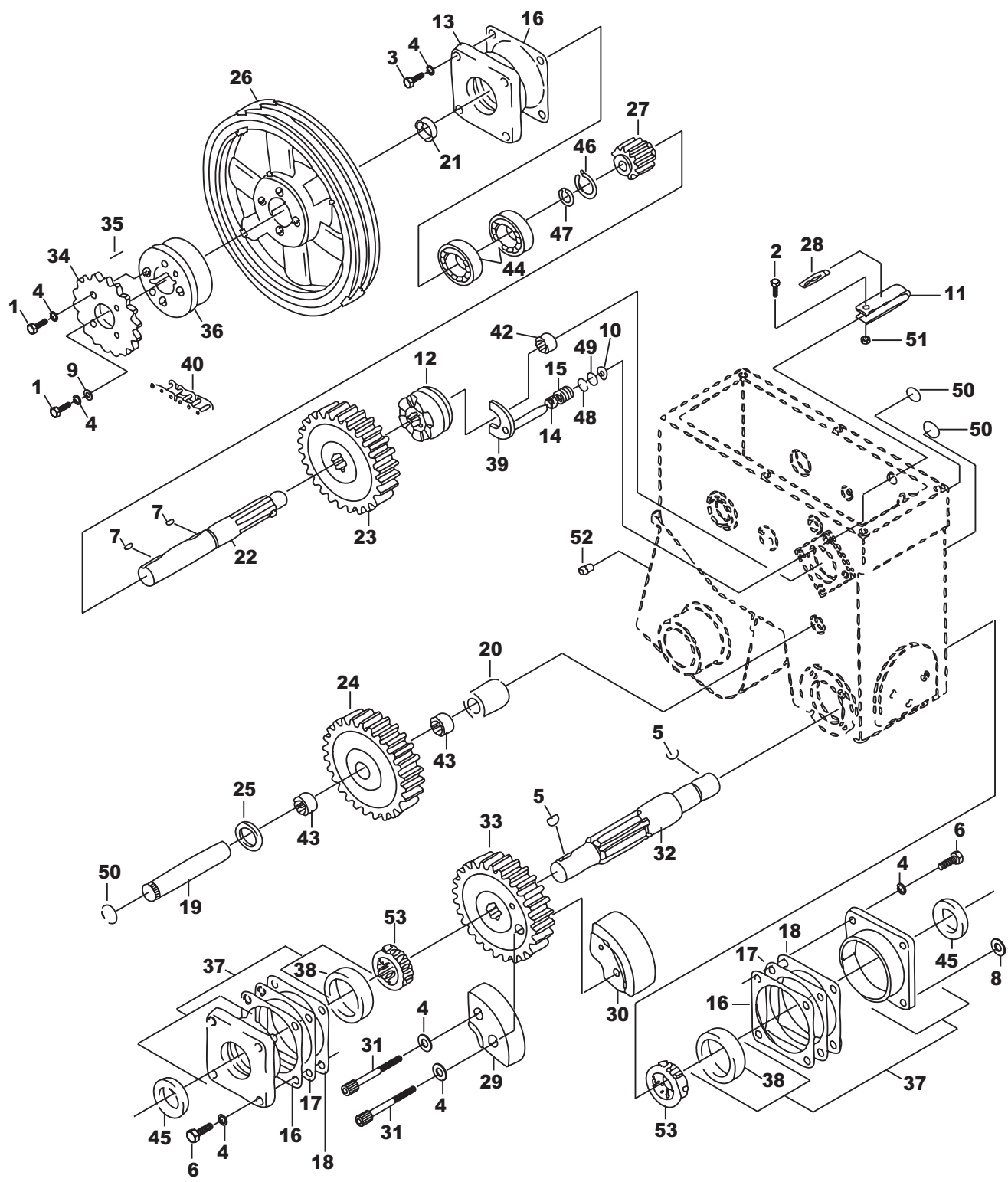
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64123-80	BLT-HEX 1/4-20X1-1/4	1				
2	64006-01	LOCKWASHER-1/4 HELICAL	6				
3	307665	NUT,.75-16 YS HX JAM	2				
4	64025-19	NUT-1/2-13 HEX	1				
5	309799	LWSHR,.75 ZS SHKPRF EXT	2				
6	515607	SHIFTER LEVER	1				
7	515618	SHAFT	1				
8	515638	SPROCKET	1				
9	515639	GEAR	1				
10	515640	SHAFT	2				
11	812009	BRG,BALL.67 1.57.47 "OP"	2				
12	516158	PIN (PLATED)	1				
13	518453	SPRING	1				
14	520598	GEARCASE	1				
15	520600	GEAR,45T X 4.70 O.D.	2				
16	520601	GEAR, 48T X 5.00 O.D.	1				
17	520621	SPACER	5				
18	520688	GASKET	1				
19	520722	SPACER	2				
20	520723	SHAFT	1				
21	521222	COVER-GEARCASE	1				
22	524539	DECAL,GEAR LUBE	1				
23	545626	SPROCKET AY	1				
24	546070	ECCENTRIC	1				
25	546071	FORK AY, SHIFTER	1				
26	547398	CHAIN AY,#50 RLR	1				
		(INCLUDES ITEM 27)					
27	* 548481	LINK-CONNECTOR	1				
28	800113	PLUG,.5-14NPT PS SQ HD	1				
29	547423	DRIVE WHEEL 16"	2				
30	547424	DRIVE WHEEL 18"	2				
31	548080	BEARING-NEEDLE	2				
32	548322	RING-LOCK	2				
33	548325	RING-LOCK	4				
34	548327	RING-LOCK	2				
35	64164-10	1/4X1/4X1-1/4 MACH KEY	2				
36	548482	PLUG-EXPANSION, 1-1/4	2				
37	64151-1	LOCKNUT, 1/4-20	1				
38	548726	SCREW, MACH 1/4-20x3/4	6				
39	548931	PLUG-EXPANSION, 1-3/4	1				
40	548952	RING-RETAINING, INT	2				
41	548953	BEARING-BALL	2				
42	548954	SEAL-OIL	2				
43	548984	SCREW, 1/2-13x4	1				
44	553046	KEY-WOODRUFF, #3	1				

* NOT ILLUSTRATED

GEAR CASE (CON'T)

FIGURE 3

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

GEAR CASE (CON'T)

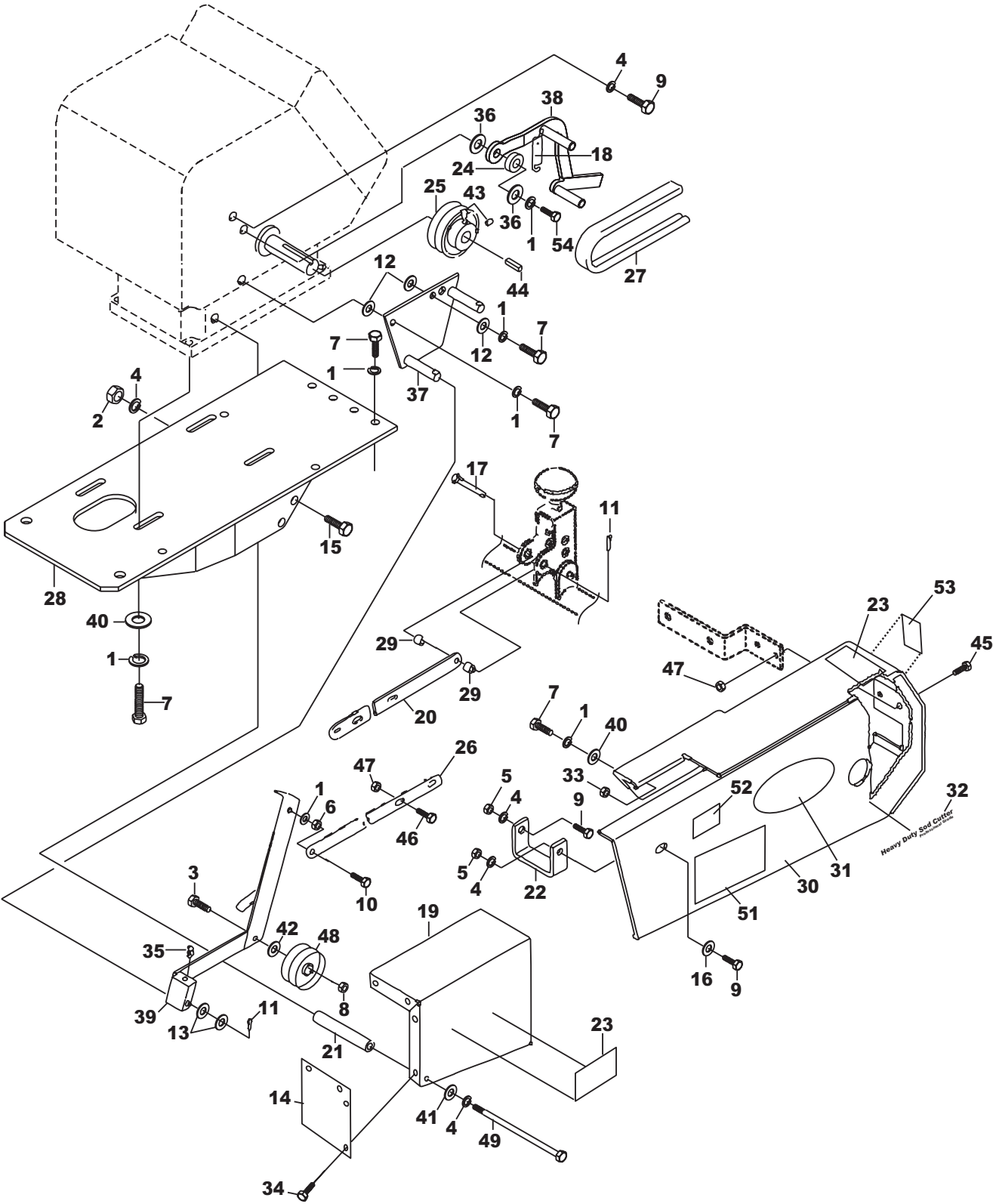
FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64123-64	BLT-HEX 5/16-18X2-1/4	5	41	* 548481	LINK-CONNECTOR	1
2	64123-80	BLT-HEX 1/4-20X1-1/4	1	42	548080	BRG.NDL.75 1.00.75 OPEN	1
3	302479	SCRW,.31-18 1.12 YS HX G5	4	43	548095	BRG,NDL 1.00 1.25.75 OPEN	2
4	64006-02	LOCKWSHR-HELICAL 5/16	14	44	548131	BRG,BALL 1.00 2.00.50	2
5	64164-19	KEY WOODRUFF.19X.75 #9	2	45	548272	SEAL,OIL 1.00 SHAFT	2
6	64123-68	BOLT-HEX 5/16-18X1	8	46	548326	RING,INT RET 2.21OD.06T	1
7	64164-28	KEY-#808 WOODRUFF	2	47	548327	RING-LOCK	1
8	64163-55	WSHR-.328X.75X14GA	1	48	548477	SPACER, .060 (1.52mm)	A/R
9	515390	WASHR,.39 1.25.19 YS FLAT	1	49	548478	SPACER, .036 (.914mm)	A/R
10	515891	SPACER, .010 (.254mm)	2	50	548482	PLUG,EXPANSION 1.25	3
11	515897	HANDLE-BLADE ENGAGE	1	51	64151-1	NUT-HEX 5/16-18 EDGE LCK	1
12	516172	CLUTCH	1	52	548775	PLUG.25-18NPTF HS	1
13	516182	CAGE-BEARING	1	53	814473	CONE,TPRD RLR BRG 1.00	2
14	516194	SPRING-INNER SHIFTING	1				
15	516196	SPRING-OUTER SHIFTING	1				
16	520238	SHIM, .005 (.127mm)					
A/R	17	520239					
		SHIM, .010 (.254mm)	A/R				
18	520240	SHIM, .020 (.508mm)					
A/R	19	520609					
		SHAFT-IDLER	1				
20	520610	SPACER	1				
21	520613	SPACER	1				
22	520628	SHAFT-INPUT	1				
23	520629	GEAR-TOP	1				
24	520631	GEAR-IDLER	1				
25	520639	SPACER	1				
26	520645	PULLEY, 9-3/4" (248mm)	1				
27	520672	GEAR, 21 TOOTH	1				
28	524485	DECAL-BLADE SHIFTER	1				
29	521214	COUNTERWEIGHT-LEFT	1				
30	521215	COUNTERWEIGHT-RIGHT	1				
31	521217	SCREW, 5/16-18x3-1/4" G8	2				
32	521253	SHAFT	1				
33	521254	GEAR-DRIVE	1				
34	521492	SPROCKET	1				
35	523184	KEY, 1/4x1/4x27/32	1				
36	523337	HUB	1				
37	545050	CAGE-BEARING	2				
		(INCLUDES ITEM 38)					
38	814474	CUP-TAPERED ROLLER BR	2				
39	545710	SHAFT	1				
40	547402	CHAIN, #50 ROLLER, 60 LNK	1				
		(INCLUDES ITEM 41)					

* NOT ILLUSTRATED

FIGURE 4

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

ENGINE, MOUNT, & COVERS

FIGURE 4

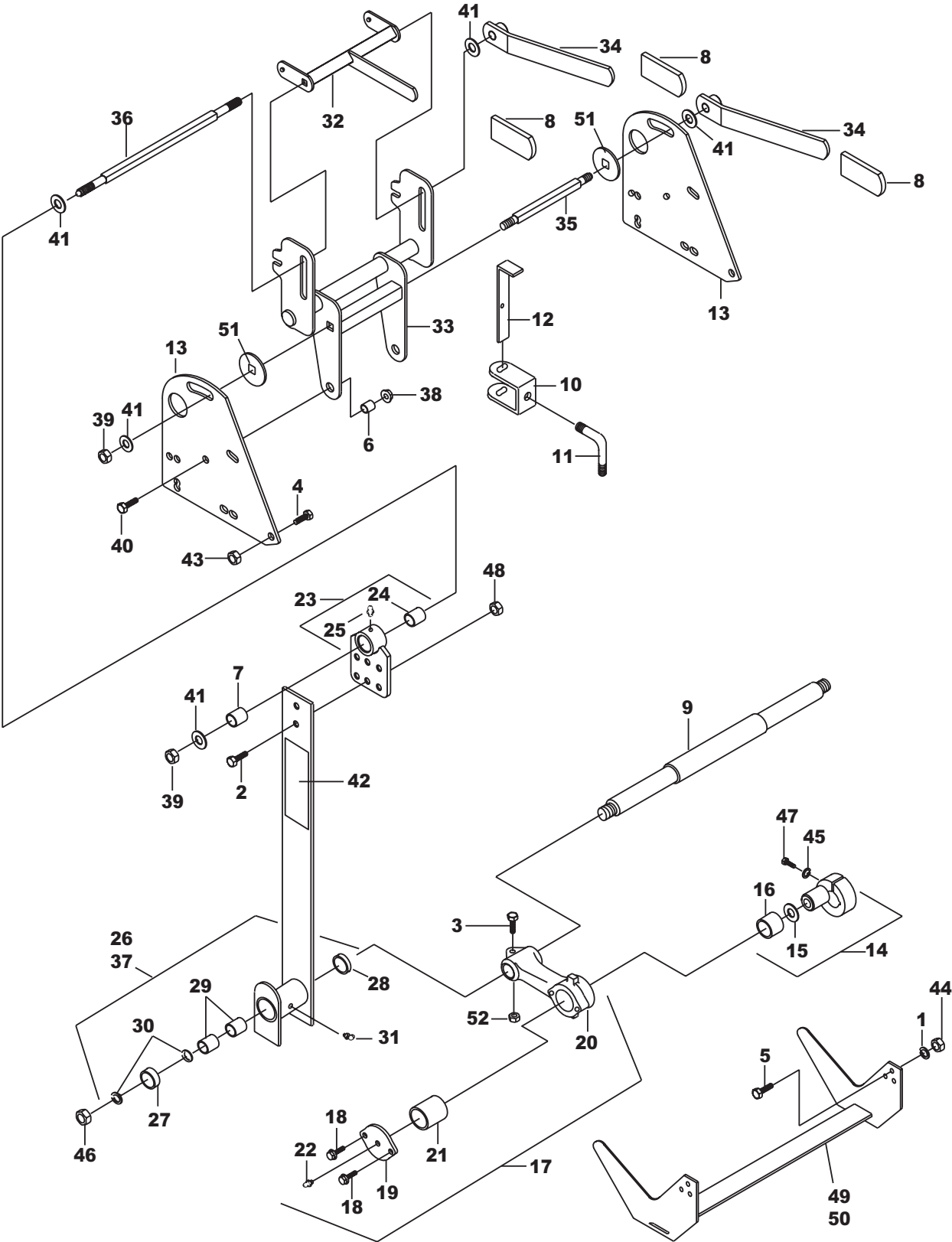
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64006-03	WASHER, 3/8 HELICAL LCK	11	43	64044-18	SSCRW-5/16-18X5-16	2
2	64025-24	NUT-HEX 7/16-20	3	44	64164-10	KEY,.25X.25X1-1/4 SQUARE	1
3	64123-67	BLT-HEX 3/8-16 X 2	1	45	64139-06	BLT-WLH 5/16-18X5/8	2
4	64006-06	LOCKWSHR-HELICAL 7/16	7	46	548902	SCRW,.31-18 1.00 HSF G5	2
5	304364	NUT,.44-14 YS HEX	2	47	64141-6	NUT, 5/16-18	2
6	64025-04	NUT-3/8-24 HEX	1	48	548942	PULLEY, IDLER 3.25 DIA.	1
7	64123-50	BOLT-HEX 3/8-16X1	7	49	548951	SCRW,.44-14 5.50 YS HX G5	1
8	64268-03	NUT-NYLON FLG LCK 3/8-16	51	50	524366	LABEL-BLADE ADJUST	1
9	64123-38	BLT-HEX 7/16-14X1	2	51	524540	LABEL-INFORMATION	1
10	64123-21	BLT-HEX 3/8-24X1-1/4	1	52	4116761	LABLE-MADE IN USA	1
11	64140-1	COTTER PIN-1/8X1	2	53	340830	DECAL-CAUTION, SPANISH	1
12	64163-61	WSHR .81X.406X16GA	3	54	64123-16	BLT-HEX 3/8-16X1-1/4	1
13	64163-67	WASHER-.516X1X12GA	1				
14	4163959.2	COVER-FRONT	1				
15	316920	SCRW,.44-20 1.75 YS HX G5	3				
16	64163-43	WSHR.443/.454X1X11GA	1				
17	64188-64	PIN,CLEVIS3/8X 1.75	1				
18	518476	SPRING,EXTENSION	1				
19	4151741	S-COVER, BELT	1				
20	4163989.7	LINK-CONTROL	1				
21	520726.7	SPACER BLK	1				
22	520729.2	BRACE-FRONT	1				
23	4163592	LABEL-WARN HANDS/BELT	2				
24	521679	BUSHING	1				
25	524589	PULLEY,3.90 DIA. BLK	1				
26	4163988.7	LINK-CONTROL	1				
27	522291	BELT-DRIVE	1				
28	540225.2	MOUNT-ENGINE	1				
29	524577	BUSHING	2				
30	4151739	S-GUARD, BELT	1				
31	4163976	LABEL-RYAN X-LARGE	1				
32	4124293	LABEL-SIDE, HD SOD CTR	1				
33	64141-4	NUT-WLF 3/8-16	1				
34	64152-56	SCREW-HS S-TAP #12X1/2	3				
35	35027N	FITTING-lube. 1/4-28 90 DEG.	1				
36	64163-82	WSHR,.38 1.62.10 YS FLAT	2				
37	545519.7	PLATE AY, PIVOT BLK	1				
38	546085.7	ARM AY BLK	1				
39	4164023.7	ARM-IDLER	1				
40	64163-61	WSHR .81X.406X16GA	8				
41	64163-43	WSHR.443/.454X1X11GA	2				
42	64163-46	WSHR,.383/.393X.88X7GA	1				

* NOT ILLUSTRATED

CONTROL HANDLES, PITMAN & SIDE ARMS

FIGURE 5

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

CONTROL HANDLES, PITMAN & SIDE ARMS

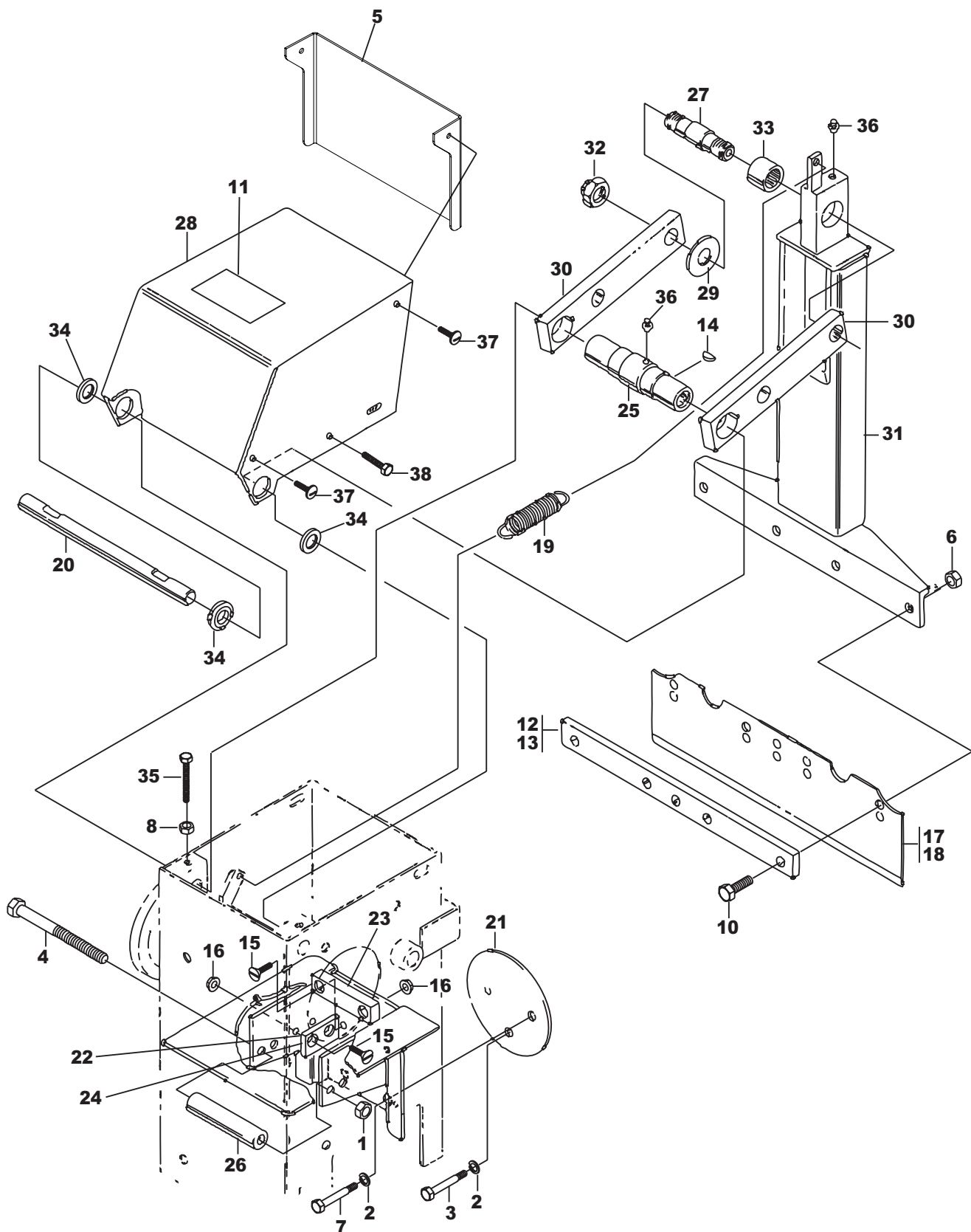
FIGURE 5

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64006-02	LOCKWSHR-HELICAL 5/16	6	37	4153501	ARM-SIDE, COMPLETE (USED ON MODEL 744853f) (INCLUDES ITEMS 27-30, 31)	2
2	64123-107	BLT-HEX 5/16-18X7/8	4				
3	64123-61	BLT-HEX 5/16-18X1-3/4	2				
4	328018	SCRW,.44-14 1.12 YS HX G5	6	38	64268-03	NUT-FL NY LOCK 3/8-16	2
5	515011	SCRW,.31-24 1.00 ZS HX G8	6	39	64151-7	LOCKNUT, 1/2-13 HEX	2
6	515729	BUSHING	2	40	64123-50	BOLT-HEX 3/8-16X1	2
7	516067	BUSHING	2	41	64163-99	WSHR-.510X1.31X.179	6
8	4135868	COVER-HANDLE	3	42	4164033	LABEL-CHF VERT	1
9	521435.7	SHAFT, LOWER	1	43	548056	NUT,.44-14 YS HX UNITORQ	6
10	521469.7	CLAMP, SADDLE	1	44	64025-03	NUT-HEX 5/16-24	6
11	521470	HANDLE, LOCKING	1	45	548183	LWSHR,.31.09 HI-COLLAR	2
12	521471	GAGE, DEPTH	1	46	800198	NUT,.5-20 HX CRNLCK	2
13	521472	BRACKET-PIVOT	2	47	800513	SCREW-SH 5/16-18-1-1/4	2
14	545436	ECCENTRIC AY (INCLUDES ITEMS 15 & 16)	2	48	64141-9	NUT-WLF 5/16-18 CL	6
				49	4132716.7	WLDMT-SOD CUTTER, 16" (USED ON MODEL 744853F)	1
15	521424	RING	1				
16	548814	RACE-INNER, NEEDLE BRG	1	50	4132717.7	WLDMT-SOD CUTTER, 18" (USED ON MODEL 744854F)	1
17	545437	ARM AY (INCLUDES ITEMS 18-22)	2				
18	64197-025	BLT-TDFM 1/4-20X5/8	2	51	4113281	WASHER-SPCL .531	2
19	521425.2	PLATE-COVER	2	52	64268-02	NUT-FL NY LOCK 5/16-18	2
20	521427	ARM, PITMAN	1				
21	521428	BEARING, NEEDLE	1				
22	85010-03	ZERK-1/8 NPT, STR	1				
23	545443.2	BRACKET-PIVOT, COMPLT (INCLUDES ITEMS 24 & 25)	2				
24	521429	BRONZE BEARING	1				
25	85010N	ZERK-1/4-28 STR S-TAP	1				
26	4153500	ARM-SIDE, COMPLETE (USED ON MODEL 544854F) (INCLUDES ITEMS 27-31)	2				
27	521436	BALL BEARING	1				
28	521438	GREASE SEAL	1				
29	548138	BEARING, NEEDLE	2				
30	64164-42	LOCK RING	2				
31	29-045	FITTING, LUBE 45D.25-28 (USED ON 544853F)	1				
	35027N	FITTING, LUBE 90D .25-28 (USED ON 544854F)					
32	540209.2	LEVER-DEPTH CONTROL	1				
33	540210.2	H-FRAME	1				
34	545449.2	HANDLE	2				
35	524549	ROD, TIE LOWER	1				
36	524550	ROD, TIE UPPER	1				

BLADE, MOUNTS, ROCKER ARMS & RAM

FIGURE 6

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

BLADE, MOUNTS, ROCKER ARMS & RAM

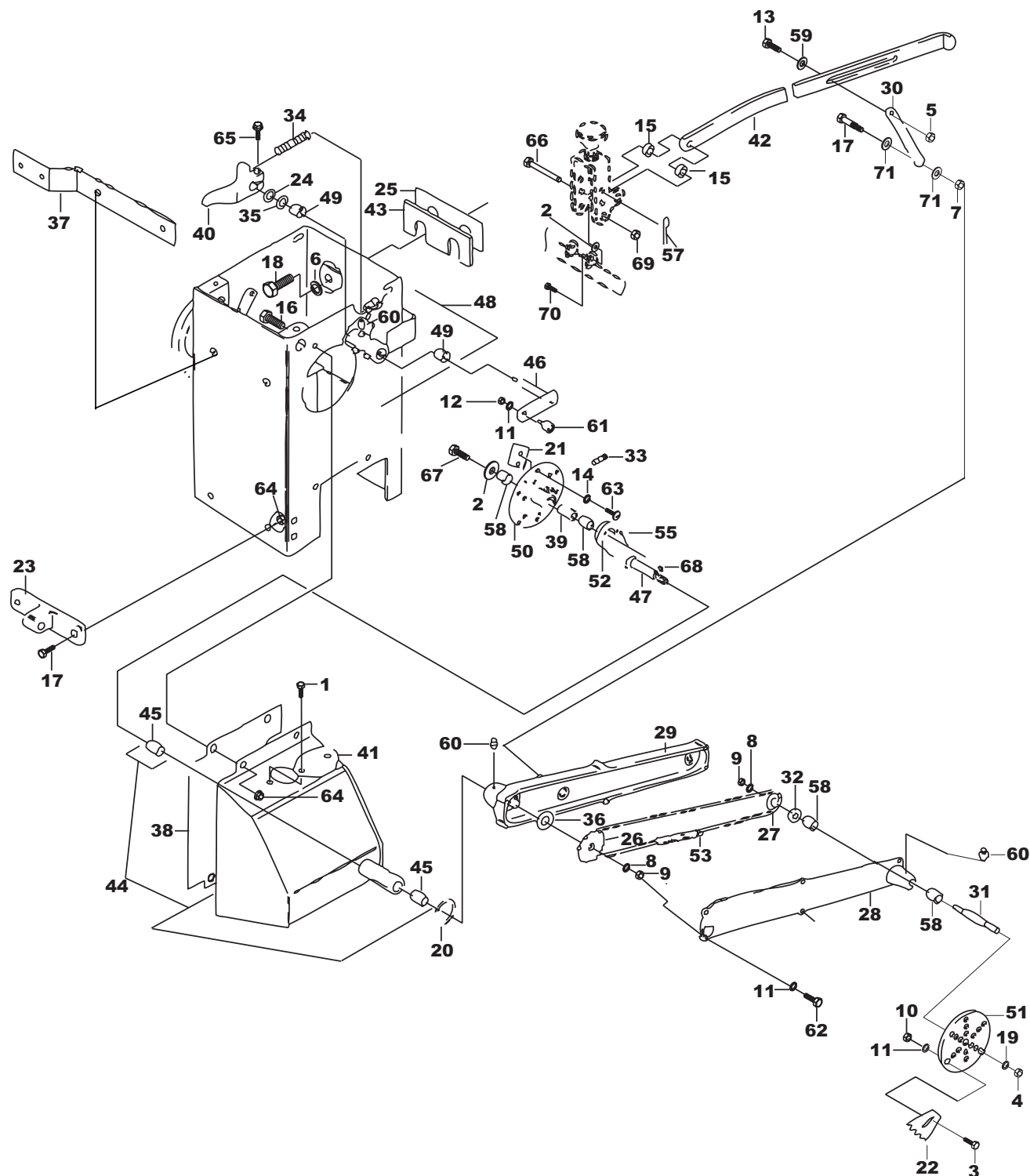
FIGURE 6

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64141-4	NUT-WLF 3/8-16	1	27	521489	SHAFT, ROCKER ARM	2
2	64006-03	WASHER, 3/8 HELICAL LCK	3	28	4151740	COVER-CUT-OFF W/	1
3	64123-67	BLT-HEX 3/8-16X2	1	29	521515	THRUST WASHER	4
4	64123-173	BLT-HEX 3/8-16X4-1/2	1	30	521817	ARM-ROCKER	2
5	4164000.2	GUARD-INNER	2	31	545390	RAM, CUT-OFF	1
6	64229-03	NUT-NYLON LOCK 3/8-16	6	32	548073	NUT,.62-18 YS FLEXLOCK	4
7	64123-100	BOLT-3/8-16X2-1/4 HEX	2	33	548080	BEARING, NEEDLE	2
8	64025-02	NUT-HEX 5/16-18	2	34	548191	GROMMET	2
9	*320107	TIE, STRAP	2	35	548223	SSCRW,.31-18 1.50 BS	2
10	64123-16	BLT-HEX 3/8-16 X 1-1/4	6	36	548224	FITTING,GREASE 1/4-28	2
11	4137371	LABEL-CRUSH HAND	1	37	64152-56	SCRW-HS S-TAP #12 X 1/2	5
12	515537.7	MOUNT, BLADE 16" (USED ON MODEL 544853F)	1	38	64152-23	SCRW-S-TAP 1/4-20 X 3/8 LG	1
13	515538.7	MOUNT, BLADE 18" (USED ON MODEL 544854F)	1	* NOT ILLUSTRATED			
14	64164-05	KEY, WOODRUFF #404	1				
15	800416	SCRW,.25-20 1.00 YS FR G5	6				
16	64141-2	NUT-WLF 1/4-20	6				
17	515547	BLADE, CUT-OFF, 16" SER (USED ON MODEL 544853F)	1				
18	515548	BLADE, CUT-OFF, 18" SER (USED ON MODEL 544854F)	1				
19	520420	SPRING-WALKING RAM	1				
20	520426	SHAFT	1				
21	520665	PLATE	1				
22	521331	SHIM	4				
23	521474	STOP, RAM	1				
24	521475	WEAR BLOCK	2				
25	521479	BUSHING	1				
26	521488	REAR RAM ROLLER	1				
(ITEM 26 TO BE USED WITH THE WALKING RAM CUT-OFF ONLY. WHEN CONVERTING TO ROLLING RAM FOLLOW THE INSTRUCTIONS PROVIDED WITH THE ROLLING RAM ACCESSORY PART # 545395.)							

CUT-OFF CASE, METERING WHEEL

FIGURE 7

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

CUT-OFF CASE, METERING WHEEL

FIGURE 7

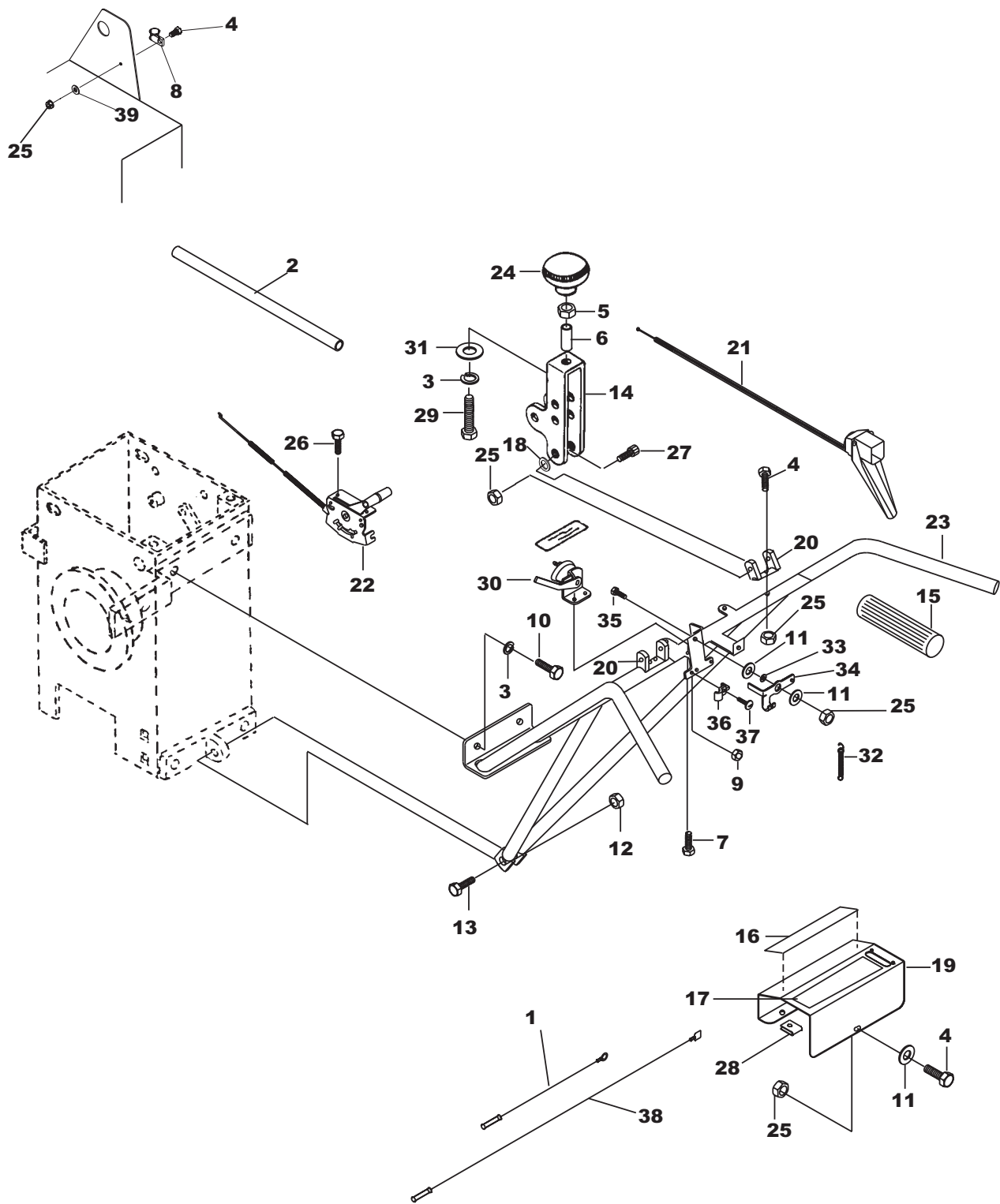
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	112050	TSCRW,.25-20.62 YS HW	2	45	518252	BUSHING	2
2	64163-03	WASHER-1/4	1	46	4157143	TRIP ARM AY	1
3	64123-89	BOLT-HEX 1/4-20X3/4	12	47	545389	SHAFT AY	1
4	301988	NUT, .5-20 YS HX	1	48	545397	CASE, CUT-OFF, COMPLT	1
5	64141-6	NUT-WLF 5/16-18	1			(INCLUDES ITEM 49)	
6	64006-06	LOCKWSHR-HELICAL 7/16	2	49	516261	BUSHING	2
7	64001-6	NUT-HEX JAM,3/8-16	1	50	545403	WHEEL-DOG	1
8	306025	LWSHR,.38 YS SHKPRF	2	51	546064	WHEEL-METERING	1
9	64025-04	NUT-3/8-24 HEX	2	52	546247	SPROCKET AY	1
10	64025-01	NUT-1/4-20 HEX	12	53	547026	CHAIN, #35, 100 LINKS	1
11	64006-01	LOCKWASHER-1/4 HELICAL	19			(INCLUDES ITEM 54)	
12	64025-23	NUT-HEX 1/4-28	1	54	*	548760	
13	64123-68	BOLT-HEX 5/16-18X1	1			LINK, #35 CONNECTOR	1
14	306488	LWSHR,.25 ZS SHKPRF	A/R	55	547240	CHAIN, #35, 30 LINKS	1
15	524577	BUSHING, RUBBER	2			(INCLUDES ITEM 56)	
16	64123-15	BOLT-3/8-16X3/4 HEX	4	56	*	548760	
17	64123-16	BLT-HEX 3/8-16X1-1/4	3			LINK, #35 CONNECTOR	1
18	64123-38	BLT-HEX 7/16-14X1	2	57	64140-1	COTTER PIN-1/8 X 1	1
19	309067	LWSHR,.50 YS SHKPRF EXT	1	58	548115	BEARING	4
20	309978	O-RING	1	59	64163-55	WSHR-.328 X .75 X 14GA	1
21	515494	DOG, TRIP	A/R	60	85010N	ZERK-1/4-28 STR S-TAP	3
22	515534	SEGMENT	6	61	548319	BEARING, ROLLER	1
23	515962	BRACKET-HANDLE MNT	1	62	548726	SCRW,.25-20.75 YS RS	6
24	516237	WASHER,.505.75.0149 FL	2	63	548756	SCRW,.25-20.50 YS PS G5	A/R
25	516259	PLATE-SPACER	A/R	64	64141-4	NUT-WLF 3/8-16	4
26	516384	SPROCKET, 12 TOOTH	1	65	548898	SCRW,.25-20 1.00 HSF G5	1
27	516387	SPROCKET, 9 TOOTH	1	66	64188-63	PIN-CLEVIS, 5/16 X 1.75	1
28	518225	COVER	1	67	64123-87	BOLT-HEX 3/8-16X1-3/4	1
29	518240	GUARD	1	68	64164-05	KEY, WOODRUFF #404	1
30	4164017.7	ADJUSTER	1	69	64151-17	LOCKNUT, HEX	2
31	518275	SHAFT	1	70	64189-20	BLT-HEX SOC 1/4-20X5/8	2
		(APPLY LOCKTITE #290 OR EQUIVALENT TO THREADS PRIOR TO ASSEMBLY)		71	64163-31	WSHR 25/64X1X12	2
32	518277	SPACER (PLATED)	1				
33	518499	SPRING	1				
34	518504	SPRING	1				
35	520028	WASHER,.50.75.06 YS FLAT	1				
36	520374	WSHR,1.031 2.00.06 YS FLT	1				
37	520673	BRACE-REAR	1				
38	521494	DUST COVER	1				
39	521496	BUSHING, DOG WHEEL	1				
40	4157141	TRIGGER	1				
41	521516	COVER, INSPECTION HOLE	1				
42	4164016.7	BAR, LINK, LIFT, LONG	1				
43	524003	SPACER, CUT-OFF	A/R				
44	545357	HOUSING-DOG WHEEL	1				
		(INCLUDES ITEM 45)					

* NOT ILLUSTRATED

HANDLEBARS

FIGURE 8

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

HANDLEBARS

FIGURE 8

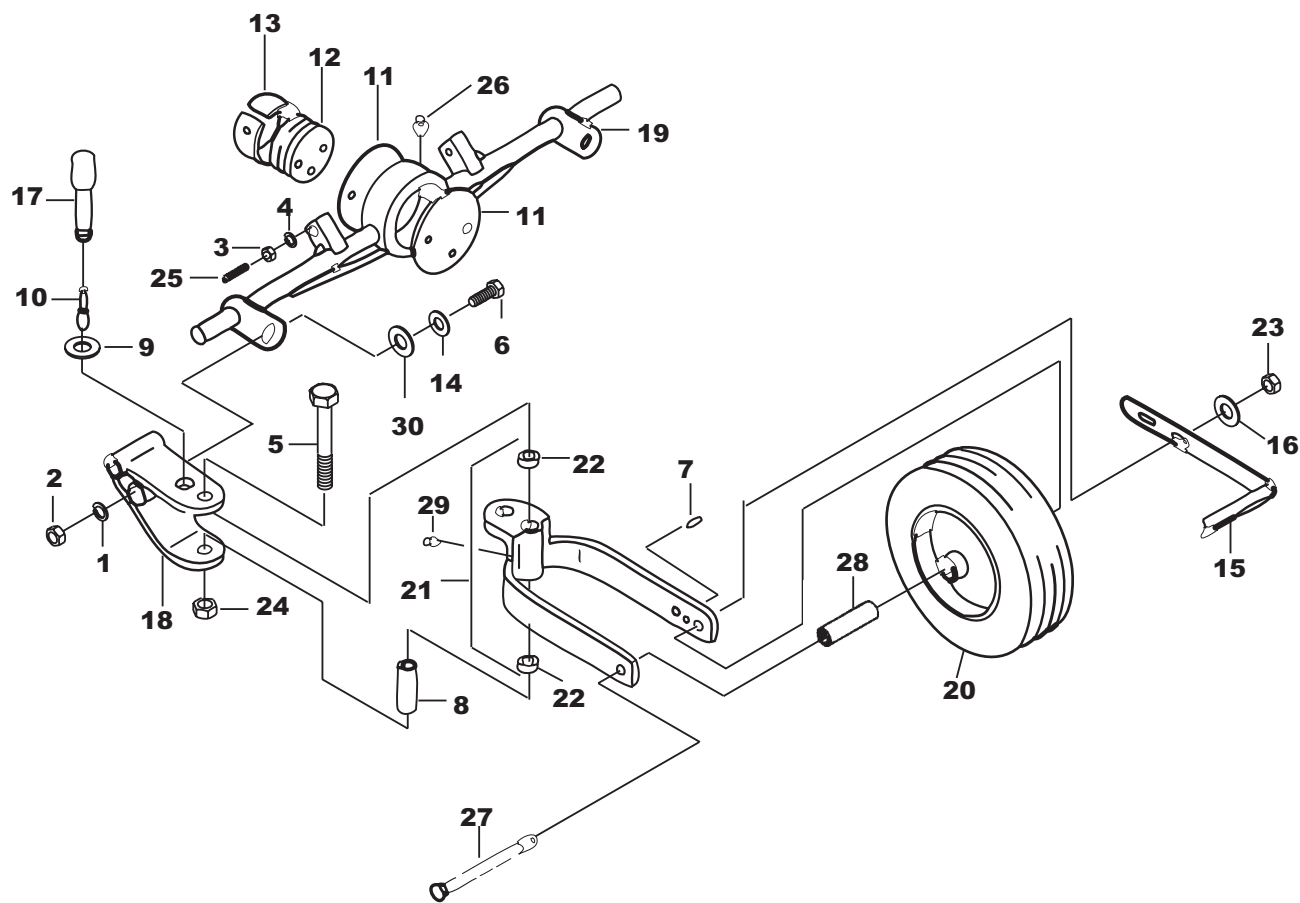
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	540265	WIRE ASSY	1				
2	4163774-02	TUBING-CORRUGATED 5FT	1				
3	64006-03	WASHER, 3/8 HELICAL LCK	3				
4	64123-89	BOLT-HEX 1/4-20X3/4	6				
5	64025-04	NUT-3/8-24 HEX	2				
6	516544	BUSHING-PLATED	2				
7	64197-015	BLT-TDFM 10-32X1/2 TORX	2				
8	48228A	CABLE CLIP-INSULATED	4				
9	64025-15	NUT, 10-24 KEPS HEX	1				
10	64123-16	BLT-HEX 3/8-16X1-1/4	2				
11	64163-03	WSHR-.256IDx62ODx18GA.	6				
12	64229-05	NUT-NYLON LOCK 1/2-13	1				
13	312176	SCREW, 1/2-13x1-3/4"	1				
14	522585	HANDLE, CONTROL	2				
15	522727	GRIP, HANDLE	2				
16	4161125	LABEL-RYAN , OVAL,SMALL	1				
17	4164043	LABEL-CONTROL PANEL	1				
18	64163-86	WSHR-.265X.625X.125	4				
19	4164025	S-CONTROL PANEL HD	1				
20	4163620.7	BRKT-HANDLE MTG	2				
21	540232	CONTROL-KILL SWITCH	1				
22	540255	CONTROL AY,THROTTLE	1				
23	4164021.7	WLDMT-HANDLE HD SOD	1				
24	548171	KNOB	2				
25	64229-01	NUT-NYLON LOCK 1/4-20	6				
26	64152-18	SCRW-8-32X3/8 S-TAP	2				
27	800492	CAPSCREW, HEX	4				
28	800495	NUT,.25-20 SPD "U" W/NUT	2				
29	64123-270	BLT-HEX 3/8-24-2-1/4	2				
30	806800	SWITCH, STOP LIGHT	1				
31	64163-61	WSHR .81X.406X16GA	1				
32	805421	SPRING, EXTENSION	1				
33	814585	BUSHING	1				
34	524472	ARM, PIVOT (PLATING)	1				
35	64123-89	BOLT-HEX 1/4-20X3/4	1				
36	111898	CLAMP, CABLE	1				
37	64152-06	10-24X1/2 MACH SCREW	1				
38	540256	WIRE ASSY	1				
39	64163-55	washer-.328X.75X14 GA	1				

* NOT ILLUSTRATED

REAR WHEELS

FIGURE 9

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

REAR WHEELS

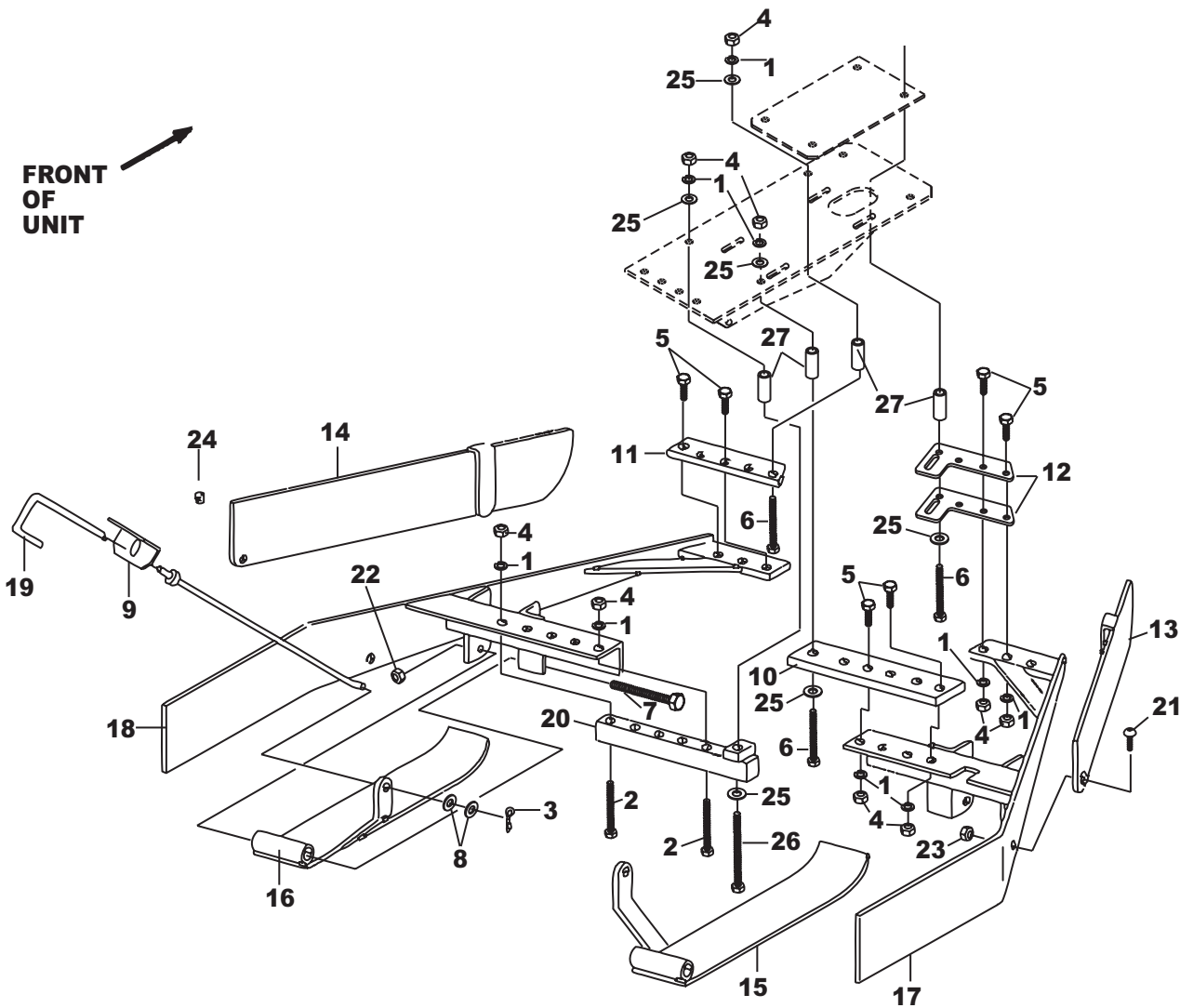
FIGURE 9

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64006-06	LOCKWSHR-HELICAL 7/16	2				
2	304364	NUT-HEX 7/16-14	2				
3	64001-6	NUT-HEX JAM, 3/8-16	2				
4	64006-03	LOCKWASHER, 3/8	2				
5	64123-75	BOLT, 3/8-16X3 HEX	2				
6	311397	SCRW,.44-14 3.00 YS HX G5	2				
7	316942	PIN,SPIROL.250.500 PS	2				
8	515759	BUSHING	2				
9	515888	WASHER,.62.88.15 NS FLAT	2				
10	515958	PLUNGER	2				
11	520605	WASHER-THRUST	2				
12	520606	PIVOT-CENTER	1				
13	520617	STRIP-BUSHING	1				
14	823269	WASHER, 7/16	2				
15	524809.7	SCRAPER-WHEEL	2				
16	64163-67	WASHER-.516X1X12GA	1				
17	546153	BARREL-WHEEL	2				
18	547403	ARM-WHEEL	2				
19	547404	AXLE	1				
20	4124197	WHEEL-REAR	2				
	*523261	TUBE	1				
	*523262	TIRE	1				
	*523263	BEARING	1				
21	547414	YOKE, COMPLETE (INCLUDES ITEM 22)	2				
22	516915	BUSHING	2				
23	64229-05	NUT-NYLON LOCK 1/2-13	2				
24	64229-03	NUT-NYLON LOCK 3/8-16	2				
25	548206	SET SCREW, 3/8-16x1-1/2	2				
26	85010N	ZERK-1/4-28 STR S-TAP	1				
27	64123-135	BLT-HEX 1/2-13X5	2				
28	523053	SPACER,.51 .75 3.28 ZS	2				
29	35027N	FITTING-ZERK 90DEG.	2				
30	816449	WASHER	2				

* NOT ILLUSTRATED

FIGURE 10

HEAVY DUTY
SOD CUTTER



HEAVY DUTY SOD CUTTER

ACCESSORIES

FIGURE 10

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	120177	LOCKWASHER	11				
2	64123-67	BLT-HEX 3/8-16x2	3				
3	64140-3	PIN,COTTER.09 x.75	2				
4	64025-05	NUT, 3/8 - 16	6				
5	64123-16	BLT-HEX 3/8-16 x 1-1/4	6				
6	64123-171	BLT-HEX 3/8-16X3-1/2	4				
7	64123-147	BLT-HEX 1/2-13x4	2				
8	64163-55	WASHER, 5/16"	4				
9	518373	BRKT-CONTROL ROD	2				
10	518577	BRKT-RIGHT, REAR	1				
11	518587	BRKT-LEFT, FRONT	1				
12	524596	BRKT-RIGHT, FRONT	2				
13	547032	PLATE-BUMPER, RIGHT	1				
14	547033	PLATE-BUMPER, LEFT	1				
15	547034	SKID-RIGHT	1				
16	547035	SKID-LEFT	1				
17	547048	BUMPER-RIGHT	1				
18	547049	BUMPER-LEFT	1				
19	547152	ROD-CONTROL	2				
20	547179	BRKT-LEFT, REAR	1				
21	548041	SCREW. 3/8-16x1" G8	2				
22	64141-7	NUT-.5-13 CENTERLOCK	2				
23	64229-03	NUT-NLYON LOCK 3/8-16	2				
24	64044-1	SCREW-SET, 1/4-20x1/4	2				
25	64163-61	WSHR, FLT .81X.406X16GA	6				
26	64123-93	BLT-HEX 3/8-16X5	1				
27	819233	BUSHING	4				
28	2702092	ROLL DIVERter, COMP.	1				
(INCLUDES ITEMS 1-27)							



CONCLUSION



HEAVY DUTY SOD CUTTER

ACCESSORIES

FIGURE 11

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64006-05	LOCKWSHR-HELICAL 1/2	1	42	547042	CLAMP	1
2	64006-03	WASHER, 3/8 HELICAL LCK	12	43	547346	RACK-PRIMARY	1
3	64123-67	BLT-HEX 3/8-16X2	2			(INCLUDES ITEM 44)	
4	64140-1	COTTER PIN, 1/8 X 1.0	12	44	316949	PIN-SPIROL 1/4x1-1/8	32
5	64123-50	BOLT-HEX 3/8-16X1	6	45	547451	GUARD	1
6	64025-05	NUT-3/8-16 HEX	12	46	64044-18	SETSCREW, 5/16-18 X 5/16	1
7	64025-19	NUT-1/2-13 HEX	7	47	64163-31	WSHR-25/64X1X12 GA	2
8	311398	SCREW, 1/2-13X3-1/2	1				
9	515586	COLLAR	1	48	545505	SULKY ROLLER, COMP.	1
10	517052	SEAT	1			(INCLUDES ITEMS 1-47)	
11	517951	PIN-PIVOT, 1/2x9-19/32	1				
12	517968	PIN-CLEVIS, 1/2x4	2				
13	517994	PIN-PIVOT, 1/2x5-5/8	2				
14	518159	AXLE	2				
15	518285	BAR-DRAW	1				
16	518535	SPRING	3				
17	800237	BOLT-CRG, 3/8-16x1-1/2	2				
18	* 545434	SPACER-LEFT COMPLETE	1				
		(INCLUDES ITEM 19)					
19	* 318243	PIN-ROLL, 3/8"x1"	1				
20	545570	SPACER-RIGHT, COMPLETE	1				
		(INCLUDES ITEM 21)					
21	318243	PIN-ROLL, 3/8"x1"	1				
22	545609	FOOTREST	1				
23	546321	SCREW, ADJUSTING	2				
24	546998	BRKT-ADJUSTING	2				
25	547002	SUPPORT-FRONT	1				
26	547003	PIN-HITCH	1				
27	547004	FRAME-SEAT	1				
28	547005	PLATE-PIVOT	1				
29	547006	SUPPORT-MIDDLE	1				
30	547007	SUPPORT-REAR	1				
31	547008	RACK-REAR	1				
32	547011	BRKT-EXTENSION	1				
		(INCLUDES ITEM 33)					
33	316949	PIN-SPIROL 1/4x1-1/8	5				
34	547014	YOKE-EXTENSION	1				
35	547016	YOKE-WHEEL	2				
36	547018	WHEEL-COMPLETE	2				
		(INCLUDES ITEMS 37-41)					
37	516491	CAP-END	2				
38	548151	BEARING-ROLLER	2				
39	85010N	ZERK-, 1/4-28 STR S-TAP	1				
40	548493	TIRE-4.8/4.00x8, 2 PLY	1				
41	548880	STEM-VALVE	1				

* NOT ILLUSTRATED

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