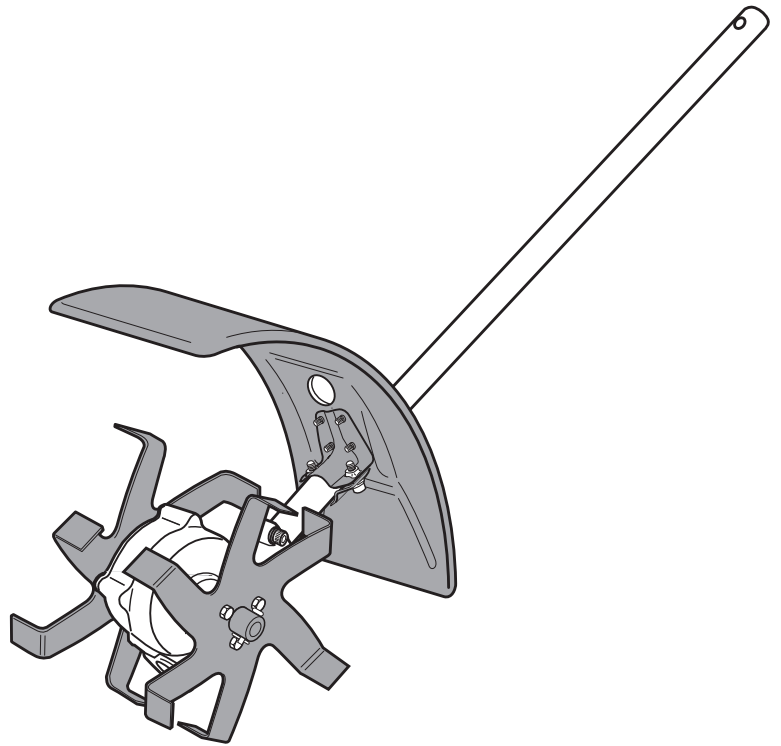


SWISHER OWNER'S/OPERATOR'S MANUAL

E4-U3006 MULTIPURPOSE CULTIVATOR TOOL



WARNING!

Minimize the risk of injury to yourself and others! Read this manual and familiarize yourself with the contents. Always wear eye and hearing protection when operating this unit.

SWISHER

Part Number 81957 Rev. 12/2007

Introduction

The Swisher E4-U3006 M-TC Multipurpose Cultivator Tool is designed and built to deliver superior performance and reliability without compromise to quality, comfort, safety or durability. As an owner/operator, you'll soon discover for yourself why Swisher is simply in a class by itself!

IMPORTANT!

The information contained in these instructions describes units available at the time of publication.


Swisher Inc. reserves the right to make changes to products without prior notice, and without obligation to make alterations to units previously manufactured.


IMPORTANT!

The procedures described in this manual are intended to help you get the most from your unit as well as to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area. If you have questions regarding your power tool, or if you do not understand something in this manual, contact Swisher Inc. at (800) 222-8183, or go to www.swisherinc.com for assistance. You may also contact Swisher at the address printed on the back of this Manual.

Attention Statements

Throughout this manual are special "attention statements".

 **DANGER!**
A statement preceded by the triangular attention symbol and the word "DANGER" contains information that should be acted upon to prevent serious injury or death.

 **WARNING!**
A statement preceded by the triangular attention symbol and the word "WARNING" contains information that should be acted upon to prevent serious bodily injury.

CAUTION!
A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent mechanical damage.

IMPORTANT!

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.

Warning labels affixed to the machine are as follows:



Read and follow this manual, make sure anyone using the pruner does likewise. Failure to do so could result in serious personal injury or machine failure. Keep this manual for future reference.



Always wear a hard hat to reduce the risk of head injuries during operation of this machine. In addition, always wear eye and hearing protection. Swisher recommends wearing a face shield as additional face and eye protection.



Beware of thrown objects. Keep bystanders at least 15 M (50 feet) away during operation.




Never operate this tool or any other power equipment if you are tired, ill, or under the influence of alcohol, drugs, or any substance that could affect your ability or judgement.


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General Safety Instructions


This machine operates at very high speeds and has the potential to do serious damage if misused, abused or mishandled. To reduce the risk of injury, you must maintain control at all times, and observe all safety precautions during operation. Never permit a person without training or instruction to operate this machine!

WARNING!
 Never make unauthorized attachment installations.

WARNING!
 Never operate power equipment of any kind if you are tired or if you are under the influence of alcohol, drugs, medication or any other substance that could affect your ability or judgement.

Stay Alert

You must be physically and mentally fit to operate this unit safely.

WARNING!
 **Minimize the Risk of Fire**

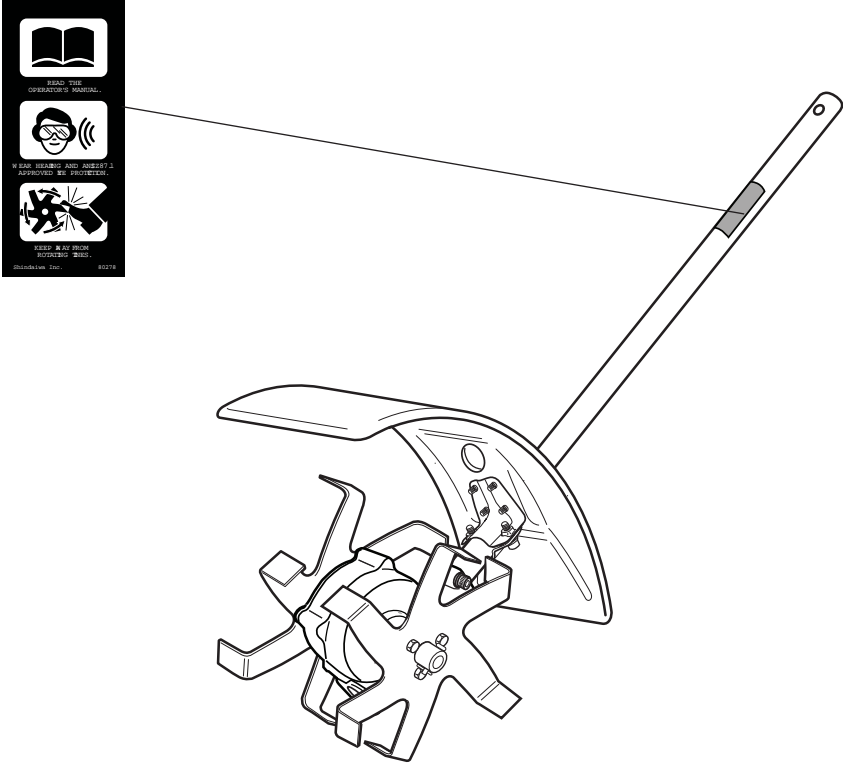
- **Never** smoke or light fires near the unit.
- **Always** stop the engine and allow it to cool before refueling. Avoid overfilling and wipe off any fuel that may have spilled.
- **Never** place flammable material close to the engine muffler.

- **Always** move the unit to a place well away from a fuel storage area or other readily flammable materials before starting the engine. Use caution when handling fuel. Move the power tool at least 10 feet (3 meters) from the fueling point before starting the engine.
- **Never** run the engine without the spark arrester screen in place. Do not operate the machine with the muffler removed.

Work Safely: Be Aware of the Working Environment

- Be careful when operating on a slope or on slippery terrain, especially during rainy weather.
- **Never operate this machine around buried electrical cables!**
- **Do not** operate the tiller/cultivator in standing water.
- If the tines jam, switch the engine OFF, disconnect the spark plug lead, and inspect the tines, axles and gearcase for damage.
- Never operate the tiller/cultivator around vines or roots that could tangle in the tines and cause loss of control.
- **Maintain** a shallow working angle and **avoid** steep angles of operation. A steep working angle risks loss of control of the machine.
- **Transport** the machine with the engine OFF.

Safety Labels



IMPORTANT!

Safety and Operation Information Labels: Make sure all information labels are undamaged and readable. Immediately replace damaged or missing information labels. New labels are available. Contact Swisher Inc. at (800) 222-8183, or go to www.swisherinc.com for assistance.

Figure 1

The Properly Equipped Operator



Operating Precautions



WARNING! Use Good Judgement

- This Swisher Cultivator tool is specifically designed for use on the Swisher Multipurpose Tool Carrier. Installation and/or use on any other model, brand or type of power tool is not approved by Swisher. Attempts to use on non-approved models can damage the equipment and cause accidents, serious injury or death.
- Cultivator tines belts may move when starting engine. Place the multipurpose tool on a smooth level surface when starting.
- Always make sure the E4-U3006 attachment is properly installed and firmly tightened before operation.
- Make sure there are no missing or loose fasteners, and that the ignition switch and throttle controls are working properly.
- Do not operate the unit with the muffler removed.
- Operate this unit only in a well ventilated area. Be aware of carbon monoxide poisoning. Exhaust gases and lubrication oil mist can cause serious injury or death.
- Always hold the machine firmly with both hands when sweeping, and maintain control at all times.

- Always stop the engine immediately and check for damage if you strike a foreign object or if the unit becomes tangled. Do not operate with broken or damaged equipment.
- Stop the unit immediately if it suddenly begins to vibrate or shake. Inspect for broken, missing or improperly installed parts or attachments.
- Never transport the unit nor set it down with the engine running. An engine that's running could be accidentally accelerated causing the drum assemblies to rotate.
- Always clear your work area of trash or hidden debris that could be thrown back at you or toward a bystander.
- Always keep the handles clean.
- Always disconnect the spark plug wire before performing any maintenance work.
- Always wear eye protection to shield against thrown objects.
- Always protect yourself from hazards such as thorny brush and flying debris by wearing gloves and close fitting clothing that covers arms and legs. Never wear shorts. Don't wear loose clothing or items such as jewelry that could get caught in machinery or underbrush. Secure long hair so it is above shoulder level.

CAUTION!

- Always maintain this unit according to this owner's manual and follow the recommended scheduled maintenance.
- Never modify or disable any of the unit's safety devices.
- Always use genuine Swisher parts and accessories when repairing or maintaining this unit.
- Do not make unauthorized modifications to this unit.
- Never allow the engine to run at high RPM without a load. Doing so could damage the engine.
- When transporting the unit in a vehicle, tie it down securely to prevent damage and fuel spillage.
- Always clear your work area of trash or hidden debris to help ensure good footing.
- Keep the unit as clean as possible. Keep it free of loose vegetation, mud, etc.

Product Description

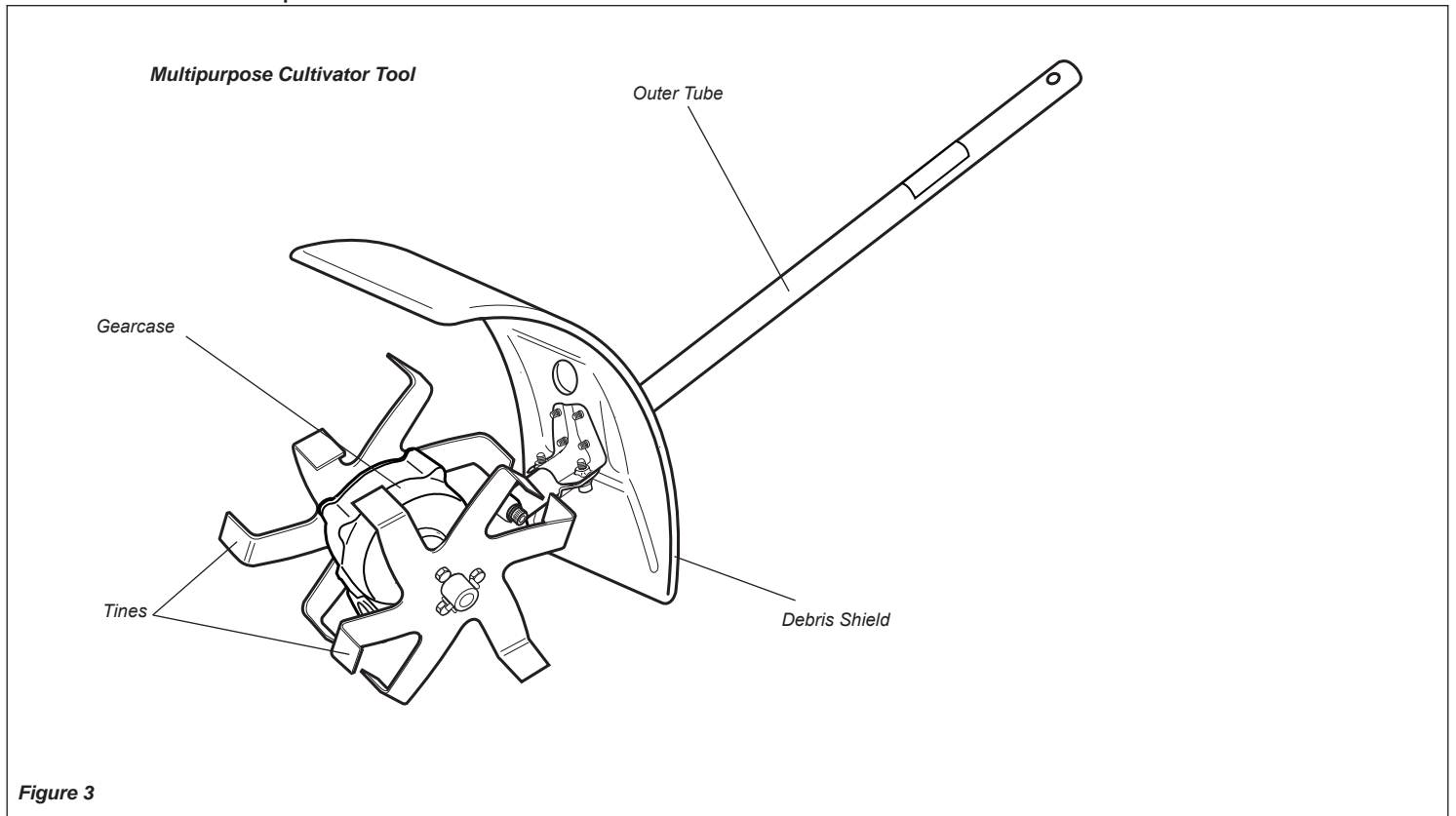



Figure 3

Using the illustration as a guide, familiarize yourself with your machine and its various components. Understanding your machine helps ensure top performance, long service life and safer operation.

 WARNING! Do not make unauthorized modifications or alterations to any of these units or their components.
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Specifications

Multipurpose Cultivator Tool (w/debris shield & tines)	6.7 lbs. (3.0 kg)
Gearcase Lubrication	Mobil SCH 634 synthetic gear lubricant
Gear Reduction	49:1

Specifications are subject to change without notice.

Assembly

Prior to assembly

Using Figure 4 in the “Product Description” section as a guide, familiarize yourself with the Swisher E4-U3006 Cultivator Tool and its various components. Understanding your unit helps ensure top performance, longer service life, and safer operation.

Before assembling, make sure you have all the components required for a complete unit:

- Outer Tube/Mainshaft Assembly
- Tiller/Cultivator Tool Assembly
- Kit containing hardware, owner/operator's manual, and a 5 mm hex key.

Carefully inspect all components for damage.



WARNING!

Do not make unauthorized modifications or alterations to your pruner or its components.

IMPORTANT!

The terms “left”, “left-hand”, and “LH”; “right”, “right-hand”, and “RH”; “front” and “rear” refer to directions as viewed by the operator during normal operation.

Tine Installation and Orientation

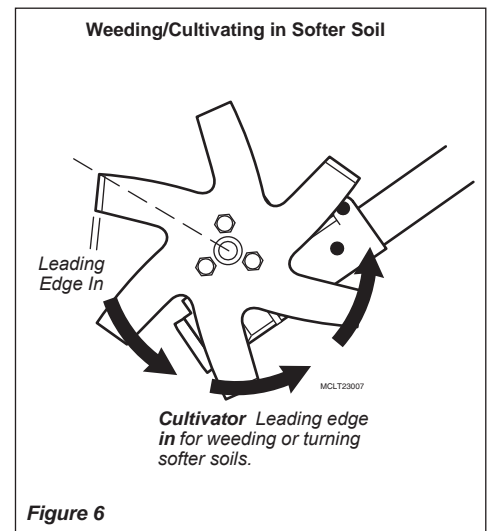
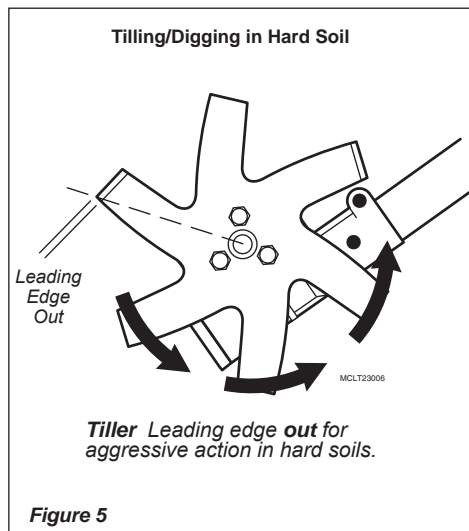
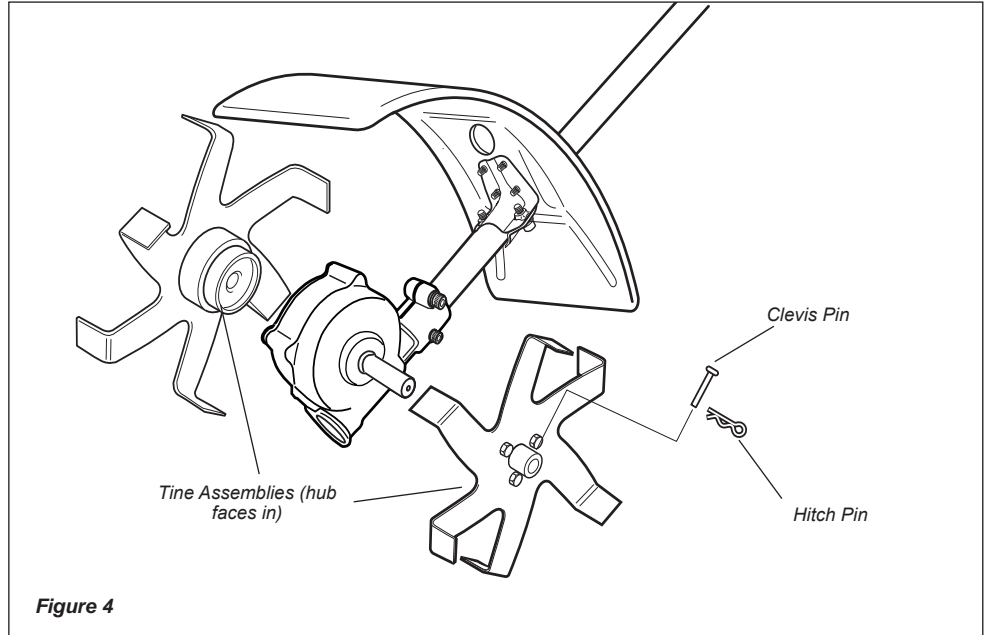
Tine installation directly affects the cultivator's ability to break new ground. Using Figures 5 and 6 as a guide, determine the correct tine orientation for the tilling/cultivating job at hand:

1. Install the tine assemblies to the gearcase output shafts.
2. Secure each tine assembly with one clevis pin and one hitch pin as shown.



WARNING!

Always switch the engine OFF before working on the gearcase or tines!



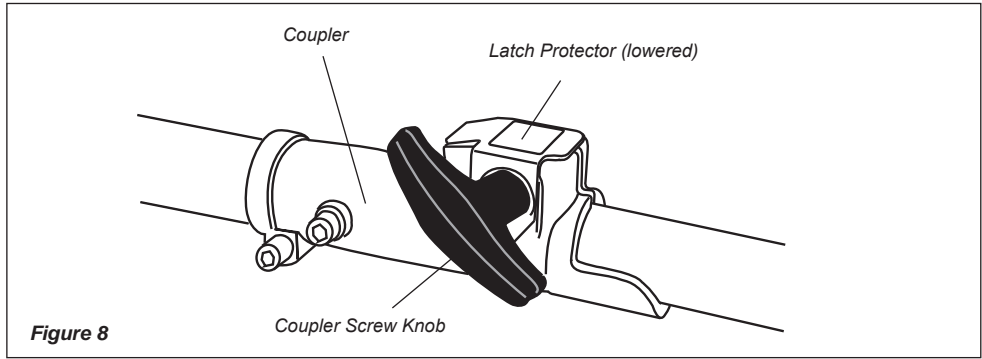
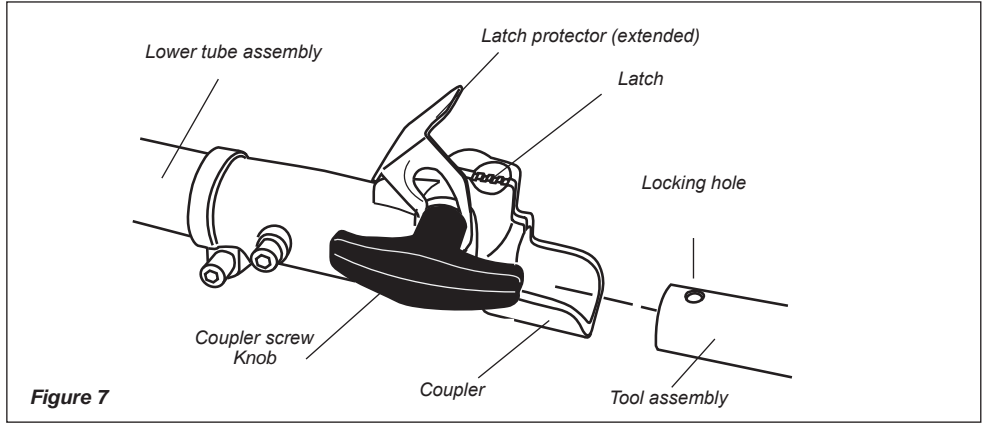
Assembly

Assembling tube sections

1. Place powerhead/lower tube assembly on a clean, flat surface so that both assemblies fit end to end. The powerhead/lower tube assembly should be facing positioned with the locking hole in the tube end facing up.

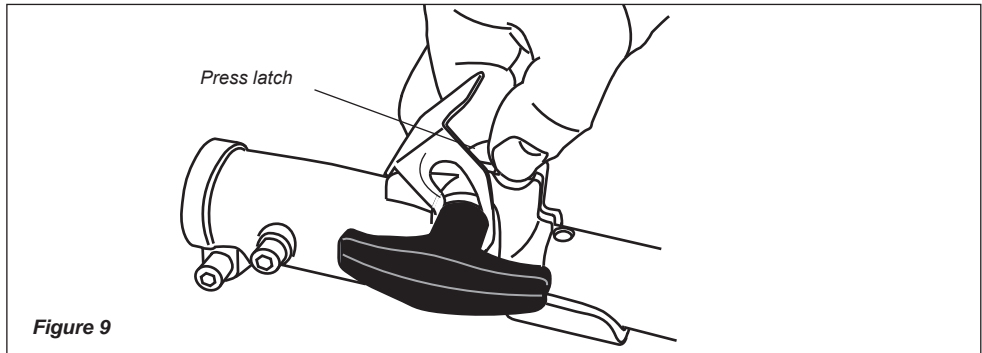
CAUTION!
Keep the open ends of the tubes clean and free of debris!

2. Slip off the protective covers from the ends of both tubes, and loosen the coupler screw knob.
3. Insert the tool assembly into the coupler, with the tool decal facing up, until the line of the decal is flush with the end of the coupler.
4. Twist the tool assembly back and forth until you are sure it snaps in place by the coupler latch.
5. When the two tube halves are locked together, press down on the spring-loaded latch protector and tighten the coupler screw knob.



Disassembling the tube sections

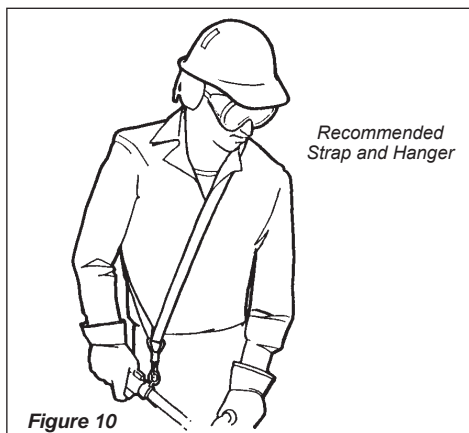
1. With the pole pruner on a clean, flat surface, loosen the coupler screw. The spring-loaded coupler protector should pop up.
2. Press down on the latch with your finger or thumb. This releases the coupler lock.
3. Pull the upper tube assembly out of the coupler.



Optional Accessories

Strap and Hanger

Although a strap and hanger is not required for with this unit, it is recommended to reduce operator fatigue during extended periods of operation. Make sure all hooks and adjusting devices are secure. Adjust the harness shoulder strap so the shoulder pad rests comfortably on the off-side shoulder. See Figure 10.



Operating

Checking Unit Condition

NEVER operate the unit with the protective devices (ignition switch, etc.) removed!

ALWAYS make sure the tool attachment is properly installed and firmly tightened before operation.

Use only authorized Swisher parts and accessories with your Swisher Multipurpose Tool. Do not make modifications to your machine without the written approval of Swisher.

Starting and Fueling

For detailed instructions on general safety procedures, fueling, starting, and stopping the powerhead assembly, refer to the appropriate Owner's Manual for your machine.

Operating Techniques

Your Swisher Tiller/Cultivator Tool's reversible tines allow you to quickly change from operation as a cultivator-weeder to an aggressive tiller for quickly digging a new garden or landscaping plot. For best operation in either mode:

1. **WATER** the area to be tilled at least 24 hours before your planned tilling operation; then water again about 3 hours before the actual tilling.
2. **PULL** the tiller slowly toward you when tilling or cultivating.

Use the correct method for the job:

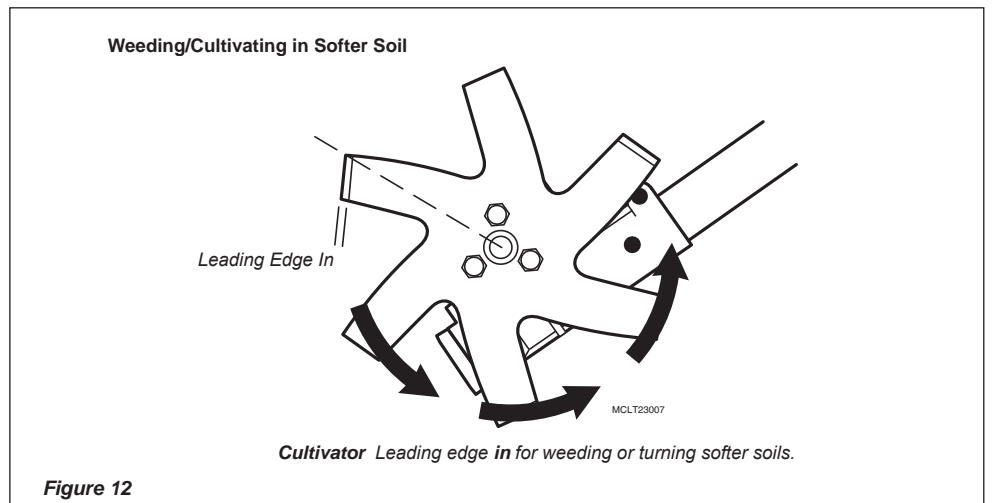
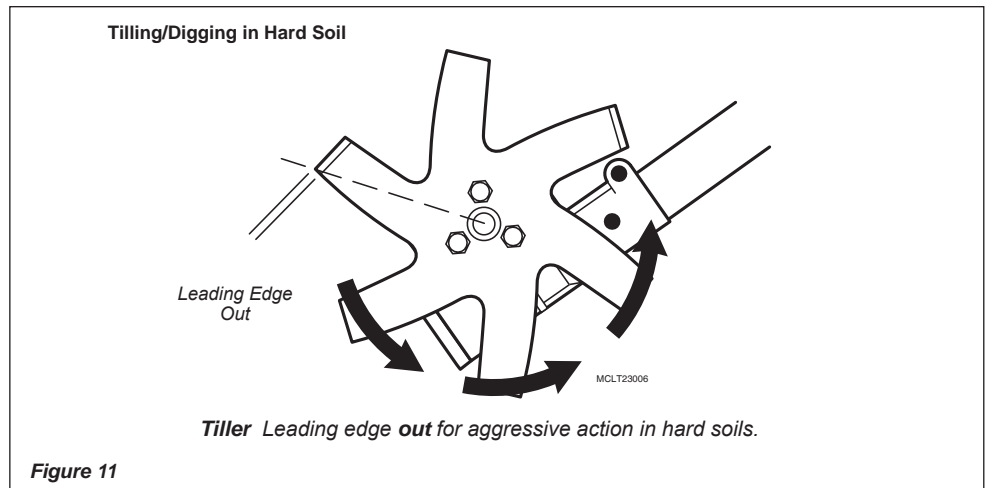
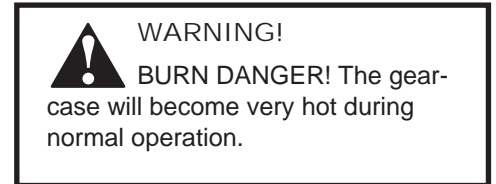
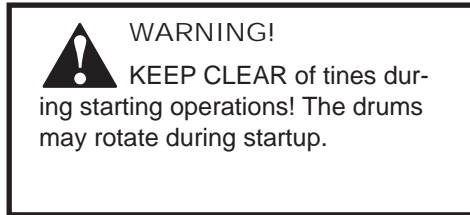
- **FOR DEEP TILLING** (up to 10" depth) use full throttle while slowly rocking the tiller back and forth over the work area.
- **SHALLOW WEEDING** in soft soils is easiest when the tines are installed in the cultivating configuration, with additional depth available by using a gentle rocking motion as described above.
- **HEAVY WEEDS** or weeding in harder soils may require reversing the tines to the more aggressive tiller configuration.

NEVER use a cracked or warped tine: replace it with a serviceable one.

ALWAYS stop the engine immediately and check for damage if you strike a foreign object or if the machine becomes tangled. Do not operate with broken or damaged equipment.

NEVER allow the engine to run at high RPM without a load. Doing so could damage the engine.

NEVER operate a machine with worn or damaged fasteners or attachment holders.



Maintenance

IMPORTANT!

For detailed maintenance information about your unit, consult the owner's manual that was provided with it. If it has been lost or misplaced, contact Swisher for a replacement.

NOTE

Using non-standard replacement parts could invalidate your Swisher warranty.



WARNING!

Before performing any maintenance, repair, or cleaning work on the unit, make sure the engine and cutting attachment are completely stopped. Disconnect the spark plug wire before performing service or maintenance.



WARNING!

Non-standard accessories, cutting attachment, or replacement parts may not operate properly with your unit and may cause damage and lead to personal injury.

Daily Maintenance

Prior to each work day, perform the following:

- Remove all dirt and debris from the engine, check the cooling fins and air cleaner for clogging, and clean as necessary.
- Make sure nuts, bolts, and screws (except carburetor idle speed adjusting screws) are tight.

- Carefully remove any accumulations of dirt or debris from the muffler and fuel tank. Check cooling air intake area at base of crankcase. Remove all debris. Dirt build-up in these areas can lead to engine overheating, fire, or premature wear.
- Clean any debris or dirt from the cutting attachment.

- Check for loose or missing screws or components. Make sure the cutter attachment is securely fastened.
- Check the entire unit for leaking fuel or grease.

300 Hour Maintenance

Gearcase Lubrication

The gearcase should be filled with 60 cc (2.0 fl.oz.) of Mobil SHC634 Synthetic Gear Oil. A maximum of 75-80 cc can be used, but never to exceed 80 cc. Operation with excessive oil level will result in high operating temperatures. **Do not overfill!**

Replacing the gearcase oil



WARNING!

BURN DANGER! The gearcase will be extremely hot after use!

1. Disconnect spark plug wire at engine.
2. Remove the LH Drum and axle assembly (as viewed from the operating position). Wipe the sideplate clean and remove four screws (it is not necessary to remove the gearcase from the outer tube).
3. Turn gearcase side plate to break the seal and lift the plate from the gearcase. See Figure 13.

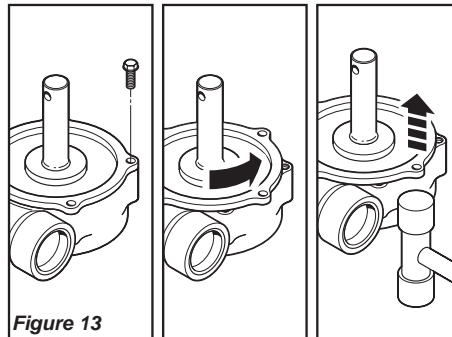


Figure 13

4. Turn the gearcase to the LH side and allow all used gearcase oil to drain into a small container.

NOTE:

It may be necessary to use a heat gun to soften the sealer material.

5. Place the gearcase on the RH side and supported so the outer tube is parallel to the ground. Refill the gearcase with 60 cc (2.0 fl.oz.) of Mobil SHC634 Synthetic Gear Oil to the bottom of the chamfer on the output gear. The correct oil depth is 5/8" (15.5 mm). See Figure 14. **DO NOT OVERFILL!** Refer to Figure 14.

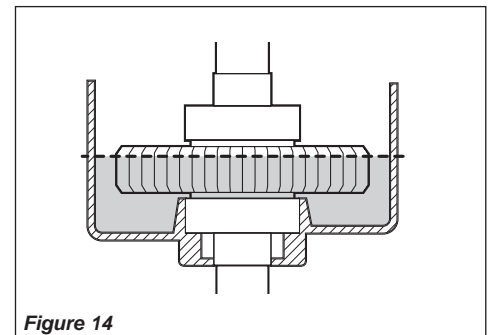
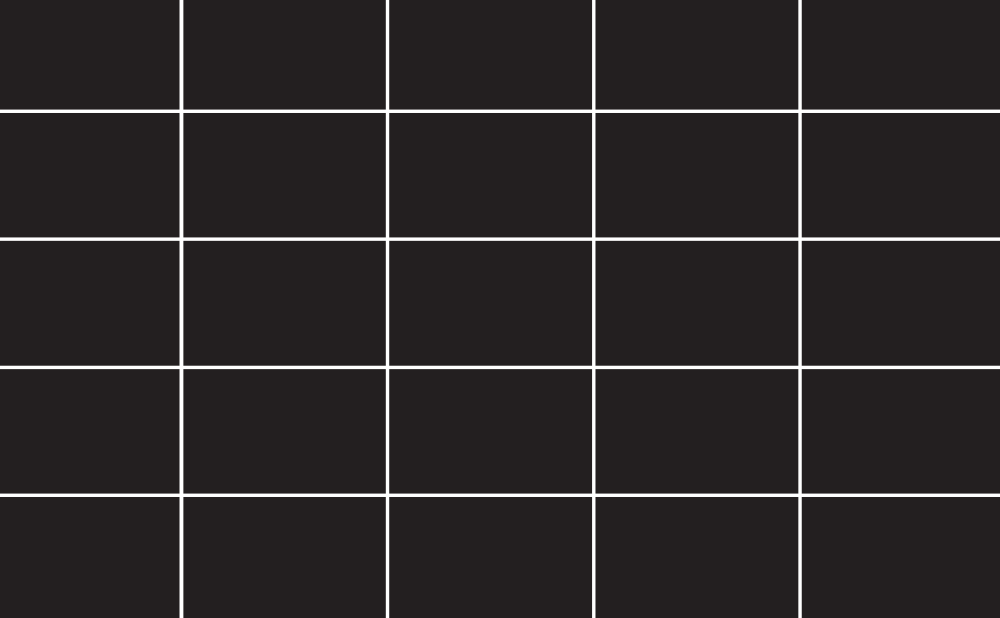


Figure 14

6. Inspect the sideplate for damage and clean off all remaining liquid gasket material with brake cleaner or acetone. Coat the outer sealing flange of the sideplate with Loctite Ultragrey Silicon Sealant or Threebond No. 1104 Liquid Gasket.
7. Replace the cover and install the four sideplate screws. Tighten securely.
8. Reinstall the drum and axle assembly per the sweeper assembly instructions. See page 11.

ADDITIONAL PROBLEMS

What To Check	Possible Cause	Remedy
<p>Tines rotates at engine idle.</p>	<p>Engine idle too high. Broken clutch spring or worn clutch spring boss. Loose attachment holder.</p>	<p> Set idle: 2,750 (\pm250) min-1. Replace spring/shoes as required, check idle speed. Inspect and re-tighten holders securely.</p>
<p>Excessive vibration.</p>	<p>Warped or damaged attachment. Loose gearcase. Bent main shaft/worn or damaged bushings.</p>	<p> Inspect and replace attachment as required. Tighten gearcase securely. Inspect and replace as necessary.</p>
<p>Tines will not rotate.</p>	<p>Shaft not installed in powerhead or gearcase. Broken shaft. Damaged gearcase.</p>	<p> Inspect and reinstall as required. Consult with a authorized servicing dealer.</p>



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