

# ***BCR4*** ***4-Cycle Petrol Trimmer***

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## **OPERATOR'S MANUAL**

**IMPORTANT MANUAL**

**DO NOT THROW AWAY**

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# INTRODUCTION

## *Thank You*

Thank you for purchasing this quality product. This modern outdoor power tool is designed to provide many hours of useful service. You will find it to be a great labor-saving device.

This operator's manual provides you with easy-to-understand operating instructions. Read the entire manual and follow all of the instructions to keep your new outdoor power tool in top operating condition.

## PRODUCT REFERENCES, ILLUSTRATIONS AND SPECIFICATIONS

All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

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## SERVICE INFORMATION

Service on this unit both within and after the warranty period should be performed only by an authorized and approved service dealer.

**NOTE: *PROOF OF PURCHASE WILL BE REQUIRED FOR WARRANTY SERVICE.***

**Make sure you carefully read and understand this manual before starting or operating this equipment.**

THIS PRODUCT IS COVERED BY ONE OR MORE US PATENTS, OTHER PATENTS PENDING.

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## CONTENTS OF CARTON

This unit should consist of the following:

- Model BCR4 Trimmer
- D-Handle and Hardware
- Cutting Attachment Shield
- Operator's Manual
- Product Registration Card

Examine all parts to make certain that nothing is missing and no breakage has occurred during shipping. Any damaged or missing part must be replaced before using this product.

# RULES FOR SAFE OPERATION

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL	MEANING
	<b>SAFETY ALERT SYMBOL:</b> Indicates danger, warning or caution. Special attention is required in order to avoid serious personal injury. May be used in conjunction with other symbols or pictographs.
<b>NOTE:</b>	<i>Advises you of information or instructions vital to the operation or maintenance of the equipment.</i>
	<b>DANGER:</b> Failure to obey a safety warning will result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire and personal injury.

SYMBOL	MEANING
	<b>WARNING:</b> Failure to obey a safety warning can result in serious personal injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire and personal injury.
	<b>CAUTION:</b> Failure to obey a safety warning can result in serious personal injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire and personal injury.

## • IMPORTANT SAFETY INFORMATION •

### READ ALL INSTRUCTIONS BEFORE OPERATING

- Read the instructions carefully. Be familiar with the controls and proper use of the unit.
- Do not operate this unit when tired, ill, or under the influence of alcohol, drugs or medication.
- Children and teens under the age of 15 must not use the unit, except for teens guided by an adult.
- Inspect the unit before use. Replace damaged parts. Check for fuel leaks. Make sure all fasteners are in place and secure. Replace cutting head parts that are cracked, chipped, or damaged in any way. Make sure the cutting head is properly installed and securely fastened. Be sure the cutting head guard is properly attached, and positioned as recommended. Failure to do so can result in personal injury to the operator and bystanders, as well as damage to the unit.
- Use only original equipment replacement line. Never use metal-reinforced line, wire, or rope, etc. These can break off and become a dangerous projectile.
- Be aware of the risk of injury to the head, hands and feet.

### SAFETY WARNINGS FOR PETROL TRIMMERS

**WARNING:** Petrol (gasoline) is highly flammable and its vapors can explode if ignited. Take the following precautions:

- Store fuel only in containers specifically designed and approved for the storage of such materials.
- Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank, or add fuel when the engine is hot.
- Pressure can build up in the fuel tank. Loosen the fuel tank cap slowly to relieve any pressure in the tank.
- Add fuel in a clean, well-ventilated area. Wipe up any spilled fuel immediately. If fuel has been spilled, avoid creating a source of ignition or starting the engine until fuel vapors have dissipated.
- Ensure correct fuel is used. Never operate the unit without the fuel cap securely in place.
- Move the unit at least 9.1 meters (30 ft.) from the fueling point before starting the engine. Do not smoke. Keep sparks and open flames away from the area while adding fuel or operating the unit.

### WHILE OPERATING

- Wear safety glasses or goggles and ear/hearing protection at all times when operating this unit. Always wear a face or dust mask if the operation is dusty.

# RULES FOR SAFE OPERATION

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- Wear heavy, long pants, boots and gloves. Do not wear loose clothing, jewelry, short pants, sandals or go barefoot. Secure hair above shoulder level.
- The string guard must be in place at all times while operating the unit. Failure to use the string guard may cause the clutch to overheat. **DO NOT OPERATE UNIT WITHOUT THE GUARD IN PLACE.**
- Before each use, check that the cutting head is in good condition and correctly installed, that the trigger returns automatically to the idle position.
- Before starting, adjust the handle to your size and make sure that the cutting head is not in contact with anything.
- Use the unit only in daylight or good artificial light.
- Operate this unit only in a well-ventilated area outdoors. Carbon monoxide exhaust fumes can be lethal in a confined area.
- Avoid accidental starting. Be in the starting position whenever pulling the starting rope. The operator and unit must be in a stable position while starting, as shown in *Starting/Stopping* instructions.
- Use the right tool. Do not use this unit for any job except for which it is intended.
- Do not overreach. Keep proper footing and balancing at all times.
- Always hold the unit with both hands when operating. Keep a firm grip on both the front and rear handles or grips.
- This unit has a clutch. The cutting head remains stationary when the engine is idling. If it does not, have the unit adjusted by an authorized service technician.
- Keep hands, face, and feet away from all moving parts. Do not attempt to touch or stop the string or cutting head when it is rotating.
- Do not touch the muffler or cylinder. These parts get extremely hot from operation and remain hot for a short time after the unit is turned off.
- Keep all bystanders, especially children and pets, at least 15 meters (50 ft.) away from the unit during operation.
- Do not operate the engine faster than the speed necessary to cut, trim or edge. Do not run the engine at high speed when not cutting.
- Always stop the engine when cutting is delayed or when walking from one cutting location to another.
- Do not operate unit without both trimming lines extended, and the proper line installed.
- Do not extend the trimming line beyond the length of the guard as specified in this manual.
- If you strike or become entangled with a foreign object, stop the engine immediately and check for damage. Repair any damage before further operation is attempted. Do not operate the unit with loose or damaged parts.
- Frequently inspect the condition of the cutting head. All damaged parts must be replaced immediately. Follow all the required precautions when undertaking replacement.
- Performing any maintenance, repair or for changing cutting head or safety attachments, must be undertaken with the engine stopped.
- Use only genuine replacement parts when servicing this unit. These parts are available from your authorized dealer. The use of non-standard parts, or other accessories or attachments not designed for this unit, could result in serious injury to the user or damage to the unit and void your warranty.
- Keep unit clean of vegetation and other materials. They may become lodged between the cutting head and guard mount.
- To reduce fire hazard, replace faulty mufflers and spark arrestors, keep the engine and muffler free of grass, leaves, excessive grease or carbon buildup.

## OTHER SAFETY WARNINGS

- Never store the unit, with fuel in the tank, inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing or transporting. Be sure to secure the unit while transporting. Drain fuel before transporting unit.
- Store the unit in a locked up and dry or high and dry place to prevent unauthorized use or damage, out of the reach of children.
- Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use, referring to the *Cleaning and Storage* instructions.
- Keep these instructions. Refer to them frequently and use them to instruct other users. If you loan someone this unit, also loan them these instructions.

## SAVE THESE INSTRUCTIONS

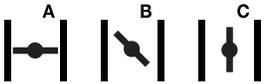
# RULES FOR SAFE OPERATION

## SAFETY AND INTERNATIONAL SYMBOLS

This operator's manual describes safety and international symbols and pictographs that may appear on this product. Read the operator's manual for complete safety, assembly, operating and maintenance and repair information.

SYMBOL	MEANING
	<ul style="list-style-type: none"> <li>• <b>SAFETY ALERT SYMBOL</b></li> </ul> <p>Indicates danger, warning, or caution. May be used in conjunction with other symbols or pictographs.</p>
	<ul style="list-style-type: none"> <li>• <b>WARNING - READ OPERATOR'S MANUAL</b></li> </ul> <p>Failure to follow operating instructions and safety precautions in operator's manual can result in serious injury. Read operator's manual before starting or operating this unit.</p>
	<ul style="list-style-type: none"> <li>• <b>WEAR EYE AND HEARING PROTECTION</b></li> </ul> <p><b>WARNING:</b> The operation of any power tool can be the source of thrown objects and loud noise which can cause severe eye injury and hearing loss. Always wear safety glasses or goggles, eye protection and ear protection when operating this unit. Use a full face shield when needed.</p> <p><b>NOTE:</b> Long term exposure to the sound pressure levels specified may cause permanent loss of hearing. Operator's should wear hearing protectors in accordance with AS 1270.</p>
	<ul style="list-style-type: none"> <li>• <b>KEEP BYSTANDERS AWAY</b></li> </ul> <p><b>WARNING:</b> Keep all bystanders, especially children and pets, at least 15 meters (50 feet) from the trimming area.</p>
	<ul style="list-style-type: none"> <li>• <b>PRIMER BULB</b></li> </ul> <p>Push primer bulb, fully and slowly, 5 to 7 times.</p>
	<ul style="list-style-type: none"> <li>• <b>UNLEADED FUEL (Petrol)</b></li> </ul> <p>Always use clean, fresh unleaded fuel (petrol).</p>
	<ul style="list-style-type: none"> <li>• <b>OIL</b></li> </ul> <p>Refer to operator's manual for the proper type of oil.</p>

# RULES FOR SAFE OPERATION

SYMBOL	MEANING
	<p>• <b>THROWN OBJECTS AND ROTATING CUTTER CAN CAUSE SEVERE INJURY</b></p> <p><b>WARNING:</b> Do not operate without plastic string guard in place. Keep away from rotating cutting head.</p>
	<p><b>IGNITION SWITCH</b> ON / START / RUN</p>
	<p>• <b>IGNITION SWITCH</b> OFF or STOP</p>
	<p>• <b>HOT SURFACE WARNING</b></p> <p>Do not touch a hot muffler or cylinder. You may get burned. These parts get extremely hot from operation and remain hot for a short time after the unit is turned off.</p>
	<p>• <b>SHARP BLADE</b></p> <p><b>WARNING:</b> Sharp blade on string guard. To prevent serious injury, do not touch blade.</p>
	<p>• <b>CHOKER CONTROL</b></p> <p>A • FULL choke position B • PARTIAL choke position C • RUN position</p>
	<p>• <b>BRUSHCUTTERS • REPLACE DULL BLADE</b></p> <p>Do not sharpen the cutting blade. Sharpening the blade can cause the blade tip to break off while in use. This can result in severe personal injury.</p>
	<p>• <b>TRIMMER/BRUSHCUTTER SAFETY</b></p> <p><b>WARNING:</b> Thrown objects and rotating cutter can cause severe injury. Keep bystanders, especially children and pets, at least 15 m (50 feet) away from the cutting area. The cutting attachment shield must be used when using the trimmer cutting attachment.</p>

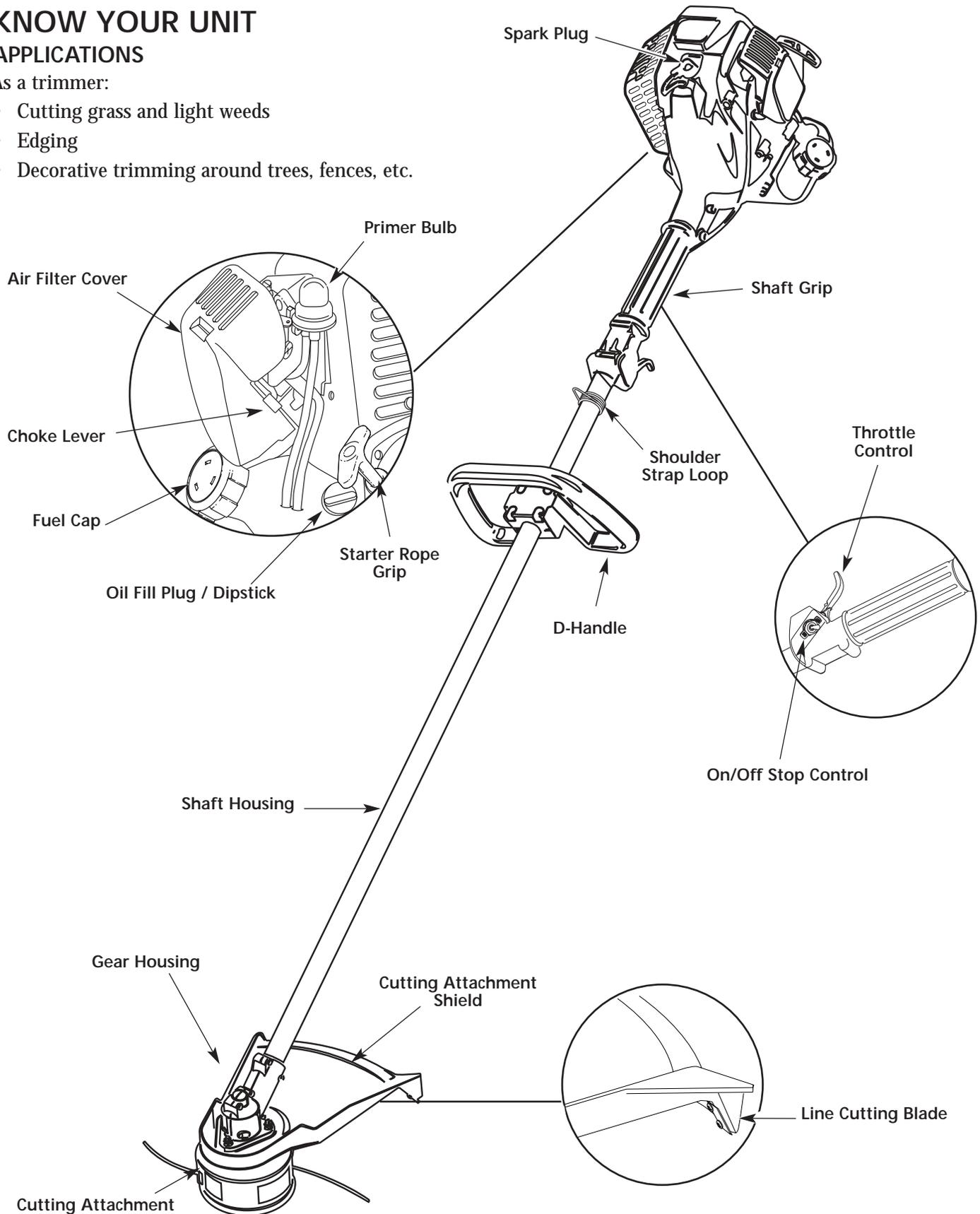
# RULES FOR SAFE OPERATION

## KNOW YOUR UNIT

### APPLICATIONS

As a trimmer:

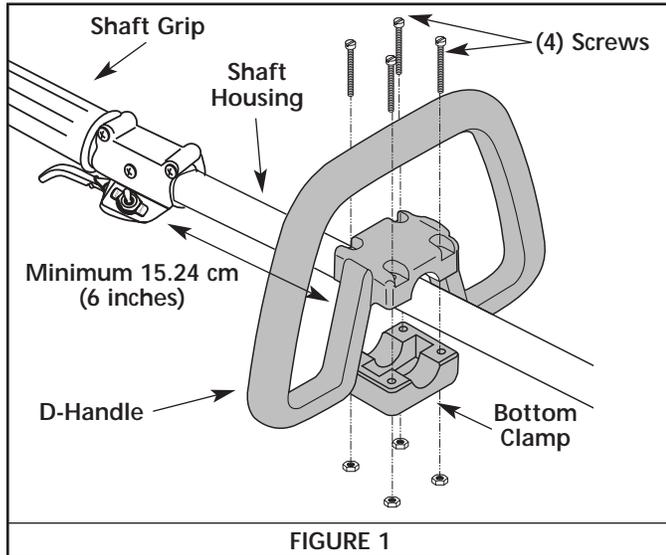
- Cutting grass and light weeds
- Edging
- Decorative trimming around trees, fences, etc.



# ASSEMBLY INSTRUCTIONS

## INSTALLING THE D-HANDLE

The D-handle may be pre-installed on some units. In this case, all that is required is the loosening of screws and D-handle adjustment. Tailor the handle to the operator. Go to step 4 for adjusting the D-handle if it is pre-installed.



1. Remove the screws and bottom clamp piece that were installed on the D-handle for shipping.
2. Place the D-handle over the shaft housing and onto the bottom clamp. See Figure 1. Place it a minimum of 15.24 cm (6 inches) from the end of the shaft grip.
3. Start the screws with a large flathead or T25 screwdriver. Do not tighten them until you make the handle adjustment.

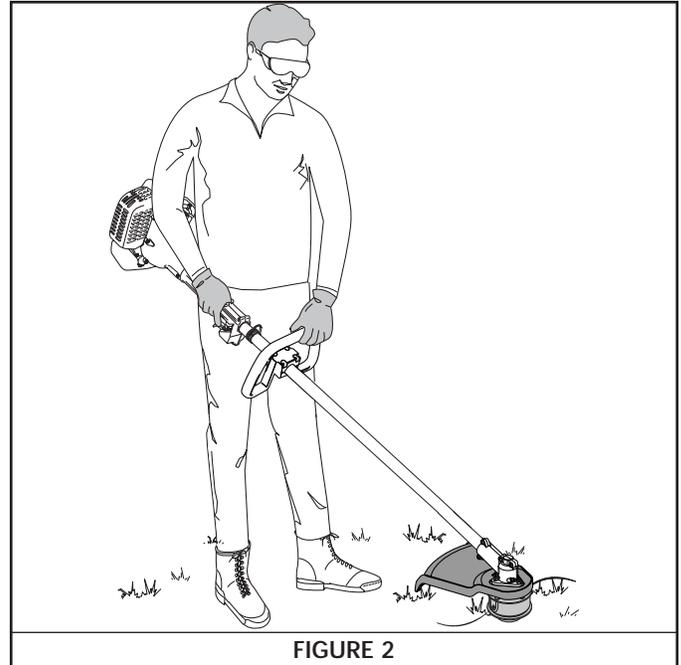


FIGURE 2

4. If the D-handle was pre-installed, loosen its screws just enough so that the handle slides and moves easily.
5. While holding the unit in the operating position, arrange the D-handle to the location that provides you the best grip. See Figure 2.
6. Tighten the clamp screws evenly, until the D-handle is secure.

# OIL & FUEL INFORMATION

## RECOMMENDED OIL TYPE

It is extremely important to use the proper type and weight of oil in the crankcase. Check the oil before each use and change the oil regularly. The use of incorrect or dirty oil can cause premature engine wear and failure.

Use a high-quality SAE 30 weight oil of API (American Petroleum Institute) service class SF, SG, SH.

## ADDING OIL TO CRANKCASE: INITIAL USE

**NOTE:** *This unit is shipped without oil. To avoid damaging the unit, put oil in the crankcase before attempting to start it.*

**NOTE:** *This 4-Cycle trimmer is shipped for operation in conditions above 40°F (4°C). For cold weather operation, where temperatures dip below 40°F (4°C), use a high-quality SAE 10W30 weight oil of API (American Petroleum Institute) service class SF, SG, SH.*

1. Place the unit on a flat level surface. See Figure 3. It is crucial to keep the unit level when filling with oil.
2. Remove the oil plug/dipstick from the crankcase.
3. Pour 100ml of oil into the oil fill hole. See Figure 4.

**NOTE:** *Never add oil to the fuel or fuel tank.*

4. Wipe up any oil that may have spilled and reinstall the oil fill plug/dipstick.

The importance of checking and maintaining the proper oil level in the crankcase cannot be overemphasized. Check oil before each use and change as specified in the *Maintenance Schedule*.

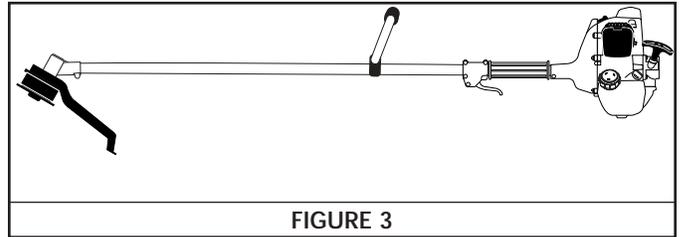


FIGURE 3

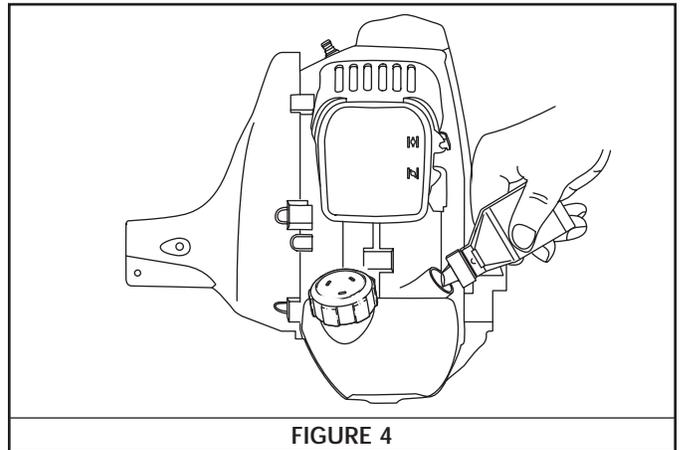


FIGURE 4

## RECOMMENDED FUEL TYPE

Old fuel is the primary reason for improper unit performance. Be sure to use fresh, clean, unleaded petrol (gasoline).

**NOTE:** *This is a four cycle engine. In order to avoid damage to the unit, do not mix oil with petrol (gasoline).*

# OIL & FUEL INFORMATION

## DEFINITION OF BLENDED FUELS

Today's fuels are often a blend of petrol and oxygenates such as ethanol, methanol or MTBE (ether). Alcohol-blended fuel absorbs water. As little as 1% water in the fuel can make fuel form acids when stored. When using alcohol-blended fuel, use fresh fuel that is less than 60 days old.

## Using Blended Fuels

If you choose to use a blended fuel, or if its use is unavoidable, follow recommended precautions:

- Always use fresh unleaded petrol (gasoline)
- Use the fuel additive STA-BIL® or an equivalent
- Drain tank and run the engine dry before storing the unit

## Using Fuel Additives

The use of fuel additives, such as STA-BIL® Gas Stabilizer or an equivalent, will inhibit corrosion and minimize the formation of gum deposits. Using a fuel additive can keep fuel from forming harmful deposits in the carburetor for up to six (6) months. Add 0.8 oz. (23 ml.) of fuel additive per gallon of fuel according to the instructions on the container. NEVER add fuel additives directly to the unit's gas tank.

## FUELING UNIT



**WARNING:** Petrol (gasoline) is extremely flammable and its vapors can explode if ignited. To avoid serious personal injury, always stop the engine and allow it to cool before filling the fuel tank. Do not smoke while filling the tank. Keep sparks and open flames away from the area.

1. Remove the fuel cap and.

**NOTE:** *Fill or add fuel to the tank only when the trimmer is in a horizontal position.*



**WARNING:** Remove fuel cap slowly to avoid injury from petrol spray.

2. Place the spout of the gas container into the fill hole on the fuel tank and fill. See Figure 5.

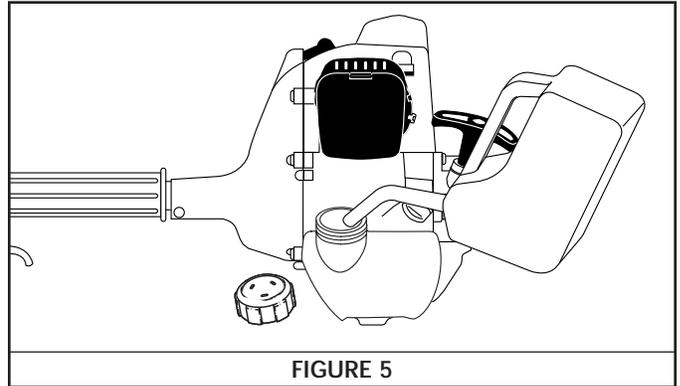


FIGURE 5



**WARNING:** Add petrol (gasoline) in a clean, well-ventilated outdoor area. Avoid creating a source of ignition for spilled fuel.

**NOTE:** *Do not overfill tank.*

3. Wipe up any petrol that may have spilled.
4. Reinstall the fuel cap.



**WARNING:** Never operate the unit without the fuel cap securely in place.

5. Move the unit at least 9.1 m (30 ft.) from the fueling source and site before starting the engine.

**NOTE:** *Dispose of the old petrol in accordance to Federal, State and Local regulations.*

# STARTING/STOPPING INSTRUCTIONS

## STARTING INSTRUCTIONS



**WARNING:** Operate this unit only in a well ventilated outdoor area. Carbon monoxide exhaust fumes can be lethal in a confined area.



**WARNING:** Avoid accidental starting. Make sure you are in the starting position when pulling the starter rope, as shown in Figure 9. To avoid serious injury, the operator and unit must also be in a stable position while starting.

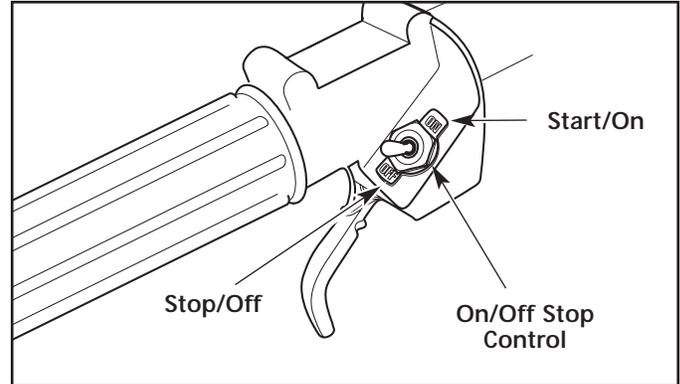


FIGURE 6

### Cold Start: First Start of the Day or Engine Ran Out of Fuel

1. Check oil level in crankcase. Refer to *Checking the Oil Level*.
2. Fill the fuel tank with fresh, clean, unleaded petrol (gasoline).
3. Put the Start/Stop Control in the **START** position. See Figure 6.
4. Place the choke lever in the **FULL** choke (A) |←| position. See Figure 7.

**NOTE:** *Slide the choke lever directly above the appropriate symbol on air filter cover decal.*

5. Fully press and release the primer bulb 5 to 7 times, slowly, until **FUEL IS VISIBLE IN THE PRIMER BULB**. If you can't see fuel in the bulb, press and release the bulb three (3) additional times, or as many times as it takes before you can see fuel in it. See Figure 7.
6. Squeeze and hold the throttle control to the wide open (full throttle) position.
7. With the unit in the starting position, pull the starter rope briskly 5 times in the **FULL** choke (A) |←| position. If the engine attempts to run before the fifth pull, proceed to step 8. See Figure 8.
8. Move the choke lever to the **PARTIAL** (B) |↘| position. See Figure 7.

**NOTE:** *The engine will not run in the FULL choke (A) |←| position.*

9. Pull the starter rope 1 to 3 times until the engine starts. Run for 15-30 seconds. If the unit fails to start, return to step 7.
10. Move the choke lever to the **RUN** (C) |→| position and run at full throttle for 30 seconds.
11. Release the throttle control to the idle position and begin operation.

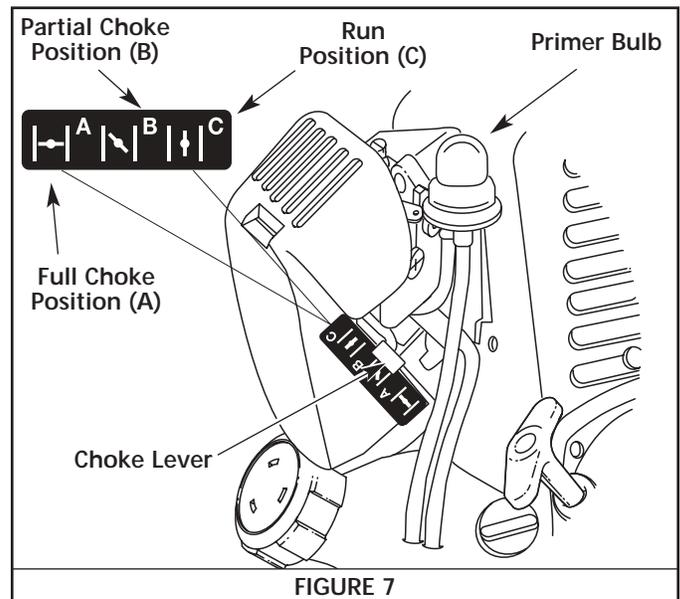


FIGURE 7

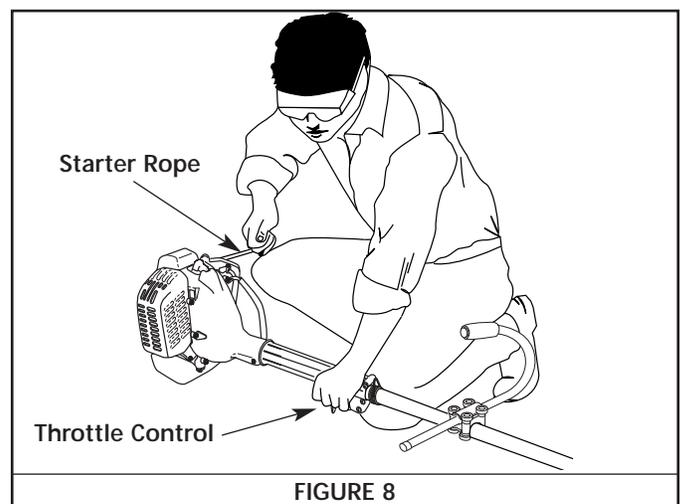


FIGURE 8

**NOTE:** *If the engine does not start using these procedures, repeat steps 5 through 11 using **TWO (2)** pulls in the **FULL** choke (A) |←| position.*

# STARTING/STOPPING INSTRUCTIONS

## Engine Re-Start: Warm Engine With Fuel

1. Put the On/Off Stop Control in the **START** position. See Figure 6.
2. Move the choke lever to the **PARTIAL (B)** |↘| position. See Figure 7.
3. Squeeze the throttle control to the wide open (full throttle) position.
4. With the unit in the starting position, pull the starter rope briskly until the engine starts. See Figure 8.
5. When the engine starts, move the choke lever to the **RUN (C)** |↑| position, and run at full throttle for 30 seconds, and up to one (1) minute in temperatures below 40°F (4°C).

**NOTE:** *If the engine does not start using the Engine Re-start procedures, revert to the Cold Start procedures.*

**NOTE:** *Four-stroke engines, like cars, are able to start in the idle position. As an alternate method, you may want to start your unit in the idle position when the unit is warm. With the On/Off Stop Control in the **START** position and the choke lever in the **RUN (C)** |↑| position, pull the starter rope briskly. When the engine starts, run at full throttle for 30 seconds. If the unit fails to start or dies, revert to the Engine Re-Start procedure for warm engines.*

## STOPPING INSTRUCTIONS

1. Release your hand from the throttle control. Allow the engine to idle.
2. To stop the engine, put the On/Off Stop Control in the **STOP** position. See Figure 6.

# OPERATING INSTRUCTIONS

## HOLDING THE TRIMMER



**WARNING:** Always wear eye, hearing, foot and body protection to reduce the risk of injury when operating this unit.

Before operating the unit, stand in the operating position. See Figure 9. Check for the following:

- The operator is wearing eye protection and proper clothing
- With a slightly-bent right arm, the operator's hand is holding the shaft grip
- The operator's left arm is straight, and the hand is holding the D-Handle
- The unit is at waist level
- The cutting head is parallel to the ground and easily contacts the vegetation without the need to bend over

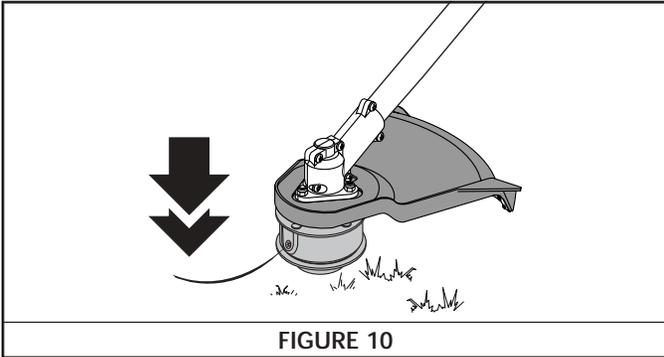


FIGURE 9

# OPERATING INSTRUCTIONS

## ADJUSTING TRIMMING LINE LENGTH

The Bump Head™ allows you to release trimming line without stopping the engine. To release more line, lightly tap the cutting head on the ground while operating the trimmer at high speed. See Figure 10.



**NOTE:** *Always keep the trimming line fully extended. Line release becomes more difficult as cutting line becomes shorter.*

Each time the head is bumped, it releases about 25.4 mm (1 inch) of trimming line. A blade in the string guard cuts the line to the proper length if excess line is released.

For best results, tap the Bump Head™ on bare ground or hard soil. If you attempt to release line in tall grass, the engine may overheat. Always keep the trimming line fully extended. Line release becomes more difficult as the cutting line becomes shorter.

**NOTE:** *Do not rest the Bump Head™ on the ground while the unit is running.*



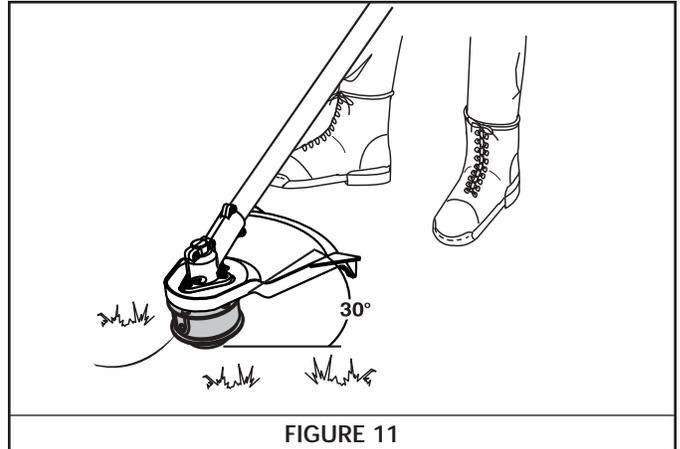
**CAUTION:** Do not remove or alter the line cutting blade assembly. Excessive line length will make the unit overheat. This may lead to serious personal injury or damage to the unit.

Some line breakage will occur from:

- Entanglement with foreign matter
- Normal line fatigue
- Attempting to cut thick, stalky weeds
- Forcing the line into objects such as walls or fence posts

## DECORATIVE TRIMMING

Decorative trimming is accomplished by removing all vegetation around trees, posts, fences and more. Use a 30-degree angle when trimming with this method. See Figure 11.



## TIPS FOR BEST TRIMMING RESULTS

1. The correct angle for the cutting head is parallel to the ground.

**NOTE:** *Do not rest the Bump Head™ on the ground.*

2. **DO NOT FORCE THE UNIT.** Allow the very tip of the line to do the cutting (especially along walls). Cutting with more than the tip will reduce cutting efficiency and may overload the engine.
3. Grass over 200 mm (8 in.) should be cut by working from top to the bottom in small increments to avoid premature line wear or engine drag.
4. Whenever possible, cut right to left. When cutting to the left, the unit's cutting efficiency is improved slightly. Also, the clippings are thrown away from the operator.
5. Slowly move the trimmer into and out of the area being cut, keeping the trimmer at the desired cutting height. Move either in a forward-to-backward or side-to-side motion. Cutting shorter lengths produces best results.
6. Trim only when grass and weeds are dry.
7. The life of your cutting line is dependent upon:
  - Following the trimming techniques
  - What vegetation is being cut
  - Where vegetation is cut

For example, the line will wear faster when trimming against a foundation wall as opposed to trimming around a tree.

# MAINTENANCE & REPAIR INSTRUCTIONS

## MAINTENANCE SCHEDULE

Perform these required maintenance procedures at the frequency stated in the table. These procedures should also be a part of any seasonal tune-up.

**NOTE:** *Some maintenance procedures may require special tools or skills. If you are unsure about these procedures take your unit to any non-road engine repair establishment, individual or authorized service dealer.*



**WARNING:** To prevent serious injury, never perform maintenance or repairs with unit running. Always service and repair a cool unit. Disconnect the spark plug wire to ensure that the unit cannot start.

**NOTE:** *Maintenance, replacement, or repair of the emission control devices and system may be performed by any non-road engine repair establishment, individual or authorized service dealer.*

In order to assure peak performance of your engine, inspection of the engine exhaust port may be necessary after 50 hours of operation. If you notice lost RPM, poor performance or general lack of acceleration, this service may be required. If you feel your engine is in need of this inspection, refer service to any non-road engine repair establishment, individual or authorized service dealer for repair. **DO NOT** attempt to perform this process yourself as engine damage may result from contaminants involved in the cleaning process for the port.

FREQUENCY	MAINTENANCE REQUIRED	REFER TO
Before starting engine	Fill fuel tank with fresh fuel Check oil	Page 9 Page 18
Every 10 hours	Clean and re-oil air filter	Page 17
First change at 10 hours Every 25 hours thereafter Every 25 hours	Change oil Change oil Clean spark arrestor	Page 18 Page 18 Page 17
10 hours on new engine Every 25 hours Every 25 hours	Check rocker arm to valve clearance and adjust Check rocker arm to valve clearance and adjust Check spark plug condition and gap	Page 19 Page 19 Page 21

## Check for Loose Fastener Parts

- Bump Head™
- String Guard Screws

## After Each Use Clean Unit and Labels

- Clean the unit using a damp cloth with a mild detergent.
- Wipe off the unit with a clean dry cloth.
- Keep air vents free from debris at all times.

## LINE INSTALLATION

This section covers both membrane line and standard single line installation.

Always use manufacturer's 0.095 inch (2.41 mm) replacement line. Line other than the specified may cause the engine to overheat or fail.



**WARNING:** To prevent serious personal injury, never use metal-reinforced line, wire or rope. These can break off and become dangerous projectiles.

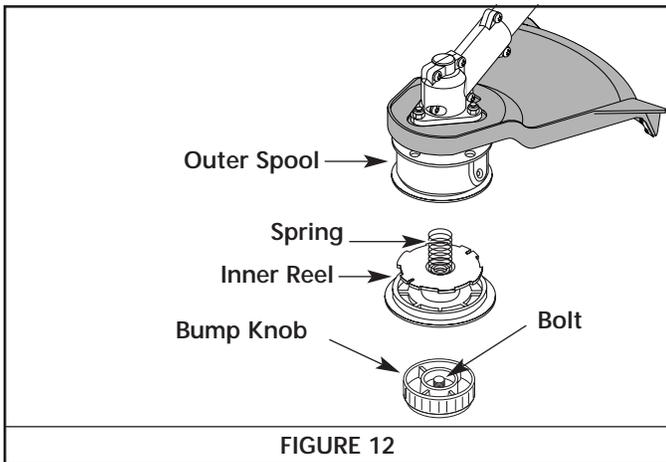
There are two ways to replace the trimming line:

- Wind the inner reel with new line
- Install a prewound inner reel

# MAINTENANCE & REPAIR INSTRUCTIONS

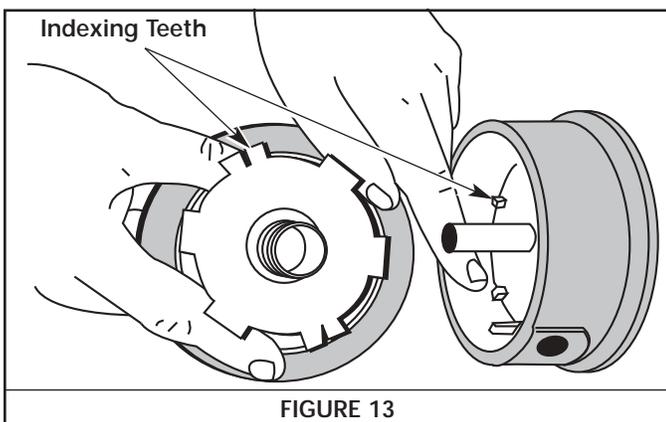
## Winding the Inner Reel With New Line

1. Hold the outer spool with one hand and unscrew the Bump Knob clockwise. Inspect the bolt inside the Bump Knob to make sure it moves freely. Replace the Bump Knob if damaged.
2. Remove the inner reel from the outer spool. See Figure 12.

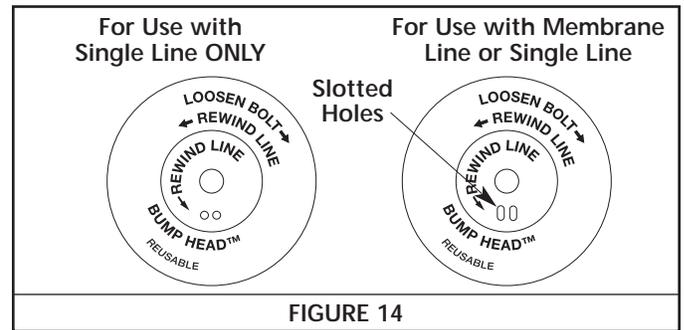


3. Remove the spring from the inner reel. See Figure 12.
4. Use a clean cloth to wipe the inner reel, spring, shaft and inner surface of the outer spool.
5. Check the indexing teeth on the inner reel and outer spool for wear. See Figure 13. If necessary, remove burrs or replace the reel and spool.

**NOTE:** *You can only use the membrane line with the inner reel that contains slotted holes. Single line can be used on either type of inner reel. Use Figure 14 to identify the inner reel you have.*



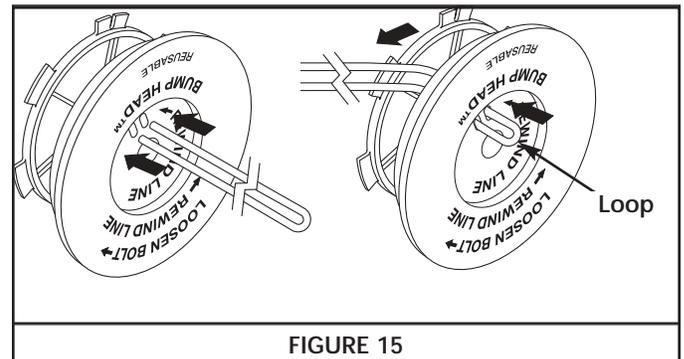
**NOTE:** *Always use the correct line length when installing trimming line on the unit. The line may not release properly if it is too long.*



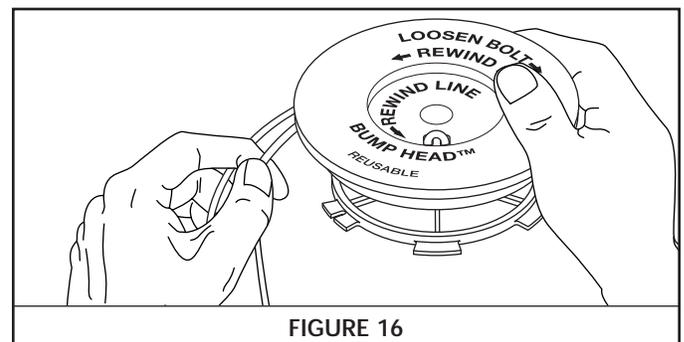
## Single Line Installation

Go To Step 8 for Membrane Line Installation.

6. Take approximately 40 feet (12.2 m) of new trimming line and loop it into two equal lengths. Insert each end of the line through one of the two holes in the inner reel. Pull the line through the inner reel so that the loop is as small as possible. See Figure 15.



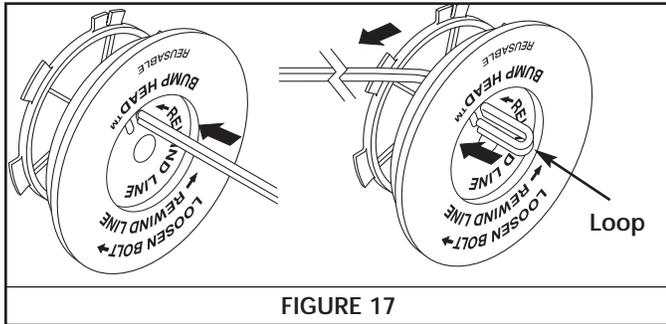
7. Wind the lines in tight even layers, onto the reel. See Figure 16. Wind the line in the direction indicated on the inner reel. Place your index finger between the two lines to stop the lines from overlapping. Do not overlap the ends of the line. Proceed to step 11.



# MAINTENANCE & REPAIR INSTRUCTIONS

## Membrane Line Installation

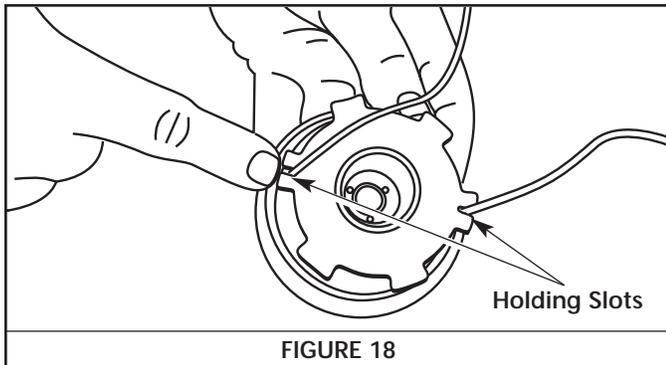
- Take approximately 20 feet (6.1 m) of new trimming line. Insert one end of the line through one of the two holes in the inner reel. Pull the line through the inner reel until only about 4 inches is left out. See Figure 17.
- Insert the end of the line into the open hole in the inner reel and pull the line tight to make the loop as small as possible. See Figure 17.



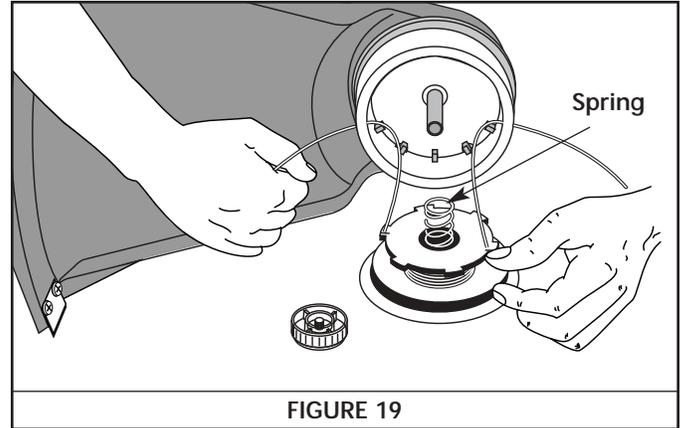
- Before winding, split the line back about 6 inches.
- Wind the line in tight even layers in the direction indicated on the inner reel.

**NOTE:** *Failure to wind the line in the direction indicated will cause the cutting attachment to operate incorrectly.*

- Insert the ends of the line into the two holding slots. See Figure 18.



- Insert the ends of the line through the eyelets in the outer spool and place inner reel with spring inside the outer spool. See Figure 19. Push the inner reel and outer spool together. While holding the inner reel and outer spool, grasp the ends and pull firmly to release the line from the holding slots in the reel.



**NOTE:** *The spring must be assembled on the inner reel before reassembling the cutting attachment.*

- Hold the inner reel in place and install the Bump Knob by turning counterclockwise. Tighten securely.

## Installing A Prewound Reel

- Hold the outer spool with one hand and unscrew the Bump Knob clockwise. See Figure 12. Inspect the bolt inside the Bump Knob to make sure it moves freely. Replace the Bump Knob if damaged.
- Remove the old inner reel from the outer spool. See Figure 12.
- Remove the spring from the old inner reel. See Figure 12.
- Place the spring in the new inner reel.

**NOTE:** *The spring must be assembled on the inner reel before reassembling the cutting attachment.*

- Insert the ends of the line through the eyelets in the outer spool. See Figure 19.
- Place the new inner reel inside the outer spool. Push the inner reel and outer spool together. While holding the inner reel and outer spool, grasp the ends and pull firmly to release the line from the holding slots in the spool.
- Hold the inner reel in place and install the Bump Knob by turning counterclockwise. Tighten securely.

## Replacement Parts

Line assembly replacement parts are listed in the *Replacement Parts/Accessories* section.

# MAINTENANCE & REPAIR INSTRUCTIONS

## AIR FILTER MAINTENANCE



**WARNING:** To avoid serious personal injury, always turn off your trimmer and allow it to cool before you clean or maintain it.

Clean and re-oil the air filter every 10 hours of operation. It is an important item to maintain. Failure to maintain the air filter will **VOID** the warranty.

1. Remove the air filter cover by pulling up the two tabs on the bottom back of the cover, then pull out and up. See Figure 20.
2. Remove the air filter.
3. Wash the filter in detergent and water. Rinse the filter thoroughly and allow it to dry.
4. Apply enough clean SAE 30 motor oil to lightly coat the filter. See Figure 21.
5. Squeeze the filter to spread and remove excess oil. See Figure 21.

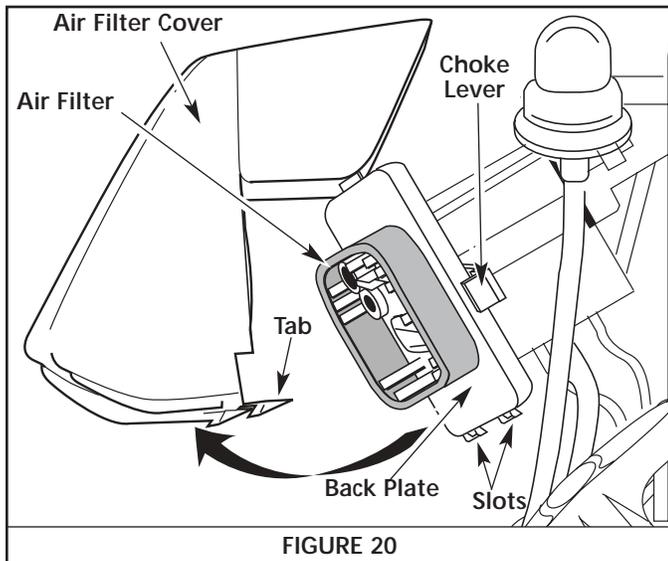


FIGURE 20

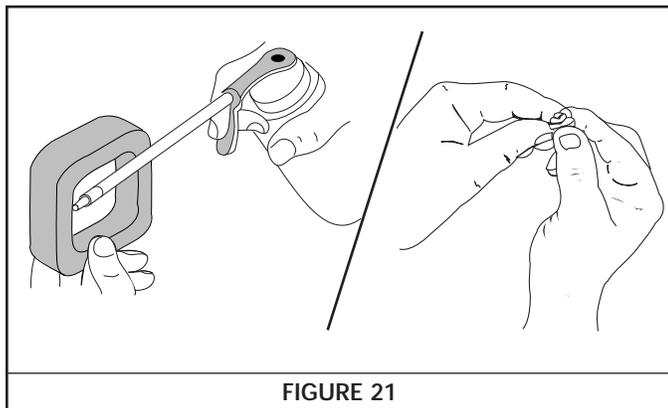


FIGURE 21

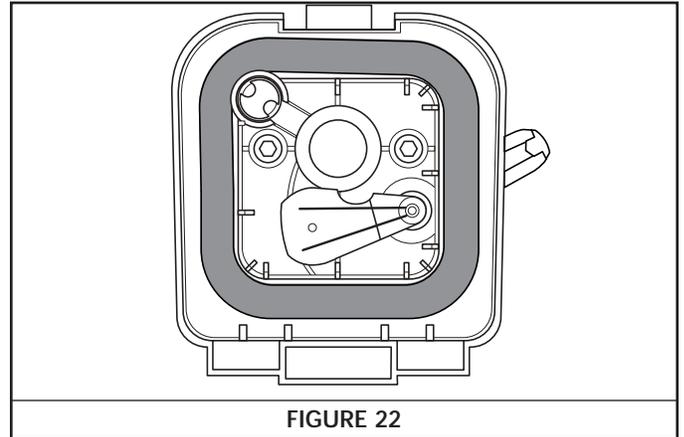


FIGURE 22

6. Reinstall the filter. See Figure 22.

## SPARK ARRESTOR MAINTENANCE

1. Remove the muffler cover. Refer to the *Rocker Arm* section.
2. Using a pair of pliers, remove the clip wrapped tight around the spark arrestor screen. See Figure 23.

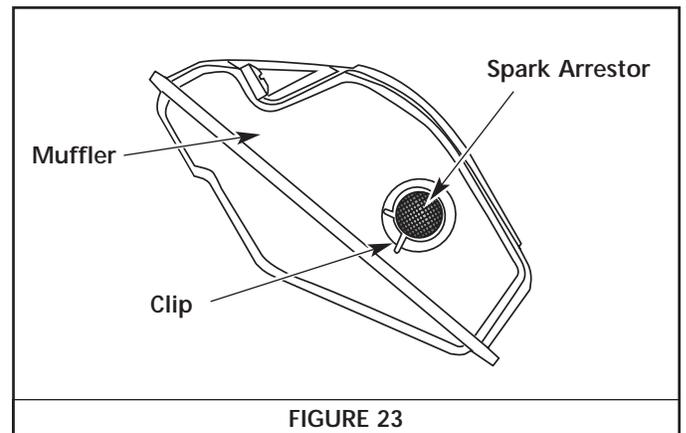


FIGURE 23

3. Remove the spark arrestor screen from the muffler.
4. Clean the spark arrestor screen with a wire brush, or replace it.
5. Reinstall the spark arrestor screen, clip, muffler cover and screws.

# MAINTENANCE & REPAIR INSTRUCTIONS

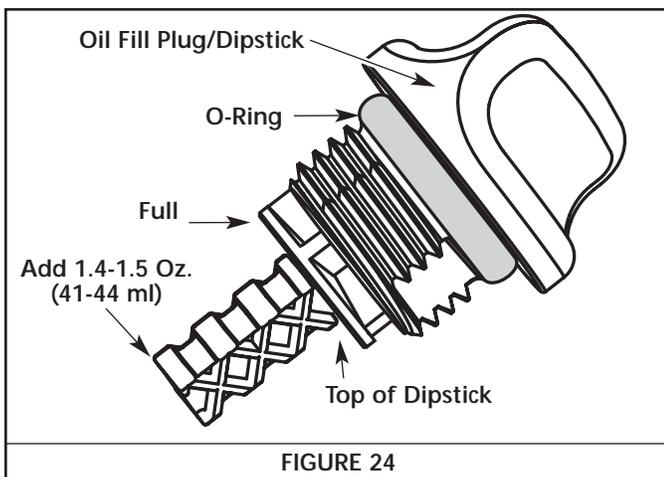
## CHECKING THE OIL LEVEL



**CAUTION:** To prevent extensive engine wear and damage to the unit, always maintain the proper oil level in the crankcase. Never operate the unit with the oil level below the bottom of the dipstick.

The importance of checking and maintaining the proper oil level in the crankcase cannot be overemphasized. Check oil before each use:

1. Stop engine and allow oil to drain into the crankcase.
2. To get a proper oil level reading, place the unit on a flat, level surface.
3. Keep dirt, grass clippings and other debris out of the engine. Clean the area around the oil fill plug/dipstick before removing it.
4. Remove the oil fill plug/dipstick and wipe off oil. Reinsert it all the way back in.
5. Remove the oil fill plug/dipstick and check the oil level. The oil should reach the top of the dipstick. See Figure 24.



6. If the level is low, add a small amount of oil to the oil fill hole and recheck. Repeat until the oil level reaches the top of the dipstick. See Figure 24.

**NOTE:** Do not overfill the unit.

**NOTE:** Make sure the O-ring is in place on the oil fill plug/dipstick when checking and changing the oil. See Figure 24.

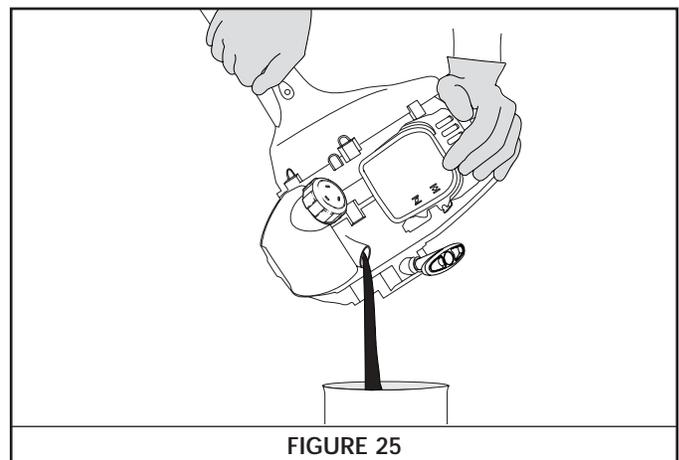
## CHANGING THE OIL

For a new engine, change the oil after the first 10 hours of operation. Change the oil while the engine is still warm. The oil will flow freely and carry away more impurities.



**CAUTION:** Wear gloves to prevent injury when handling the unit.

1. Unplug spark plug boot to eliminate starting.
2. Remove the oil fill plug/dipstick.
3. Pour the oil out of the oil fill hole and into a container by tipping the unit to a vertical position. Allow ample time for complete drainage. See Figure 25.



4. Wipe up any oil residue on the unit and clean up any oil that may have spilled. Dispose of the oil according to Federal, State and Local regulations.
5. Refill the crankcase with 3.4 fluid ounce (100 ml) of SAE 30 SF, SG, SH oil.

**NOTE:** For cold weather operation, where temperatures plummet below 40°F (4°C), use a high-quality SAE 10W30 weight oil of API (American Petroleum Institute) service class SF, SG, SH.

**NOTE:** Measure the correct amount of oil and fill the unit with approximately 3.4 ounces (100 ml). Check the level with the dipstick. If the level is low, add a small amount of oil and recheck. Do not overfill.

6. Replace the oil fill plug/dipstick.
7. Reconnect the spark plug boot.

# MAINTENANCE & REPAIR INSTRUCTIONS

## CARBURETOR SETTING

The idle speed of the engine is adjustable through the air filter/muffler cover. See Figure 26.

**NOTE:** *Careless adjustments can seriously damage your unit. An authorized service dealer should make carburetor adjustments.*

### Check Fuel Mixture

Old or dirty fuel is usually the reason for improper unit performance. Drain and refill the tank with fresh fuel prior to making any adjustments. Refer to *Oil and Fuel Information*.

### Clean Air Filter

The condition of the air filter is important to the operation of the unit. A dirty air filter will restrict air flow and change the air/fuel mixture. This is often mistaken for an out of adjustment carburetor. Check the condition of the air filter before adjusting the idle speed screw. Refer to *Air Filter Maintenance*.

### Adjusting the Idle Speed

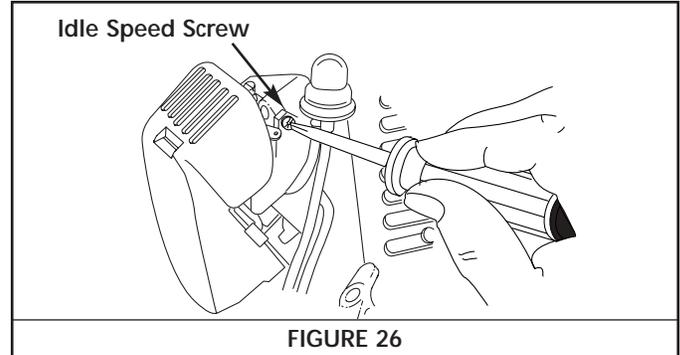


**WARNING:** The cutting head may spin during idle speed adjustment. Wear protective clothing and observe all safety instructions to prevent serious personal injury.

If, after checking the fuel mixture and cleaning the air filter, the engine still will not idle, adjust the idle speed as follows:

1. Start the engine and let it run at a high idle for a minute to warm up.
2. Release the throttle trigger and let the engine idle. If the engine stops, engage the idle speed screw with a small screwdriver. See figure 26. Turn the idle speed screw in, clockwise, 1/8 of a turn at a time (as needed) until the engine idles smoothly.

**NOTE:** *The cutting head should not rotate when the engine idles.*



3. If the cutting head rotates when the engine idles, turn the idle speed screw **counterclockwise** 1/8 of a turn at a time (as needed) to reduce idle speed.

These procedures should solve most engine problems. If this isn't the case, and:

- The engine will not idle
- The engine hesitates or stalls on acceleration
- There is a loss of engine power

Have the carburetor adjusted by an authorized service dealer.



**WARNING:** After the unit is turned off, make sure the cutting head has stopped before you set down the unit. This will help prevent serious personal injury.

## ROCKER ARM CLEARANCE

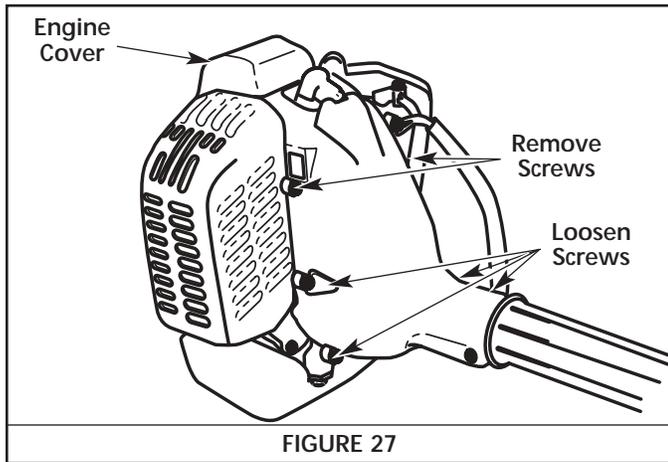
This procedure requires disassembly of the engine. If you feel unsure or unqualified to perform this, take the unit to an authorized service center.

**NOTE:** *Inspect the valve to rocker arm clearance with a feeler gauge after the first 10 hours of operation and then every 25 hours of operation thereafter.*

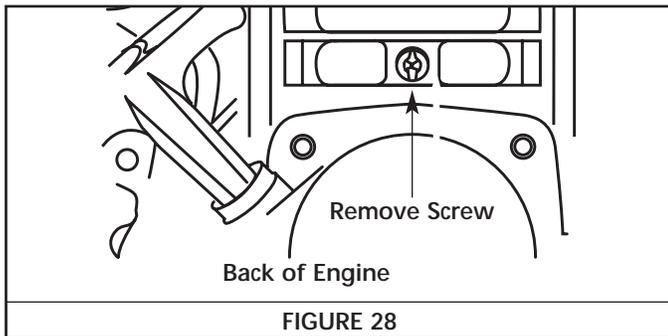
- The engine must be cold when checking or adjusting the valve clearance.
- This task should be performed inside, in a clean, dust free area.

# MAINTENANCE & REPAIR INSTRUCTIONS

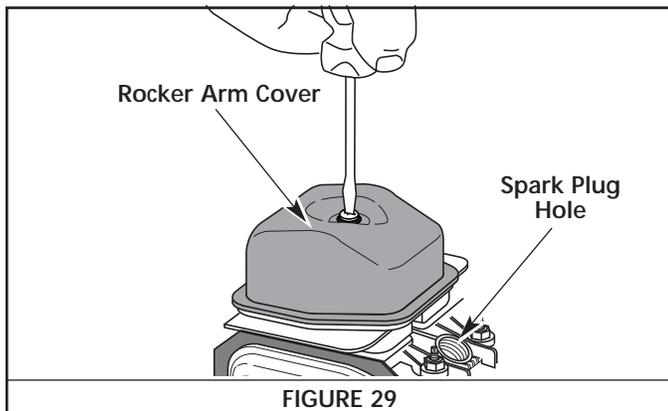
1. Loosen the four (4) screws shown in Figure 27.



2. Remove the three (3) screws that secure the engine cover, visible in Figures 27 and 28.
3. Disconnect the spark plug wire.
4. Remove the spark plug.
5. Remove the engine cover.



6. Clean dirt from around the rocker arm cover. Then remove the screw holding the rocker arm cover with a large flat blade screwdriver or Torx T25 bit. Remove the rocker arm cover and gasket. See Figure 29.

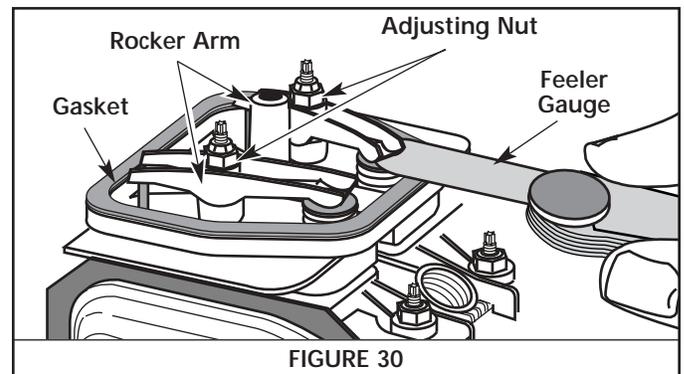


7. Pull the starter rope slowly to bring the piston to the top of its travel, (known as top dead center). Check that:
  - While looking in the spark plug hole, the piston is at the top of its travel. See Figure 29.
  - Both rocker arms move freely, and both valves are closed.

If not, repeat this step.

8. Slide the feeler gauge between the rocker arm and the valve return spring. Measure the clearance between the valve stem and rocker arm. Measure both the intake and exhaust valves. See Figure 30.

The recommended clearance for both intake and exhaust is .076 – 0.152 mm (.003 – .006 in.). Use a standard automotive 0.127 mm (.005 in.) feeler gauge. The feeler gauge should slide between the rocker arm and valve stem with a slight amount of resistance, without binding. See Figure 30.



10. If the clearance is not within specification:
  - a. Turn the adjusting nut using a 5/16 inch (8 mm) wrench or nut driver. See Figure 30.
    - To increase clearance, turn the adjusting nut counterclockwise.
    - To decrease clearance, turn the adjusting nut clockwise.
  - b. Recheck both clearances, and adjust as necessary.
11. Reinstall the rocker arm cover using a new gasket. Torque the screw to 2.2–3.4 N·m (20–30 in·lb).

**NOTE:** *You can purchase a rocker arm cover gasket from your local authorized dealer.*

12. Reinstall the engine cover. Check alignment of the cover before tightening the screws. Tighten screws.
14. Check the spark plug and reinstall. Refer to *Replacing the Spark Plug*.
15. Replace the spark plug wire.

# MAINTENANCE & REPAIR INSTRUCTIONS

## REPLACING THE SPARK PLUG

Use a Champion RDZ19H spark plug (or equivalent). The correct air gap is 0.635 mm (0.025 in.) Remove the plug after every 25 hours of operation and check its condition.

1. Stop the engine and allow it to cool. Grasp the plug wire firmly and pull it from the spark plug.
2. Clean around the spark plug. Remove the spark plug from the cylinder head by turning a 5/8-inch socket counterclockwise.
3. Replace cracked, fouled or dirty spark plug. Set the air gap at 0.635 mm (0.025 in.) using a feeler gauge. See Figure 32.



**CAUTION:** Do not sand blast, scrape, or clean electrodes. Grit in the engine could damage the cylinder.

4. Install a correctly gapped spark plug in the cylinder head. Tighten by turning the 5/8-inch socket clockwise until snug.

If using a torque wrench torque to:

12.3-13.5 N•m (110-120 in.•lb.)

Do not over tighten.

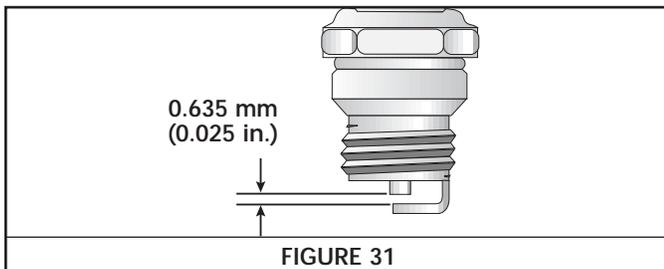


FIGURE 31

## CLEANING



**WARNING:** To avoid serious personal injury, always turn your trimmer off and allow it to cool before you clean or perform any maintenance.

Use a small brush to clean off the outside of the unit. Do not use strong detergents. Household cleaners that contain aromatic oils such as pine and lemon, and solvents such as kerosene, can damage plastic housing or handle. Wipe off any moisture with a soft cloth.

## STORAGE

- Never store the unit with fuel in the tank where fumes may reach an open flame or spark.
- Allow the engine to cool before storing.
- Store the unit locked up to prevent unauthorized use or damage.
- Store the unit in a dry, well-ventilated area.
- Store the unit out of the reach of children.

## LONG TERM STORAGE

If the unit will be stored for an extended time, use the following storage procedure:

1. Drain all petrol (gasoline) from the fuel tank into a container. Do not use petrol that has been stored for more than 60 days. Dispose of the old fuel in accordance to Federal, State and Local regulations.
2. Start the engine and allow it to run until it stalls. This ensures that all fuel has been drained from the carburetor.

**NOTE:** *Remove the spark plug and drain all of the oil from the cylinder before attempting to start the trimmer after storage.*

3. Thoroughly clean the unit and inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts. The unit is ready for storage.

## TRANSPORTING

- Allow the engine to cool before transporting.
- Secure the unit while transporting.
- Drain fuel from unit.
- Tighten fuel cap before transporting.

# TROUBLESHOOTING GUIDE

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## ENGINE WILL NOT START

CAUSE	ACTION
Ignition switch is in OFF/STOP position . . . . .	Turn ignition switch to ON
Empty fuel tank . . . . .	Fill fuel tank with proper fuel
Primer bulb wasn't pressed enough . . . . .	Press primer bulb fully and slowly 5-7 times
Engine flooded . . . . .	Use starting procedure WITHOUT USING CHOKE
Old or improper fuel . . . . .	Drain fuel tank and add fresh fuel
Fouled spark plug . . . . .	Replace or clean the spark plug

## ENGINE WILL NOT IDLE

CAUSE	ACTION
Air filter is plugged . . . . .	Replace or clean the air filter
Old or improper fuel . . . . .	Drain fuel tank and add fresh fuel
Carburetor adjusted poorly . . . . .	Adjust carburetor idle

## ENGINE WILL NOT ACCELERATE

CAUSE	ACTION
Old or improper fuel . . . . .	Drain fuel tank and add fresh fuel
Cutting head bound with grass . . . . .	Stop the engine and clean the cutting head

## ENGINE LACKS POWER OR STALLS WHEN CUTTING

CAUSE	ACTION
Dirty air filter . . . . .	Clean or replace the air filter
Old or improper fuel . . . . .	Drain fuel tank and add fresh fuel
Cutting head bound with grass . . . . .	Stop the engine and clean the cutting head
Muffler or spark arrestor plugged . . . . .	Clean or replace muffler / spark arrestor
Carburetor misadjusted . . . . .	Take to an authorized service dealer for carburetor adjustment

## CUTTING HEAD WILL NOT ADVANCE LINE

CAUSE	ACTION
Cutting head out of line . . . . .	Refill with new line
Inner reel bound up . . . . .	Replace the inner reel
Cutting head dirty . . . . .	Clean inner reel and outer spool
Line welded . . . . .	Disassemble, remove the welded section and rewind the line
Line twisted when refilled . . . . .	Disassemble and rewind the line
Not enough line is exposed . . . . .	Push the bump knob and pull out line until 102 mm (4 inches) of line is outside of the cutting head

## CUTTING LINE ADVANCES UNCONTROLLABLY

CAUSE	ACTION
Oil in cutting head . . . . .	Clean the cutting head assembly

If further assistance is required, contact your authorized service dealer.

# NOTES

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# SPECIFICATIONS

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## ENGINE

Engine Type	Air-Cooled, 4-Cycle
Displacement	26.2 cc (1.6 cu. in.)
Clutch Type	Centrifugal
Idle Speed RPM	3,000-3,600 rpm
Operating RPM	7,200-8,300 rpm
Ignition Type	Electronic
On/Off Stop Control	Toggle Switch
Valve clearance (intake and exhaust)	.076-.0152 mm (.003-.006 in.)
Spark Plug Gap	0.635 mm (0.025 in.)
Lubrication	SAE 30 Oil
Crankcase Oil Capacity	100 ml (3.4 oz)
Fuel	Unleaded
Carburetor	Diaphragm, All-Position
Starter	Auto Rewind
Muffler	Baffled with Guard
Throttle	Manual Spring Return
Fuel Tank Capacity	561 ml (19 oz)

## DRIVE SHAFT and CUTTING HEAD

Drive Shaft Housing	Aluminum
Throttle Control	Finger-Tip Trigger
Unit Weight (No Fuel, with D-handle, Cutting attachment shield and Cutting attachment)	11 lbs (4.9 kg)
Cutting Mechanism	Dual String Cutting Head
Line Spool	Bump Line Releaser
Line Spool Diameter	101.6 mm (4 inches)
Trimming Line Diameter	2.41 mm (0.095 inches)
Cutting Path Diameter	44.0 cm (18 inches)