



**ProLine**

**121cc Two-cycle  
Vertical Shaft Engine**

**Part No. 61-8062 – 790001 & Up**

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**Operator's Manual**

**IMPORTANT:** Read this manual carefully. It contains information about your safety and the safety of others. Also become familiar with the controls and their proper use before you operate the product.

# Introduction

We want you to be completely satisfied with your new product, so feel free to contact your local Authorized Service Dealer for help with service, genuine replacement parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the model of your product. This number will help the Service Dealer or Service Representative provide exact information about your specific product.

The warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death. DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

**DANGER** signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**WARNING** signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**CAUTION** signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

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# Specifications\*

## Technical Data

(Dimensions in Inches)

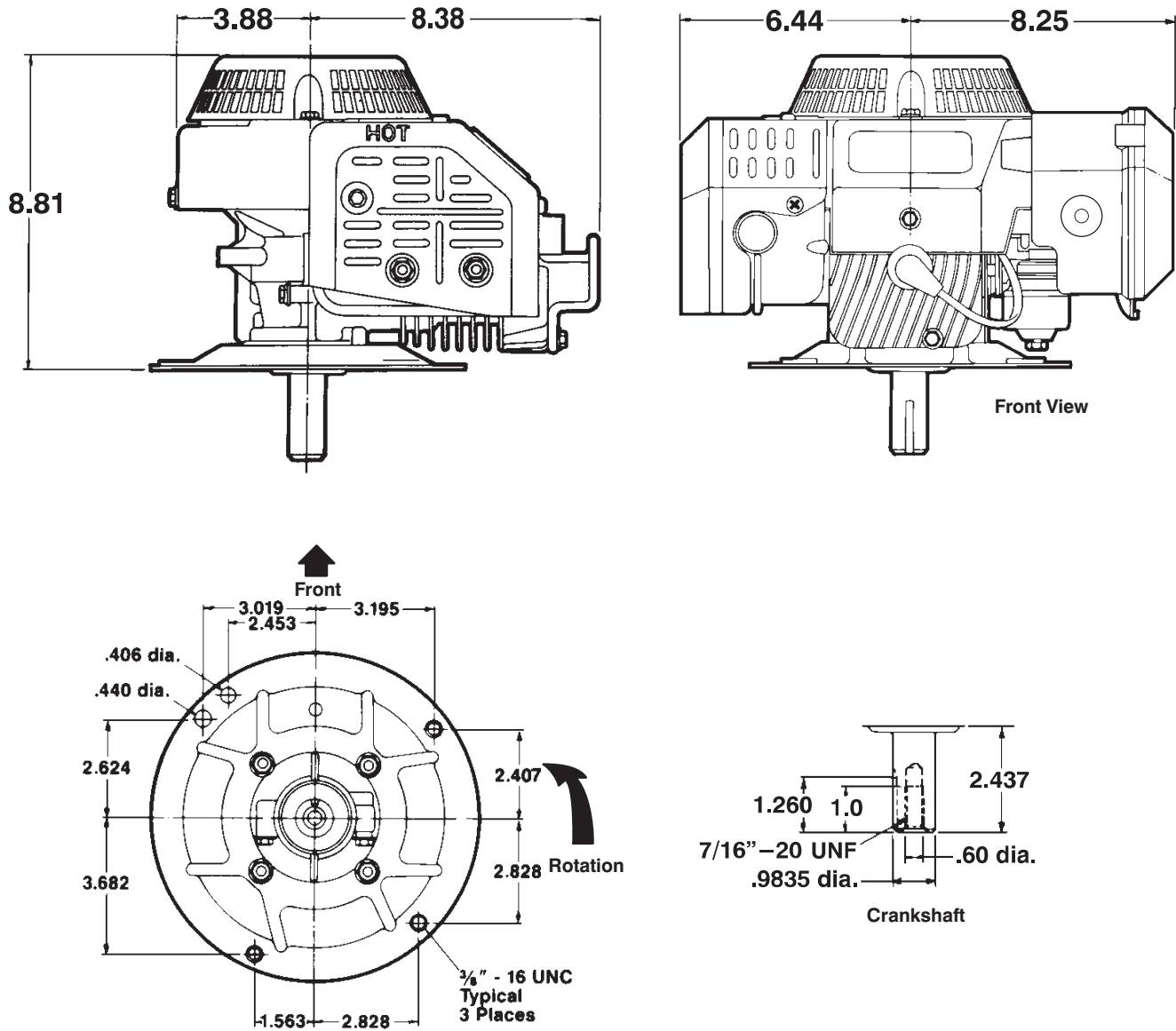


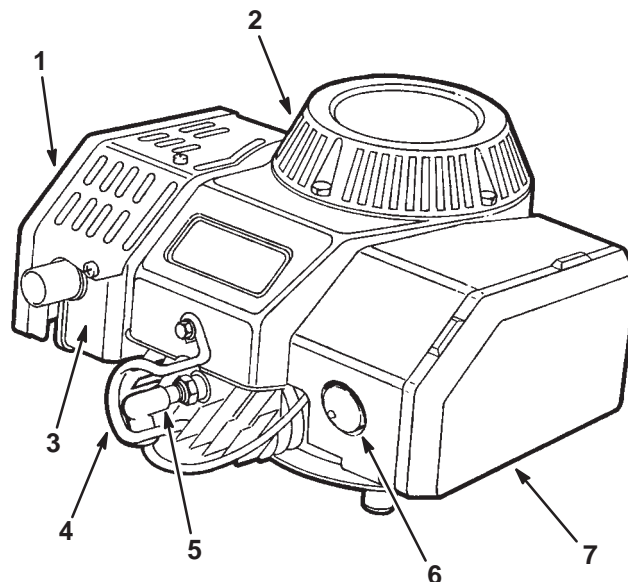
Figure 1

\*Specifications subject to change without notice.

## General Engine Specifications

<b>Engine Type</b> .....	Air-cooled, Two-cycle, 3rd Port Induction, Vertical Shaft
<b>Displacement</b> .....	121 cc
<b>Bore x Stroke</b> .....	2.283" x 1.811" (58 mm x 46 mm)
<b>Ignition System</b> .....	Solid State
<b>Spark Plug</b> .....	NGK BPMR4A 0.032" (0.8 mm) gap
<b>Governor</b> .....	Mechanical Flyweight
<b>No Load Governor Setting</b> ....	3000 RPM ± 150
<b>Main Bearings</b> .....	Ball Bearing
<b>Rod Bearings</b> .....	Caged Needle Bearing
<b>Lubrication System</b> .....	Pre-mixed with Fuel
<b>Air Cleaner</b> .....	Semi-dry, Urethane Foam
<b>Throttle Travel</b> .....	1.50" (38 mm)
<b>PTO Diameter</b> .....	1" (25 mm)
<b>PTO Length</b> .....	2.437" (62 mm)
<b>Mounting Bolt Size</b> .....	.375" (9.5 mm)
<b>Direction of Rotation</b> .....	Counterclockwise
<b>Dry Weight</b> .....	20 lbs (9 kg)

## Engine Feature Locations



**Figure 2**

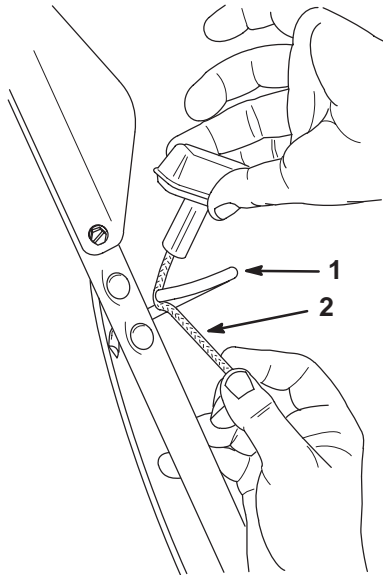
- |  |                         |
|--|-------------------------|
| 1. Muffler   | 4. Spark Plug Protector |
| 2. Air Slots in Recoil Housing                               | 5. Spark Plug and Wire  |
| 3. Muffler Guard Extension<br>(European requirement<br>only) | 6. Primer               |
|  | 7. Air Cleaner          |

# Installation

Check the position of the recoil start on the engine being replaced. Note that this replacement engine is assembled for zone-start blade applications.

## Starter Rope Configuration for Zone-start Applications

1. Insert the starter rope into the rope guide (Fig. 3).



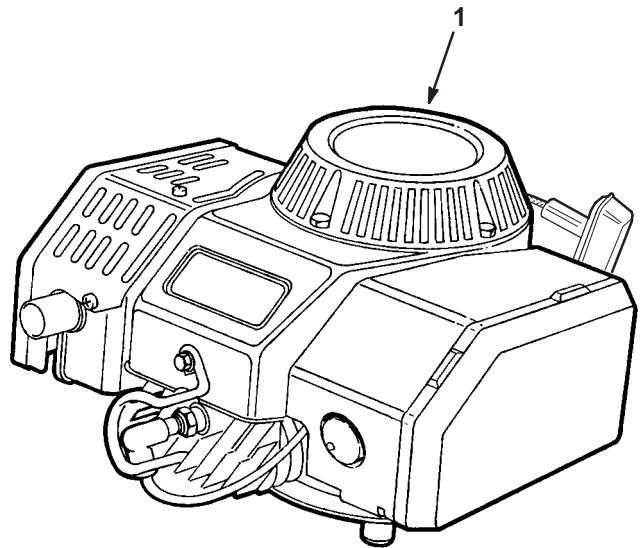
**Figure 3**

1. Rope Guide (typical)
2. Starter Rope

2. Fasten the rope stop to the starter rope to within 2-1/2" (64 mm) of the recoil assembly.

## Starter Rope Configuration for Non-zone-start Applications

1. Remove the recoil assembly (Fig 4).
2. Rotate the recoil assembly 90 degrees clockwise, then reassemble the recoil assembly to the engine (Fig 4).



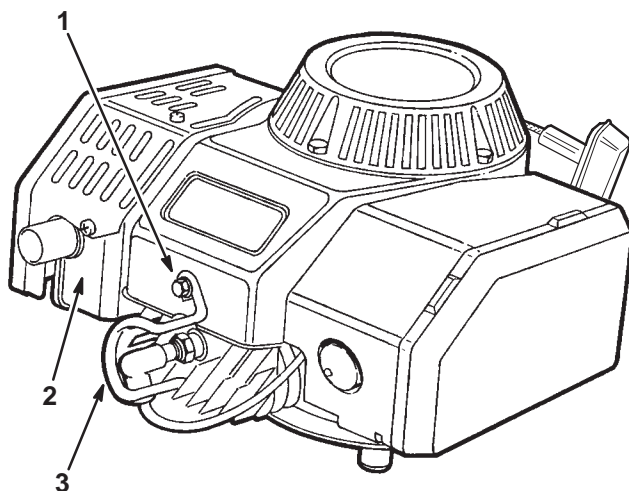
**Figure 4**

1. Recoil Assembly

3. Remove the rope stop and starter handle from the starter rope.
4. Remove approximately 28" (71 cm) of the starter rope, then reattach the starter handle.
5. Attach the recoil decal to the recoil assembly so the decal reads from the front of the engine.

## Installing the Spark Plug Protector

Fasten the spark plug protector to the engine using the self-tapping screws provided with the engine (Fig 2).



**Figure 5**

1. Self-tapping Screw (2)
2. Muffer Guard Extension (European requirement only)
3. Spark Plug Protector

## For European Applications

- A muffer guard extension is attached to the muffler. This is a European safety requirement and is not necessary for USA applications (Fig. 2).
- A fuel decal is provided to be affixed over the existing fuel decal. USA purchasers may discard this decal.

## Kill Switch Wire

Connect the kill switch wire to the equipment according to the equipment manufacturer's instructions.

## Fuel Line

You may have to cut the fuel line to fit your particular application.

# Operation

## Approved Oils and Mixing Ratios

Your two-cycle engine requires a mixture of gasoline and oil. Failure to use the correct oils and mixture will result in serious engine damage.

For simplicity and best engine performance, mix the contents of one 5.2-ounce bottle of **Toro Two-cycle Oil** with two gallons of fresh, unleaded regular gasoline. Leaded regular gasoline can be used if unleaded regular is not available.

**Toro Two-cycle Oil** is specially formulated to provide superior lubrication, make starting easy and prolong engine life. Regular use of **Toro Two-cycle Oil** will help keep your engine clean, and will help reduce spark plug fouling, piston ring sticking and pre-ignition. **Toro Two-cycle Oil** will also minimize varnish buildup, combustion chamber deposits and exhaust port blockage.

You can also use **Toro “Easy Mix” Two-cycle Oil** (one 3.2-ounce bottle mixed per gallon of gasoline for a 40:1 ratio) in this Toro two-cycle engine.

If **Toro Two-cycle Oil** or **Toro “Easy Mix” Two-cycle Oil** is not available, mix two gallons of gasoline and 5.2 ounces of another high grade two-cycle oil that has the NMMA or BIA-TCW certification printed on the label.

**Note:** Substitute oils may produce more exhaust smoke, may require increased engine service (more frequent spark plug changes and exhaust port/cylinder decarbonizing), and could reduce engine life.

**IMPORTANT: NEVER USE AUTOMOTIVE OIL (i.e. SAE 30, 10W30 etc.), OR THE WRONG MIX RATIO BECAUSE ENGINE DAMAGE MAY OCCUR. If engine failure occurs and it has been determined that Toro Two-cycle Oil was not used, the failure may not be covered the Toro warranty.**

Toro recommends that Toro Stabilizer/Conditioner be used regularly during operation and storage. Toro Stabilizer/Conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming in the engine during storage.

**DO NOT USE FUEL ADDITIVES OTHER THAN THOSE MANUFACTURED FOR FUEL STABILIZATION DURING STORAGE, SUCH AS TORO STABILIZER/CONDITIONER OR A SIMILAR PRODUCT. TORO’S STABILIZER/CONDITIONER IS A PETROLEUM DISTILLATE BASED CONDITIONER/STABILIZER. TORO DOES NOT RECOMMEND STABILIZERS WITH AN ALCOHOL BASE SUCH AS ETHANOL, METHANOL OR ISOPROPYL. STABILIZERS SHOULD NOT BE USED TO TRY TO ENHANCE THE POWER OR PERFORMANCE OF MACHINE.**

## Mixing Gasoline and Oil

### DANGER

#### POTENTIAL HAZARD

- In certain conditions gasoline is extremely flammable and highly explosive.

#### WHAT CAN HAPPEN

- A fire or explosion from gasoline can burn you, others, and cause property damage.

#### HOW TO AVOID THE HAZARD

- Use a funnel and fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.
- Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 1/4" to 1/2" (6 mm to 13 mm) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.
- Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.
- Store gasoline in an approved container and keep it out of the reach of children.
- Never buy more than a 30-day supply of gasoline.

Do not use gasoline that has been stored in an approved container from one season to the next. Use clean, fresh lead-free gasoline with an octane rating of 85 or higher. Purchase only the quantity of gasoline that can be used in 30 days to ensure freshness. Use of lead-free gasoline results in fewer combustion chamber deposits and longer spark plug life. Leaded gasoline may be used if lead-free is not available.

**Note:** NEVER USE METHANOL, GASOLINE CONTAINING METHANOL, GASOHOL CONTAINING MORE THAN 10% ETHANOL, PREMIUM GASOLINE OR WHITE GAS BECAUSE ENGINE FUEL SYSTEM COULD BE DAMAGED.

Mix the contents of one 5.2-ounce bottle of **Toro Two-cycle Oil** with two gallons of fresh, unleaded regular gasoline as follows:

1. Pour one gallon of gasoline into an approved gasoline container, then add one 5.2-ounce bottle of **Toro Two-cycle Oil**.
2. Install the cap on the gasoline container and shake to mix the oil and gasoline thoroughly (Fig. 6).
3. Slowly remove the cap, then add the remaining gasoline.

**Note:** Do not mix gasoline and oil in the engine fuel tank. Oil that is at room temperature mixes more easily and thoroughly than cold oil.

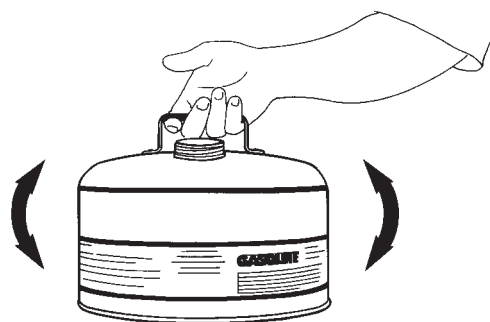


Figure 6

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## Filling the Fuel Tank

1. Pull the spark plug wire off of the spark plug (Fig. 7).
2. Clean around the fuel cap before removing the cap.
3. Remove the fuel tank cap and fill the fuel tank with the gasoline/oil mix to within 1/4 inch (6 mm) of the top of the tank, not into the filler neck. **DO NOT OVERFILL THE TANK.**
4. Reinstall the fuel tank cap securely and wipe up any spilled fuel.
5. Reconnect the spark plug wire to the spark plug (Fig. 7).

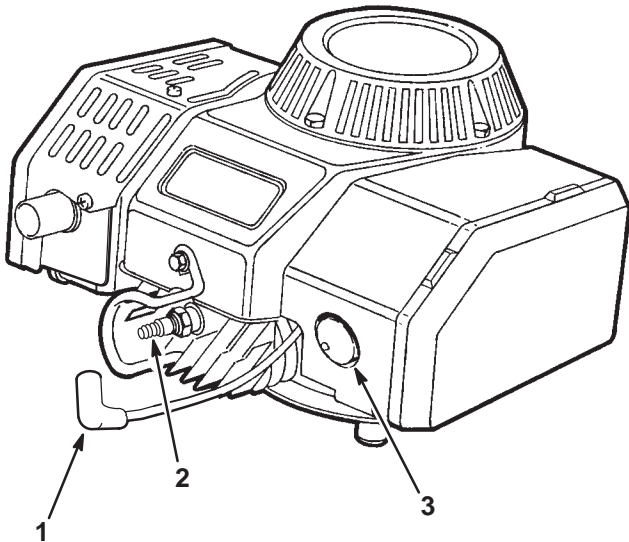


Figure 7

1. Spark Plug Wire
2. Spark Plug
3. Primer

## Starting the Engine

### DANGER

#### POTENTIAL HAZARD

- Clothing and body parts can get caught in moving parts on the engine and equipment.

#### WHAT CAN HAPPEN

- Contact with moving parts on the engine and equipment could cause serious personal injury.

#### HOW TO AVOID THE HAZARD

- Stay away from moving parts on the engine and equipment.
- Ensure that the equipment is in neutral, and disengage all clutches, belts and chains.

If the engine is remotely controlled, refer to the equipment manufacturer's starting and operating instructions for control positions which correspond to the Toro engine's starting and operating positions.

1. Make sure the spark plug wire is connected to spark plug (Fig. 7).
2. Cover the hole in the center of the primer with your thumb and push once. An additional prime may be necessary in extremely cold temperatures (Fig. 7).

**Note:** The choke and primer are usually not necessary when starting a warm engine.

3. Pull the recoil starter.
4. To stop the engine, move the remote control on the equipment to the setting specified by the equipment manufacturer.

# Maintenance

## Service Interval Chart

Service Operation	Each Use	25 Hours	75 Hours	Storage Service	Notes
Service Air Cleaner		X			Clean more frequently in dusty or dirty conditions
Remove and Check/Replace Spark Plug		X			
Clean Cooling System	X				
Clean Muffler Pipe and Exhaust Port			X		
Drain Gasoline				X	

### WARNING

#### POTENTIAL HAZARD

- If you leave the wire on the spark plug, someone could start the engine.

#### WHAT CAN HAPPEN

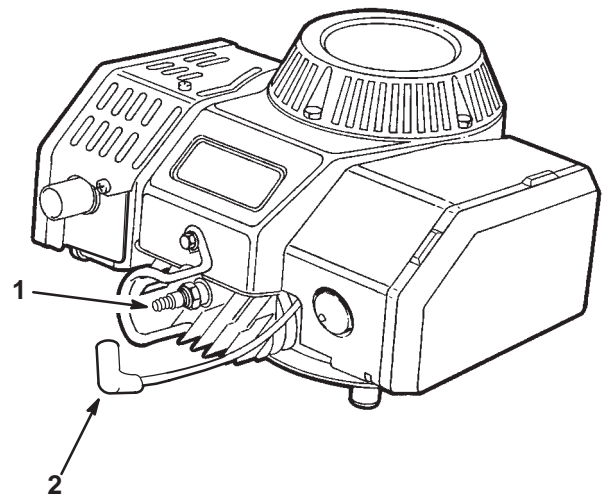
- Accidental starting of engine could seriously injure you or other bystanders.

#### HOW TO AVOID THE HAZARD

- Pull wire off spark plug before performing any maintenance. Also push wire aside so it does not accidentally contact spark plug.

## Before Performing Any Maintenance

Stop the engine and pull the spark plug wire off of the spark plug (Fig. 7).



**Figure 8**

1. Spark Plug

2. Spark Plug Wire

## Servicing the Air Cleaner

Normally clean the air cleaner after every 25 operating hours. More frequent cleaning is required when the engine is operated in dusty or dirty conditions.

1. Make sure the spark plug wire is disconnected from the spark plug (Fig. 9).
2. Lift the tab at the top of the air cleaner and pivot the air cleaner cover down. Clean the cover thoroughly (Fig. 9).
3. If the outside of the foam element is dirty, remove it from the air cleaner body and clean it thoroughly as follows:

A. Wash the foam element in a solution of liquid soap and warm water. Squeeze the element to remove the dirt.

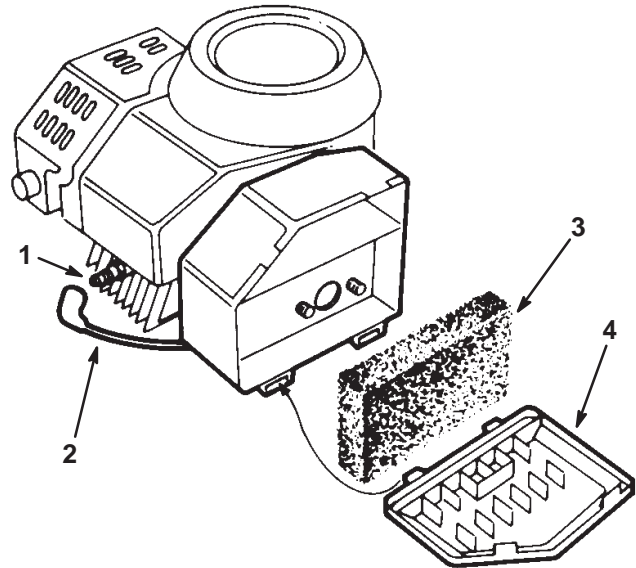
B. Rinse the element thoroughly in clear water.

C. Dry the element by wrapping it in a clean rag. Squeeze the rag and element to dry the element.

D. Saturate the element with engine oil. Squeeze the element to remove any excess oil, and to distribute the oil thoroughly. A damp element is desirable.

4. Reinstall the foam element and air cleaner cover (Fig. 9).

**IMPORTANT: Do not operate the engine without the air cleaner element installed or extreme engine wear and damage will likely result.**



**Figure 9**

- |                    |                      |
|--------------------|----------------------|
| 1. Spark Plug      | 3. Foam Element      |
| 2. Spark Plug Wire | 4. Air Cleaner Cover |
-

## Replacing the Spark Plug

Use an NGK BPMR4A spark plug or equivalent. The correct air gap is 0.032" (0.8 mm). Remove the plug after every 25 operating hours and check its condition.

1. Stop the engine and pull the spark plug wire off of the spark plug.
2. Clean around the spark plug and remove the plug from the cylinder head.

**IMPORTANT: Replace a cracked, fouled or dirty spark plug. Do not sandblast, scrape or clean the electrodes because engine damage could result from grit entering the cylinder.**

3. Set the air gap to 0.032" (0.8 mm) (Fig. 10).
4. Reinstall the correctly gapped spark plug and gasket seal. Tighten the plug firmly to 10 ft-lb (13.6 N•m).

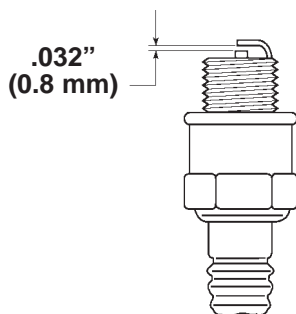


Figure 10

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## Cleaning the Cooling System

Cleaning the cooling system ensures correct cooling, best engine performance and maximum engine life.

1. Clean any dirt and chaff from the cylinder, cylinder head fins, and from around the carburetor and linkage (Fig. 2).
2. Remove any debris from around the air intake slots on the recoil housing (Fig. 2).

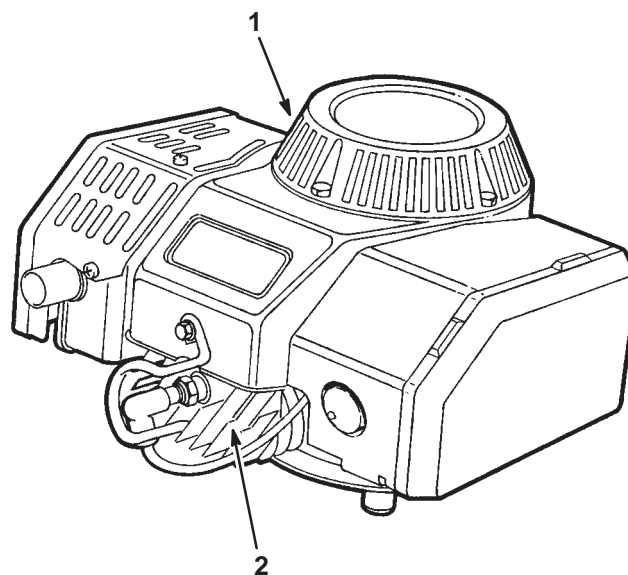


Figure 11

1. Air Slots in Recoil Housing
2. Cylinder Head Fins

## Cleaning the Muffler Pipe and Exhaust Port

### WARNING

#### POTENTIAL HAZARD

- Muffler and engine surfaces become hot during operation.

#### WHAT CAN HAPPEN

- Contact with hot muffler and engine surfaces could cause a burn.

#### HOW TO AVOID THE HAZARD

- Clean the muffler and exhaust port only after the engine and muffler are cool.

Clean the end of the muffler pipe and the exhaust port every 75 hours of operation.

1. Use a hardwood scraper to remove the carbon from the end of the muffler pipe (Fig. 12).
2. Remove the Phillips screw, two hex nuts and lock washers and remove the muffler cover and attached muffler cover extension from the engine (Fig. 12).

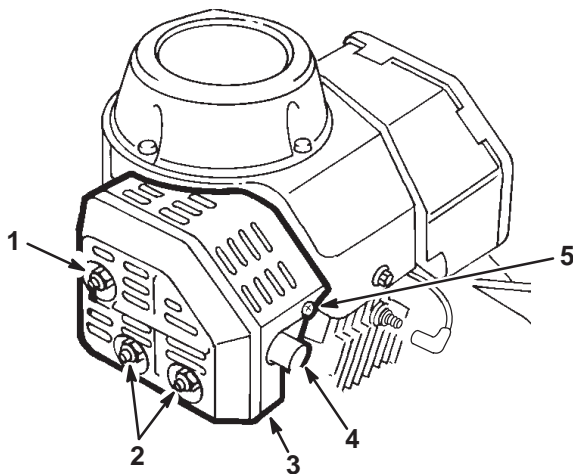


Figure 12

- |                                |                   |
|--------------------------------|-------------------|
| 1. Hex Head Screw              | 3. Muffler Cover  |
| 2. Hex Nut and Lock Washer (2) | 4. Muffler Pipe   |
|                                | 5. Phillips Screw |

3. Remove the hex head screw, then remove the muffler from the engine (Fig. 12).
4. Make sure the spark plug wire is off of the spark plug, then slowly pull the starter rope until the piston covers the exhaust port (Fig. 13).
5. Clean the carbon from the exhaust port with a flat, hardwood scraper (Fig. 13).

**IMPORTANT: Do not use a metal scraper or similar object to clean the exhaust port. This can damage the piston or cylinder.**

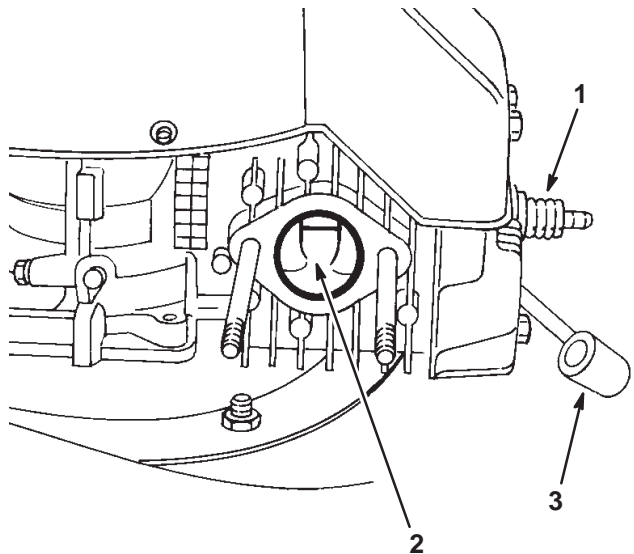


Figure 13

- |                 |                    |
|-----------------|--------------------|
| 1. Spark Plug   | 3. Spark Plug Wire |
| 2. Exhaust Port |                    |

6. Check the muffler gasket and replace it if worn or damaged.
7. Reinstall the muffler onto the engine, then reinstall and tighten the hex head screw (Fig. 12).
8. Reinstall the muffler cover and muffler cover extension onto the muffler, then reinstall and tighten the Phillips screw, and the two lock washers and hex nuts (Fig. 12).

## Draining the Gasoline

### WARNING

#### POTENTIAL HAZARD

- If gasoline is spilled on a hot engine, it could ignite.

#### WHAT CAN HAPPEN

- Contact with burning gasoline could cause serious personal injury.

#### HOW TO AVOID THE HAZARD

- Drain gasoline from a cold engine only.

1. Shut off the engine and allow it to cool.

**IMPORTANT: Drain gasoline from a cold engine only.**

2. Make sure the spark plug wire is off of the spark plug. Remove the cap from the fuel tank and use a pump-type syphon to drain the fuel into a clean gas can.

**Note:** This is the only procedure recommended for draining fuel.

## Storage

For long-term storage, either drain the gasoline from the fuel tank or use a fuel additive before storing. To drain the gasoline, refer to Draining the Gasoline above.

### If You Drain the Gasoline

1. After the fuel is drained, start the engine and let it idle until all the fuel is consumed and the engine stops.
2. Repeat the starting procedure two more times to ensure that all the gas is removed from the engine. If the gasoline is not drained, gum-like varnish deposits will form and cause poor engine operation, even starting problems.

### If You Leave the Gasoline in the Tank

Fuel can be left in the gas tank only if a fuel additive such as Toro's Stabilizer/Conditioner is added to the gasoline and run through the engine before storing. Toro's Stabilizer/Conditioner is a petroleum distillate based stabilizer/conditioner. Toro does not recommend stabilizers with an alcohol base such as ethanol, methanol or isopropyl. Use the fuel additive in the recommended quantities as specified on the container. Under normal conditions, fuel additives remain effective in the fuel for six to eight months.

### Coating the Inside of the Cylinder

1. Remove the spark plug and pour two tablespoons of engine oil into the spark plug hole in the cylinder.
2. Pull the starter rope slowly to coat the inside of the cylinder.
3. Reinstall the spark plug and tighten to 10 ft-lbs (13.6 N•m). **DO NOT REINSTALL THE SPARK PLUG WIRE ONTO THE SPARK PLUG.**
4. Slowly pull the starter rope until resistance is felt due to compression pressure, then stop. Release the starter rope tension slowly to prevent the engine from reversing due to compression pressure. This position closes both the intake and exhaust ports to prevent cylinder bore corrosion.

## Adjusting the Carburetor

The carburetor has been set at the factory and normally won't require any further adjustment. However, when operating the engine at altitudes 5000 feet above sea level and higher, the carburetor jets may have to be changed. Contact your Authorized Toro Service Dealer for assistance.



Walk Mowers

# THE TORO PERFORMANCE WARRANTY

## A Full Warranty (Limited Warranty for Commercial Use)

### What Is Covered By This Express Warranty?

The Toro Company promises to repair any TORO Product used for normal residential purposes\* if defective in materials or workmanship or if it stops functioning due to the failure of a component. The following time periods apply from the date of purchase:

- Super Recycler® Walk Mowers . . . 5 year full warranty
- All Others . . . . . 2 year full warranty

The cost of parts and labor is included, but the customer pays the transportation costs.

### What Products Are Covered By This Warranty?

This warranty applies to all gasoline powered consumer walk power mowers. Riding products and wide area walk behind mowers are covered by separate warranty statements.

### How About Commercial Use?

TORO Consumer Products used for commercial, institutional or rental use are warranted against defects in material or workmanship. Components failing due to normal wear are not covered by this warranty. The following time periods apply from the date of purchase:

Products	Warranty Period	
	Engine	Entire Unit
• 21" Commercial Duty Walk Mowers		
With GTS 150 Engine . . . .	2 year limited	1 year limited
Without GTS 150 Engine . .	1 year limited	1 year limited
• All Others . . . . .	45 day limited	45 day limited

### How Do You Get Warranty Service?

Should you feel your TORO Product requires warranty service, contact the dealer who sold you the product or any Authorized TORO Service Dealer or TORO Master Service Dealer. The Yellow Pages of your telephone directory is a good reference source. The dealer will either arrange service at his/her dealership or recommend another Authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with the Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a TORO Service Dealer, please feel free to contact us at the following address:

Toro Customer Service Department  
 8111 Lyndale Avenue South  
 Bloomington, MN 55420-1196  
 612-888-8801  
 800-348-2424

### What Must You Do To Keep The Warranty In Effect?

You must maintain your TORO Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

### What Does This Warranty Not Cover? and

### How Does Your State Law Relate To This Warranty?

There is no other express warranty except the TORO Starting Guarantee on GTS Engines. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, oil changes, spark plugs, blade sharpening, blade worn out, cable/linkage adjustments or brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to accidents or lack of proper maintenance.
- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non-use over three months.
- Pickup and delivery charges.

All repairs covered by this warranty must be performed by an Authorized TORO Service Dealer using Toro approved replacement parts.

Repair by an Authorized TORO Service Dealer is your sole remedy under this warranty.

**The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the TORO Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, so the above exclusion may not apply to you.**

**This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.**

\* Normal residential purposes means mowing the lawn on the same lot as your home. Use at more than one location is considered commercial use and the commercial use warranty would apply.

### COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.