

Our associates will ensure the tool works properly before you leave the store. If you experience issues with the tool while completing your project, simply bring it back to the Tool Rental Center to get a replacement. If you purchase Damage Protection at the time of your rental, you are not responsible for repair costs for tools that break due to normal use.





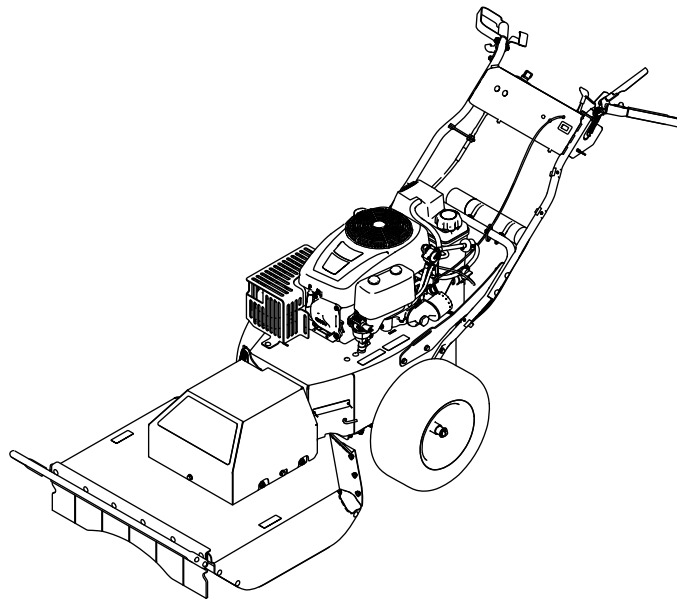
**Count on it.**

**Operator's Manual**

# Brush Cutter

Model No. 23522—Serial No. 402263122 and Up

Model No. 33522—Serial No. 402263122 and Up



This product complies with all relevant European directives; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.

Because in some areas there are local, state, or federal regulations requiring that a spark arrester be used on the engine of this machine, a spark arrester is available as an option. If you require a spark arrester, contact your Authorized Toro Service Dealer.

Genuine Toro spark arresters are approved by the USDA Forestry Service.

It is a violation of California Public Resource Code Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire.

**⚠ WARNING**

**CALIFORNIA  
Proposition 65 Warning**

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

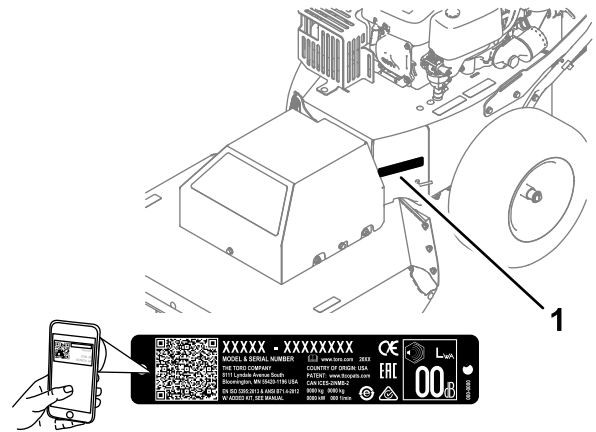
**Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.**

**Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. **Figure 1** identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

**Important:** With your mobile device, you can scan the QR code (if equipped) on the serial number decal to access warranty, parts, and other product information.



**Figure 1**

1. Model and serial number location

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (**Figure 2**), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.

# Introduction

This machine is designed to level brush, tall weeds, saplings, and small trees and heavy vegetation up to 1.8 m (6 feet) tall and 5.1 cm (2 inches) in diameter.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

You may contact Toro directly at [www.Toro.com](http://www.Toro.com) for product safety and operation training materials,



**Figure 2**

1. Safety-alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

# Contents

|   |    |
|---|----|
| Safety .....  | 4  |
| General Safety .....                                  | 4  |
| Safety and Instructional Decals .....                 | 4  |
| Setup .....   | 6  |
| 1 Installing the Handle .....                         | 6  |
| 2 Connecting the Negative Battery<br>Cable .....      | 7  |
| Product Overview .....                                | 8  |
| Controls .....  | 8  |
| Specifications .....                                  | 10 |
| Attachments/Accessories .....                         | 10 |
| Before Operation .....                                | 10 |
| Before Operation Safety .....                         | 10 |
| Fuel Specification .....                              | 11 |
| Using Stabilizer/Conditioner .....                    | 11 |
| Filling the Fuel Tank .....                           | 11 |
| Checking the Engine-Oil Level .....                   | 11 |
| During Operation .....                                | 11 |
| During Operating Safety .....                         | 11 |
| Starting and Shutting Off the Engine .....            | 12 |
| Operating the Traction Control .....                  | 13 |
| Operating the Blade-Control Clutch .....              | 13 |
| After Operation .....                                 | 13 |
| After Operation Safety .....                          | 13 |
| Moving a Nonfunctioning Machine .....                 | 14 |
| Transporting the Machine .....                        | 14 |
| Maintenance .....                                     | 15 |
| Recommended Maintenance Schedule(s) .....             | 15 |
| Maintenance Safety .....                              | 15 |
| Engine Maintenance .....                              | 16 |
| Engine Safety .....                                   | 16 |
| Servicing the Air Cleaner .....                       | 16 |
| Servicing the Engine Oil .....                        | 17 |
| Servicing the Spark Plug .....                        | 19 |
| Fuel System Maintenance .....                         | 20 |
| Replacing the In-Line Fuel Filter .....               | 20 |
| Electrical System Maintenance .....                   | 21 |
| Electrical System Safety .....                        | 21 |
| Removing the Battery .....                            | 21 |
| Charging the Battery .....                            | 22 |
| Installing the Battery .....                          | 22 |
| Servicing a Replacement Battery .....                 | 23 |
| Drive System Maintenance .....                        | 23 |
| Checking the Tire Pressure .....                      | 23 |
| Cooling System Maintenance .....                      | 24 |
| Cleaning the Engine Screen .....                      | 24 |
| Cleaning the Engine-Cooling Fins and<br>Shrouds ..... | 24 |
| Belt Maintenance .....                                | 24 |
| Inspecting the Belts .....                            | 24 |
| Replacing the Transmission Belt .....                 | 24 |
| Replacing the Mower Belt .....                        | 25 |
| Mower Maintenance .....                               | 26 |
| Blade Safety .....                                    | 26 |
| Before Inspecting or Servicing the<br>Blade .....     | 26 |

|  |    |
|--|----|
| Inspecting the Blade .....             | 26 |
| Checking for a Bent Blade .....        | 26 |
| Removing the Blade .....               | 27 |
| Sharpening the Blade .....             | 27 |
| Installing the Blade .....             | 28 |
| Cleaning .....                         | 28 |
| Removing Debris from the Machine ..... | 28 |
| Storage .....                          | 29 |
| Storing the Machine .....              | 29 |
| Troubleshooting .....                  | 30 |

# Safety

This machine has been designed in accordance with EN 12733.

## General Safety

This product is capable of amputating hands and feet and of throwing objects. Always follow all safety instructions to avoid serious personal injury.

Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

- Read, understand, and follow the instructions and warnings in this *Operator's Manual* and on the machine and attachments before starting the engine.
- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Do not put your hands or feet near moving parts of or under the machine. Keep clear of any discharge opening.

- Do not operate the machine without all guards and other safety protective devices in place and working on the machine.
- Keep bystanders and children a safe distance away from the machine. Do not allow children to operate the machine. Allow only people who are responsible, trained, familiar with the instructions, and physically capable to operate the machine.
- Stop the machine, shut off the engine, remove the electric-start key (if equipped), and wait for all moving parts to stop before servicing, fueling, or unclogging the machine.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol, which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

You can find additional safety information where needed throughout this manual.

## Safety and Instructional Decals



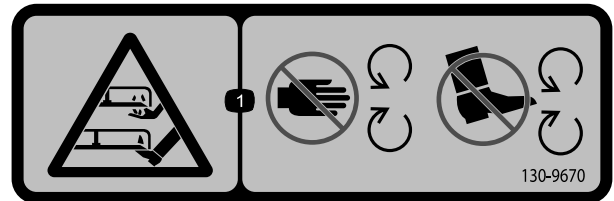
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



93-7814

decal93-7814

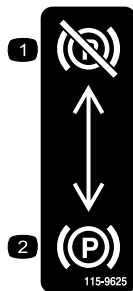
1. Entanglement hazard, belt—stay away from moving parts; keep all guards and shields in place.



130-9670

decal130-9670

1. Severing hazard of hand or foot; mower blade—keep away from moving parts.



115-9625

decal115-9625

1. Parking brake—disengaged
2. Parking brake—engaged

**WARNING:** This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). For more information, please visit [www.toro.com/CAProp65](http://www.toro.com/CAProp65).

### CALIFORNIA SPARK ARRESTER WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

133-5619

133-5619

decal133-5619



# Product Overview

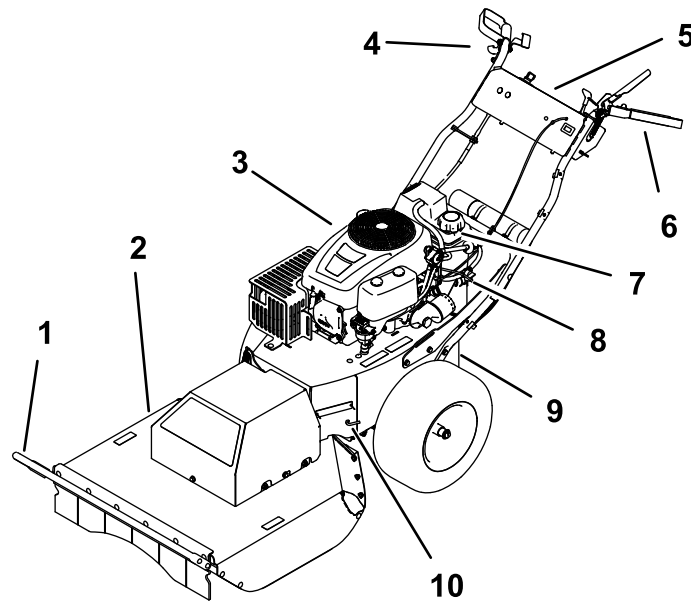


Figure 6

g186623

- |                |  |                       |                  |
|----------------|--|-----------------------|------------------|
| 1. Brush bar   | 4. Right hand grip and traction control    | 7. Fuel-tank cap      | 10. Bypass lever |
| 2. Cutter deck | 5. Control panel                           | 8. Fuel-shutoff valve |                  |
| 3. Engine      | 6. Left hand grip and blade-control clutch | 9. Parking brake      |                  |

## Controls

Become familiar with all the controls (Figure 6 and Figure 7) before you start the engine and operate the machine.

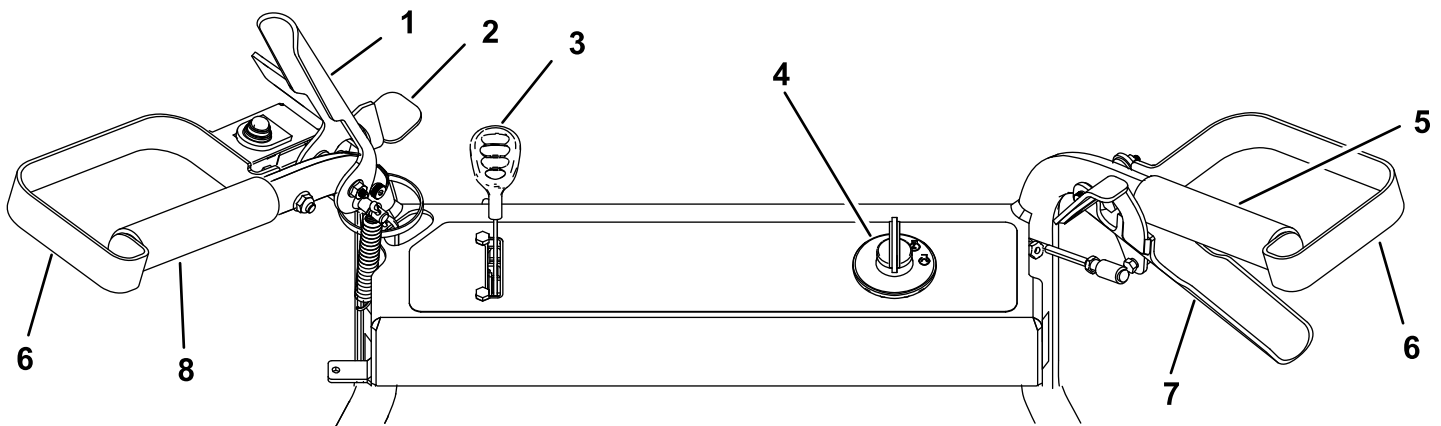


Figure 7

g186771

- |                         |                           |                    |                     |
|-------------------------|---------------------------|--------------------|---------------------|
| 1. Blade-control clutch | 3. Throttle/choke control | 5. Right hand grip | 7. Traction control |
| 2. Safety latch         | 4. Ignition switch        | 6. Hand guard      | 8. Left hand grip   |

## Blade-Control Clutch

Use the blade-control clutch to engage and disengage the mower blade.

## Ignition Switch

The ignition switch has 3 positions: OFF, RUN, and START. The key turns to START and moves back to RUN upon release. Turning the key to the OFF (“STOP”) position shuts off the engine; however, always remove the key from the ignition switch when leaving the machine to prevent someone from accidentally starting the engine and to prevent the battery from inadvertently draining (Figure 8).

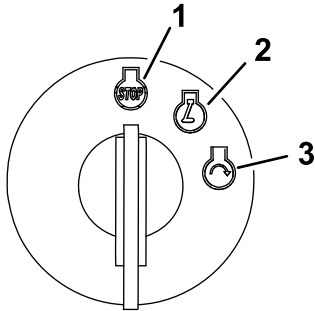


Figure 8

g192199

1. Off position
2. Run position
3. Start position

## Throttle/Choke Lever

1 lever controls both the throttle and the choke. The throttle controls the engine speed and has a continuous-variable setting from SLOW to FAST. Engage the choke by moving the lever past the FAST setting until it stops

## Traction Control

Use the traction control to move the machine forward and rearward with continuously variable speed.

## Fuel-Shutoff Valve

Close the fuel-shutoff valve for transport, maintenance, and storage.

Ensure that the fuel-shutoff valve is open when starting the engine.

## Parking Brake

The parking brake is located near the battery. To engage the parking brake, pull the lever outward through the keyhole and down to lock it in place

(Figure 9). Disengage the parking brake by lifting the lever and push it inward through the keyhole.

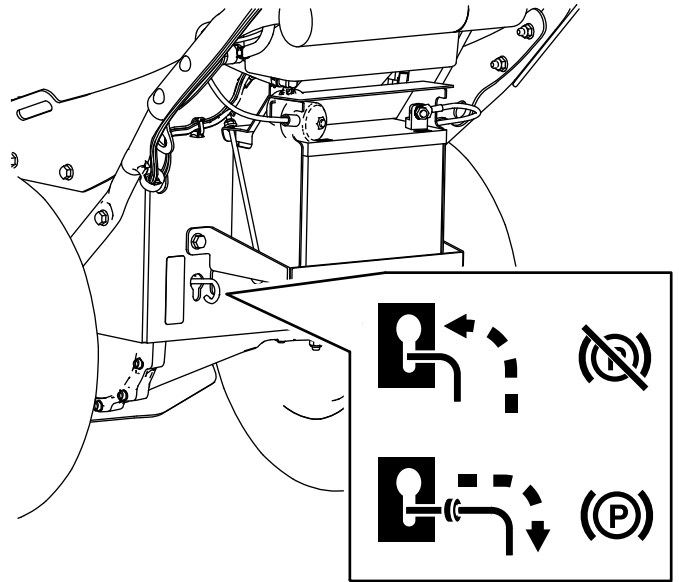


Figure 9

g195543

## Hour Meter

The hour meter displays the number of hours of operation logged on the machine (Figure 10).

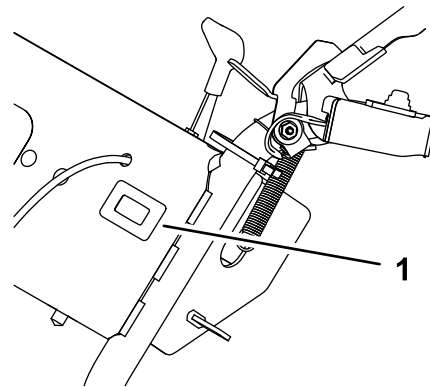


Figure 10

g186773

1. Hour meter

# Specifications

**Note:** Specifications and design are subject to change without notice.

|               |                    |
|---------------|--------------------|
| Length        | 227 cm (89 inches) |
| Width         | 88 cm (35 inches)  |
| Height        | 101 cm (40 inches) |
| Weight        | 171 kg (376 lb)    |
| Cutting width | 71 cm (28 inches)  |

## Attachments/Accessories

A selection of Toro approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or Distributor or go to [www.Toro.com](http://www.Toro.com) for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety certification of the machine, use only genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

# Operation

## Before Operation

**Note:** Determine the left and right sides of the machine from the normal operating position.

## Before Operation Safety

### General Safety

- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Check that all guards and safety devices, such as deflectors and/or grass catcher, are in place and working properly.
- Always inspect the machine to ensure that the blades, blade bolts, and cutting assembly are not worn or damaged.
- Inspect the area where you will use the machine, and remove all objects that could interfere with the operation of the machine or that the machine could throw.

### Fuel Safety

- Fuel is extremely flammable and highly explosive. A fire or explosion from fuel can burn you and others and can damage property.
  - To prevent a static charge from igniting the fuel, place the container and/or machine directly on the ground before filling, not in a vehicle or on an object.
  - Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any fuel that spills.
  - Do not handle fuel when smoking or around an open flame or sparks.
  - Do not remove the fuel cap or add fuel to the tank while the engine is running or hot.
  - If you spill fuel, do not attempt to start the engine. Avoid creating a source of ignition until the fuel vapors have dissipated.
  - Store fuel in an approved container and keep it out of the reach of children.
- Fuel is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness.
  - Avoid prolonged breathing of vapors.
  - Keep your hands and face away from the nozzle and the fuel-tank opening.
  - Keep fuel away from your eyes and skin.

# Fuel Specification

|                             |   |
|-----------------------------|---|
| <b>Petroleum fuel</b>       | Use unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).  |
| <b>Ethanol blended fuel</b> | Use an unleaded-gasoline blend with up to 10% ethanol (gasohol) or 15% MTBE (methyl tertiary butyl ether) by volume is acceptable. Ethanol and MTBE are not the same.<br><br>Gasoline with 15% ethanol (E15) by volume is not approved for use. Never use gasoline that contains more than 10% ethanol by volume, such as E15 (contains 15% ethanol), E20 (contains 20% ethanol), or E85 (contains up to 85% ethanol). Using unapproved gasoline may cause performance problems and/or engine damage which may not be covered under warranty. |

**Important:** For best results, use only clean, fresh fuel (less than 30 days old).

- Do not use gasoline containing methanol.
- Do not store fuel either in the fuel tank or fuel containers over the winter unless you use a fuel stabilizer.
- Do not add oil to gasoline.

## Using Stabilizer/Conditioner

Use a fuel stabilizer/conditioner in the machine to provide the following benefits:

**Important:** Do not use fuel additives containing methanol or ethanol.

Add the correct amount of fuel stabilizer/conditioner to the gasoline.

**Note:** A fuel stabilizer/conditioner is most effective when mixed with fresh gasoline. To minimize the chance of varnish deposits in the fuel system, use fuel stabilizer at all times.

## Filling the Fuel Tank

1. Park the machine on a level surface and shut off the engine.
2. Allow the engine to cool.
3. Clean around the fuel-tank cap and remove it (Figure 6).
4. Add fuel to the fuel tank until the level of fuel is at the bottom of the filler neck.
5. Install the fuel-tank cap securely.
6. Wipe up any fuel that may have spilled.

# Checking the Engine-Oil Level

Before you start the engine and use the machine, check the oil level in the engine crankcase; refer to [Checking the Engine-Oil Level \(page 17\)](#).

## During Operation

## During Operating Safety

### General Safety

- Wear appropriate clothing including eye protection; hearing protection; protective gloves; long pants; and substantial, slip-resistant footwear. Tie back long hair, secure loose clothing, and do not wear loose jewelry.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- The blade is sharp; contacting the blade can result in serious personal injury. Shut off the engine, remove the ignition key (if equipped), and wait for all moving parts to stop before leaving the operating position.
- Keep bystanders, especially small children, out of the operating area. Stop the machine if anyone enters the area.
- Always look down and behind you before moving the machine in reverse.
- Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lighting.
- Wet grass or leaves can cause serious injury if you slip and contact the blade. Avoid mowing in wet conditions.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause the machine to overturn or cause you to lose your balance or footing.
- If the machine strikes an object or starts to vibrate, immediately release the blade-control clutch, shut off the engine, remove the key, wait for all moving parts to stop, and disconnect the wire from the spark plug before examining the machine for damage. Make all necessary repairs before resuming operation.
- Before leaving the operating position, shut off the engine, remove the ignition key, and wait for all moving parts to stop.

- If the engine has been running the muffler will be hot and can severely burn you. Keep away from the hot muffler.
- Check the rear deck flap frequently for any wear or deterioration and replace them with the manufacturer's recommended parts when necessary.
- Use accessories and attachments approved by The Toro® Company only.

## Slope Safety

- Slopes are a major factor related to loss of control and rollover accidents, which can result in severe injury or death. The operator is responsible for safe slope operation. Operating the machine on any slope requires extra caution. Before using the machine on a slope, the operator must:
  - Review and understand the slope instructions in the manual and on the machine.
  - Evaluate the site conditions of the day to determine if the slope is safe for machine operation. Use common sense and good judgment when performing this evaluation. Changes in the terrain, such as moisture, can quickly affect the operation of the machine on a slope.
- Operate across slopes, never up and down. Avoid operation on excessively steep or wet slopes. Poor footing could cause a slip and fall accident.
- Identify hazards at the base of the slope. Do not operate the machine near drop-offs, ditches, embankments, water or other hazards. The machine could suddenly roll over if a wheel goes over the edge or the edge collapses. Keep a safe distance between the machine and any hazard. Use a hand held tool to work in these areas.
- Avoid starting, stopping, or turning the machine on slopes. Avoid making sudden changes in speed or direction; turn slowly and gradually.
- Do not operate a machine under any conditions where traction, steering or stability is in question. Be aware that operating the machine on wet grass, across slopes or downhill may cause the machine to lose traction. Loss of traction to the drive wheels may result in sliding and a loss of braking and steering. The machine can slide even if the drive wheels are stopped.
- Remove or mark obstacles such as ditches, holes, ruts, bumps, rocks or other hidden hazards. Tall grass can hide obstacles. Uneven terrain could overturn the machine.

- If you lose control of the machine, step away from the direction of travel of the machine.
- Use the traction control to slow the machine when going down slopes. Do not fully engage the traction control downhill.

## Starting and Shutting Off the Engine

### Starting the Engine

**Note:** You may need multiple attempts to start the engine when you start it the first time or after the engine has run out of fuel completely.

1. Move the throttle lever forward past the FAST position and hold it against the forward stop to activate the choke.
2. Turn the ignition key to the START position (Figure 11).

**Important:** Do not engage the starter for more than 5 seconds at a time. If the engine fails to start, wait 15 seconds between attempts. Failure to follow these instructions can burn out the starter motor.

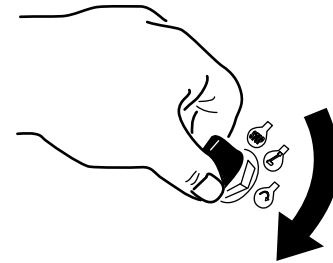


Figure 11

g192135

3. When the engine starts, release the key and move the throttle lever back to the FAST position.

### Shutting Off the Engine

1. Release the blade-control clutch to disengage the blade.
2. Turn the ignition key to the STOP position to shut off the engine and remove the key.

# Operating the Traction Control

To move the machine forward, squeeze the traction control toward the hand grip (Figure 12).

To move the machine rearward, push the thumb pad down to move the traction control away from the hand grip (Figure 12).

The more you move the traction control in either direction, the faster the machine moves in that direction.

To disengage the traction drive, release the traction control.

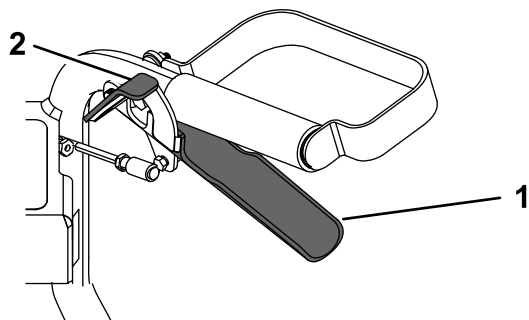


Figure 12

g186864

1. Traction control

2. Thumb pad

# Operating the Blade-Control Clutch

This machine is capable of cutting brush and saplings up to 1.8 m (6 feet) tall and 5.1 cm (2 inches) in diameter. The cutting deck pivots to follow the contour of the ground as you move the machine.

To engage the blade, use your right hand to open the safety latch and then use your left hand to squeeze the blade-control clutch to the left handle (Figure 12).

To disengage the blade, release the blade-control clutch.

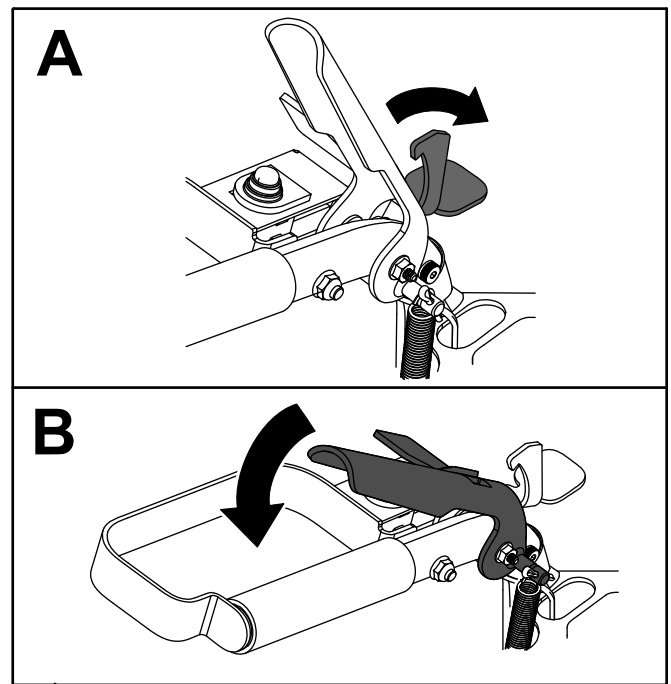


Figure 13

g188811

## After Operation

### After Operation Safety

#### General Safety

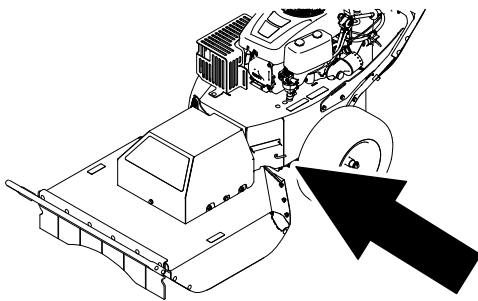
- Clean grass and debris from the machine to help prevent fires. Clean up oil or fuel spills.
- Shut off the engine, and remove the key. Wait for all movement to stop and allow the machine to cool before cleaning, adjusting, repairing, or storing the machine in any enclosure.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light, such as on a water heater or on other appliances.

#### Hauling Safety

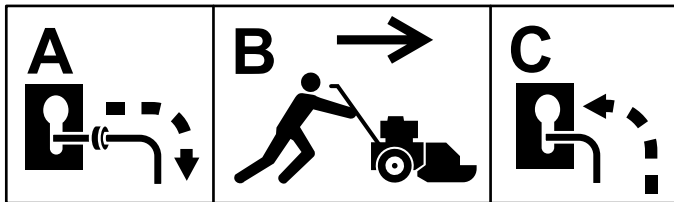
- Remove the ignition key (if equipped) before loading the machine for hauling.
- Use care when loading or unloading the machine.
- Secure the machine from rolling.

# Moving a Nonfunctioning Machine

1. Park the machine on a level surface and disengage the blade-control clutch.
2. Engage the parking brake, shut off the engine, remove the key, and wait for all moving parts to stop.
3. Move the bypass lever outward through the keyhole and down to lock it in place.
4. Disengage the parking brake.
5. Push the machine as required.
6. Engage the parking brake.
7. Move the bypass lever up and inward through the keyhole to disengage the bypass.



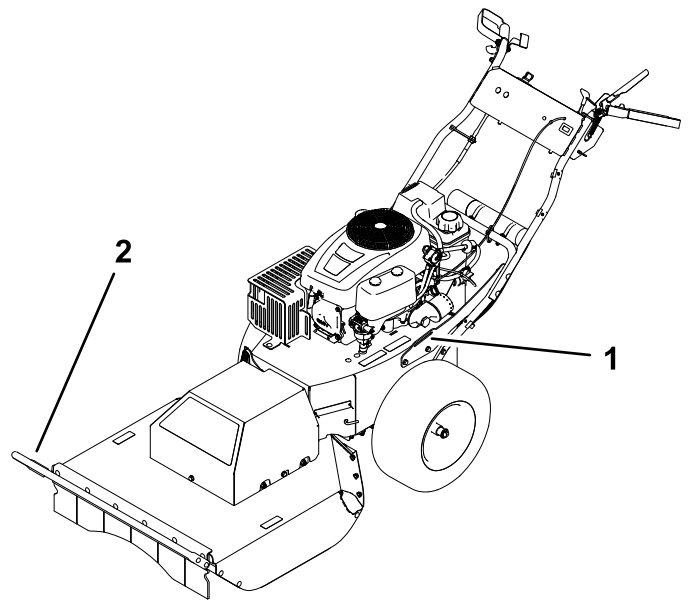
g188886



g188887

Figure 14

trailer or truck with straps, chains, cable, or ropes (Figure 15).



g188889

Figure 15

1. Left tie-down loop
2. Brush bar

# Transporting the Machine

Use a heavy-duty trailer or truck to transport the machine. Ensure that the trailer or truck has all necessary brakes, lighting, and marking as required by law. Please carefully read all the safety instructions. Knowing this information could help you, your family, pets, or bystanders avoid injury.

1. If using a trailer, connect it to the towing vehicle and connect the safety chains.
2. If applicable, connect the trailer brakes.
3. Load the machine onto the trailer or truck.
4. Shut off the engine, remove the key, engage the parking brake, and close the fuel valve.
5. Use the brush bar and 2 tie-down loops on the machine to securely fasten the machine to the



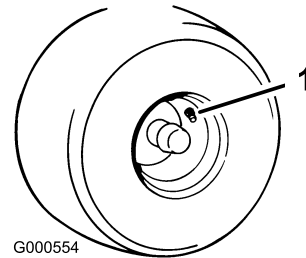
# Drive System Maintenance

## Checking the Tire Pressure

**Service Interval:** Before each use or daily  
Every 25 hours—Check tire pressure.

Maintain the air pressure in the tires as specified. Check the pressure at the valve stem (Figure 29). Check the tires when they are cold to get the most accurate pressure reading.

Inflate the tires to 97 kPa (14 psi).



**Figure 29**

1. Valve stem
-

# Troubleshooting

| Problem   | Possible Cause  | Corrective Action   |
|---|---|---|
| The engine overheats.   | <ol style="list-style-type: none"> <li>1. The engine load is excessive.</li> <li>2. The oil level in the crankcase is low.</li> <li>3. The cooling fins and air passages under the engine blower housing are plugged.</li> <li>4. The air cleaner is dirty.</li> <li>5. Dirt, water, or stale fuel is in fuel system.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Reduce the ground speed.</li> <li>2. Add oil to the crankcase.</li> <li>3. Remove the obstruction from the cooling fins and air passages.</li> <li>4. Clean or replace the air cleaner element.</li> <li>5. Contact an Authorized Service Dealer</li> </ol>   |
| The starter does not crank.                                       | <ol style="list-style-type: none"> <li>1. The blade control switch is engaged.</li> <li>2. The battery is dead.</li> <li>3. The electrical connections are corroded or loose.</li> <li>4. A fuse is blown.</li> <li>5. A relay or switch is damaged.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Disengage the blade-control switch.</li> <li>2. Charge the battery. Turn the ignition switch to OFF and remove the key when the machine is not in use to avoid draining the battery.</li> <li>3. Check the electrical connections for good contact.</li> <li>4. Replace the fuse.</li> <li>5. Contact an Authorized Service Dealer.</li> </ol>  |
| The engine does not start, starts hard, or fails to keep running. | <ol style="list-style-type: none"> <li>1. The fuel tank is empty.</li> <li>2. The air cleaner is dirty.</li> <li>3. The spark plug wire(s) is loose or disconnected.</li> <li>4. The spark plug(s) is pitted, fouled, or the gap is incorrect.</li> <li>5. There is dirt in fuel filter.</li> <li>6. Dirt, water, or stale fuel is in fuel system.</li> <li>7. There is incorrect fuel in the fuel tank.</li> <li>8. The oil level in the crankcase is low.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Fill the fuel tank.</li> <li>2. Clean or replace the air cleaner element.</li> <li>3. Install the wire(s) on the spark plug.</li> <li>4. Install a new, correctly gapped spark plug(s).</li> <li>5. Replace the fuel filter.</li> <li>6. Contact an Authorized Service Dealer.</li> <li>7. Drain the tank and replace the fuel with the proper type.</li> <li>8. Add oil to the crankcase.</li> </ol>   |
| The engine loses power.   | <ol style="list-style-type: none"> <li>1. The engine load is excessive.</li> <li>2. The air cleaner is dirty.</li> <li>3. The oil level in the crankcase is low.</li> <li>4. The cooling fins and air passages under the engine blower housing are plugged.</li> <li>5. The spark plug(s) is pitted, fouled, or the gap is incorrect.</li> <li>6. The fuel tank vent is blocked.</li> <li>7. There is dirt in the fuel filter.</li> <li>8. Dirt, water, or stale fuel is in the fuel system.</li> <li>9. There is incorrect fuel in the fuel tank.</li> </ol> | <ol style="list-style-type: none"> <li>1. Reduce ground speed.</li> <li>2. Clean the air cleaner element.</li> <li>3. Add oil to the crankcase.</li> <li>4. Remove the obstruction from the cooling fins and air passages.</li> <li>5. Install a new, correctly gapped spark plug(s).</li> <li>6. Contact an Authorized Service Dealer.</li> <li>7. Replace the fuel filter.</li> <li>8. Contact an Authorized Service Dealer.</li> <li>9. Drain the tank and replace the fuel with the proper type.</li> </ol> |
| There is abnormal vibration.                                      | <ol style="list-style-type: none"> <li>1. The engine mounting bolts are loose.</li> <li>2. The engine pulley, idler pulley, or blade pulley is loose.</li> <li>3. The engine pulley is damaged.</li> <li>4. The cutting blade(s) is/are bent or unbalanced.</li> <li>5. A blade mounting bolt is loose.</li> <li>6. A blade spindle is bent.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Tighten the engine mounting bolts.</li> <li>2. Tighten the appropriate pulley.</li> <li>3. Contact an Authorized Service Dealer.</li> <li>4. Install a new cutting blade(s).</li> <li>5. Tighten the blade mounting bolt.</li> <li>6. Contact an Authorized Service Dealer.</li> </ol>  |

| Problem  | Possible Cause   | Corrective Action   |
|--|--|---|
| The cutting height is uneven.                                      | <ol style="list-style-type: none"> <li>1. The blade(s) is not sharp.</li> <li>2. The cutting blade is bent.</li> <li>3. The underside of the mower is dirty.</li> <li>4. A blade spindle is bent.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Sharpen the blade(s).</li> <li>2. Install a new cutting blade.</li> <li>3. Clean the underside of the mower.</li> <li>4. Contact an Authorized Service Dealer.</li> </ol>   |
| The blade does not rotate.   | <ol style="list-style-type: none"> <li>1. The mower belt is off the pulley.</li> <li>2. The blade-control clutch is faulty.</li> <li>3. The mower belt is worn, loose, or broken.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Install the mower belt.</li> <li>2. Contact an Authorized Service Dealer.</li> <li>3. Install a new mower belt.</li> </ol>  |
| The brush cutter does not move when the traction drive is engaged. | <ol style="list-style-type: none"> <li>1. The transmission belt is off the pulleys.</li> <li>2. The transmission belt is worn, loose, or broken.</li> <li>3. The transmission bypass is engaged.</li> <li>4. The parking brake is engaged.</li> <li>5. The shaft key that drives the wheel is missing or sheared at one or both wheels.</li> <li>6. The transmission is faulty.</li> </ol> | <ol style="list-style-type: none"> <li>1. Install the transmission belt.</li> <li>2. Replace the transmission belt.</li> <li>3. Disengage the transmission bypass.</li> <li>4. Disengage the parking brake.</li> <li>5. Replace the shaft key.</li> <li>6. Contact your Authorized Service Dealer.</li> </ol> |
| The cutting performance is poor.                                   | <ol style="list-style-type: none"> <li>1. The forward traction speed is too fast.</li> <li>2. The blade is dull.</li> <li>3. The underside of the mower deck is clogged with debris.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Reduce the forward speed.</li> <li>2. Sharpen or replace the blade.</li> <li>3. Clean the debris from beneath the deck.</li> </ol>  |