



**Count on it.**

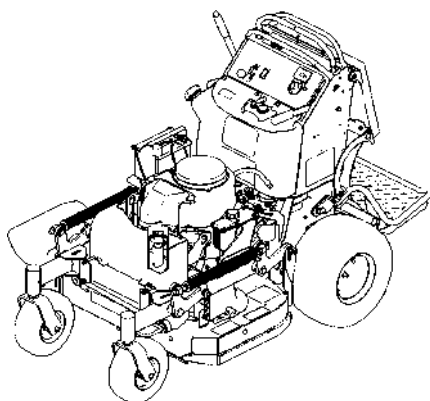
**Form No. 3472-743 Rev A**

**Operator's Manual**

**GrandStand® Mower**  
**With 91cm or 102cm TURBO FORCE®**  
**Cutting Unit**

**Model No. 74534TE—Serial No. 418000000 and Up**

**Model No. 74536TE—Serial No. 418000000 and Up**



Register at [www.Toro.com](http://www.Toro.com).  
Original Instructions (EN)



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

Please refer to the engine manufacturer's information included with the machine.

## Introduction

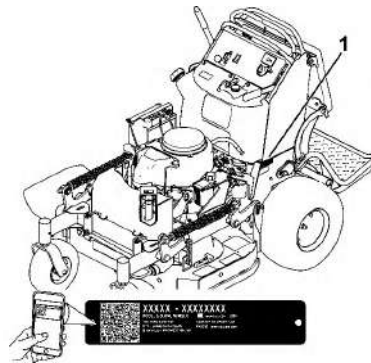
This rotary-blade, stand-on lawn mower is intended to be used by professional, hired operators. It is designed primarily for cutting grass on well-maintained lawns on residential or commercial properties. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

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.

Visit [www.Toro.com](http://www.Toro.com) for more information, including safety tips, training materials, 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 on the serial number decal (if equipped) to access warranty, parts, and other product information.



g529660

Figure 1

1. Location of the model and serial numbers

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

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

# Safety

## Safety-Alert Symbol

The safety-alert symbol (Figure 2) shown in this manual and on the machine identifies important safety messages that you must follow to prevent accidents.



g000502

Figure 2

Safety-alert symbol

The safety-alert symbol appears above information that alerts you to unsafe actions or situations and is followed by the word **DANGER**, **WARNING**, or **CAUTION**.

**DANGER** indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

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

**CAUTION** indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

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

## 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.

- Read and understand the contents of this *Operator's Manual* before starting the engine.
- Do not put your hands or feet near moving components of the machine.
- Do not operate the machine without all guards and other safety protective devices in place and functioning properly on the machine.
- Keep clear of the discharge opening.
- Keep bystanders and children out of the operating area. 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, and remove the ignition key before servicing, fueling, or unclogging the machine.

## 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.



### Battery Symbols

Some or all of these symbols are on your battery.

- |  |  |
|--|--|
| 1. Explosion hazard                    | 6. Keep bystanders away.   |
| 2. No fire, open flames, or smoking    | 7. Wear eye protection—explosive gases can cause blindness and other injuries. |
| 3. Caustic liquid/chemical burn hazard | 8. Battery acid can cause severe burns.  |
| 4. Wear eye protection.                | 9. Flush eyes immediately with water and get medical help fast.                |
| 5. Read the <i>Operator's Manual</i> . | 10. Contains lead; do not discard.   |



106-5517

decal106-5517

1. Warning—do not touch the hot surface.



110-2067

decal110-2067



### Manufacturer's Mark

decal93-7818

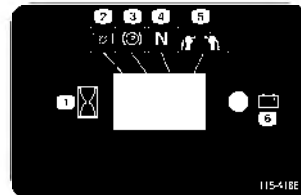
1. Indicates the blade is identified as a part from the original machine manufacturer.



93-7818

decal93-7818

1. Warning—read the *Operator's Manual* for instructions on torquing the blade bolt/nut to 115 to 149 N-m (85 to 110 ft-lb).



115-4186

decal115-4186

1. Interval
2. PTO
3. Parking brake
4. Neutral
5. Operator presence switch
6. Battery



**115-4212**

decals 115-4212

1. Hydraulic fluid level
2. Read the *Operator's Manual*.
3. Warning—do not touch the hot surface.



**147-0212**

decals 147-0212

1. Key switch
2. Accessory port
3. Power takeoff (PTO)
4. InfoCenter

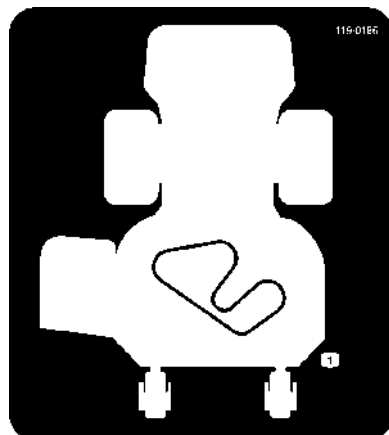


**116-8775**

decals 116-8775

1. Read the *Operator's Manual*
2. Warning—fill to the bottom of the filler neck; do not overfill the tank.

Decal 119-0186 is for 91 cm decks.

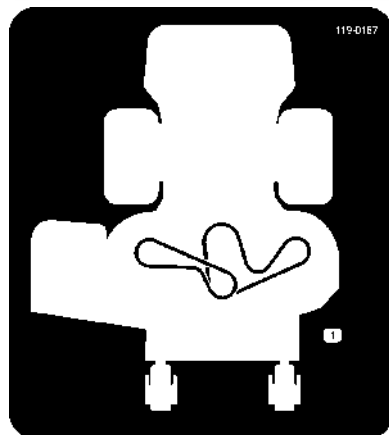


**119-0186**

decals 119-0186

1. Belt routing

Decal 119-0187 is for 102 cm decks.



**119-0187**

decals 119-0187

1. Belt routing



decal119-0217

**119-0217**

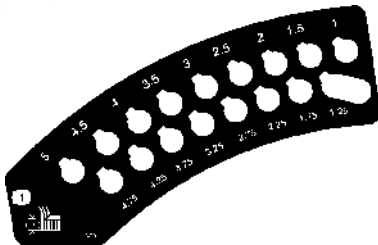
1. Warning—stop the engine; stay away from moving parts; keep all guards and shields in place.



decal119-1854

**119-1854**

1. Adjustment knob for traction drive speed.



decal119-2317

**119-2317**

1. Height of cut



decal121-6049

**121-6049**

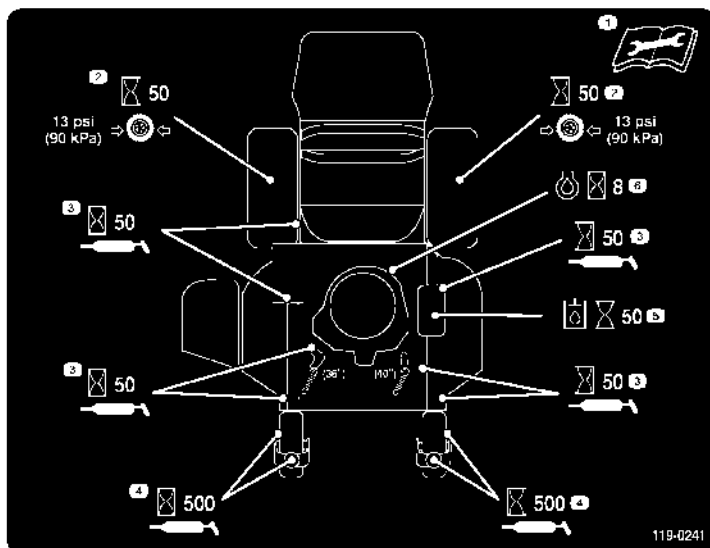
1. Thrown object hazard—keep bystanders away.
2. Thrown object hazard, mower—do not operate the mower with guards or shields removed.
3. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.



117-0454

detail 117-0454

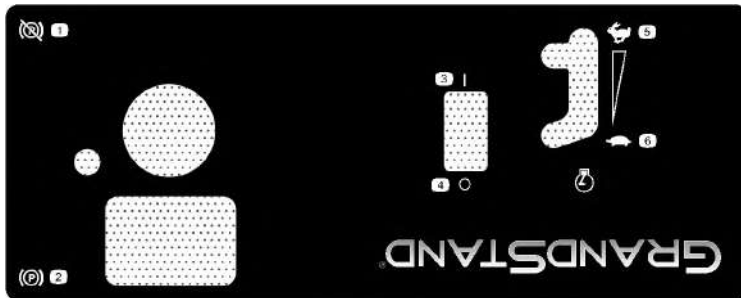
- |                     |            |                  |                             |
|---------------------|------------|------------------|-----------------------------|
| 1. Traction control | 3. Slow    | 5. Reverse       | 7. Operator presence switch |
| 2. Fast             | 4. Neutral | 6. PTO—disengage |                             |



119-0241

detail 119-0241

- |   |  |  |
|---|--|--|
| 1. Read the <i>Operator's Manual</i> before performing any maintenance. | 3. Lubricate every 50 hours.                   | 5. Check the hydraulic oil every 50 hours. |
| 2. Check the drive wheel tire pressure every 50 hours.                  | 4. Lubricate the caster wheel every 500 hours. | 6. Check the engine oil every 8 hours.     |



detail140-4279

#### 140-4279

- |                             |                      |
|-----------------------------|----------------------|
| 1. Parking brake—disengaged | 4. Off               |
| 2. Parking brake—engaged    | 5. Engine speed—fast |
| 3. On                       | 6. Engine speed—slow |



detail139-2878

#### 139-2878

- |  |   |
|--|---|
| 1. Warning—read the <i>Operator's Manual</i> .   | 6. Thrown object hazard—keep bystanders away.   |
| 2. Warning—all operators should be trained before operating the machine.   | 7. Warning—engage the parking brake, shut off the engine, and remove the key before leaving the machine or performing maintenance.  |
| 3. Warning—wear hearing protection.  | 8. Tipping hazard—do not use dual ramps when loading onto a trailer; use 1 ramp wide enough for the machine; back up the ramp when loading the machine and drive forward off the ramp when unloading. |
| 4. Thrown object hazard—lower the deflector before operating the machine.  | 9. Tipping hazard—do not use the machine near drop-offs or on slopes; stay at least 2 widths of the machine away from drop-offs.  |
| 5. Cutting/dismemberment hazard of hand or foot—stay away from moving parts; keep all guards and shields in place. |   |



## Product Overview

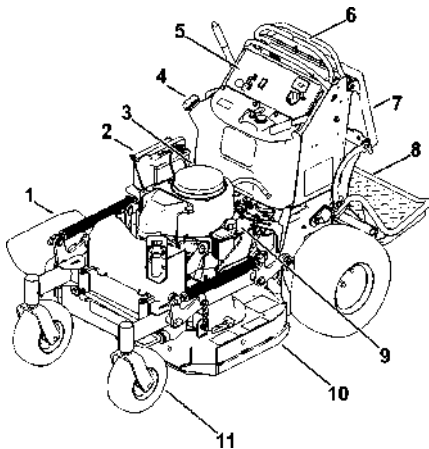


Figure 3

- |                          |                             |
|--------------------------|-----------------------------|
| 1. Side-discharge chute  | 7. Operator cushion         |
| 2. Battery               | 8. Platform (down position) |
| 3. Engine                | 9. Hydraulic tank           |
| 4. Fuel tank             | 10. Mower deck              |
| 5. Control panel         | 11. Front caster wheel      |
| 6. Motion-control levers |                             |

## Controls

Become familiar with all the controls before you start the engine and operate the machine.

### Control Panel

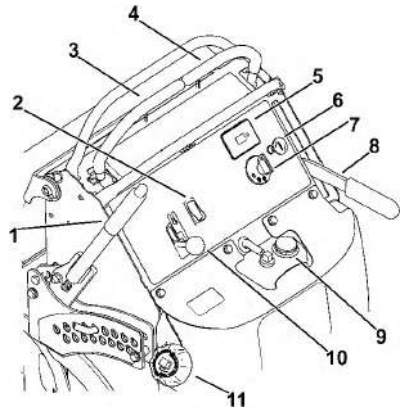


Figure 4

- |                               |                        |
|-------------------------------|------------------------|
| 1. Height-of-cut lever        | 7. Key switch          |
| 2. Power-takeoff switch (PTO) | 8. Parking-brake lever |
| 3. Right motion-control lever | 9. Fuel gauge          |
| 4. Left motion-control lever  | 10. Throttle control   |
| 5. Hour meter                 | 11. Fuel cap           |
| 6. Choke control              |                        |

## Hour Meter

The hour meter records the number of hours the engine has operated. It operates when the engine

is running. Use these times for scheduling regular maintenance (Figure 5).

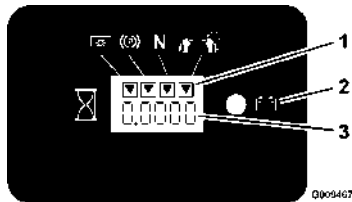


Figure 5

1. Safety-interlock symbols
2. Battery light
3. Hour meter

## Fuel Gauge

The fuel gauge is located on the top, middle of the tank (Figure 4).

## Safety-Interlock Indicators

Symbols on the hour meter indicate with a black triangle that the interlock component is in the correct position (Figure 3).

## Battery-Indicator Light

If you turn the key to the ON position for a few seconds, the battery voltage displays in the area where the hours are normally displayed.

The battery light turns on when you turn the key to the ON position and when the charge is below the correct operating level (Figure 5).

## Throttle Control

The throttle controls the engine speed, and it has a continuous-variable setting from the SLOW to FAST position (Figure 4).

## Choke Control

Use the choke control to start a cold engine. Pull the choke control up to engage it. Push down on the choke control to disengage it.

## Power-Takeoff Switch (PTO)

Use the power-takeoff switch (PTO) to engage and disengage the mower blades (Figure 4); refer to [Operating the PTO \(page 16\)](#).

## Key Switch

The key switch, used to start and shut off the engine, has 3 positions: OFF, RUN, and START. Refer to [Operating the Ignition Switch \(page 17\)](#).

## Motion-Control Levers

Use the motion-control levers to drive the machine forward, reverse, and turn either direction (Figure 4).

## Fuel-Shutoff Valve

Close the fuel-shutoff valve when transporting or storing the machine; refer to [Using the Fuel-Shutoff Valve \(page 23\)](#).

## Specifications

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

	91cm Mower Deck	102cm Mower Deck
Cutting width	91 cm (36 inches)	102 cm (40 inches)
Width with deflector down	131 cm (52 inches)	142 cm (56 inches)
Length with platform down	188 cm (74 inches)	178 cm (70 inches)
Length with platform up	155 cm (61 inches)	145 cm (57 inches)
Height	122 cm (48 inches)	122 cm (48 inches)
Weight	343 kg (756 lb)	351 kg (773 lb)

## 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 authorized Toro 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

### Before Operation Safety

#### General Safety

- Never allow children or untrained people to operate the machine. Local regulations may restrict the age of the operator. The owner is responsible for training all operators and mechanics.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Know how to stop the machine and shut off the engine quickly.
- Check that operator-presence controls, safety switches, and guards are attached and functioning properly. Do not operate the machine unless they are functioning properly.
- Before mowing, always inspect the machine to ensure that the blades, blade bolts, and cutting assemblies are in good working condition.
- Inspect the area where you will use the machine and remove all objects that the machine could throw.
- Evaluate the terrain to determine the appropriate equipment and any attachments or accessories required to operate the machine properly and safely.
- 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.
- Do not 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.
- Do not fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle before filling.
- Remove the equipment from the truck or trailer and refuel it while it is on the ground. If this is not possible, then refuel from a portable container rather than a fuel-dispenser nozzle.
- Do not operate the machine without the entire exhaust system in place and in proper working condition.
- Keep the fuel-dispenser nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If you spill fuel on your clothing, change your clothing immediately. Wipe up any fuel that spills.
- Never overfill the fuel tank. Replace the fuel cap and tighten it securely.

#### 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.

## Adding Fuel

### Recommended Fuel

- For best results, use only clean, fresh (less than 30 days old), unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
- **Ethanol:** Gasoline with up to 10% ethanol (gasohol) or 15% MTBE (methyl tertiary butyl ether) by volume is acceptable. Ethanol and MTBE are not the same. 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.

- **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 fuel stabilizer/conditioner in the machine to keep the fuel fresh longer when used as directed by the fuel-stabilizer manufacturer.

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

Add the amount of fuel stabilizer/conditioner to fresh fuel as directed by the fuel-stabilizer manufacturer.

## Filling the Fuel Tank

1. Park the machine on a level surface, disengage the PTO, move the motion-control levers to the NEUTRAL-LOCK position, and engage the parking brake.
2. Shut off the engine, remove the key, and wait for all moving parts to stop before leaving the operating position.
3. Clean around the fuel-tank cap and remove the cap.
4. Fill the fuel tank to the bottom of the filler neck.

**Note:** Do not fill the fuel tank completely full. The empty space in the tank allows the gasoline to expand.

5. Install the fuel-tank cap securely. Wipe up any spilled fuel.

## Performing Daily Maintenance

Before starting the machine each day, perform the Each Use/Daily procedures listed in [Maintenance \(page 26\)](#).

## Breaking in a New Machine

New engines take time to develop full power. Mower decks and drive systems have higher friction when new, placing additional load on the engine. Allow 40 to 50 hours of break-in time for new machines to develop full power and best performance.

## Using the Safety-Interlock System

### **⚠ WARNING**

If safety-interlock switches are disconnected or damaged, the machine could operate unexpectedly, causing personal injury.

- **Do not tamper with the interlock switches.**
- **Check the operation of the interlock switches daily, and replace any damaged switches before operating the machine.**

## Understanding the Safety-Interlock System

The safety-interlock system is designed to prevent PTO from engaging unless you do 1 of the following:

- Move the right motion-control lever to the center, unlocked position.
- Pull the PTO switch to the ON position.

The safety-interlock system is designed to stop the blades/attachment if you move or release both motion-control levers into the NEUTRAL-LOCK position.

The hour meter has symbols to notify the user when each interlock component is in the correct position. When the component is in the correct position, a triangle lights up in the corresponding square ([Figure 6](#)).

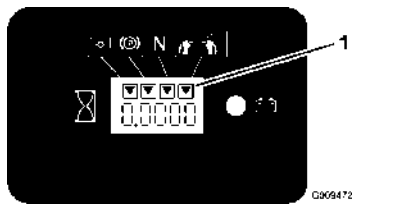


Figure 6

1. The triangles light up when the interlock components are in the correct position.

## Testing the Safety-Interlock System

**Service Interval:** Before each use or daily

Test the safety-interlock system before you use the machine each time.

**Note:** If the safety system does not operate as described below, have an Authorized Service Dealer repair the safety system immediately.

1. Start the engine; refer to [Starting the Engine \(page 18\)](#).
2. Move the right motion-control lever to the center, unlocked position.

**Note:** The blades/attachment should stop and the engine should stop running.

3. Start the engine and disengage the parking brake.
4. Move the right motion-control lever to the center, unlocked position.
5. Continue holding the motion-control lever in the center, unlocked position, pull up on the PTO switch, and release the switch.

**Note:** The clutch and blades/attachment should engage.

6. Move or release the right motion-control lever into the NEUTRAL-LOCK position.

**Note:** The blades/attachment should stop and the engine should continue to run.

7. Push the PTO switch down and move the right motion-control lever to the center, unlocked position.
8. Continue holding the motion-control lever in the center, unlocked position, pull up on the PTO switch, and release the switch.

**Note:** The clutch and blades/attachment should engage.

9. Push the PTO switch down to the OFF position.

**Note:** The blades/attachment should stop.

10. With the engine running, pull up the PTO switch and release it without holding the right motion-control lever to the center, unlocked position.

**Note:** The blades/attachment should not engage.

## During Operation

### During Operation Safety

#### General Safety

- The owner/operator can prevent and is responsible for accidents that may cause personal injury or property damage.
- Wear appropriate clothing, including eye protection; long pants; substantial, slip-resistant footwear; and hearing protection. Tie back long hair and do not wear loose clothing or loose jewelry.
- 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 operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Never carry passengers on the machine and keep bystanders and pets away from the machine during operation.
- Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lightning.
- Wet grass or leaves can cause serious injury if you slip and contact the blade. Avoid mowing in wet conditions.
- Before you start the engine, ensure that all drives are in neutral, the parking brake is engaged, and you are in the operating position.
- Ensure that you have good footing while using this machine, especially when backing up.
- Keep your hands and feet away from the cutting units. Keep clear of the discharge opening at all times.
- Look behind and down before backing up to be sure of a clear path.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view.
- Stop the blades whenever you are not mowing.
- Stop the machine, remove the ignition key, and wait for all moving parts to stop before inspecting the mower deck or attachment after striking an object or if there is an abnormal vibration in the machine. Make all necessary repairs before resuming operation.
- Slow down and use caution when making turns and crossing roads and sidewalks with the machine. Always yield the right-of-way.

- Disengage the cutting unit and shut off the engine before adjusting the height of cut (unless you can adjust it from the operating position).
- Operate the engine only in well-ventilated areas. Exhaust gases contain carbon monoxide, which is lethal if inhaled.
- Never leave a running machine unattended.
- Before leaving the operating position (including to empty the catchers or to unclog the chute), do the following:
  - Park the machine on a level surface.
  - Disengage the power take-off.
  - Engage the parking brake.
  - Shut off the engine and remove the ignition key.
  - Wait for all moving parts to stop.
- Shut off the machine and disengage the drive to the cutting unit in the following situations:
  - Before fueling
  - Before clearing blockages
  - Before checking, cleaning, or maintaining the cutting unit
  - After striking a foreign object or if an abnormal vibration occurs. Inspect the cutting unit for damage and make repairs before starting and operating the machine
  - Before leaving the operating position
- Do not use the machine as a towing vehicle.
- Use only accessories and attachments approved by The Toro® Company.

## Slope Safety

- Slopes are a major factor related to loss of control and rollover accidents, which can result in severe injury or death. You are responsible for safe slope operation. Operating the machine on any slope requires extra caution. Before using the machine on a slope, do the following:
  - 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.
- 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 (twice the width of the machine) between the machine and any hazard. Use a walk-behind machine or a handheld tool to operate 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.
- Use extra care while operating with accessories or attachments. These can change the stability of the machine and cause a loss of control. Follow directions for counterweights.
- If you lose control of the machine, step off and away from the direction of travel of the machine.

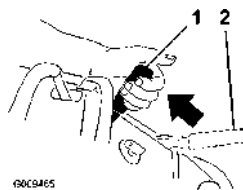
## Operating the Parking Brake

Always engage the parking brake when you shut off the machine or leave it unattended. Before each use, check the parking brake for proper operation.

If the parking brake does not hold securely, adjust it; refer to [Operating the Parking Brake \(page 15\)](#).

Pull the parking-brake lever rearward to engage it ([Figure 7](#)).

Push the parking-brake lever forward to disengage it.



**Figure 7**

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

## Operating the PTO

Use the power-takeoff (PTO) switch in conjunction with the motion-control levers to engage and disengage mower blades or powered attachments.

### Engaging the Power-Takeoff (PTO) Switch

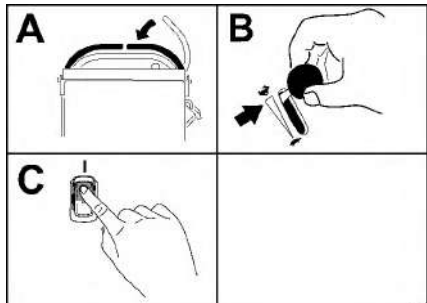


Figure 8

### Disengaging the Power-Takeoff (PTO) Switch

Figure 9 and Figure 10 show 2 ways to disengage the PTO.

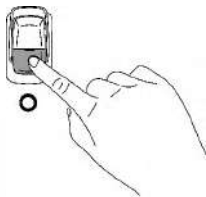


Figure 9

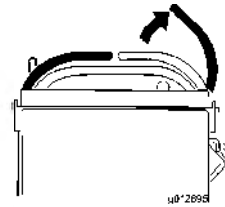


Figure 10

## Operating the Throttle

You can move the throttle control between FAST and SLOW positions (Figure 11).

Always use the FAST position when engaging the PTO.



Figure 11

## Operating the Choke

Use the choke to start a cold engine.

1. Pull up the choke knob to engage the choke before using the key switch (Figure 12).
2. Push down the choke knob to disengage the choke after the engine has started (Figure 12).

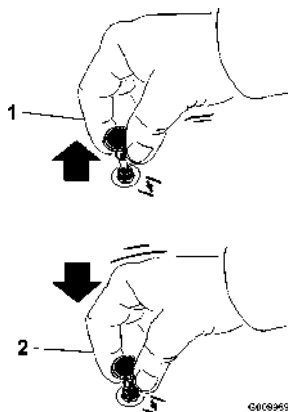


Figure 12

1. ON position

2. OFF position

## Operating the Ignition Switch

**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.

**Note:** You may need to repeat the cycle for starting the engine when you start it for the first time after you have filled a completely empty fuel system with fuel.

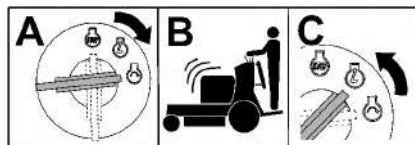


Figure 13

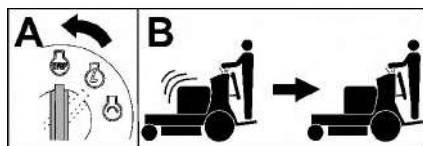


Figure 14



## Starting the Engine

**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.

**Note:** A warm or hot engine may not require choking.

**Note:** You may need to repeat the cycle for starting the engine when you start it for the first time after you have filled a completely empty fuel system with fuel.

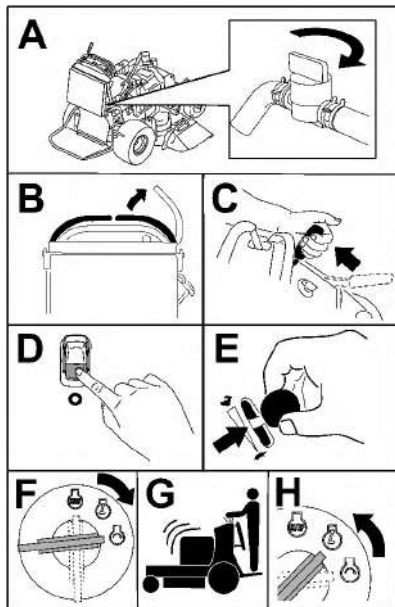


Figure 15

Let the engine idle at slow throttle (turtle) for 60 seconds before turning the key switch to the OFF position.

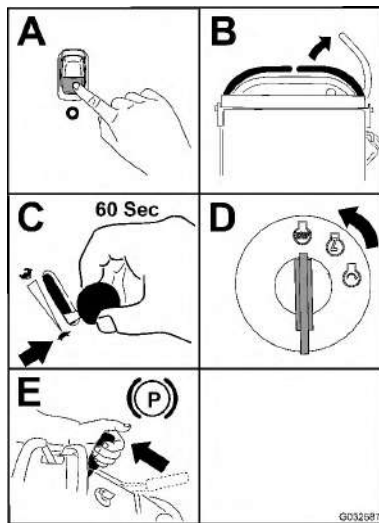


Figure 16

**Important:** Make sure that the fuel-shutoff valve is closed before transporting or storing the machine to prevent a fuel leak. Before storing the machine, disconnect the spark plug(s) to prevent the possibility of accidental starting.

## Shutting Off the Engine

### ⚠ CAUTION

Children or bystanders may be injured if they move or attempt to operate the machine while it is unattended.

Always remove the key and engage the parking brake when leaving the operator's position.

## Operating the Platform

You can use the machine with the platform in the up or down position. It is your preference on which position to use.

### **⚠ WARNING**

The operator platform is heavy and may cause injury when you raise or lower it. Carefully lower or raise the operator platform, as suddenly dropping it could injure you.

- Do not put your hands or fingers in the platform-pivot area when lowering or raising the operator platform.
- Make sure that the platform is supported when you pull the latch pin out.
- Make sure that the latch secures the platform when folding it up. Push it tight against the cushion for the latch pin to lock into place.
- Keep bystanders away from the machine when raising or lowering the platform.

## Operating the Machine with the Platform Up

Operate the machine with the platform up for the following conditions:

- Using the machine near drop-offs
- Using the machine in small areas where the machine is too large
- Areas with low-hanging branches or obstacles
- Loading the machine for transport
- Driving up slopes

To raise the platform, pull the back of the platform up so that the latch pin and knob lock it into place. Push it tight against the cushion for the latch pin to lock it into place.

## Operating the Machine with the Platform Down

Operate the machine with the platform down for the following conditions:

- Using the machine in most areas
- Driving across slopes
- Driving down slopes

To lower the platform, push the platform forward against the cushion to release pressure on the latch pin, then pull the knob out and lower the platform (Figure 17).

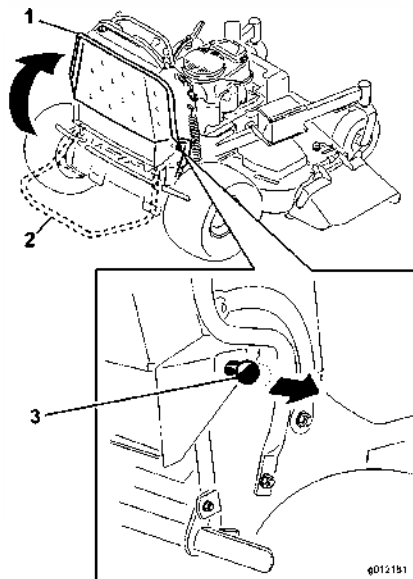


Figure 17

1. Platform up
2. Platform down
3. Pull the knob out to release the platform.

## Driving Forward or Backward

The throttle control regulates the engine speed as measured in rpm (revolutions per minute). Place the throttle control in the FAST position for best performance.

### **⚠ CAUTION**

The machine can spin very rapidly, and you may lose control of the machine, causing personal injury to you and damage to the machine.

Slow the machine down before making sharp turns.

## Driving Forward

1. Disengage the parking brake; refer to [Operating the Parking Brake \(page 15\)](#).

2. Move the right motion-control lever to the center, unlocked position.

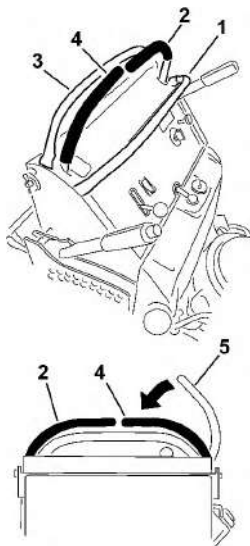


Figure 18

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- |                              |  |
|------------------------------|--|
| 1. Front reference bar       | 4. Right motion-control lever                              |
| 2. Left motion-control lever | 5. Right motion-control lever in the NEUTRAL-LOCK position |
| 3. Rear reference bar        |  |

3. Move the speed-control lever to the desired speed.
4. Slowly push the motion-control levers forward (Figure 19).

**Note:** The engine shuts off if you move a motion-control lever with the parking brake engaged.

**Note:** The farther you move the motion-control levers in either direction, the faster the machine moves in that direction.

**Note:** To stop, pull the motion-control levers back to the NEUTRAL position.

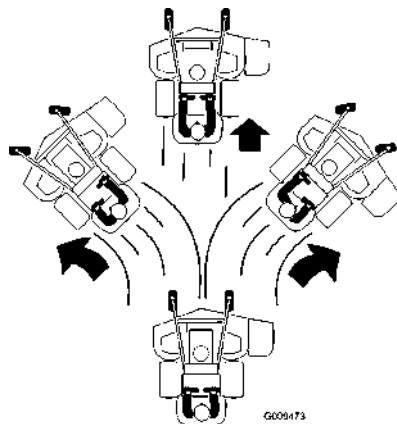


Figure 19

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## Driving Backward

1. Move the right motion-control lever to the center, unlocked position.
2. Slowly pull the motion-control levers rearward (Figure 20).

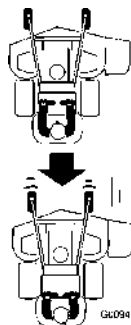


Figure 20

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## Side Discharging or Mulching the Grass

This machine has a hinged grass deflector that disperses clippings to the side and down toward the turf.

### **⚠ DANGER**

Without the grass deflector, discharge cover, or complete grass catcher assembly mounted in place, you and others are exposed to blade contact and thrown debris. Contact with rotating mower blade(s) and thrown debris cause injury or death.

- Do not remove the grass deflector from the machine, because the grass deflector routes material down toward the turf. If the grass deflector is ever damaged, replace it immediately.
- Never put your hands or feet under the machine.
- Never try to clear the discharge area or mower blades unless you release the bail and the power takeoff (PTO) is off. Rotate the key to the OFF position. Also remove the key and disconnect the wire(s) from the spark plug(s).

## Adjusting the Height of Cut

The height of cut can be adjusted from 25 to 127 mm (1 to 5 inches) in 6 mm (1/4 inch) increments.

1. Move the height-of-cut lever to the transport position (all the way up).
2. Rotate the pin 90 degrees and remove it from the height-of-cut bracket.
3. Select a hole in the height-of-cut bracket corresponding to the height-of-cut desired and insert the pin (Figure 21).
4. Push the button on top and lower the height-of-cut lever to the pin (Figure 21).

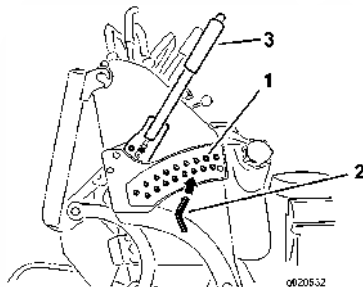


Figure 21

1. Height-of-cut holes
2. Height-of-cut pin
3. Height-of-cut lever

## Adjusting the Flow Baffle

You can adjust the mower-discharge flow for different types of mowing conditions. Position the cam lock and baffle to provide the best quality of cut.

1. Disengage the PTO, move the motion-control levers to the NEUTRAL-LOCK position, and engage the parking brake.
2. Shut off the engine, remove the key, and wait for all moving parts to stop before leaving the operating position.
3. To adjust the baffle, loosen the nut (Figure 22).
4. Adjust the baffle and nut in the slot to the desired discharge flow and tighten the nut.

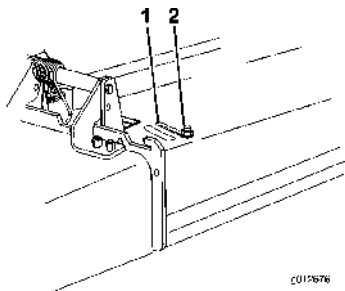


Figure 22

1. Slot
2. Nut

## Positioning the Flow Baffle

The following figures are for recommended use only. Adjustments vary by grass type, moisture content, and the height of the grass.

**Note:** If the engine power draws down and the mower ground speed is the same, open the baffle.

### Position A

This is the full, rear position (see Figure 23). Use this position for the following:

- In short, light grass mowing conditions
- In dry conditions
- Smaller grass clippings
- Propels grass clippings farther away from the mower

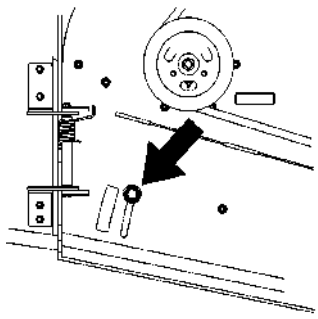


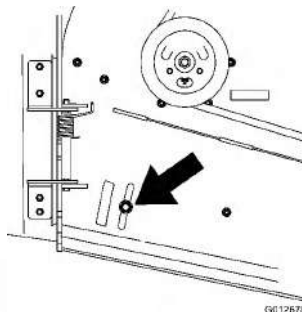
Figure 23

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### Position B

Use this position when bagging (Figure 24).



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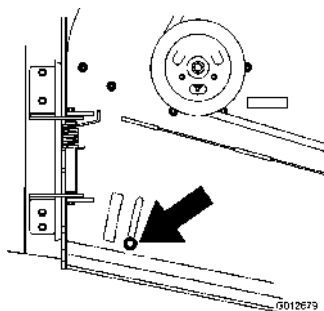
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Figure 24

### Position C

This is the full, open position (Figure 25). Use this position for the following:

- In tall, dense grass mowing conditions
- In wet conditions
- Lowers the engine-power consumption
- Allows increased ground speed in heavy conditions



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Figure 25

## Using Weights

- Install weights to improve balance. You can add or remove weights to create optimized performance under different operating conditions and for your preference.
- Add or remove weights 1 at a time until you achieve the desired handling and balance.
- Refer to the *Operator's Manual* of attachments for recommended weights.

**Note:** Contact an Authorized Service Dealer to order a weight kit.

### **⚠ WARNING**

**Excessive weight changes can affect the handling and operation of the machine. This could cause serious injury to you or bystanders.**

- **Make weight changes in small increments only.**
- **Evaluate the machine after each weight change to ensure that you can operate the machine safely.**

## After Operation

## After Operation Safety

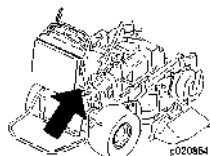
### General Safety

- Always shut off the machine, remove the ignition key, wait for all moving parts to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.
- Clean grass and debris from the cutting units, mufflers, and engine compartment to help prevent fires. Clean up oil or fuel spills.
- Shut off the fuel before storing or transporting the machine.
- Disengage the PTO whenever you are transporting or not using the machine.
- 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.
- Use full-width ramps for loading the machine into a trailer or truck.
- Tie the machine down securely using straps, chains, cable, or ropes. Both front and rear straps should be directed down and outward from the machine.

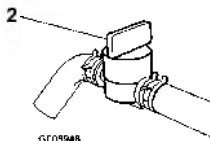
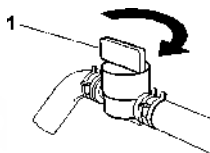
## Using the Fuel-Shutoff Valve

Close the fuel-shutoff valve for transport, maintenance, and storage (Figure 26).

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



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**Figure 26**

1. ON position

2. OFF position

## Pushing the Machine by Hand

The bypass valves allow you to push the machine by hand without the engine running.

**Important:** Always push the machine by hand. Do not tow the machine, because hydraulic damage may occur.

**Important:** Do not start or operate the machine with the bypass valves open. Damage to the system may occur.

1. Disengage the PTO, move the motion-control levers to the NEUTRAL-LOCK position, and engage the parking brake.

2. Lower the mower deck to the lowest height of cut (HOC).

**Note:** This allows access to the bypass valves.

3. Open the bypass valve on both pumps by turning them counterclockwise 1 to 2 turns (Figure 27).

**Note:** This allows hydraulic fluid to bypass the pumps and the wheels to turn.

**Note:** Rotate the bypass valves a maximum of 2 turns so that the valve does not come out of the body, causing fluid to run out.

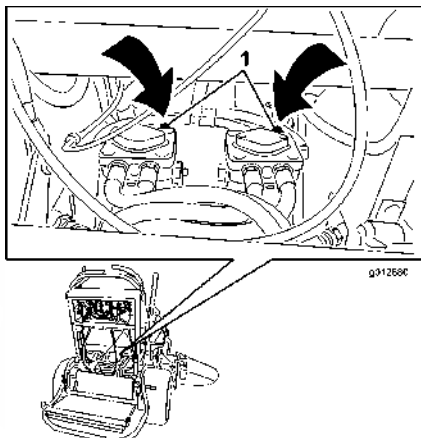


Figure 27

1. Pump-bypass valve

4. Disengage the parking brake.
5. Push the machine to the desired location.

6. Engage the parking brake.
7. Close the bypass valves but do not overtighten them.
8. Torque the valves to 12 to 15 N·m (110 to 130 in-lb).

## Transporting the Machine

Use a heavy-duty trailer or truck to transport the machine. Use a full-width ramp. Ensure that the trailer or truck has all the necessary brakes, lighting, and marking as required by law. Please carefully read all the safety instructions. Knowing this information could help you or bystanders avoid injury. Refer to your local ordinances for trailer and tie-down requirements.

### ⚠ WARNING

**Driving on the street or roadway without turn signals, lights, reflective markings, or a slow-moving-vehicle emblem is dangerous and can lead to accidents, causing personal injury.**

**Do not drive the machine on a public street or roadway.**

## Selecting a Trailer

### ⚠ WARNING

**Loading a machine onto a trailer or truck increases the possibility of tip-over and could cause serious injury or death (Figure 28).**

- Use only a full-width ramp; do not use individual ramps for each side of the machine.
- Ensure that the length of ramp is at least 4 times as long as the height of the trailer or truck bed to the ground.

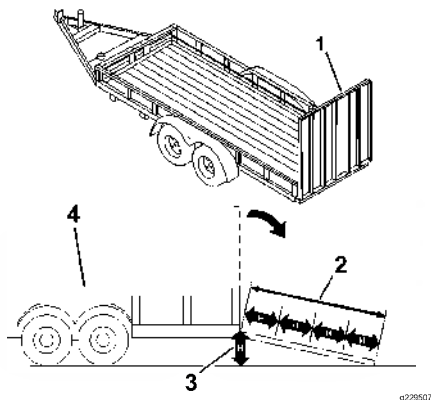


Figure 28

1. Full-width ramp in stowed position
2. Ramp is at least 4 times as long as the height of the trailer or truck bed to the ground
3. H=height of the trailer or truck bed to the ground
4. Trailer

## Loading the Machine

### ⚠ WARNING

Loading a machine onto a trailer or truck increases the possibility of tip-over and could cause serious injury or death.

- Use extreme caution when operating a machine on a ramp.
- Back the machine up the ramp and walk it forward down the ramp.
- Avoid sudden acceleration or deceleration while driving the machine on a ramp as this could cause a loss of control or a tip-over situation.

1. If using a trailer, connect it to the towing vehicle and connect the safety chains.
2. If applicable, connect the trailer brakes and lights.
3. Lower the ramp (Figure 28).
4. Raise the platform.

**Important:** Always keep the platform up when loading and unloading the machine.

5. Back the machine up the ramp (Figure 29).

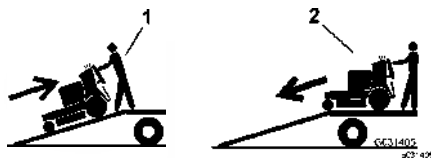


Figure 29

1. Back the machine up the ramp.
2. Walk the machine down the ramp.
6. Shut off the engine, remove the key, and engage the parking brake.
7. Tie down the machine near the front caster wheels and the rear bumper with straps, chains, cable, or ropes (Figure 30). Refer to local regulations for tie-down requirements.

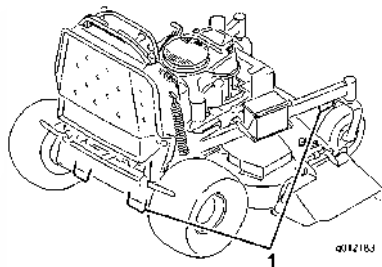


Figure 30

1. Tie-down loops



# Troubleshooting

Problem	Possible Cause	Corrective Action
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 or the shutoff valve is closed.</li> <li>2. The choke control is not engaged.</li> <li>3. A spark-plug wire is loose or disconnected.</li> <li>4. A spark plug is pitted, fouled, or the gap is incorrect.</li> <li>5. The air cleaner is dirty.</li> <li>6. Dirt is in the fuel filter.</li> <li>7. Dirt, water, or stale fuel is in the fuel system.</li> <li>8. The gap between the safety-interlock switches is not correct.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill the fuel tank with fuel and open the valve</li> <li>2. Engage the choke control.</li> <li>3. Install the wire on spark plug.</li> <li>4. Install a new, correctly gapped spark plug.</li> <li>5. Service the air-cleaner element.</li> <li>6. Replace the fuel filter.</li> <li>7. Contact an Authorized Service Dealer.</li> <li>8. Contact an Authorized Service Dealer.</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. A spark plug is pitted, fouled, or the gap is incorrect.</li> <li>6. The vent hole in the fuel cap is plugged.</li> <li>7. Dirt is in the fuel filter.</li> <li>8. Dirt, water, or stale fuel is in the fuel system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the ground speed.</li> <li>2. Service 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.</li> <li>6. Clean or replace the fuel cap.</li> <li>7. Replace the fuel filter.</li> <li>8. Contact an Authorized Service Dealer.</li> </ol>
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> </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> </ol>
The machine does not drive.	<ol style="list-style-type: none"> <li>1. The hydraulic-fluid reservoir is low.</li> <li>2. Air is in the hydraulic system.</li> <li>3. A pump-drive belt slips.</li> <li>4. A pump-drive belt idler spring is missing.</li> <li>5. The pump-bypass valves are open.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add hydraulic fluid to the reservoir.</li> <li>2. Bleed the air out the hydraulic system.</li> <li>3. Replace the pump-drive belt.</li> <li>4. Replace the pump-drive belt idler spring.</li> <li>5. Tighten the bypass valves. Torque to 12 to 15 N-m (9 to 11 ft-lb).</li> </ol>
There is abnormal vibration.	<ol style="list-style-type: none"> <li>1. Cutting blade(s) is/are bent or unbalanced.</li> <li>2. A blade-mounting bolt is loose.</li> <li>3. The engine-mounting bolts are loose.</li> <li>4. An engine pulley, idler pulley, or blade pulley is loose.</li> <li>5. An engine pulley is damaged.</li> <li>6. A blade spindle is bent.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install new cutting blade(s).</li> <li>2. Tighten the blade-mounting bolt.</li> <li>3. Tighten the engine-mounting bolts.</li> <li>4. Tighten the appropriate pulley.</li> <li>5. Contact an Authorized Service Dealer.</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. Blade(s) are not sharp.</li> <li>2. Cutting blade(s) is/are bent.</li> <li>3. The mower deck is not level.</li> <li>4. The mower deck pitch is wrong.</li> <li>5. The underside of mower deck is dirty.</li> <li>6. The tire pressure is not correct.</li> <li>7. A blade spindle is bent.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sharpen the blade(s).</li> <li>2. Install new cutting blade(s).</li> <li>3. Level the mower deck side-to-side position.</li> <li>4. Adjust the front-to-rear pitch.</li> <li>5. Clean the underside of the mower deck.</li> <li>6. Adjust the tire pressure.</li> <li>7. Contact an Authorized Service Dealer.</li> </ol>
The blades do not rotate.	<ol style="list-style-type: none"> <li>1. A pump-drive belt is worn, loose or broken.</li> <li>2. A pump-drive belt is off pulley.</li> <li>3. A mower-deck belt is worn, loose or broken.</li> <li>4. A mower-deck belt is off the pulley.</li> <li>5. An idler spring is broken or missing.</li> <li>6. The electric clutch is out of adjustment.</li> <li>7. The clutch connector or wire is damaged.</li> <li>8. The electric clutch is damaged.</li> <li>9. The safety-interlock system prevents blade rotation.</li> <li>10. The PTO switch is malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the belt tension.</li> <li>2. Install the drive belt and check the adjusting shafts and belt guides for the correct position.</li> <li>3. Install the new deck belt.</li> <li>4. Install the deck pulley and check the idler pulley, idler arm and spring for the correct position and function.</li> <li>5. Replace the spring.</li> <li>6. Adjust the clutch air gap.</li> <li>7. Contact an Authorized Service Dealer.</li> <li>8. Contact an Authorized Service Dealer.</li> <li>9. Contact an Authorized Service Dealer.</li> <li>10. Contact an Authorized Service Dealer.</li> </ol>