



**Count on it.**

Form No. 3425-822 Rev A

# Operator's Manual

## Base 62in and 72in Mower Groundsmaster® 3320/3280-D Traction Unit

Model No. 30403—Serial No. 403330001 and Up

Model No. 30404—Serial No. 403330001 and Up



This product complies with all relevant European directives. For details, please see the Declaration of Incorporation (DOI) at the back of this publication.

## ⚠ WARNING

### CALIFORNIA Proposition 65 Warning

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

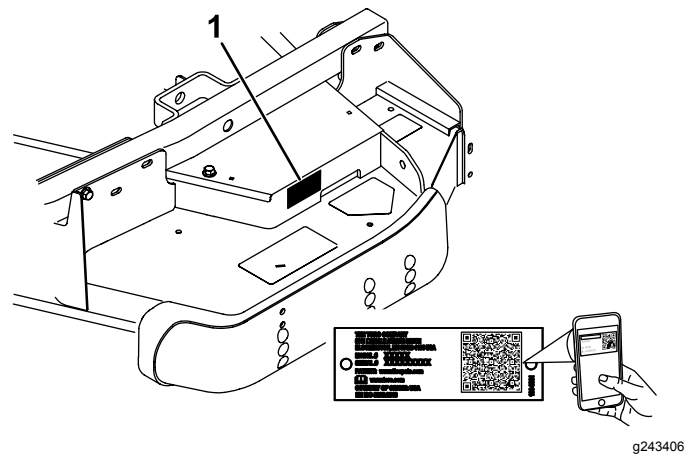


Figure 1

# Introduction

This rotary-blade lawn cutting unit is mounted to a ride-on machine and is intended to be used by professional, hired operators in commercial applications. It is primarily designed for cutting grass on well-maintained lawns in parks, sports fields, and on commercial grounds. 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 product safety and operation 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.

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.



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 .....	3
General Safety .....	3
Cutting Unit Safety .....	3
Safety and Instructional Decals .....	5
Setup .....	7
1 Preparing the Machine .....	7
2 Installing a Completion Kit .....	7
3 Installing the Castor Wheel Assemblies .....	8
4 Installing the Lift Arms .....	8
5 Installing the Cutting Units on the Lift Arms .....	9
6 Connecting the PTO Shaft to the Cutting Unit Gearbox .....	10
7 Greasing the Machine .....	10
Product Overview .....	11
Specifications .....	11
Attachments/Accessories .....	11
Operation .....	11
Adjusting the Height-of-Cut .....	11
Adjusting the Cutting Unit Pitch .....	13
Adjusting the Skids .....	13
Adjusting the Rollers .....	14
Correcting Cutting Unit Mismatch .....	14
Operating Tips .....	15
Maintenance .....	16
Recommended Maintenance Schedule(s) .....	16
Daily Maintenance Checklist .....	16
Lubrication .....	17
Checking the Lubricant in the Gearbox .....	17
Separating the Cutting Unit from the Traction Unit .....	18
Mounting the Cutting Unit to the Traction Unit .....	19
Servicing the Bushings in the Castor Arms .....	19
Servicing the Castor Wheels and Bearings .....	20
Servicing the Cutting Blades .....	20
Checking and Correcting Mismatch of Blades .....	22
Replacing the Drive Belt .....	22
Cleaning Under the Cutting Unit .....	23
Storage .....	23


# Safety

This machine has been designed in accordance with EN ISO 5395:2013 and ANSI B71.4-2017.

## 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.
- 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 components of the machine.
- Do not operate the machine without all guards and other safety protective devices in place and working on the machine.
- Keep clear of any discharge opening. Keep bystanders and pets away from the machine.
- Keep children out of the operating area. Never allow children to operate the machine.
- Park the machine on a level surface, lower the cutting units, disengage the drives, engage the parking brake (if provided), shut off the engine, and remove the key before leaving the operator's position for any reason.

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 *Operator's Manual*.

## Cutting Unit Safety

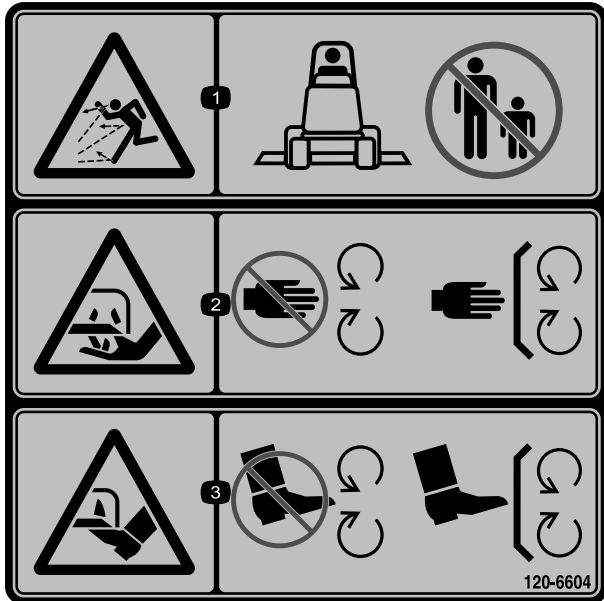
- The cutting unit is only a part of a complete machine when installed on a traction unit. Read the **traction unit *Operator's Manual*** carefully for complete instructions on the safe use of the machine.
- Stop the machine, remove the key, and wait for all moving parts to stop before inspecting the attachment after striking an object or if there is an abnormal vibration in the machine. Make all necessary repairs before resuming operation.

- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.
- Use only accessories, attachments, and replacement parts approved by Toro.

# Safety and Instructional Decals



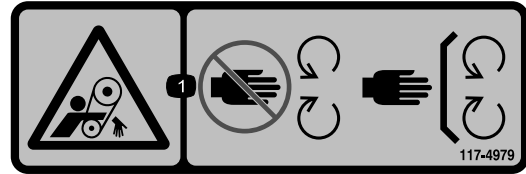
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



120-6604

decal120-6604

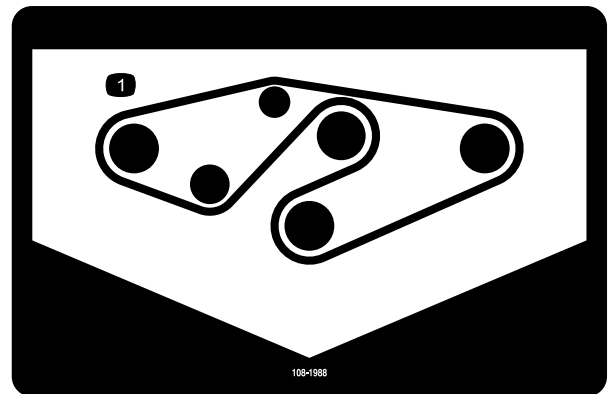
1. Thrown object hazard—keep bystanders away from the machine.
2. Cutting/dismemberment hazard of hand, mower blade—stay away from moving parts, keep all guards and shields in place.
3. Cutting/dismemberment hazard of foot, mower blade—stay away from moving parts, keep all guards and shields in place.



decal117-4979

117-4979

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



decal108-1988

108-1988

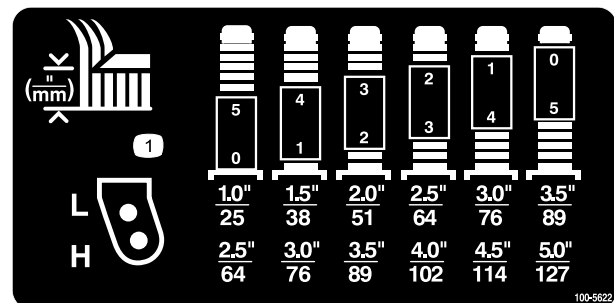
1. Belt routing



decal93-6697

93-6697

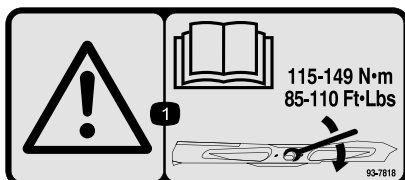
1. Read the *Operator's Manual*.
2. Add SAE 80W-90 (API GL-5) oil every 50 hours.



decal100-5622

100-5622

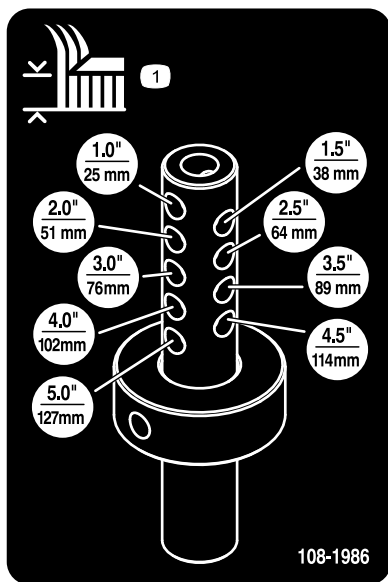
1. Height-of-cut adjustment



decal93-7818

93-7818

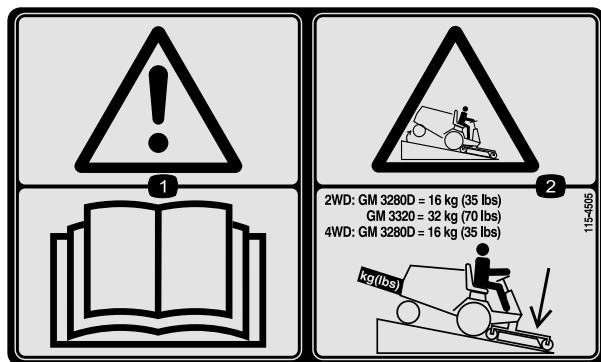
1. Warning—read the *Operator's Manual* for instructions on torquing the blade bolt/nut to 115 to 149 N·m (85 to 110 ft-lb).



**108-1986**

decal108-1986

1. Height of cut



**115-4505**

decal115-4505

1. Warning—read the *Operator's Manual*.
2. Tipping hazard—lower the cutting unit when driving down slopes. For 2 wheel drive units, add a 16 kg (35 lb) rear weight to GM 3280D units and a 32 kg (70 lb) rear weight to GM 3320 units. For 4 wheel drive 3280 D units, add a 16 kg (35 lb) rear weight.

**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).  
For more information, please visit [www.ttcocaprop65.com](http://www.ttcocaprop65.com)

**133-8061**

decal133-8061

# Setup

## Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
<b>1</b>	No parts required	–	Prepare the machine.
<b>2</b>	Completion kit (sold separately)	1	Install a completion kit.
<b>3</b>	Castor wheel assembly	2	Install the castor wheel assemblies.
<b>4</b>	Right lift arm Left lift arm Pivot pin Cotter pin	1 1 2 2	Install the lift arms.
<b>5</b>	Thrust washer Clevis pin Hairpin cotter Height-of-cut collar Clevis pin Hairpin cotter Bolt (1/2 x 3/4 inch) Washer	4 4 2 2 2 2 2 2	Install the cutting units
<b>6</b>	No parts required	–	Connect the PTO shaft to the cutting unit gearbox.
<b>7</b>	No parts required	–	Grease the machine.

## Media and Additional Parts

Description	Qty.	Use
Parts Catalog	1	Read material before operation
Operator's Manual	1	

### **⚠ WARNING**

If you leave the key in the ignition switch, someone could accidentally start the engine and seriously injure you or other bystanders.

Remove the key from the ignition switch before you do any maintenance.

### **⚠ DANGER**

If the engine is started and the PTO shaft is allowed to rotate, serious injury could result.

Do not start the engine and engage the PTO lever when the PTO shaft is not connected to the gearbox on the cutting unit.

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

# 1

## Preparing the Machine

No Parts Required

### Procedure

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Shut off the engine and remove the key.

# 2

## Installing a Completion Kit

Parts needed for this procedure:

1	Completion kit (sold separately)
---	----------------------------------

### Procedure

Install 1 of the following 62-inch or 72-inch completion kits to the base deck using the instruction provided in the kit:

- Model 30303, 72-inch Rear Discharge
- Model 30304, 72-inch Guardian
- Model 30305, 62-inch Rear Discharge
- Model 30306, 62-inch Guardian

# 3

## Installing the Castor Wheel Assemblies

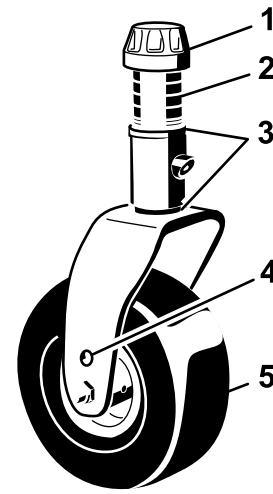
Parts needed for this procedure:

2	Castor wheel assembly
---	-----------------------

### Procedure

The thrust washers, spacers, and tensioning caps have been installed on the castor wheel spindles for shipping.

1. Remove the tensioning caps from the spindle shafts and slide off the spacers and thrust washers (Figure 3).



G008866

g008866

Figure 3

1. Tensioning cap
  2. Spacers
  3. Thrust washers
  4. Axle mounting holes
  5. Castor wheel
- 
2. Slide the spacers onto the castor spindle to get the desired height-of-cut; refer to Figure 7 and Figure 8 to determine the combinations of spacers for the setting. Slide a thrust washer onto the spindle, push the castor through the castor arm. Install another thrust washer and the remaining spacers onto the spindle and install the tensioning cap to secure the assembly (Figure 3).

**Important:** The thrust washers, not the spacers, must contact the top and bottom of the castor arm.

# 4

## Installing the Lift Arms

Parts needed for this procedure:

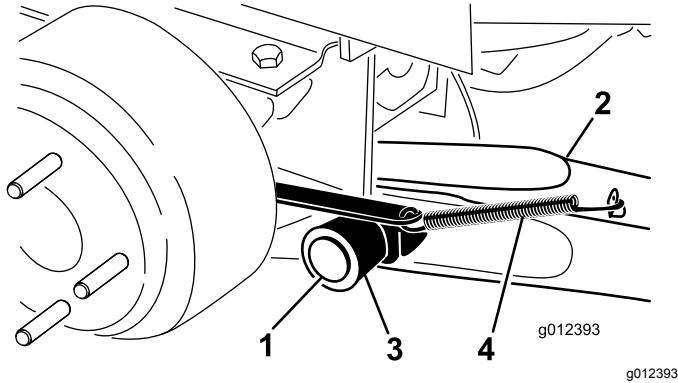
1	Right lift arm
1	Left lift arm
2	Pivot pin
2	Cotter pin

### Procedure

1. On 1 side of the traction unit, loosen (do not remove) the wheel nuts securing the wheel and tire assembly to the front wheel studs.
2. Jack up the machine until the front wheel is off of the floor. Use jack stands or block the machine to prevent it from accidentally falling.



3. Remove the wheel nuts and slide the wheel and tire assembly off of the studs.
4. Mount a lift arm to the pivot bracket with a pivot pin and a cotter pin (Figure 4). Mount the lift arm with the bend positioned outward.



**Figure 4**

- |              |                        |
|--------------|------------------------|
| 1. Pivot pin | 3. Pivot bracket       |
| 2. Lift arm  | 4. Brake return spring |

5. Hook the brake return spring to the tab on the lift arm (Figure 4).
6. Install the wheel and tire assembly. Torque the wheel nuts to 102 to 108 N·m (75 to 80 ft-lb).
7. Repeat the procedure on the opposite side of the machine.

# 5

## Installing the Cutting Units on the Lift Arms

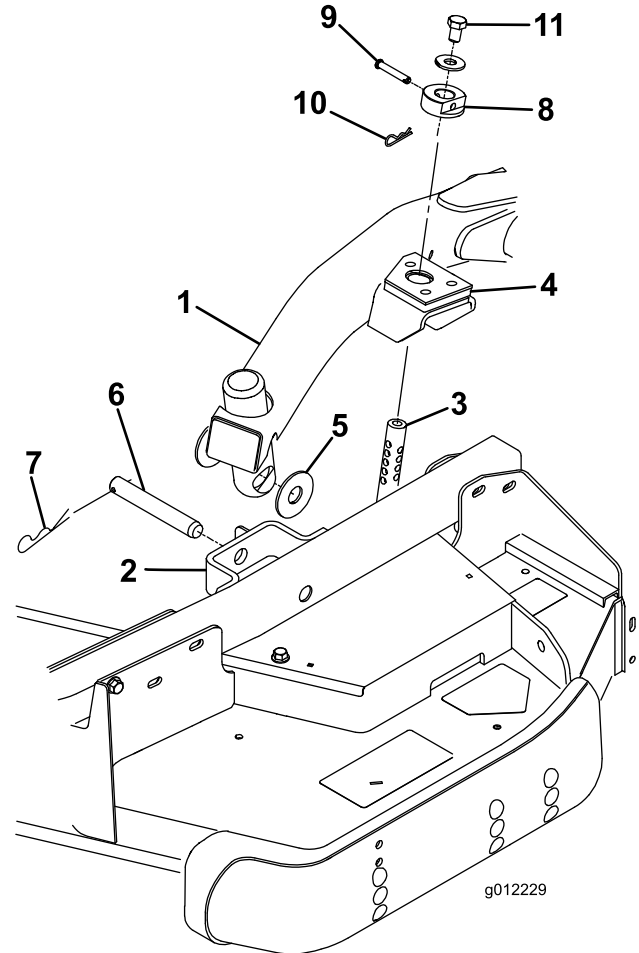
**Parts needed for this procedure:**

4	Thrust washer
4	Clevis pin
2	Hairpin cotter
2	Height-of-cut collar
2	Clevis pin
2	Hairpin cotter
2	Bolt (1/2 x 3/4 inch)
2	Washer

## Procedure

1. Move the cutting unit into position in front of the traction unit.

2. Move the lift lever to the FLOAT position. Push a lift arm down until the holes in the lift arm line up with the holes in the castor arm bracket and the height of cut rod can be inserted into the lift arm pads (Figure 5).
3. Secure the lift arm to the castor arm with 2 thrust washers, a clevis pin and a hairpin cotter. Position the thrust washers between the lift arm and the castor arm bracket (Figure 5). Insert end of cotter pin into the slot in the castor arm tab to retain cotter pin.



**Figure 5**

- |                       |                         |
|-----------------------|-------------------------|
| 1. Lift arm           | 7. Hairpin cotter       |
| 2. Castor arm bracket | 8. Height-of-cut collar |
| 3. Height-of-cut rod  | 9. Clevis pin           |
| 4. Lift arm pads      | 10. Hairpin cotter      |
| 5. Thrust washers     | 11. Bolt                |
| 6. Clevis pin         |                         |

4. Repeat the procedure on the opposite lift arm.
5. Start the traction unit and raise the cutting unit.
6. Push down on the rear of the cutting unit and insert the height of cut rods through the lift arm pads.

7. Install the height of cut collars onto the height of cut rods and secure with the clevis pins and hairpin cotters ([Figure 5](#)). Position the head of the clevis pin toward the front of the deck, if possible.
8. Install a bolt (1/2 x 3/4 inch) and a washer to top of each height of cut rod ([Figure 5](#)).

# 7

## Greasing the Machine

No Parts Required

### Procedure

Before operating the machine, it must be greased to ensure proper lubricating characteristics; refer to [7 Greasing the Machine \(page 10\)](#). Failure to properly grease the machine will result in premature failure of critical parts.

# 6

## Connecting the PTO Shaft to the Cutting Unit Gearbox

No Parts Required

### Procedure

1. Slide the male PTO shaft into the female PTO shaft ([Figure 6](#)). Align the mounting holes in the gear case input shaft with the holes in the PTO shaft and slide them together.

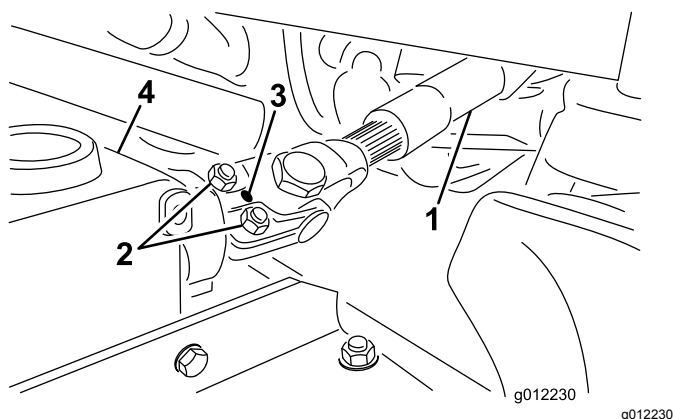


Figure 6

- |                       |              |
|-----------------------|--------------|
| 1. PTO shaft          | 3. Gear case |
| 2. Bolts and locknuts | 4. Roll pin  |

2. Secure them with a roll pin ([Figure 6](#)).
3. Tighten the bolts and nuts ([Figure 6](#)).

# Product Overview

## Specifications

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

Width of Cut	1.575 m (62 inches) or 1.829 m (72 inches)
Height of Cut	Adjustable from 25 to 127 mm (1 to 5 inches) in 13 mm (1/2 inch) increments
Net Weight	Model 30403—190 kg (420 lbs.) Model 30404—231 kg (510 lbs. )

## 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

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

## ⚠ CAUTION

**If you leave the key in the ignition switch, someone could accidentally start the engine and seriously injure you or other bystanders.**

**Remove the key from the ignition before you do any maintenance.**

## Adjusting the Height-of-Cut

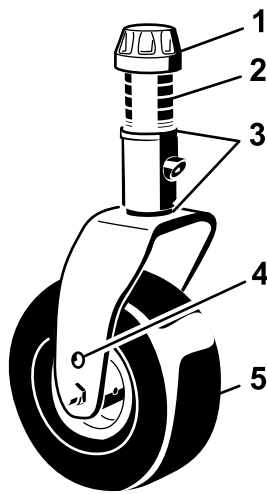
The height-of-cut is adjustable from 25 to 127 mm (1 to 5 inches) in 13 mm (1/2 inch) increments. To adjust the height-of-cut, position the castor wheel axles in the upper or lower holes of the castor forks, add or remove an equal number of spacers from the castor forks and secure the height of cut collar to the desired holes in the height of cut rod.

1. Start the engine and raise the cutting unit off the floor so that you can change the height-of-cut. Shut off the engine and remove the key after you raise the cutting unit.
2. Position the castor wheel axles in the same holes in both castor forks. Refer to [Figure 7](#) and [Figure 8](#) to determine the correct holes for the setting.

**Note:** When operating in 64 mm (2–1/2 inches) height of cut or higher, install the axle bolt in the lower castor fork hole to prevent grass buildup between the wheel and the fork. When operating in height of cuts lower than 64 mm (2–1/2 inches) and there is grass buildup, reverse the machines direction to pull any clippings away from the wheel/fork area.

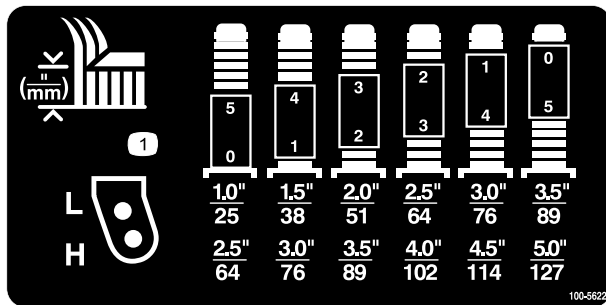
3. Remove the tensioning cap from the spindle shaft ([Figure 7](#)) and slide the spindle out of the castor arm. Put the 2 shims (1/8 inch) onto the spindle shaft as they were originally installed. These shims are required to achieve a level across the entire width of the cutting units. Slide the appropriate number of 1/2 inch spacers onto the spindle shaft to get the desired height-of-cut; then slide the washer onto the shaft.

Refer to [Figure 7](#) and [Figure 8](#) to determine the combinations of spacers for the setting.



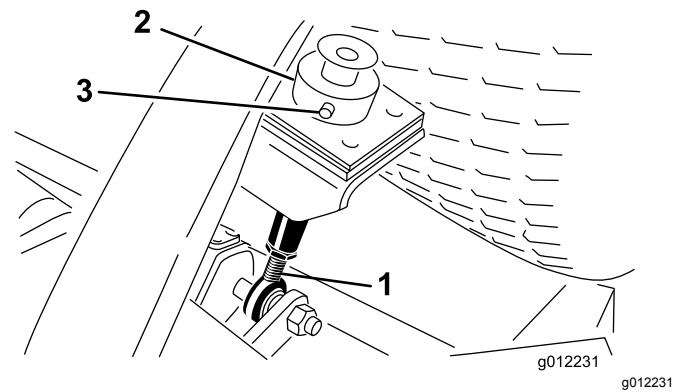
**Figure 7**

1. Tensioning cap
2. Spacers
3. Shims
4. Axle mounting holes
5. Castor wheel



**Figure 8**

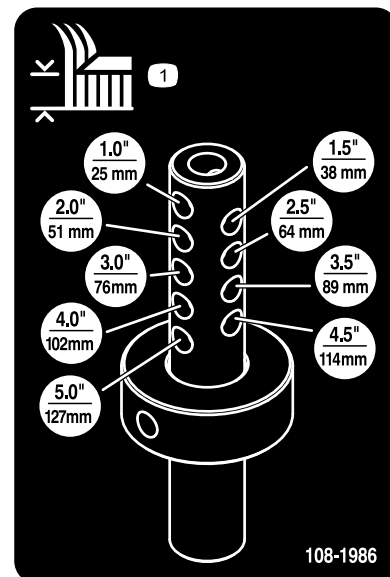
4. Push the castor spindle through the castor arm. Install the shims (as they were originally installed) and the remaining spacers onto the spindle shaft. Install the tensioning cap to secure the assembly.
5. Remove the hairpin and clevis pin securing the height of cut collar to the height of cut rod on the rear of the cutting unit (Figure 9).



**Figure 9**

1. Height-of-cut rod
2. Height-of-cut collar
3. Clevis pin and hairpin cotter

6. Align the height-of-cut collar to the desired height-of-cut holes on the height-of-cut rod (Figure 10).



**Figure 10**

7. Secure the adjustment with the clevis pin and hairpin.

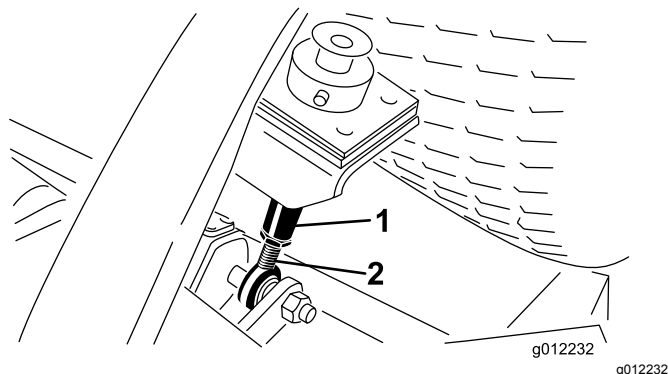
**Note:** Position the head of the clevis pin toward the front of the deck, if possible.

**Note:** When using 25 mm (1 inch), 38 mm (1-1/2 inch), or occasionally 51 mm (2 inch) height-of-cut, move the skids and roller to the highest holes.

# Adjusting the Cutting Unit Pitch

Cutting unit pitch is the difference in height-of-cut from the front of the blade plane to the back of the blade plane. Use a blade pitch of 6 mm (1/4 inch). That is the back of the blade plane is 6 mm (1/4 inch) higher than the front.

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Shut off the engine and remove the key.
4. Set the cutting unit to the desired height-of-cut.
5. Rotate 1 blade so that it points straight forward.
6. Using a short ruler, measure from the floor to the front tip of the blade. Rotate the blade tip to the rear and measure from the floor to the tip of the blade.
7. Subtract the front dimension from the rear dimension to calculate the blade pitch.
8. Loosen the jam nuts on the bottom of the height-of-cut rods (Figure 11).



**Figure 11**

1. Height-of-cut
2. Jam nut

9. Rotate the height-of-cut rods to raise or lower the rear of the cutting unit and attain the correct cutting unit pitch.
10. Tighten the jam nuts.

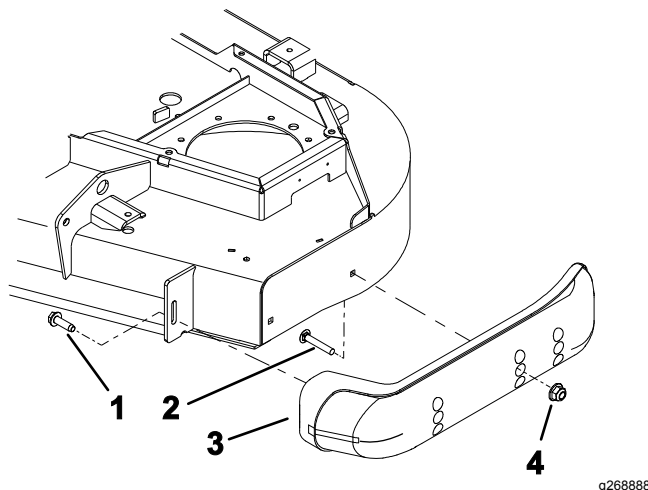
# Adjusting the Skids

Mount the skids in the lower position when operating in height of cuts higher than 64 mm (2-1/2 inches) and in the higher position when operating in height of cuts lower than 64 mm (2-1/2 inches).

**Note:** When the skids become worn, you can switch the skid to the opposite sides of the mower, flipping them over. This will allow you to use the skids longer before replacing them.

1. Disengage the PTO 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. Loosen the screw at the front of each skid (Figure 12).
4. Remove the flange-head bolts and nuts from each skid.
5. Move each skid to the desired position and secure them with the flange-head bolts and nuts (Figure 12).

**Note:** Only use the top or center sets of holes to adjust the skids. The bottom holes are used when switching sides on a Guardian mower, at which time they become the top holes on the other side of the mower.



**Figure 12**

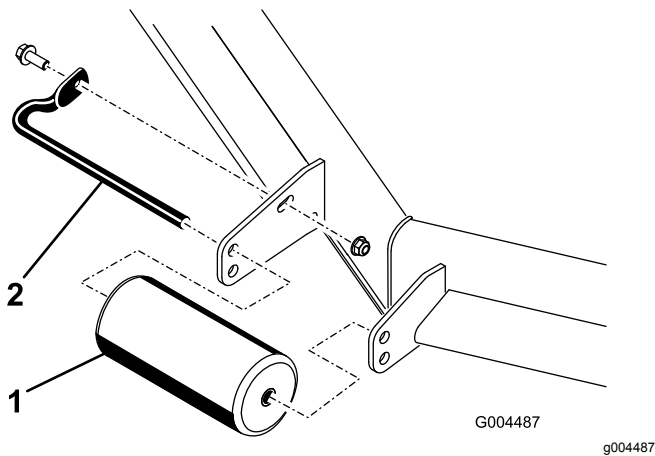
1. Screw
2. Flange-head bolt
3. Skid
4. Nut

6. Torque the screw at the front of each skid to 9 to 11 N·m (80 to 100 in-lb).

# Adjusting the Rollers

**Note:** If the cutting unit is to be used in the 25 or 38 mm (1 or 1-1/2 inch) height-of-cut setting, position the cutting unit rollers in the top bracket holes.

1. Remove the screw and nut securing the roller shaft to the deck bracket ([Figure 13](#)).



**Figure 13**

1. Roller
2. Roller shaft

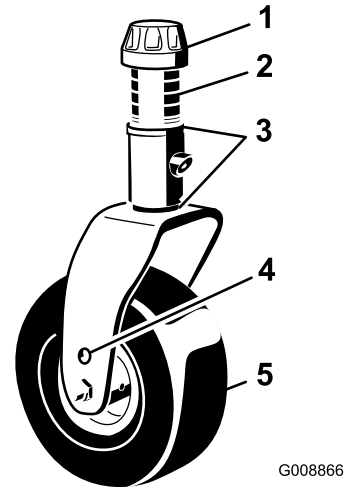
2. Slide the shaft out of the lower bracket holes, align the roller with the top holes, and install the shaft.
3. Install the screw and nut to secure the assemblies.

## Correcting Cutting Unit Mismatch

Due to differences in grass conditions and the counterbalance setting of the traction unit, it is advised that grass be cut and appearance checked before formal cutting is started.

1. Set the cutting unit to the desired height of cut; refer to [Adjusting the Height-of-Cut \(page 11\)](#).
2. Check and adjust front and rear tractor tire pressure to 172 to 207 kPa (25 to 30 psi).
3. Check and adjust all castor tire pressures to 345 kPa (50 psi).
4. Check for bent blades; refer to [Checking for a Bent Blade \(page 20\)](#).
5. Cut grass in a test area to determine if all cutting units are cutting at the same height.
6. If cutting unit adjustments are still needed, find a flat surface using a 2 m (6 ft) or longer straight edge.
7. To ease measuring blade plane, raise the height of cut to the highest position; refer to [Adjusting the Height-of-Cut \(page 11\)](#).

8. Lower cutting unit onto the flat surface. Remove the covers from the top of the cutting units.
9. Rotate the blade on each spindle until the ends face forward and backward.
10. Measure from the floor to the front tip of the cutting edge.
11. Adjust 1/8 inch shims on castor fork(s) to match height of cut to decal ([Figure 14](#)); refer to [Adjusting the Cutting Unit Pitch \(page 13\)](#).



**Figure 14**

1. Tensioning cap
2. Spacers
3. Shims
4. Axle mounting holes
5. Castor wheel

# Operating Tips

## Fast Throttle Setting/Ground Speed

To maintain enough power for the machine and deck while mowing, operate the engine at the fast throttle position and adjust your ground speed for conditions. Decrease the ground speed as the load on the cutting blades increases. Increase the ground speed as the load on the blades decreases.

## Mowing Direction

Alternate mowing direction to avoid making ruts in the turf over time. This also helps disperse clippings which enhances decomposition and fertilization.

## Cutting Speed

To improve cut quality, use a slower ground speed.

## Avoid Cutting Too Low

If the cutting width of the cutting unit is wider than the mower you previously used, raise the cutting height to ensure that uneven turf is not cut too short.

## Select the Proper Height-of-Cut Setting to Suit Conditions

Remove approximately 1 inch (25 mm) or no more than 1/3 of the grass blade when cutting. In exceptionally lush and dense grass, you may have to slow down the forward speed and/or raise the height-of-cut to the next higher setting.

**Important:** If cutting more than 1/3 of the grass blade off, or in sparse long grass or dry conditions, the use of flat sail blades is recommended to reduce air-borne chaff, debris, and deck drive component strain.

## Long Grass

If the grass is ever allowed to grow slightly longer than normal, or if it contains a high degree of moisture, raise the cutting height higher than usual and cut the grass at this setting. Then cut the grass again using the lower, normal setting.

## Keep the Cutting Unit Clean

Clean clippings and dirt from the underside of the cutting unit after each use. If grass and dirt build up

inside the cutting unit, cutting quality will eventually become unsatisfactory.

To reduce the risk of fire hazard, keep the engine, muffler, battery compartment, parking brake, cutting units, and fuel storage compartment free of grass, leaves, or excessive grease. Clean up any spilled oil or fuel.

## Blade Maintenance

Maintain a sharp blade throughout the cutting season because a sharp blade cuts cleanly without tearing or shredding the grass blades. Tearing and shredding turns grass brown at the edges, which slows growth and increases the chance of disease. Check the blades daily for sharpness, and for any wear or damage. Sharpen the blades as necessary. If a blade is damaged or worn, replace it immediately with a genuine Toro replacement blade. Refer to [Servicing the Cutting Blades \(page 20\)](#).

## Setting the Cutting Unit Pitch

We recommend a blade pitch of 8 mm (5/16 inch). A pitch larger than 8 mm (5/16 inch) will result in less power required, larger clippings, and a poorer quality of cut. A pitch less than 8 mm (5/16 inch) will result in more power required, smaller clippings and a better quality of cut.

# Maintenance

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

## Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	<ul style="list-style-type: none"> <li>Tighten the castor wheel nuts.</li> </ul>
After the first 10 hours	<ul style="list-style-type: none"> <li>Tighten the castor wheel nuts.</li> <li>Torque the blade bolts.</li> </ul>
Before each use or daily	<ul style="list-style-type: none"> <li>Lubricate the castor arm bushings.</li> <li>Lubricate the castor wheel bearings.</li> <li>Check the blades.</li> <li>Clean the cutting unit.</li> </ul>
Every 50 hours	<ul style="list-style-type: none"> <li>Lubricate the grease fittings. Lubricate the grease fittings immediately after every washing.</li> <li>Check the gearbox lubricant.</li> <li>Tighten the castor wheel nuts.</li> <li>Torque the blade bolts.</li> <li>Check the blade drive belt adjustment.</li> <li>Clean under the cutting unit belt covers.</li> </ul>
Every 400 hours	<ul style="list-style-type: none"> <li>Change the gearbox lubricant.</li> </ul>

## Daily Maintenance Checklist

Duplicate this page for routine use.

Maintenance Check Item	For the week of:						
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Check Grass Deflector in Down Position (if applicable)							
Check Tire Pressure							
Check Condition of Blades							
Lubricate All Grease Fittings <sup>1</sup>							
Touch-up Damaged Paint							
1. Immediately after every washing, regardless of the interval listed.							

Notation for Areas of Concern		
Inspection performed by:		
Item	Date	Information



## ⚠ CAUTION

If you leave the key in the ignition switch, someone could accidentally start the engine and seriously injure you or other bystanders.

Remove the key from the ignition before you do any maintenance.

**Important:** The fasteners on the covers of this machine are designed to remain on the cover after removal. Loosen all the fasteners on each cover a few turns so that the cover is loose but still attached, then go back and loosen them until the cover comes free. This prevents you from accidentally stripping the bolts free of the retainers.

## Lubrication

**Service Interval:** Every 50 hours Lubricate the grease fittings immediately after every washing.

The machine has grease fittings that you must lubricate regularly with No. 2 lithium grease.

Lubricate the following areas:

- Castor fork shaft bushings (4) (Figure 15).

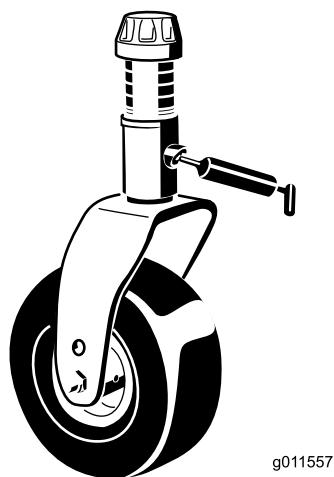


Figure 15

- Spindle shaft bearings (3) (located under the pulley) (Figure 16)

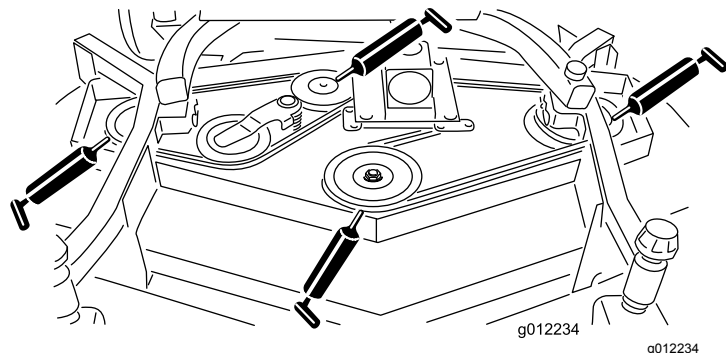


Figure 16

- Idler arm shaft bearings (Figure 16)
- Lift arm pivots, front (2) (Figure 17)

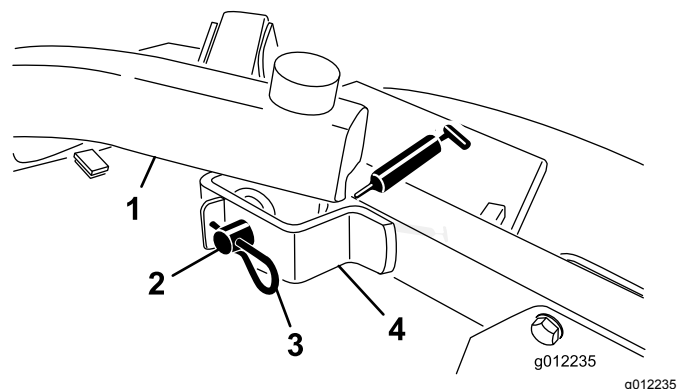


Figure 17

1. Lift arm
2. Clevis pin
3. Hairpin cotter
4. Pivot support

- Lift arm pivots, rear (2) (Figure 18)

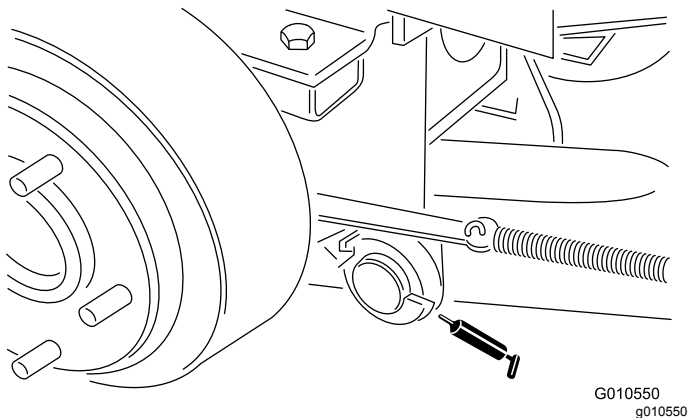


Figure 18

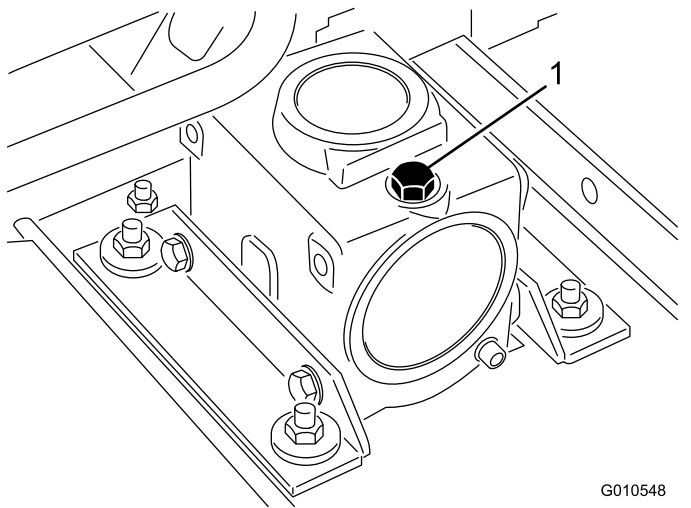
## Checking the Lubricant in the Gearbox

**Service Interval:** Every 50 hours

The gearbox is designed to operate on SAE 80–90 weight gear lube. Although the gearbox comes with lubricant from the factory, check the level before operating the cutting unit. The gearbox capacity is 283 ml (12 fl oz).

1. Park the machine and cutting unit on a level surface.

2. Remove the dipstick/fill plug from the top of the gearbox (Figure 19) and ensure that the lubricant is between the marks on the dipstick. If the lubricant level is low, add enough lubricant until the level is between the marks.

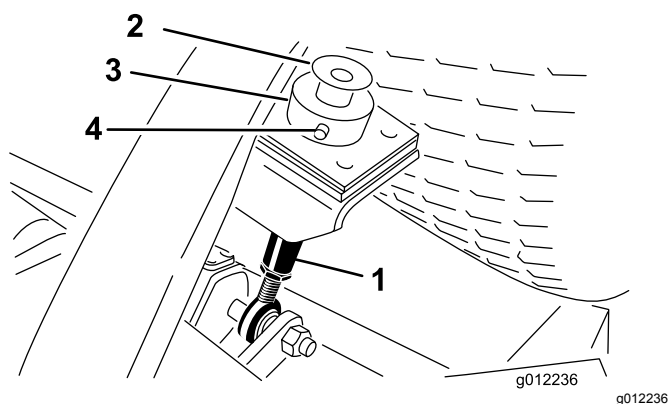


**Figure 19**

1. Dipstick/fill plug

## Separating the Cutting Unit from the Traction Unit

1. Position the machine on level surface, lower the cutting unit to the floor, move the lift lever to the Float position, shut the engine off, and engage the parking brake.
2. Remove the bolt and washer mounted to the top of each height of cut rod (Figure 20).



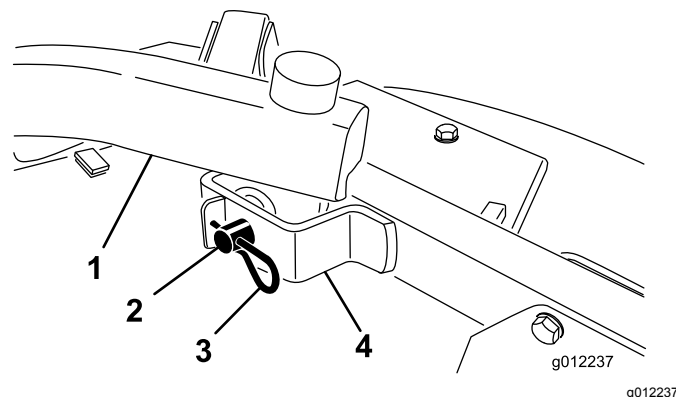
**Figure 20**

1. Height-of-cut rod
2. Bolt and washer
3. Height-of-cut collar
4. Hairpin cotter and clevis pin

3. Remove the hairpin and clevis pin securing the height of cut collar to the height of cut rod on

the rear of the cutting unit (Figure 20). Remove the height of cut collar.

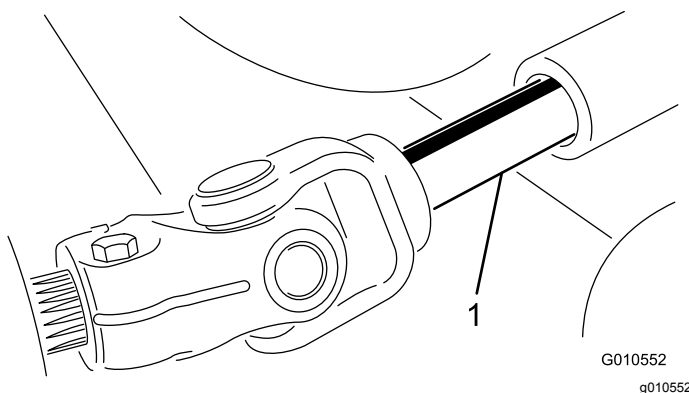
4. Remove the hairpin cotters and clevis pins securing the lift arms to the castor arm brackets (Figure 21).



**Figure 21**

1. Lift arm
2. Clevis pin
3. Hairpin cotter
4. Castor arm bracket

5. Roll the cutting unit away from the traction unit, separating the male and female sections of the PTO shaft (Figure 22).



**Figure 22**

1. PTO shaft

### **⚠ DANGER**

If the engine is started and the PTO shaft is allowed to rotate, serious injury could result.

**Do not start the engine and engage the PTO lever when the PTO shaft is not connected to the gearbox on the cutting unit.**

# Mounting the Cutting Unit to the Traction Unit

1. Position the machine on a level surface and shut the engine off.
2. Move the cutting unit into position in front of the traction unit.
3. Slide the male PTO shaft into the female PTO shaft (Figure 22).
4. Move the lift lever to the FLOAT position. Push a lift arm down until the holes in the lift arm line up with the holes in the castor arm bracket and you can insert the height-of-cut rod into the lift arm pads (Figure 23).

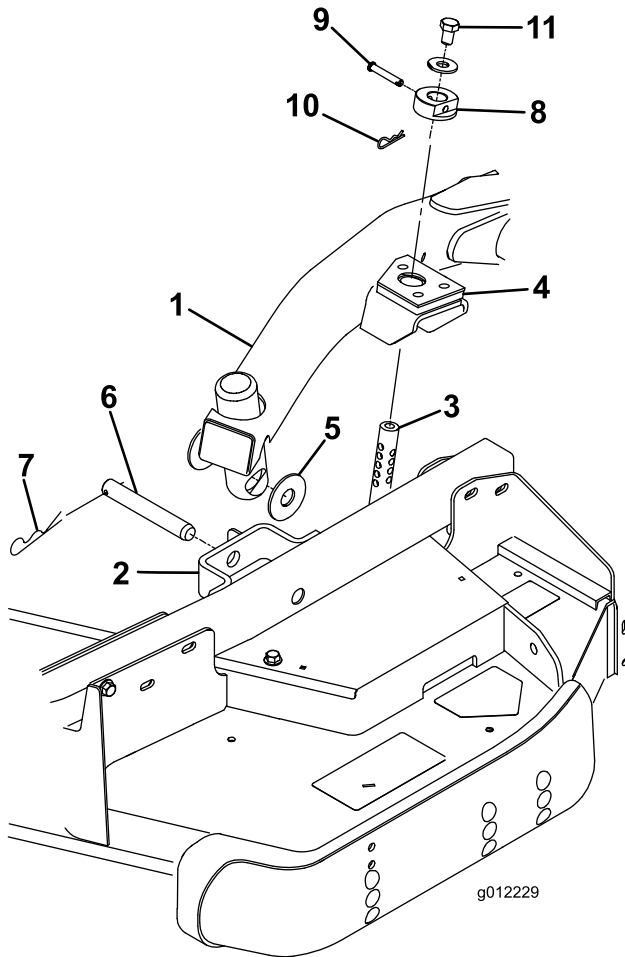


Figure 23

- |                       |                         |
|-----------------------|-------------------------|
| 1. Lift arm           | 7. Hairpin cotter       |
| 2. Castor arm bracket | 8. Height-of-cut collar |
| 3. Height-of-cut rod  | 9. Clevis pin           |
| 4. Lift arm pads      | 10. Hairpin cotter      |
| 5. Thrust washers     | 11. Bolt                |
| 6. Clevis pin         |                         |

5. Secure the lift arm to the castor arm with 2 thrust washers, a clevis pin and a hairpin cotter. Position the thrust washers between the lift arm

and the castor arm bracket (Figure 23). Insert end of cotter pin into the slot in the castor arm tab to retain cotter pin.

6. Repeat the procedure on the opposite lift arm.
7. Start the traction unit and raise the cutting unit.
8. Push down on the rear of the cutting unit and insert the height of cut rods through the lift arm pads.
9. Install the height-of-cut collars onto the height-of-cut rods and secure with the clevis pins and hairpin cottes (Figure 23).  
Position the head of the clevis pin toward the front of the deck.
10. Install a bolt (1/2 x 3/4 inch) and a washer to the top of each height-of-cut rod (Figure 23).

## Servicing the Bushings in the Castor Arms

The castor arms have bushings pressed into the top and bottom of the tube, and after many hours of operation, the bushings will wear. To check the bushings, move the castor fork back and forth and from side to side. If the castor spindle is loose inside the bushings, the bushings are worn and must be replaced.

1. Raise the cutting unit so that the wheels are off of the floor. Block the cutting unit so that it cannot accidentally fall.
2. Remove the tensioning cap, spacer(s), and thrust washer from the top of the castor spindle.
3. Pull the castor spindle out of the mounting tube. Allow the thrust washer and spacer(s) to remain on the bottom of the spindle.
4. Insert a pin punch into the top or bottom of the mounting tube and drive the bushing out of the tube (Figure 24). Also, drive the other bushing out of the tube. Clean the inside of the tubes to remove dirt.

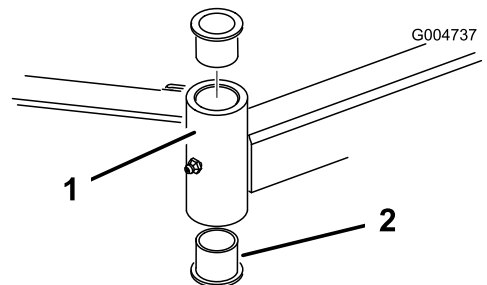


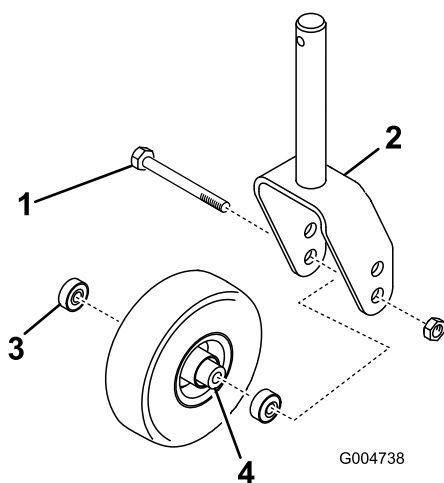
Figure 24

- |                    |             |
|--------------------|-------------|
| 1. Castor arm tube | 2. Bushings |
|--------------------|-------------|

5. Apply grease to the inside and outside of the new bushings. Using a hammer and flat plate, drive the bushings into the mounting tube.
6. Inspect the castor spindle for wear and replace it if damaged.
7. Push the castor spindle through the bushings and mounting tube, slide the thrust washer and spacer(s) onto the spindle, and install the tensioning cap on the castor spindle.

## Servicing the Castor Wheels and Bearings

1. Remove the locknut from the bolt holding the castor wheel assembly between the castor fork (). Grasp the castor wheel and slide the bolt out of the fork or pivot arm.



**Figure 25**

- |                 |                   |
|-----------------|-------------------|
| 1. Castor wheel | 3. Bearing (2)    |
| 2. Castor fork  | 4. Bearing spacer |

2. Remove the bearing from the wheel hub and allow the bearing spacer to fall out (). Remove the bearing from the opposite side of the wheel hub.
3. Check the bearings, spacer, and inside of the wheel hub for wear. Replace any damaged parts.
4. To assemble the castor wheel, push the bearing into the wheel hub. When installing the bearings, press on the outer race of the bearing.
5. Slide the bearing spacer into the wheel hub. Push the other bearing into the open end of the wheel hub to captivate the bearing spacer inside the wheel hub.
6. Install the castor wheel assembly between the castor fork and secure it in place with the bolt and locknut.

## Servicing the Cutting Blades

### Blade Safety

A worn or damaged blade can break, and a piece of the blade could be thrown toward you or bystanders, resulting in serious personal injury or death.

- Inspect the blade periodically for wear or damage.
- Use care when checking the blades. Wrap the blades or wear gloves, and use caution when servicing the blades. Only replace or sharpen the blades; never straighten or weld them.
- On multi-bladed machines, take care as rotating 1 blade can cause other blades to rotate.

### Checking for a Bent Blade

1. Position the machine on a level surface. Raise the cutting unit, engage the parking brake, put the traction pedal in neutral, put the PTO lever in the OFF position, shut off the engine, and remove the ignition key. Block the cutting unit to prevent it from accidentally falling.
2. Rotate the blade until the ends face forward and backward. Measure from the inside of the cutting unit to the cutting edge at the front of the blade ([Figure 26](#)), and remember this dimension.



**Figure 26**

3. Rotate the opposite end of the blade forward. Measure between the cutting unit and cutting edge of the blade at the same position as in [step 2](#). The difference between the dimensions obtained in [steps 2](#) and [3](#) must not exceed 3 mm (1/8 inch). If the dimension exceeds 3 mm (1/8 inch), replace the blade because it is bent; refer to [Removing and Installing the Blade\(s\)](#) ([page 20](#)).

### Removing and Installing the Blade(s)

The blade must be replaced if a solid object is hit, the blade is out-of-balance, worn, or bent. Always use genuine Toro replacement blades to ensure safety and optimum performance. Never use blades made by other manufacturers because they could be dangerous.

1. Raise the cutting unit to the highest position, engage the parking brake, stop the engine, and remove the ignition key. Block the cutting unit to prevent it from accidentally falling.
2. Grasp the end of the blade using a rag or thickly padded glove. Remove the blade bolt, anti-scalp cup, and blade from the spindle shaft (Figure 27).

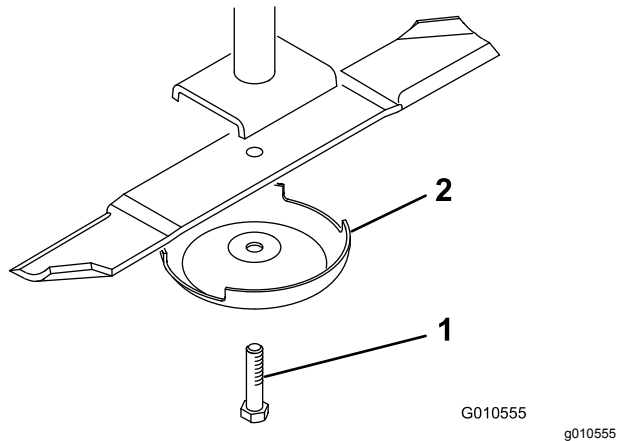


Figure 27

1. Blade bolt
2. Anti-scalp cup

3. Install the blade-sail facing toward the cutting unit-with the anti-scalp cup and blade bolt. Tighten the blade bolt to 115 to 149 N·m (85 to 110 ft-lb).

**Important:** The curved part of the blade must point toward the inside of the cutting unit to ensure proper cutting.

## Inspecting and Sharpening the Blade(s)

**Service Interval:** Before each use or daily  
Every 50 hours

### ⚠ DANGER

A worn or damaged blade can break, and a piece of the blade could be thrown toward you or bystanders, resulting in serious personal injury or death.

- Inspect the blade periodically for wear or damage.
- Do not try to straighten a blade that is bent.
- Do not weld a broken or cracked blade.
- Replace a worn or damaged blade with a new Toro blade to ensure continued safety certification of the product.

Both cutting edges and the sail, which is the turned up portion opposite the cutting edge, contribute to a

good quality-of-cut. The sail is important because it pulls grass up straight, thereby producing an even cut. However, the sail will gradually wear down during operation, and this condition is normal. As the sail wears down, the quality-of-cut will degrade somewhat, although the cutting edges are sharp. The cutting edge of the blade must be sharp so that the grass is cut rather than torn. A dull cutting edge is evident when the tips of the grass appear brown and shredded. Sharpen the cutting edges to correct this condition.

1. Park the machine on a level surface. Raise the cutting unit, engage the parking brake, put the traction pedal in neutral, put the PTO lever in the OFF position, shut off the engine, and remove the key.
2. Examine the cutting ends of the blade carefully, especially where the flat and curved parts of the blade meet (Figure 28). Since sand and abrasive material can wear away the metal that connects the flat and curved parts of the blade, check the blade before using the machine. If you see wear (Figure 28), replace the blade; refer to [Removing and Installing the Blade\(s\)](#) (page 20).

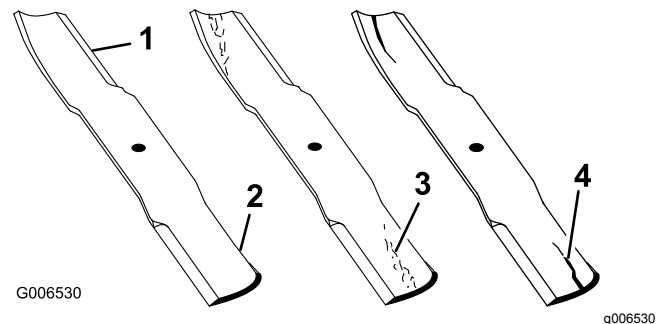


Figure 28

1. Cutting edge
2. Curved area/sail
3. Wear/slot forming
4. Crack

### ⚠ WARNING

If the blade is allowed to wear, a slot will form between the sail and flat part of the blade (Figure 28). Eventually, a piece of the blade may break off and be thrown from under the housing, possibly resulting in serious injury to yourself or bystanders.

- Inspect the blade periodically for wear or damage.
- Replace a worn or damaged blade with a new Toro blade to ensure continued safety certification of the product.

3. Examine the cutting edges of all blades. Sharpen the cutting edges if they are dull or



nicked. Sharpen only the top side of the cutting edge and maintain the original cutting angle to ensure sharpness (Figure 29). The blade will remain balanced if the same amount of metal is removed from both cutting edges.

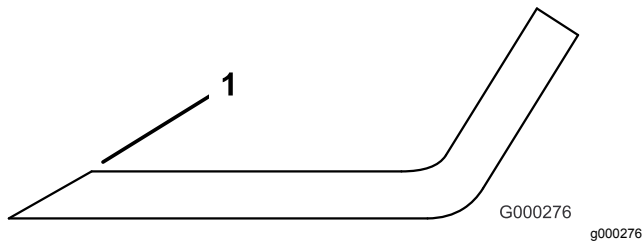


Figure 29

1. Sharpen at original angle

**Note:** Remove the blades and sharpen them on a grinder; refer to Removing the Cutting Blades. After sharpening the cutting edges, install the blade with the anti-scalp cup and blade bolt. The blade sails must be on top of the blade. Tighten the blade bolt to 115 to 149 N·m (85 to 110 ft-lb).

## Checking and Correcting Mismatch of Blades

If there is mismatch between the blades, the grass will appear streaked when it is cut. This problem can be corrected by making sure that the blades are straight and all of the blades are cutting on the same plane.

1. Using a 1 m (3 ft) long carpenters level, find a level surface on the shop floor.
2. Raise the height-of-cut to the highest position; refer to [Adjusting the Height-of-Cut \(page 11\)](#).
3. Lower the cutting unit onto the flat surface. Remove the covers from the top of the cutting unit.
4. Rotate the blades until the ends face forward and backward. Measure from the floor to the front tip of the cutting edge. Remember this dimension. Then rotate the same blade so that the opposite end is forward, and measure again. The difference between the dimensions must not exceed 1m (3 ft). If the dimension exceeds 1m (3 ft), replace the blade because it is bent. Measure all of the blades.
5. Compare the measurements of the outer blades with the center blade. The center blade must not be more than 1m (3 ft) lower than the outer blades. If the center blade is more than 1m (3 ft) lower than the outer blades, proceed to step 6 and add shims between the spindle housing and the bottom of the cutting unit.
6. Remove the bolts, flat washers, lock washers, and nuts from the outer spindle in the area

where the shims must be added. To raise or lower the blade, add a shim, Part No. 3256-24, between the spindle housing and the bottom of the cutting unit. Continue to check the alignment of the blades and add shims until the tips of the blades are within the required dimension.

**Important:** Do not use more than 3 shims at any 1 hole location. Use decreasing numbers of shims in adjacent holes if more than 1 shim is added to any 1 hole location.

7. Install the belt covers.

## Replacing the Drive Belt

The blade drive belt, tensioned by the spring loaded idler pulley, is very durable. However, after many hours of use, the belt will show signs of wear. Signs of a worn belt are squealing when belt is rotating, blades slipping when cutting grass, frayed edges, burn marks, and cracks. Replace the belt if any of these conditions occur.

1. Lower the cutting unit to the shop floor. Remove the belt covers from the top of the cutting unit and set the covers aside.
2. Using a torque wrench or similar tool, move the idler pulley (Figure 30) away from the drive belt to release the belt tension and allow the belt to be slipped off the gearbox pulley (Figure 31).

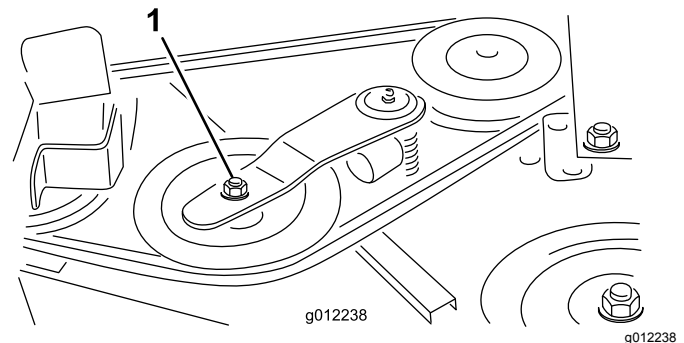


Figure 30

1. Idler pulley

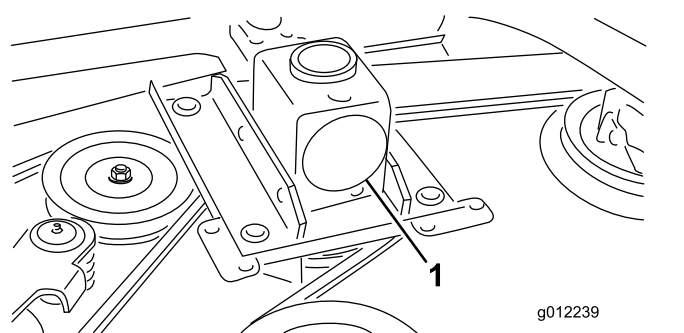
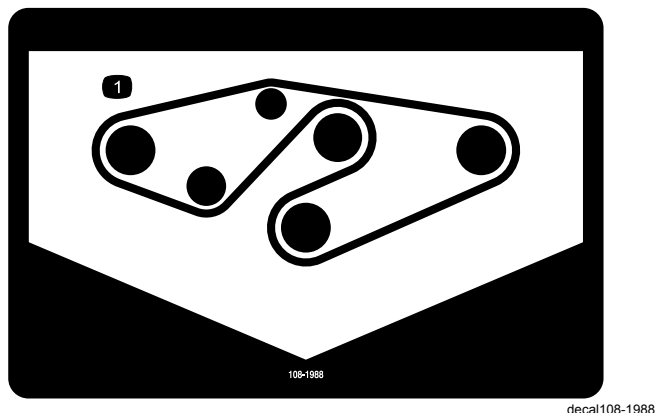


Figure 31

1. Gearbox

3. Remove the old belt from around the spindle pulleys and idler pulley.
4. Route the new belt around the spindle pulleys and idler pulley assembly as shown in [Figure 32](#).



**Figure 32**

1. Belt routing

5. Install the belt covers.

## Cleaning Under the Cutting Unit

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

Remove the grass buildup under the cutting unit daily.

1. Disengage the PTO, release the traction pedal to the neutral position, and engage the parking brake.
2. Move the throttle lever to the SLOW position, shut off the engine, remove the key, and wait for all moving parts to stop before leaving the operator's position.
3. Raise the cutting unit to the TRANSPORT position.
4. Use a jack to raise the front of the machine and support it with jack stands.
5. Thoroughly clean the underside of the cutting unit with water.

## Storage

1. Disengage the PTO, release the traction pedal to the neutral 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 operator's position.
3. Allow the engine to cool before adjusting, cleaning, storing, or repairing the machine.
4. Thoroughly clean the cutting unit, paying special attention to these areas:
  - Underneath the cutting unit
  - Under the cutting unit belt covers
  - PTO shaft assembly
  - All grease fittings and pivot points
5. Check and adjust the traction-unit front and rear tire pressure; refer to the traction-unit *Operator's Manual*.
6. Remove, sharpen, and balance the cutting unit blades. Install the blades and torque the blade fasteners to 85 to 110 ft-lb (115 to 149 N·m).
7. Check all fasteners for looseness and tighten them as necessary.
8. Grease or oil all grease fittings and pivot points. Wipe off any excess lubricant.
9. Lightly sand and use touch up paint on painted areas that are scratched, chipped or rusted. Repair any dents.

**Notes:**



# Declaration of Incorporation

The Toro Company, 8111 Lyndale Ave. South, Bloomington, MN, USA declares that the following unit(s) conform(s) to the directives listed, when installed in accordance with the accompanying instructions onto certain Toro models as indicated on the relevant Declarations of Conformity.

Model No.	Serial No.	Product Description	Invoice Description	General Description	Directive
30403	315000001 and Up	Base 62in Mower	62" BASE DECK-GM3280	Base 62in Mower	2006/42/EC, 2000/14/EC
30404	315000001 and Up	Base 72in Mower	72" BASE DECK-GM3280	Base 72in Mower	2006/42/EC, 2000/14/EC

Relevant technical documentation has been compiled as required per Part B of Annex VII of 2006/42/EC.

We will undertake to transmit, in response to requests by national authorities, relevant information on this partly completed machinery. The method of transmission shall be electronic transmittal.

This machinery shall not be put into service until incorporated into approved Toro models as indicated on the associated Declaration of Conformity and in accordance with all instructions, whereby it can be declared in conformity with all relevant Directives.

Certified:



John Heckel  
Sr. Engineering Manager  
8111 Lyndale Ave. South  
Bloomington, MN 55420, USA  
September 20, 2018

Authorized Representative:

Marcel Dutrieux  
Manager European Product Integrity  
Toro Europe NV  
Nijverheidsstraat 5  
2260 Oevel  
Belgium

Tel. +32 16 386 659

# California Proposition 65 Warning Information

## What is this warning?

You may see a product for sale that has a warning label like the following:



**WARNING: Cancer and Reproductive Harm—**[www.p65Warnings.ca.gov](http://www.p65Warnings.ca.gov).

## What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to <https://oag.ca.gov/prop65/faqs-view-all>.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

## Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

## How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

## Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

## Why does Toro include this warning?

Toro has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. Toro provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from Toro products may be negligible or well within the "no significant risk" range, out of an abundance of caution, Toro has elected to provide the Prop 65 warnings. Moreover, if Toro does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.

## EEA/UK Privacy Notice

### **Toro's Use of Your Personal Information**

The Toro Company ("Toro") respects your privacy. When you purchase our products, we may collect certain personal information about you, either directly from you or through your local Toro company or dealer. Toro uses this information to fulfil contractual obligations - such as to register your warranty, process your warranty claim or to contact you in the event of a product recall - and for legitimate business purposes - such as to gauge customer satisfaction, improve our products or provide you with product information which may be of interest. Toro may share your information with our subsidiaries, affiliates, dealers or other business partners in connection these activities. We may also disclose personal information when required by law or in connection with the sale, purchase or merger of a business. We will never sell your personal information to any other company for marketing purposes.

### **Retention of your Personal Information**

Toro will keep your personal information as long as it is relevant for the above purposes and in accordance with legal requirements. For more information about applicable retention periods please contact [legal@toro.com](mailto:legal@toro.com).

### **Toro's Commitment to Security**

Your personal information may be processed in the US or another country which may have less strict data protection laws than your country of residence. Whenever we transfer your information outside of your country of residence, we will take legally required steps to ensure that appropriate safeguards are in place to protect your information and to make sure it is treated securely.

### **Access and Correction**

You may have the right to correct or review your personal data, or object to or restrict the processing of your data. To do so, please contact us by email at [legal@toro.com](mailto:legal@toro.com). If you have concerns about the way in which Toro has handled your information, we encourage you to raise this directly with us. Please note that European residents have the right to complain to your Data Protection Authority.



## The Toro Warranty

### A Two-Year Limited Warranty

#### Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Commercial product ("Product") to be free from defects in materials or workmanship for two years or 1500 operational hours\*, whichever occurs first. This warranty is applicable to all products with the exception of Aerators (refer to separate warranty statements for these products). Where a warrantable condition exists, we will repair the Product at no cost to you including diagnostics, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.

\* Product equipped with an hour meter.

#### Instructions for Obtaining Warranty Service

You are responsible for notifying the Commercial Products Distributor or Authorized Commercial Products Dealer from whom you purchased the Product as soon as you believe a warrantable condition exists. If you need help locating a Commercial Products Distributor or Authorized Dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Toro Commercial Products Service Department  
Toro Warranty Company  
8111 Lyndale Avenue South  
Bloomington, MN 55420-1196  
  
952-888-8801 or 800-952-2740  
E-mail: commercial.warranty@toro.com

#### Owner Responsibilities

As the Product owner, you are responsible for required maintenance and adjustments stated in your *Operator's Manual*. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

#### Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This warranty does not cover the following:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, or modified non-Toro branded accessories and products. A separate warranty may be provided by the manufacturer of these items.
- Product failures which result from failure to perform recommended maintenance and/or adjustments. Failure to properly maintain your Toro product per the Recommended Maintenance listed in the *Operator's Manual* can result in claims for warranty being denied.
- Product failures which result from operating the Product in an abusive, negligent, or reckless manner.
- Parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, brake pads and linings, clutch linings, blades, reels, rollers and bearings (sealed or greasable), bed knives, spark plugs, castor wheels and bearings, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.
- Failures caused by outside influence. Conditions considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals, etc.
- Failure or performance issues due to the use of fuels (e.g. gasoline, diesel, or biodiesel) that do not conform to their respective industry standards.

- Normal noise, vibration, wear and tear, and deterioration.
- Normal "wear and tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.

#### Parts

Parts scheduled for replacement as required maintenance are warranted for the period of time up to the scheduled replacement time for that part. Parts replaced under this warranty are covered for the duration of the original product warranty and become the property of Toro. Toro will make the final decision whether to repair any existing part or assembly or replace it. Toro may use remanufactured parts for warranty repairs.

#### Deep Cycle and Lithium-Ion Battery Warranty:

Deep cycle and Lithium-Ion batteries have a specified total number of kilowatt-hours they can deliver during their lifetime. Operating, recharging, and maintenance techniques can extend or reduce total battery life. As the batteries in this product are consumed, the amount of useful work between charging intervals will slowly decrease until the battery is completely worn out. Replacement of worn out batteries, due to normal consumption, is the responsibility of the product owner. Battery replacement may be required during the normal product warranty period at owner's expense. Note: (Lithium-Ion battery only): A Lithium-Ion battery has a part only prorated warranty beginning year 3 through year 5 based on the time in service and kilowatt hours used. Refer to the *Operator's Manual* for additional information.

#### Maintenance is at Owner's Expense

Engine tune-up, lubrication, cleaning and polishing, replacement of filters, coolant, and completing recommended maintenance are some of the normal services Toro products require that are at the owner's expense.

#### General Conditions

Repair by an Authorized Toro Distributor or Dealer is your sole remedy under this warranty.

**Neither The Toro Company nor Toro Warranty Company is 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. Except for the Emissions warranty referenced below, if applicable, there is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty.**

Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations 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.

#### Note regarding engine warranty:

The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the Emissions Control System Warranty. Refer to the Engine Emission Control Warranty Statement supplied with your product or contained in the engine manufacturer's documentation for details.

#### 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.