



Count on it.

Form No. 3430-203 Rev A

Operator's Manual

60in Side Discharge Mower Groundsmaster® 3320/3280-D Traction Unit

Model No. 30366—Serial No. 403360001 and Up



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

⚠ 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.

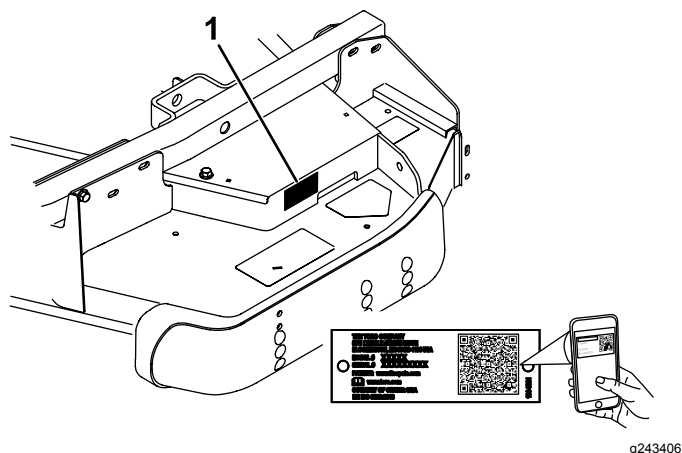


Figure 1

1. Serial number location

Model No. _____

Serial No. _____

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



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.

Introduction

This rotary-blade lawn cutting deck 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 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.

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Safety

This machine has been designed in accordance with ANSI B71.4-2017 and with EN ISO 5395 when you complete the setup procedures and install the CE kit, per the Declaration of Conformity.

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 operate the machine without all guards and other safety protective devices in place and functioning properly on the machine.
- Keep your hands and feet away from rotating parts. Keep clear of the discharge opening.
- Keep bystanders and children out of the operating area. Never allow children to operate the machine.
- Shut off the engine, remove the key (if equipped), and wait for all movement to stop before you leave the operator's position. Allow the machine to cool before adjusting, servicing, cleaning, or storing it.

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.

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



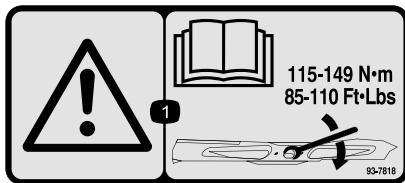
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



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93-6697

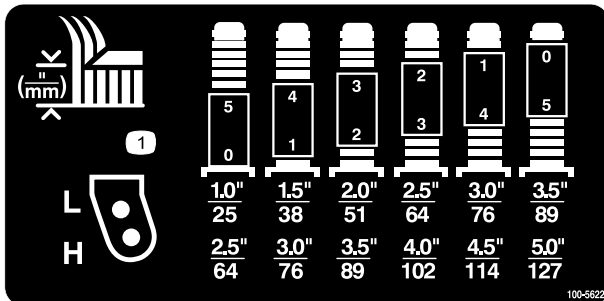
1. Read the *Operator's Manual*.
2. Add SAE 80w-90 (API GL-5) oil every 50 hours.



decal93-7818

93-7818

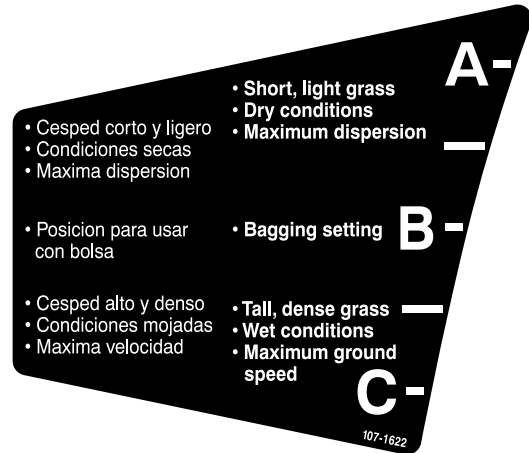
1. Warning—read the *Operator's Manual* for instructions on torquing the blade bolt/nut to 115 to 149 N·m (85 to 110 ft-lb).



100-5622
decal100-5622

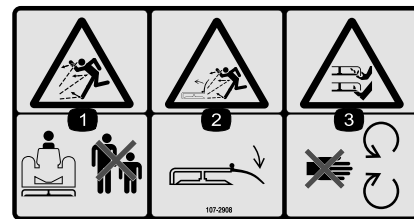
100-5622

1. Height of cut adjustment



decal107-1622

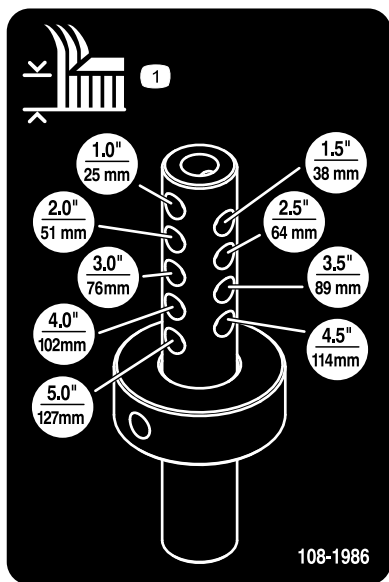
107-1622



decal107-2908

107-2908

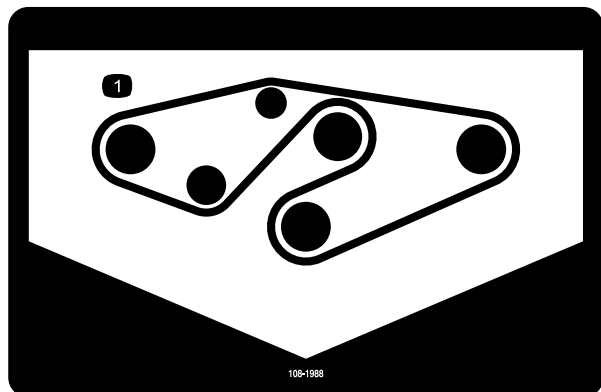
1. Thrown object hazard—keep bystanders away.
2. Thrown object hazard—lower the deflector before using the machine.
3. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.



108-1986

decal108-1986

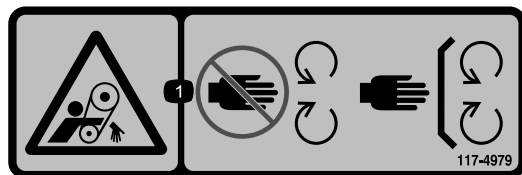
1. Height of cut



108-1988

decal108-1988

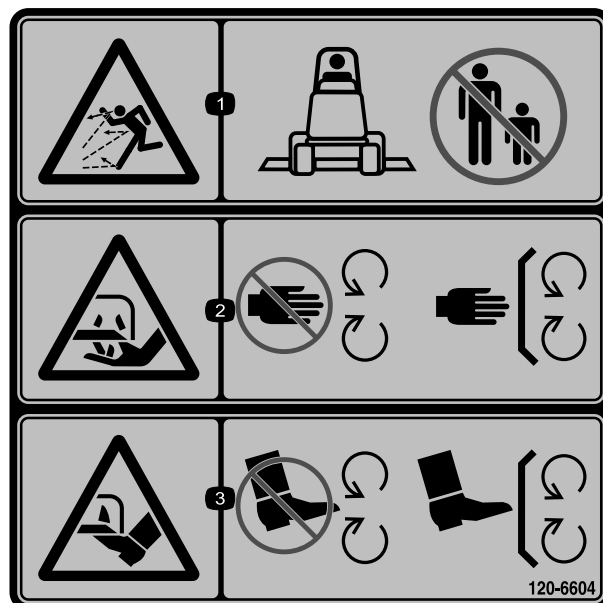
1. Belt routing



117-4979

decal117-4979

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



120-6604

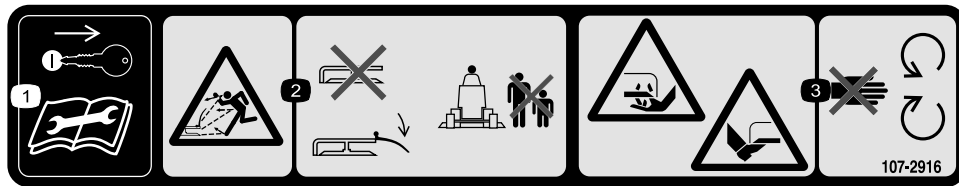
decal120-6604

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.

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
For more information, please visit www.ttcoCAProp65.com

decal133-8061

133-8061



decal107-2916

107-2916

1. Remove the key and read the *Operator's Manual* before performing maintenance.
 2. Thrown object hazard—do not operate the mower with the deflector up or removed; lower the deflector before using the machine; keep bystanders away.
 3. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.
-

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	Pivot pin assembly Cotter pin	2 2	Install the lift arms to the traction unit.
2	Lift arm, right Lift arm, left Thrust washer-nylon Clevis pin Hairpin cotter—small Height of cut collar Clevis pin Hairpin cotter—large Bolt (1/2 x 3/4 inch) Washer	1 1 4 4 2 2 2 2 2 2	Connect the lift arms to the cutting unit.
3	No parts required	—	Replace the traction unit PTO shaft (cutting unit model 30366 only).
4	No parts required	—	Connect the PTO shaft to the cutting unit gearbox.
5	No parts required	—	Grease the machine.

Media and Additional Parts

Description	Qty.	Use
Operator's Manual	1	Review the material and save in an appropriate place
Parts Catalog	1	Use to reference part numbers

⚠ 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 switch 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

Installing the Lift Arms to the Traction Unit

Parts needed for this procedure:

2	Pivot pin assembly
2	Cotter pin

Procedure

1. On one 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 3). Mount the lift arm with the bend positioned outward.
5. Hook the brake return spring to the tab on the lift arm (Figure 3).

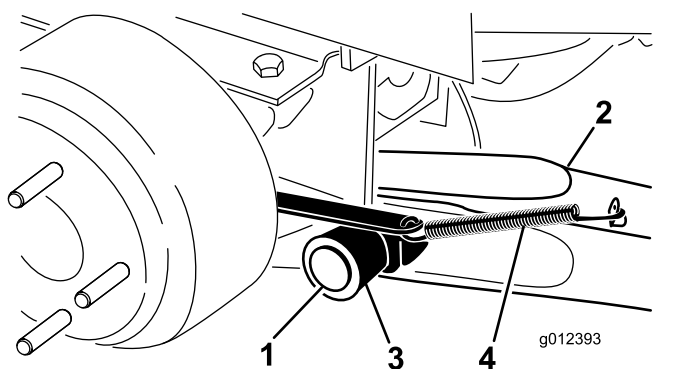


Figure 3

- | | |
|------------------|------------------------|
| 1. Pivot pin | 4. Brake return spring |
| 2. Lift arm | 5. Tab |
| 3. Pivot bracket | |

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.

2

Connecting the Lift Arms to the Cutting Unit

Parts needed for this procedure:

1	Lift arm, right
1	Lift arm, left
4	Thrust washer-nylon
4	Clevis pin
2	Hairpin cotter—small
2	Height of cut collar
2	Clevis pin
2	Hairpin cotter—large
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 4).
3. Secure the lift arm to the castor arm with 2 thrust washers, a clevis pin, and a large hairpin cotter. Position the thrust washers between the lift arm and the castor arm bracket (Figure 4). Insert end of cotter pin into the slot in the castor arm tab to retain cotter 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 small hairpin cotters (Figure 4). Head of clevis pin to be positioned toward the front of the cutting unit.
8. Install a bolt (1/2 x 3/4 inch) and a washer to the top of each height of cut rod (Figure 4).

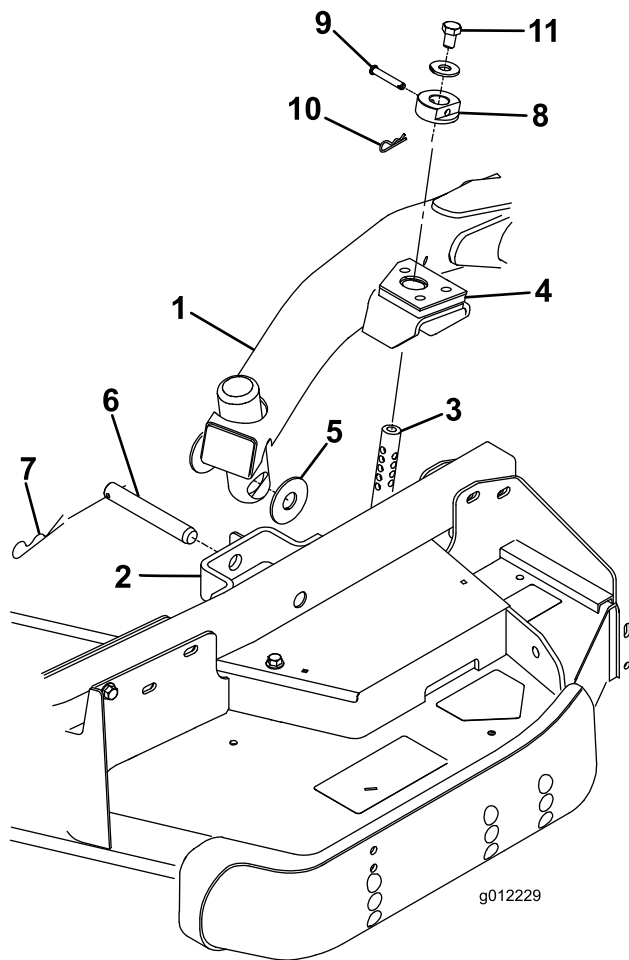


Figure 4

- | | |
|-----------------------|---------------------------|
| 1. Lift arm | 7. Hairpin cotter—large |
| 2. Castor arm bracket | 8. Height-of-cut collar |
| 3. Height-of-cut rod | 9. Clevis pin |
| 4. Lift arm pads | 10. Hairpin cotter—small |
| 5. Thrust washers | 11. Bolt (1/2 x 3/4 inch) |
| 6. Clevis pin | |

1. Remove the cotter pin, bolts and locknuts securing the female end of the PTO shaft to the traction unit shaft.
2. Remove the PTO shaft from the traction unit shaft and retain it for future applications.
3. Install the female end of the PTO shaft, supplied with the cutting unit, to the traction unit shaft with the cotter pin.
4. Tighten the bolts and locknuts.

4

Connecting the PTO Shaft to the Cutting Unit Gearbox

No Parts Required

Procedure

1. Slide the male PTO shaft into the female PTO shaft. Align the mounting holes in the gear case input shaft with the holes in the PTO shaft and slide them together.

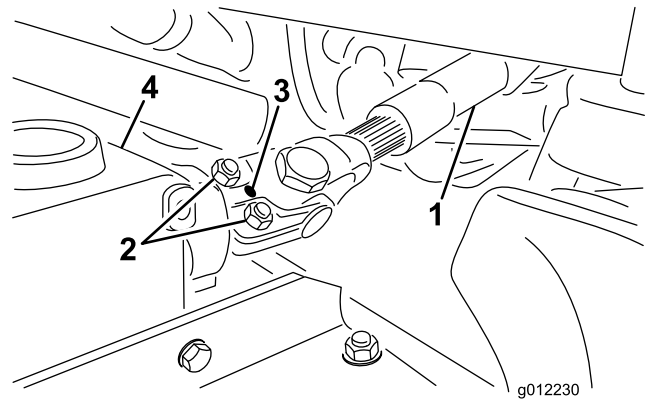


Figure 5

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

2. Secure them with a roll pin.
3. Tighten the bolts and nuts and torque to 18 to 25 N·m (175 to 225 in-lb).

3

Replacing the Traction Unit PTO Shaft

No Parts Required

Procedure

Cutting unit model 30366 is equipped with a shorter PTO shaft which must be installed on the traction unit as follows:

5

Greasing the Machine

No Parts Required

Procedure

Before operating the machine, it must be greased to ensure proper lubricating characteristics; refer to [Lubrication \(page 18\)](#). Failure to properly grease the machine will result in premature failure of critical parts.

Product Overview

Specifications

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

Width of Cut	1.52 m (60 inches)
Height of Cut	Adjustable from 25 to 127 mm (1 to 5 inches) in 13 mm (1/2 inch) increments
Net Weight	204 kg (450 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 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 the height of cut can be changed. Stop the engine and remove the key after the cutting unit is raised.
2. Position the castor wheel axles in the same holes in both castor forks. Refer to [Figure 6](#) and [Figure 7](#) to determine the correct holes for the setting.

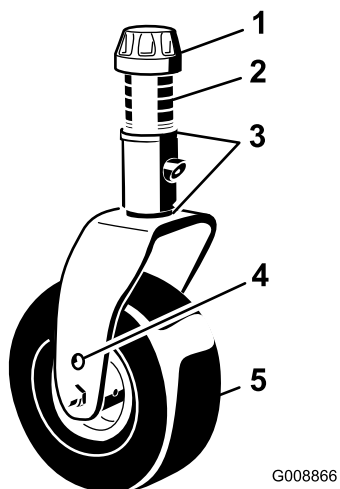


Figure 6

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

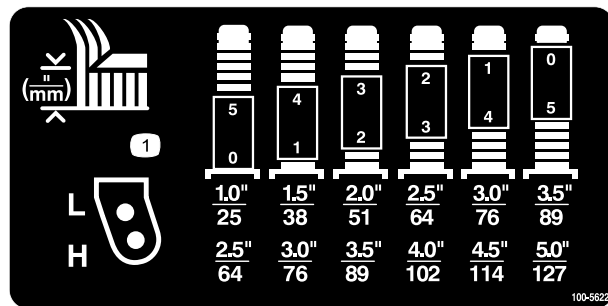


Figure 7

Note: When operating in 64 mm (2–1/2 inch) height of cut or higher, the axle bolt must be installed 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 inch) and grass buildup is detected, reverse the machines direction to pull any clippings away from the wheel/fork area.

3. Remove the tensioning cap from the spindle shaft ([Figure 6](#)) 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](#) to determine the combinations of spacers for the setting.
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 cotter and clevis pin securing the height of cut collar to the height of cut rod on the rear of the cutting unit ([Figure 8](#)).

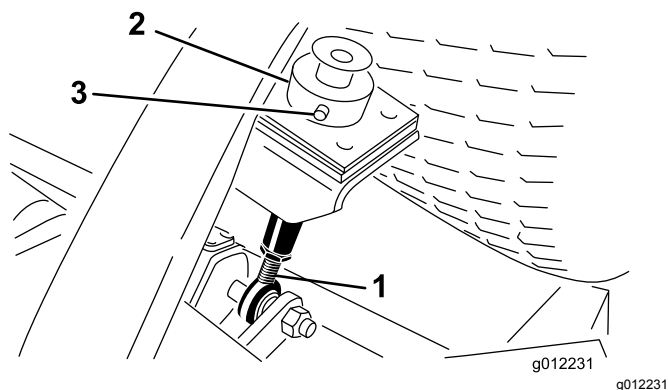


Figure 8

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 8 and Figure 9).
7. Secure the adjustment with the clevis pin and hairpin cotter.

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.

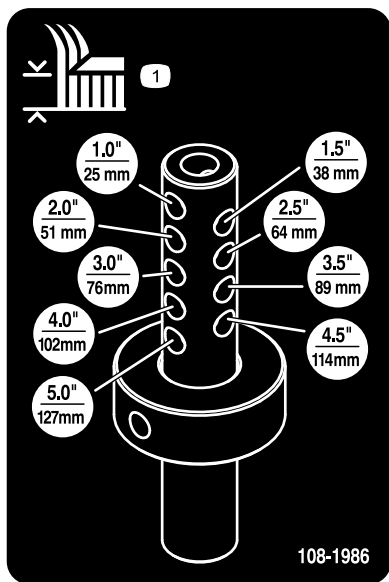


Figure 9

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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, the cutting unit rollers must be repositioned in the top bracket holes.

1. To adjust the front rollers, remove the screw and nut securing the roller shaft to the deck bracket (Figure 10).

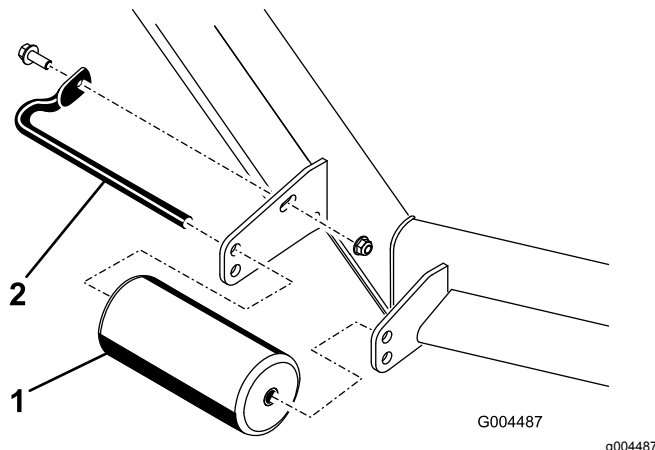


Figure 10

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.
4. To adjust the rear (internal) rollers, refer to Figure 11.

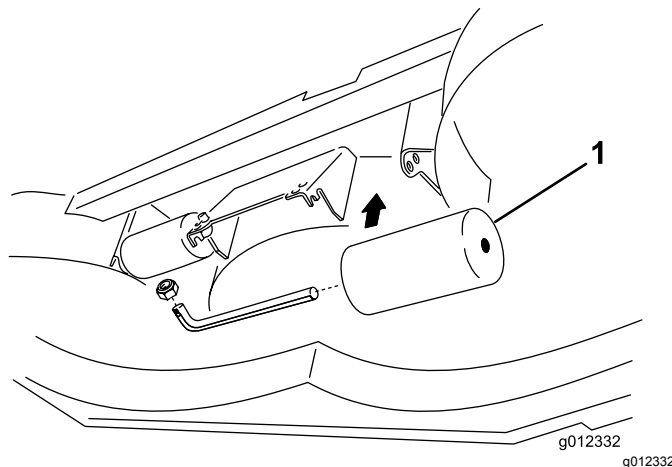


Figure 11

1. Internal rollers

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.

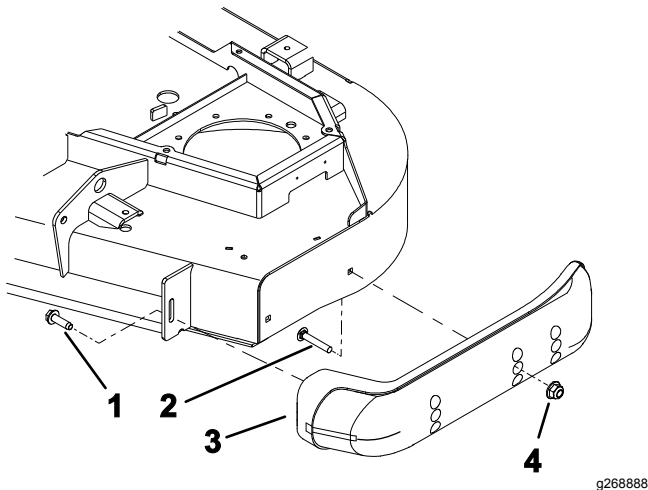


Figure 12

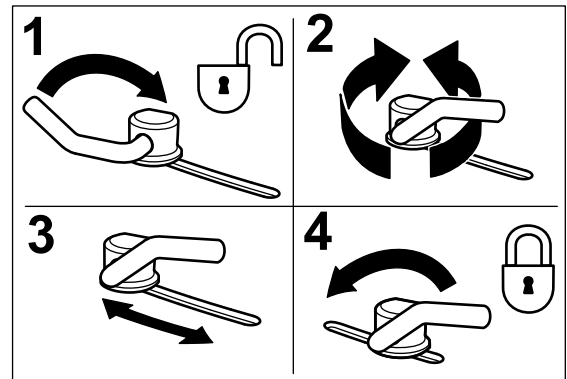
- | | |
|---------------------|---------|
| 1. Screw | 3. Skid |
| 2. Flange-head bolt | 4. Nut |

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

Adjusting the Flow Baffle

The mower discharge flow can be adjusted for different types of mowing conditions. Position the cam locks and baffle to give the best quality of cut.

1. To adjust the cam locks, swing the lever up to loosen the cam lock (Figure 13).
2. Adjust the baffle and cam locks in the slots to the desired discharge flow.
3. Swing the lever back over to tighten the baffle and cam locks (Figure 13).
4. If the cam locks do not lock the baffle into place or it is too tight, loosen the lever and then rotate the cam lock. Adjust the cam lock until the desired locking pressure is achieved.



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Figure 13

- | | |
|-----------------------------------------------------------------|------------------------|
| 1. Unlock lever | 3. Position the baffle |
| 2. Rotate the cam lock to increase or decrease locking pressure | 4. Lock lever |

Positioning the Flow Baffle

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

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

Position A

This is the full rear position. The suggested use for this position is as follows.

- Use for short, light grass mowing conditions.
- Use in dry conditions.
- For smaller grass clippings.
- Propels grass clippings farther away from the mower.

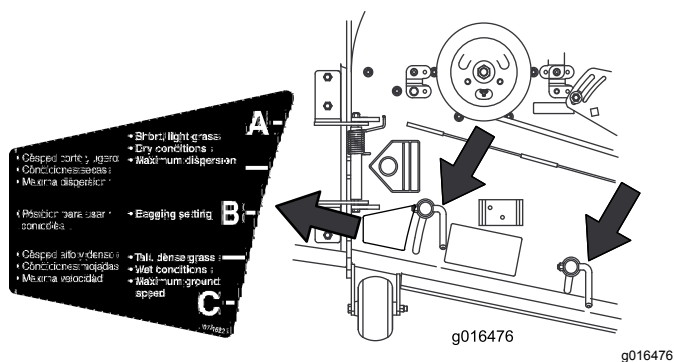


Figure 14

Position B

Use this position when bagging. Always align it with the blower opening.

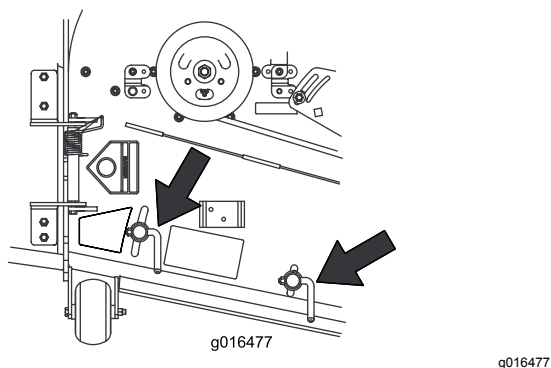


Figure 15

Position C

This is the full open position. The suggested use for this position is as follows.

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

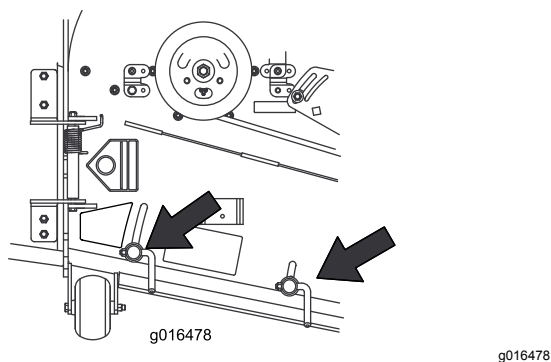


Figure 16

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), meaning that the back of the blade plane is 6 mm (1/4 inch) higher than the front.

1. Position the machine on a level surface on the shop floor.
2. Set the cutting unit to the desired height of cut.
3. Rotate 1 blade so that it points straight forward.
4. 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.
5. Subtract the front dimension from the rear dimension to calculate the blade pitch.
6. Loosen the jam nuts on the bottom of the height-of-cut rods (Figure 17).

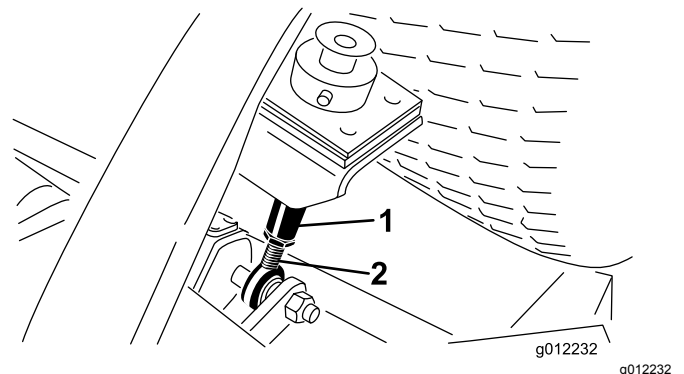


Figure 17

1. Height-of-cut rod
 2. Jam nut
7. Rotate the height-of-cut rods to raise or lower the rear of the cutting unit and attain the correct cutting unit pitch.
 8. Tighten the jam nuts.

Correcting a 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 138 kPa (20 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 the 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 the shims on the castor fork(s) to match the height of cut to the decal; refer to [Adjusting the Height of Cut \(page 11\)](#).

Using the Side Discharge

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

⚠ DANGER

Without a 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 will cause injury or death.

- **Never remove the grass deflector from the mower 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 mower.**
- **Never try to clear the discharge area or mower blades unless you move the power take off (blade control switch (PTO) to the off position, rotate the ignition key to off and remove the key.**
- **Make sure that the grass deflector is in the down position.**

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 [Removing and Installing the Cutting-Unit Blade\(s\) \(page 21\)](#).

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

Recommended Maintenance Schedule(s)

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

Daily Maintenance Checklist

Duplicate this page for routine use.

Maintenance Check Item	For the week of:						
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Check the grass deflector in the down position (if applicable).							
Check the tire pressure.							
Check the condition of the blades.							
Lubricate all the grease fittings. ¹							
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

The machine has grease fittings that must be lubricated regularly with No. 2 lithium grease. Lubricate all bearings and bushings immediately after every washing.

Lubricate the following areas:

- Castor fork shaft bushings (Figure 18)

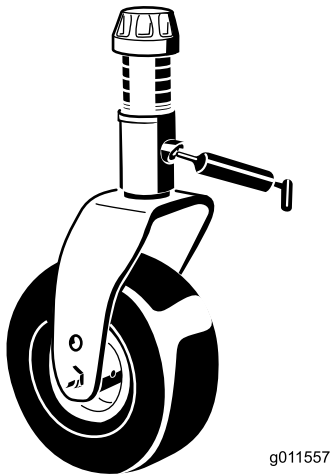


Figure 18

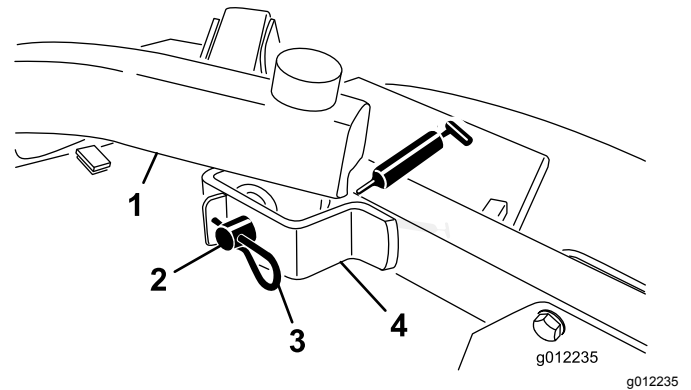


Figure 20

- Rear-lift arm pivots (Figure 21)

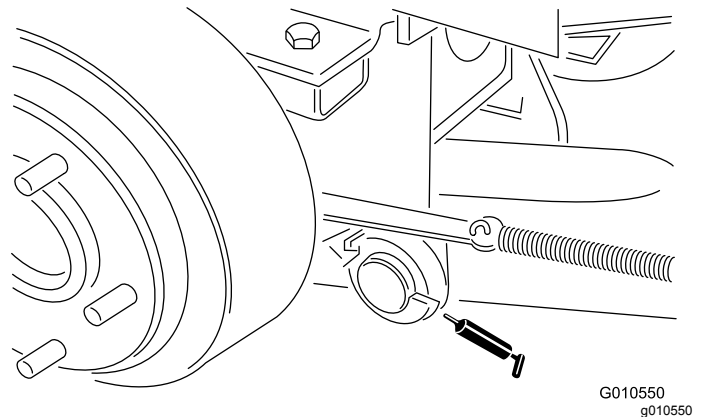


Figure 21

- Spindle shaft bearings (located under the pulley) (Figure 19)

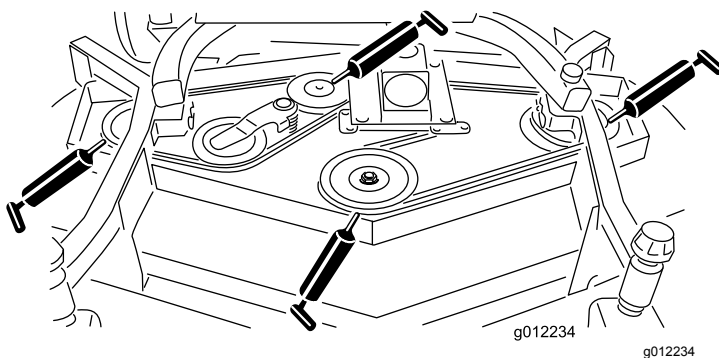


Figure 19

- Idler arm shaft bearings (Figure 19)
- Front-lift arm pivots (Figure 20)

Checking the Lubricant in the Gearbox

Service Interval: Every 50 hours

The gearbox is designed to operate on either petroleum or synthetic SAE 80W-90 gear lube. Although the gearbox is shipped with lubricant from the factory, check the level before operating the cutting unit. The gearbox capacity is 283 ml (12 oz).

1. Position the machine and cutting unit on a level surface.
2. Remove the dipstick/fill plug from the top of the gearbox (Figure 22) and make sure 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.

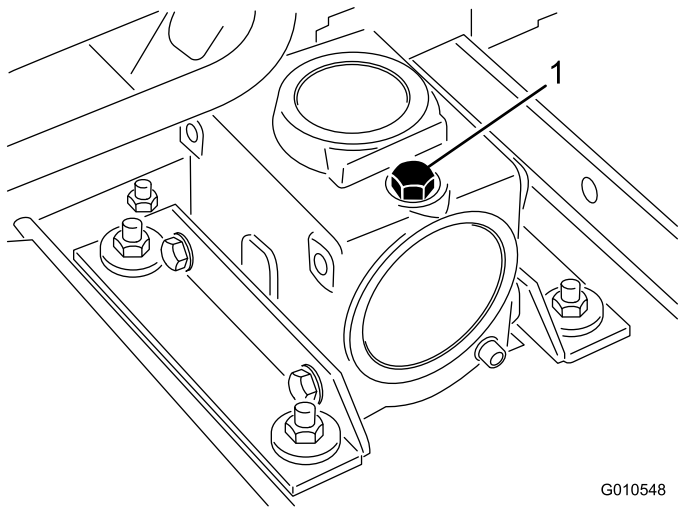


Figure 22

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 off the engine, and engage the parking brake.
2. Remove the bolt and washer mounted to the top of each height of cut rod (Figure 23).

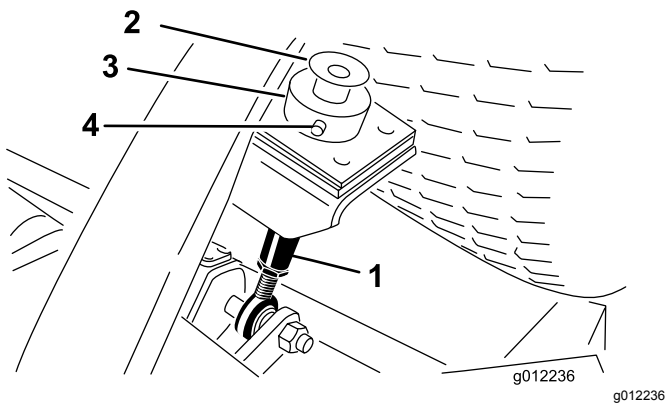


Figure 23

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 23). Remove the height of cut collar.
4. Remove the hairpin cottes and clevis pins securing the lift arms to the castor arm brackets (Figure 24).

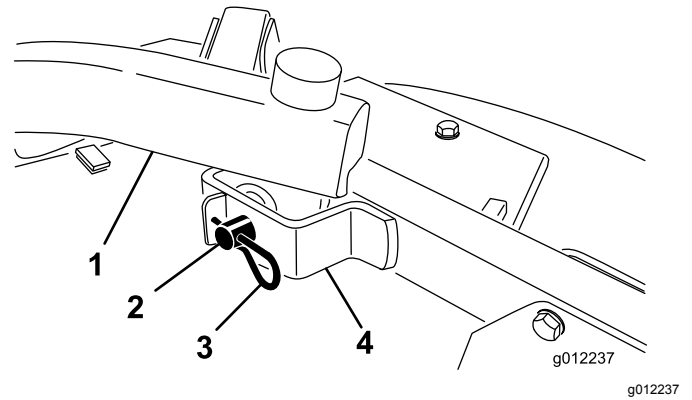


Figure 24

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 25).

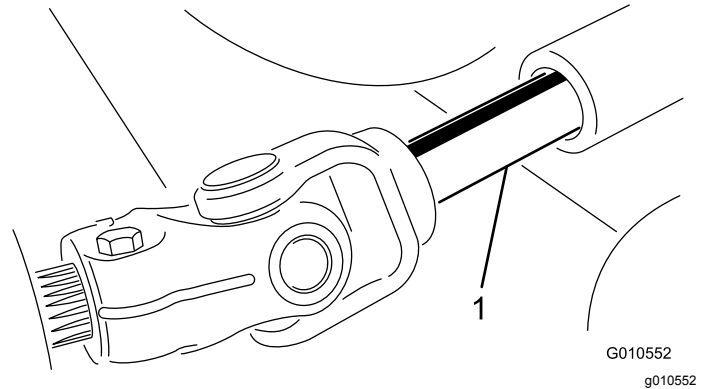


Figure 25

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.

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 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; replace them.

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 26). Also, drive the other bushing out of the tube. Clean the inside of the tubes to remove dirt.

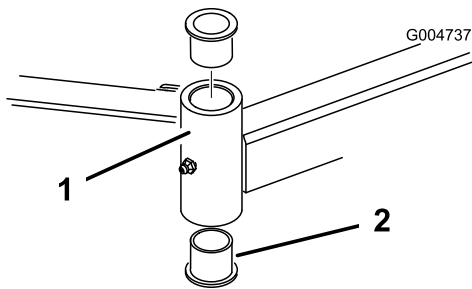


Figure 26

1. Castor arm tube
2. Bushings

5. Apply grease to the inside and outside of the new bushings. Use a hammer and flat plate to 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 (Figure 27). Grasp the castor wheel and slide the bolt out of the fork or pivot arm.
2. Remove the bearing from the wheel hub and allow the bearing spacer to fall out (Figure 27). 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.

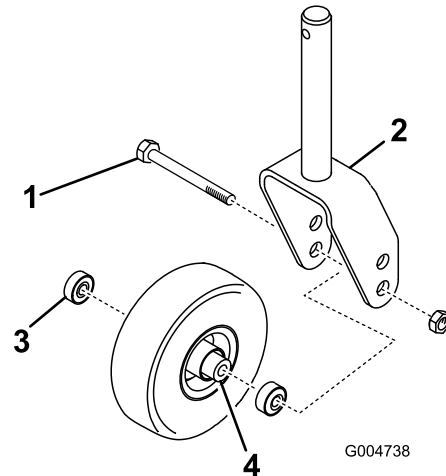


Figure 27

1. Castor wheel
2. Castor fork
3. Bearings
4. Bearing spacer

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

- 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

After striking a foreign object, inspect the machine for damage and make repairs before starting and operating the equipment. Torque all of the spindle-pulley nuts to 176 to 203 N·m (130 to 150 ft·lb).

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.

Note: Block the cutting unit to prevent it from accidentally falling.

2. Rotate the blade until the ends face forward and backward and measure from the inside of the cutting unit to the cutting edge at the front of the blade (Figure 28).

Note: Remember this dimension.



Figure 28

3. Rotate the opposite end of the blade forward and measure between the cutting unit and cutting edge of the blade at the same position as in step 2.

Note: 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), the blade is bent and must be replaced; refer to [Removing and Installing the Cutting-Unit Blade\(s\)](#) (page 21).

Removing and Installing the Cutting-Unit Blade(s)

Replace the blade if it hits a solid object, is out of balance, or is bent. Always use genuine Toro replacement blades to ensure safety and optimum performance.

1. Park the machine on a level surface, raise the cutting unit to the transport position, engage the parking brake, shut off the engine, and remove the key.

Note: Block or lock the cutting unit to prevent it from accidentally falling.

2. Grasp the end of the blade using a rag or thickly-padded glove.
3. Remove the blade bolt, anti-scalp cup, and blade from the spindle shaft (Figure 29).

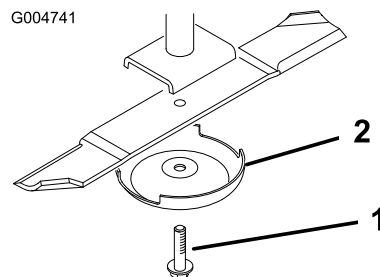


Figure 29

1. Blade bolt
2. Anti-scalp cup

4. Install the blade, anti-scalp cup, and blade bolt and tighten the blade bolt to 115 to 149 N·m (85 to 110 ft-lb).

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

Note: After striking a foreign object, torque all spindle-pulley nuts to 115 to 149 N·m (85 to 110 ft-lb).

Inspecting and Sharpening the Cutting Unit Blade(s)

Both cutting edges and the sail, which is the turned-up portion opposite of the cutting edge, contribute to a good quality of cut.

Maintain sharp blades throughout the cutting season. Sharp blades create a clean cut without tearing or shredding the grass blades.

Check the blades for any wear or damage. The sail lifts the grass up straight, thereby producing an even cut and gradually wears down during operation.

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 from the ignition.
2. Examine the cutting ends of the blade carefully, especially where the flat and curved parts of the blade meet (Figure 30).

Note: Because 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 mower. If you notice wear (Figure 30), replace the blade.

Note: Remove the blades and sharpen them on a grinder. After sharpening the cutting edges, install the blade with the anti-scalp cup and blade bolt; refer to [Removing and Installing the Cutting-Unit Blade\(s\)](#) (page 21).

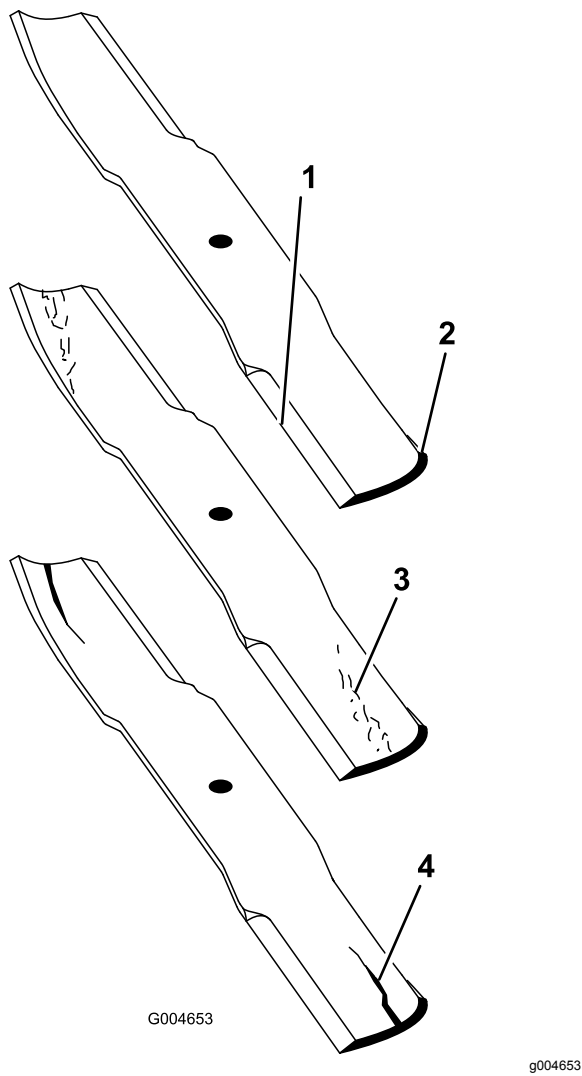


Figure 30

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

3. Examine the cutting edges of all of the blades and sharpen the cutting edges if they are dull or nicked ([Figure 31](#)).

Note: Sharpen only the top of the cutting edge and maintain the original cutting angle to ensure sharpness ([Figure 31](#)). The blade remains balanced if the same amount of metal is removed from both cutting edges.

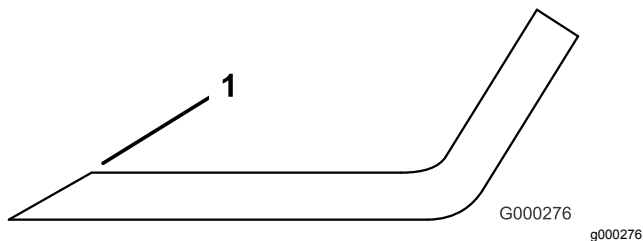


Figure 31

1. Sharpen at the original angle.

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 carpenter's 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 3 mm (1/8 inch). If the dimension exceeds 3 mm (1/8 inch), replace the blade because it is bent. Make sure to 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 10 mm (3/8 inch) lower than the outer blades. If the center blade is more than 10 mm (3/8 inch) 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 three shims at any one hole location. Use decreasing numbers of shims in adjacent holes if more than one shim is added to any one 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 32](#)) away from the drive belt to release the belt tension and allow the belt to be slipped off the gearbox pulley ([Figure 33](#)).

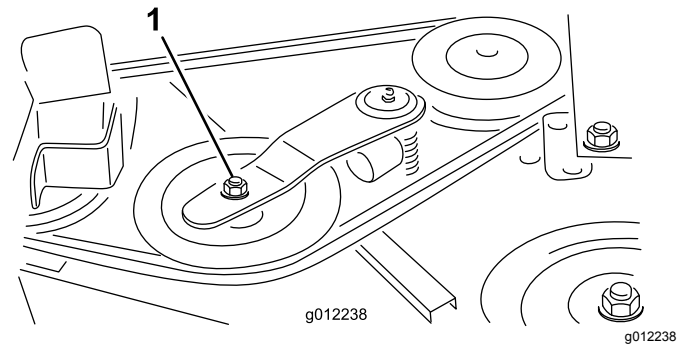


Figure 32

1. Idler pulley

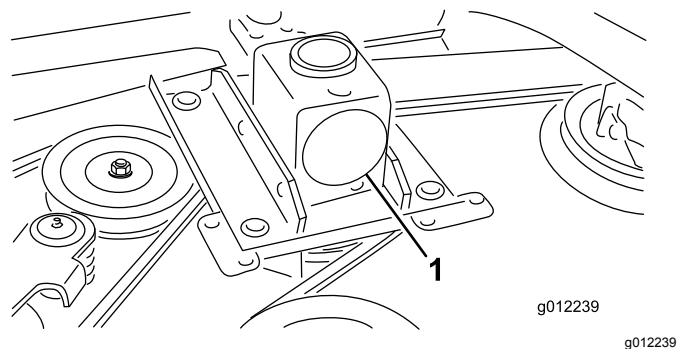


Figure 33

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 34](#).

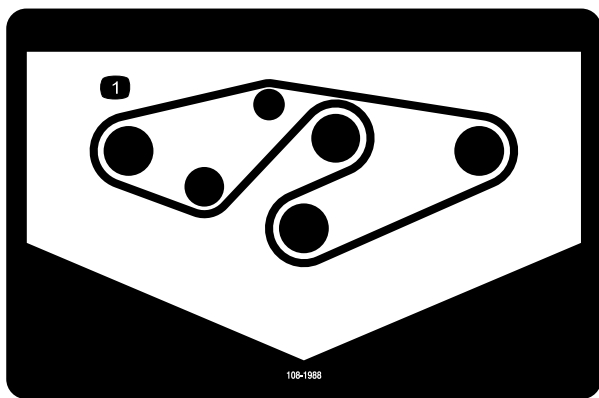


Figure 34

decal108-1988

1. Belt routing

5. Install the belt covers.

Replacing the Grass Deflector

⚠ WARNING

An uncovered discharge opening could allow the machine to throw objects toward you or bystanders, resulting in serious injury. Also, contact with the blade could occur.

- Do not operate the machine unless you install a cover plate, a mulch plate, or a grass chute and catcher.
 - Ensure that the grass deflector is in the down position.
1. Remove the locknut, bolt, spring and spacer holding the deflector to the pivot brackets (Figure 35). Remove the damaged or worn grass deflector.
 2. Place the spacer and spring onto grass deflector. Place the L-end of the spring behind the cutting unit edge.
- Note:** Ensure that the L-end of the spring is installed behind the cutting unit edge before installing the bolt as shown in Figure 35.
3. Install the bolt and nut. Place the J-hook end of the spring around the grass deflector (Figure 35).

Important: You must be able to lower the grass deflector into position. Lift the deflector up to test that it lowers into the full down position.

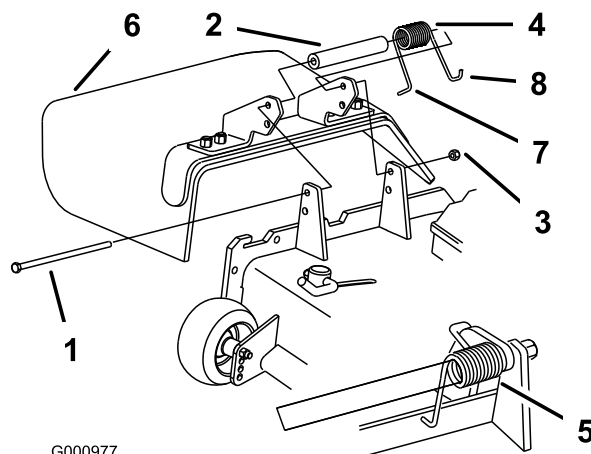


Figure 35

- | | |
|------------|-------------------------------------------------------------------------------|
| 1. Bolt | 5. Spring installed |
| 2. Spacer | 6. Grass deflector |
| 3. Locknut | 7. L-end of spring, place behind the cutting unit edge before installing bolt |
| 4. Spring | 8. J-hook end of the spring |

Cleaning Under the Cutting Unit

Service Interval: After each use

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, lower the cutting unit, move the throttle lever to the SLOW position, and engage the parking brake.
2. Always shut off the engine, and remove the key. Wait for all movement to stop and allow the machine to cool before adjusting, cleaning, storing, or repairing it.
3. 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
4. Check and adjust the traction-unit front and rear tire pressure; refer to the traction-unit *Operator's Manual*.
5. 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).
6. Check all fasteners for looseness and tighten them as necessary.
7. Grease or oil all grease fittings and pivot points. Wipe off any excess lubricant.
8. Lightly sand and use touch up paint on painted areas that are scratched, chipped, or rusted. Repair any dents.

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
30366	315000001 and Up	60in Side Discharge Mower	60in SIDE DISCHARGE DECK	60in Side Discharge 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
February 4, 2019

Authorized Representative:

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

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.

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.



The Toro Warranty

Two-Year or 1,500 Hours 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 2 years or 1,500 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*. Repairs for product issues caused by failure to perform required maintenance and adjustments are not covered under this warranty.

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.
- Product failures which result from failure to perform recommended maintenance and/or adjustments.
- Product failures which result from operating the Product in an abusive, negligent, or reckless manner.
- Parts consumed through use that are not 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.
- Failures caused by outside influence, including, but not limited to, weather, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals.
- 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.

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 your Authorized Toro Service Center.

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. Note: (Lithium-Ion battery only): Pro-rated after 2 years. Refer to the battery warranty for additional information.

Lifetime Crankshaft Warranty (ProStripe 02657 Model Only)

The ProStripe which is fitted with a genuine Toro Friction Disc and Crank-Safe Blade Brake Clutch (integrated Blade Brake Clutch (BBC) + Friction Disc assembly) as original equipment and used by the original purchaser in accordance with recommended operating and maintenance procedures, are covered by a Lifetime Warranty against engine crankshaft bending. Machines fitted with friction washers, Blade Brake Clutch (BBC) units and other such devices are not covered by the Lifetime Crankshaft Warranty.

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 Emissions 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.