Form No. 3418-834 Rev A

TORO®

Count on it.

Operator's Manual

72in Guardian® Recycler® Mower

Groundsmaster® 3280-D Traction Unit

Model No. 31335—Serial No. 401420001 and Up

Model No. 31336—Serial No. 401380001 and Up

Register at www.Toro.com.
Original Instructions (EN)

CE

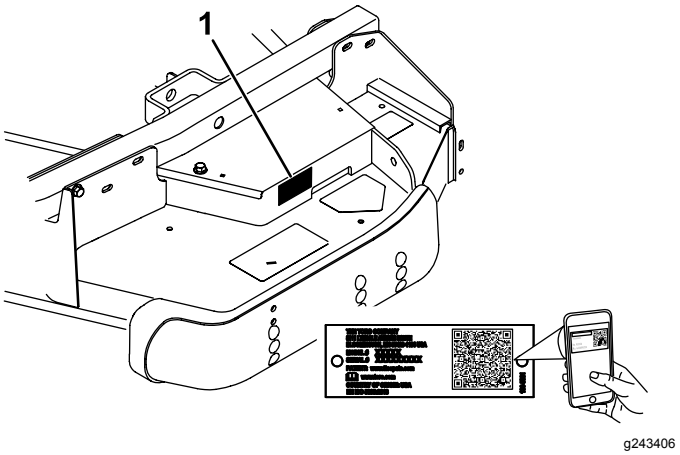
3418-834 A

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

This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.



g243406

Figure 1

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. It is not designed for cutting brush.

Important: **To maximize the safety, performance, and proper operation of this machine, carefully read and fully understand the contents of this *Operator's Manual*. Failing to follow these operating instructions or to receive proper training may result in injury. For more information on safe operating practices, including safety tips and training materials, go to www.Toro.com.**

You may contact Toro directly at www.Toro.com for product and 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.

g000502

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.

8111 Lyndale Avenue South
Bloomington, MN 55420

Contact us at www.Toro.com.
Printed in the USA

Contents

Safety

This machine has been designed in accordance with EN ISO 5395-3:2013 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.

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

- 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 a safe distance 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*.

Safe Operating Practices

- Read the *Operator's Manual* for the traction unit and other training material carefully. Be familiar with the controls, safety signs, and the proper use of the equipment. If the operator or mechanic cannot read the language of this manual, it is the owner's responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- The owner/operator can prevent and is responsible for accidents that may cause personal injury or property damage.
- Wear appropriate clothing, including eye protection; substantial, slip-resistant footwear; long pants, and hearing protection. Tie back long hair and do not wear loose jewelry.
- Inspect the area where the equipment is to be used and remove all objects, such as rocks, toys, and wire, that the machine can throw.
- Check that operator's presence controls, safety switches, and shields are attached and functioning properly. Do not operate the machine unless they are functioning properly.
- 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 your hands and feet away from the cutting units.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.
- 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.
- Check the blade mounting bolts frequently to be sure that they are tightened to specification.

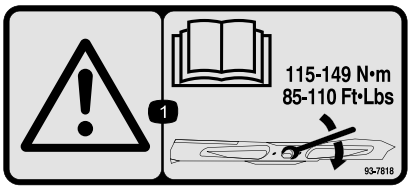
Safety and Instructional Decals

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.

decal93-6697

93-6697

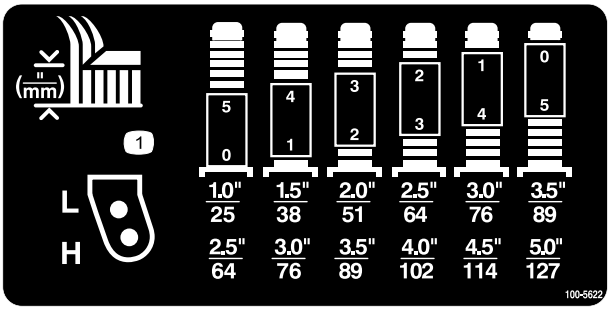
1. Read the *Operator's Manual*.
2. Add SAE 80w-90 (API GL-5) oil every 50 hours.



decal93-7818

93-7818

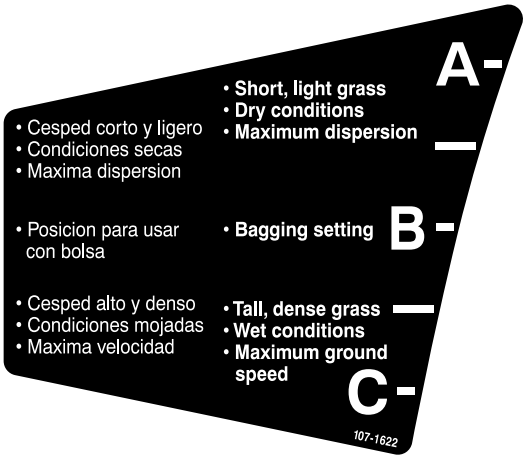
1. Warning—read the *Operator's Manual* for instructions on torquing the blade bolt/nut to 115 to 149 N·m (85 to 110 ft-lb).



decal100-5622

100-5622

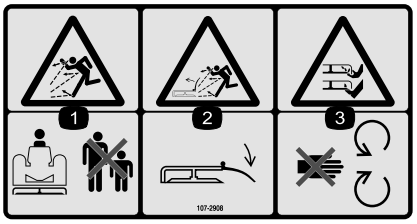
1. Height-of-cut adjustment



decal107-1622

107-1622

Model 31336 only

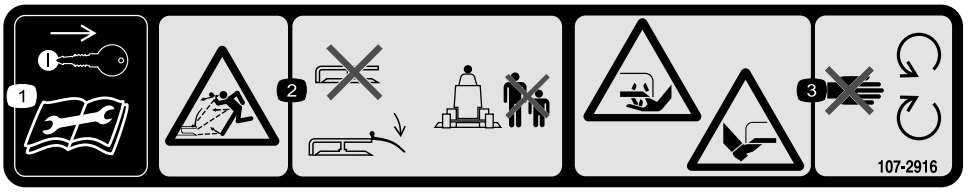


decal107-2908

107-2908

Model 31336 only

1. Thrown object hazard—keep bystanders a safe distance away from the machine.
2. Thrown object hazard—do not operate the mower with the deflector up or removed, keep the deflector in place.
3. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.

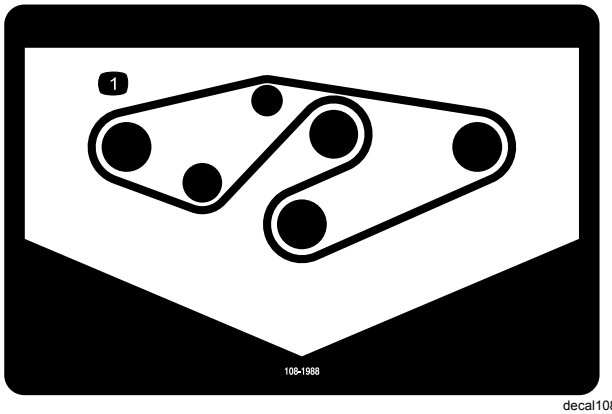


decal107-2916

107-2916

Model 31336 only

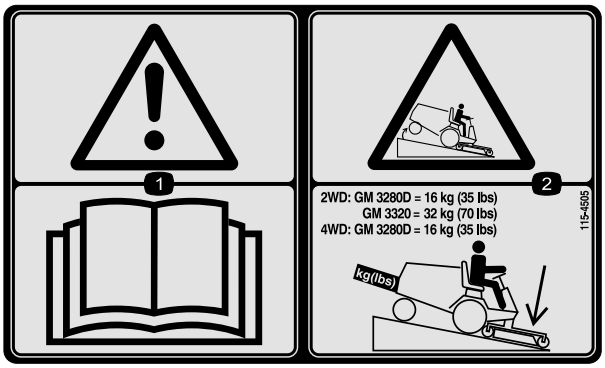
1. Remove the ignition key and read the *Operator's Manual* before servicing or performing maintenance.
2. Thrown object hazard—do not operate the mower with the deflector up or removed, keep the deflector in place; keep bystanders a safe distance away from the machine.
3. Cutting/dismemberment hazard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



decal108-1988

108-1988

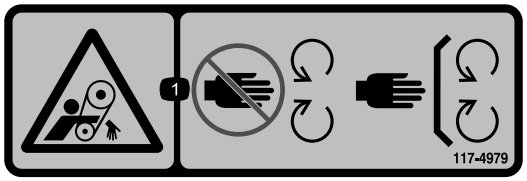
1. Belt routing



decal115-4505

115-4505

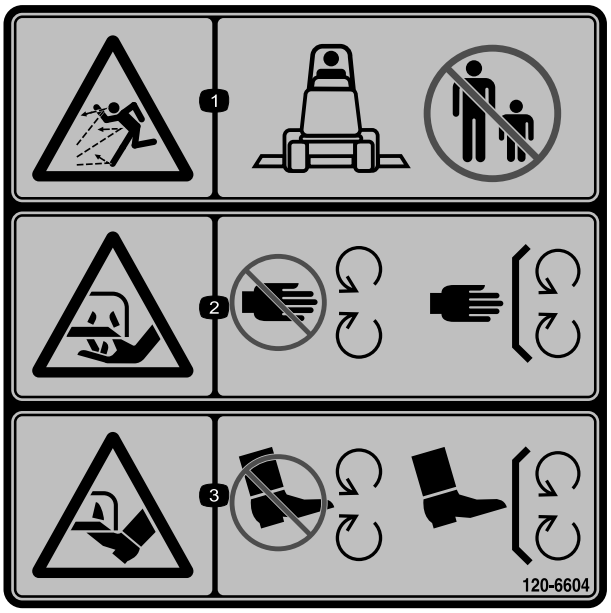
1. Warning—read the *Operator's Manual*.
2. Tipping hazard—lower the cutting unit when driving down slopes. For 2-wheel drive units, add a 16 kg (35 lb) rear weight to GM 3280-D units and a 32 kg (70 lb) rear weight to GM 3320 units. For 4-wheel drive 3280-D units, add a 16 kg (35 lb) rear weight.



decal117-4979

117-4979

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



decal120-6604

120-6604

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.

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Secure the grass deflector.
2	Right lift arm Left lift arm	1 1	Install the lift arms to the traction unit.
3	No parts required	–	Connect the lift arms to the cutting unit.
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 it to reference part numbers.
Declaration of Conformity	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 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.

Important: **If the 72-inch Side-Discharge Cutting Unit (Model 31336) is being mounted to a Model 30307, 30308, 30309, 30343, 30344 or 30345 traction unit with a serial number prior to 311000301, install the Cutting Unit Alignment Kit (Part No. 120-6599) to mounting the cutting unit to the traction unit.**

1

Securing the Grass Deflector

Model 31336 Only

No Parts Required

Procedure

⚠ 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 cable tie securing the grass deflector to the top of the deck and lower the deflector.
2. Place the left J-hook end of the spring around the deck edge
3. Place the right J-hook end of the spring around the grass deflector (Figure 3).

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

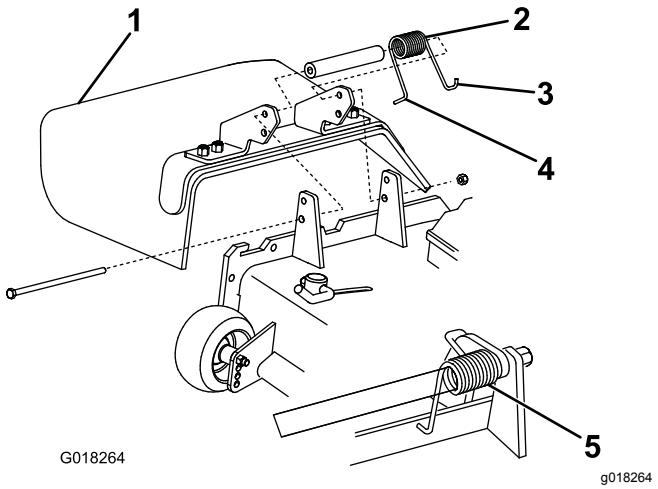


Figure 3

1. Grass deflector
2. Spring
3. Place the right J-hook end of the spring around the deflector.
4. Place the left J-hook end of the spring behind the deck edge.
5. Spring installed

2

Installing the Lift Arms to the Traction Unit

Parts needed for this procedure:

1	Right lift arm
1	Left lift arm

Procedure

1. On 1 side of the traction unit, loosen (but 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 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. Remove the lift arms from the pallet.
5. Remove the pivot pin and cotter pin from each lift arm.
6. 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.

7. Hook the brake return spring to the tab on the lift arm (Figure 4).

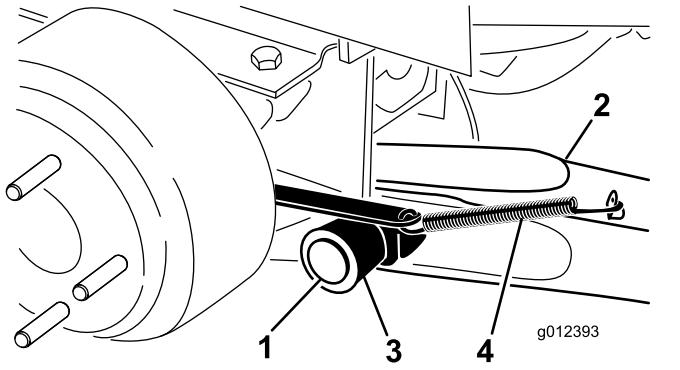


Figure 4

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

8. Install the wheel and tire assembly. Torque the wheel nuts to 102 to 108 N·m (75 to 80 ft-lb).
9. Repeat the procedure on the opposite side of the machine.

3

Connecting the Lift Arms to the Cutting Unit

No Parts Required

Procedure

1. Remove the 2 thrust washers, clevis pin and hairpin cotter from each castor arm bracket on the cutting unit (Figure 5).
2. Move the cutting unit into position in front of the traction unit.
3. Press the lift switch forward 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 (Figure 5).

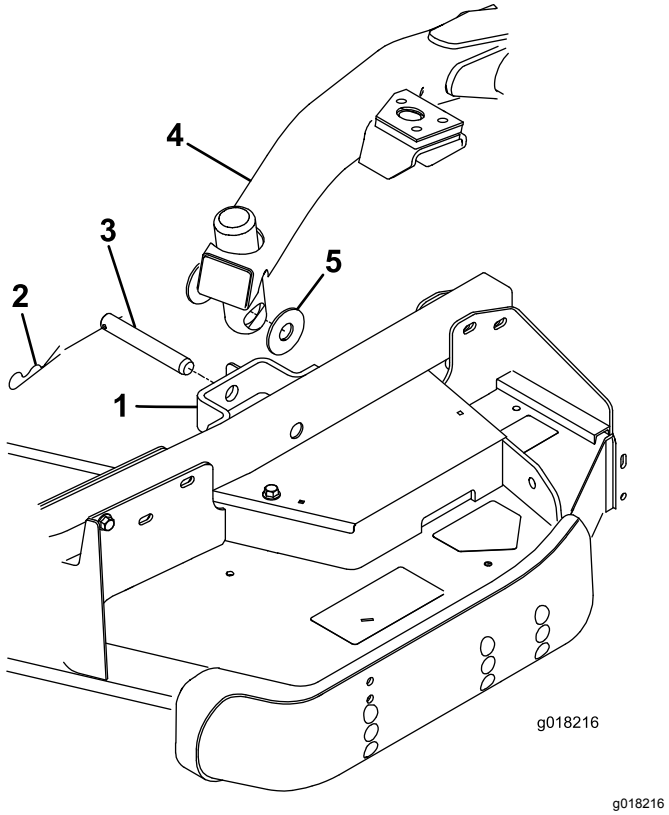


Figure 5

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

4. Secure the lift arm to the castor arm with the 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) and insert end of cotter pin into the slot in the castor arm tab to retain cotter pin.
5. Repeat the procedure on the opposite lift arm.
6. Start the traction unit and raise the cutting unit.

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.

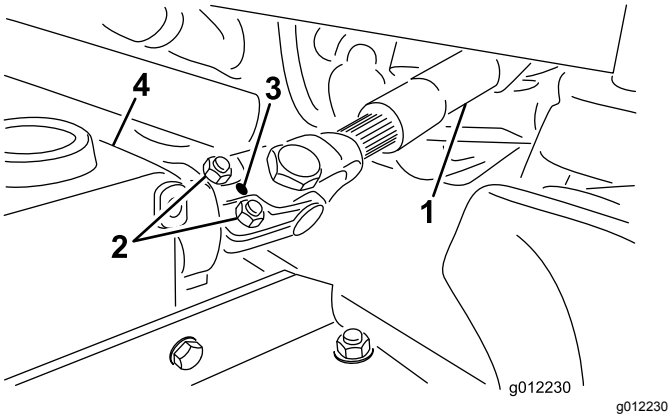


Figure 6

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

2. Secure them with a roll pin.
3. Tighten the bolts and nuts.

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	1.829 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 31335: 251 kg (553 lb) Model 31336: 292 kg (643 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 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 accidently start the engine and seriously injure you or other bystanders.

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

Checking the Lubricant in the Gearbox

Service Interval: Every 50 hours

The gearbox in 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 7) 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.

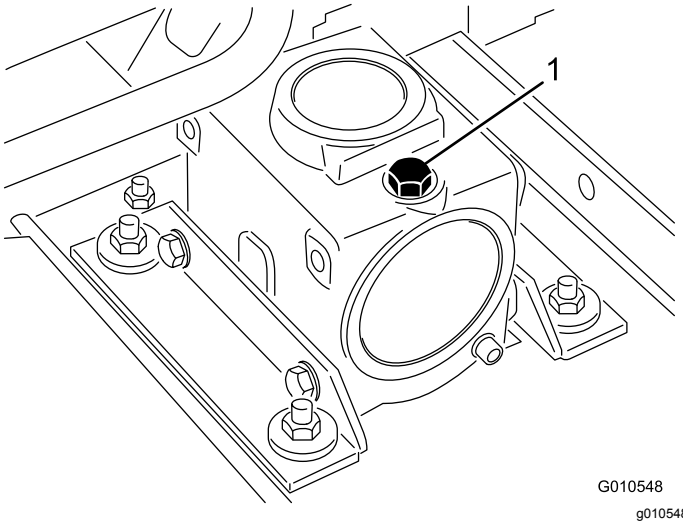


Figure 7

1. Dipstick/fill plug

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 and add or remove an equal number of spacers from the castor forks.

1. Start the engine and raise the cutting unit off the floor so that the height-of-cut can be changed. Shut off the engine and remove the key after the cutting unit is raised.
2. Position the castor wheel axles in the same holes in all castor forks. Refer to Figure 8, Figure 9 and Figure 10 to determine the correct holes for the setting.

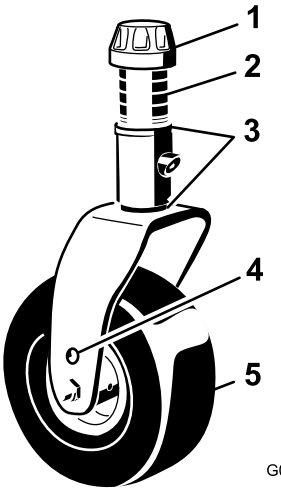


Figure 8

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

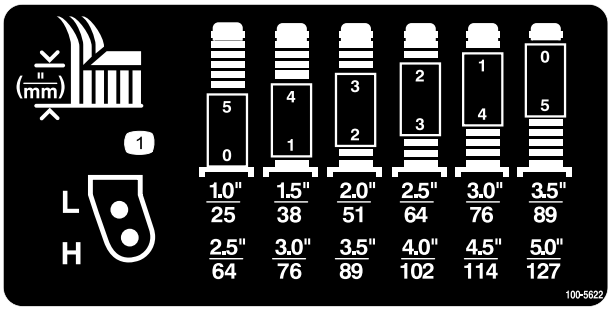


Figure 9

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 inches) and grass buildup is

detected, reverse the machines direction to pull any clippings away from the wheel/fork area.

Front Castor Wheels

1. Remove the tensioning cap from the spindle shaft (Figure 8) and slide the spindle out of the castor arm.
2. 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 9 to determine the combinations of spacers for the setting.
3. 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.

   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.

Rear Castor Wheels

1. Remove the tensioning cap from the spindle shaft (Figure 10).

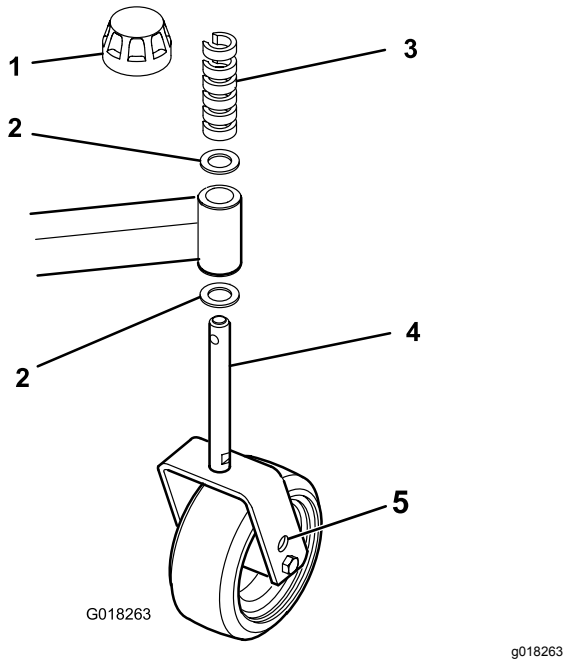


Figure 10

1. Tensioning cap
2. Shims
3. C-shaped spacers
4. Castor Wheel
5. Axle mounting holes

   Note: The rear castor fork assembly does not need to be removed from the castor arm to change the height of cut.
2. Remove or add C-shaped spacers at the narrow portion of the spindle shaft, below the castor arm, to get the desired height of cut. Ensure that the shims, not the spacers, contact the top and bottom of the castor arm.
3. Install the tensioning cap to secure the assembly.
4. Ensure that all four castor wheels are set at the same height of cut.

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 Rollers

Note: If you use the cutting unit at the 25 or 38 mm (1 or 1-1/2 inch) height-of-cut setting, reposition the cutting unit rollers in the top bracket holes.

1. Adjust the front rollers as follows:
   A. Remove the screw and nut securing the roller shaft to the deck bracket (Figure 11).

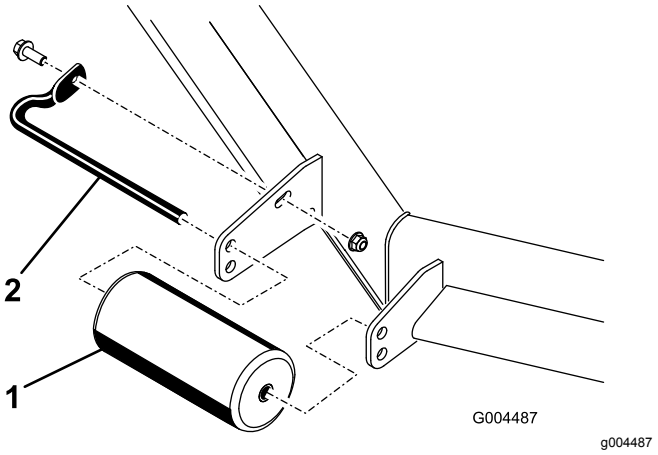


Figure 11

1. Roller
2. Roller shaft

   B. Slide the shaft out of the lower bracket holes, align the roller with the top holes, and install the shaft.
   C. Install the screw and nut to secure the assemblies.
2. Adjust the rear (internal) rollers as shown in Figure 12.

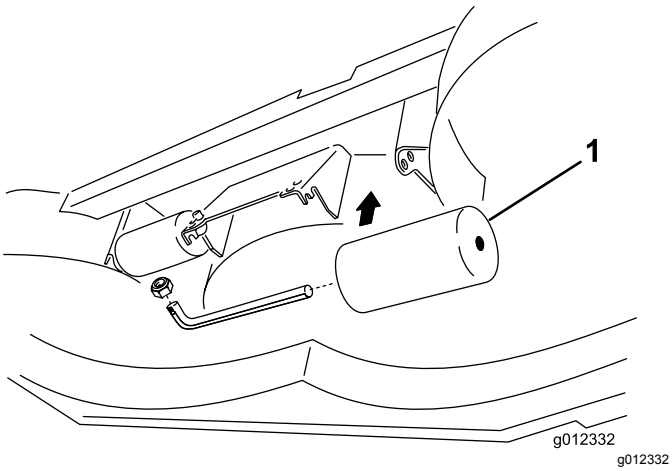


Figure 12

1. Internal rollers

Adjusting the Skids

The skids should be mounted in the lower position when operating in height of cuts greater than 64 mm (2-1/2 inches) and in the higher position when operating in heights of cut lower than 64 mm (2-1/2 inches).

Adjust the skids by removing the flange bolt and nuts, positioning them as desired, and installing the fasteners (Figure 13).

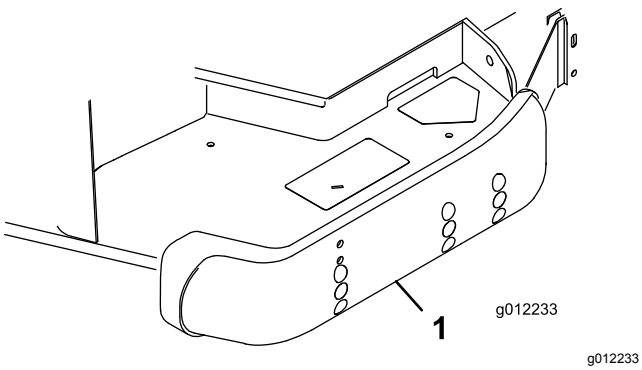


Figure 13

1. Skid

Adjusting the Anti-Scalp Rollers

Model 31336 Only

Whenever you change the height-of-cut, adjust the height of the anti-scalp rollers.

1. After adjusting the height-of-cut, adjust the rollers by removing the flange nut, bushing, spacer, and bolt (Figure 14).

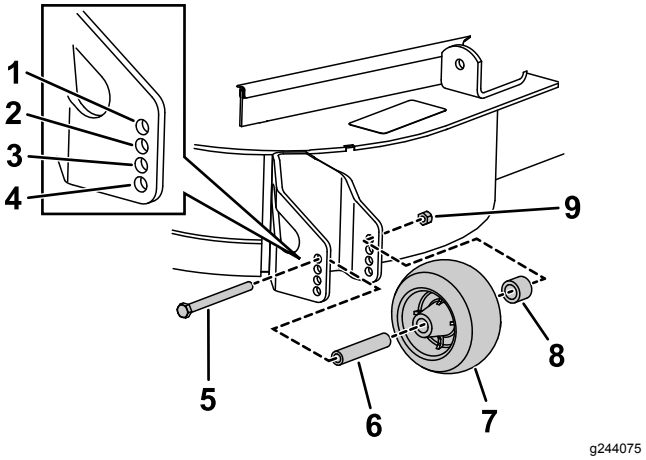


Figure 14

1. 38 mm (1-1/2 inches)
2. 51 mm (2 inches)
3. 63 mm (2-1/2 inches)
4. 76 mm (3 inches)
5. Bolt
6. Bushing
7. Anti-scalp roller
8. Spacer
9. Flange nut

2. Select a hole so that the anti-scalp roller is positioned to the nearest corresponding height of cut desired.
3. Install the flange nut, bushing, spacer, and bolt. Torque to 54 to 61 N·m (40 to 45 ft-lb) (Figure 14).

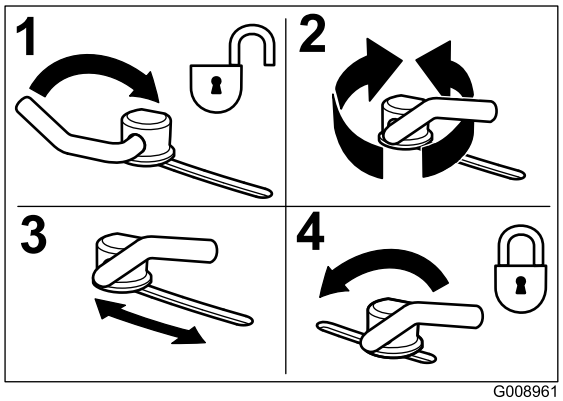
Adjusting the Flow Baffle

Model 31336 Only

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

1. Adjust the cam locks by swinging the lever up to loosen the cam lock (Figure 15).
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 15).
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 you achieve the desired locking pressure.



g008961

Figure 15

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

Positioning the Flow Baffle

Model 31336 Only

The following figures are recommendations only. 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 a follows:

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

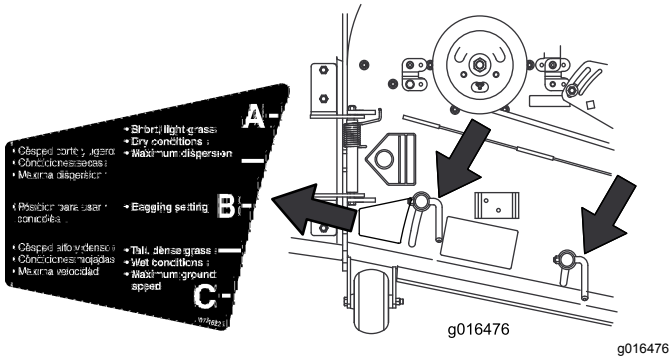


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Figure 16

Position B

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

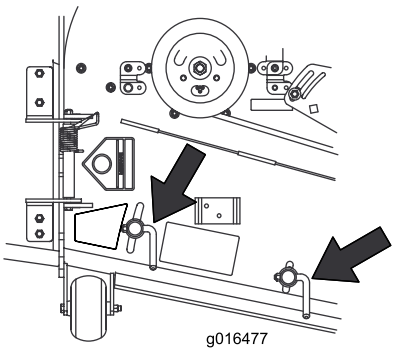

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Figure 17

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

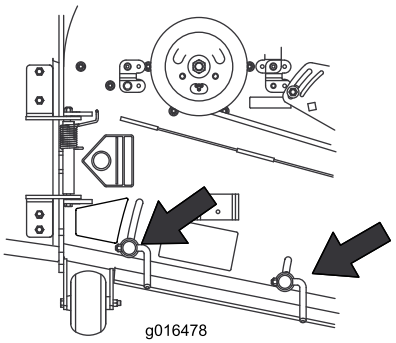

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Figure 18

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 8 mm (5/16 inch). That is the back of the blade plane is 8 mm (5/16 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. Use a short ruler to 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. Adjust the shims, on the front or rear castor arms, to attain the required cutting unit pitch (Figure 19).

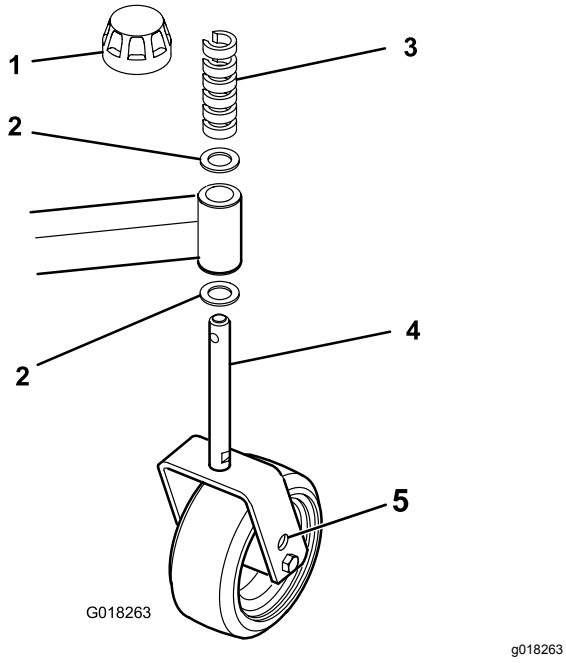

Figure 19

1. Tensioning cap
2. Shims
3. “C-shaped spacers
4. Castor wheel
5. Axle mounting holes

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 21).
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

Model 31336 Only

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.

- **Do not 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 takeoff (blade-control switch (PTO) to the OFF position, rotate the ignition key to off and remove the key.**
- **Ensure that the grass deflector is in the down position.**

Operating Tips

Mowing only when the Grass Is Dry

Mow either in the late morning to avoid the dew, which causes grass clumping, or in late afternoon to avoid the damage that the direct sunlight can cause on the sensitive, freshly mowed grass.

Selecting the Proper Height-of-Cut Setting

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

Mowing at the Proper Intervals

Under most normal conditions you will need to mow approximately every 4 or 5 days. But remember, grass grows at different rates at different times. This means that in order to maintain the same height of cut, which is a good practice, you will need to cut more frequently in early spring; as the grass growth rate slows in mid summer, cut only every 8 to 10 days. If you are unable to mow for an extended period due to weather conditions or other reasons, mow first at a higher height of cut; then mow again 2 or 3 days later with a lower height setting.

Mowing with Sharp Blades Only

A sharp blade cuts cleanly and without tearing or shredding the grass blades like a dull blade. Tearing and shredding causes the grass to turn brown at the edges, which impairs growth and increases susceptibility to diseases.

Cleaning the Underside of the Machine

To ensure optimum performance, clean the underside of the mower housing after each use. If residue is allowed to build up in the mower housing, cutting performance will decrease.

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	• Tighten the castor wheel nuts.
After the first 10 hours	• Tighten the castor wheel nuts. • Torque the blade bolts.
Before each use or daily	• Lubricate the castor arm bushings. • Lubricate the castor wheel bearings. • Check the blades.
Every 50 hours	• Check the gearbox lubricant. • Lubricate the grease fittings. Lubricate the grease fittings immediately after every washing. • Tighten the castor wheel nuts. • Torque the blade bolts. • Check the blade drive belt adjustment. • Clean under the cutting unit belt covers.
Every 400 hours	• Change the gearbox lubricant.

⚠ 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 switch before you do any maintenance.

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.

1. Lubricate the following areas:
   - Castor fork shaft bushings (4) (Figure 20).

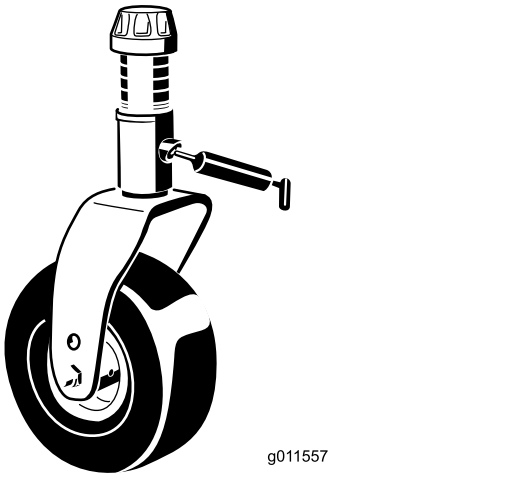

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Figure 20

   - Spindle shaft bearings (3) (located under the pulley) (Figure 21)

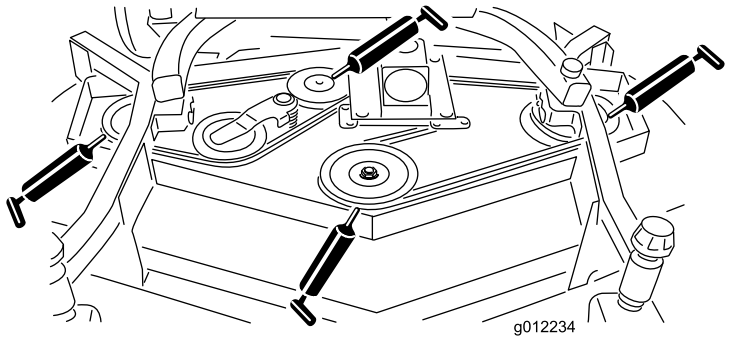

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Figure 21

   - Idler arm shaft bearings (Figure 21)
   - Lift arm pivots, front (2) (Figure 22)

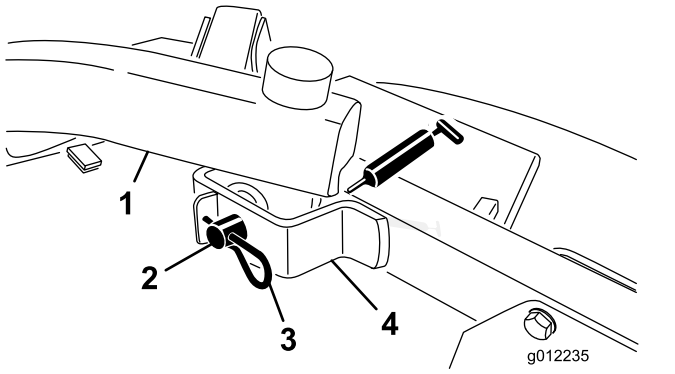

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Figure 22

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

   - Lift arm pivots, rear (2) (Figure 23)

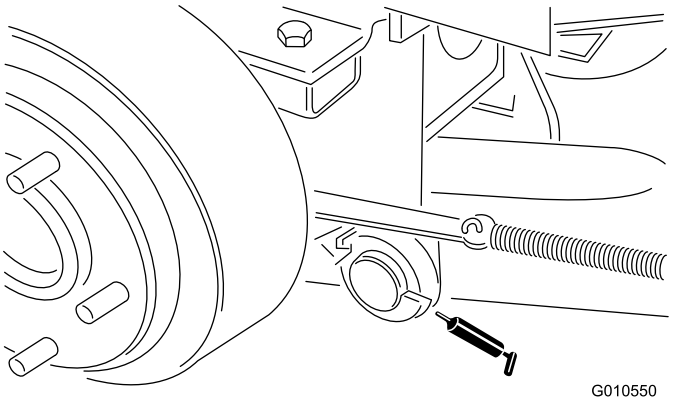

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Figure 23

2. Position the machine and cutting unit on a level surface and lower the cutting unit. Remove the dipstick/fill plug from the top of the gearbox (Figure 24) and ensure that the lubricant is between the marks on the dipstick. If the lubricant level is low, add SAE 80-90 weight gear lube until the level is between the marks. The gearbox capacity is 283 ml (12 fl oz).

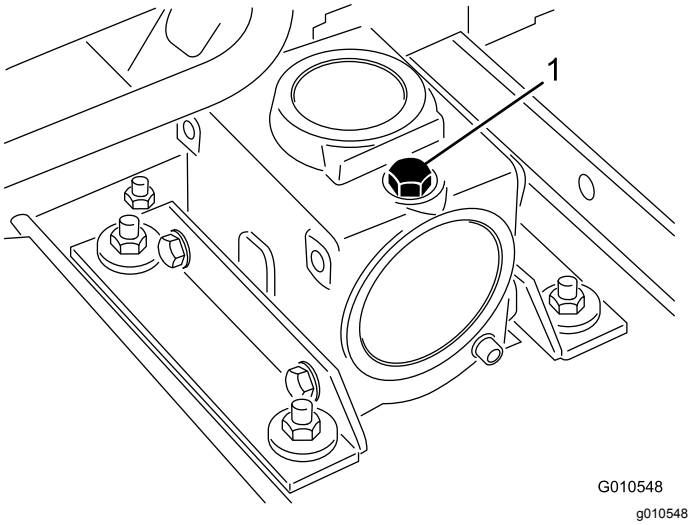

Figure 24

1. Dipstick/fill plug

Removing the Cover

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.**

Separating the Cutting Unit from the Traction Unit

1. Park 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 hairpin cotters and clevis pins securing the lift arms to the castor arm brackets (Figure 25).

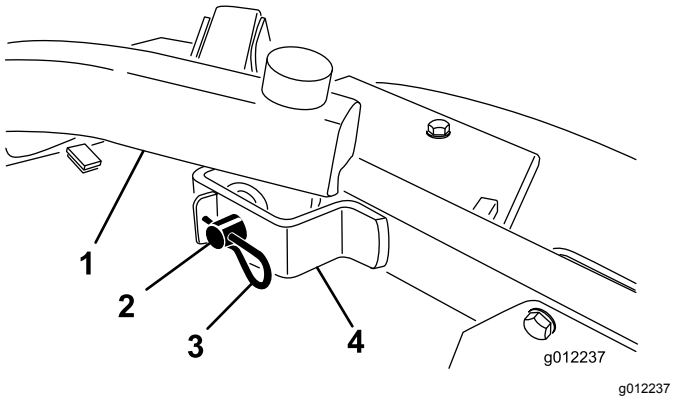

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Figure 25

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

3. Roll the cutting unit away from the traction unit, separating the male and female sections of the PTO shaft (Figure 26).

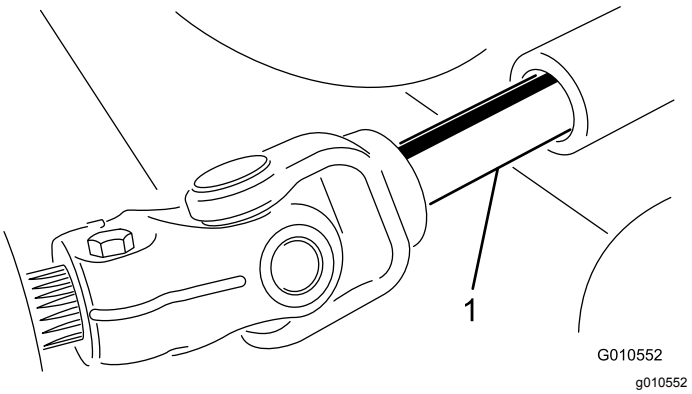

Figure 26

1. PTO shaft

⚠ DANGER

If you start the engine 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 26).

4. Press the lift switch forward 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 27).
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 27), and 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.

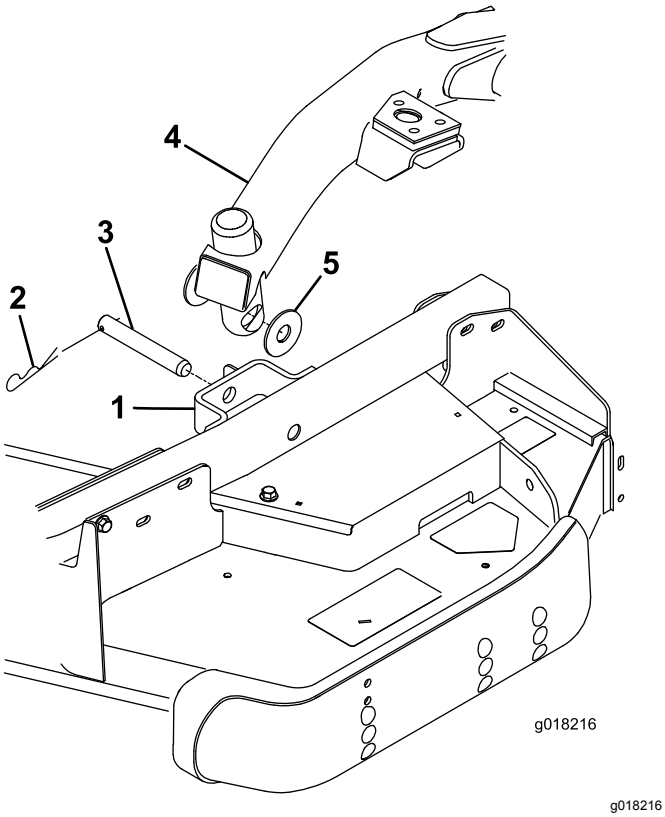

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Figure 27

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

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

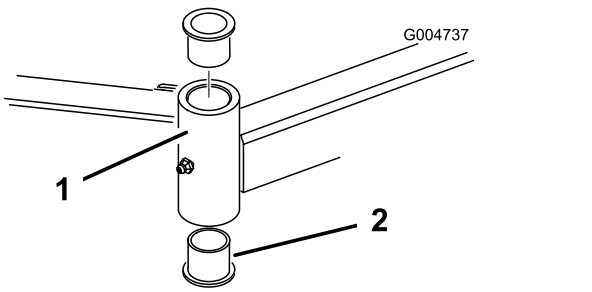

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Figure 28

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 29). Grasp the castor wheel and slide the bolt out of the fork or pivot arm.

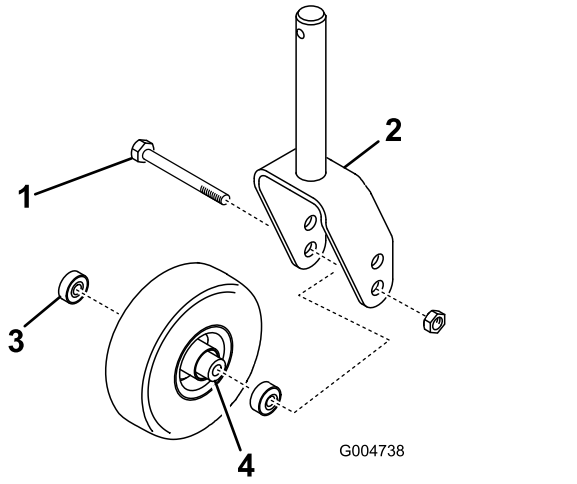

Figure 29

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

2. Remove the bearing from the wheel hub and allow the bearing spacer to fall out (Figure 29). 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.

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 30), and remember this dimension.

Figure 30

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 21).

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 31).

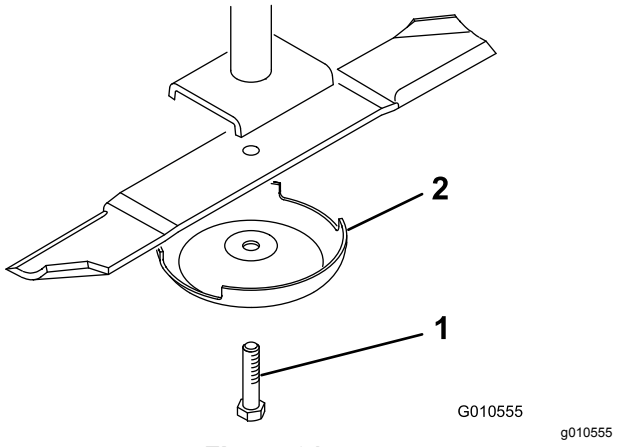

Figure 31

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 32). 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 32), replace the blade; refer to Removing and Installing the Blade(s) (page 21).

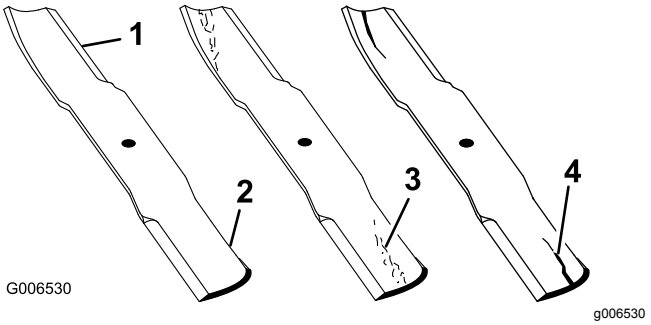

Figure 32

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 32). 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 33). The blade will remain balanced if the same amount of metal is removed from both cutting edges.

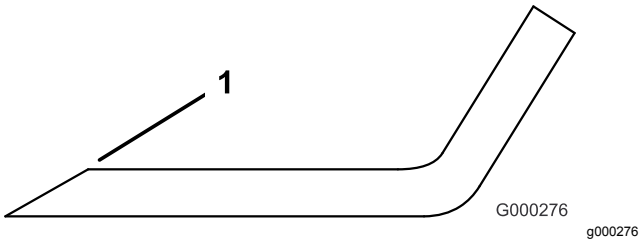

Figure 33

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).

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 34) away from the drive belt to release the belt tension and allow the belt to be slipped off the gearbox pulley (Figure 35).

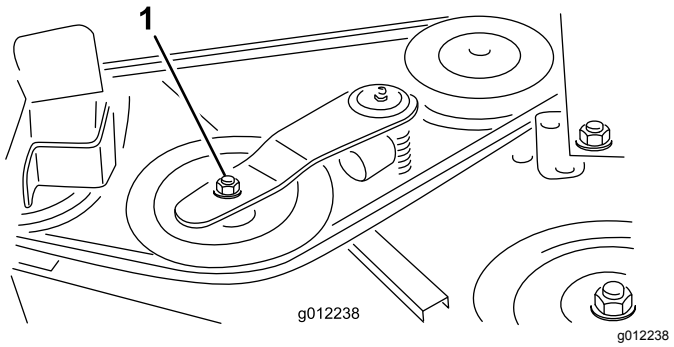

Figure 34

1. Idler pulley

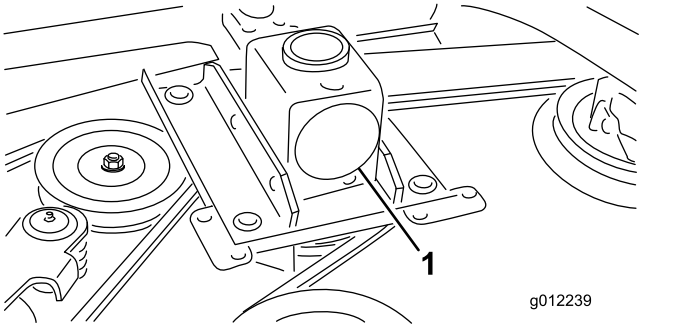

Figure 35

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 36.

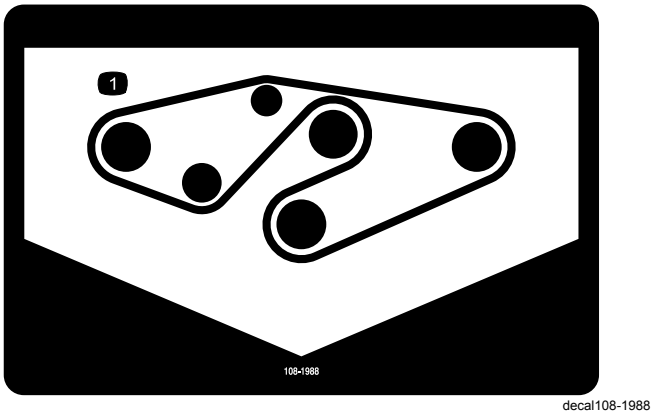

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Figure 36

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 37). Remove the damaged or worn grass deflector.
2. Place the spacer and spring onto grass deflector. Place the **L** end of spring behind deck edge.

   Note: Ebsure that the L-end of the spring is installed behind the deck edge before installing the bolt as shown in Figure 37.
3. Install the bolt and nut. Place the J-hook end of the spring around the grass deflector (Figure 37).

   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.**

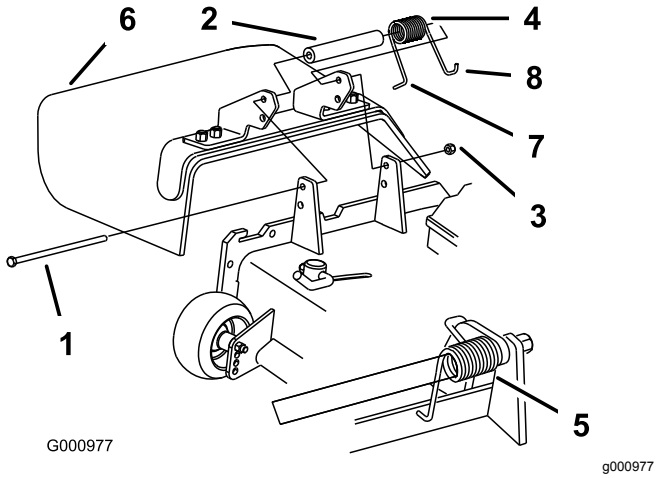

Figure 37

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

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
31335	340000001 and Up	72in Guardian Recycler Mower	72" GUARDIAN DECK W/4 CASTORS	72in Guardian Recycler Mower	2006/42/EC, 2000/14/EC
31336	340000001 and Up	72in Side-Discharge Mower	72" SD DECK W/4 CASTORS	72in 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
January 5, 2018

Authorized Representative:

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

Tel. +32 16 386 659

European Privacy Notice

The Information Toro Collects
Toro Warranty Company (Toro) respects your privacy. In order to process your warranty claim and contact you in the event of a product recall, we ask you to share certain personal information with us, either directly or through your local Toro company or dealer.

The Toro warranty system is hosted on servers located within the United States where privacy law may not provide the same protection as applies in your country.

BY SHARING YOUR PERSONAL INFORMATION WITH US, YOU ARE CONSENTING TO THE PROCESSING OF YOUR PERSONAL INFORMATION AS DESCRIBED IN THIS PRIVACY NOTICE.

The Way Toro Uses Information
Toro may use your personal information to process warranty claims, to contact you in the event of a product recall and for any other purpose which we tell you about. Toro may share your information with Toro's affiliates, dealers or other business partners in connection with any of these activities. We will not sell your personal information to any other company. We reserve the right to disclose personal information in order to comply with applicable laws and with requests by the appropriate authorities, to operate our systems properly or for our own protection or that of other users.

Retention of your Personal Information
We will keep your personal information as long as we need it for the purposes for which it was originally collected or for other legitimate purposes (such as regulatory compliance), or as required by applicable law.

Toro's Commitment to Security of Your Personal Information
We take reasonable precautions in order to protect the security of your personal information. We also take steps to maintain the accuracy and current status of personal information.

Access and Correction of your Personal Information
If you would like to review or correct your personal information, please contact us by email at legal@toro.com.

Australian Consumer Law

Australian customers will find details relating to the Australian Consumer Law either inside the box or at your local Toro Dealer.

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.

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