Form No. 3396-931 Rev A

Rear Roller Brush Kit

Reelmaster® 5010-H Series Cutting Unit with 5in or 7in Reel and with Groomer Kit Installed

Model No. 03407

Model No. 03409

Installation Instructions

⚠ 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.

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

This kit is mounted to the reel mowers on a ride-on machine and is intended to be used by professional, hired operators in commercial applications. It is primarily designed to keep the rear roller of the cutting unit free of grass and debris, which leads to a better after-cut appearance on well-maintained lawns in parks, sports fields, and on commercial grounds.

Safety

Safe Operating Practices

- Read, understand, and follow all instructions in the operator's manuals for the traction unit and the cutting unit before operating the cutting unit.
- Read, understand, and follow all instructions in this *Operator's Manual* before operating the brush kit.
- Never allow children to operate the cutting units. Do not allow adults to operate the traction unit or cutting units without proper instruction. Only trained operators who have read this manual should operate the cutting units.
- Never operate the cutting units when under the influence of drugs or alcohol.
- Keep all shields and safety devices in place. If a shield, safety device, or decal is illegible or damaged, repair or replace it before operation is commenced.
- Always wear substantial, slip-resistant footwear. Do not operate the cutting unit while wearing sandals, tennis shoes, sneakers, or shorts. Also, do not wear loose-fitting clothing which could get caught in moving parts. Always wear long pants. Wearing safety glasses, safety shoes, and a helmet is advisable and required by some local ordinances and insurance regulations.
- Remove all debris or other objects that might be picked up and thrown by the cutting unit blades. Keep all bystanders away from the mowing area.
- If the blades strike a solid object or the cutting unit vibrates abnormally, stop and shut the engine off. Check the cutting unit for damaged parts. Repair any damage before starting and operating the cutting unit.
- Lower the cutting units to the ground and remove the key from the ignition switch whenever the machine is left unattended.
- Be sure that the cutting units and brushes are in safe operating condition by keeping nuts, bolts, and screws tight.
- Remove the key from ignition switch to prevent accidental starting of the engine when servicing, adjusting, or storing the machine.
- Lightning can cause severe injury or death. If you see lightning or hear thunder in the area, do not operate the machine; seek shelter.
- Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Toro Distributor.
- 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.

8111 Lyndale Avenue South
Bloomington, MN 55420

Register at www.Toro.com.

CE

Original Instructions (EN)
Printed in the USA

3396-931 A

Installation

Loose Parts

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

Description	Qty.	Use
No parts required	–	Determine the position of the roller brush and reel motors.
Roller-brush assembly	5	Install the kit.
Shoulder bolt	5	
Right belt-cover/plate assembly	2	
Left belt-cover/plate assembly	3	
Bolt (5/16 x 1/2 inch)	10	
Rubber grommet ring	5	
Setscrew	5	
Drive pulley	5	
Flange-head bolt (3/8 x 2 inches)	5	
Belt	5	
Shim washer (as required for belt alignment)	5	
High height-of-cut brush (optional)	—	Install the high height-of-cut brush—for HOC greater than 2.5 cm (1 inch).

Media and Additional Parts

Description	Qty.	Use
Installation Instructions	1	Read the instructions before installing the kit.
Parts Catalog	1	Use the catalog to look up replacement parts.

Note: Determine the left and right sides of the cutting unit from behind the cutting unit.

Important: Use the Rear Roller Brush Kit only when cutting in the height-of-cut range of 6 to 25 mm (1/4 to 1 inch). Use the high height-of-cut brush when cutting above 25 mm (1 inch). Refer to the procedure for Installing the High Height-of-Cut Brush (Optional).

Rear Roller Brush Kit Model 03407 fits the following:

Cutting Unit Models (5) 03634 or (5) 03635 for the Reelmaster 5010 Traction Unit.

Rear Roller Brush Kit Model 03409 fits the following:

Cutting Unit Models (5) 03636 or (5) 03637 for the Reelmaster 5010 Traction Unit.

Note: If you are installing only a brush kit on the cutting unit (without a groomer), order model 03406 or 03408 rear roller brush kit for use without a groomer kit.

Note: 5-inch cutting units driven by electric reel motors need the additional end weight kit (03413).

Preparing to Install the Kit

Acquire the following tools before proceeding with the installation:

- 1/2-inch deep-well socket
- 9/16-inch deep-well socket
- 1/2-inch wrench
- 9/16-inch wrench
- 5/32-inch Allen wrench
- 12-inch straightedge (Toro Part No. 114-5446)
- Torque wrench, 20–25 N-m (15–19 ft-lb)
- Torque wrench, 36–45 N-m (27–33 ft-lb)
- Torque wrench, 47–54 N-m (35–40 ft-lb)
- Torque wrench, 2–3 N-m (20–25 in-lb)
- 5/16–18 tap
- Blue 242 Loctite

Determining the Roller-Brush Orientation

All cutting units are shipped with the counterweight mounted to the left end of the cutting unit. Refer to Figure 1 to determine the position of the roller brush and reel motors.

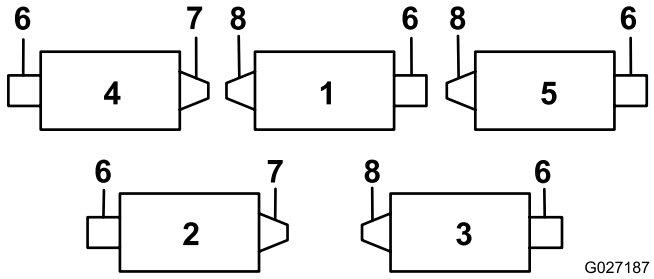

Figure 1

1. Cutting unit 1
2. Cutting unit 2
3. Cutting unit 3
4. Cutting unit 4
5. Cutting unit 5
6. Reel motor
7. Right roller-brush drive assembly
8. Left roller-brush drive assembly

Note: These instructions and illustrations show the installation of the kit on cutting units with the end weights mounted on the left end of the cutting unit.

Installing the Roller Brush

Installing the Roller-Brush Assembly

1. Remove the 2 flange nuts securing the groomer cover and remove the cover (Figure 2).

   Note: Keep the flange nuts for future assembly.

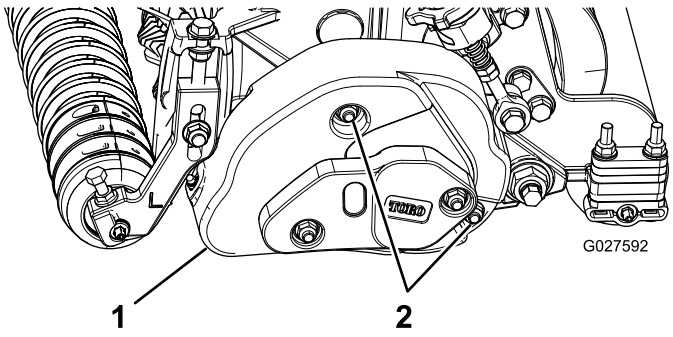

Figure 2

1. Groomer cover
2. Cover mounting nuts

2. Remove and discard the 2 flange nuts securing the groomer weight to the groomer cover (Figure 3).

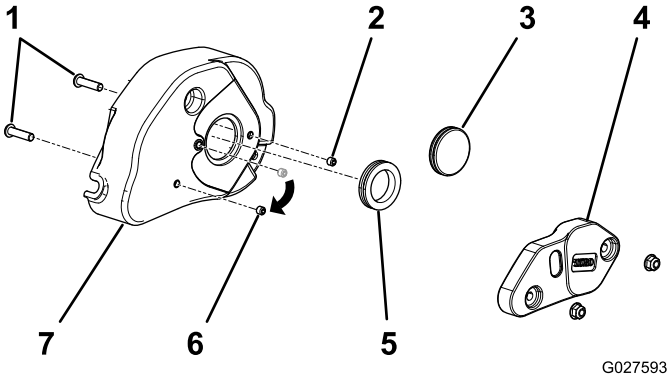

Figure 3

1. Cover screws (remove)
2. Setscrew (new)
3. Solid grommet (remove)
4. Groomer weight (remove)
5. Rubber grommet ring (new)
6. Setscrew (existing)
7. Groomer cover

3. Remove the solid rubber grommet from the cover, and replace it with the rubber grommet ring (Figure 3).
4. Remove and discard the 2 screws threaded into the cover (Figure 3).
5. Remove the setscrew from the center hole in the groomer cover (Figure 3).
6. Install the existing setscrew and the setscrew included with the kit into the holes previously used for the cover-mounting screws (Figure 3).

   Note: Apply removable thread-locking compound to the threads of the setscrews prior to installation. Install the setscrews so that they are flush with the surface of the groomer cover.

7. Install the groomer cover and secure it with the 2 flange nuts previously removed (Figure 4).

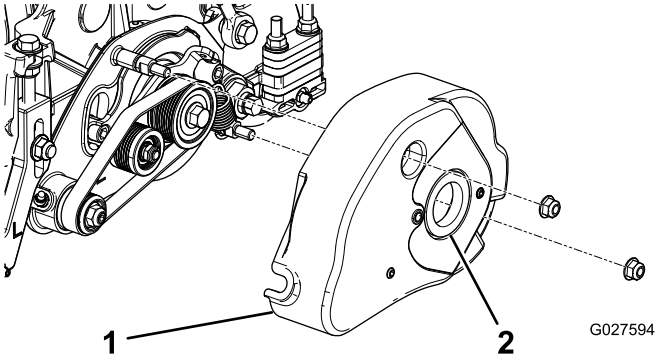

Figure 4

1. Groomer cover
2. Grommet

8. Apply grease to the inside diameter of the grommet in the groomer cover (Figure 4).
9. Remove the 2 flange locknuts securing each roller bracket to the side plates, **as well as any 6 mm (1/4 inch) spacers positioned on the top side of the side-plate mounting flange** (Figure 5).

Note: Do not remove the bolts. Keep the flange locknuts for future assembly.

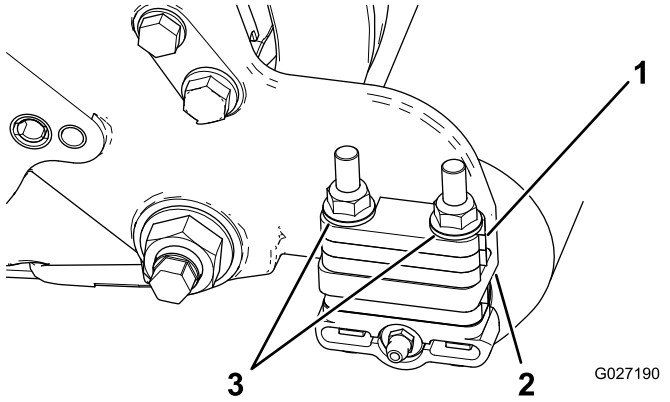

Figure 5

1. 6 mm (1/4 inch) spacer
2. Side-plate mounting flange
3. Flange locknuts (remove)

10. Position the left- or right-hand roller-brush-assembly mounting brackets onto the roller-bracket bolts (Figure 6).

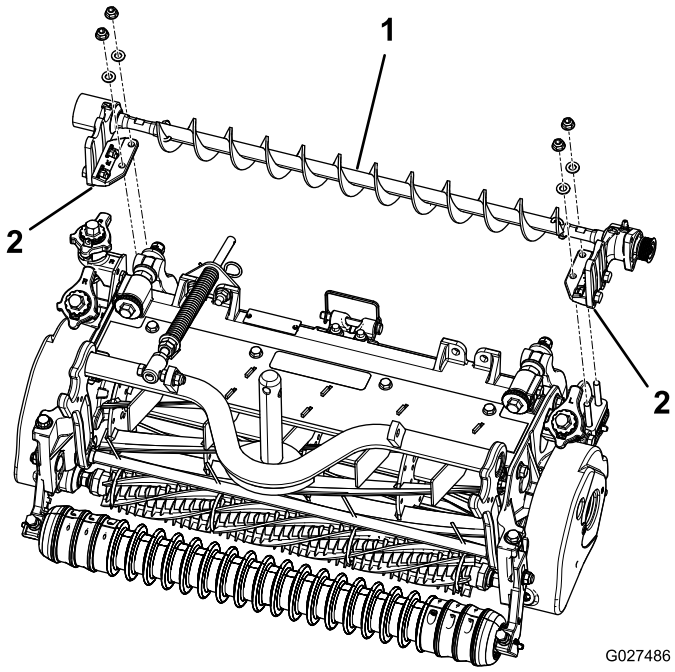

Figure 6

1. Left-hand roller-brush assembly
2. Roller-brush mounting bracket

Important: **Mount the roller-brush-assembly mounting brackets directly to the top surface of the cutting-unit side-plate mounting flange. *Do not put spacers between the roller-brush mounting brackets and the side-plate mounting flanges.* Save the additional 6 mm (1/4 inch) spacers for potential later use.**

11. Secure the brush-assembly mounting brackets to the cutting-unit side plates with the previously removed nuts.

Installing the Roller-Brush Plate

1. Slide each excluder seal outward until the lip seals are in light contact with each bearing housing (Figure 7).

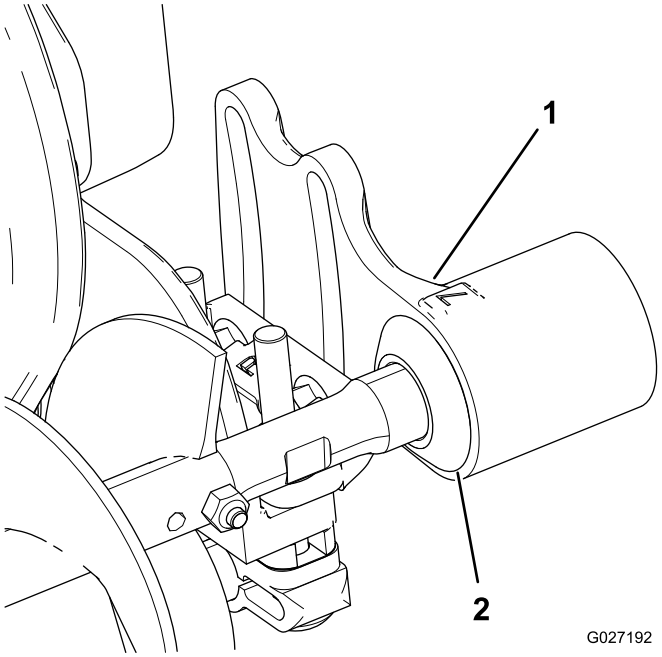

Figure 7

1. Bearing housing
2. Excluder seal

2. Install the left- or right-hand roller-brush pivot plate (Figure 8).

Note: When you insert the protrusion on the pivot plate into the grommet in the roller-brush housing, ensure that the grommet stays properly seated in the housing. The roller-brush pivot plate is properly seated when there is no resistance from the rubber grommet and it pivots freely.

Note: Ensure that the idler-pulley assembly is installed on the bottom as shown in Figure 8.

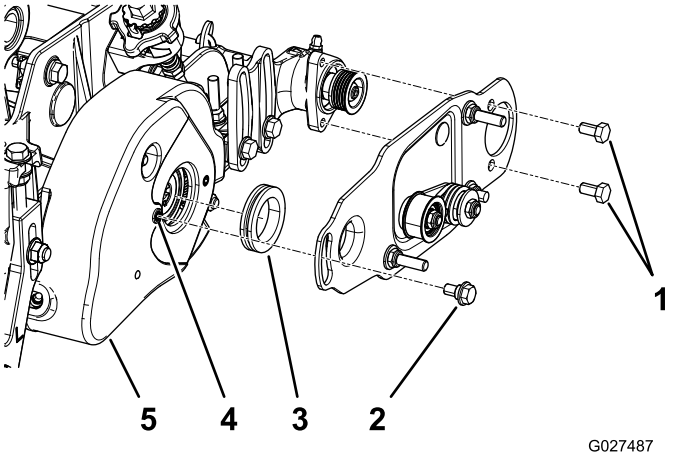

Figure 8

1. Bolt
2. Shoulder bolt
3. Grommet (installed earlier)
4. Clean out any paint from the threads using a 5/16–18 tap before screwing in the shoulder bolt.
5. Roller-brush housing

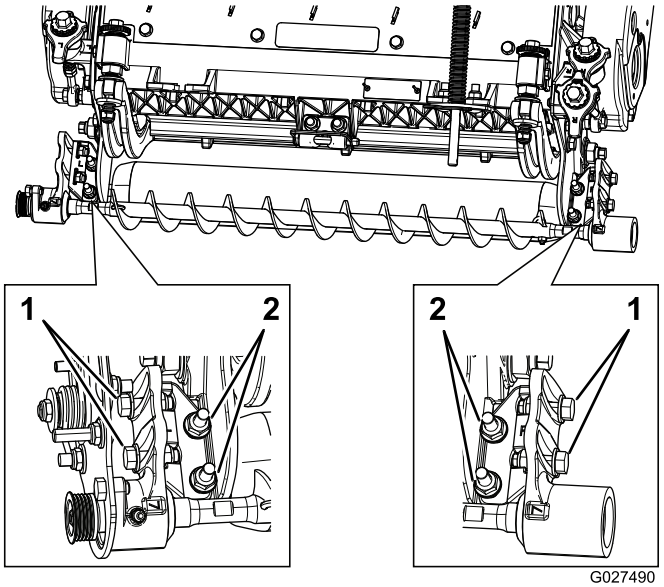

Figure 9

1. Loosen these bolts for positioning the roller brush.
2. Loosen these nuts for making the roller-brush plate parallel.

3. Apply 242 Loctite (blue) to the 2 bolts (5/16 x 1/2 inch) and use them to mount the brush plate to the roller-brush-bearing housing (Figure 8).

   Note: Torque the bolts to 20 to 25 N-m (15 to 19 ft-lb).

4. Clean out any paint from the threads in the roller-brush housing using a 5/16–18 tap before screwing in the shoulder bolt (Figure 8)

   Important: If you do not clean the threads before installing the shoulder bolt, the bolt can break.

5. Apply 242 Loctite (blue) to the shoulder bolt (Figure 8). Secure the brush plate to the roller-brush housing with the shoulder bolt. (Figure 8).

   Note: Torque the bolt to 20 to 25 N-m (15 to 19 ft-lb).

   Note: The shoulder bolt should not clamp the plate to the housing.

6. Ensure that the roller-brush plate is parallel to the cutting-unit side plate. If it is not parallel, proceed as follows:

   A. Loosen the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 9).

   B. Rotate the roller-brush-bearing housing until the brush plate is parallel to the cutting-unit side plate (Figure 9).

   C. Tighten the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 9).

Positioning the Roller Brush

1. Loosen the 2 bolts securing each roller-brush-bearing housing to the roller-brush mounting bracket (Figure 9).

   Note: The bolts should be loose from the factory.

2. Position the roller brush so that it is just touching or resting on the rear roller (Figure 10).

   Important: The roller-brush shaft must not contact the cutting-unit side plate.

   Important: Heavy brush contact on the roller will cause premature brush wear.

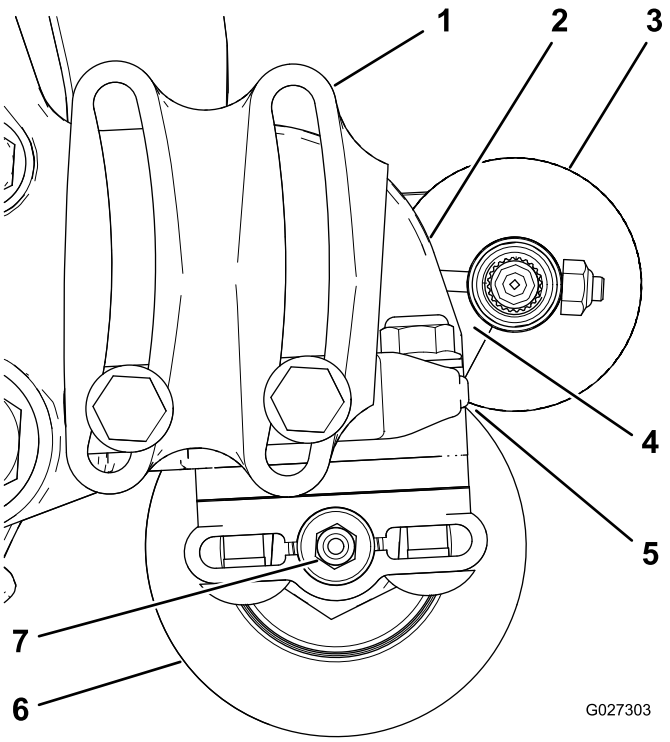

Figure 10

1. Bearing housing (some parts not shown)
2. Side plate
3. Roller brush
4. Ensure that there is clearance here.
5. Light contact
6. Rear roller
7. Grease fitting

Note: The roller-brush shaft must be parallel to the rear roller.

Important: Position both roller-brush-bearing housings so that they are parallel to the ground to ensure clearance for the rear-roller grease fitting.

3. Tighten the 2 bolts securing each roller-brush-bearing housing to the roller-brush mounting brackets.

Installing the Drive Pulley

1. Remove the bolt securing the groomer pulley to the driveshaft (Figure 11).

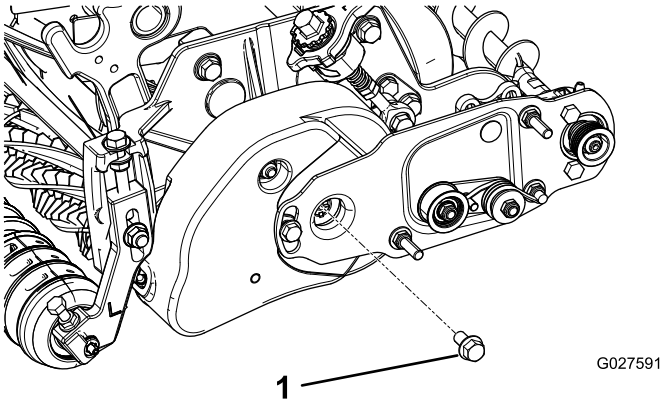

Figure 11

1. Bolt

2. Install the drive pulley onto the driveshaft (Figure 12).

Note: Make sure that the pulley tabs are positioned in the slot in the driveshaft.

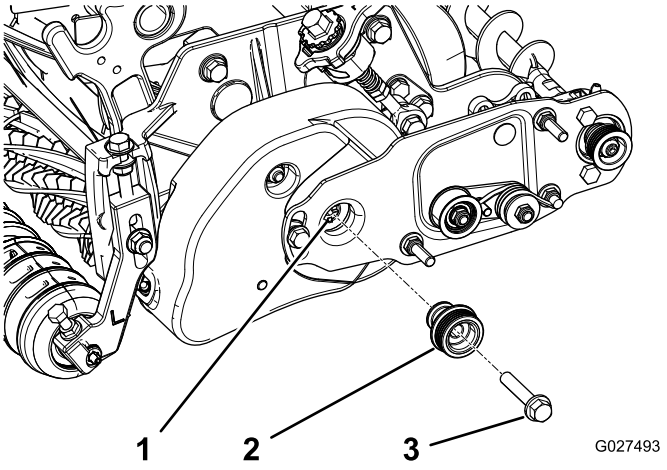

Figure 12

1. Driveshaft
2. Drive pulley
3. Flange-head bolt—torque to 47 to 54 N-m (35 to 40 ft-lb)

3. Secure the pulley to the driveshaft with a flange-head bolt (3/8 x 2 inches); refer to Figure 12.

Note: Torque the bolt to 47 to 54 N-m (35 to 40 ft-lb).

Important: If the bolt is *not* properly torqued, *the bolt will come loose.*

Installing the Belt

1. Install the belt onto the pulleys as follows:
   - Loop the belt around the **drive** pulley and then over the top of the idler pulley (Figure 13).

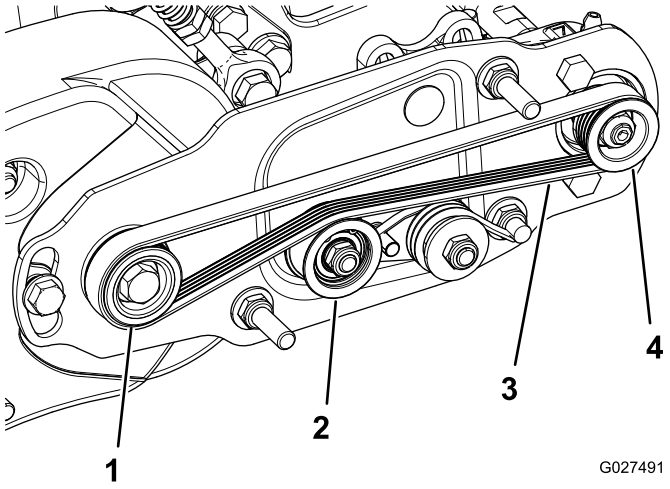

Figure 13

1. Drive pulley
2. Idler-pulley assembly
3. Belt
4. Driven pulley

   - Start the belt on the **driven** pulley (Figure 14).
   - Use a 9/16-inch deep-well socket to rotate the brush assembly and guide the belt onto the driven pulley (Figure 14).

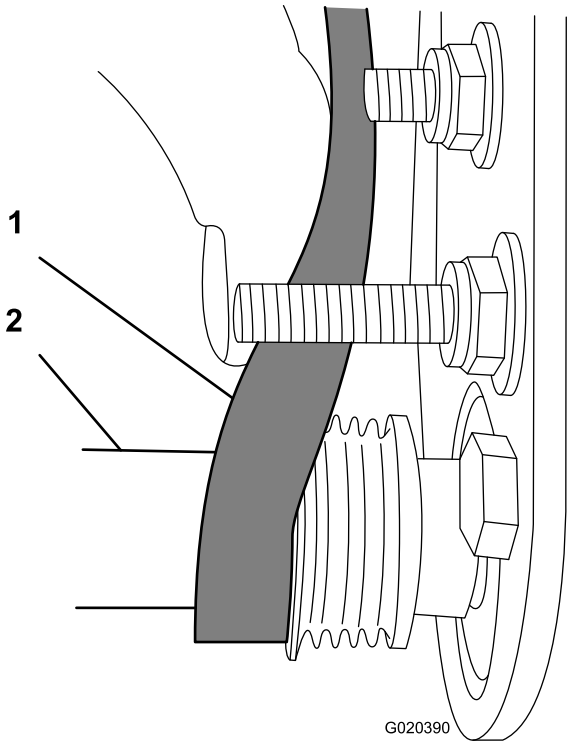

Figure 14

1. Belt
2. 9/16-inch deep-wellsocket

Important: Make sure that the ribs on the belt are properly seated in the grooves in each pulley and that the belt is in the center of the idler pulley.

2. Push down on the idler pulley to ensure that the idler-pulley assembly pivots freely.

Completing the Installation

1. Check the alignment of the belt/pulleys as follows:

   Note: The belt must be properly tensioned (installed) prior to checking the alignment.

   - Lay a straightedge along the outer face of the **drive** pulley (Figure 15). **Do not** lay the straightedge across both the drive pulley and the driven pulley.
   - The outer faces of the drive pulley and the driven pulley should be in line within 0.76 mm (0.030 inch).
   - If the pulleys are not aligned, refer to Checking the Pulley Alignment (page 9).
   - If the pulleys are aligned, continue with the installation.
   - **Do not** use the idler pulley to check the alignment.

   Important: The belt may fail prematurely if the pulleys are not properly aligned.

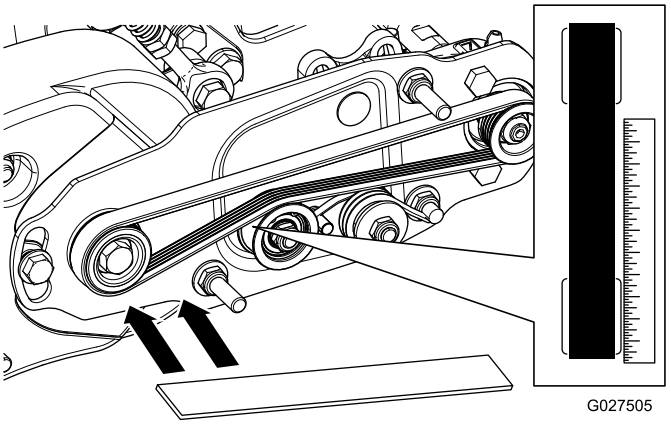

Figure 15

2. Slide the belt cover onto the mounting bolts and secure the cover with 2 flange nuts (Figure 16).

   Important: Do not overtighten the nuts as damage to the cover may occur.

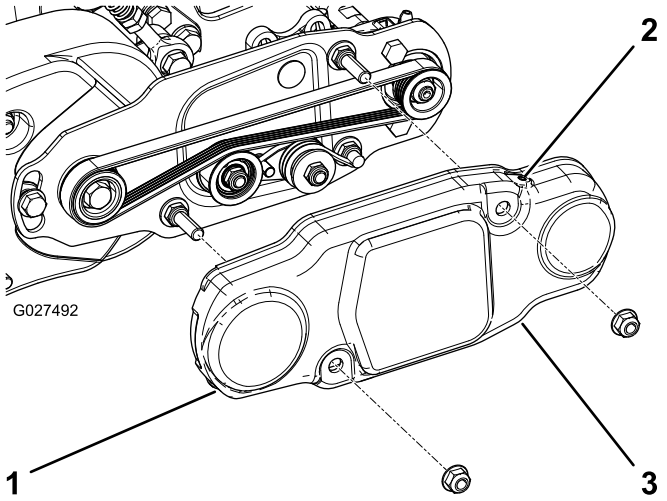

Figure 16

1. Belt cover
2. Setscrew installed
3. Setscrew removed

3. Lubricate the grease fittings on each of the roller brush bearing housings with No. 2 lithium grease (Figure 17).

   Note: Wipe off any excess grease, specifically around the excluder seals.

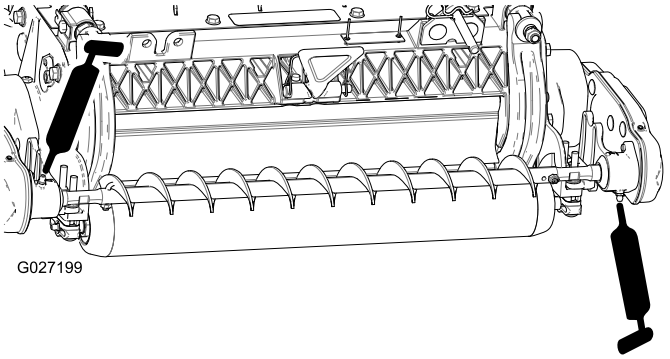

Figure 17

Installing the High Height-of-Cut Brush (Optional)

Install the high height-of-cut brush (sold separately) when the height of cut is 2.5 cm (1 inch) or more (5 or more spacers installed below the side-plate pad).

1. If a roller brush is installed on the cutting unit, remove the 2 bolts, washers, and nuts securing the non-drive-bearing housing to the bearing-housing mounting bracket (Figure 18) and (Figure 19).

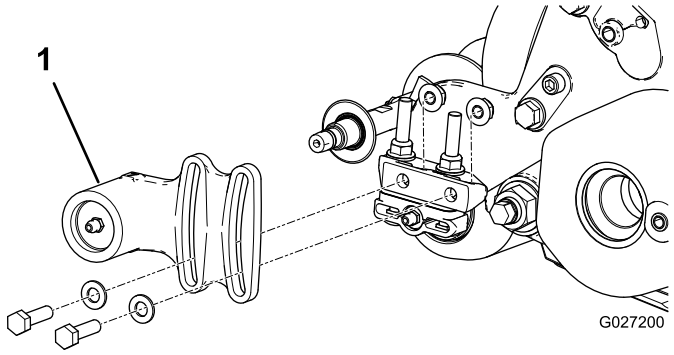

Figure 18

1. Non-drive-bearing housing

2. Slide the non-drive-bearing housing and the excluder seal off the brush shaft (Figure 19).

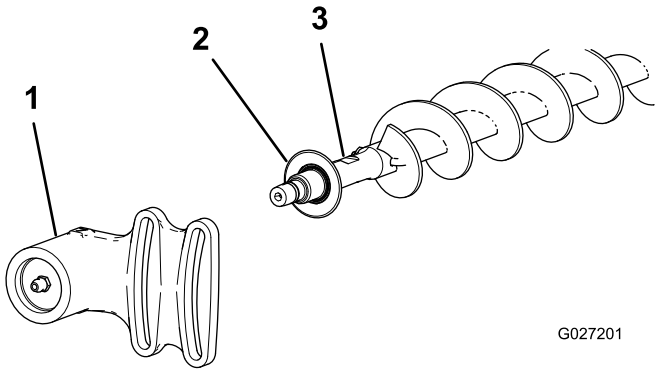

Figure 19

1. Non-drive-bearing housing
2. Excluder seal
3. Brush shaft

3. Remove the 2 J-bolts and the nuts (Figure 20).
4. Slide the existing brush off the brush shaft (Figure 20).
5. Loosen the 2 bolts, washers, and nuts securing the drive-bearing housing to the bearing-housing mounting bracket (Figure 20).
6. Slide the high height-of-cut brush onto the brush shaft (Figure 20).
7. Clamp the brush onto the shaft with the 2 J-bolts and nuts previously removed (Figure 20).

   Important: Insert the threaded end of the J-bolts through the outer holes of the brush shaft while hooking the curved ends of the J-bolts into the inner holes.

8. Torque the J-bolt locknuts to 2 to 3 N-m (20 to 25 in-lb).

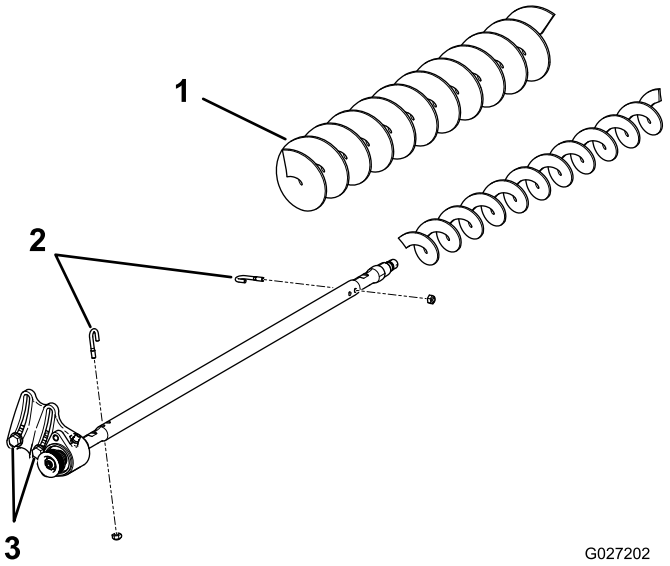

Figure 20

1. High height-of-cut brush
2. J-bolts
3. Loosen these bolts.

9. Install the excluder seal and the non-drive-bearing housing onto the brush shaft (Figure 19).
10. Mount the non-drive-bearing housing to the bearing-housing mounting bracket with the 2 bolts, washers, and nuts previously removed.

    Note: Be careful not to knock the seal spring off.
11. Tighten the 2 bolts, washers, and nuts securing the drive-bearing housing to the bearing-housing mounting bracket.

Maintenance

- Make sure that the brush is parallel to the roller with 1.5 mm (0.060 inch) clearance to light contact.
- Grease the fittings every 50 hours and after every washing.
- When replacing a roller brush, torque the J-bolts to 2 to 3 N-m (20 to 25 in-lb).
- When replacing the brush-shaft-driven pulley, torque the nut to 36 to 45 N-m (27 to 33 ft-lb).
- When replacing the brush-drive pulley, apply 242 Loctite (blue) and torque the bolt to 47 to 54 N-m (35 to 40 ft-lb).

Note: The roller brush, the idler bearing, and the belt are considered consumable items.

Checking the Pulley Alignment

1. The driven pulley (at the roller-brush shaft) can move in or out (Figure 21).

   Note: Make note of which way the pulley needs to move.

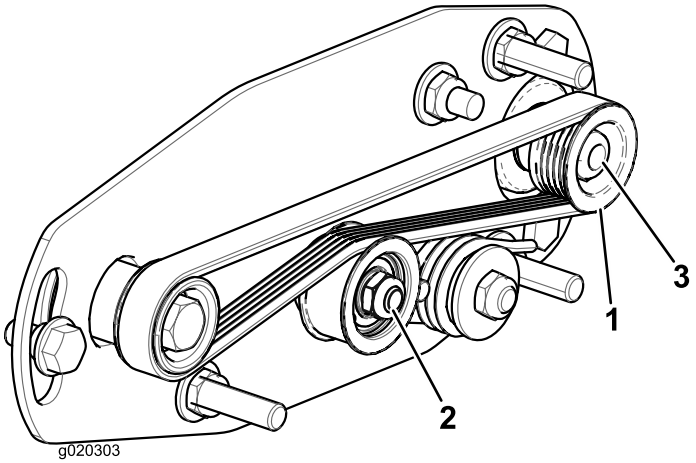

Figure 21

1. Driven pulley
2. Idler pulley
3. Driven-pulley nut

2. While rotating the reel, which rotates the drive pulley, pry the belt off the drive pulley (Figure 21

   Note: Wear a padded glove or use a heavy rag to rotate the reel.
3. Remove the locknut securing the driven pulley to the brush shaft (Figure 21 or Figure 22).

   Note: Use a 1/2-inch wrench on the roller-brush shaft flats to keep it from rotating.
4. Remove the driven pulley from the shaft (Figure 22).
5. If the pulley needs to move out, add a 0.8 mm (0.032 inch) thick washer (Figure 22).

   Note: If the pulley needs to move in, remove the existing 0.8 mm (0.032 inch) thick washer.
6. Install the pulley.

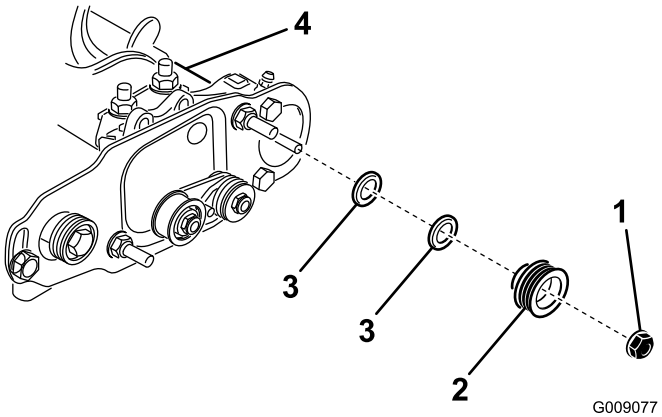

Figure 22

1. Locknut
2. Driven pulley
3. Washer—0.8 mm (0.032 inch) thick
4. Brush shaft flats

7. While holding the flats of the roller-brush shaft, secure the driven pulley on the shaft with the flange nut (3/8–16) previously removed.

Note: Seat the locknut; then torque it to 36 to 45 N-m (27 to 33 ft-lb).

8. Install the belt onto the pulleys as follows:

   A. Loop the belt around the **drive** pulley and then over the top of the idler pulley (Figure 23).

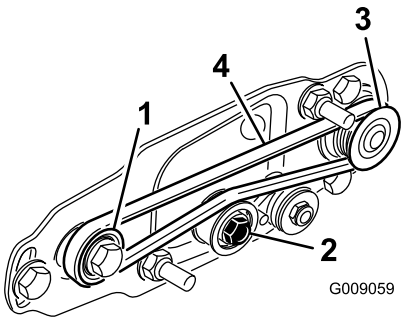

Figure 23

1. Drive pulley
2. Idler-pulley assembly
3. Driven pulley
4. Belt

   B. Start the belt on the **driven** pulley (Figure 23).

   C. Use a 9/16-inch deep-well socket to rotate the brush assembly and guide the belt onto the driven pulley (Figure 24).

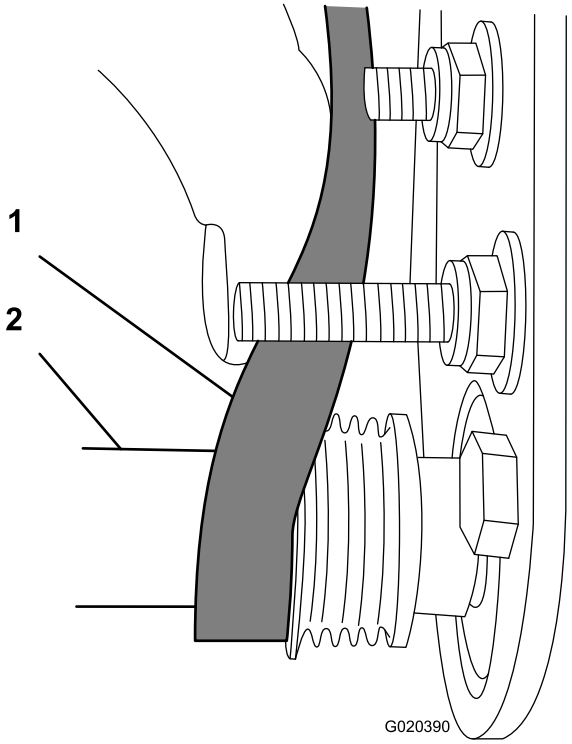

Figure 24

1. Belt
2. 9/16-inch deep-well socket

Important: Make sure that the ribs on the belt are properly seated in the grooves in each pulley and that the belt is in the center of the idler pulley.

9. Check the pulley alignment and adjust it if necessary.

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
03407	—	Rear Roller Brush Kit	RRB KIT 5IN CU W/GROOMER [RM 5010]	Roller Brush Kit	2006/42/EC
03409	—	Rear Roller Brush Kit	RRB KIT 7IN CU W/GROOMER [RM 5010]	Roller Brush Kit	2006/42/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:

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