



Rear Roller Brush MVP Kit

Reelmaster® 3555, 3575, 5010, and 5010-H Series 22-inch Cutting Unit with 5-inch or 7-inch Reel and Universal Groomer

Model No. 133-0153

Model No. 133-0154

Installation Instructions

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

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 the reel motor. |
| Roller-brush assembly 90-degree grease fitting | 1 1 | Install the roller-brush assembly. |
| Carriage bolt (Model 133-0153 only—only for 5-inch cutting units driven by hydraulic reel motors) | 2 | |
| Weight (Model 133-0153 only—only for 5-inch cutting units driven by hydraulic reel motors) | 1 | Install the weight (Model 133-0153 only). |
| Locknut (Model 133-0153 only—only for 5-inch cutting units driven by hydraulic reel motors) | 2 | |
| Weight—Part No. 132-0735-03 (sold separately) | 1 | |
| Carriage bolt (5/16 x 2 inch)—Part No. 3230-6 (sold separately) | 2 | |
| Bolt (5/16 x 1/2 inch)—Part No. 322-1 (sold separately) | 2 | Install the additional weight parts needed for RM5010-H 5-inch and 7-inch, RM3575, RM5510, and RM5610. |
| Washer (5/16 inch)—Part No. 3256-23 (sold separately) | 2 | |
| Flange nut (5/16 inch)—Part No. 104-8300 (sold separately) | 2 | |
| Retaining ring | 1 | |
| Belt-cover/plate assembly | 1 | Install the roller-brush plate. |
| Bolt (5/16 x 5/8 inch) | 2 | |
| No parts required | — | Position the roller brush. |
| Drive pulley | 1 | |
| Flange-head bolt (5/16 x 1/2 inch) | 1 | Install the drive pulley and the belt. |
| Belt | 1 | |
| No parts required | — | Complete the installation. |
| High height-of-cut brush (optional) | — | Install the high height-of-cut brush—for HOC greater than 2.5 cm (1 inch). |



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)**.

Note: 5-inch cutting units driven by electric reel motors or 7-inch cutting units driven by either electric or hydraulic reel motors need additional weight parts; refer to [Additional Parts That Need to be Ordered \(page 4\)](#).

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.

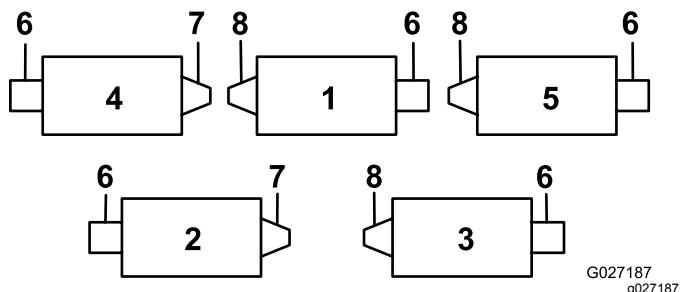


Figure 1

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

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

Installing the Roller-Brush Assembly

1. If the cutting units are installed on the traction unit, park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key.
2. Remove the grease fitting for the roller from the side of the cutting unit that has the roller-brush housing ([Figure 3](#)).

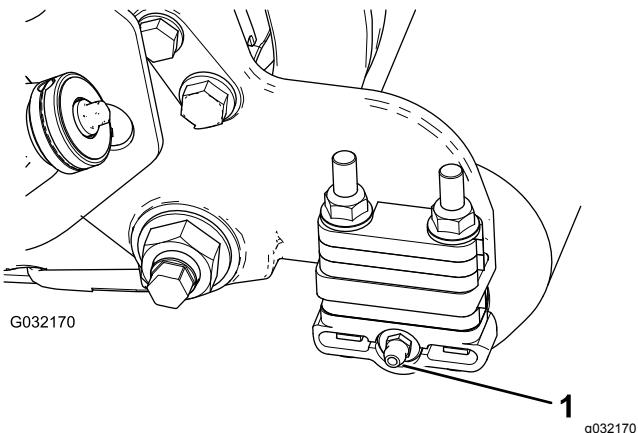


Figure 2

1. Grease fitting
3. Install the 90-degree grease fitting so that it faces rearward ([Figure 2](#)).

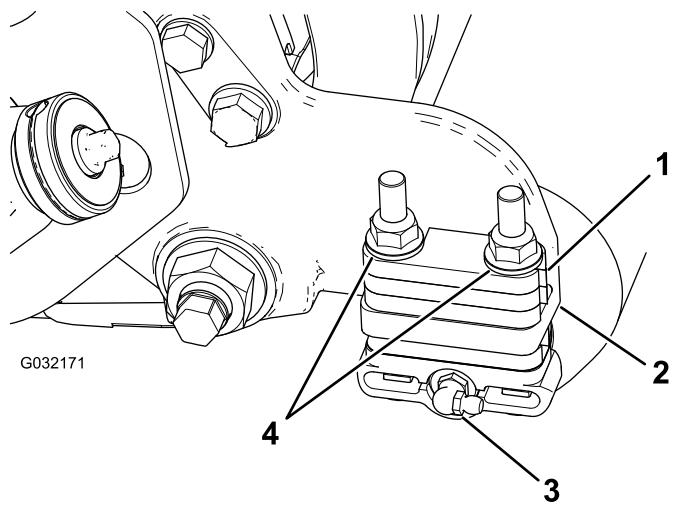


Figure 3

1. 6 mm (1/4 inch) spacer 3. 90-degree grease fitting
2. Side-plate mounting flange 4. Flange locknuts (remove)
4. 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 3](#)).

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

5. Position the left or right roller-brush-assembly mounting brackets onto the roller-bracket bolts (Figure 4).

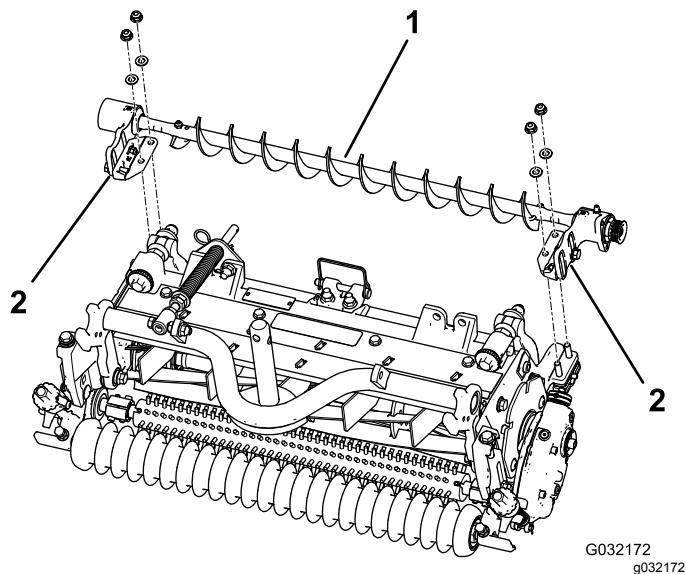


Figure 4

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

Important: Attach the mounting brackets for the roller-brush assembly directly to the top surface of the side-plate mounting flange of the cutting unit. 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.

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

Installing the Weight Included in Kit 133-0153 (5-inch Hydraulically Driven Cutting Units)

Install the weight to the cutting unit as shown in Figure 5 (parts included with brush kit Model 133-0153).

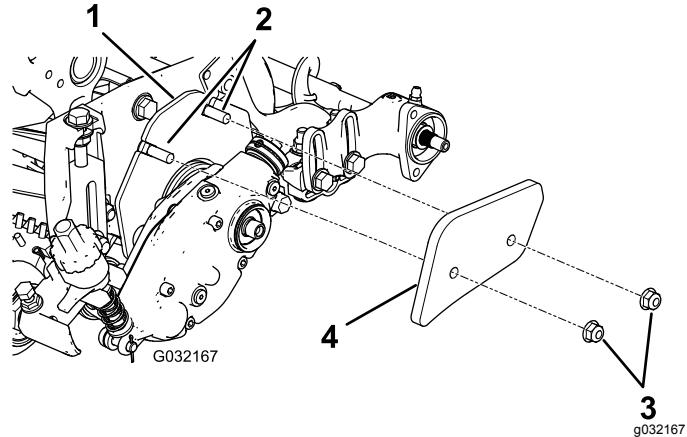


Figure 5

Parts included with brush kit 133-0153
5-inch hydraulically driven

| | |
|-----------------------------------|---|
| 1. Weight plate | 3. Flange nuts (5/16 inch), torque to 20 to 26 N·m (15 to 19 ft-lb) |
| 2. Carriage bolts (5/16 x 1 inch) | 4. Weight |

Installing the Additional Weight Parts Not Included in the Kit (5-inch Electrically Driven Cutting Units; 7-inch Hydraulically or Electrically Driven Cutting Units)

Install the weight parts to the cutting unit as shown in Figure 6; refer to [Additional Parts That Need to be Ordered \(page 4\)](#).

If installing brush kit 133-0153, discard the weight and fasteners included with the brush kit (do not use).

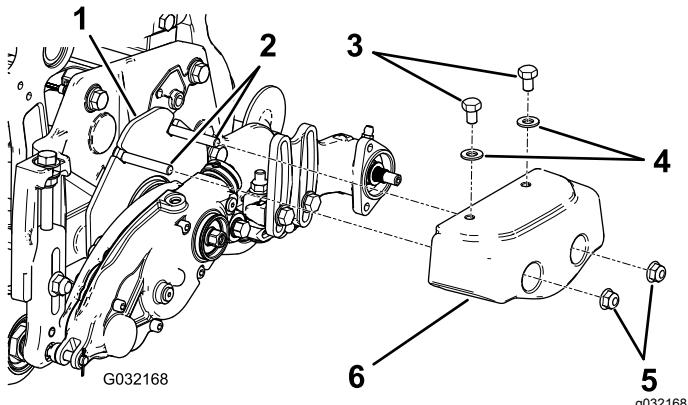


Figure 6

Additional parts that need to be ordered
5-inch electrically driven,
7-inch hydraulically or electrically driven

| | |
|---|--|
| 1. Weight plate | 4. Washers (5/16 inch)—Part No. 3256-23 |
| 2. Carriage bolts (5/16 x 2 inch)—Part No. 3230-6 | 5. Flange nuts (5/16 inch)—Part No. 104-8300 |
| 3. Bolts (5/16 x 1/2 inch)—Part No. 322-1 | 6. Weight—Part No. 132-0735-03 |

Additional Parts That Need to be Ordered

| Part | Part No. | Quantity |
|---------------|-------------|----------|
| Weight | 132-0735-03 | 1 |
| Carriage bolt | 3230-6 | 2 |
| Bolt | 322-1 | 2 |
| Washer | 3256-23 | 2 |
| Flange nut | 104-8300 | 2 |

Installing the Roller-Brush Plate

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

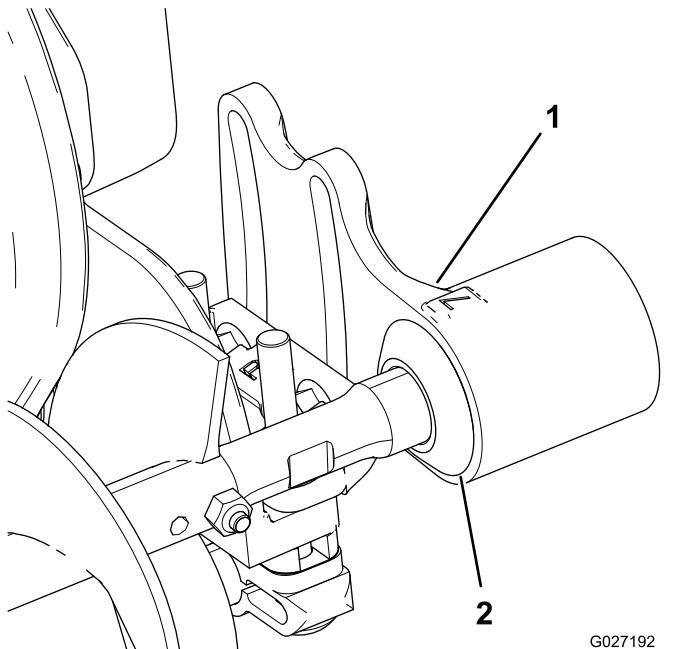


Figure 7

1. Bearing housing 2. Excluder seal

- Remove the cap from the groomer drive box.

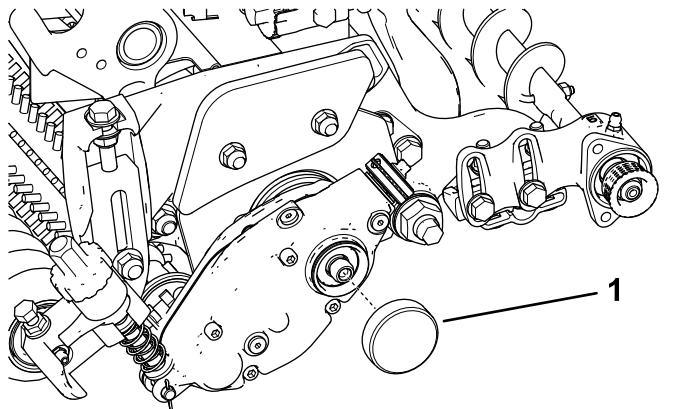


Figure 8

1. Cap

- Ensure that the roller-brush pivot plate is configured so that the idler-pulley assembly is installed on the bottom as shown in Figure 9.

To change the roller-brush pivot plate to a right-drive configuration, refer to Figure 10.

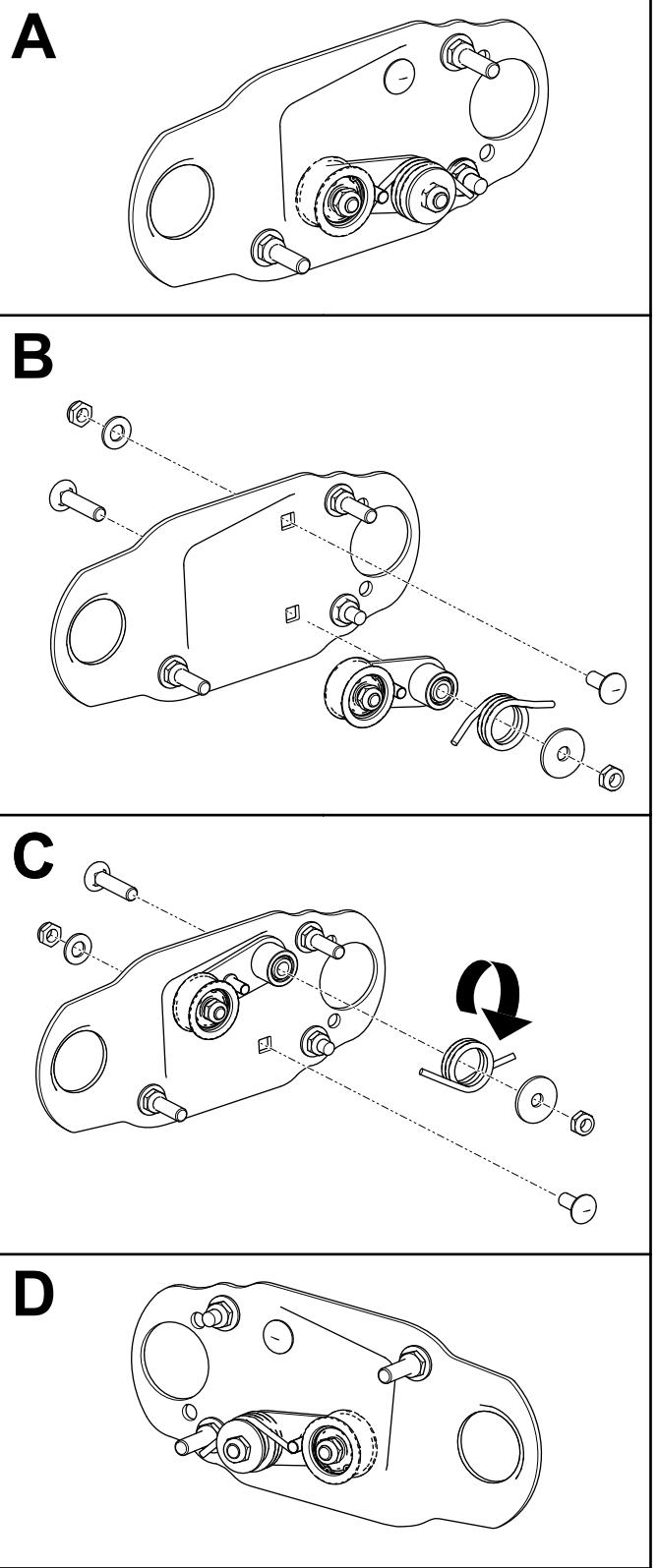
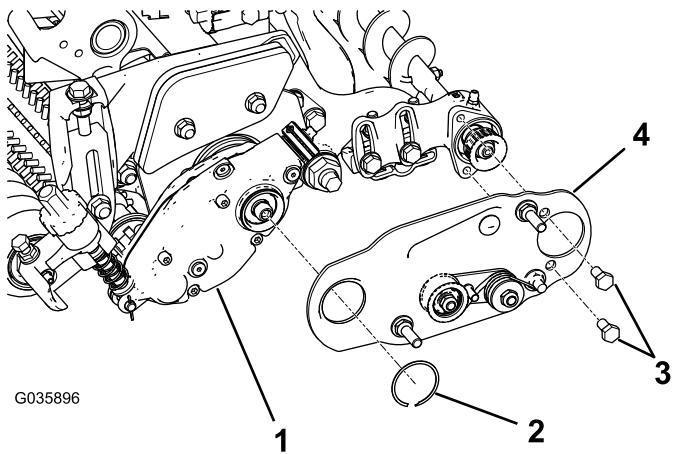


Figure 10

4. Align the roller-brush pivot plate as shown in Figure 9.

5. 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 9).

Note: Torque the bolts to 20 to 26 N·m (15 to 19 ft-lb).

6. Secure the brush plate to the roller-brush housing with the retaining ring (Figure 9).
7. 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 11).
 - B. Rotate the roller-brush-bearing housing until the brush plate is parallel to the cutting-unit side plate (Figure 11).
 - C. Tighten the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 11).

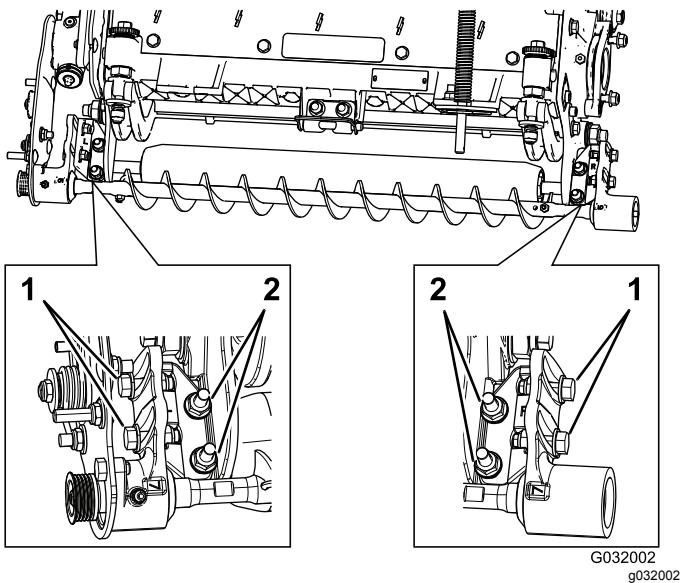


Figure 11

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

Positioning the Roller Brush

1. Loosen the 2 bolts securing each roller-brush-bearing housing to the roller-brush mounting bracket (Figure 11).

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 12).

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

Important: Heavy brush contact on the roller causes premature brush wear.

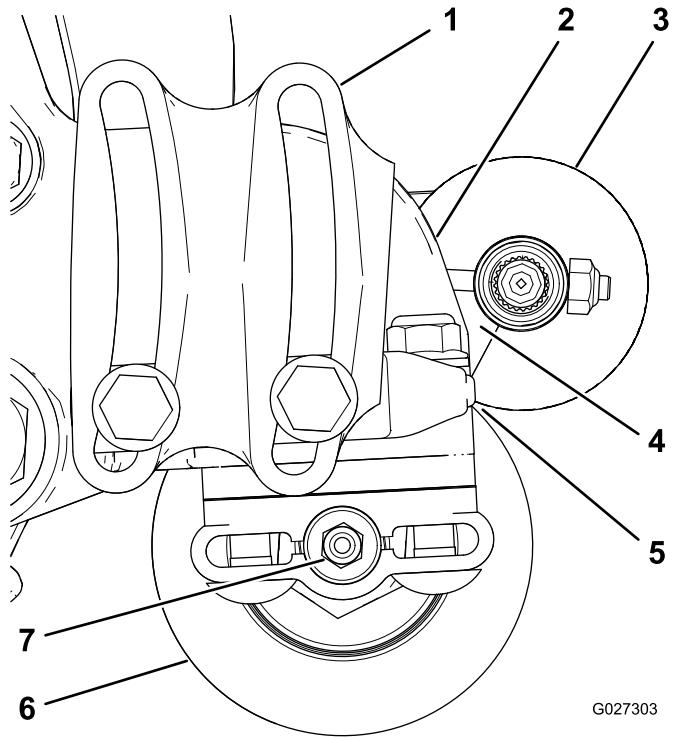


Figure 12

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

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 and the Belt

1. Restrain the reel for installation; [Restraining the Reel for Installing Threaded Inserts \(page 12\)](#).
2. Install the drive pulley onto the groomer shaft ([Figure 13](#)).

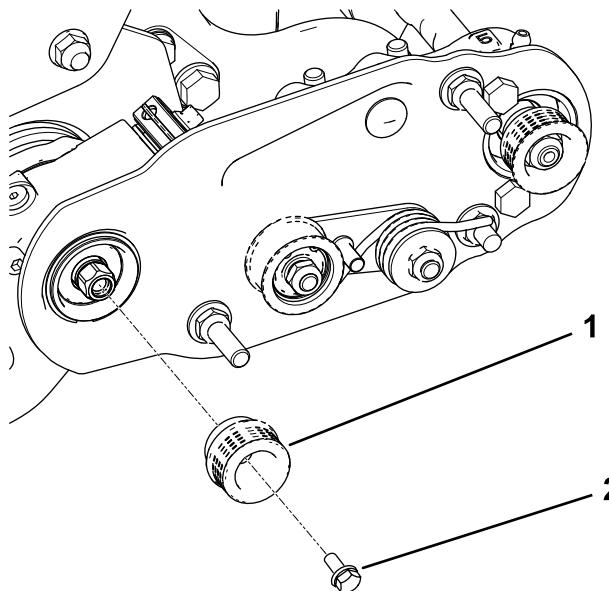


Figure 13

1. Drive pulley
2. Flange-head bolt—torque to 20 to 26 N·m (15 to 19 ft-lb)

3. Apply 242 Loctite (blue) to the flange-head bolt and use the bolt to secure the pulley to the driveshaft; refer to [Figure 13](#).

Note: Torque the bolt to 20 to 26 N·m (15 to 19 ft-lb).

Important: If you do not properly torque the bolt, the bolt will come loose.

4. 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 14](#)).

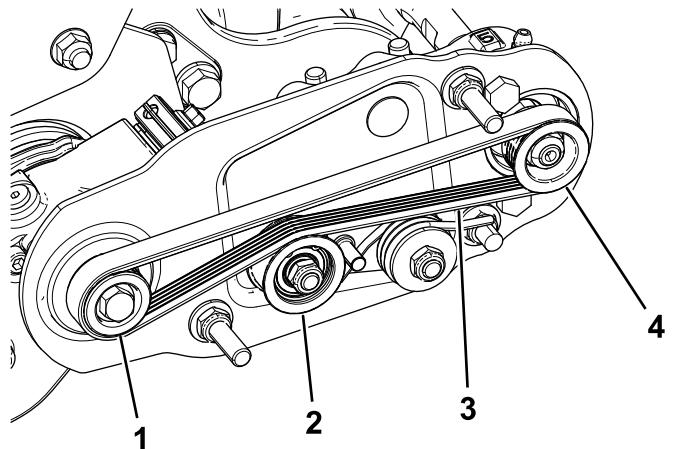


Figure 14

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

- Start the belt on the **driven** pulley ([Figure 15](#)).
- Use a 9/16-inch deep-well socket to rotate the brush assembly and guide the belt onto the driven pulley ([Figure 15](#)).

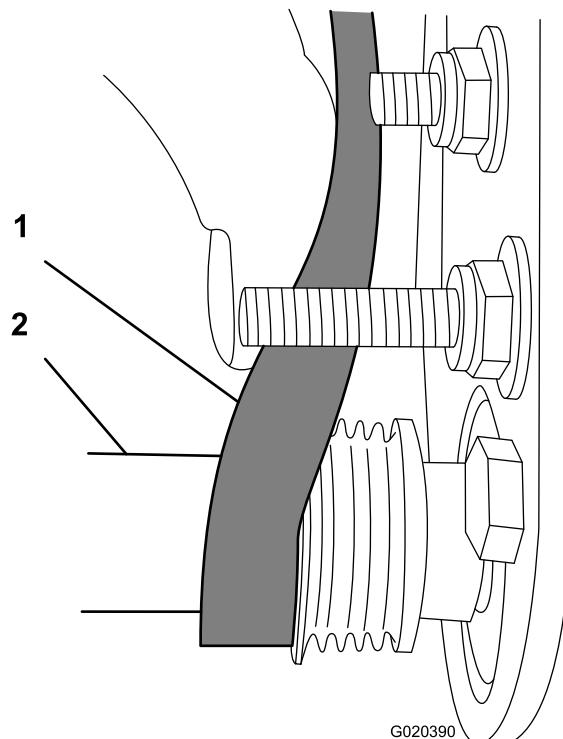


Figure 15

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

Important: Ensure 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.

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

Completing the Installation

- Check the alignment of the belt and pulleys; refer to [Checking the Pulley Alignment \(page 10\)](#).
- 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.

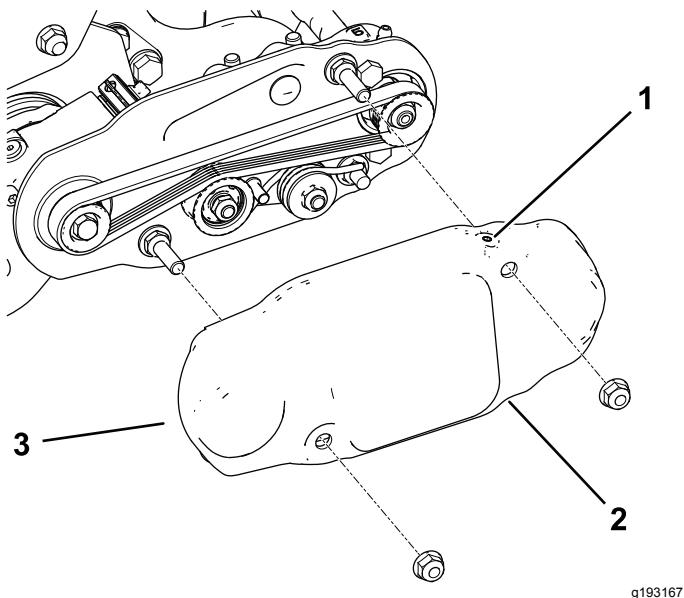


Figure 16

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

- Remove the bottom setscrew for drainage.

Important: Ensure that the top setscrew is installed.

- 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.

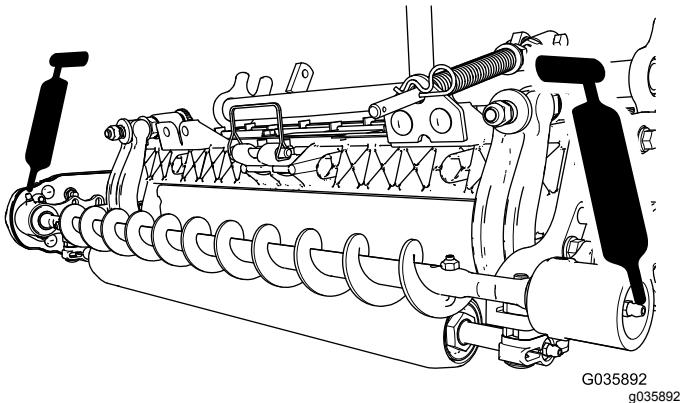


Figure 17

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).

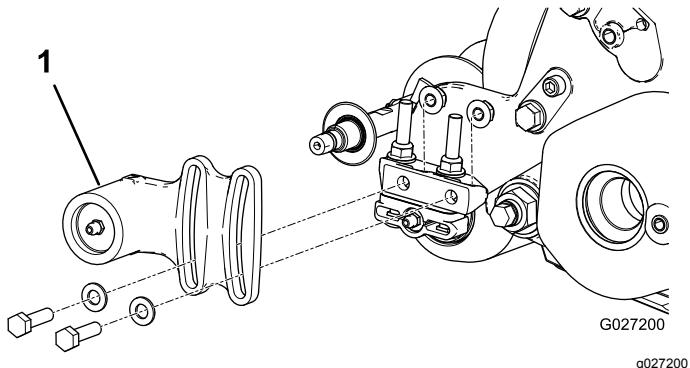


Figure 18

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

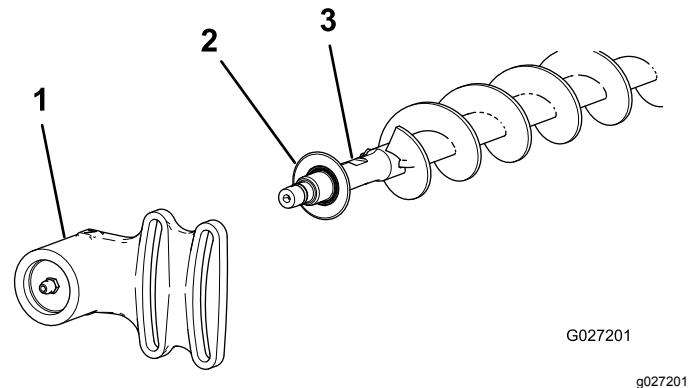


Figure 19

1. Non-drive-bearing housing
2. Excluder seal
3. 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).

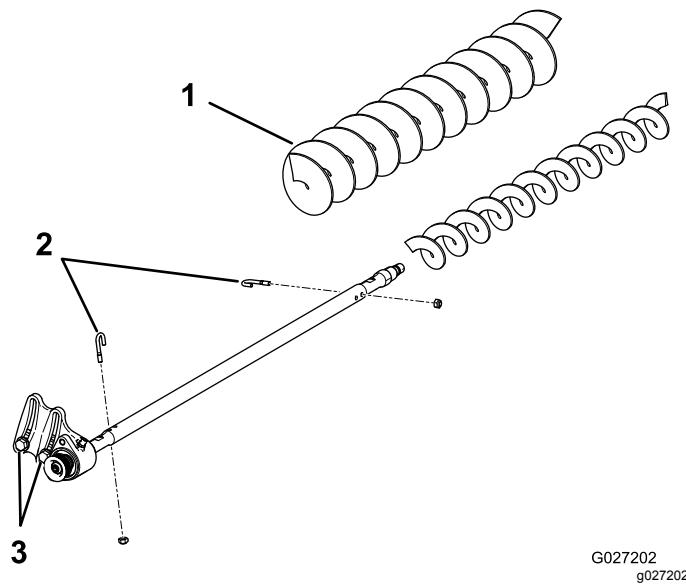


Figure 20

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

- Ensure 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 20 to 26 N·m (15 to 19 ft-lb).

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

Checking the Pulley Alignment

Important: Ensure that the belt is properly tensioned prior to checking the alignment.

1. Lay a straightedge along the outer face of the drive pulley (Figure 21).

Important: Only lay the straightedge across the drive pulley, do not lay it across the drive and the driven pulley.

2. Ensure that the outer faces of the drive pulley and the driven pulley are in line within 0.76 mm (0.030 inch).

Important: Do not use the idler pulley to check the alignment.

3. If the pulleys are not aligned, refer to [Adjusting the Pulley Alignment \(page 10\)](#).

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

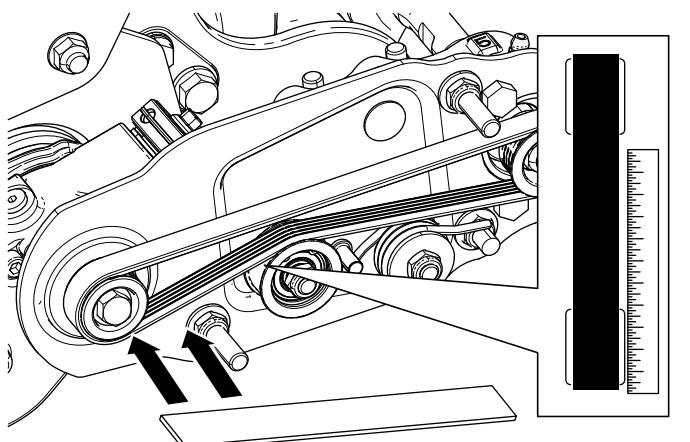


Figure 21

Adjusting the Pulley Alignment

1. The driven pulley (at the roller-brush shaft) can move in or out (Figure 22).

Note: Make note of which way the pulley needs to move when checking the belt alignment; refer to [Checking the Pulley Alignment \(page 10\)](#).

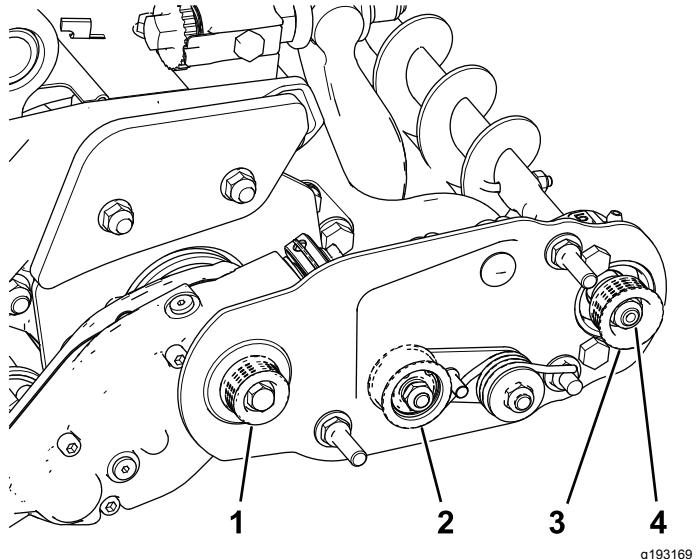


Figure 22

| | |
|-----------------|----------------------|
| 1. Drive pulley | 3. Driven pulley |
| 2. Idler pulley | 4. Driven-pulley nut |

2. While rotating the reel, which rotates the drive pulley, pry the belt off the drive pulley (Figure 22).

Important: 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 22 or Figure 23).

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 23).

5. If the pulley needs to move out, add a 0.8 mm (0.032 inch) thick washer (Figure 23).

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

6. Install the pulley as shown in Figure 23.

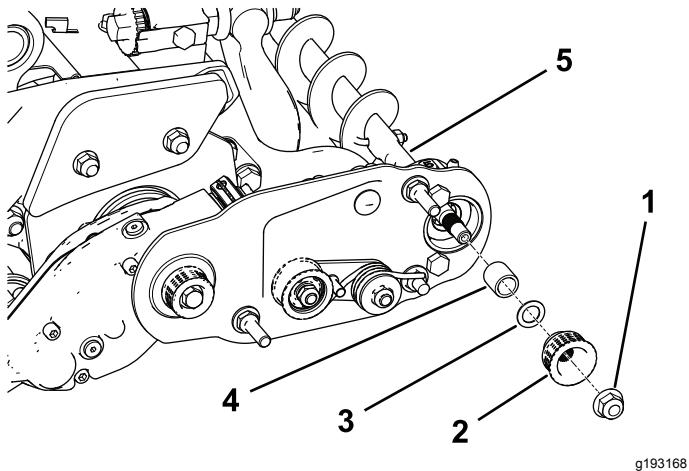


Figure 23

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

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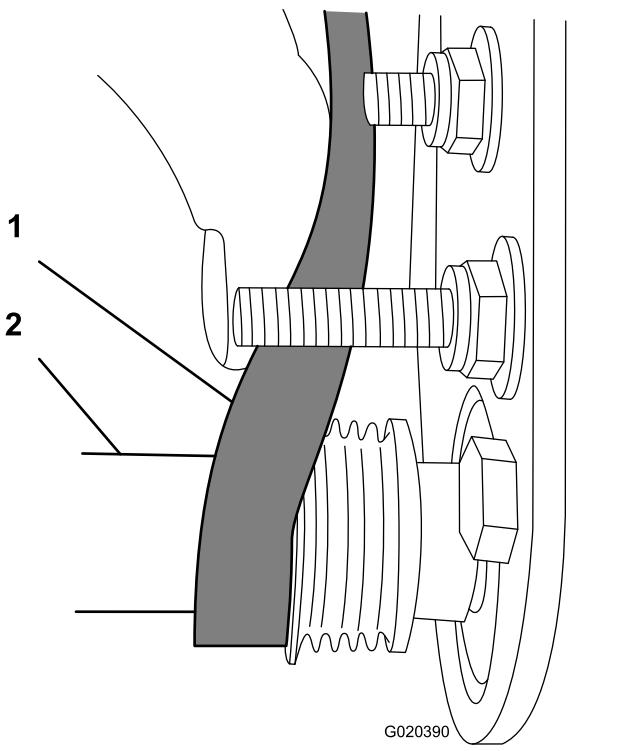


Figure 25

g020390

G020390

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

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:

- Loop the belt around the drive pulley and then over the top of the idler pulley (Figure 24).

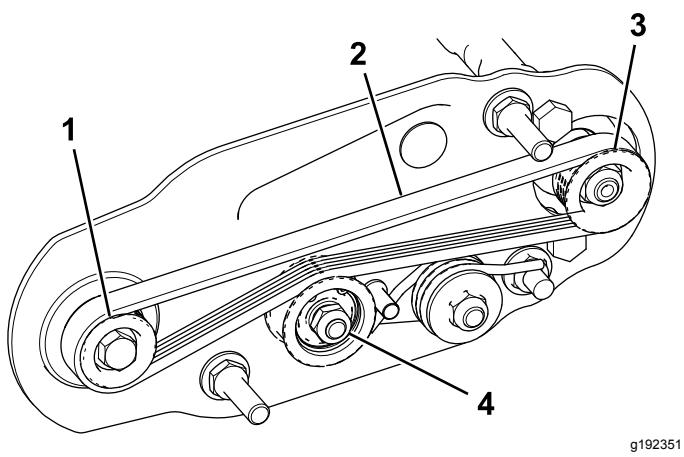


Figure 24

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

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B. Start the belt on the driven pulley (Figure 24).

C. Use a 9/16-inch deep-well socket to rotate the brush assembly and guide the belt onto the driven pulley (Figure 25).

Important: Ensure 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.

Restraining the Reel

⚠ WARNING

The cutting reel blades are sharp and capable of amputating hands and feet.

- Keep your hands and feet outside of the reel.
- Ensure that the reel is restrained before servicing it.

Restraining the Reel for Removing Threaded Inserts

- Loosen the shield-bolt on the left side of the cutting unit and raise the rear shield (Figure 26).
- Insert a long-handled pry bar (recommended 3/8" x 12" with screwdriver handle) through the

back of the cutting reel, closest to the side of the cutting unit that you will be torquing (Figure 26).

3. Place the pry bar against the weld side of the reel support plate (Figure 26).

Note: Insert the pry bar between the top of the reel shaft and the backs of 2 reel blades so that the reel will not move.

Important: Do not contact the cutting edge of any blades with the pry bar; this may damage the cutting edge and/or cause a high blade.

Important: The insert on the left side of the cutting unit has left-hand threads. The insert on the right side of the cutting unit has right-hand threads.

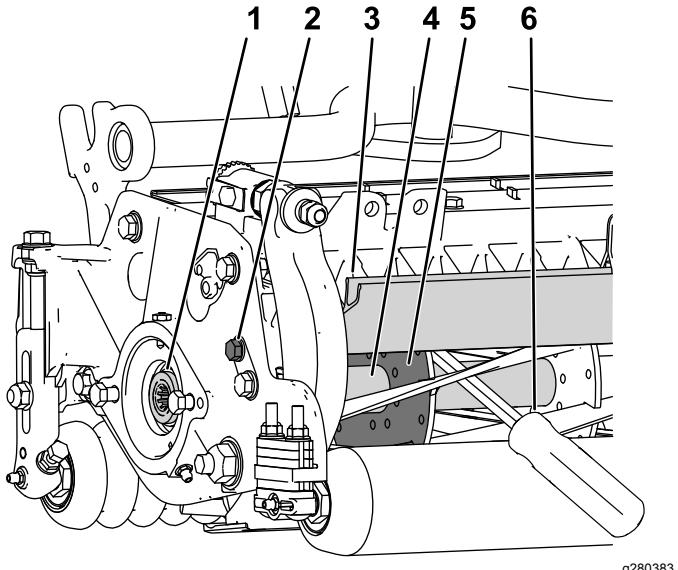


Figure 26

1. Threaded insert for removal
2. Loosen the shield bolt.
3. Rear shield
4. Reel shaft
5. Reel support plate
6. Pry bar inserted along the weld side of the reel support plate.

4. Rest the handle of the pry bar against the rear roller.
5. Complete the removal of the threaded insert while ensuring that the pry bar stays in place, then remove the pry bar.
6. Lower the rear shield and tighten the shield-bolt.

Restraining the Reel for Installing Threaded Inserts

1. Insert a long-handled pry bar (recommended 3/8" x 12" with screwdriver handle) through the front of the cutting reel, closest to the side of the cutting unit that you will be torquing (Figure 27).
2. Place the pry bar against the weld side of the internal cutting reel reinforcement (Figure 27).

Note: The pry bar should contact a blade at the front, the reel shaft, and a blade at the back of the back of the reel, locking it in place.

Important: Do not contact the cutting edge of any blades with the pry bar; this may damage the cutting edge and/or cause a high blade.

Important: The insert on the left side of the cutting unit has left-hand threads. The insert on the right side of the cutting unit has right-hand threads.

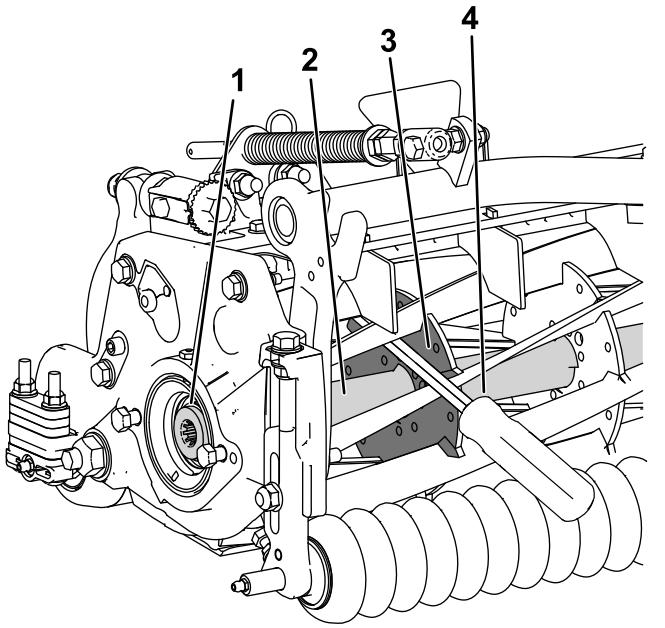


Figure 27

1. Threaded insert for installation
2. Reel shaft
3. Weld side of support plate
4. Pry bar

3. Rest the handle of the pry bar against the roller
4. Per the insert's installation instructions and torque requirements, complete the installation of the threaded insert while ensuring that the pry bar stays in place, then remove the pry bar.

Notes:

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 |
|-----------|------------|---|---|---------------------|------------|
| 133-0153 | — | Rear Roller Brush MVP Kit, Reelmaster 3555, 5010, and 5010-H Series 22-inch Cutting Unit with 5-inch Reel and Universal Groomer | RM5010/RM3555 5" 22" RRB(UNIVSL)MVP KIT | Roller Brush Kit | 2006/42/EC |
| 133-0154 | — | Rear Roller Brush MVP Kit, Reelmaster 3575 or 5010-H Series 22-inch Cutting Unit with 7-inch Reel and Universal Groomer | RM5010/RM3575 7" 22" RRB(UNIVSL)MVP KIT | 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:



John Heckel
Sr. Engineering Manager
8111 Lyndale Ave. South
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February 14, 2019

Authorized Representative:

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Count on it.