



Rear Roller Brush MVP Kit

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

Model No. 133-0157

Model No. 133-0158

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.

Installation

Loose Parts

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

Description	Qty.	Use
No parts required	–	Determine the roller brush orientation.
Roller-brush housing	1	Install the roller brush.
Hex-socket bolt (3/8 x 1 inch)	2	
Grease fitting (90°)	1	
Shoulder bolt (flange hex socket)	1	
Roller-brush assembly	1	
Shoulder bolt	1	
Belt cover/plate assembly	1	
Bolt (5/16 x 1/2 inch)	4	
Spacer	1	
Drive pulley	1	
Flange-head bolt (3/8 x 2 inches)	1	
Belt	1	
Shim washer (as required for belt alignment)	1	
Driveshaft (right-hand threads)	1	
Driveshaft (left-hand threads)	1	
High height-of-cut brush (optional)	–	Install the high height-of-cut brush—for HOC greater than 2.5 cm (1 inch).

Important: For a 5-inch cutting unit drive by an electric reel motor, you must order 1 weight (Part No. 127-4259-03) and 2 bolts (Part No. 322-7).

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 [Installing the High Height-of-Cut Brush \(page 8\)](#).



Determining the Roller Brush Orientation

Refer to [Figure 1](#) to determine the position of the roller brush and reel motors.

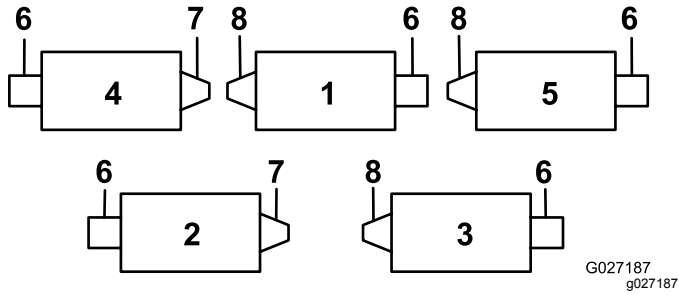


Figure 1

- | | |
|-------------------|--------------------------------------|
| 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 |

Important: These instructions and illustrations show the installation of the kit on cutting units with the rear roller brush mounted on the left end of the cutting unit.

Installing the Roller Brush

Installing the Driveshaft

1. Restrain the reel for removal; refer to [Restraining the Reel for Removing Threaded Inserts](#) (page 11).
2. Remove and discard the cutting-unit threaded insert for the rear-roller-brush drive ([Figure 2](#)).

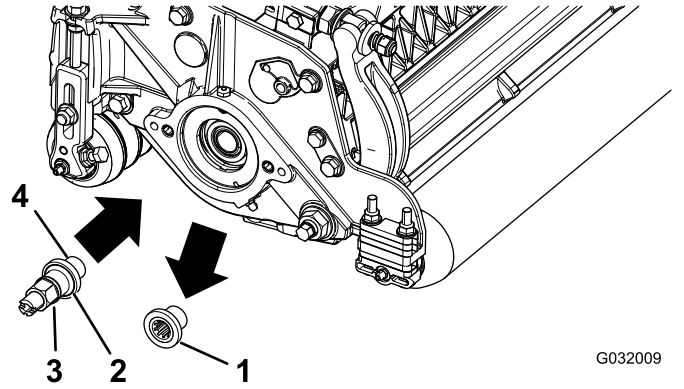


Figure 2

- | | |
|--|--|
| 1. Threaded insert (insert with left-hand threads shown) | 3. Driveshaft |
| 2. A groove on the face of the insert or driveshaft indicates left-hand threads. | 4. Apply thread-locking compound here. |

Note: Cutting units 1, 3, and 5 use inserts and driveshafts with left-hand threads ([Figure 1](#)).

3. Restrain the reel for installation; refer to [Restraining the Reel for Installing Threaded Inserts](#) (page 12).
4. Apply thread-locking compound to the driveshaft threads ([Figure 2](#)) and install either the left or right driveshaft, torquing it to 115 to 128 N·m (85 to 95 ft-lb).

Note: Discard the other (unused) driveshaft included in the kit.

Mounting the Roller-Brush Housing

1. Lightly grease the O-ring and ensure that the O-ring is installed on the roller-brush housing ([Figure 3](#)).

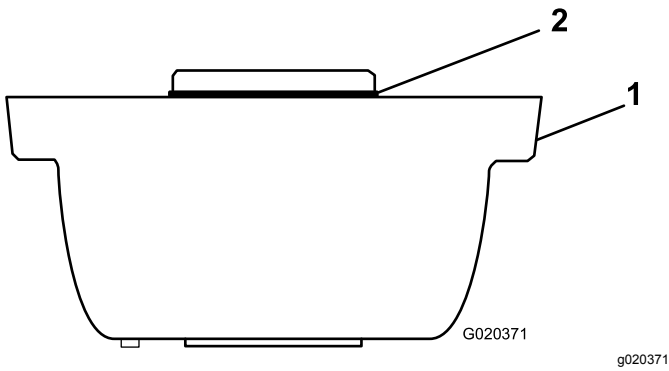


Figure 3

1. Roller-brush housing 2. O-ring

2. **For Model 133-0158 kit for Reelmaster 5010 machines with 7-inch cutting units only:** Mount the roller-brush housing to the reel-bearing housing with 2 hex-socket bolts (3/8 x 1 inch); refer to [Figure 4](#).

Note: Position the roller-brush housing so that the threaded hole is toward the front of the cutting unit.

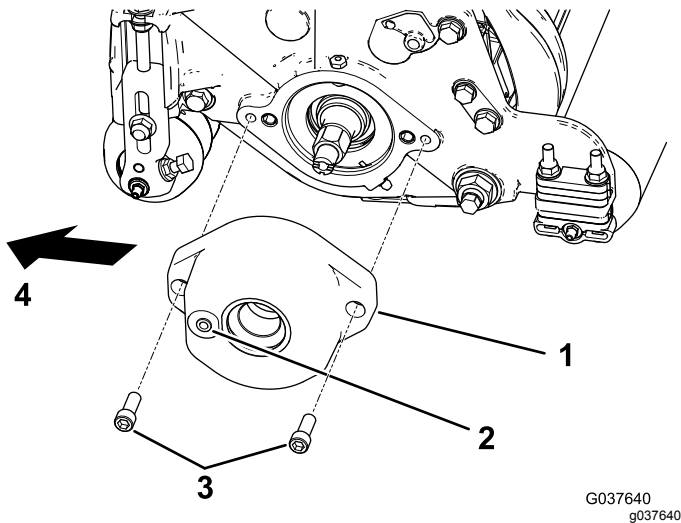


Figure 4

1. Roller-brush housing 3. Hex-socket bolt
2. Threaded hole 4. Front of the machine

3. **For Model 133-0157 kit for Reelmaster 5010 machines with 5-inch cutting units only:**

- **For a hydraulic-driver reel motor:** Install 2 bolts (5/16 x 1/2 inch) on the top of the roller brush housing as shown in [Figure 5](#) (hydraulic 5-inch reel motors only).

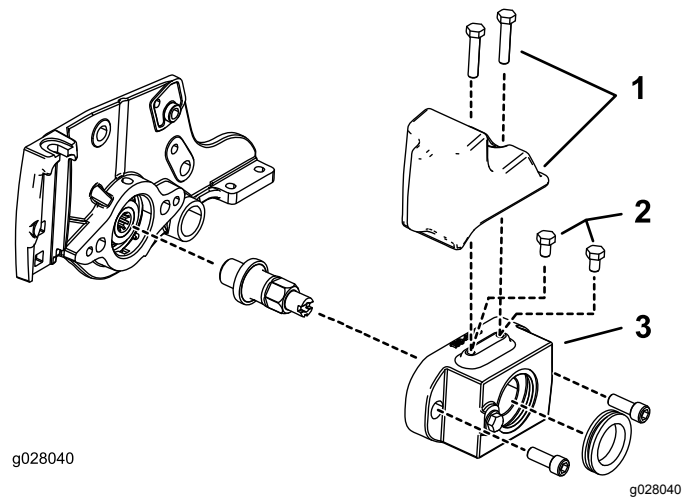


Figure 5

1. Order 1 weight (Part No. 127-4259-03) and 2 bolts (Part No. 322-7) for the electric reel motor.
2. Bolts (5/16 x 1/2 inch) for the hydraulic reel motor
3. Roller-brush housing

- **For an electric-driven reel motor:** Order and install 1 weight (Part No. 127-4259-03) and 2 bolts (Part No. 322-7) as shown in [Figure 5](#).

Note: The 2 bolts (5/16 x 1/2 inch) from the kit are not used.

Note: For the Reelmaster 5010-H machine with a 5-inch or 7-inch cutting unit with an electric-driven reel motor: On the reel motor side plate, replace the front side plate shoulder bolt with a flange hex socket shoulder bolt as shown in [Figure 6](#).

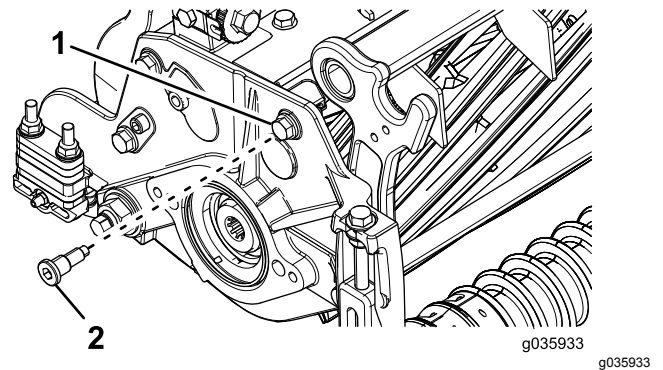


Figure 6

Reel Motor Side of Cutting Unit

1. Front side plate shoulder bolt (remove and discard) 2. Flange hex socket shoulder bolt (new)

Installing the Roller Brush Assembly

1. Remove the grease fitting for the roller from the side of the cutting unit that has the roller-brush housing (Figure 7).

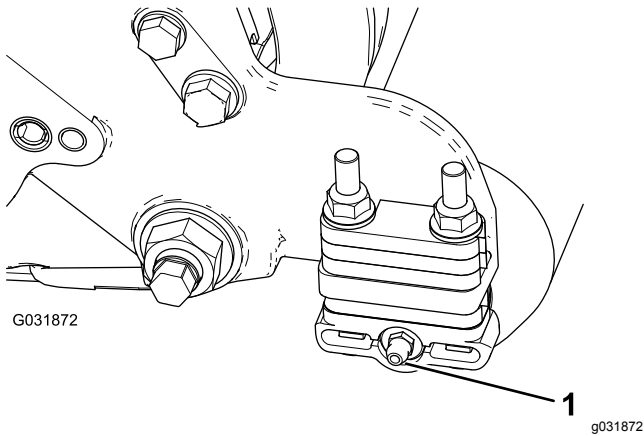


Figure 7

1. Grease fitting

2. Install the 90° grease fitting so that it faces rearward (Figure 8).

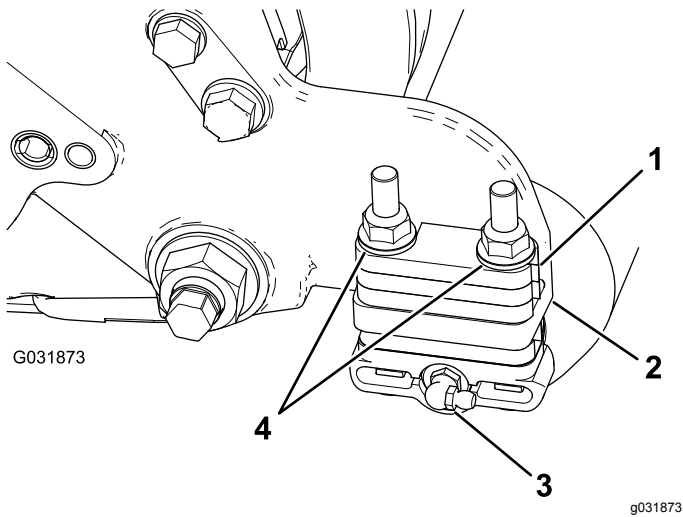


Figure 8

1. Spacer
2. Side-plate mounting flange
3. Grease fitting (90°)
4. Flange locknuts and washers (remove them)

3. Remove the 2 flange locknuts and washers securing each roller bracket to the side plates (Figure 8).

Note: Do not remove the bolts. Also, remove any spacers positioned on the top side of the side-plate mounting flange.

4. Position the left or right roller-brush assembly mounting brackets onto the roller-bracket bolts (Figure 9).

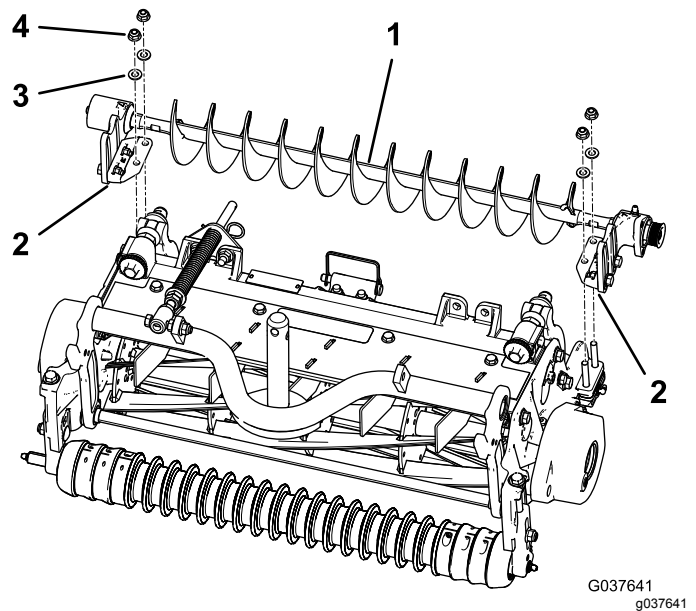


Figure 9

1. Left roller-brush assembly
2. Roller-brush mounting bracket
3. Washer (4)
4. Flange locknut (4)

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 spacers for potential later use.

5. Secure the brush-assembly mounting brackets to the cutting-unit side plates with the nuts and washers that you previously removed.

Installing the Roller Brush Plate

- Slide each excluder seal outward until the lip seals are in light contact with each bearing housing (Figure 10).

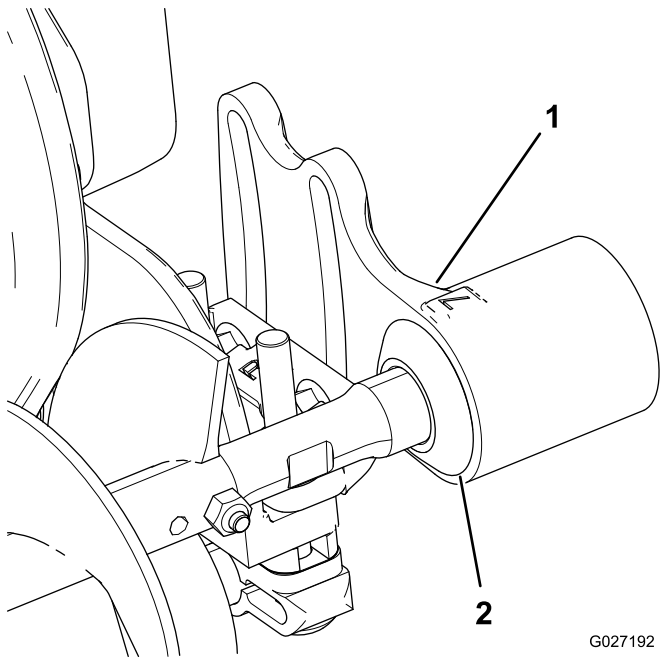


Figure 10

- Bearing housing
- Excluder seal

- Apply a coating of grease to the inner diameter of the grommet in the roller-brush housing (Figure 11).

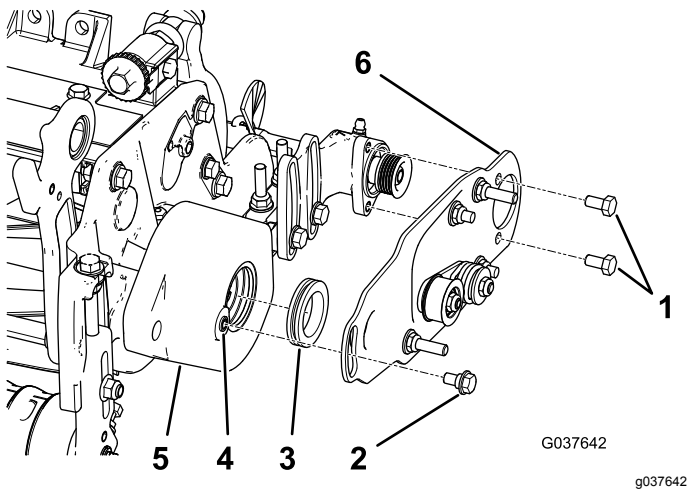


Figure 11

- Bolt (5/16 x 1/2 inch)
- Shoulder bolt
- Grommet
- Clean out any paint from the threads using a 5/16–18 tap before screwing in the shoulder bolt.
- Roller-brush housing
- Brush-plate assembly

- Install the left or right roller-brush plate (Figure 11).

Note: When you insert the protrusion on the plate into the grommet in the roller-brush housing, ensure that the grommet stays properly seated in the housing. The roller-brush 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 12.

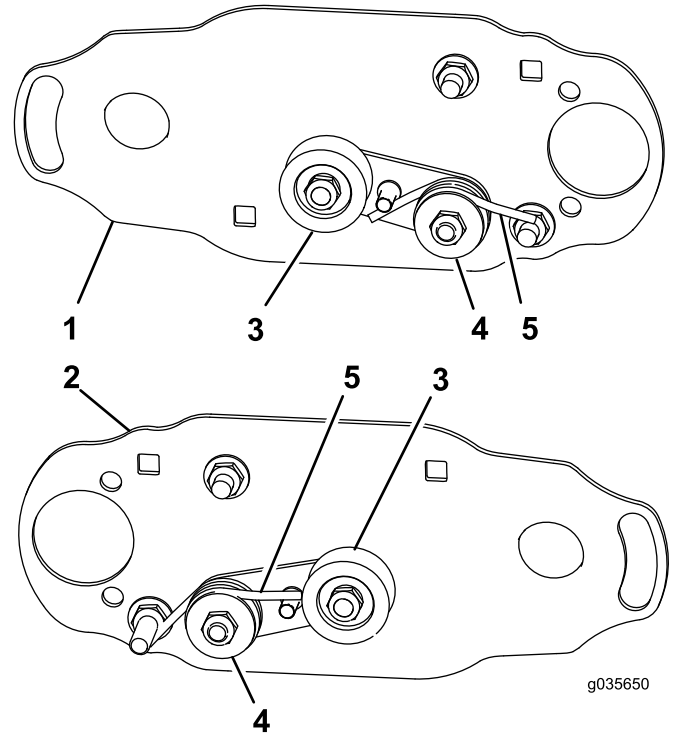


Figure 12

Left (top) and Right (bottom) Idler-Pulley Assemblies

- Left brush plate
- Right brush plate
- Idler pulley
- Idler-arm assembly
- Spring

- Apply thread-locking compound 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 11).

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

- 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 11).

Important: If the threads are not cleaned before the shoulder bolt is screwed in, the bolt could break.

- Apply thread-locking compound to the shoulder bolt (Figure 11).

- Secure the brush plate to the roller-brush housing with the shoulder bolt (Figure 11).

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.

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

- Loosen the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 13).

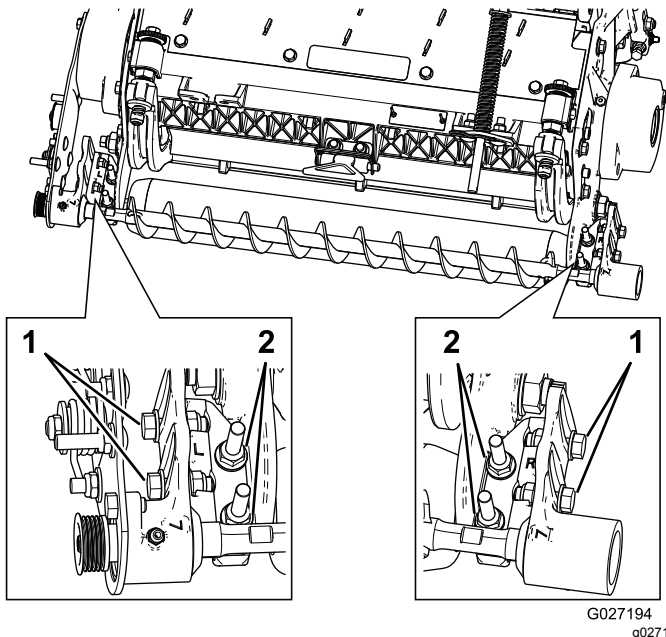


Figure 13

- Loosen these bolts for positioning the roller brush.
- Loosen these flange locknuts for making the roller-brush plate parallel.

- Rotate the roller-brush bearing housing until the brush plate is parallel to the cutting-unit side plate (Figure 13).

- Tighten the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 13).

Positioning the Roller Brush

- Loosen the 2 bolts securing each roller-brush bearing housing to the roller-brush mounting bracket (Figure 13).

Note: The bolts should be loose.

- Position the roller brush so that it is just touching or resting on the rear roller (Figure 14).

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.

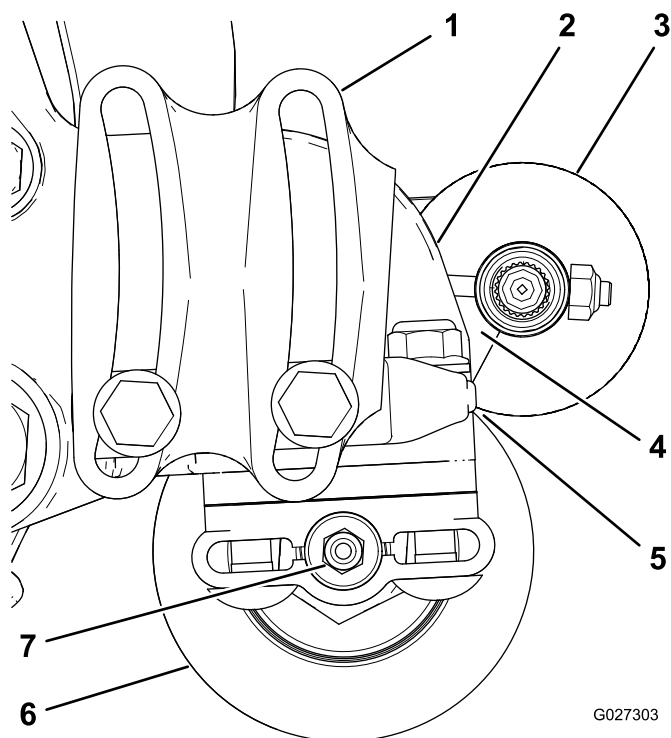


Figure 14

- | | |
|---|-------------------|
| 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.

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

Installing the Drive Pulley

1. Insert the spacer onto the shaft in the bearing housing (Figure 15).

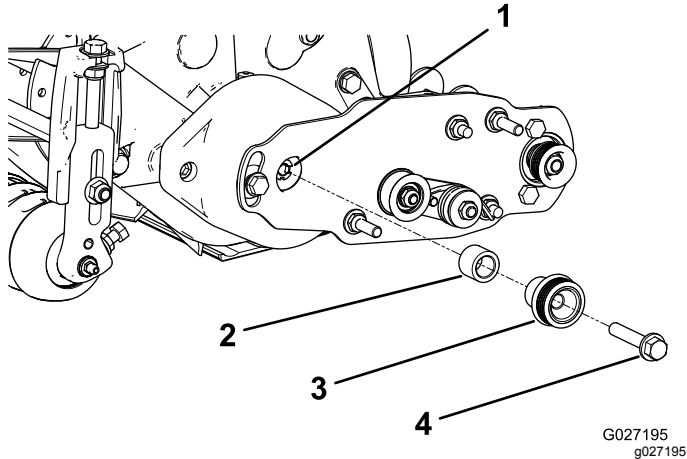


Figure 15

- | | |
|---------------|---|
| 1. Driveshaft | 3. Drive pulley |
| 2. Spacer | 4. Flange-head bolt (3/8 x 2 inches)—torque it to 47 to 54 N·m (35 to 40 ft-lb) |

2. Insert the drive pulley into the spacer and onto the driveshaft (Figure 15).

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

3. Secure the pulley and spacer to the driveshaft with a flange-head bolt (3/8 x 2 inches); refer to Figure 15.

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 16).

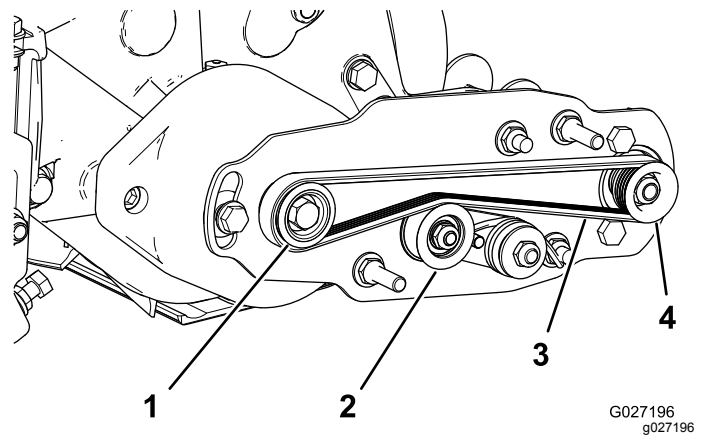


Figure 16

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

- Start the belt on the **driven** pulley (Figure 17).
- Use a deep-well socket (9/16 inch) to rotate the brush assembly and guide the belt onto the driven pulley (Figure 17).

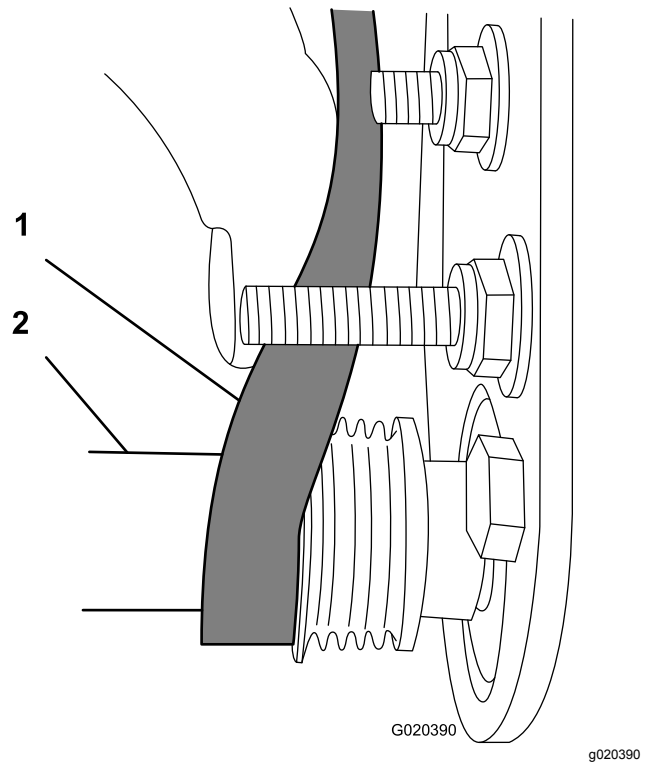


Figure 17

- | | |
|---------|---------------------------------|
| 1. Belt | 2. Deep-well socket (9/16 inch) |
|---------|---------------------------------|

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.

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 and pulleys; refer to [Checking the Pulley Alignment \(page 9\)](#).
2. Slide the belt cover onto the mounting bolts and secure the cover with 2 flange nuts ([Figure 18](#)).

Important: Do not overtighten the nuts to prevent damaging the cover.

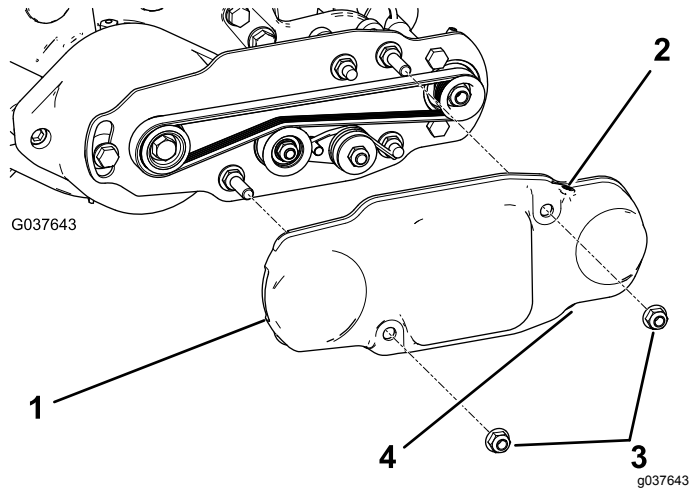


Figure 18

- | | |
|-----------------------|---------------------|
| 1. Belt cover | 3. Flange nuts |
| 2. Setscrew installed | 4. Setscrew removed |

3. Ensure that the top setscrew is installed; remove and discard the bottom setscrew for drainage ([Figure 18](#)).
4. Lubricate the grease fittings on each of the roller-brush bearing housings with No. 2 lithium grease ([Figure 19](#)). Wipe off any excess grease, especially around the excluder seals.

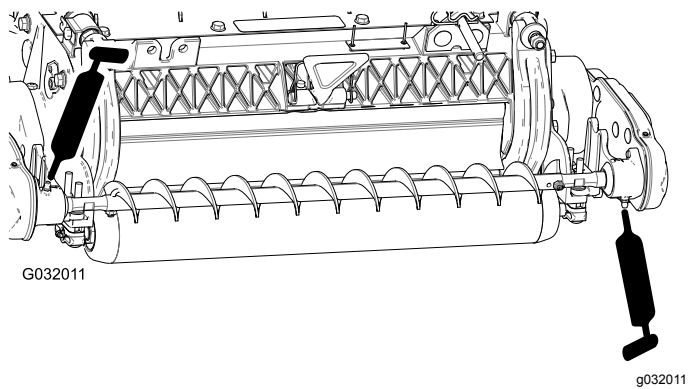


Figure 19

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 20](#) and [Figure 21](#)).

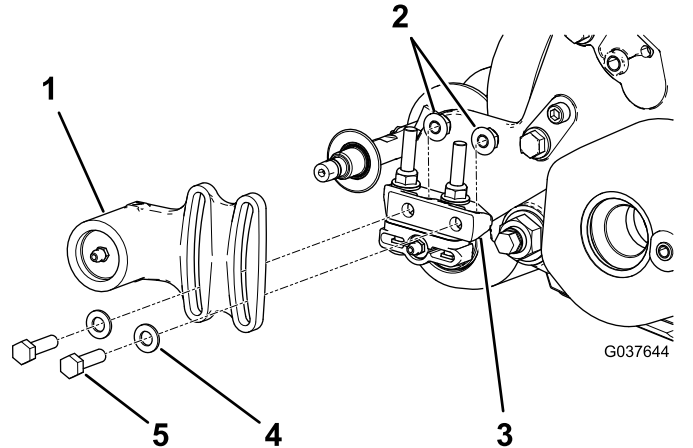


Figure 20

- | | |
|------------------------------|---------------|
| 1. Non-drive bearing housing | 4. Washer (2) |
| 2. Flange nuts | 5. Bolt (2) |
| 3. Mounting bracket | |

2. Slide the non-drive bearing housing and the excluder seal off the brush shaft ([Figure 21](#)).

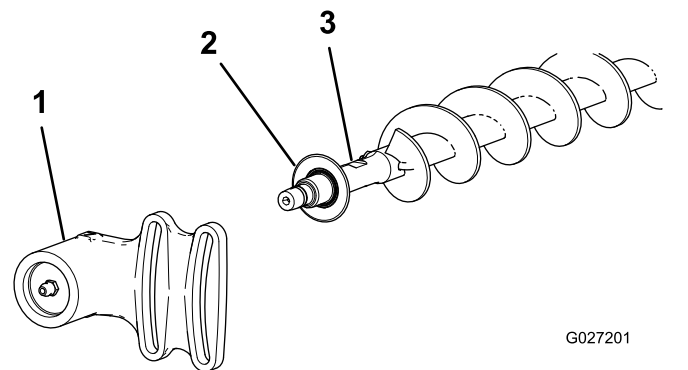


Figure 21

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

3. Remove the 2 J-bolts and the nuts ([Figure 22](#)).
4. Slide the existing brush off the brush shaft ([Figure 22](#)).

5. Loosen the 2 bolts, washers, and nuts securing the drive-bearing housing to the bearing-housing mounting bracket (Figure 22).
6. Slide the high height-of-cut brush onto the brush shaft (Figure 22).
7. Clamp the brush onto the shaft with the 2 J-bolts and nuts previously removed (Figure 22).

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).

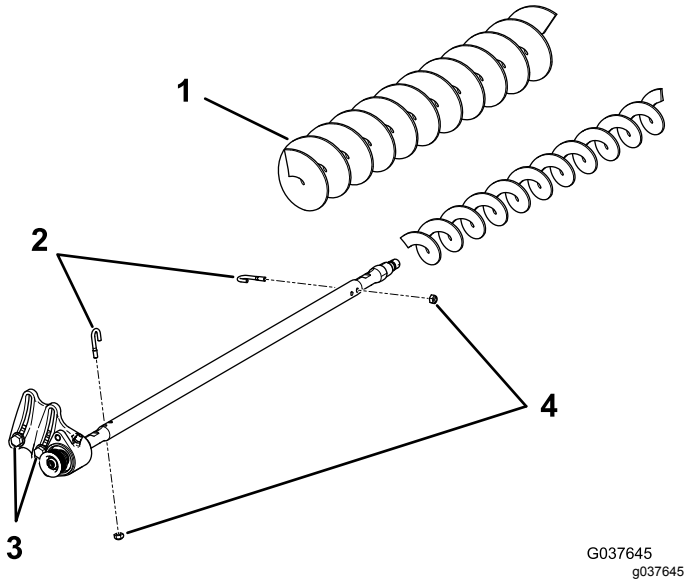


Figure 22

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- | | |
|-----------------------------|------------------------|
| 1. High height-of-cut brush | 3. Loosen these bolts. |
| 2. J-bolts | 4. Nuts |

9. Install the excluder seal and the non-drive bearing housing onto the brush shaft (Figure 21).
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 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

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 23).

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.

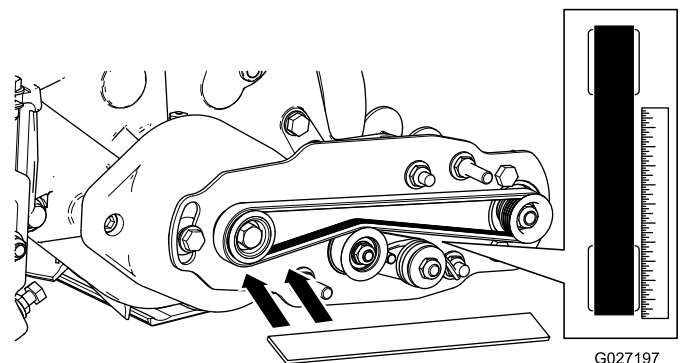


Figure 23

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Adjusting the Pulley Alignment

1. The driven pulley (at the roller-brush shaft) can move in or out (Figure 24).

Note: Make note of which way the pulley needs to move when checking the belt alignment; refer to [Checking the Pulley Alignment](#) (page 9).

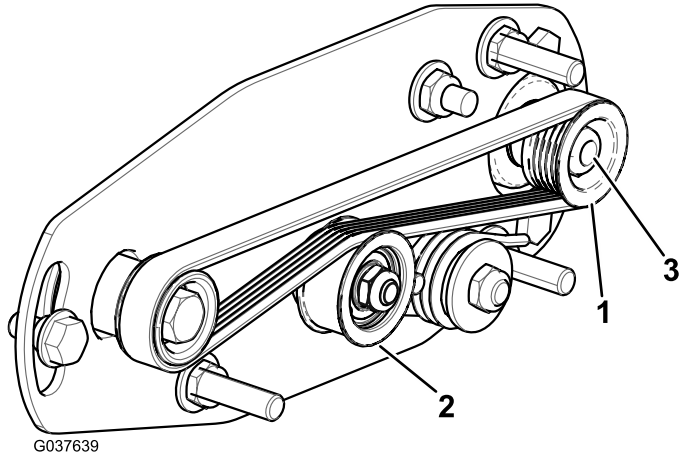


Figure 24

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

2. While rotating the reel, which rotates the drive pulley, pry the belt off the drive pulley (Figure 24).

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 24 or Figure 25).

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 25).

5. If the pulley needs to move out, add a 0.8 mm (0.032 inch) thick washer (Figure 25).

Important: 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 25.

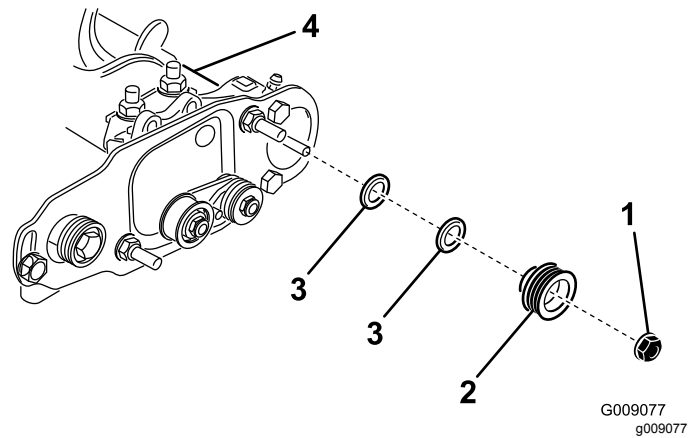


Figure 25

- | | |
|------------------|-------------------------------------|
| 1. Locknut | 3. Washer—0.8 mm (0.032 inch) thick |
| 2. Driven pulley | 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 26).

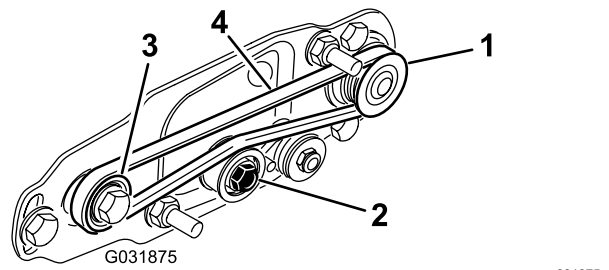
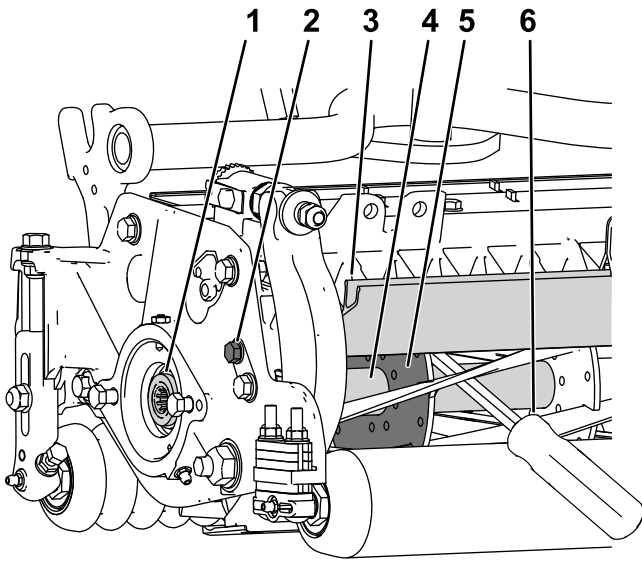


Figure 26

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

- B. Start the belt on the driven pulley (Figure 26).
- C. Use a 9/16-inch deep-well socket to rotate the brush assembly and guide the belt onto the driven pulley (Figure 27).



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Figure 28

- | | |
|--------------------------------|--|
| 1. Threaded insert for removal | 4. Reel shaft |
| 2. Loosen the shield bolt. | 5. Reel support plate |
| 3. Rear shield | 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.

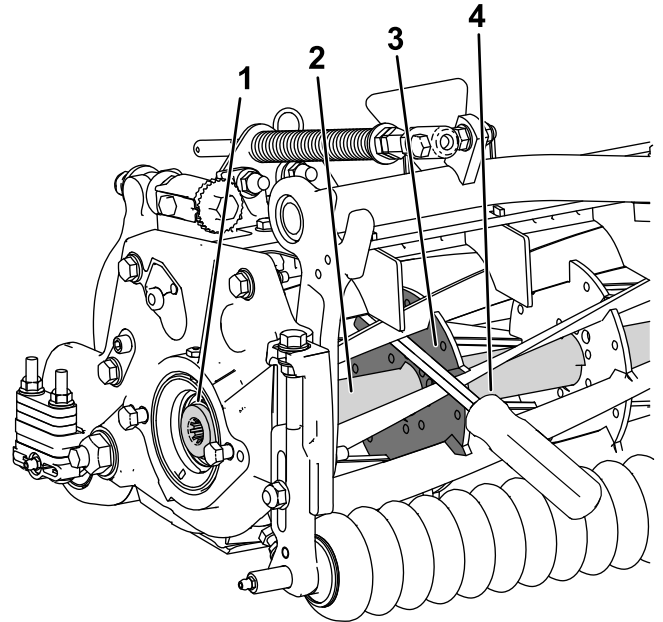
Restraining the Reel for Installing Threaded Inserts

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 29).
2. Place the pry bar against the weld side of the internal cutting reel reinforcement (Figure 29).

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.



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Figure 29

- | | |
|-------------------------------------|-------------------------------|
| 1. Threaded insert for installation | 3. Weld side of support plate |
| 2. Reel shaft | 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:

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
133-0157	—	Rear Roller Brush MVP Kit, Reelmaster 5010-H Series Cutting Unit with 5in Reel	RM5010/3550 5" X 22" RRB MVP KIT	Roller Brush Kit	2006/42/EC
133-0158	—	Rear Roller Brush MVP Kit, Reelmaster 5010-H Series Cutting Unit with 7in Reel	RM5010/3575 7" X 22" RRB 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
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