Form No. 3431-273 Rev A

Rear Roller Brush Kit

Reelmaster® 5210 or 5410 Series Cutting Unit with 5in Reel; 5510, 5610, 6500-D, or 6700-D Cutting Unit with 7in Reel; and 3100-D or 7000-D Series DPA Cutting Unit

Model No. 137-5991

Model No. 137-5992

Model No. 137-5993

Model No. 137-5994

Installation Instructions

Introduction

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

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Installation

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Gather the appropriate tools.
2	No parts required	–	Determine the position of the roller brushes and reel motors.
3	No parts required	–	Adjust the position of the idler pulley assembly.
4	No parts required	–	Remove the brush cover drain plug.

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CE

Original Instructions (EN)
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Procedure	Description	Qty.	Use
5	Roller-brush housing Allen-head bolt, 3/8 x 1 inch Roller-brush assembly Shoulder bolt Belt cover/plate assembly Bolt, 5/16 x 5/8 inch Spacer Drive pulley Flange-head bolt, 3/8 x 2 inches Belt Shim washer (as required)	1 2 1 1 1 2 1 1 1 1 1	Install the roller brush.
6	High height of cut brush (optional) HD brush (optional)	– –	Install the high height-of-cut brush or the HD brush.

Media and Additional Parts

Description	Qty.	Use
Operator's Manual	1	Read before installing and operating.

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

Important: **The Rear Roller Brush Kit is only to be used when cutting in the height of cut range of 6 to 25 mm (1/4 to 1 inch).**

Install the high height-of-cut brush when cutting above 25 mm (1 inch) height of cut (7 maximum spacers installed below the side plate pad).:

- Part 110-1740 for 22-inch cutting units
- Part 115-0838 for 27-inch cutting units
- Part 115-0849 for 32-inch cutting units

Install the HD brush for heavy-duty conditions (worm castings, clay, etc.).:

- Part 137-0842 for 22-inch cutting units
- Part 137-0844 for 27-inch cutting units

Refer to 6 Installing the High Height-of-Cut Brush or HD Brush (Optional) (page 14).

Rear Roller Brush Kit Model 137-5991 may be used on the following:

Reelmaster 5210 and 5410 Cutting Unit Models 03661, 03694, and 03695

Rear Roller Brush Kit Model 137-5992 may be used on the following:

- Reelmaster 5510 and 5610 Cutting Unit Models 03681, 03682, 03693, 03696 and 03697
- Reelmaster 6500 and 6700 Cutting Unit Models 03863, 03864, 03698 and 03699

Rear Roller Brush Kit Model 137-5993 may be used on the following:

- Reelmaster 3100 Cutting Unit Models 03180, 03181, and 03183 with the 27-inch Lift Arm Kit, Model 03172
- Reelmaster 7000 Cutting Unit Models 03710 and 03711

Rear Roller Brush Kit Model 137-5994 may be used on the following:

- Reelmaster 3100 Cutting Unit Model 03182 with the 32-inch Lift Arm Kit, Model 03173
- Reelmaster 7000 Cutting Unit Model 03712

Note: If you are installing a groomer kit and a brush kit on the cutting unit, install the groomer kit first.

1

Gathering the Appropriate Tools

No Parts Required

Procedure

Acquire the following tools before proceeding with the installation:

- 1/2 deep-well socket
- 9/16 socket
- 5/8 socket
- 1/2 wrench
- 9/16 wrench
- 1/8 Allen wrench
- 5/16 Allen wrench
- 3/8-16 tap
- 12-inch straight edge (optional, Toro Part 114-5446)
- Torque wrench (foot-pound)
- Torque wrench (inch-pound)
- Blue 243 Loctite

2

Determining the Orientation of the Roller Brushes

No Parts Required

Procedure

All cutting units are shipped with the counterweight mounted to the left end of the cutting unit. Use the Figure 1 to determine the position of the roller brushes and reel motors for Reelmaster 3100-D or Figure 2 for Reelmaster 5210, 5410, 5510, 5610, 6500-D, 6700-D, and 7000-D.

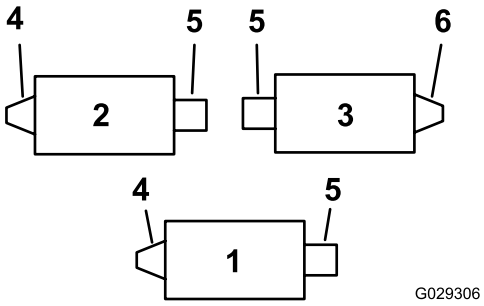


Figure 1

Reelmaster 3100-D

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

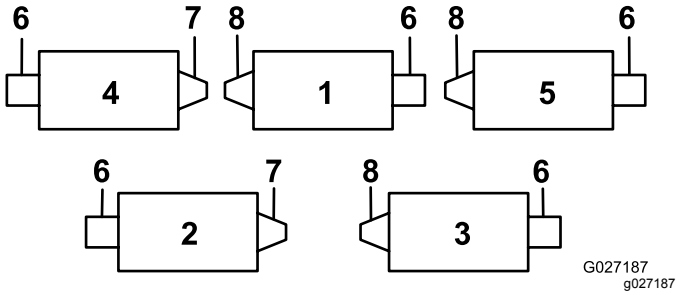


Figure 2

Reelmaster 5210, 5410, 5510, 5610, 6500-D, 6700-D, and 7000-D

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.

3

Adjusting the Position of the Idler Pulley Assembly

No Parts Required

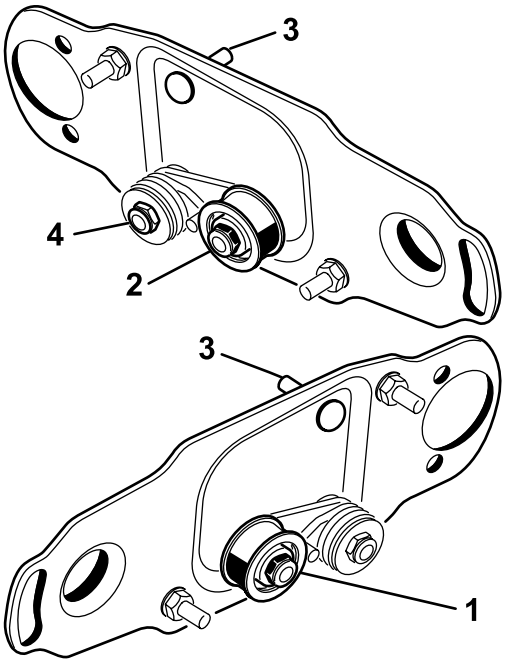
Procedure

On the left front and left rear cutting units, reverse the idler pulley assembly to mount on the **right end** of the cutting unit (Figure 3), as follows:

1. Remove the idler pulley assembly from the left end of the cutting unit and mount it to the lower hole in the brush plate on the right end of the cutting unit (Figure 3).

   Note: The idler pulley must pivot freely; do not overtighten the locknut on the idler pivot bolt.

2. Remove the carriage bolt and nut and relocate them to the upper hole previously occupied by the idler pulley assembly (Figure 3).



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g029307

Figure 3

1. Idler pulley installation for left end of reel
2. Idler pulley installation for right end of reel
3. Carriage bolt and nut
4. Do not overtighten this locknut.

4

Removing the Brush Cover Drain Plug

No Parts Required

Procedure

Remove only the bottom drain plug (Figure 4) from the brush covers. This allows moisture to drain from the belt area.

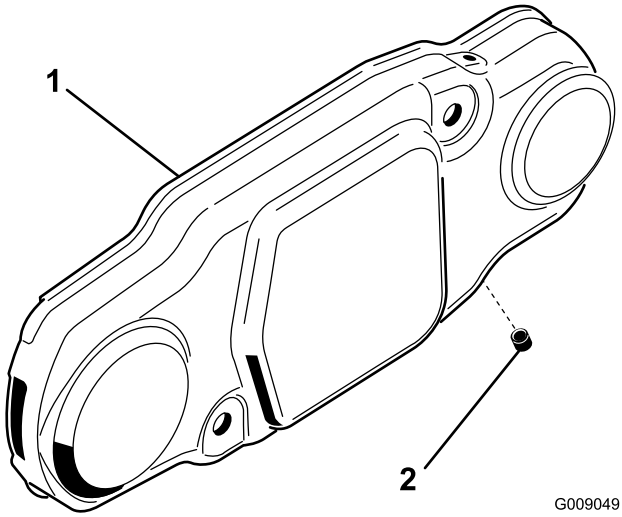

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Figure 4

1. Brush cover
2. Bottom drain plug

5

Installing the Roller Brush

Parts needed for this procedure:

1	Roller-brush housing
2	Allen-head bolt, 3/8 x 1 inch
1	Roller-brush assembly
1	Shoulder bolt
1	Belt cover/plate assembly
2	Bolt, 5/16 x 5/8 inch
1	Spacer
1	Drive pulley
1	Flange-head bolt, 3/8 x 2 inches
1	Belt
1	Shim washer (as required)

Installing the Brush on Cutting Units not Equipped with Groomers

1. Park the traction unit on a level surface and engage the parking brake.
2. Ensure that the cutting units are disengaged. Shut off the engine off and remove the key. Remove all cutting units from the traction unit.

   Important: **Check the cutting unit for the desired height of cut and attitude. Reset it according to the *Operator's Manual*, if required, before installing the Rear Roller Brush Kit.**
3. Remove the 2 bolts securing the counterweight to the left end of the cutting unit. Remove the counterweight (Figure 5).

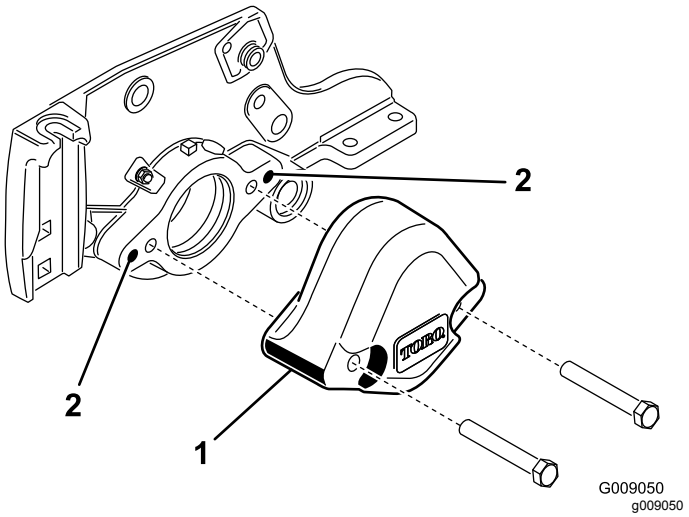

Figure 5

1. Counterweight
2. Clean out these mounting holes.

4. Using a 3/8-16 tap, remove the paint in the outer mounting holes in the side-plate (Figure 5).
5. Mount the roller-brush housing to the reel-bearing housing with 2 Allen-head bolts (3/8 x 1 inch) (Figure 6). Position the roller-brush housing so that the threaded hole is toward the front of the cutting unit.

   Note: Make sure that the O-ring is properly positioned in the roller-brush housing.

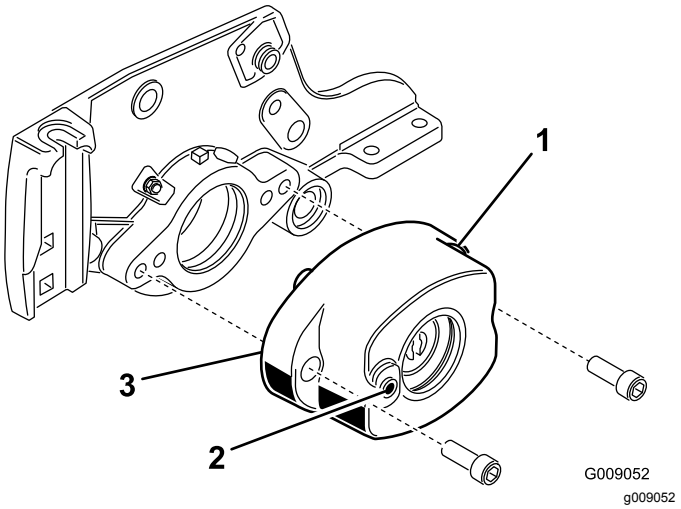

Figure 6

1. Roller-brush housing
2. Threaded hole in housing
3. O-ring

6. Remove the 2 flange locknuts securing each roller bracket to the side-plates (Figure 7). Do not remove the bolts. **Also, remove any 6 mm (1/4 inch) spacers from the top side of the side-plate mounting flange.**

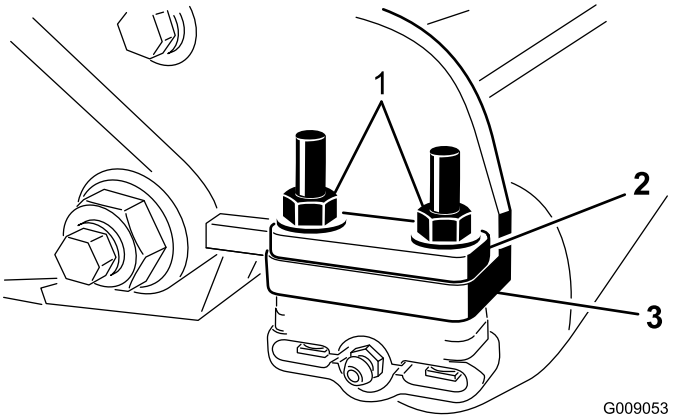

Figure 7

1. Remove the nuts securing each end of the roller.
2. 6 mm (1/4 inch) spacer
3. Side-plate mounting flange

7. Position the roller-brush mounting brackets onto the roller-bracket bolts (Figure 8).

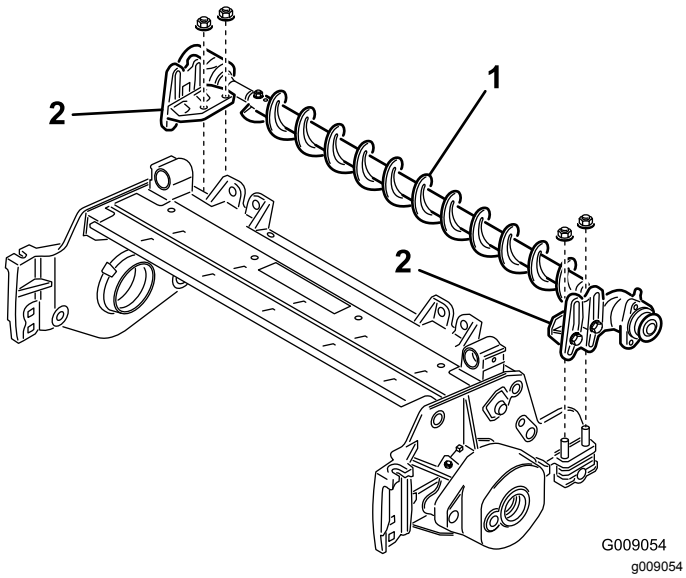

Figure 8

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

Important: **The roller-brush mounting brackets must be mounted 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.*** **Install additional 6 mm (1/4 inch) spacers on the top side of the roller-brush mounting bracket (Figure 9).**

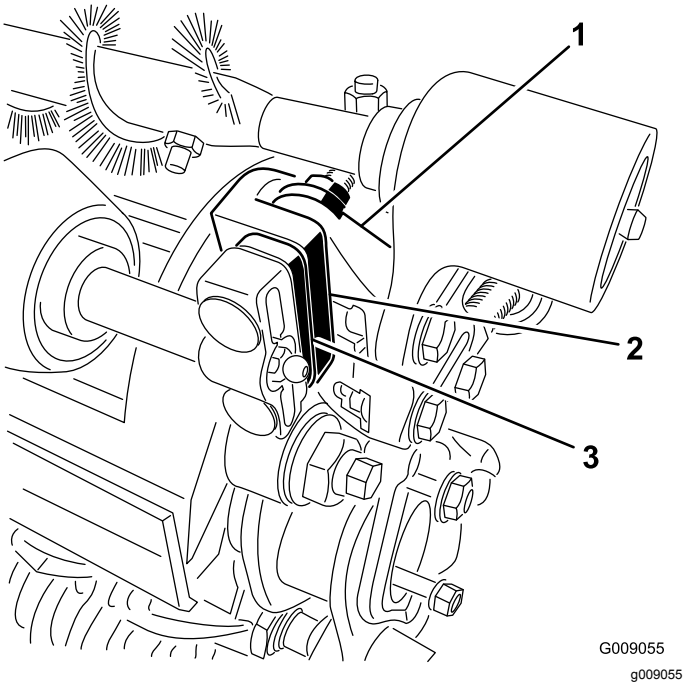

Figure 9

1. Roller-brush mounting bracket
2. Cutting-unit side-plate mounting flange
3. Extra 6 mm (1/4 inch) spacer

8. Secure the roller-brush mounting brackets to the cutting-unit side plates with the nuts previously removed.
9. Slide each excluder seal outward until the lip seals are in light contact with each bearing housing (Figure 10).

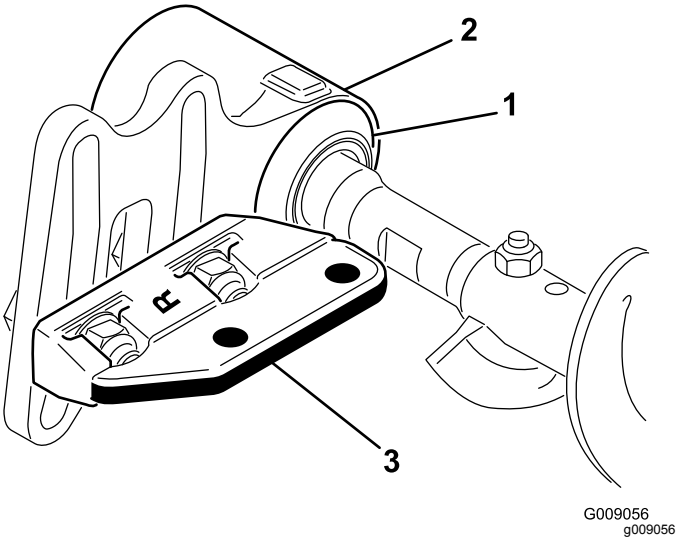

Figure 10

1. Excluder seal
2. Bearing housing
3. Mounting bracket

10. Apply a coating of grease to the inner diameter of the grommet in the bearing housing (Figure 11).

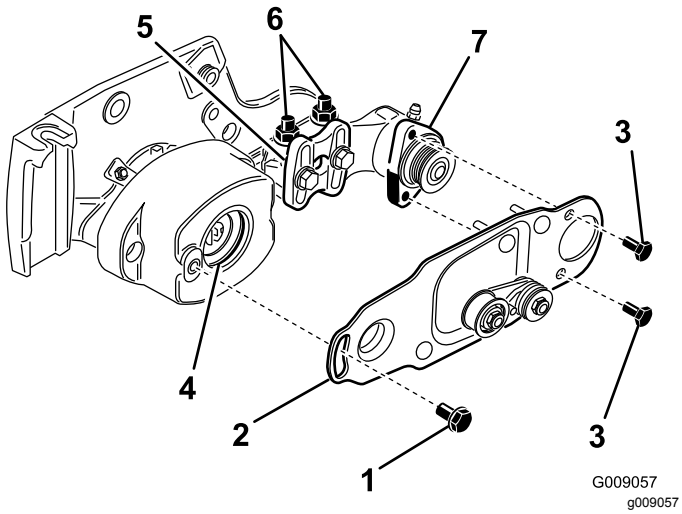

Figure 11

1. Shoulder bolt
2. Brush plate
3. Bolt
4. Grommet in bearing housing
5. Roller-brush mounting bracket
6. Flange locknuts
7. Roller-brush-bearing housing

11. Loosen, but do not remove, the bolts securing the roller-brush-bearing housing to the roller-brush mounting bracket (Figure 11).
12. Install the roller-brush pivot plate (Figure 11).

    Note: When you insert the protrusion on the pivot plate into the grommet in the bearing housing, ensure that the grommet stays properly seated in the housing.

    Note: The roller-brush pivot plate is properly seated when there is no resistance from the rubber grommet and it pivots freely.
13. Apply 243 Loctite (blue) to the 2 bolts (5/16 x 5/8 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).
14. Check to make sure 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 11).
    - Rotate the roller-brush-bearing housing until the brush plate is parallel to the cutting-unit side plate (Figure 11).
    - Tighten the 2 flange locknuts securing the roller-brush mounting bracket to the cutting-unit side plate (Figure 11).
15. Loosen the 2 bolts securing each roller-brush-bearing housing to the roller-brush mounting bracket (Figure 12 and Figure 13).

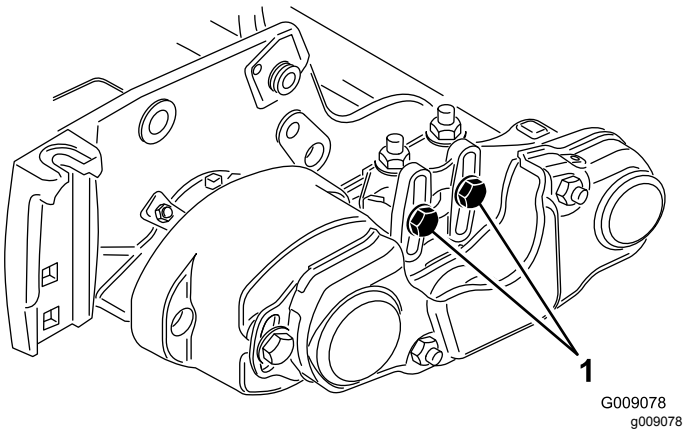

Figure 12

1. Loosen these bolts.

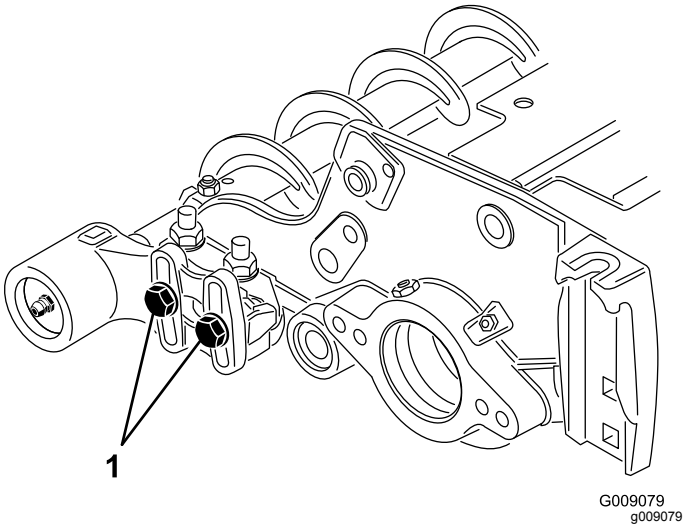

Figure 13

1. Loosen these bolts.

16. Position the roller brush so that it just touches 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 causes premature brush wear.**

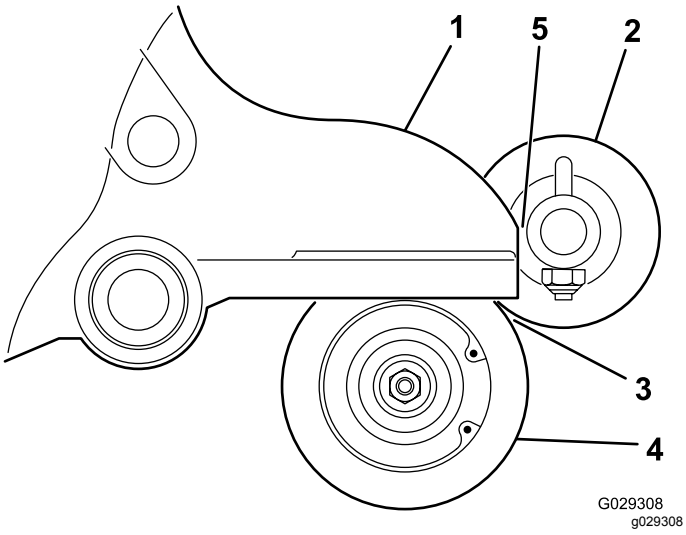

Figure 14

1. Side-plate
2. Roller brush
3. Light contact
4. Rear roller
5. Ensure that there is clearance here.

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

Note: The orientation of the non-drive roller-brush-bearing housing should be the same as drive-side bearing housing.

17. Tighten the 2 bolts securing each roller-brush-bearing housing to the roller-brush mounting brackets.
18. Apply 243 Loctite (blue) 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.
19. Install the spacer onto the shaft in the bearing housing (Figure 15).
20. Insert the drive pulley into the spacer and onto the driveshaft (Figure 15). Make sure that the pulley tabs are positioned in the slot in the drive shaft.
21. Secure the pulley and spacer to the driveshaft with a flange-head bolt (3/8 x 2 inch) (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.***

    Restrain the reel for installation; refer to Restraining the Reel for Installing Threaded Inserts (page 18).

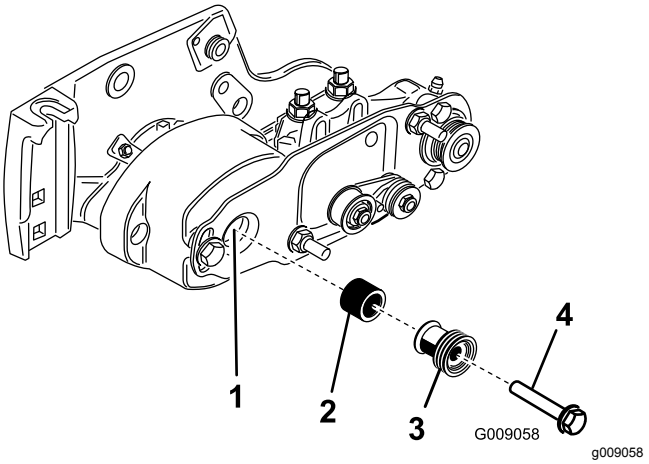

Figure 15

1. Driveshaft
2. Spacer
3. Drive pulley
4. Bolt—torque to 47 to 54 N·m (35 to 40 ft-lb)

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22. Install the belt onto the pulleys as follows:
    - Loop the belt around the **driven** pulley and then over the top of the idler pulley (Figure 16).

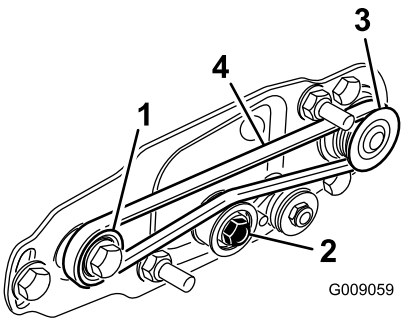

Figure 16

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

    - Start the belt on the **drive** pulley (Figure 16).
    - While guiding the belt onto the **drive** pulley, rotate the reel forward to draw the belt onto the drive pulley.

      Note: Wear a padded glove or use a heavy rag to rotate the reel.

    Important: **Make sure that the ribs on the belt are properly seated in the grooves in each pulley. Also, make sure that the belt is in the center of the idler pulley.**
23. Push down on the idler pulley to ensure that the idler pulley assembly pivots freely.
24. Check the alignment of the belt/pulleys as follows:
    - The belt must be properly tensioned (installed) prior to checking alignment.

- Lay a straightedge along the outer face of the **drive** pulley (Figure 17). **Do not** lay the straightedge across both the drive and driven pulleys.
- The outer faces of the drive and driven pulleys should be in line within 0.76 mm (0.030 inch).
- If the pulleys are not aligned, Refer to Aligning the Pulleys (page 16).
- If the pulleys are aligned, continue with the installation.
- **Do not** use the idler pulley to check alignment.

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

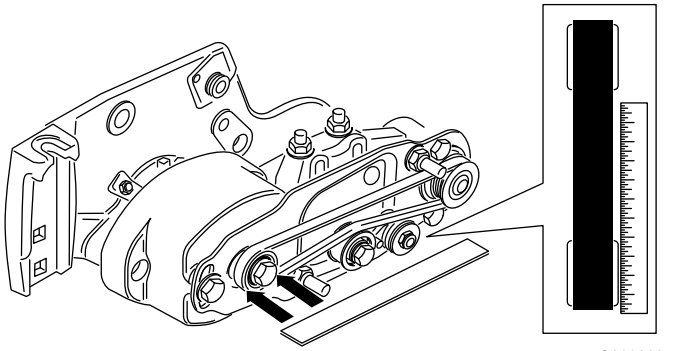

Figure 17

25. Slide the belt cover onto the mounting bolts and secure with 2 flange nuts (Figure 18).

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

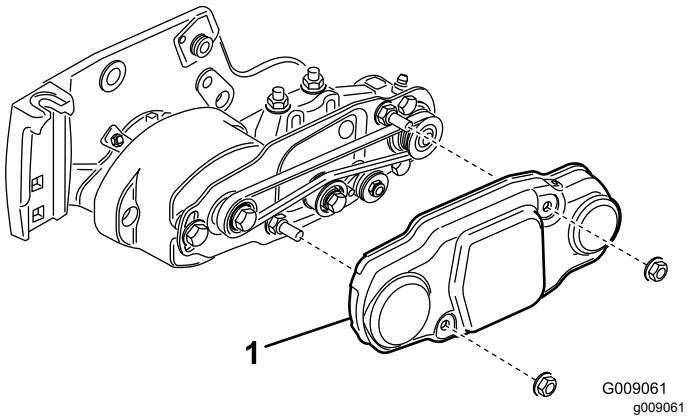

Figure 18

1. Belt cover

26. Lubricate the grease fittings on each of the roller-brush-bearing housings and on the remainder of the cutting unit with No. 2 lithium grease (Figure 19).

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

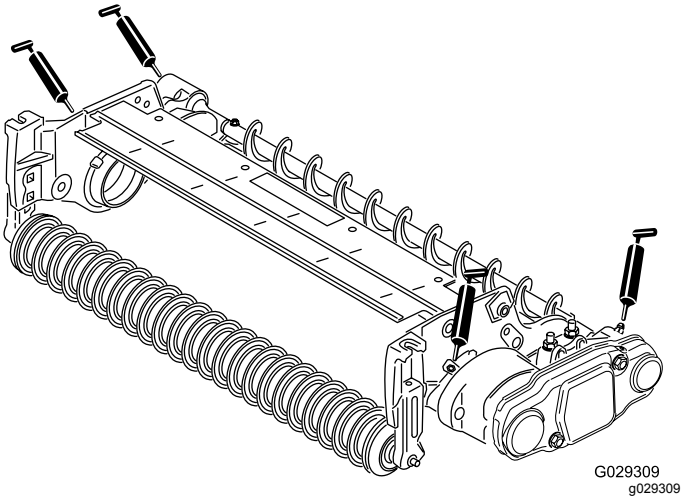

Figure 19

Installing the Brush on Cutting Units Equipped with Groomers

Note: If a groomer kit and a brush kit are going to be installed on the cutting unit, install the groomer kit first.

1. Remove the 2 groomer cover mounting nuts and remove the cover (Figure 20).

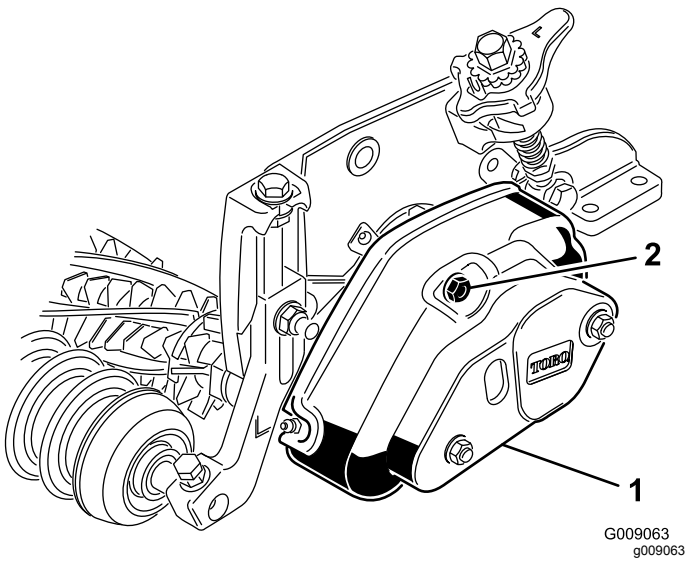

Figure 20

1. Groomer cover
2. Cover mounting nut (2)

2. Remove the 2 flange nuts (5/16 inch) securing the groomer weight to the groomer cover and remove the weight (Figure 21).

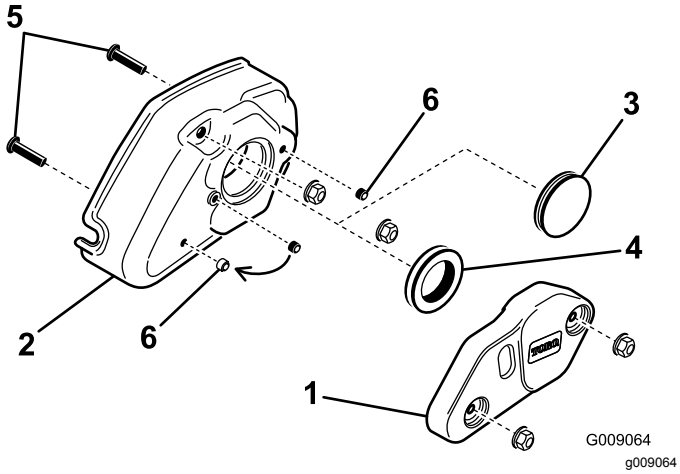

Figure 21

1. Groomer weight (remove)
2. Groomer cover
3. Solid grommet (remove)
4. Rubber grommet ring (included with the groomer)
5. Cover screws (remove)
6. Setscrew (2)

3. Remove the solid grommet from the cover and replace it with the rubber grommet ring included with the groomer (Figure 21).

4. Remove the 2 screws (5/16 x 1-1/4 inch) threaded into the cover (Figure 21).
5. Remove the setscrew from the center hole in the groomer cover (Figure 21).

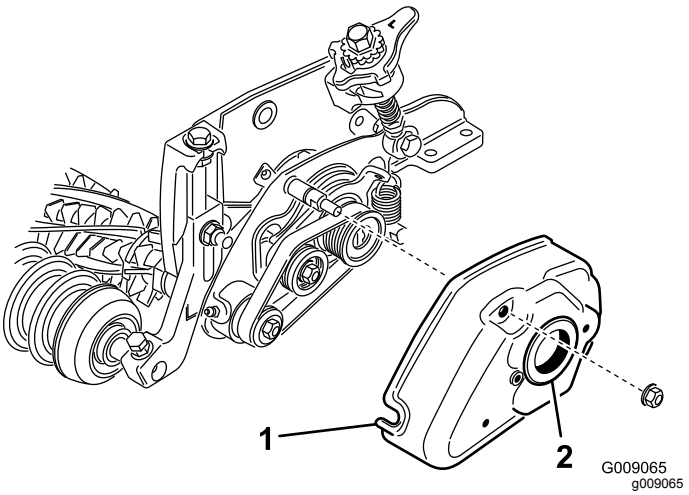

Figure 22

1. Groomer cover
2. Grommet

6. Install the previously removed setscrew and the setscrew included with the Groomer Kit, into the holes previously used for the cover mounting screws. Apply 243 Loctite (blue) to the setscrews prior to installation.

   Note: The setscrews should be flush with the groomer cover.

7. Install the groomer cover and secure it with 2 flange nuts (5/16 inch) (Figure 22).

   Important: **Do not overtighten the nuts.**

8. Apply grease to the inside diameter of the grommet in the groomer cover (Figure 22).
9. Remove the 2 nuts securing each roller bracket to the side plates (Figure 23). Do not remove the bolts.

   Note: Remove any 6 mm (1/4 inch) spacers positioned on the top side of the side plate mounting flange.

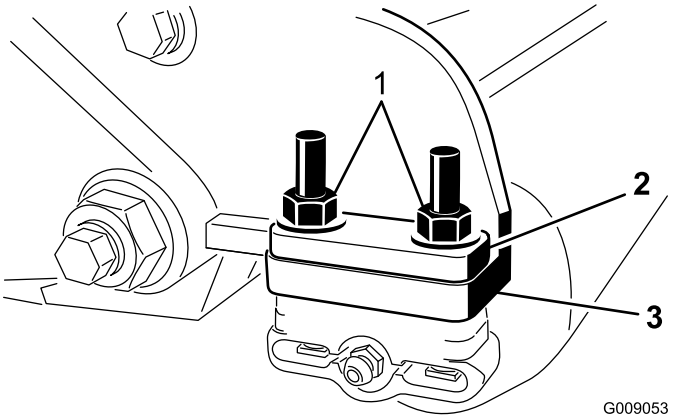

Figure 23

1. Remove nuts securing each end of roller
2. 6 mm (1/4 inch) spacer
3. Side plate mounting flange

10. Position the roller brush assembly mounting brackets onto the roller bracket bolts (Figure 24). Secure the brush assembly mounting brackets to the cutting unit side plates with the nuts previously removed.

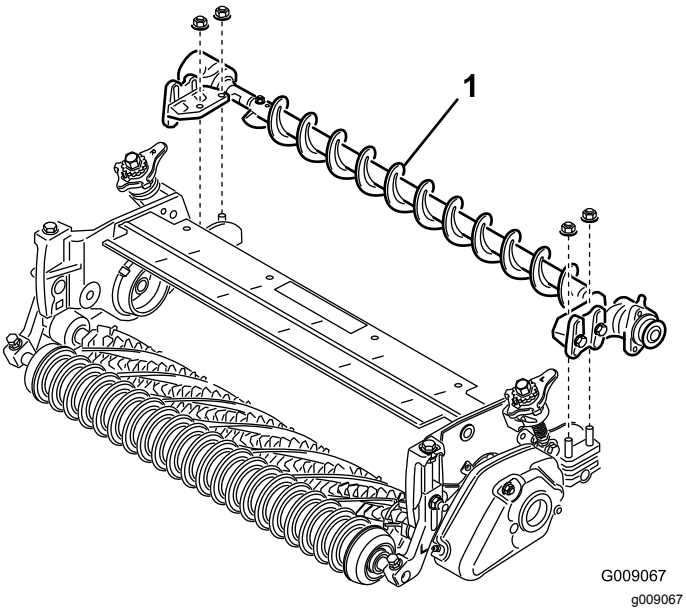

Figure 24

1. Roller brush assembly

Important: **The roller brush assembly mounting brackets must be mounted directly to the top surface of the cutting unit side plate mounting flange. Do not put spacers on the roller brush mounting brackets and the side plate mounting flanges. Install additional 6 mm (1/4 inch) spacers on the top side of the roller brush mounting bracket (Figure 25).**

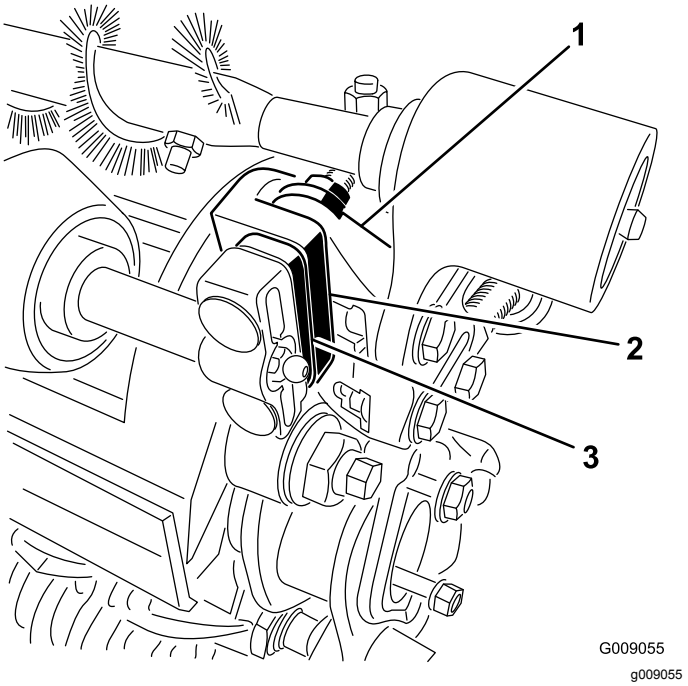

Figure 25

1. Roller brush mounting bracket
2. Cutting unit side plate mounting flange
3. Extra 6 mm (1/4 inch) spacers

11. Slide each excluder seal outward until the lip seals are in light contact with each bearing housing (Figure 26).

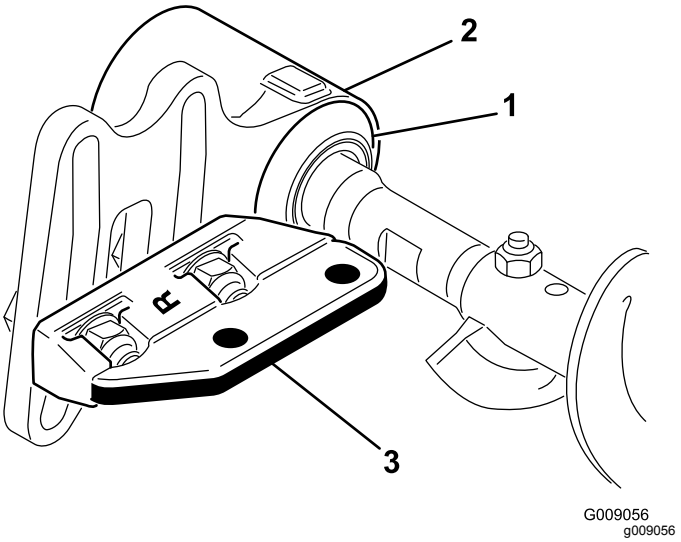

Figure 26

1. Excluder seal
2. Bearing housing
3. Mounting bracket

12. Loosen but do not remove the bolts securing the roller brush bearing housing to the roller brush mounting bracket (Figure 27).
13. Install the roller brush pivot plate (Figure 27). Ensure that the grommet stays properly seated

on the cover when the protrusion on the pivot plate is inserted into the grommet on the groomer cover.

Note: The roller brush pivot plate is properly seated when there is no resistance from the rubber grommet and it pivots freely.

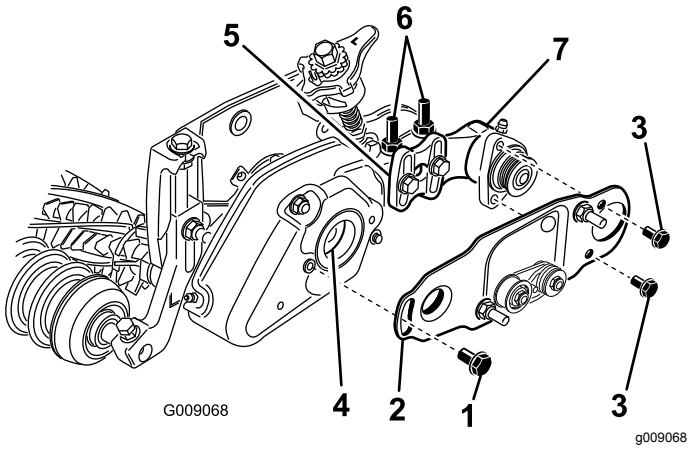

Figure 27

1. Shoulder bolt
2. Brush plate
3. Bolt
4. Grommet in bearing housing
5. Roller brush mounting bracket
6. Flange lock nuts
7. Roller brush bearing housing

14. Apply 243 Loctite (blue) to the 2 bolts (5/16 x 5/8 inch) and use them to mount the brush plate to the roller brush bearing housing (Figure 27). Torque the bolts to 20 to 25 N·m (15 to 19 ft-lb).
15. Check to make sure that the roller brush plate is parallel to the cutting unit side plate. If it is not parallel, do the following:
    - Loosen the 2 flange locknuts securing the roller brush mounting bracket to the cutting unit side plate (Figure 27).
    - Rotate the roller brush bearing housing until the brush plate is parallel to the cutting unit side plate (Figure 27).
    - Tighten the 2 flange locknuts securing the roller brush mounting bracket to the cutting unit side plate (Figure 27).
16. Loosen the 2 bolts securing each roller brush bearing housing to the roller brush mounting bracket (Figure 12 and Figure 13).

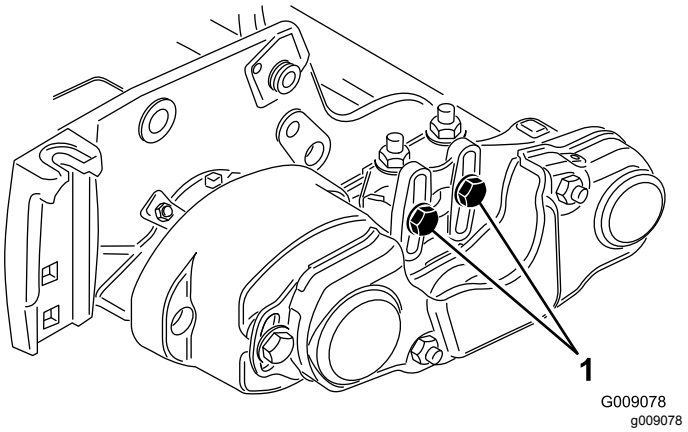

Figure 28

1. Loosen these bolts.

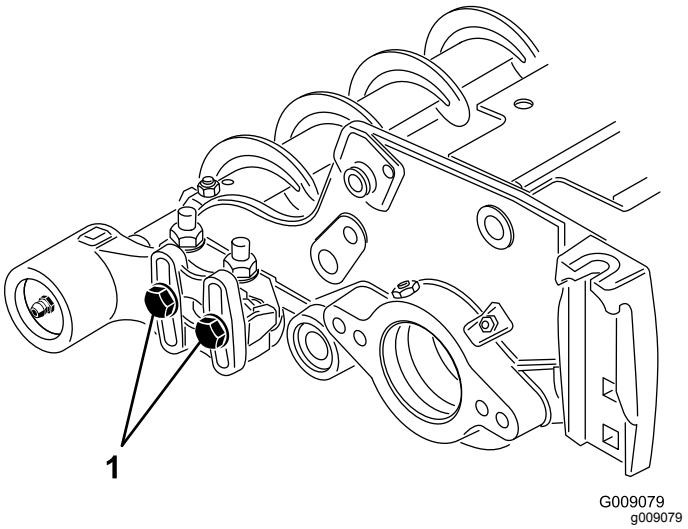

Figure 29

1. Loosen these bolts.

17. Position the roller brush so it is in light contact with (i.e., 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.**

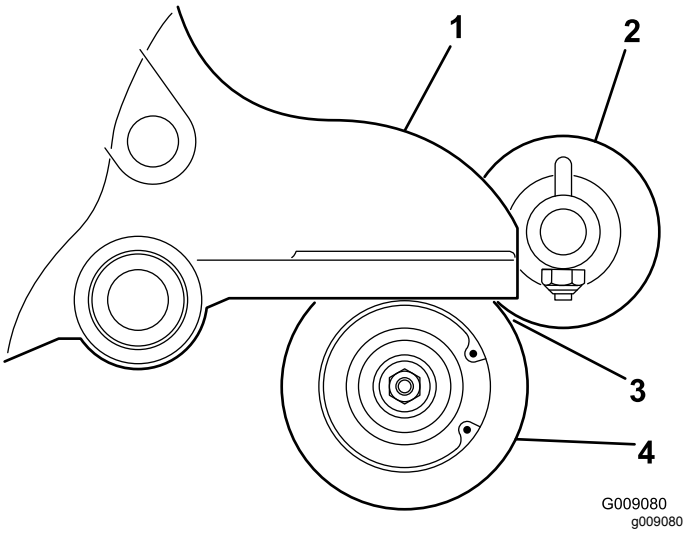

Figure 30

1. Side plate
2. Roller brush
3. Light contact
4. Rear roller
5. Ensure that there is clearance here.

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

Note: The orientation of the non–drive roller brush bearing housing should be the same as drive side bearing housing.

18. Tighten the 2 bolts securing each roller brush bearing housing to the roller brush mounting brackets.
19. Apply 243 Loctite (blue) to the shoulder bolt (Figure 27). Secure the brush plate to the groomer cover with the shoulder bolt. (Figure 27). 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.
20. Remove the bolt securing the groomer pulley to the drive shaft (Figure 31).
21. Insert the brush drive pulley into the groomer drive pulley and onto the drive shaft (Figure 31). Make sure that the pulley tabs are positioned in the slot in the drive shaft.
22. Secure the drive pulley to the shaft with a flange-head bolt (3/8 x 2 inch) (Figure 31). **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.***

    Restrain the reel for installation; refer to Restraining the Reel for Installing Threaded Inserts (page 18).

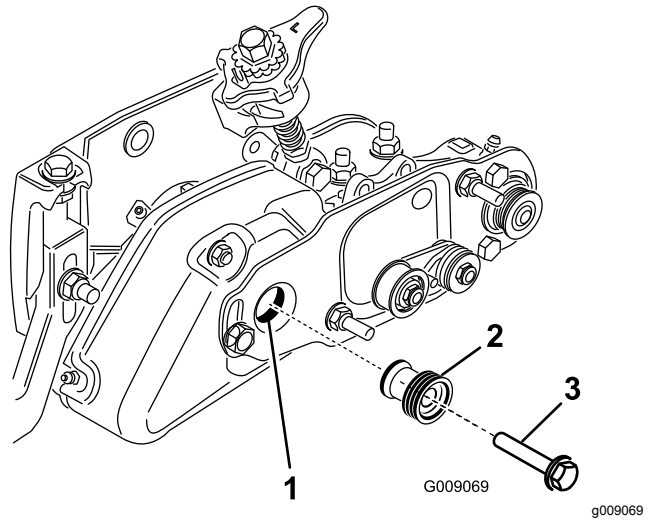

Figure 31

1. Groomer pulley mounting bolt (remove)
2. Drive pulley
3. Bolt-Torque to 47 to 54 N·m (35 to 40 ft-lb)

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23. Install the belt onto the pulleys as follows:
    - Loop the belt around the **driven** pulley and then over the top of the idler pulley (Figure 32).

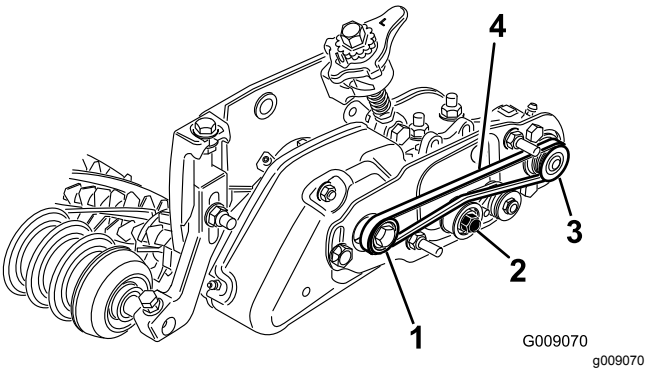

Figure 32

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

    - Start the belt on the **drive** pulley (Figure 32).
    - While guiding the belt onto the **drive** pulley, rotate the reel forward to draw the belt onto the drive pulley.

      Note: Wear a padded glove or use a heavy rag to rotate the reel.

    Important: **Make sure that the ribs on the belt are properly seated in the grooves in each pulley. Also, make sure the belt is in the center of the idler pulley.**
24. Push down on the idler pulley to ensure that the idler pulley assembly pivots freely.

25. Check the alignment of the belt/pulleys as follows:
    - The belt must be properly tensioned (installed) prior to checking alignment.
    - Lay a straight edge along the outer face of the **drive** pulley (Figure 33). **Do not** lay the straight edge across both the drive and driven pulleys.

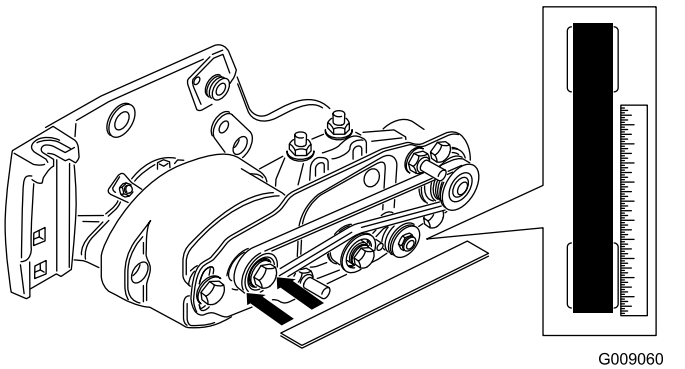

Figure 33

    - The outer faces of the drive and driven pulleys should be in line within 0.76 mm (0.030 inch).
    - If the pulleys are not aligned, Refer to the section on Pulley Alignment.
    - If the pulleys are aligned, continue with the installation.
    - **Do not** use the idler pulley to check alignment.

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

26. Slide the belt cover onto the mounting bolts and secure with 2 flange nuts (Figure 34).

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

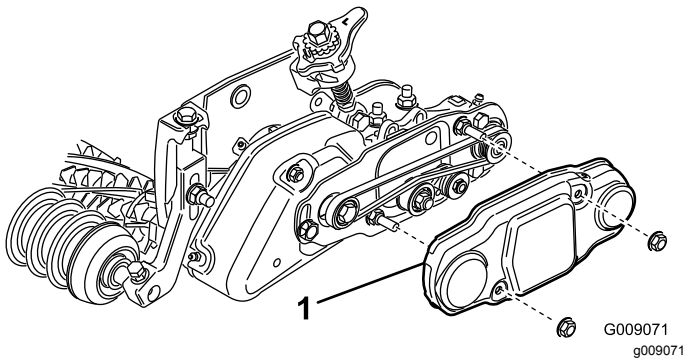

Figure 34

1. Belt cover

27. Lubricate the grease fittings on each of the roller brush bearing housings and on the remainder of the cutting unit with No. 2 general-purpose, lithium-based grease (Figure 35).

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

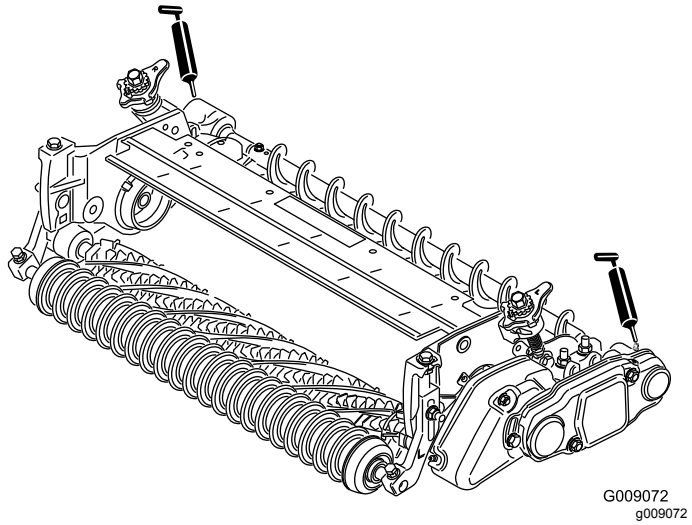

Figure 35

6

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

Parts needed for this procedure:

–	High height of cut brush (optional)
–	HD brush (optional)

Procedure

Install the high height-of-cut brush when cutting from 2.5 to 5.1 cm (1 to 2 inches) height of cut (7 maximum spacers installed below the side plate pad).:

- Part 110-1740 for 22 inch cutting units
- Part 115-0838 for 27 inch cutting units
- Part 115-0849 for 32 inch cutting units

Install the HD brush for heavy-duty conditions (worm castings, clay, etc.).:

- Part 137-0842 for 22-inch cutting units
- Part 137-0844 for 27-inch cutting units

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 36 and Figure 37).

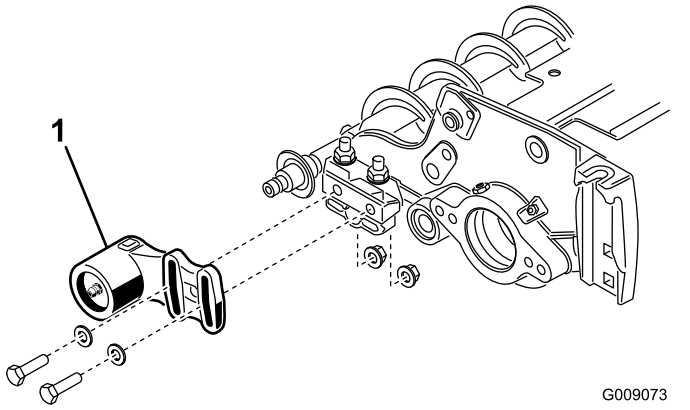

Figure 36

1. Non-drive-bearing housing

2. Slide the non-drive-bearing housing and the excluder seal off the brush shaft (Figure 37).

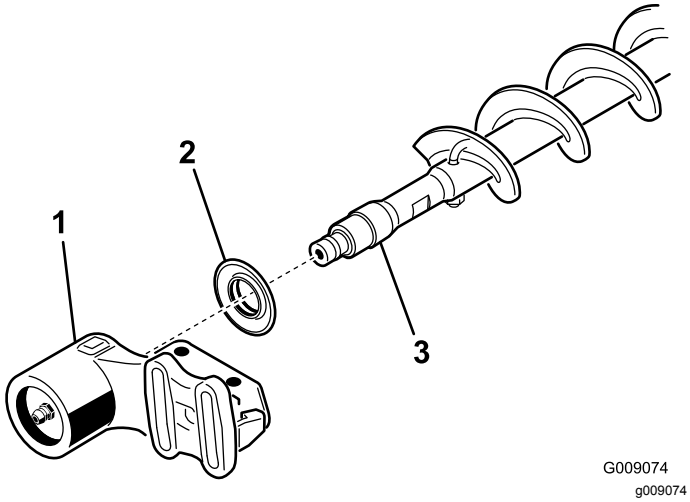

Figure 37

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

3. Remove the 2 J-bolts and nuts (Figure 38).

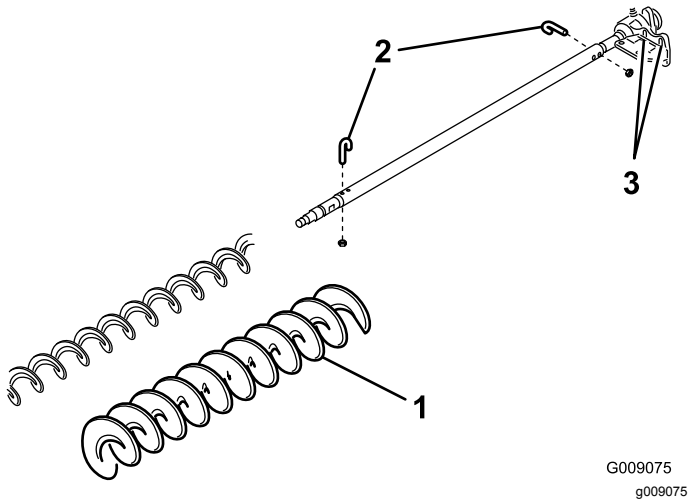

Figure 38

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

4. Slide the existing brush off the brush shaft (Figure 38).
5. Loosen the 2 bolts, washers, and nuts securing the drive-bearing housing to the bearing-housing mounting bracket (Figure 38).
6. Slide the high height-of-cut brush or HD brush onto the brush shaft (Figure 38).
7. Clamp the brush onto the shaft with the 2 J-bolts and nuts previously removed (Figure 38).

   Important: **Insert the threaded end of the J-bolts thru 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).
9. Install the excluder seal and the non-drive-bearing housing onto the brush shaft (Figure 37).
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

1. Make sure that the brush is parallel to the roller with 1.5 mm (0.060 inch) clearance to light contact.

2. Grease the fittings every 50 hours and after every washing.
3. When replacing roller brush, torque the J-bolts to 2 to 3 N·m (20 to 25 in-lb).
4. When replacing the brush-shaft-driven pulley, torque the nut to 36 to 45 N·m (27 to 33 ft-lb).
5. When replacing the brush-drive pulley, torque the bolt to 47 to 54 N·m (35 to 40 ft-lb).

   Important: **Backlapping at the incorrect reel speed may loosen and strip the drive-pulley threads. Refer to the cutting unit operator's manual for the backlapping procedure.**

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

Aligning the Pulleys

1. The driven pulley (at the roller-brush shaft) can move in or out (Figure 39).

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

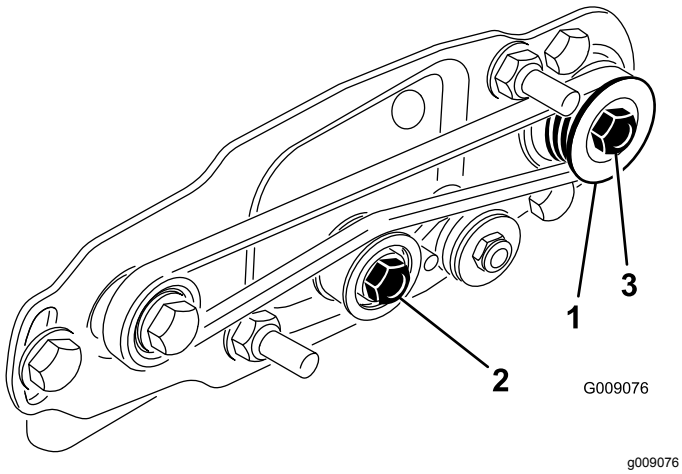

Figure 39

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 39).

   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 39 or Figure 40).

   Note: Put a 1/2-inch wrench on the flats of the roller-brush shaft to keep it from rotating.
4. Remove the driven pulley from the shaft (Figure 40).
5. If the pulley needs to move out, add one 0.8 mm (0.032 inch) thick spacer (Figure 40). If the pulley needs to move in, remove the existing 0.8 mm (0.032 inch) thick spacer.
6. Install the pulley.

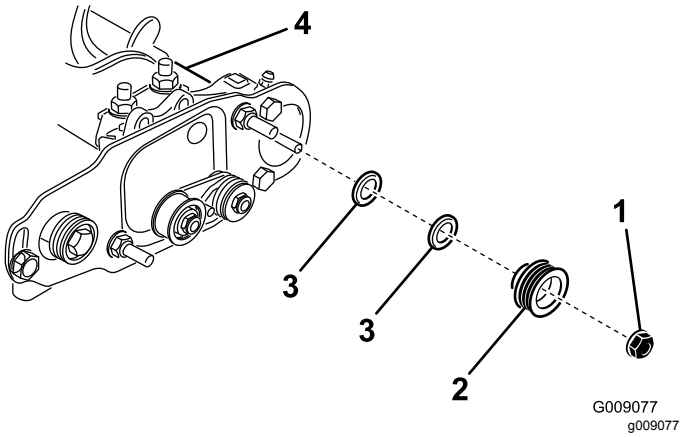

Figure 40

1. Lock nut
2. Driven pulley
3. Spacer (0.032 inch (0.8 mm) thick)
4. Brush-shaft flats

7. While holding the flats of the roller-brush shaft, secure the pulley on the shaft with the 3/8-16 flange nut 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 **driven** pulley and then over the top of the idler pulley (Figure 41).

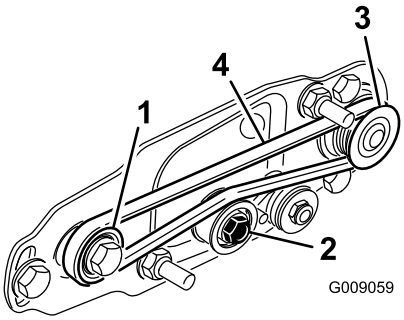

Figure 41

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

   - Start the belt on the **drive** pulley (Figure 41).
   - While guiding the belt onto the **drive** pulley, rotate the reel forward to draw the belt onto the drive pulley.

     Note: Wear a padded glove or use a heavy rag to rotate the reel.

   Important: **Make sure that the ribs on the belt are properly seated in the grooves in**

each pulley. Also, make sure that the belt is in the center of the idler pulley.

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

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

1. Loosen the shield-bolt on the left side of the cutting unit and raise the rear shield (Figure 42).
2. Insert a long-handled pry bar (recommended 3/8 x 12 inches with screwdriver handle) through the back of the cutting reel, closest to the side of the cutting unit that you will be torquing (Figure 42).
3. Place the pry bar against the weld side of the reel support plate (Figure 42).

   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: **To avoid damaging the cutting edge and/or causing a high blade, do not contact the cutting edge of any blades with the pry bar.**

   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.**

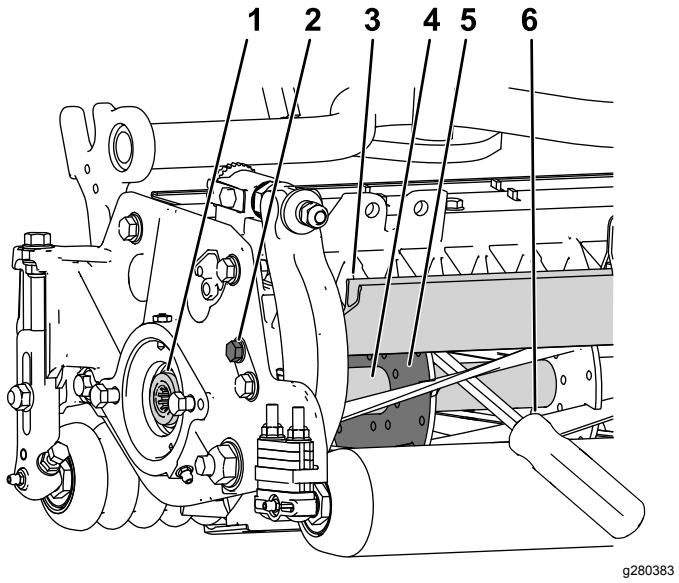

Figure 42

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 inches with screwdriver handle) through the front of the cutting reel, closest to the side of the cutting unit that you will be torquing (Figure 43).
2. Place the pry bar against the weld side of the internal cutting reel reinforcement (Figure 43).

   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: **To avoid damaging the cutting edge and/or causing a high blade, do not contact the cutting edge of any blades with the pry bar.**

   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.**

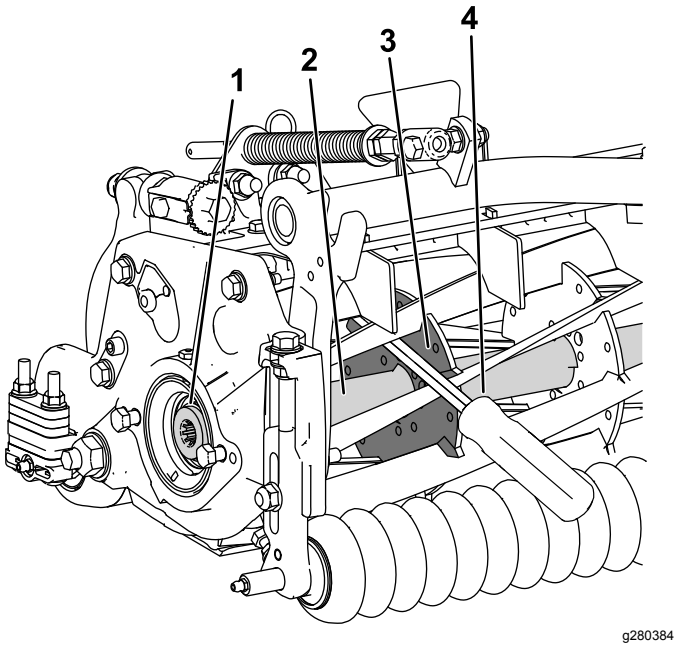

Figure 43

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:

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
137-5991	—	Rear Roller Brush Kit, Reelmaster 5210 or 5410 Series Cutting Unit with 5in Reel	RM52/5410 RRB KIT (OLD DPA)	Rear roller brush kit	2006/42/EC
137-5992	—	Rear Roller Brush Kit, Reelmaster 5510, 5610, 6500-D, or 6700-D Cutting Unit with 7in Reel	RM55/5610/6000 RRB KIT (OLD DPA)	Rear roller brush kit	2006/42/EC
137-5993	—	27-inch Rear Roller Brush Kit, Reelmaster 3100-D or 7000-D Series DPA Cutting Unit	RM31/7000 27IN RRB KIT (OLD DPA)	Rear roller brush kit	2006/42/EC
137-5994	—	32-inch Rear Roller Brush Kit, Reelmaster 3100-D or 7000-D Series DPA Cutting Unit	RM31/7000 32IN RRB KIT (OLD DPA)	Rear 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
Bloomington, MN 55420, USA
March 4, 2019

Authorized Representative:

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