Form No. 3437-309 Rev A

TORO®

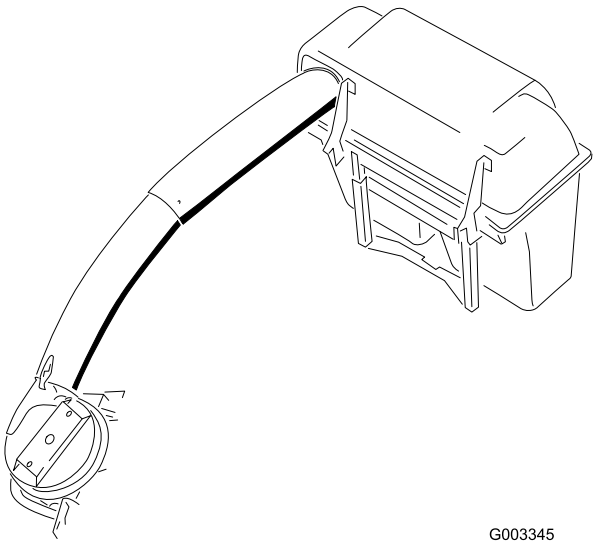
Count on it.

Operator's Manual

E-Z Vac™ Standard Bagger

Zero-Turn Radius Riding Mower

Model No. 78481—Serial No. 400000000 and Up



G003345

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

3437-309 A

⚠ WARNING

CALIFORNIA
Proposition 65 Warning

Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Introduction

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit www.Toro.com for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1, Figure 2, and Figure 3 identify the location of the model and serial numbers on the product. Write the numbers in the space provided.

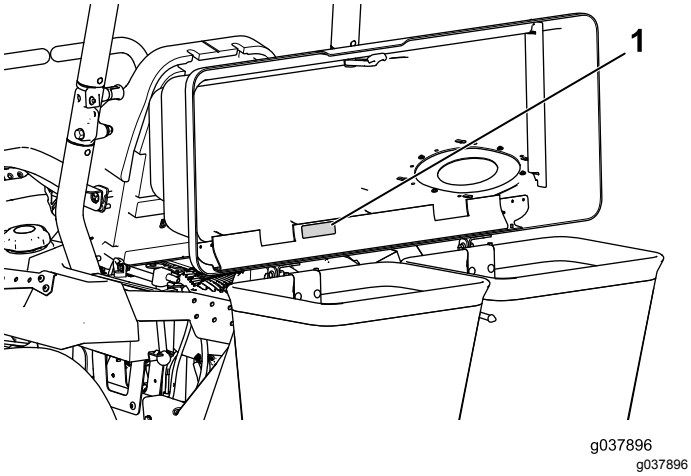


Figure 1

1. Bagger model and serial-number location

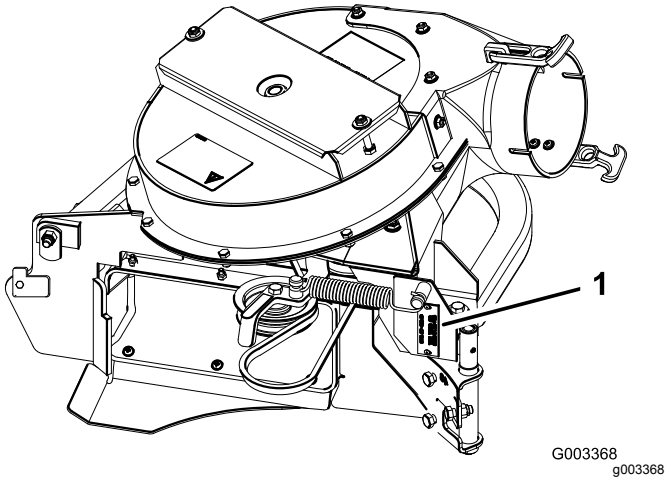


Figure 2

1. Blower model and serial-number location

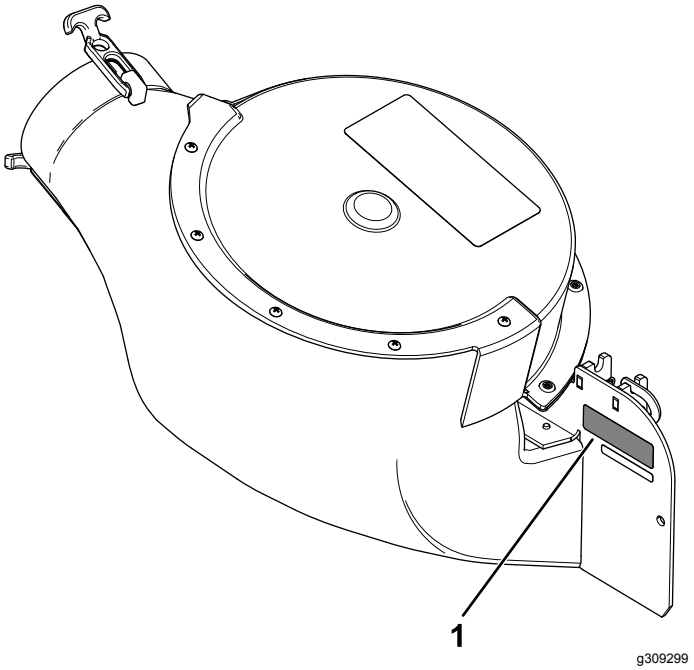


Figure 3

1. Blower model and serial-number location

© 2020—The Toro® Company
8111 Lyndale Avenue South
Bloomington, MN 55420

Contact us at www.Toro.com.
Printed in the USA
All Rights Reserved

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (Figure 4), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



g000502

Figure 4
Safety-alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

Contents

Safety 4
Towing Safety 4
Safety and Instructional Decals 5
Setup 7
1 Preparing the Machine 9
2 Installing the ROPS Pin 9
3 Installing the Weight Kit 10
4 Installing the Bagger Support (If Applicable) 11
5 Installing the Transmission Support 12
6 Installing the Cross Brace 12
7 Installing the Pivot Assembly 14
8 Installing the Hold-Down Rod 14
9 Assembling the Hood 15
10 Installing the Hood 15
11 Installing the Bags 16
12 Installing the Hitch Cover 17
13 Removing the Existing Belt Cover, Bracket, and Discharge Chute 17
14 Installing the Blower-Pulley Assembly and Belt-Cover Bracket 18
15 Installing the Baffle 21
16 Installing the Blower Assembly 22
17 Installing the Blower Belt, Spring, and Blower-Belt Cover 25
18 Installing the Discharge Tubes 27
19 Adjusting the Parking Brake 30
20 Checking the Tire Pressure 30
Operation 30
Emptying the Grass Bags 31
Clearing Obstructions from the Bagger 31
Removing the Bagger 32
Transporting the Machine 32
Operating Tips 32
Maintenance 34
Recommended Maintenance Schedule(s) 34
Cleaning the Hood Screen 34
Inspecting the Bagger Attachment 35
Cleaning the Bagger and Bags 35
Inspecting the Blower Belt 35
Replacing the Blower Belt 35
Greasing the Idler Arm for Blower Models 78483 to 78488 37
Inspecting the Bagger 37
Inspecting the Mower Blades 37
Selecting the Mower Blades 37
Replacing the Grass Deflector 38
Storage 38
Troubleshooting 39

Safety

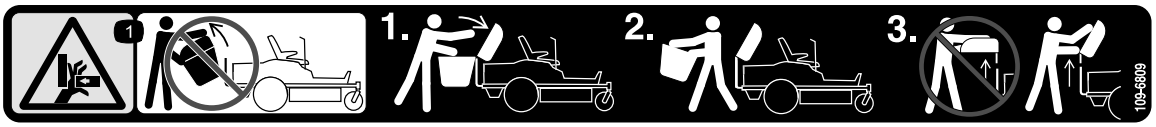
- Become familiar with the safe operation of the equipment, with the operator controls, and safety signs.
- Use extra care with grass catchers or other attachments. These can change the operating characteristics and the stability of the machine.
- Follow the manufacturer's recommendations for adding or removing wheel weights or counterweights to improve stability.
- Do not use a grass catcher on steep slopes. A heavy grass catcher could cause loss of control or overturn the machine.
- Slow down and use extra care on hillsides. Be sure to travel in the recommended direction on hillsides. Turf conditions can affect the stability of the machine. Use extreme caution while operating near drop-offs.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, direction, or turning.
- The grass catcher can obstruct the view to the rear. Use extra care when operating in reverse.
- Use care when loading or unloading the machine into a trailer or truck.
- Never operate with the discharge deflector raised, removed or altered, unless using a grass catcher.
- Keep hands and feet away from moving parts. Do not make adjustments with the engine running.
- Park the machine on level ground, disengage the drives, and shut off the engine before leaving the operator's position for any reason including emptying the grass catcher or unclogging the chute.
- If you remove the grass catcher, be sure to install any discharge deflector or guard that might have been removed to install the grass catcher. Do not operate the mower without either the entire grass catcher or the grass deflector in place.
- Do not leave grass in the grass catcher for extended periods of time.
- Grass catcher components are subject to wear, damage and deterioration, which could expose you to moving parts or allow objects to be thrown. Frequently check components and replace with the manufacturer's recommended parts, when necessary.

Towing Safety

- Do not attach towed equipment except at the hitch point.
- Follow the attachment manufacturer's recommendation for weight limits for towed equipment and towing on slopes.
- Never allow children or others in or on towed equipment.
- On slopes, the weight of the towed equipment may cause loss of traction and loss of control. Reduce towed weight and slow down.
- Stopping distance increases with the weight of the towed load. Travel slowly and allow extra distance to stop.
- Make wide turns to keep the attachment clear of the machine.
- Do not tow a load that weighs more than the towing machine.

Safety and Instructional Decals

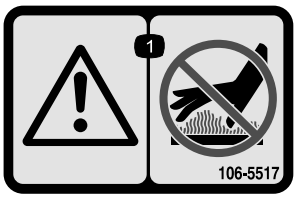
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



decal109-6809

109-6809

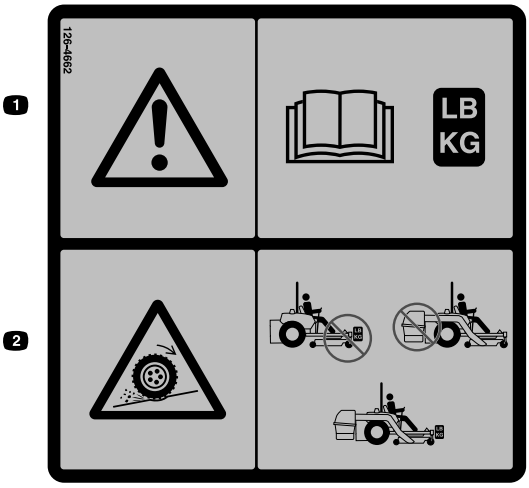
1. Crushing hazard of hand—Do not remove the whole bagger from the machine. Step 1: Open the bagger top. Step 2: Remove the bag(s) from the bagger. Step 3: Do not remove the bagger top when it is closed; open the bagger top and then remove it.



decal106-5517

106-5517

1. Warning—do not touch the hot surface.



decal126-4662

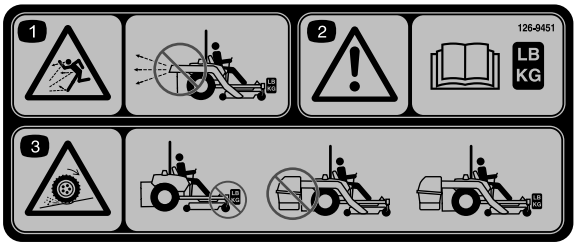
126-4662

1. Warning—read the *Operator's Manual* for the correct quantity of counterbalance weight(s).
2. Loss of traction and steering or reduced stability hazard–Ez Vac counterbalance weight(s) installed without the Ez Vac may cause loss of traction and steering control. The Ez Vac installed without the Ez Vac counterbalance weight(s) can cause reduced stability. Install weight(s) only when the Ez Vac is installed.



decal133-8061

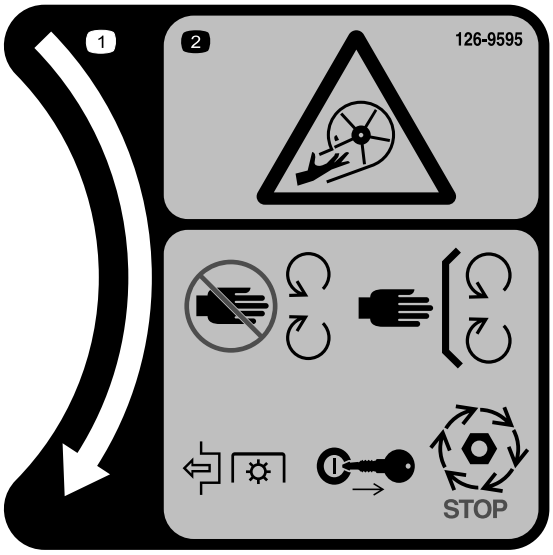
133-8061



decal126-9451

126-9451

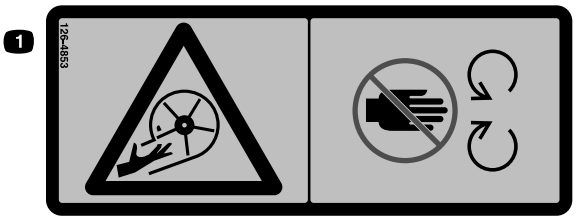
1. Thrown objects hazard—Do not run the blower without the entire collection system installed and latched.
2. Warning–Read the *Operator's manual*about counterbalance weight installation.
3. Loss of traction and steering or reduced stability hazard–Ez Vac counterbalance weight(s) installed without the Ez Vac may cause loss of traction and steering control. The Ez Vac installed without the Ez Vac counterbalance weight(s) can cause reduced stability. Install weight(s) only when the Ez Vac is installed.



decal126-9595

126-9595

1. Rotation indicator
2. Impeller/Rotating Blades hazard-Keep hands away from moving parts. Keep all safety devices in place and working. Do not reach into the blower unless the rotation indicator has stopped. Disengage the PTO, shut off the engine, remove the key, and wait for all moving parts to stop.



decal126-4853

126-4853

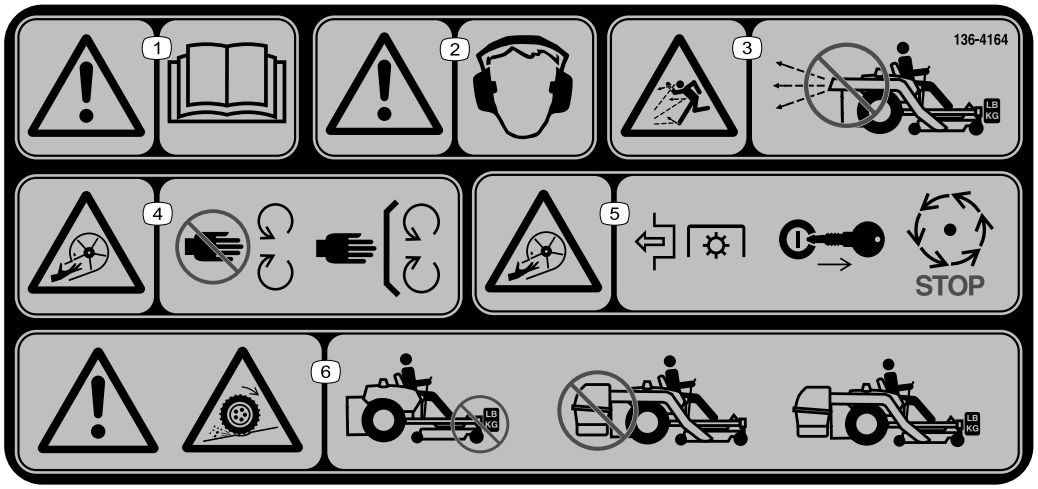
1. Impeller/Rotating Blades hazard-Keep hands away from moving parts. Keep all safety devices in place and working. Do Not reach into blower unless rotation indicator has stopped.



decal126-4659

126-4659

1. Warning—hot pulley; allow to cool.



decal136-4164

136-4164

1. Warning—read the *Operator's Manual*.
2. Warning—hearing protection must be worn.
3. Thrown object hazard—do not operate the blower without the entire system installed and latched.
4. Cutting/dismemberment hazard, impeller—keep away from moving parts; keep all guards and covers in place.
5. Cutting/dismemberment hazard, impeller—disengage the PTO, remove the key, and wait for all moving parts to stop.
6. Warning; loss of traction—do not operate with only counterbalance weights installed; do not operate with only E-Z Vac installed; operate only with both E-Z Vac and counterbalance weights installed.

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Prepare the machine.
2	ROPS-pin assembly Bolt (#10 x 3/4 inch) Washer (#10)	2 2 2	Install the ROPS pin.
3	Weight Channel plate Plate Tabbed plate Bolt (3/8 x 2-1/2 inches) Nut (3/8 inch) Flat weight	2 2 2 2 4 4 2	Install the weights.
4	Left bagger support Right bagger support Bolt (5/16 x 3-1/4 inches) Flange nut (5/16 inch) Washer	1 1 4 4 4	Install the bagger support.
5	Transmission support	1	Install the transmission support.
6	Cross brace Hex-head bolt (5/16 x 7/8 inch) Flange nut (5/16 inch)	1 4 4	Install the cross brace.
7	Pivot assembly Hairpin cotter	1 1	Install the pivot assembly.
8	Hold-down rod Hairpin cotter	1 1	Install the hold-down rod.
9	Hood Grass screen Hairpin cotter	1 1 2	Assemble the hood.
10	Hood assembly	1	Install the hood.
11	Bag	2	Install the bags.
12	Hitch cover	1	Install the hitch cover.
13	No parts required	–	Remove the existing belt cover, bracket, and discharge chute.

Procedure	Description	Qty.	Use
14	Blower-pulley assembly Belt-cover bracket Speed nut Carriage bolt (1/4 x 3/4 inch) Locknut (1/4 inch) Locknut (3/8 inch) Blower pulley Locknut (3/4 inch) Washer Pulley mount	1 1 1 2 2 3 1 1 1 1	Install the blower-pulley assembly.
15	Baffle Carriage bolt (5/16 x 7/8 inch) Flange nut (5/16 inch) Carriage bolt (3/8 x 7/8 inch) Flange nut (3/8 inch)	1 1 1 2 2	Install the baffle.
16	Blower assembly Blower belt Pivot pin Roll pin (3/16 x 7/8 inch)	1 1 1 1	Install the blower assembly.
17	Blower-belt cover Cover knob	1 1	Install the bagger belt, spring, and blower-belt cover.
18	Upper tube Lower tube Bolt (#10 x 3/4 inch) Locknut (#10) Washer (7/32 inch)	1 1 3 3 3	Install the discharge tubes.
19	No parts required	–	Adjust the parking brake.
20	No parts required	–	Check the tire pressure.

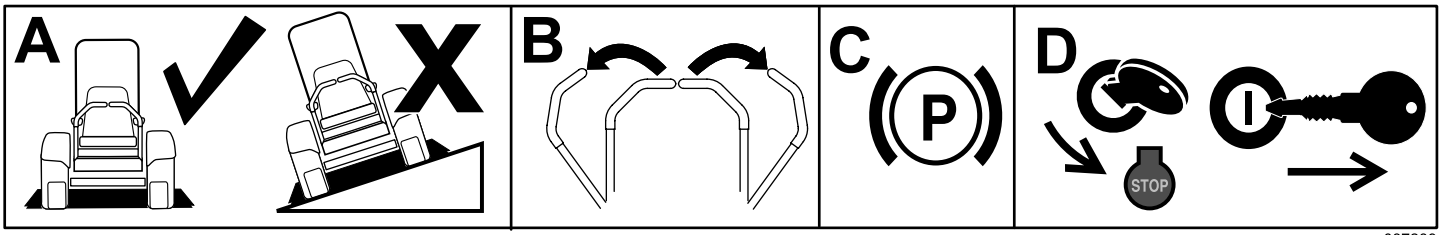
1

Preparing the Machine

No Parts Required

Procedure

1. Park the machine on a level surface.
2. Move the motion-control levers to the NEUTRAL-LOCK position.
3. Engage the parking brake.
4. Shut off the engine and remove the key.



g037289

g037289

Figure 5

2

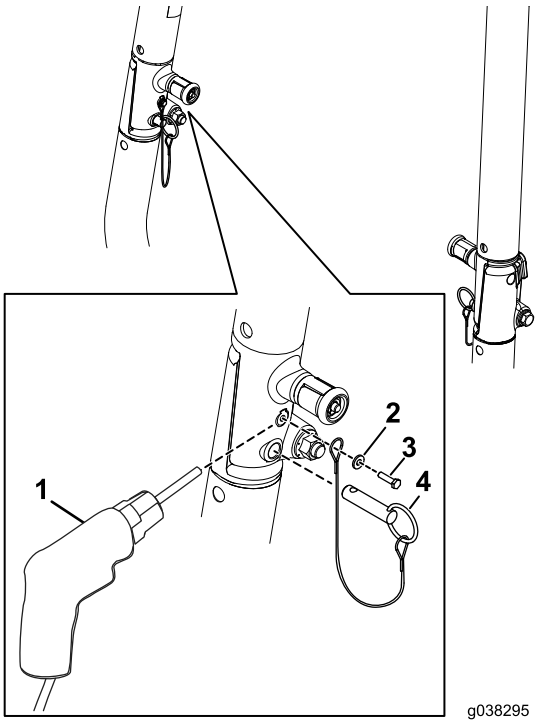
Installing the ROPS Pin

Parts needed for this procedure:

2	ROPS-pin assembly
2	Bolt (#10 x 3/4 inch)
2	Washer (#10)

Procedure

1. Use a #18 (0.170 inch) drill bit and drill out the lanyard hole in the ROPS (Figure 6).
2. Use the self-tapping screw (#10 x 3/4 inch) and washer to secure the ROPS-pin assembly to each side of the ROPS assembly (Figure 6).
3. Insert the ROPS pin into the hole in the ROPS (Figure 6).



g038295

g038295

Figure 6

1. Drill with a #18 (0.170 inch) drill bit
2. Washer (#10)
3. Self-tapping screw (#10 x 3/4 inch)
4. ROPS pin

3

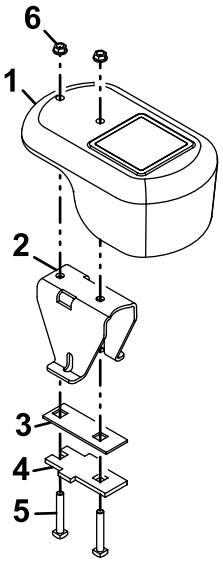
Installing the Weight Kit

Parts needed for this procedure:

2	Weight
2	Channel plate
2	Plate
2	Tabbed plate
4	Bolt (3/8 x 2-1/2 inches)
4	Nut (3/8 inch)
2	Flat weight

Procedure

1. Use the bolts (3/8 x 2-1/2 inches) nuts (3/8 inch) to secure the plates to the weight (Figure 7).

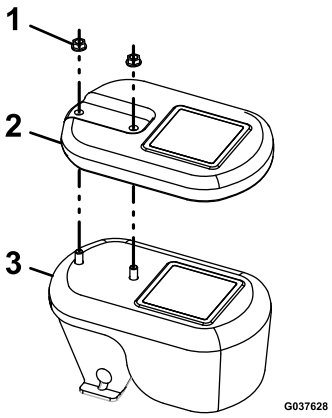


g185955

Figure 7

1. Weight
2. Channel plate
3. Plate
4. Tabbed plate
5. Bolt (3/8 x 2 -1/2 inches)
6. Nut (3/8 inch)

2. Use the nuts (3/8 inch) to add the flat weight to the weight assembly for a machine with a 122 cm (48 inches) mower deck (Figure 8).

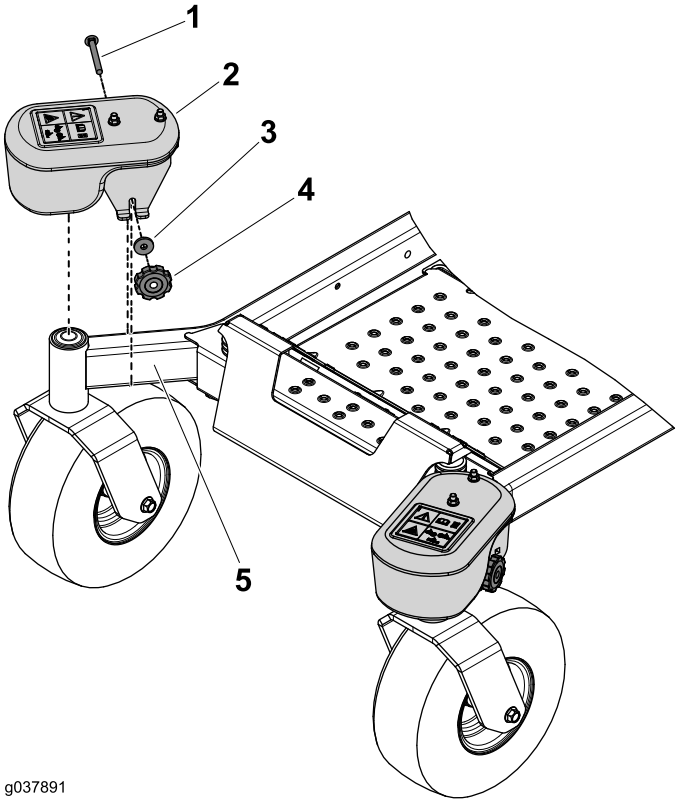


g037628

Figure 8

1. Nut (3/8 inch)
2. Flat weight
3. Weight assembly

3. Use the knob, washer, and carriage bolt (3/8 x 3-1/2 inch) to secure a caster weight to each caster arm (Figure 9).



g037891

g037891

Figure 9

1. Carriage bolt (3/8 x 3-1/2 inch)
2. Weight
3. Washer
4. Knob
5. Caster arm

4

Installing the Bagger Support (If Applicable)

Parts needed for this procedure:

1	Left bagger support
1	Right bagger support
4	Bolt (5/16 x 3-1/4 inches)
4	Flange nut (5/16 inch)
4	Washer

Procedure

1. Remove the bolts and nuts that secure the upper trim to the machine (Figure 10).

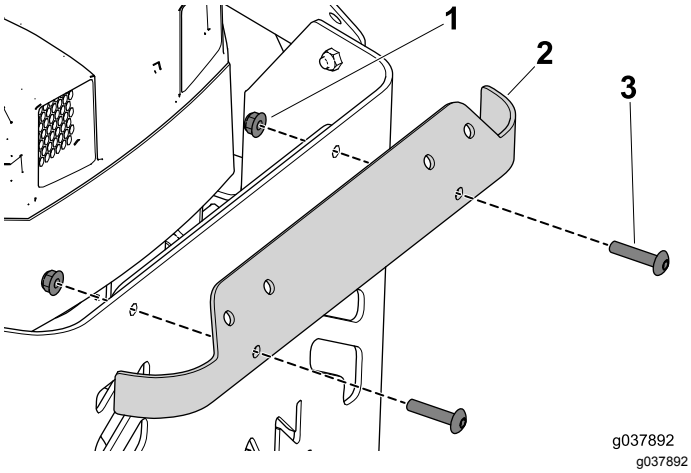


Figure 10

1. Flange nut
2. Upper trim
3. Bolt

2. Remove and discard the bolts and nuts that secure the left side of the rear guard to the frame (Figure 11).

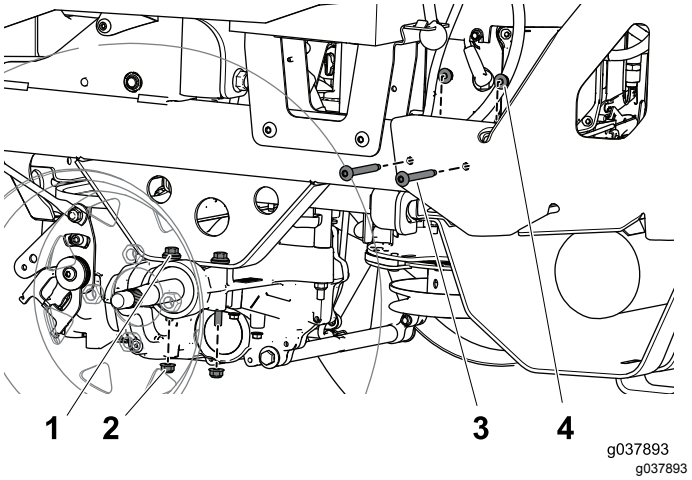


Figure 11

1. Bolt securing the left drive assembly
2. Flange nut securing the left drive assembly
3. Bolt securing the rear guard
4. Flange nut securing the rear guard

3. Remove and set aside the 2 flange nuts that secure the left drive assembly to the frame (Figure 11).

   Note: Do not remove the bolts.

4. Align the holes on the support to the bolts on the drive assembly and loosely install the nuts that you set aside (Figure 12).

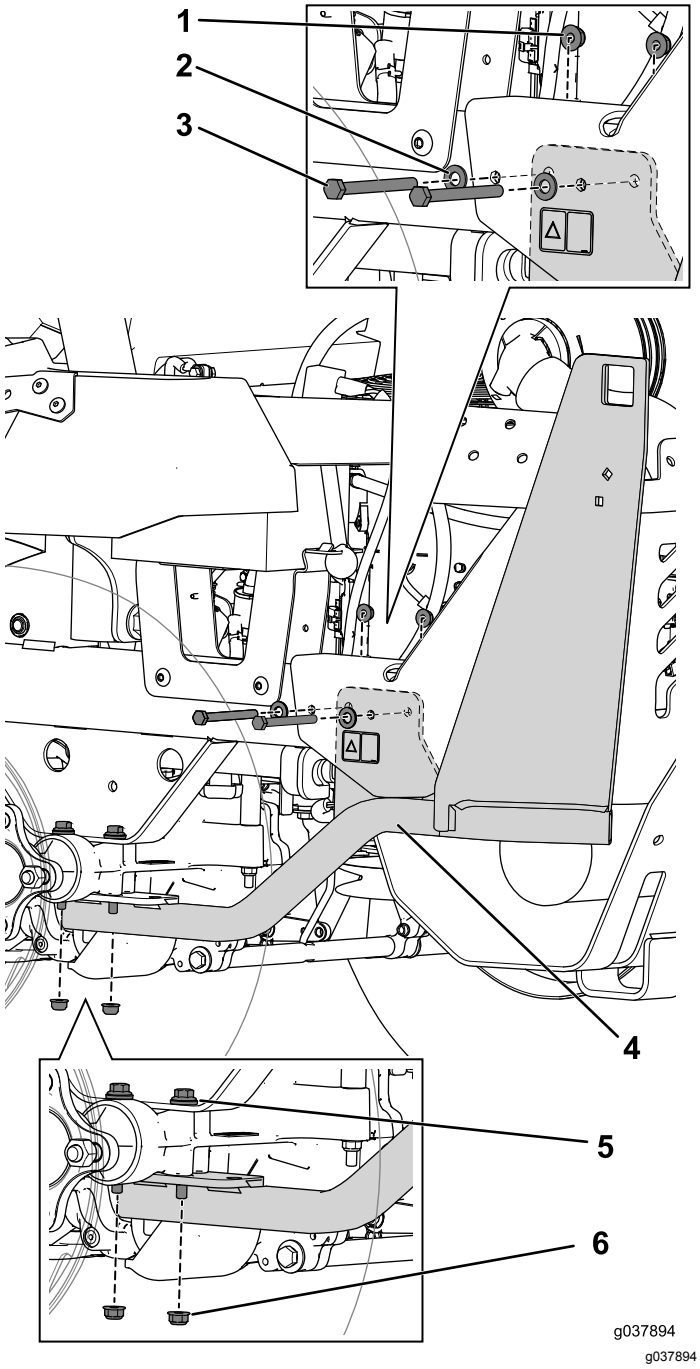


Figure 12

1. Flange nut (5/16 inch)
2. Washer
3. Bolt (5/16 x 3-1/4 inches)
4. Left bagger support
5. Drive-assembly bolt
6. Flange nut (5/16 inch)

5. Use the 2 bolts (5/16 x 3-1/4 inches) and nuts to secure the support to the frame (Figure 12).

   Note: The support mounting tab is installed on the inside of the frame; it does not cover the decal.

6. Tighten all the hardware that you installed.
7. Follow this procedure to install the right support frame.

5

Installing the Transmission Support

Parts needed for this procedure:

1	Transmission support

Procedure

1. Remove the 2 flange nuts from the support bolts on the left and right transmissions and set them aside (Figure 13).

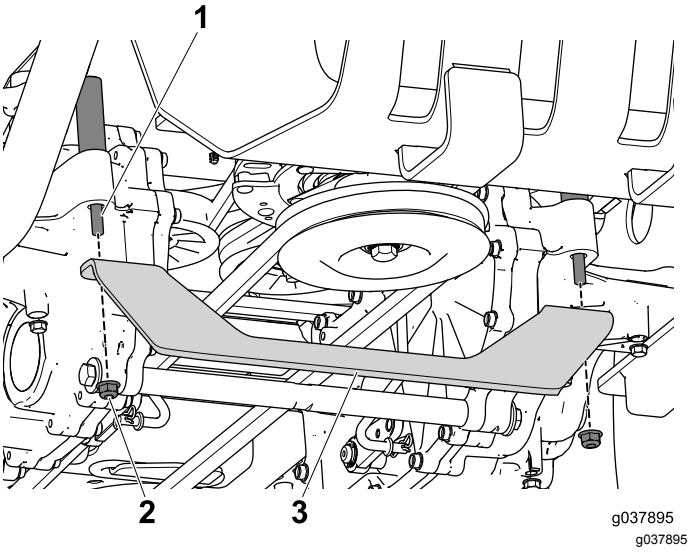


Figure 13

1. Support bolt
2. Flange nut
3. Transmission support

2. Align the bracket to the support bolts and secure them with the 2 flange nuts you removed in the previous step (Figure 13).

6

Installing the Cross Brace

Parts needed for this procedure:

1	Cross brace
4	Hex-head bolt (5/16 x 7/8 inch)
4	Flange nut (5/16 inch)

Procedure

1. Use 2 hex-head bolts (5/16 x 7/8 inch) and flange nuts to secure the cross brace to the left and right bagger support (Figure 14).

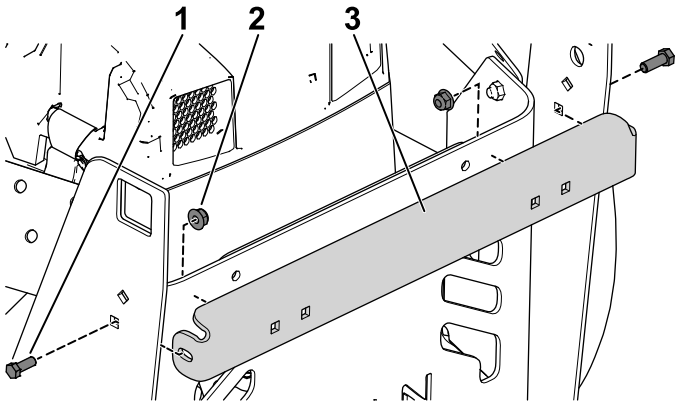


Figure 14

1. Hex-head bolt (5/16 x 7/8 inch)
2. Flange nut (5/16 inch)
3. Cross brace

2. Use 2 hex-head bolts (5/16 x 7/8 inch) and flange nuts to secure the cross brace to the rear guard (Figure 15).

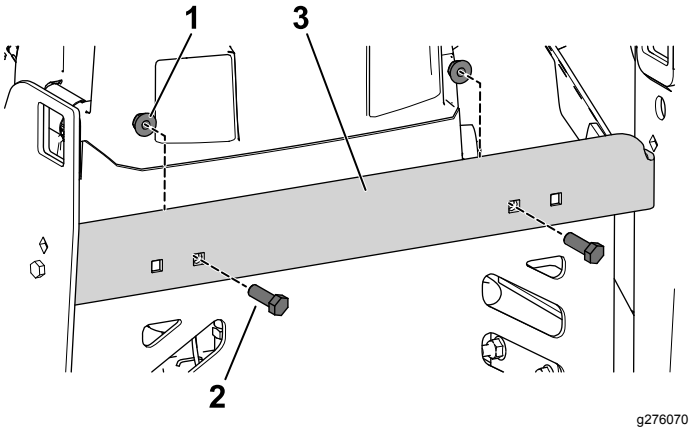


Figure 15

1. Flange nut (5/16 inch)
2. Hex-head bolt (5/16 x 7/8 inch)
3. Cross brace

7

Installing the Pivot Assembly

Parts needed for this procedure:

1	Pivot assembly
1	Hairpin cotter

Procedure

1. Slide the square end of the pivot assembly through the opening in the left bagger support and the post through the right support (Figure 16).

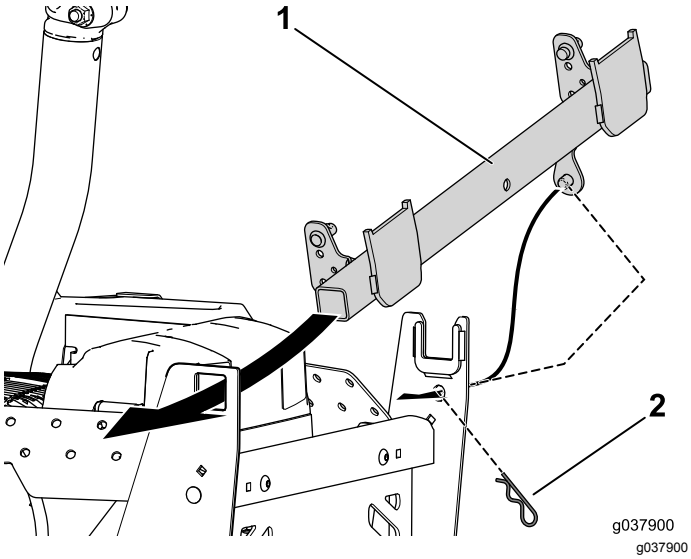


Figure 16

1. Pivot assembly
2. Hairpin cotter

2. Install the hairpin cotter into the post to secure the pivot assembly to the bagger support (Figure 16).

8

Installing the Hold-Down Rod

Parts needed for this procedure:

1	Hold-down rod
1	Hairpin cotter

Procedure

1. Install hold-down rod to the pivot assembly (Figure 17).

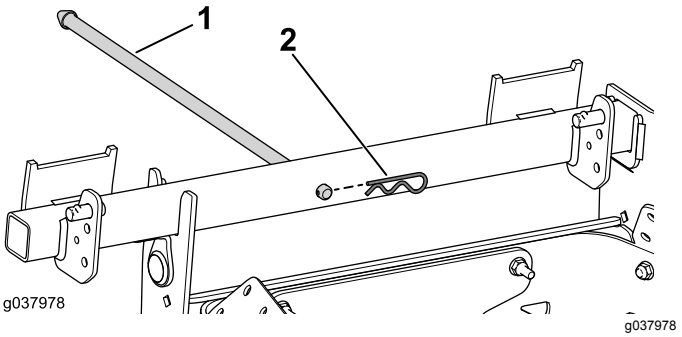


Figure 17

1. Hold-down rod
2. Hairpin cotter

2. Use the hairpin cotter to secure the rod into the pivot assembly (Figure 17).

9

Assembling the Hood

Parts needed for this procedure:

1	Hood
1	Grass screen
2	Hairpin cotter

Procedure

Use the 2 hairpin cotters to secure the grass screen to the hood (Figure 18).

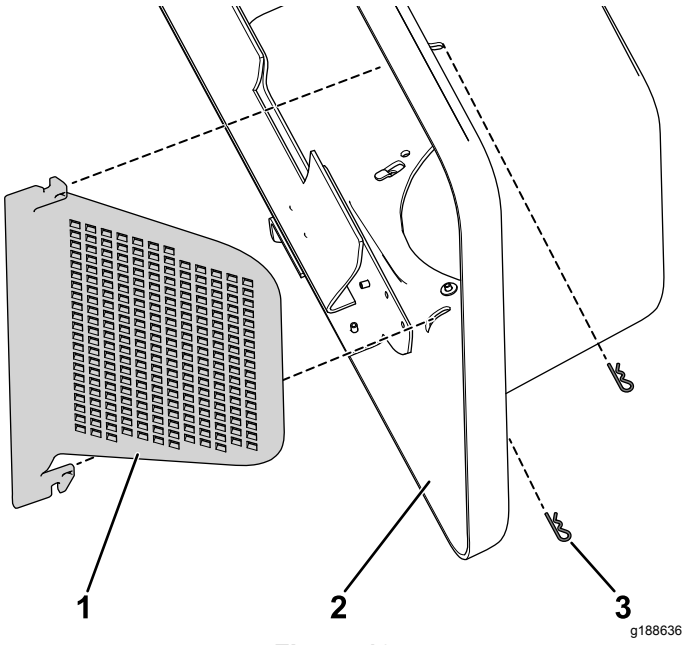


Figure 18

1. Grass screen
2. Hood
3. Hairpin cotter

10

Installing the Hood

Parts needed for this procedure:

1	Hood assembly

Procedure

1. Remove the hook on the air filter and rotate the filter forward so that the bagger hood has clearance for installation (Figure 19).

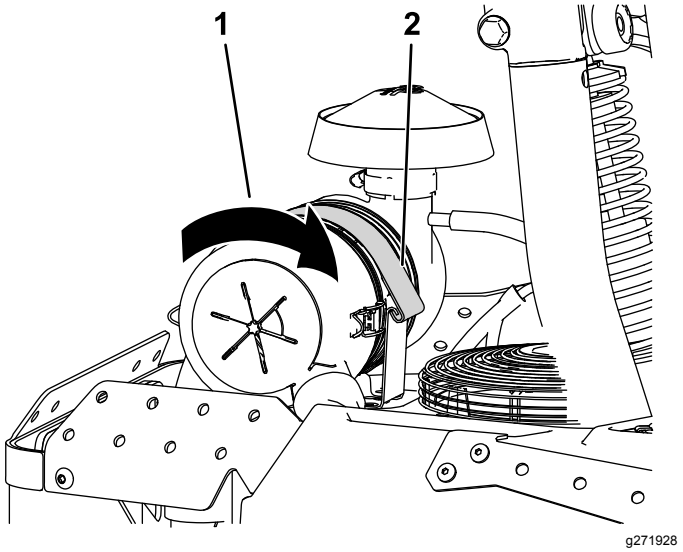


Figure 19

1. Rotate the air filter forward. 2. Air filter hook

2. Align the key-hole feature on the pivot bracket to the key on the pivot pin and slide it into position (Figure 20).

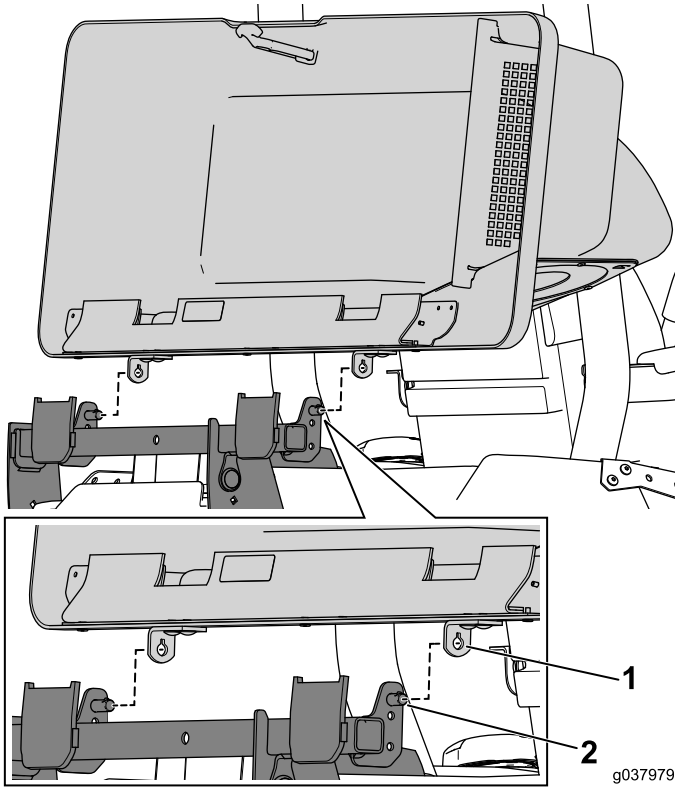


Figure 20

1. Pivot bracket
2. Pivot pin

3. Rotate the hood to capture it with the pivot pin.
4. Rotate the air filter back to its original position and install the hook (Figure 19).

11

Installing the Bags

Parts needed for this procedure:

2	Bag

Procedure

Hook the bag over the pivot assembly (Figure 21).

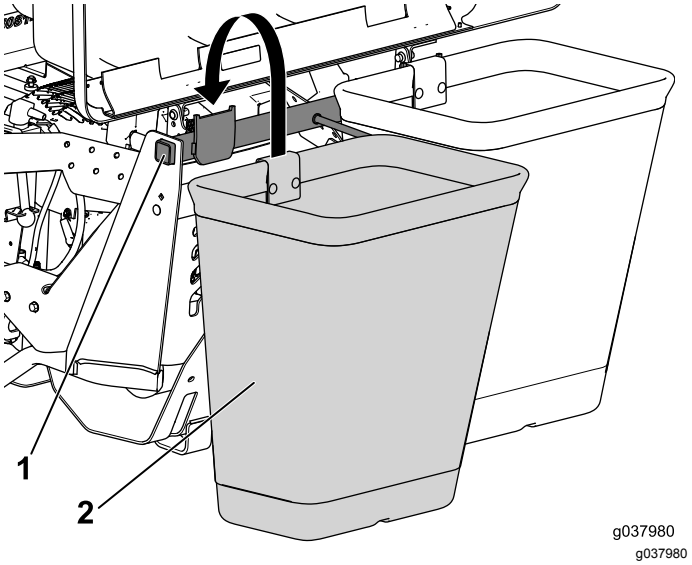


Figure 21

1. Bag
2. Pivot assembly

12

Installing the Hitch Cover

Parts needed for this procedure:

1	Hitch cover

Procedure

1. Apply a lubricant to the nipple on the hitch cover.
2. Align the hitch cover over the hitch and press it into place (Figure 22).

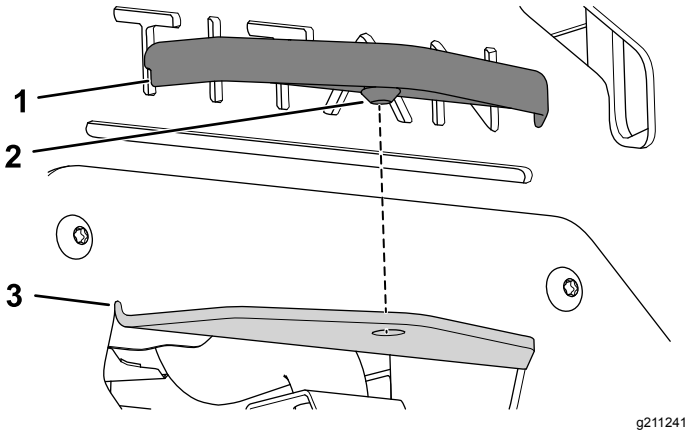


Figure 22

1. Hitch cover
2. Nipple
3. Hitch

13

Removing the Existing Belt Cover, Bracket, and Discharge Chute

No Parts Required

Procedure

Note: Clean the area around the belt cover before removing it.

1. Lower the mower deck to the lowest height-of-cut position.
2. Remove the right belt cover (Figure 23).

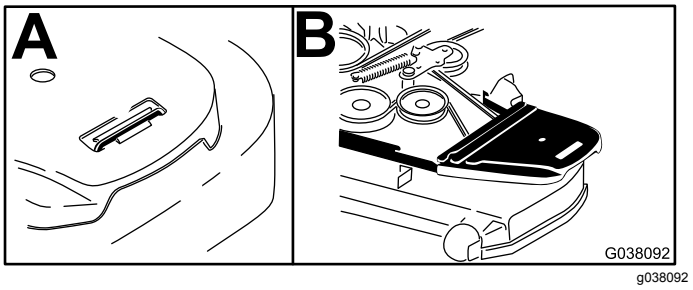


Figure 23

3. Remove the right belt-cover bracket, **2 washers (60-inch mower deck only)**, and 2 flange nuts from the mower deck (Figure 24).

   Note: Retain the hardware that you removed during this procedure so that it is available for changeover.

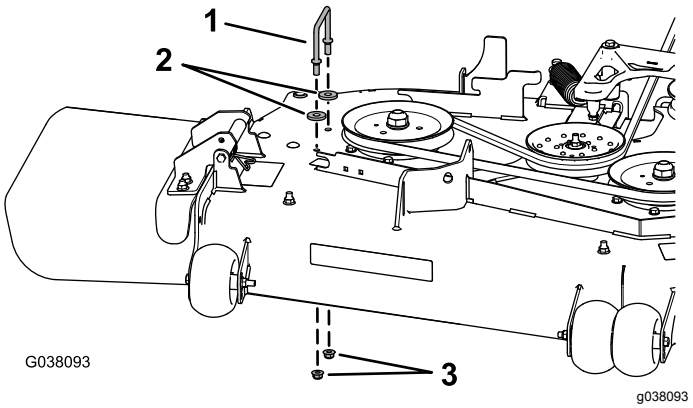


Figure 24

1. Right belt-cover bracket
2. Washers-only on 152 cm (60 inch) mower deck
3. Flange nuts

4. Remove the locknut, bolt, spring, and spacer holding the deflector to the pivot brackets (Figure 25).

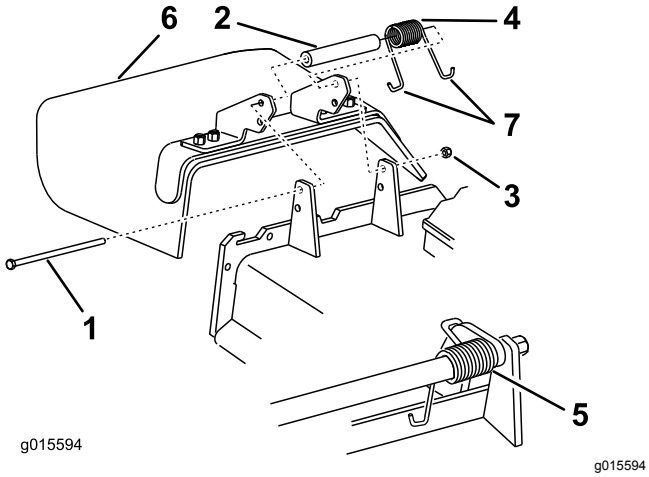


Figure 25

1. Bolt
2. Spacer
3. Locknut
4. Spring
5. Spring installed
6. Grass deflector
7. J-hook end of spring

5. Remove the grass deflector (Figure 25).

14

Installing the Blower-Pulley Assembly and Belt-Cover Bracket

Parts needed for this procedure:

1	Blower-pulley assembly
1	Belt-cover bracket
1	Speed nut
2	Carriage bolt (1/4 x 3/4 inch)
2	Locknut (1/4 inch)
3	Locknut (3/8 inch)
1	Blower pulley
1	Locknut (3/4 inch)
1	Washer
1	Pulley mount

Procedure

1. On the mower, remove the spring tension from the spring-loaded idler pulley; refer to Figure 26 or Figure 28.

   Note: For blower models 78483, 78484, 78485, 78401, 78402, and 78403, use the spring-removal tool (Toro Part No. 92-5771) to remove the spring from the mower-deck post (Figure 27).

   Note: For blower models 78486, 78487, 78488, 78404, 78405, and 78406, use a ratchet in the square hole in the idler arm to remove tension on the idler spring (Figure 28).

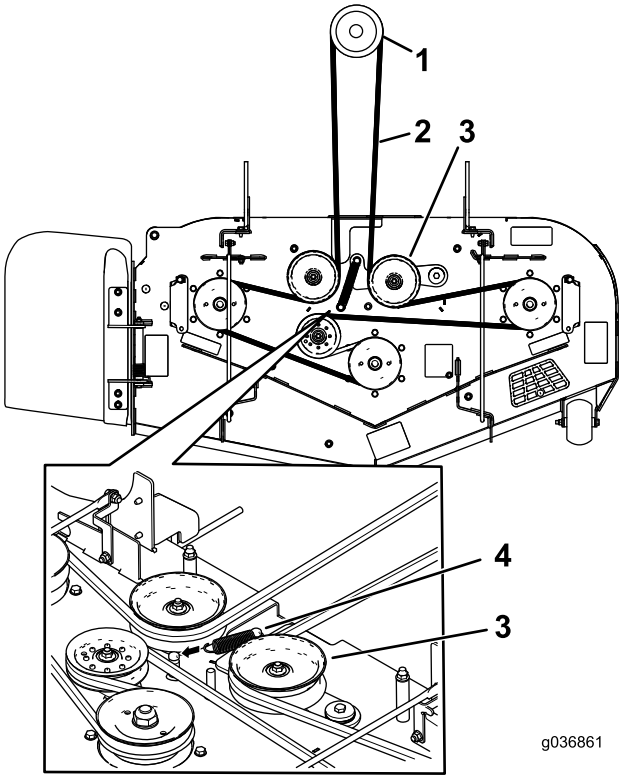


Figure 26

Models 78483, 78484, 78485, 78401, 78402, and 78403

1. Clutch pulley
2. Mower belt
3. Spring-loaded idler pulley
4. Spring

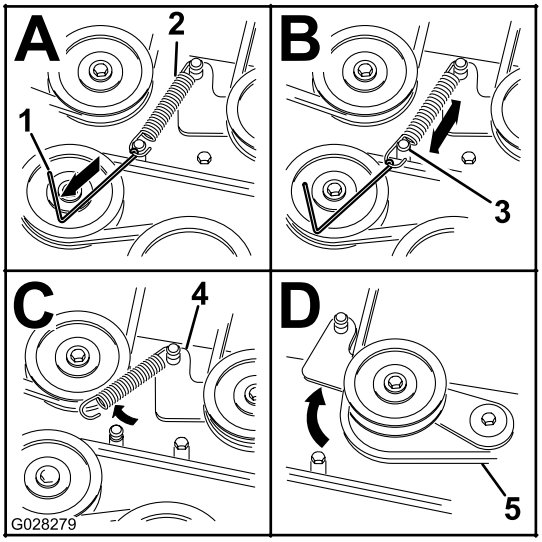


Figure 27

Models 78483, 78484, 78485, 78401, 78402, and 78403

1. Spring-removal tool (Toro Part No. 92-5771)
2. Idler spring
3. Mower-deck post
4. Idler arm
5. Mower belt

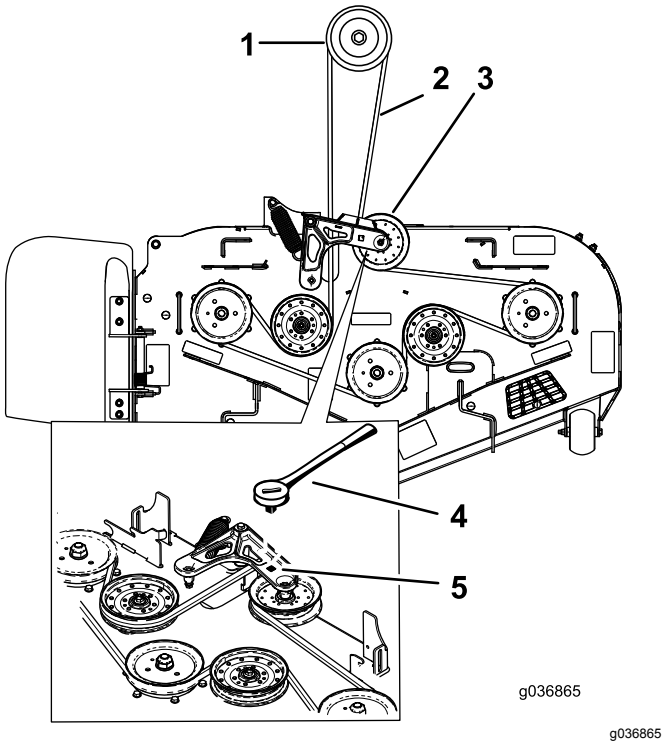


Figure 28

Models 78486, 78487, 78488, 78404, 78405, and 78406

1. Clutch pulley
2. Mower belt
3. Spring-loaded idler pulley
4. Ratchet
5. Square hole in the idler arm for the ratchet

2. Remove the belt from the right mower-deck pulley.
3. Use a 1-1/2 inch wrench to hold the spindle shaft, as you remove the locknut (3/4 inch) and washer from the spindle shaft (Figure 29).

   Note: Set aside the locknut (3/4 inch) and washer for blower models 78486, 78487, 78488, 78404, 78405, and 78406.

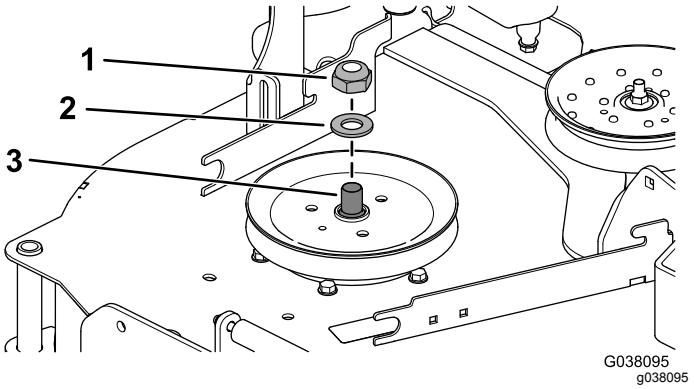


Figure 29

1. Locknut (3/4 inch)
2. Washer
3. Right spindle shaft

4. Use a 1-1/2 inch wrench to hold the spindle shaft, as you install the double pulley onto the right spindle shaft.
   - For **blower models 78483, 78484, 78485, 78401, 78402, and 78403**, perform the following procedure:
     A. Use the locknut (3/4 inch) and washer to secure the new double pulley onto the right spindle shaft (Figure 30).
     B. Torque the locknut (3/4 inch) to 176 to 217 N·m (130 to 160 ft-lb).

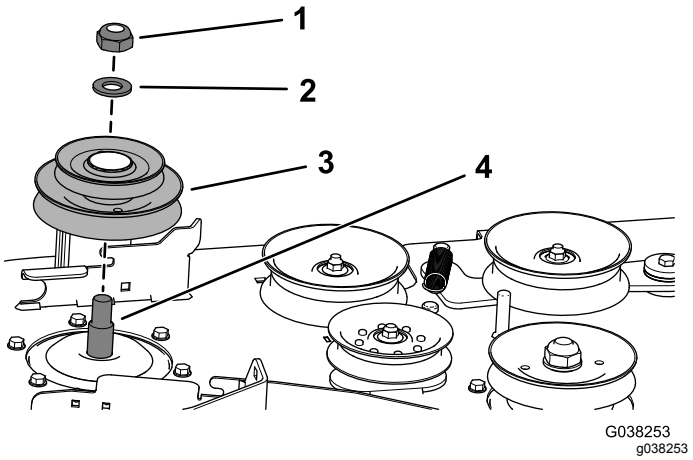


Figure 30

1. Locknut (3/4 inch)
2. Washer
3. Double pulley
4. Right spindle shaft

   - For **blower models 78486, 78487, 78488, 78404, 78405, and 78406**, perform the following procedure:
     A. Insert the threaded studs on pulley mount through the holes in the deck pulley (Figure 31).
     B. Use the locknut (3/4 inch) and washer that you set aside earlier to secure the deck pulley to the spindle shaft (Figure 31).
     C. Torque the locknut (3/4 inch) to 176 to 217 N·m (130 to 160 ft-lb).
     D. Arrange the blower pulley onto the threaded studs and loosely install the locknut (Figure 31).
     E. Rotate the blower pulley clockwise until it stops.
     F. Torque the 3 locknuts to 18 N·m (13 ft-lb).

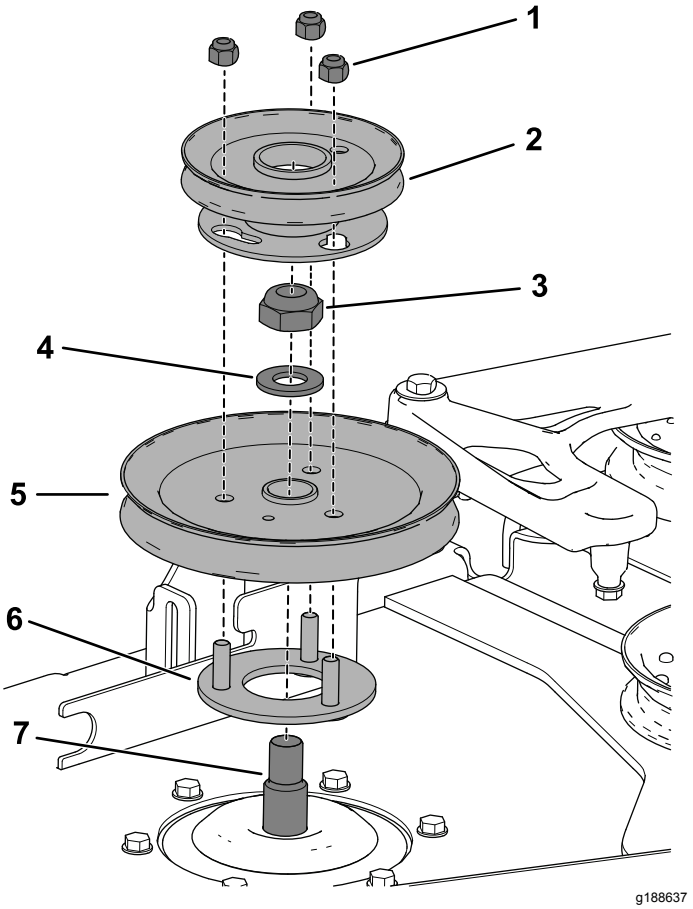


Figure 31

1. Locknut (3/8 inch)
2. Blower pulley
3. Locknut (3/4 inch)
4. Washer
5. Existing deck pulley
6. Pulley mount
7. Right spindle shaft

5. Ensure that the blade bolt is torqued to 115 to 149 N·m (85 to 110 ft-lb).
6. Install the mower belt around the lower pulley of the double pulley (Figure 32).

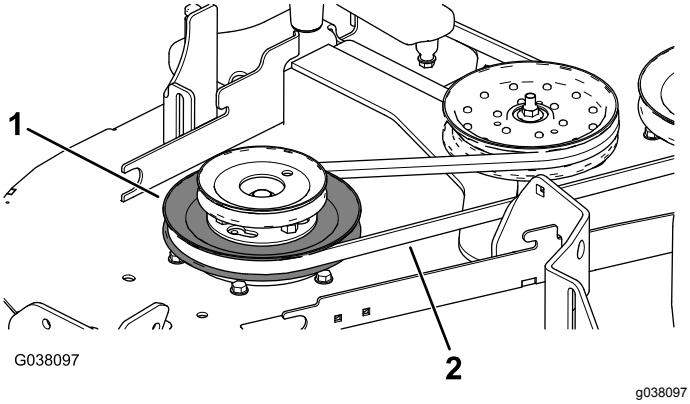


Figure 32

1. Lower pulley
2. Mower belt

7. Install the belt-cover bracket to the mower deck using 2 carriage bolts (1/4 x 3/4 inch) and 2 locknuts (1/4 inch) as shown in Figure 33.
8. Install the speed nut onto the belt-cover bracket (Figure 33).

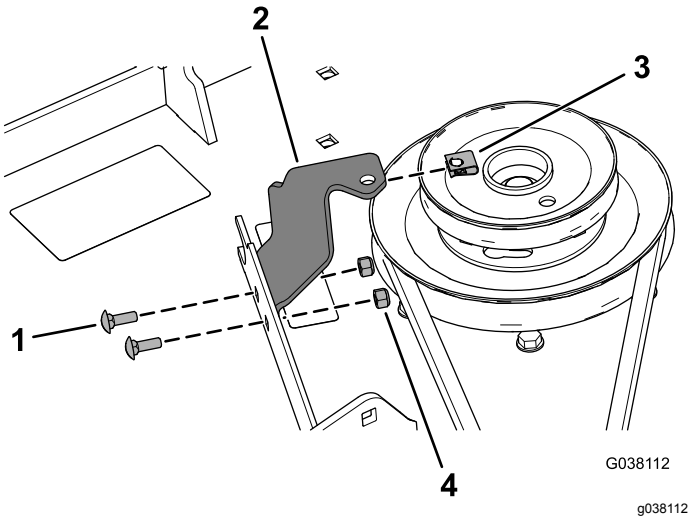


Figure 33

1. Carriage bolt (1/4 x 3/4 inch)
2. Belt-cover bracket
3. Speed nut
4. Locknut (1/4 inch)

9. Install the mower deck belt around the spring-loaded idler pulley (Figure 26 or Figure 28).
10. Use the spring-removal tool (Toro Part No. 92-5771) to attach the spring to the spring-loaded idler pulley.

15

Installing the Baffle

Parts needed for this procedure:

1	Baffle
1	Carriage bolt (5/16 x 7/8 inch)
1	Flange nut (5/16 inch)
2	Carriage bolt (3/8 x 7/8 inch)
2	Flange nut (3/8 inch)

Procedure

1. Remove the 2 existing flange nuts (3/8 inch) and 2 carriage bolts (3/8 x 7/8 inch) from the mower deck (Figure 34).

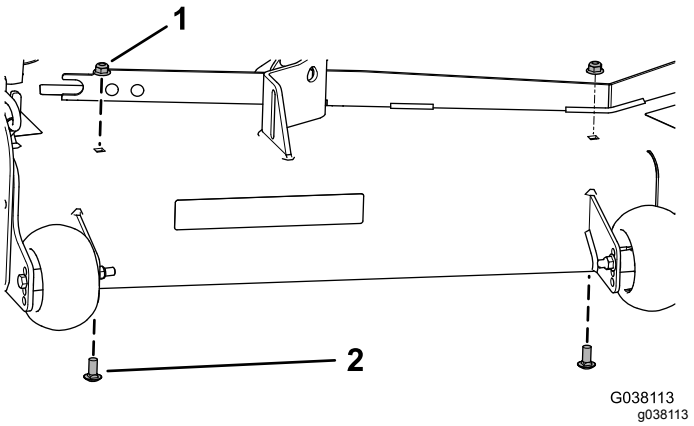


Figure 34

1. Flange nut (3/8 inch)
2. Carriage bolt (3/8 x 7/8 inch)

2. Install the baffle using the carriage bolt (5/16 x 7/8 inch), flange nut (5/16 inch), 2 carriage bolts (3/8 x 7/8 inch), and 2 flange nuts (3/8 inch) as shown in Figure 35.

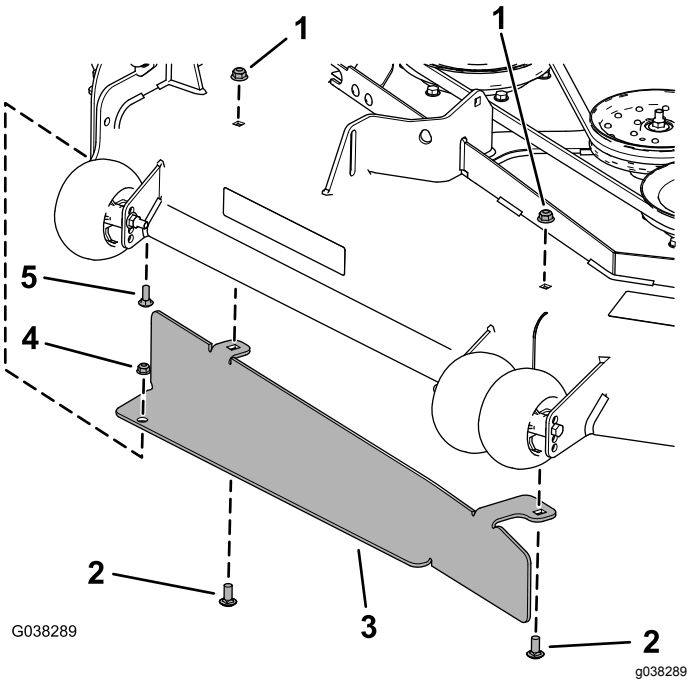


Figure 35

1. Flange nut (3/8 inch)
2. Carriage bolt (3/8 x 7/8 inch)
3. Baffle
4. Flange nut (5/16 inch)
5. Carriage bolt (5/16 x 7/8 inch)

16

Installing the Blower Assembly

Parts needed for this procedure:

1	Blower assembly
1	Blower belt
1	Pivot pin
1	Roll pin (3/16 x 7/8 inch)

Blower Models 78483 to 78488

Verify that the pivot pin is secured on the blower assembly in the correct location (Figure 36).

- If you have a 48-inch or 52-inch mower deck, install the pivot pin in the front hole (Figure 36).
- If you have a 60-inch mower deck, install the pivot pin in the rear hole (Figure 36).

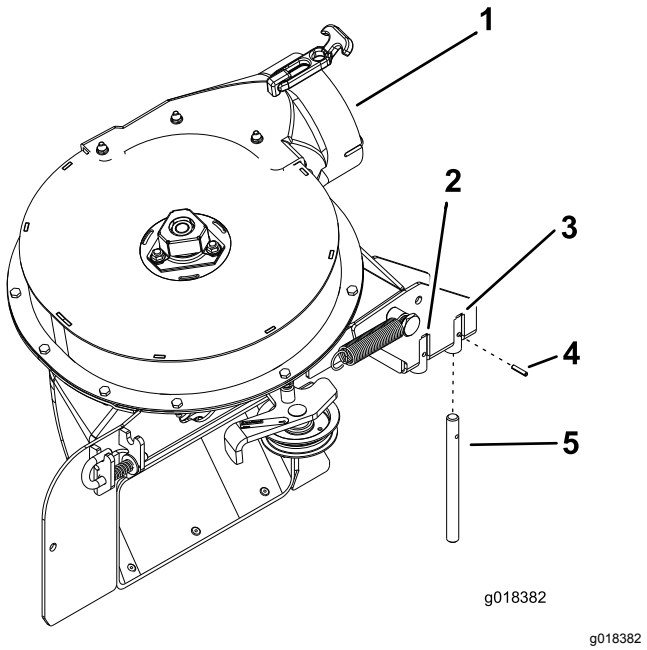


Figure 36

Blower for 60-inch mower deck shown

1. Blower assembly
2. Front hole (48-inch or 52-inch mower deck)
3. Rear hole (60-inch mower deck)
4. Roll pin (3/16 x 7/8 inch)
5. Pivot pin

1. Align the pivot pin on the blower with the pivot-pin hole in the mower deck (Figure 37).

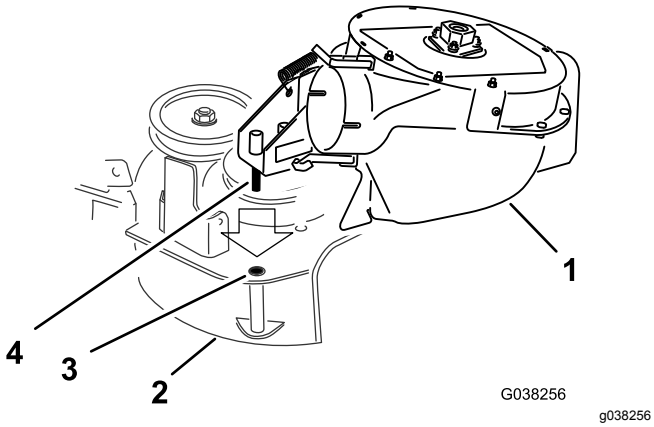


Figure 37

Installing the blower to the deck-pivot hole

1. Blower assembly
2. Deck
3. Pivot hole
4. Blower-pivot pin

2. Arrange the blower belt around the blower pulley (Figure 38).

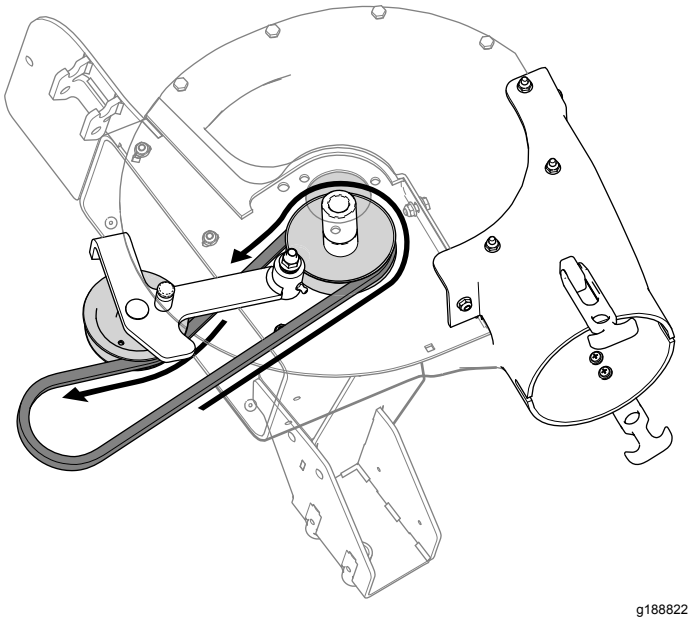


Figure 38

3. Lower the blower and slide the pivot pin into the pivot hole (Figure 37).

   Note: Ensure that the blower belt remains positioned in the blower pulley.

4. Move the latch pin from the locking position to the open position (Figure 39).

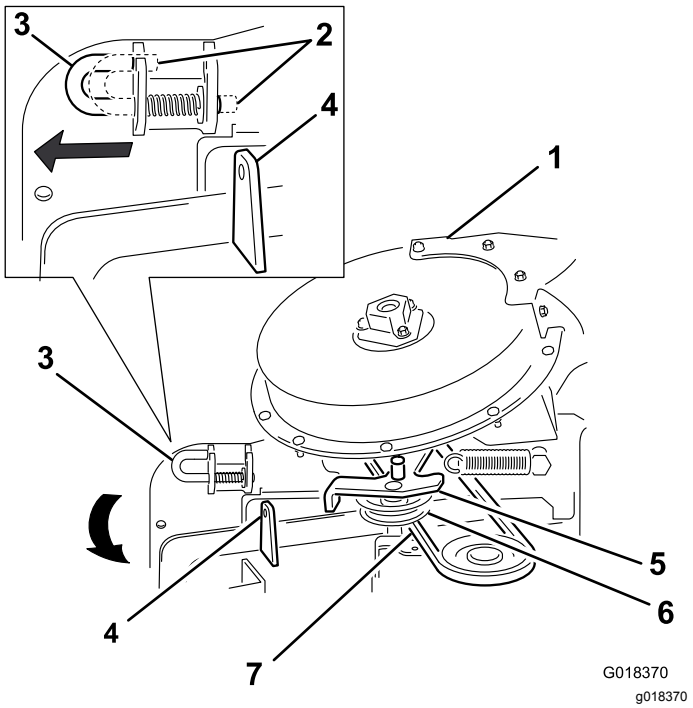


Figure 39

Securing the blower to the chute bracket

1. Blower assembly
2. Latch pin (locking position)
3. Latch pin (open position)
4. Chute bracket
5. Idler-pivot bracket
6. Idler pulley
7. Blower belt (beneath the idler pulley)

5. Close the blower assembly and align the latch pin with the hole in the chute bracket (Figure 39).
6. Move the latch pin to the locking position.

   Note: Ensure that the latch pin extends through the hole in the chute bracket.

   Note: Ensure that the latch firmly holds the blower assembly against the mower deck, but can be released by hand.

Blower Models 78401 to 78406

Verify that the pivot pin is secured on the blower assembly in the correct location (Figure 40).

- If you have a 48-inch or 52-inch mower deck, install the pivot pin in the front hole (Figure 40).
- If you have a 60-inch mower deck, install the pivot pin in the rear hole (Figure 40).

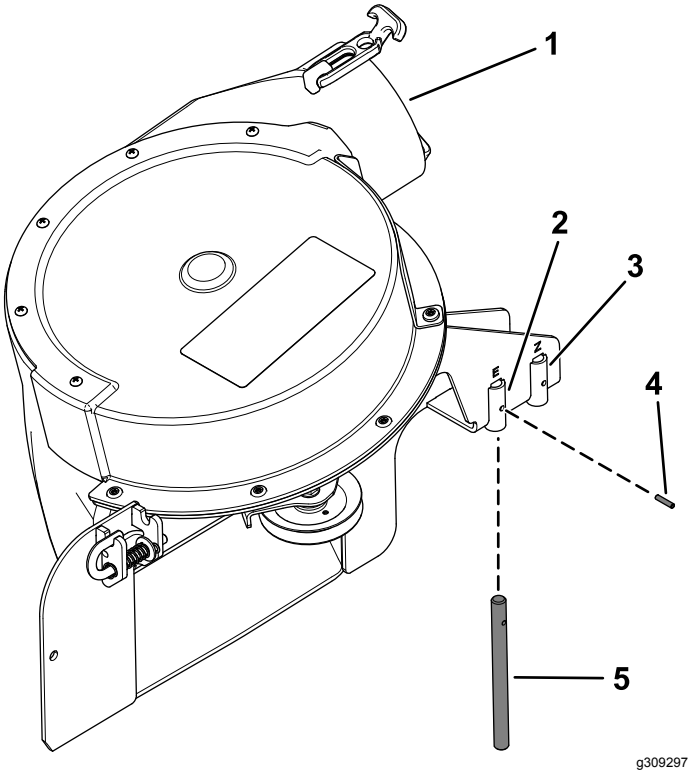


Figure 40

Blower for 48-inch and 52-inch mower deck shown

1. Blower assembly
2. Front hole (48-inch and 52-inch mower deck)
3. Rear hole (60-inch mower deck)
4. Pivot pin
5. Roll pin

1. Align the pivot pin on the blower with the pivot-pin hole in the mower deck (Figure 41).

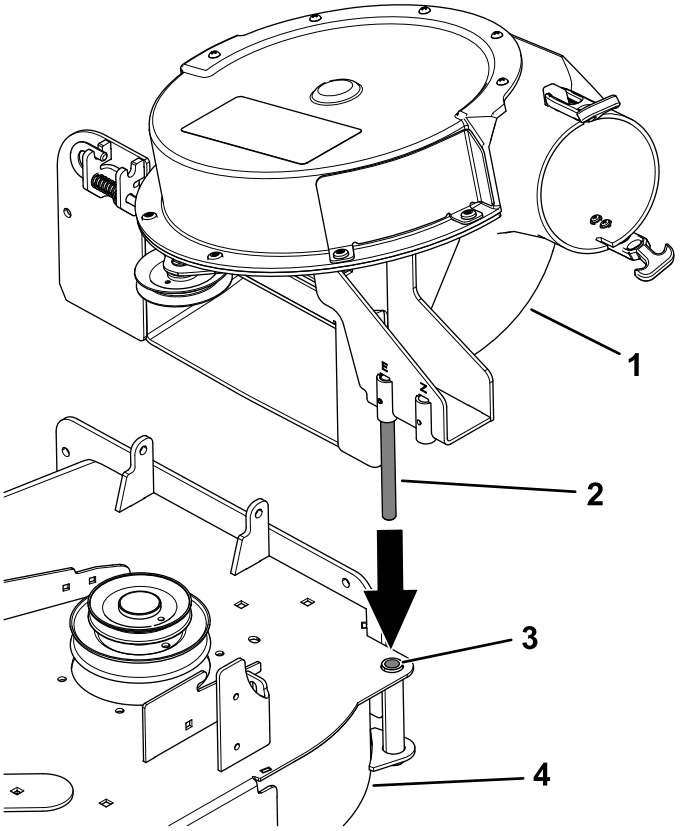


Figure 41

1. Blower assembly
2. Blower-pivot pin
3. Pivot hole
4. Deck

2. Install the belt around the pulleys inside the blower (Figure 42).

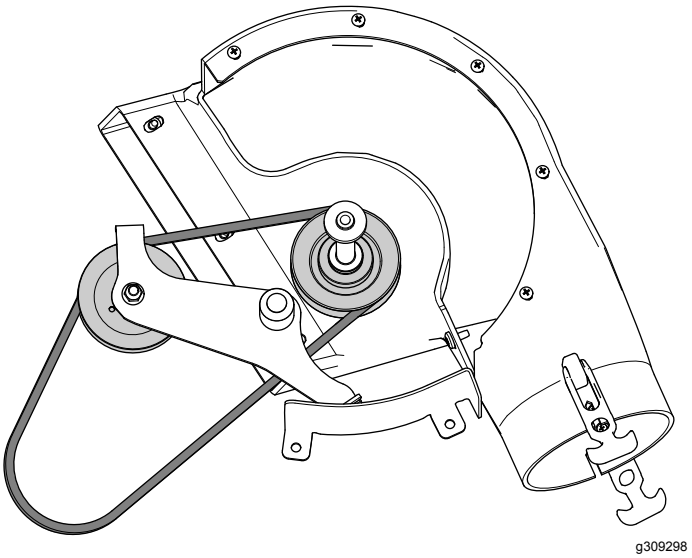


Figure 42

3. Lower the blower and slide the pivot pin into the pivot hole (Figure 41).

   Note: Ensure that the belt remains positioned in the blower pulley.

4. Move the latch pin from the locking position to the open position (Figure 43).

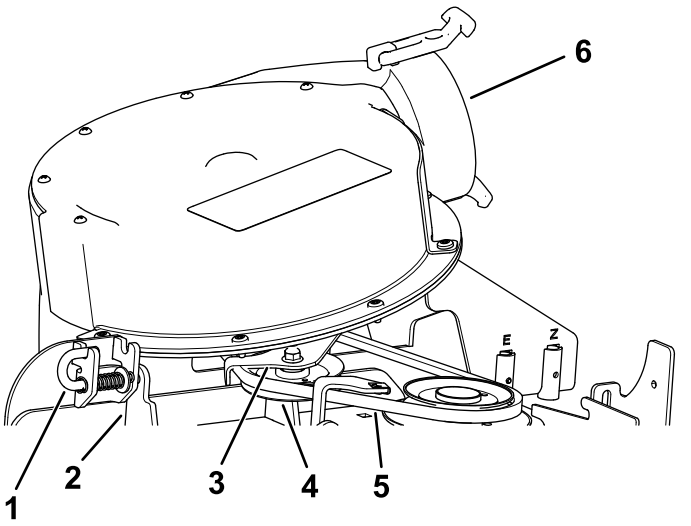


Figure 43

1. Latch pin
2. Chute bracket
3. Idler-pivot bracket
4. Idler pulley
5. Belt (beneath the idler pulley)
6. Blower assembly

5. Close the blower assembly and align the latch pin with the hole in the chute bracket (Figure 43).
6. Move the latch pin to the locking position.

   Note: Ensure that the latch pin extends through the hole in the chute bracket.

   Note: Ensure that the latch firmly holds the blower assembly against the mower deck, but you can release it by hand.

17

Installing the Blower Belt, Spring, and Blower-Belt Cover

Parts needed for this procedure:

1	Blower-belt cover
1	Cover knob

Blower Models 78483 to 78488

1. Arrange the blower belt around the drive pulley (Figure 44).

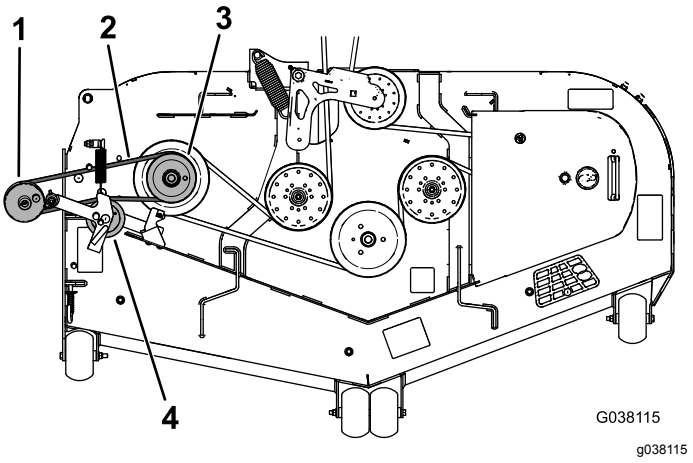


Figure 44

Blower assembly not shown to show the blower pulley

1. Blower pulley
2. Blower belt
3. Drive pulley
4. Idler/tension pulley

2. Temporarily route the belt beneath the idler pulley (Figure 45).

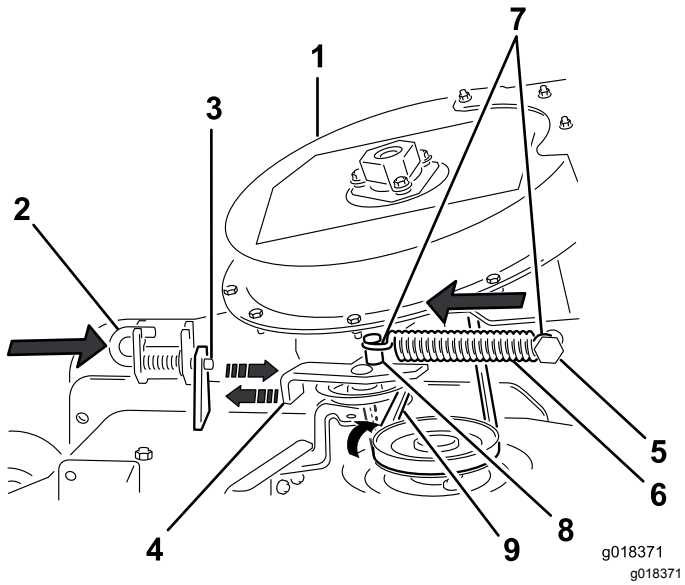


Figure 45

Installing the tension spring and aligning the belt

1. Blower assembly
2. Latch pin (locking position)
3. Chute bracket
4. Idler-pivot bracket
5. Fixed spring post
6. Spring
7. Spring (hook end)
8. Idler-spring post
9. Belt (aligned to the idler pulley)

3. Move the idler-pivot bracket toward the fixed spring post and install the spring by aligning the spring hook onto the idler-spring post (Figure 45).

   Note: Ensure that the spring hooks are positioned correctly on the spring posts.

4. Pull the spring-loaded idler pulley away from the fixed spring post, and route the belt around the deck pulley (Figure 45).

   Note: Ensure that the belt is correctly routed around the blower pulley.

5. Install the blower-belt cover over the blower belt and secure the blower-belt cover with the belt knob (Figure 46).

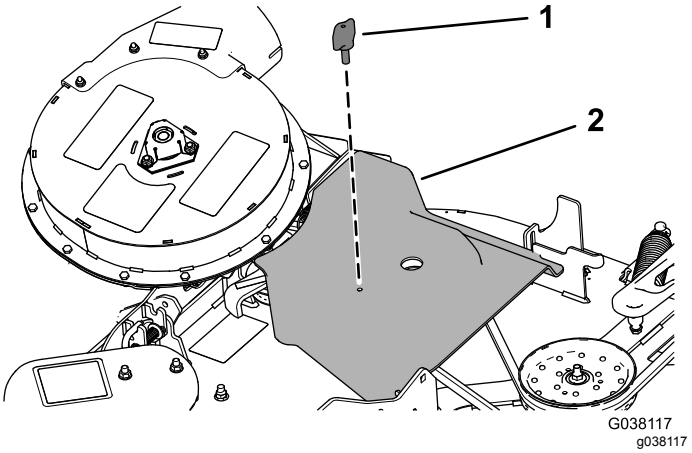


Figure 46

1. Cover knob
2. Blower-belt cover

Blower Models 78401 to 78406

1. Pull back the spring-loaded idler pulley and route the blower belt around the drive pulley (Figure 47).

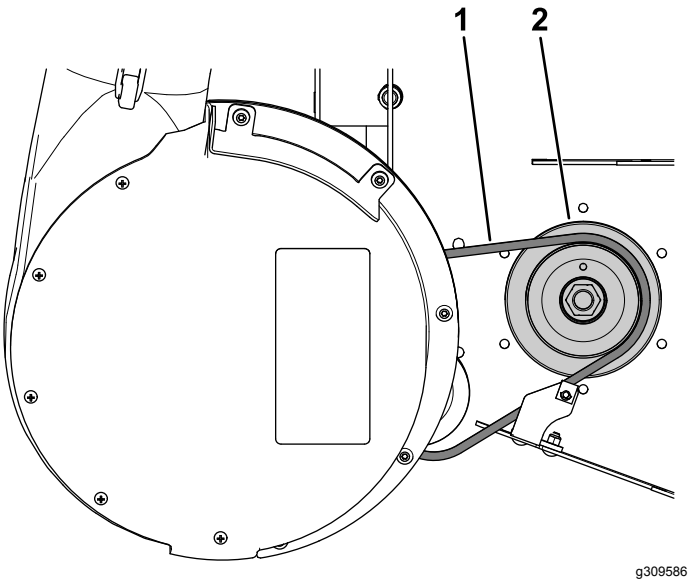


Figure 47

1. Blower belt
2. Drive pulley

2. Install the blower-belt cover over the blower belt and secure the blower-belt cover with the knob (Figure 48).

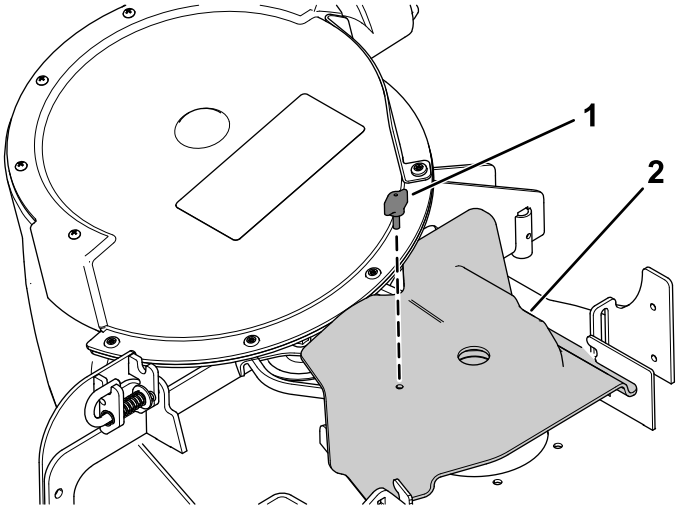


Figure 48

1. Knob
2. Belt cover

18

Installing the Discharge Tubes

Parts needed for this procedure:

1	Upper tube
1	Lower tube
3	Bolt (#10 x 3/4 inch)
3	Locknut (#10)
3	Washer (7/32 inch)

Procedure

1. Disengage the PTO and engage the parking brake.
2. Shut off the engine, remove the key, and wait for all moving parts to stop before you leave the operating position.
3. Lower the machine deck to the lowest height-of-cut position.
4. Remove the bags for viewing the tube under the hood.
5. Shorten the upper tube as follows:
   A. Locate the 3 holes in the upper tube. Measure 152 mm (6 inches) up from the end of the tube and mark the location in all 3 areas (Figure 49).

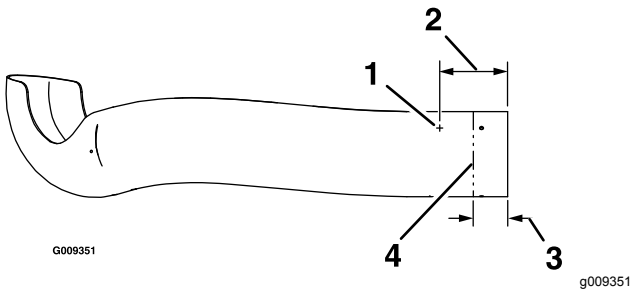


Figure 49

1. New hole location
2. Measure 152 mm (6 inches).
3. Measure at 3 locations—76 to 89 mm (3-1/2 inches).
4. Cut the tube here.

   B. Drill 3 holes (4.8 mm or 3/16 inch) as shown in Figure 49.
   C. Measure at 3 locations—76 to 89 mm (3 to 3-1/2 inches) from the end of the tube, create the marks, and apply masking tape around the tube as a guide (Figure 49).
   D. Carefully cut the tube and discard the end.
6. Install the upper tube into the bagger opening and pull it back out so that the hopper seal is protruding out (Figure 50).

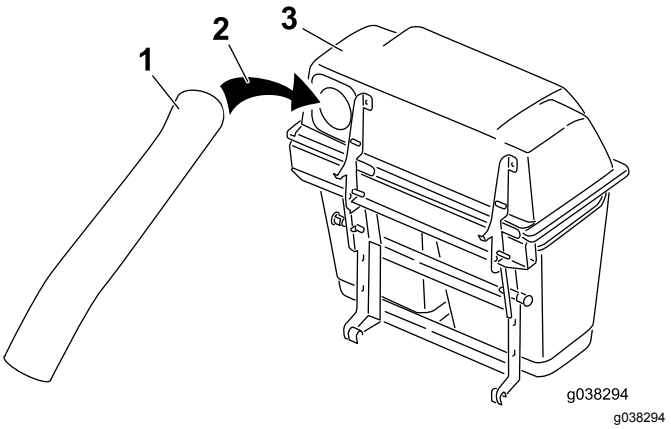
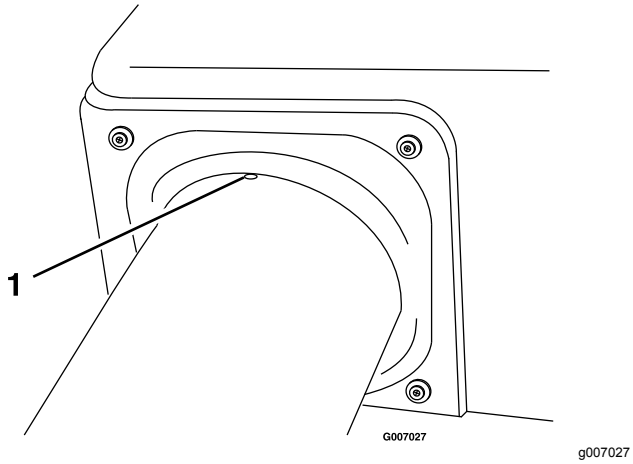


Figure 50

1. Upper tube
2. Bagger opening
3. Bagger hood

7. Align the dimple in the upper tube equally between the screws securing the hopper seal to the hopper (Figure 51).

Note: The hopper seal must protrude outward from the bagger hood.

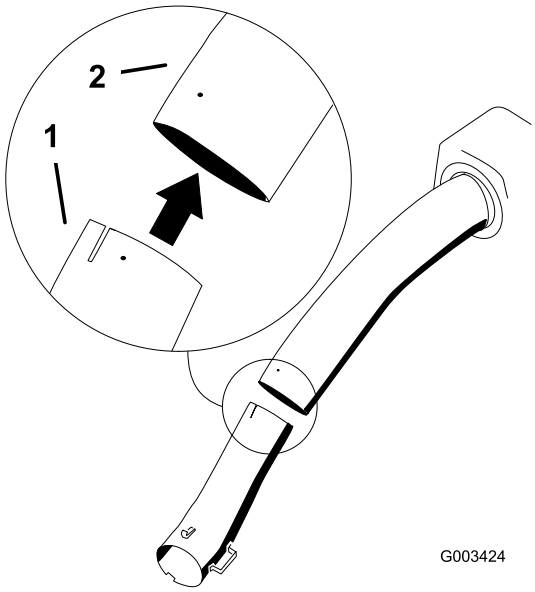


g007027

Figure 51

1. Dimple

8. Install the lower tube into the upper tube (Figure 52).



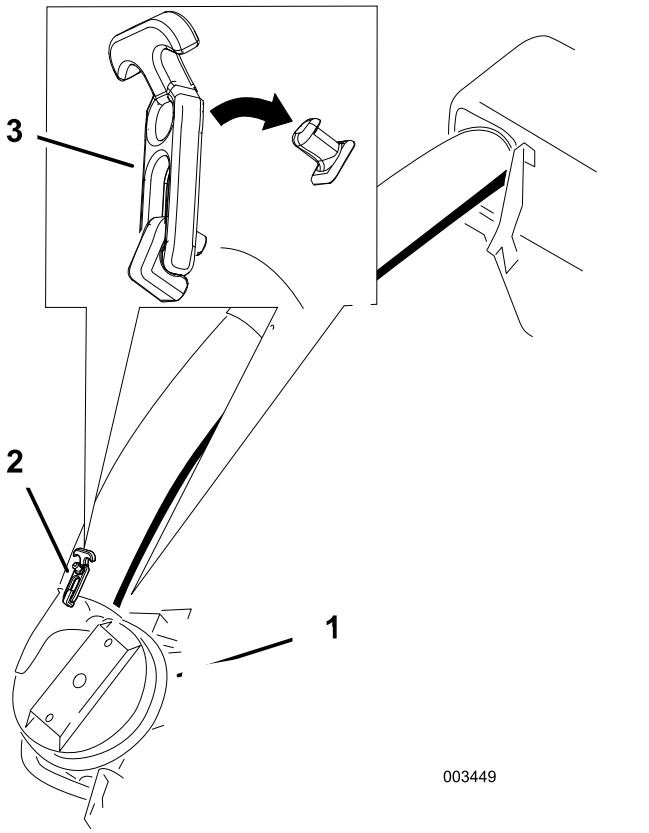
g003424

Figure 52

1. Lower tube
2. Upper tube

9. Slide the lower tube onto the blower housing and latch them together (Figure 53).

Note: There is a latch on the top and bottom of the blower housing.



g003449

Figure 53

1. Blower assembly
2. Lower tube
3. Latch (twin bagger shown)

10. Ensure that the machine deck is in the lowest height-of-cut position.
11. Verify that the dimple from Figure 51 is still in place.
12. Using the 3 holes or indentations in the upper tube as a template, drill 3 holes (7/32 inch)

where the upper and lower tubes join together (Figure 54).

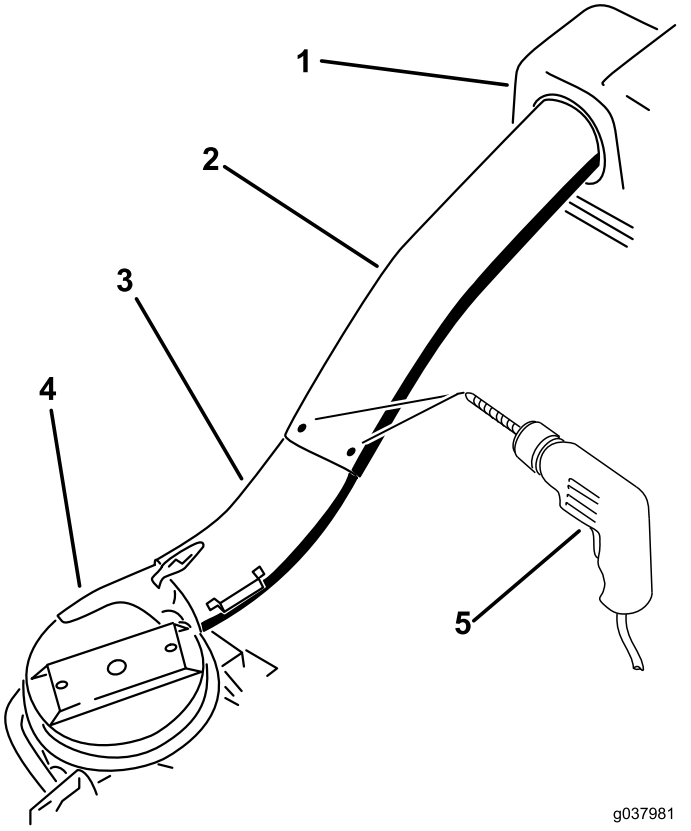


Figure 54

1. Bagger hood
2. Upper tube
3. Lower tube
4. Blower assembly
5. Drill 7/32 inch holes

13. Remove the lower tube from the blower housing.

14. Join the upper and lower tubes with 3 bolts (#10 x 3/4 inch), flat washers, and locknuts as shown in Figure 55.

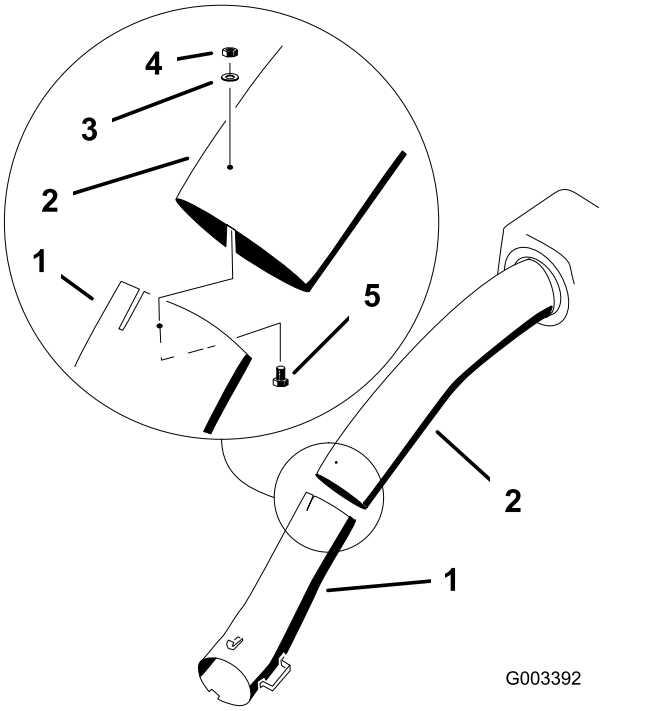


Figure 55

1. Lower tube
2. Upper tube
3. Flat washer (7/32 inch)
4. Locknut (#10)
5. Bolt (#10 x 3/4 inch)

15. Install the lower tube onto the blower housing and secure it with the latches.

19

Adjusting the Parking Brake

No Parts Required

Procedure

Check to ensure that the parking brake is adjusted properly. Refer to your *Operator's Manual* for the correct procedure.

20

Checking the Tire Pressure

No Parts Required

Procedure

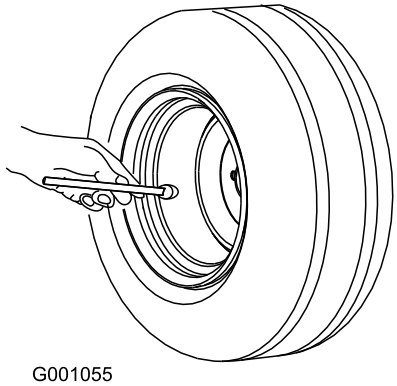
Increase the tire pressure due to the additional weight.

Note: This is not applicable with semi-pneumatic tires.

Check and increase the air pressure in the front caster wheels and rear tires (Figure 56).

Air pressure in the rear tires: 138 kPa (20 psi)

Air pressure in the front caster wheels: 172 kPa (25 psi)



G001055

g001055

Figure 56

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

⚠ WARNING

To avoid personal injury, follow these procedures:

- **Become familiar with all operating and safety instructions in the *Operator's Manual* for the mower before using this attachment.**
- **Never remove the discharge tube, bags, bagger top, or the chute while the engine is running.**
- **Always shut the engine off and wait for all moving parts to stop before clearing an obstruction from the bagging system.**
- **Never do maintenance or repairs while the engine is running.**

⚠ WARNING

Without the grass deflector, bagger tubes or complete bagger assembly mounted in place, you and others are exposed to blade contact and thrown debris. Contact with the rotating mower blade(s) and thrown debris will cause injury or death.

- **Always install the grass deflector when removing the bagger and changing to side discharge mode.**
- **If the grass deflector is ever damaged, replace it immediately. The grass deflector routes material down toward the turf.**
- **Never put your hands or feet under the mower.**
- **Never try to clear the discharge area or mower blades unless you move the power take off (PTO) to off and rotate the ignition key to off. Also remove the key and pull the wire off of the spark plug(s).**
- **Turn off the engine before unclogging the discharge chute.**

Emptying the Grass Bags

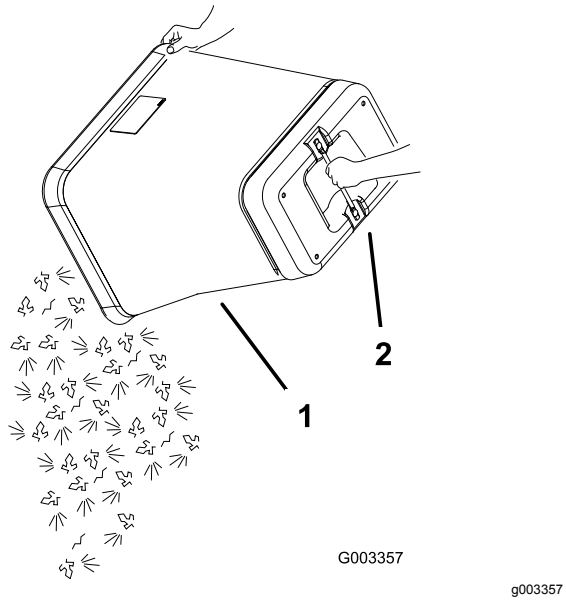
⚠ WARNING

Debris, such as leaves, grass, or brush can catch fire. A fire in the engine area can cause personal injury and property damage.

- **Keep the engine and muffler area free of debris accumulation.**
- **Take care when opening the bagger cover to keep debris from falling onto the engine and muffler area.**
- **Allow the machine to cool before storing it.**

Grass bags are heavy when full. Be careful when lifting or handling a grass bag that is full.

1. Park the machine on a level surface and disengage the blade control switch.
2. Move the motion control levers outward to the neutral lock position, shut off the engine, remove the key, set the parking brake and wait for all moving parts to stop before leaving the operating position.
3. Unlatch the bagger latch.
4. Open the bagger hood.
5. Compress the debris into the bags. With both hands, lift up on the bag and unhook it from the bagger bracket.
6. Grab the handle on the bottom of the bag and tip it over to empty the bag (Figure 57).



g003357

Figure 57

1. Bag
2. Bottom handle

7. Install the bag tab into the notch in the bagger support frame.
8. Lower the bagger hood over the bags.
9. Latch the bagger hood.

Clearing Obstructions from the Bagger

⚠ WARNING

When the bagger is in operation, the blower is rotating and can cut off or injure hands and fingers.

- **Before adjusting, cleaning, repairing and inspecting the blower, and before unclogging the chute, shut off the engine and wait for all moving parts to stop. Remove the key.**
- **Use a stick or similar object, not your hands, to remove an obstruction from the blower and tube.**
- **Keep your face, hands, feet, and any other part of your body or clothing away from concealed, moving, or rotating parts.**

1. Park the machine on a level surface and disengage the blade control switch.
2. Move the motion control levers outward to the neutral lock position, stop the engine, remove the key, set the parking brake and wait for all moving parts to stop before leaving the operating position.
3. Check the grass bags and empty them if they are full.
4. Remove and separate the discharge tube and chute from the bagger top and mower. Using a stick or similar object, carefully remove and clear the obstruction from the mower, discharge tube, chute, and the bagger top.
5. After you remove the obstruction, install the complete bagger system and resume operation.

Removing the Bagger

⚠ CAUTION

Failing to remove the front bagger weights and operating the machine without the bagger attachment may cause an unstable condition which could result in a loss of control.

- **Always remove the front weights when removing the bagger attachment.**
- **Never operate the machine without the bagger attachment and the front weights still installed.**

You can remove the bagger by repeating the Setup sections from all installed bagger related kits in reverse order. If weights are installed, always remove the front bagger weights when removing the bagger attachments.

Note: It is only necessary to remove the cutoff baffle when installing a mulching kit.

Transporting the Machine

Do not leave grass or debris in the bagger while transporting the machine.

⚠ DANGER

Transporting the machine with grass or debris in the bagger can damage the machine.

Do not leave grass or debris in the bagger while transporting the machine.

Operating Tips

Tips for Bagging

Remembering the Size

Remember that the machine is longer and wider with this attachment installed. By turning too sharply in confined places you may damage the attachment.

Trimming

Always trim with the left side of the mower. Do not trim with the right side of the mower because you could damage the bagger chute and discharge tube.

Cutting Height

Do not set the mower cutting height too low because long grass surrounding the mower can prevent air from getting under the mower and entering the bagging system. If not enough air gets under the mower, the bagging system will plug.

Cutting Frequency

Cut the grass often, especially when it grows rapidly. You will have to cut your grass twice if it gets excessively long.

Cutting Technique

For best lawn appearance, be sure to slightly overlap the mower into the previously cut area. This helps reduce the load on the engine and reduces the chance of plugging the chute and discharge tube.

Bagging Speed

Most often, you will bag with the mower throttle in the FAST position and drive at a normal ground speed. However, in extremely dry and dusty grass, you may want to slightly reduce the throttle speed and increase the ground speed of the mower. The bagging system may plug if you drive too fast and the engine speed gets too slow. On hills, it may be necessary to slow the mower ground speed. This helps maintain the engine speed and bagging efficiency. Mow downhill whenever possible.

⚠ CAUTION

As the bagger fills, extra weight is added to the back of the machine. If you stop and start the machine suddenly on hills, you may lose steering control or the machine may tip.

- **Do not start or stop suddenly when going uphill or downhill. Avoid uphill starts.**
- **If you do stop the machine when going uphill, disengage the blade control. Then back down the hill using a slow speed.**
- **Avoid sudden turns or rapid speed changes on slopes.**
- **Never operate the machine without the bagger attachment and the front weights still installed.**

Bagging Long Grass

Excessively long grass is heavy and may not be propelled completely into the grass bags. If this happens, the discharge tube and chute may plug. To avoid plugging the bagging system, mow the grass at a high height of cut, then lower the mower to your normal cutting height and repeat the bagging process.

Bagging Wet Grass

Always try to cut grass when it is dry because your lawn will have a neat appearance. If you must cut wet grass, use the conventional side discharge feature of the mower. Several hours later, when the clippings are dry, install the complete bagger attachment and vacuum up the grass clippings.

Signs of Plugging

As you are bagging, a small amount of grass clippings normally blow out the front of the mower. An excessive amount of clippings blowing out indicates that the bags are full or the system is plugged.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	• Inspect the blower belt. • Inspect the bagger.
After the first 10 hours	• Inspect the bagger
Before each use or daily	• Clean the hood screen. • Clean the bagger.
Every 25 hours	• Inspect the blower belt.
Every 50 hours	• Grease the idler arm (blower models 78483 to 78488 only).
Every 100 hours	• Inspect the bagger.
Before storage	• Inspect the bagger

⚠ WARNING

If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.

⚠ WARNING

Engines can become hot when they are operating. Burns can occur from contacting hot surfaces.

Allow engines, especially the muffler, to cool before touching.

⚠ WARNING

Debris, such as leaves, grass, or brush can catch fire. A fire in the engine area can cause personal injury and property damage.

- **Keep the engine and muffler area free of debris accumulation.**
- **Take care when opening the bagger cover to keep debris from falling onto the engine and muffler area.**
- **Allow the machine to cool before storing it.**

Cleaning the Hood Screen

Service Interval: Before each use or daily

The screens need to be cleaned before each use.

1. Park the machine on a level surface.
2. Disengage the blade-control switch, engage the parking brake, and move the motion-control levers outward to the NEUTRAL-LOCK position.
3. Shut off the engine and remove the key.
4. Open the bagger hood.
5. Clean the debris from the screen.
6. Close the bagger hood.

Inspecting the Bagger Attachment

Service Interval: After the first 10 hours

Before storage

Inspect the bagger attachment after the first 10 hours of operation, and monthly thereafter.

1. Check the chute, discharge tube, and the bagger top. Replace these parts if they are cracked or broken.
2. Tighten all nuts, bolts, and screws.
3. Inspect all fasteners and latches; replace any missing or damaged.
4. Inspect the grass bags for deterioration.

⚠ WARNING

You or bystanders could be severely injured by flying debris or thrown objects that may pass through torn, worn, or deteriorated grass bags.

- **Check the grass bags for holes, rips, wear, and other deterioration.**
- **Do not wash the grass bags.**
- **If the bag has deteriorated, install new grass bags supplied by the manufacturer of this bagger attachment.**

Cleaning the Bagger and Bags

Service Interval: Before each use or daily

The bagger needs to be cleaned daily.

1. Wash the inside and outside of the bagger hood, bags, tube, and the underside of the mower deck. Use a mild automotive detergent to remove dirt.
2. Ensure that you remove matted grass from all parts.
3. After washing all the parts, let them dry thoroughly.

Note: With all parts installed, start and run the machine for approximately 1 minute to assist in drying.

Inspecting the Blower Belt

Service Interval: After the first 8 hours

Every 25 hours

Check belts for cracks, frayed edges, burn marks, or any other damage. Replace any belts that are damaged.

Replacing the Blower Belt

Blower Models 78483 to 78488

1. Park the machine on a level surface.
2. Disengage the blade-control switch, engage the parking brake, and move the motion-control levers outward to the NEUTRAL-LOCK position.
3. Shut off the engine and remove the key.
4. Pull back on the spring-loaded idler pulley to relieve the belt tension (Figure 58).

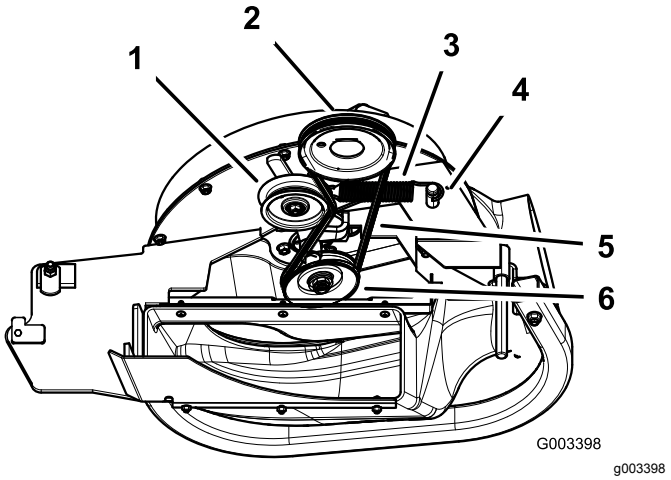


Figure 58

1. Idler pulley
2. Mower-deck pulley
3. Spring
4. Spring peg
5. Belt
6. Blower pulley

5. Remove the existing blower belt.
6. Install the new belt around the blower pulley (Figure 58).

7. Install the spring as shown in Figure 59.

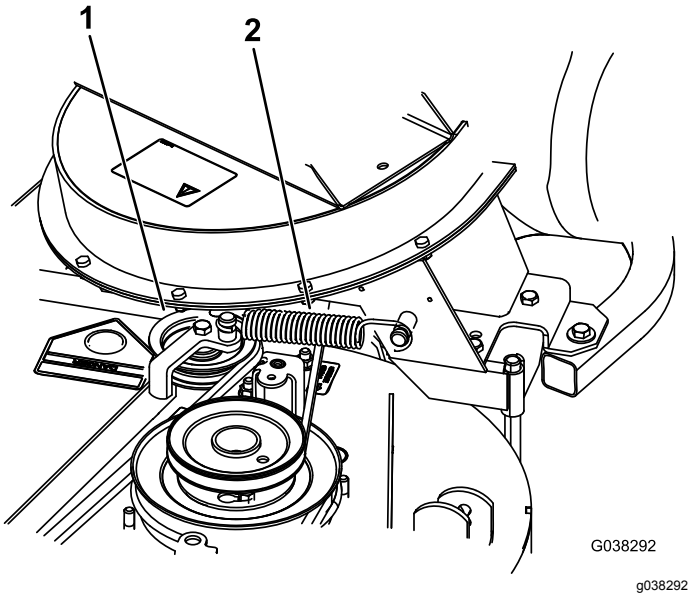


Figure 59

1. Spring-loaded idler pulley 2. Spring

8. Install the belt onto the spring-loaded idler pulley (Figure 59).

Blower Models 78401 to 78406

1. Park the machine on a level surface.
2. Disengage the blade-control switch, engage the parking brake, and move the motion-control levers outward to the NEUTRAL-LOCK position.
3. Shut off the engine and remove the key.
4. Pull back on the spring-loaded idler pulley to relieve the belt tension.
5. Remove the existing blower belt (Figure 60 and Figure 61).

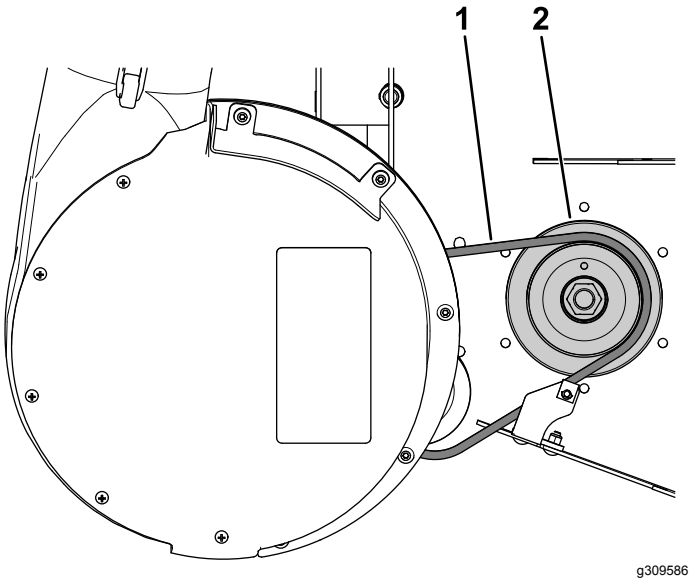


Figure 60

1. Blower belt 2. Drive pulley

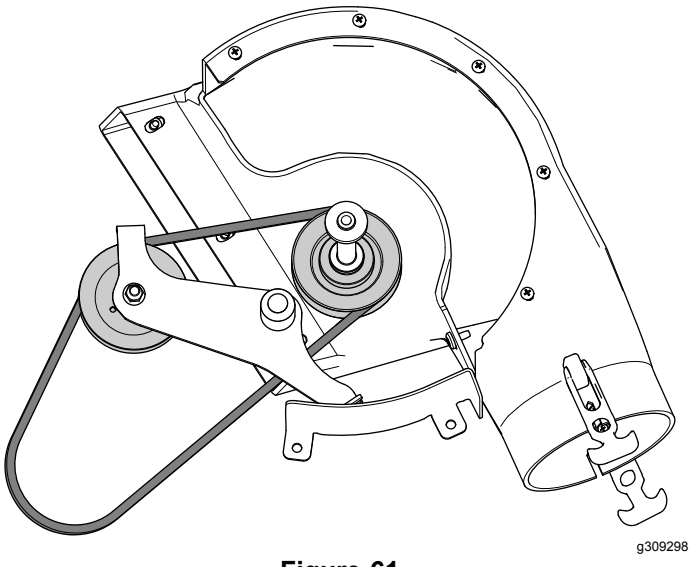


Figure 61

6. Install the new belt around the blower pulley; refer to 17 Installing the Blower Belt, Spring, and Blower-Belt Cover (page 25).

Greasing the Idler Arm for Blower Models 78483 to 78488

Service Interval: Every 50 hours

Grease the bagger belt idler arm (Figure 62) every 50 hours.

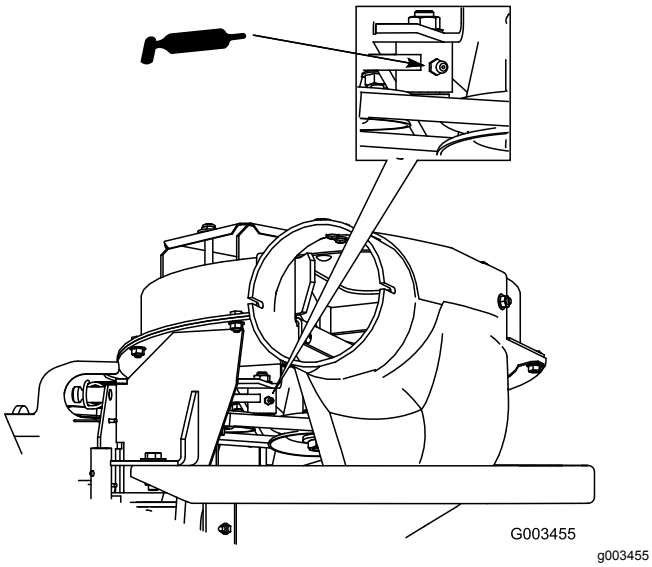


Figure 62

Inspecting the Bagger

Service Interval: Every 100 hours

After the first 8 hours

1. Park the machine on a level surface.
2. Disengage the blade-control switch, engage the parking brake, and move the motion-control levers outward to the NEUTRAL-LOCK position.
3. Shut off the engine and remove the key.
4. Check the upper tube, lower tube, bagger hood, and the blower assembly. Replace these parts if they are cracked or broken.
5. Check the bags, bagger frame, and screen. Replace any parts that are cracked or broken.
6. Tighten all nuts, bolts, and screws.

Inspecting the Mower Blades

1. Inspect the mower blades regularly and whenever a blade strikes a foreign object.
2. If blades are badly worn or damaged, install new blades. Refer to your machine *Operator's Manual* for complete blade maintenance.

Selecting the Mower Blades

In most mowing conditions, the standard high lift blades provide the best bagging performance.

The Toro Atomic blade is recommended for bagging leaves in dry conditions. In dry dusty conditions, the medium lift or low lift blades reduce dust and dirt blowout while providing effective bagging air flow.

Contact an Authorized Service Dealer for the proper blades for different mowing conditions.

Refer to the machines *Operator's Manual* for more information on installing blades.

Replacing the Grass Deflector

⚠ WARNING

An uncovered discharge opening could allow the machine to throw objects at you or bystanders, resulting in serious injury. Also, contact with the blade could occur.

- **Never operate the machine without a grass deflector, a mulch plate, or a bagger system installed.**
- **Ensure that the grass deflector is in the down position.**

1. Place one end of the spring behind the deck edge and the other end on the grass deflector (Figure 63).

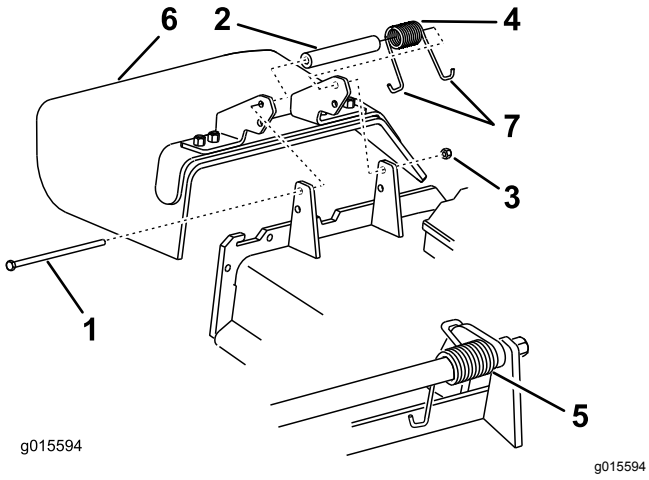


Figure 63

1. Bolt
2. Spacer
3. Locknut
4. Spring
5. Spring installed
6. Grass deflector
7. End of spring

2. Use the bolt and nut to secure the grass deflector assembly to the mower deck (Figure 63).
3. Place the **J**-hook end of the spring around the grass deflector (Figure 63).

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

Storage

1. Empty the bagger attachment; refer to Emptying the Grass Bags (page 31).
2. Inspect the bagger attachment for damage.
3. Ensure that the bags are empty and thoroughly dry.
4. Inspect the belt for wear or cracks; refer to Inspecting the Blower Belt (page 35).
5. Store the machine in a clean, dry place, out of direct sunlight. If you must store the machine outside, cover it with a weatherproof cover. This protects the plastic parts and extends the life of the machine.

Troubleshooting

Problem	Possible Cause	Corrective Action
There is abnormal vibration.	1. The cutting blade(s) is/are bent or unbalanced. 2. The blade mounting bolt is loose. 3. The blower pulley or pulley assembly is loose. 4. The bagger belt is worn. 5. The blower fan blade(s) is/are bent or unbalanced.	1. Install new cutting blade(s). 2. Tighten the blade mounting bolt. 3. Tighten the appropriate pulley. 4. Replace the belt. 5. Contact an Authorized Service Dealer.
There is reduced bagging performance.	1. The engine speed is low. 2. The bagger-hood screen is plugged. 3. The blower belt is loose. 4. The blower or tube is plugged. 5. The bags are full.	1. Always operate the bagger at full throttle. 2. Remove the debris, leaves or grass clippings from the screen. 3. Replace the bagger belt. 4. Locate and remove the plugged debris. 5. Empty the bags.
The blower and tubes plug too frequently.	1. The engine speed is low. 2. The grass is too wet. 3. The grass is too long. 4. The screen in the hood is plugged. 5. The ground speed is too fast. 6. The bagger belt is worn.	1. Always operate the bagger at full throttle. 2. Cut the grass when it is dry. 3. Do not cut more than 2 to 3 inches (51 to 76 mm) or 1/3 of the grass height, which ever is less. 4. Remove the debris, leaves, or grass clippings from the screen. 5. Drive slower at full throttle. 6. Replace the belt.
There is debris blowout.	1. The bags are full. 2. The ground speed is too fast. 3. The mower deck is not leveled.	1. Dump the bags more frequently. 2. Drive slower at full throttle. 3. See the mower operator's manual for leveling the mower deck.
The blower impeller does not spin freely.	1. The blower is plugged. 2. The impeller is not aligned.	1. Remove the debris, leaves, or grass clippings from the blower impeller. 2. Contact an Authorized Service Dealer.

California Proposition 65 Warning Information

What is this warning?

You may see a product for sale that has a warning label like the following:



WARNING: Cancer and Reproductive Harm—www.p65Warnings.ca.gov.

What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to https://oag.ca.gov/prop65/faqs-view-all.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

Why does Toro include this warning?

Toro has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. Toro provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from Toro products may be negligible or well within the "no significant risk" range, out of an abundance of caution, Toro has elected to provide the Prop 65 warnings. Moreover, if Toro does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.