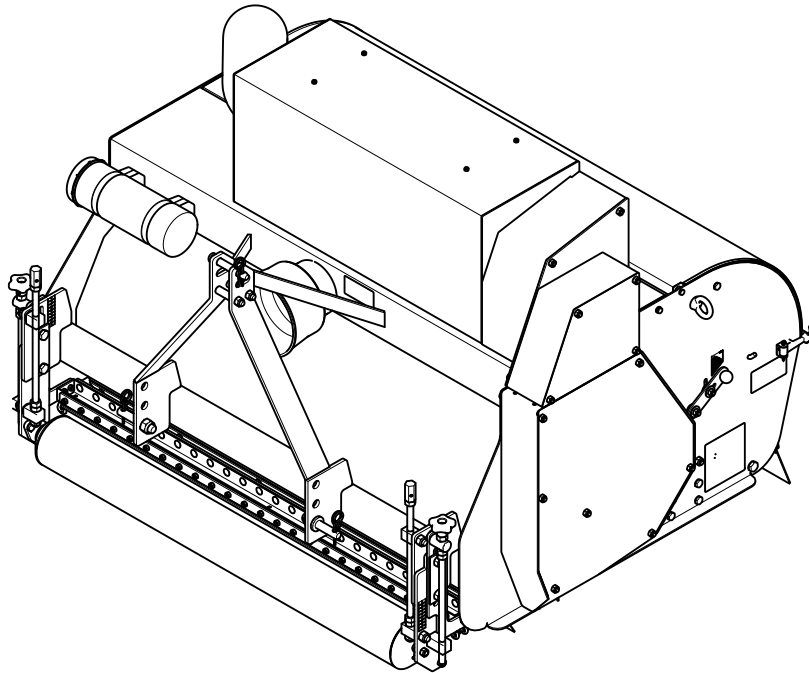


BULLSEYE™

Operator's Manual

FieldClean 580

Model No. 46425—Serial No. 321000001 and Up



⚠ 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.

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



Figure 2

g000502

1. 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.

Introduction

This machine is a tow-behind attachment intended to be used by professional, hired operators in commercial applications. It is designed primarily to brush, decompact, and remove debris from large areas of turf. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

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/Bullseye for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

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

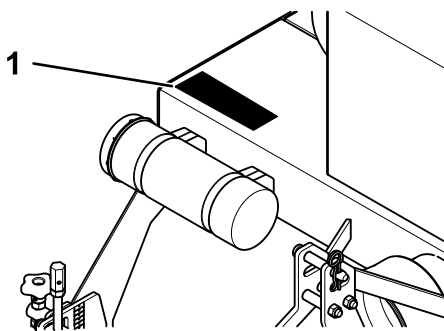


Figure 1

g348108

1. Model and serial number location

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Safety

General Safety

This product is capable of causing personal injury. Always follow all safety instructions to avoid serious personal injury.

- Read and understand the contents of both this *Operator's Manual* and the operator's manual of the traction unit before using this machine. Ensure that everyone using this product knows how to use this machine and the traction unit and understands the warnings.
- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Do not put your hands or feet near moving components of the machine.
- Do not operate the machine without all guards and other safety protective devices in place and working on the machine.
- Keep the machine away from bystanders while it is moving.
- Keep children out of the operating area. Never allow children to operate the machine.
- Stop the machine, shut off the engine, engage the parking brake of the traction unit, remove the key, and wait for all moving parts to stop before servicing, fueling, or unclogging the machine.

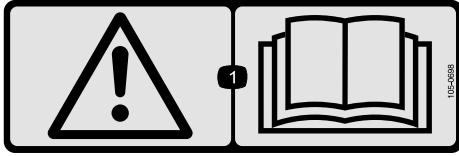
Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol , which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

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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.



105-0698

decal105-0698

1. Warning—read the *Operator's Manual*.



133-8061

decal133-8061



144-7905

decal144-7905

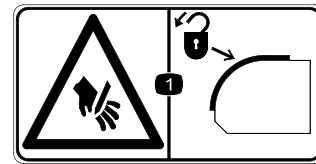
1. Thrown object hazard—keep bystanders away.
2. Warning—remove the key, secure the machine from movement, and read the *Operator's Manual* before performing maintenance.



144-7906

decal144-7906

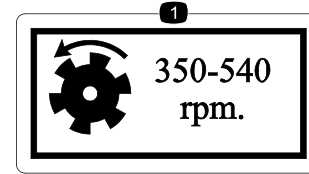
1. Cutting/dismemberment hazard of the fingers



144-7911

decal144-7911

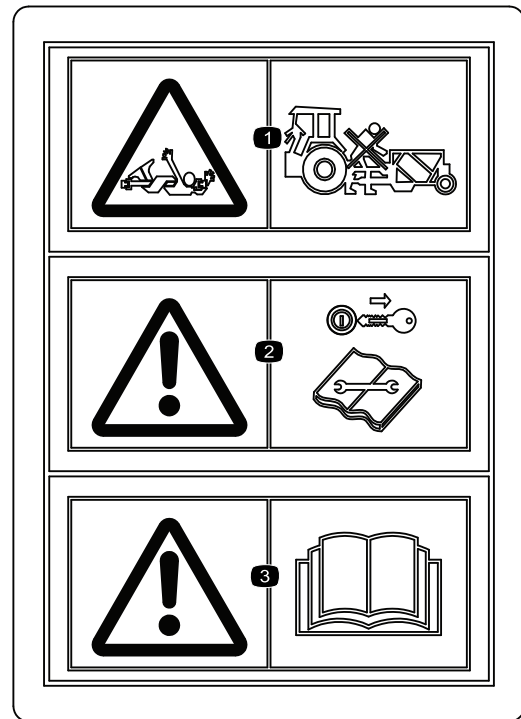
1. Cutting hazard of hand—close and lock the cover.



144-8256

decal144-8256

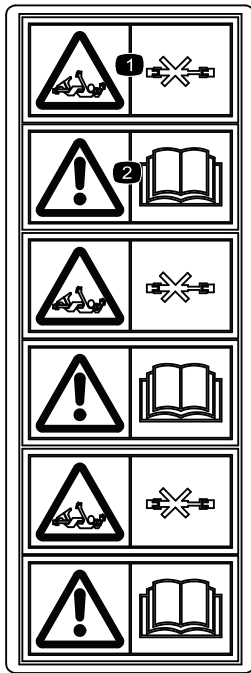
1. PTO—350 to 540 rpm



144-8338

decal144-8338

1. Entanglement hazard—keep away from moving parts..
2. Warning—remove the key before performing maintenance; read the *Operator's Manual*.
3. Warning—read the *Operator's Manual*.



144-8339

decal144-8339

1. Entanglement hazard—keep away from moving parts.
2. Warning—read the *Operator's Manual*.



144-8369

decal144-8369

1. Wear hearing protection

Setup

1

Removing the Machine from the Pallet

No Parts Required

Procedure

The machine is shipped vertically on the pallet. Use the following instructions to remove it from the pallet.

⚠ DANGER

The attachment is unstable and could swing when lifted, injuring anyone beneath it or around it.

- Refer to the lifting machine operator's manual to ensure that it is rated to lift the attachment.
- Ensure the lift height is kept to a minimum and only high enough to remove the shipping material.
- Do not crawl under the attachment.

1. Place the pallet on level ground.
2. Ensure that the rake section is turned upward and cannot be damaged when the attachment is put on the ground.
3. Attach lifting cables to the lifting eyes on both sides of the machine.
4. Lift the attachment and pallet off the ground 50 mm (2 inches).
5. Gently lower the attachment in a controlled way as shown in [Figure 3](#) until it is on the ground.
6. Remove the upper 3-point hitch pins and carefully rotate the pallet around the lower 3-point hitch pins.
7. Remove the lower 3-point hitch pins and remove the pallet.
8. Install the hitch pins.

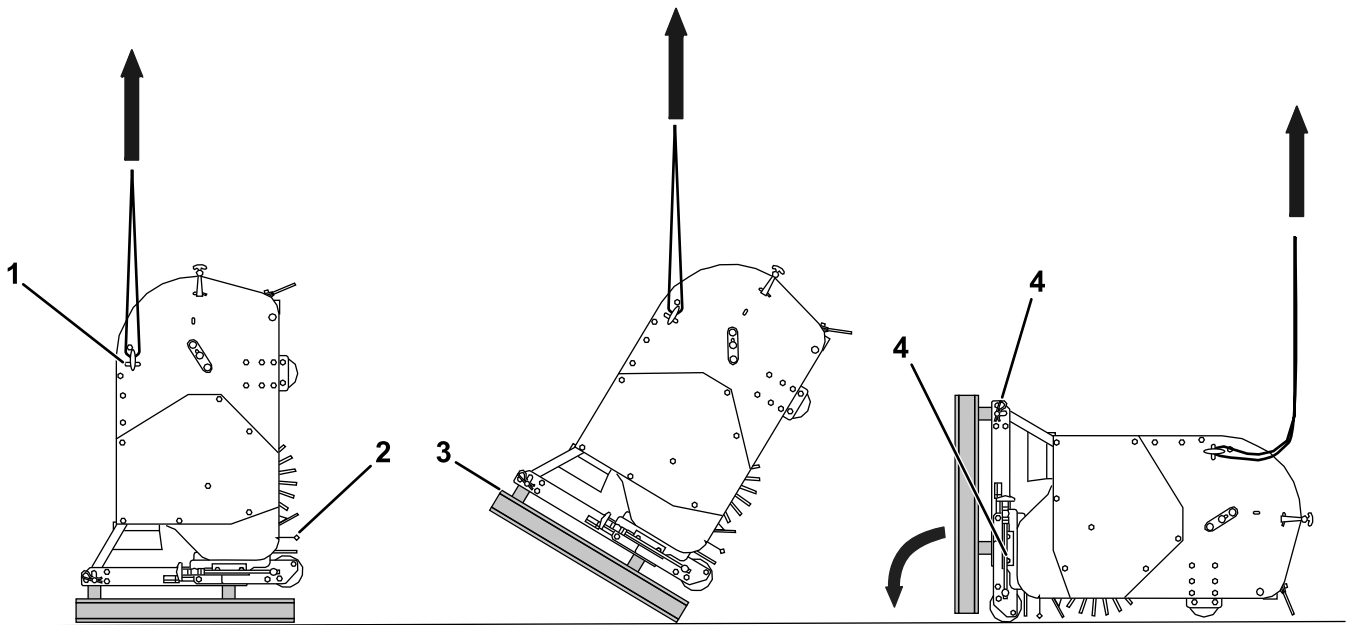


Figure 3

1. Lifting eye (2)
2. Rake
3. Pallet
4. 3-point hitch pins (3)

g348246

2

Inspecting the Machine

No Parts Required

Checking the Traction Unit Requirements

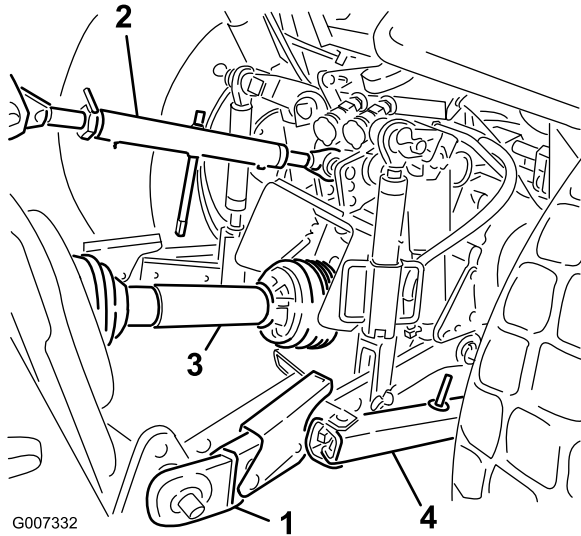


Figure 4

3-Point Hitch and PTO Components

- | | |
|-------------------|-------------------|
| 1. Lower link arm | 3. PTO driveshaft |
| 2. Upper link arm | 4. Sway link |

Use the following list as a reference:

- Refer to [Specifications \(page 8\)](#) for the minimum horse power and minimum lifting capacity for the traction unit.
- The traction unit must have a category I 3-point hitch.
- The traction unit must have a PTO output-shaft speed of 540 rpm.
- Adequate front-end weight (ballast) to offset the weight of the machine.
- Check the tire air pressure of the traction unit.
Adjust the tire air pressure as needed.

Important: Do not exceed the maximum or minimum tire inflation pressures as recommended by the tire manufacturer.

Checking the Ballast Requirements

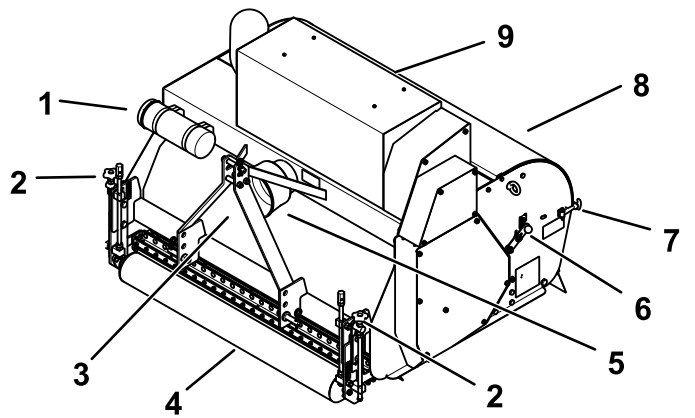
⚠ WARNING

Mounting the machine to the rear of the traction unit decreases the weight on its front axle.

Failure to add required ballast may result in an accident and severe injury or death.

- To ensure adequate steering control and stability you may need to add ballast to the front of the traction unit.
- Refer to the traction unit operator's manual for ballast requirements.

Product Overview



g345418

Figure 5

- | | |
|--------------------------------|----------------------------------|
| 1. Toolbox | 6. Sieve angle adjustment handle |
| 2. Roller and rake adjustments | 7. Latch |
| 3. 3-point hitch connection | 8. Inspection hatch |
| 4. Front roller | 9. Vacuum unit |
| 5. PTO connection | |

Attachments/Accessories

A selection of Bullseye approved attachments and accessories may be available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or authorized Bullseye distributor or go to www.Toro.com/Bullseye for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety certification of the machine, use only genuine Bullseye replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

Specifications

Specifications and design are subject to change without notice.

Traction Unit Requirements

Lifting capacity	600 kg (1,323 lb)
Minimum output-power rating	19 Kw (25 hp)
Tow system	3-point hitch, category 1
PTO output-shaft speed	540 rpm

Attachment Specifications

Width	171 cm (67.3 inches)
Length	135 cm (53.2 inches)
Height	100 cm (39.4 inches)
Working width	147 cm (57.8 inches)
Working depth	0 to 26 mm (0 to 1.02 inches)
Receptacle volume	170 L (6.0 ft ³)
Maximum working speed	12 km/h (7.5 mph)
Maximum capacity (theoretical at maximum working speed)	17,616 m ² /h (189,875 ft ² /h)
Weight	515 kg (1,135 lb)

Operation

Before Operation

Before Operation Safety

- Never allow children or untrained people to operate or service the machine. Local regulations may restrict the age of the operator. The owner is responsible for training all operators and mechanics.
- Keep your hands clear of the joint pivot areas when handling the PTO driveshaft.
- Do not step on, over, or under the PTO or driveshafts.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Know how to stop the machine and shut off the engine of the traction unit quickly.
- Do not use PTO spline adapters or extensions.
- Ensure that the guards and shields are properly installed and maintained. Replace missing, damaged, or worn guards and shields before using the machine.
- Ensure that the PTO driveshaft does not contact the drawbar.
- Inspect the area where you will use the machine and remove all objects that the machine could strike.
- Ensure that your traction unit is suitable for use with an implement of this weight by checking with your traction unit supplier or manufacturer.
- Shut off the machine, shut off the engine and remove the key of the traction unit, and wait for all moving parts to stop before making any adjustments to the machine.

Understanding the Traction Unit Controls

Familiarize yourself with the operation of the following traction unit controls before operating the machine:

- PTO engagement
- 3 point hitch (raise/lower)
- Clutch
- Throttle
- Gear selection
- Parking brake

Important: Refer to the traction unit operator's manual for operating instructions.

Connecting to a 3-Point Hitch

Connecting the Lower Link Arms

1. Ensure that the attachment is positioned on a level surface.
2. Remove the hairpin cotters from the hitch pins (Figure 6).

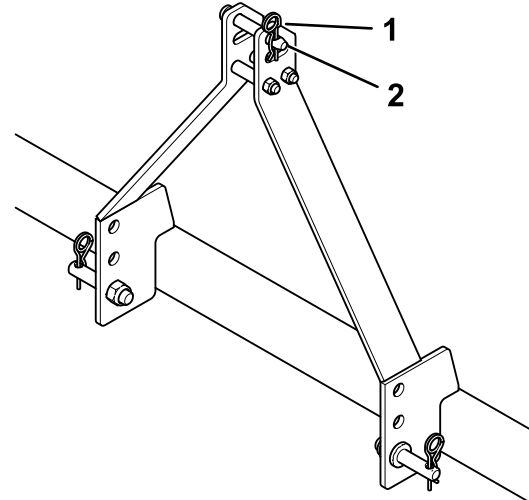


Figure 6

g345540

1. Hairpin cotter (3)
2. Hitch pin (3)

3. Back the traction unit squarely up to the attachment so that you can attach the lower connecting arms to the frame.
4. Engage the parking brake, shut off the engine, and remove the key from the ignition. Wait for the engine and all moving parts to stop before leaving the operator's seat.

Note: For maximum ground clearance, install the hitch pins in the lower mounting holes of the hitch plate for the attachment.

5. Insert the right and left lower link arms onto the hitch pins (Figure 7).

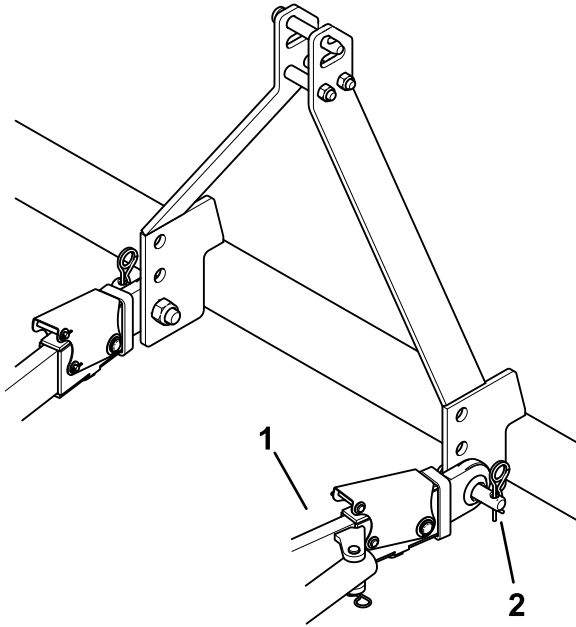


Figure 7

1. Lower link arm (2)
2. Hitch pin and hairpin cotter (2)

6. Secure the lower link arms to the hitch pins using the hairpin cotters.

Connecting the Upper Link Arm

1. Connect the upper link arm to the bracket and secure it with the link pin and the hairpin cotter (Figure 8).

Note: Use the slotted hole if you want the attachment to follow the terrain during operation.

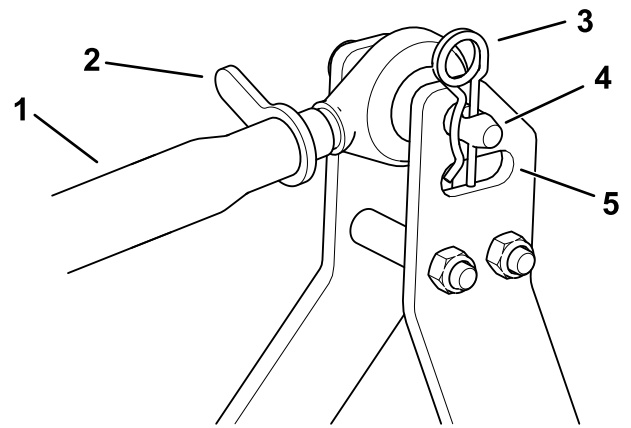


Figure 8

1. Upper link arm
2. Jam nut
3. Hairpin cotter
4. Link pin
5. Slotted hole

2. Grease the threaded steel upper link arm tubes.
3. Rotate the upper link arm to shorten the link. Adjust it until the attachment is flat on the ground.
4. Tighten the jam nut to secure the upper link arm into position.
5. Start the traction unit and lift the attachment off the ground.

Connecting the PTO Driveshaft

Adjusting the PTO Driveshaft Length

Adjust the length of the PTO driveshaft whenever you install the attachment to a different traction unit.

Important: If the length of PTO is not adjusted properly, using the attachment can damage the traction unit or the attachment. The overlapping length of the cylinders must be at least 150 mm (6 inches). The length changes when you lift or install the attachment on a different traction unit.

1. Park the machine on a level surface, engage the parking brake, and lower the attachment to the ground.
2. Shut off the engine and remove the key.
3. Pull the PTO driveshaft sections apart (Figure 9).

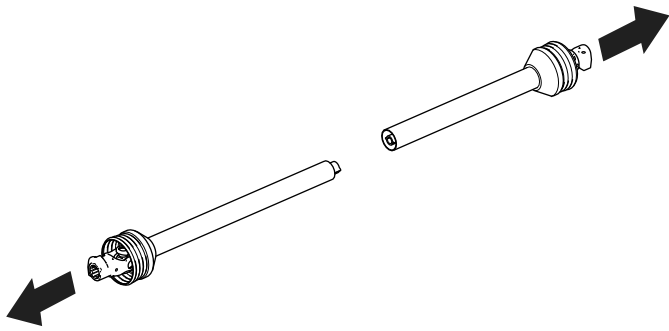


Figure 9

g347461

4. Assemble the outer PTO driveshaft section to the traction-unit PTO output shaft (Figure 10).

Note: Pull on the driveshaft to ensure that the locking pin engages the PTO output shaft.

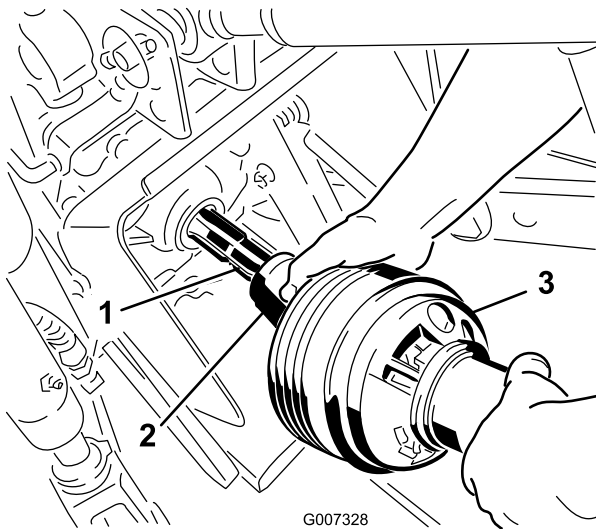


Figure 10

G007328

g007328

- | | |
|-------------------------------------|------------------------|
| 1. PTO output shaft (traction unit) | 3. PTO driveshaft unit |
| 2. PTO shaft coupler | |

5. Hold the driveshaft sections parallel to each other to determine if they are too long (Figure 11).

Note: Each driveshaft section must be 76 mm (3 inches) from the U-joint (Figure 11).

6. If the driveshaft sections are too long, mark 76 mm (3 inches) back from U-joint on each section (Figure 11).

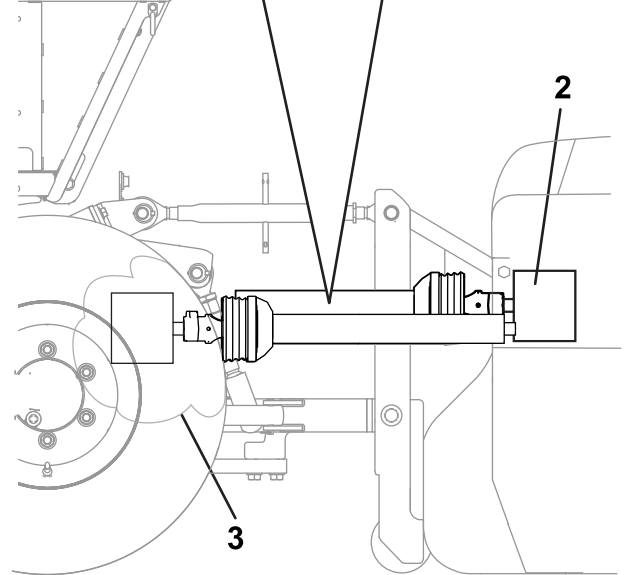
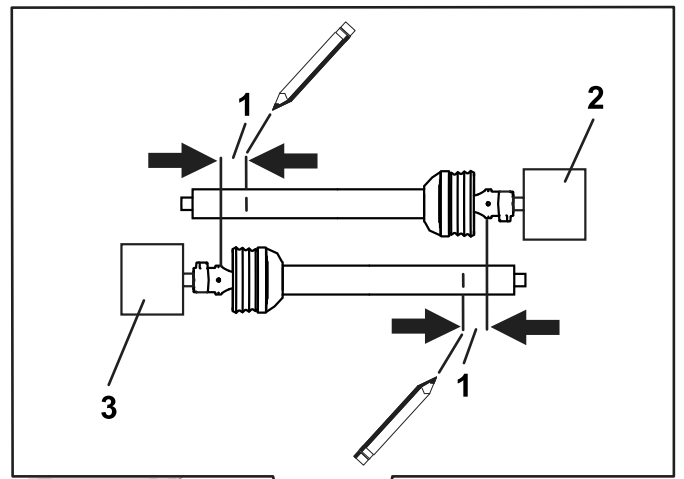


Figure 11

g347524

- | | |
|-----------------------|-----------------------------------|
| 1. 76 mm (3 inches) | 3. Traction-unit PTO output shaft |
| 2. Attachment gearbox | |

7. Remove and cut each section at the mark (Figure 12).

Note: Ensure the same amount is removed from each section.

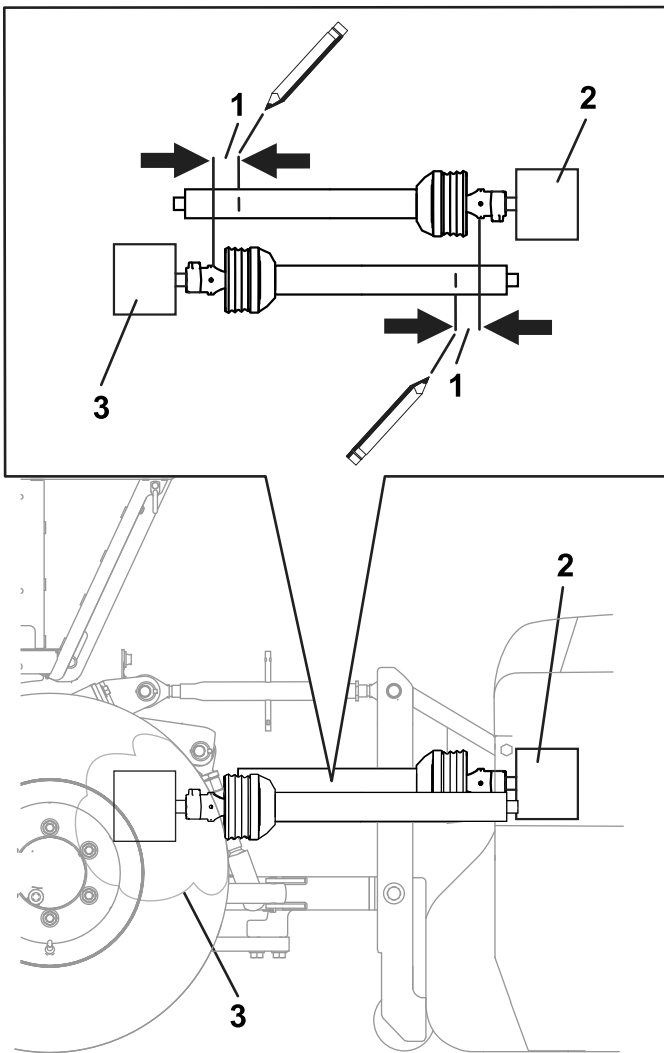


Figure 12

g347524

1. Cut the driveshaft section.

8. Deburr the ends of the sections (Figure 13).

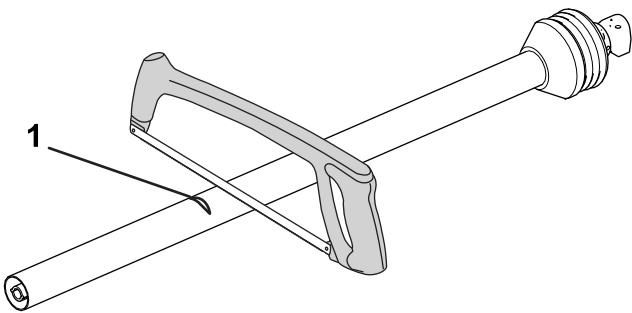


Figure 13

g347473

9. Assemble the outer PTO driveshaft section to the PTO shaft of the traction unit (Figure 10).

10. Raise the attachment to the position where the traction-unit PTO output shaft and gearbox input shaft are furthest apart (Figure 14).

11. Hold the driveshaft sections parallel to each other and check to ensure that they overlap 150 mm (6 inches) or more (Figure 14).

Note: If the sections do not overlap 150 mm (6 inches), contact your authorized distributor.

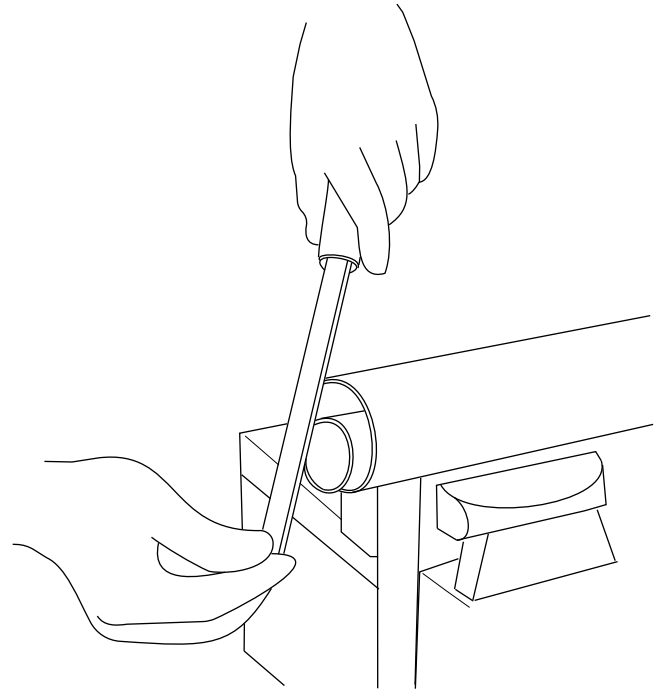


Figure 14

g347459

- | | |
|-----------------------------------|--------------------------|
| 1. Attachment gearbox | 3. Shafts furthest apart |
| 2. Traction-unit PTO output shaft | |

12. Grease and assemble the sections.

Important: Do not use the attachment if the PTO driveshaft is damaged; replace the damaged driveshaft before operation.

Installing the PTO Driveshaft

Important: Refer to the PTO driveshaft owner's manual for additional operating and safety information.

CAUTION

Operating the machine without the PTO guards and shields may cause injury or death.

Keep all PTO guards and shields in place.

Important: When connecting the PTO, ensure that the attachment is not lifted higher than necessary. Lifting the attachment too high causes the PTO driveshaft knuckles to break (Figure 15).

The PTO can operate up to an angle of 25°, but operating it beyond 30° angle may severely damage the shaft.

Note: Ensure the cross bearings are aligned as shown in Figure 15.

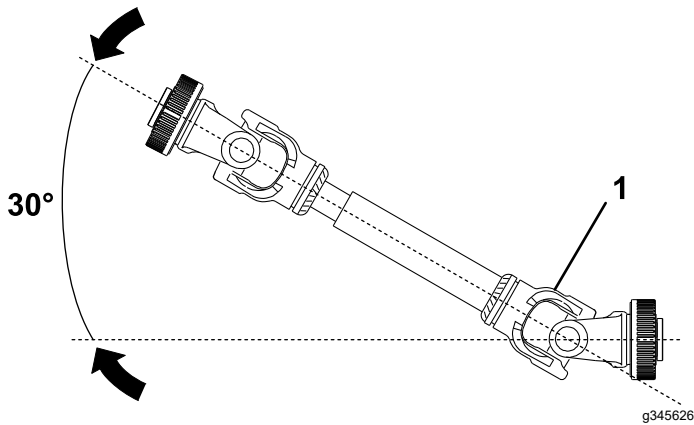


Figure 15

1. Breakage occurs here.

1. Assemble the PTO driveshaft to the gearbox input shaft of the attachment.

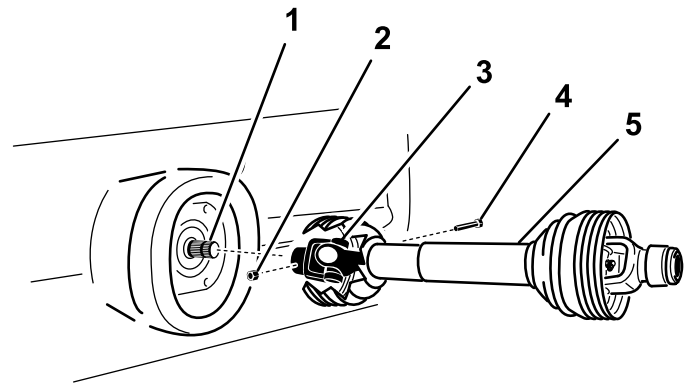


Figure 16

1. Gearbox input shaft
2. Nut
3. PTO shaft coupler
4. Bolt
5. PTO driveshaft

2. Assemble the PTO driveshaft to the PTO output shaft of the traction unit.

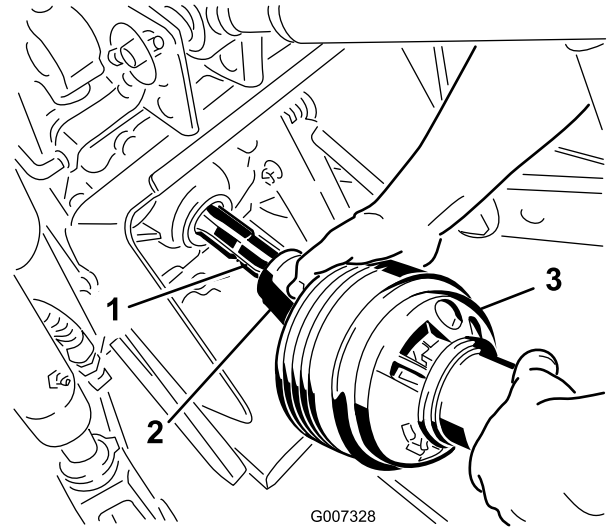


Figure 17

1. PTO output shaft (traction unit)
2. PTO shaft coupler
3. PTO driveshaft

3. Slide the PTO driveshaft forward as far as the PTO output shaft allows.
4. Pull back on the locking collar of the PTO shaft coupler to secure the PTO driveshaft. Slide the PTO driveshaft back and forth to ensure that it is locked securely.

- Verify that the telescoping tube has a minimum of 150 mm (6 inches) overlap when the attachment is raised to the maximum height.

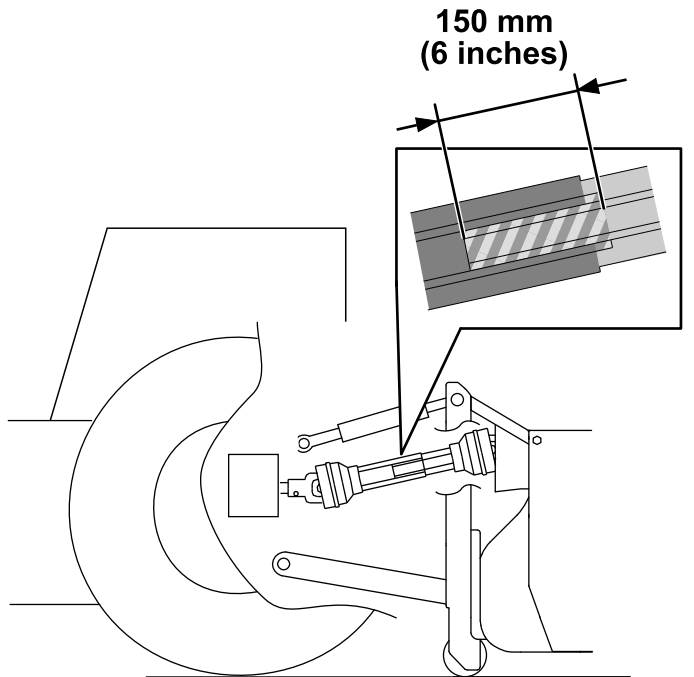


Figure 18

g345507

Adjusting the Working Depth of the Brush

Important: Do not adjust the working depth so that it would damage the subsoil.

- Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
- Secure the attachment from movement.
- On each side of the attachment, loosen the 2 bolts a few turns.

Note: Use the tools supplied in the toolbox.

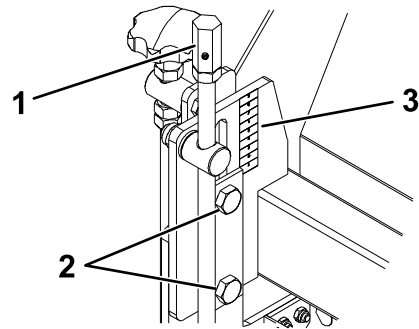


Figure 19

g345054

- | | |
|------------|-----------------|
| 1. Spindle | 3. Height decal |
| 2. Bolts | |

- Adjust the spindles to the appropriate working depth.

Note: Adjust both sides of the attachment to the same height so that the attachment cleans the field evenly; refer to the height decals.

Note: For top-layer cleaning, adjust the brushes so that the bristles do not touch the grass.

- Tighten the bolts.
- Verify the working depth while the attachment is stationary.

Adjusting the Working Depth of the Rake

Important: Do not adjust the working depth so that it would damage the ground surface.

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. On each side of the attachment, loosen the 2 bolts a few turns.

Note: Use the tools supplied in the toolbox.

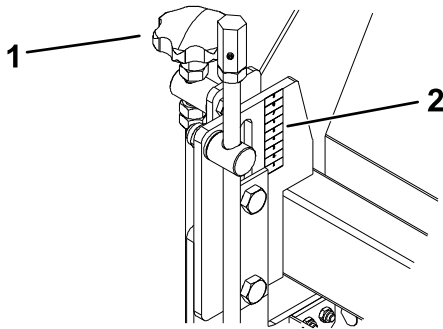


Figure 20

g345055

1. Knob
2. Height decal

4. Adjust the working depth by turning the knobs.

Note: Adjust both sides of the attachment to the same height so that the attachment cleans the field evenly; refer to the height decals.

5. Tighten the bolts.
6. Verify the working depth while the attachment is stationary.

Once you set the working depth for the rake, you do not need to adjust it if you adjust the working depth of the brush later.

Using the Inspection Hatch

1. Open the latches on both sides of the attachment.

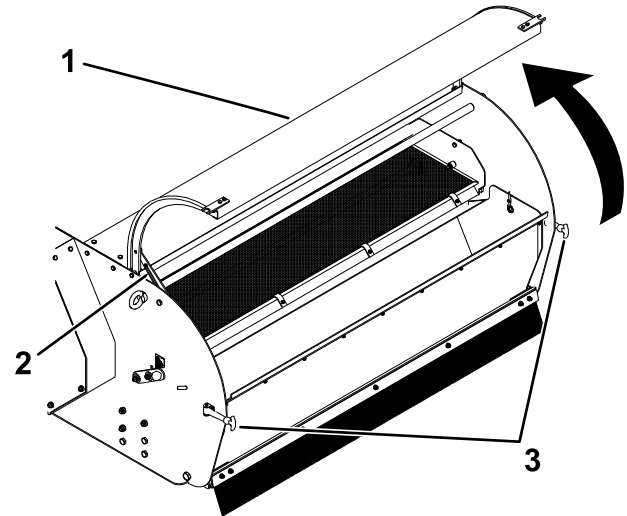


Figure 21

g345057

1. Inspection hatch
2. Blocking strip
3. Latch

2. Open the inspection hatch and secure it open using the blocking strip.

CAUTION

The inspection hatch can pinch fingers if it falls closed.

Ensure that the inspection hatch cannot fall closed.

3. Perform any procedures needed.
4. Remove the inspection hatch from the blocking strip.
5. Carefully close the inspection hatch.
6. Secure the inspection hatch using the latches on both sides of the attachment.

Adjusting the Angle of the Sieve

If the receptacle retains too much material that should have been sieved, angle the sieve to give the material more time to fall through the sieve.

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Open the inspection hatch.
4. Loosen the nuts on both sides of the attachment 1 turn.

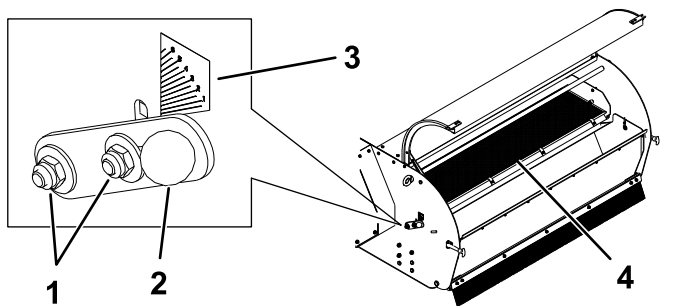


Figure 22

g345056

- | | |
|-----------|---------------------|
| 1. Nut | 3. Adjustment decal |
| 2. Handle | 4. Sieve |

5. Using the handles and the adjustment decals on both sides, adjust both sides of the sieve equally to the required angle.
6. Tighten the bolts and nuts on both sides of the attachment.
7. Carefully close the inspection hatch and secure it using the latches.

Adjusting the Vacuum Suction Force

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Loosen the wing nut and adjust the knob. Use the height shaft and the indication decal to determine the setting. Adjust both sides equally.

Note: A lower number indicates less suction force; a higher number indicates more suction force. The standard setting is 2.

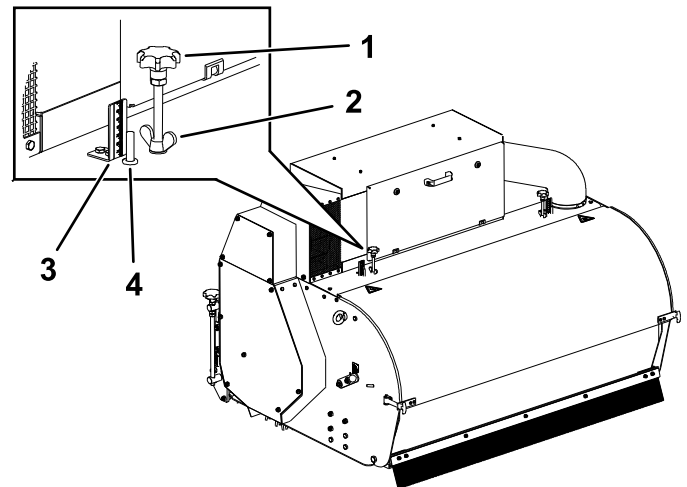


Figure 23

g345563

- | | |
|-------------|---------------------|
| 1. Knob | 3. Height shaft |
| 2. Wing nut | 4. Indication decal |

4. Tighten the wing nut.

Note: No other settings on the attachment need to change when you adjust the suction force.

Transporting the Attachment

To begin transport operation, raise the attachment and disengage the PTO. To avoid loss of control, traverse steep inclines slowly, approach rough areas at reduced speed and cross severe undulations carefully.

Important: Do not exceed transport speeds of 20 km/h (12.4 mph).

Practicing the Operating Procedures

Before using the attachment, find a clear area and practice operating the traction unit with the attachment installed.

Important: If there are sprinkler heads, electrical or communication lines, or other obstructions in the area being aerated, mark these locations to ensure that these items are not damaged during operation.

- Operate the traction unit using the recommended gear settings and PTO drive speeds and become thoroughly familiar with the traction unit handling with the attachment.
- Practice stopping and starting, raising the attachment, lowering the attachment, disengaging the PTO drive, and aligning the attachment with previous passes.

Practice sessions helps you gain confidence in the performance of the attachment and helps ensure that you are using it properly.

⚠ WARNING

Adjusting or maintaining the attachment while the traction unit is running may result in an accident and severe injury or death.

- **Before leaving the operator's seat, engage the parking brake, shut off the engine, remove the key, and wait for all moving parts to stop.**
- **Lower the attachment onto the storage stands or appropriate blocking or jacks before servicing or repairing the attachment.**
- **Ensure that all safety devices are secured in proper place before resuming operation.**

During Operation

During Operation Safety

- The owner/operator can prevent and is responsible for accidents that may cause personal injury or property damage.
- Wear appropriate clothing, including eye protection; long pants; substantial, slip-resistant footwear; and hearing protection. Tie back long hair and do not wear loose clothing or loose jewelry.
- Use your full attention while operating the machine. Do not engage in any activity that

causes distractions; otherwise, injury or property damage may occur.

- Do not operate the machine when tired, ill, or under the influence of alcohol or drugs.
- Never carry passengers on the machine and keep bystanders and pets away from the machine during operation.
- Operate the machine only in good visibility to avoid holes or hidden hazards.
- Before you start the engine, ensure that all drives are in neutral, the PTO is disengaged, the parking brake is engaged, and you are in the operating position.
- Keep your hands and feet away from moving parts.
- Look behind and down before backing up to be sure of a clear path.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.
- Do not run the PTO with the attachment raised.
- Stop the attachment whenever you are not using it.
- Stop the machine, shut off the engine, remove the key, wait for all moving parts to stop, and inspect the machine after striking an object or if there is an abnormal vibration in the machine. Make all necessary repairs before resuming operation.
- Slow down and use caution when making turns and crossing roads and sidewalks with the machine. Always yield the right-of-way.
- Reduce speed on rough roads and surfaces.
- When attached to a traction unit, and in the raised position, the weight of the attachment affects stability, braking and steering. Exercise caution when transporting between working areas.
- Never leave a running machine unattended.
- Before leaving the operating position, do the following:
 - Ensure that the PTO is disengaged.
 - Park the machine on a level surface.
 - Engage the parking brake.
 - Lower the attachment.
 - Shut off the engine and remove the key.
 - Wait for all moving parts to stop before leaving the machine.
- Do not operate the machine when there is the risk of lightning.
- Use Bullseye accessories, attachments, and replacement parts only.
- For disassembly or repair of all steel PTO driveshaft parts (tubes, bearings, joints, etc.), contact your authorized distributor. Removing components for repairs and assembly may

damage some parts if not performed with special tools by trained technicians.

- Do not operate the attachment if the PTO or driveshaft guards are missing.
- Be careful when turning the machine so that the traction unit tires do not contact the PTO driveshaft.
- Secure hydraulic hoses, electrical wiring, ropes, and other items to keep them from contacting the PTO driveshaft guard.

Slope Safety

- Review the traction unit specifications to ensure that you do not exceed its slope capabilities.
- Slopes are a major factor related to loss of control and rollover accidents, which can result in severe injury or death. You are responsible for safe slope operation. Operating the machine on any slope requires extra caution.
- Review and understand the slope instructions in the manual and on the traction unit.
- Evaluate the site conditions to determine if the slope is safe for machine operation, including surveying the site. Always use common sense and good judgment when performing this survey.
- Review the slope instructions listed below for operating the machine on slopes and to determine whether you can operate the machine in the conditions on that day and at that site. Changes in the terrain can result in a change in slope operation for the machine.
- Avoid starting, stopping, or turning the machine on slopes. Avoid making sudden changes in speed or direction. Make turns slowly and gradually.
- Do not operate a machine under any conditions where traction, steering, or stability are in question.
- Remove or mark obstructions such as ditches, holes, ruts, bumps, rocks, or other hidden hazards. Tall grass can hide obstructions. Uneven terrain could overturn the machine.
- Be aware that operating the machine on wet grass, across slopes, or downhill may cause the machine to lose traction. Loss of traction to the drive wheels may result in sliding and a loss of braking and steering.
- Use extreme caution when operating the machine near drop-offs, ditches, embankments, water hazards, or other hazards. The machine could suddenly roll over if a wheel goes over the edge or the edge caves in. Establish a safety area between the machine and any hazard.
- Identify hazards at the base of the slope. If there are hazards, mow the slope with a power walk-behind mower.

- If possible, keep the attachment lowered to the ground while operating on slopes. Raising the attachment while operating on slopes can cause the machine to become unstable.
- Use extreme caution with other attachments. These can change the stability of the machine and cause a loss of control. Always keep the machine in gear when going down slopes. Do not coast downhill (applicable only to gear-drive units).

Using the PTO

Before engaging the PTO, verify the following:

- The angle of the pivot pins are 25° or less and never exceeding 30°.
- The pivot pins are aligned.
- The overlap of the PTO cylinders is at least 150 mm (6 inches).
- The PTO protection guard is not damaged.

Operating the Attachment

Important: Ensure that the attachment is not lifted higher than is necessary. Lifting the attachment too high causes the PTO driveshaft knuckles to break (Figure 24).

The PTO can operate up to an angle of 25°, but can never exceed a 30° angle when the attachment is at its highest position, or severe shaft damage may occur.

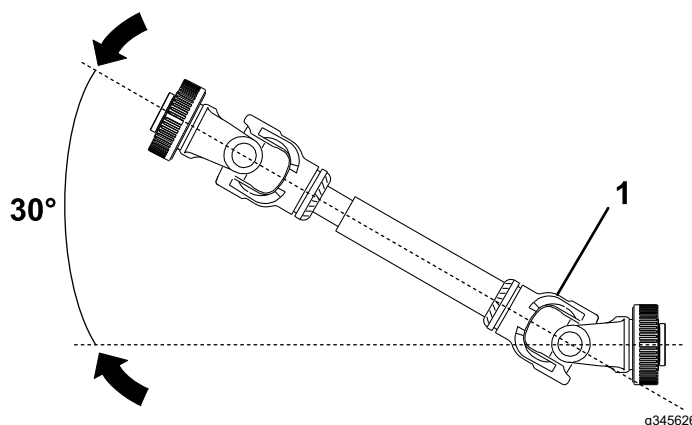


Figure 24

1. Breakage occurs here.

1. Park the machine on a level surface.
2. Engage the parking brake, shut off the engine, and remove the key from the traction unit.
3. Adjust the working depth of the brush and rake; refer to [Adjusting the Working Depth of the Brush \(page 14\)](#) and [Adjusting the Working Depth of the Rake \(page 15\)](#).

4. If desired, mount the upper link arm in the slotted hole so that the attachment follows the terrain; refer to [Connecting the Upper Link Arm \(page 10\)](#).
5. Raise the attachment and drive to the location where you will use the attachment.

Important: Do not exceed 12 km/h (7.5 mph) while transporting the attachment.

6. Lower the attachment until it is approximately 50 mm (2 inches) above the ground.
7. Engage the PTO at a low rpm.
8. Increase the PTO speed to approximately 300 rpm.
9. Drive the traction unit forward slowly and allow the attachment to smoothly lower onto the bearing rollers.
10. Increase the PTO speed to a maximum of 540 rpm.
11. Increase the traction unit speed to a maximum of 12 km/h (7.5 mph).
12. After operating the attachment, raise it to approximately 50 mm (2 inches) above the ground.
13. Disengage the PTO and raise the attachment further.
14. Drive to the next location as needed.

After Operation

After Operation Safety

- Park the machine on a level surface; engage the parking brake; shut off the engine; remove the key; and wait for all movement to stop before leaving the machine.
- Do not step on, over, or under the driveshaft.
- Do not use the restrain chain of the PTO-shaft guard to support the shaft when transporting or storing the mower.
- Do not rest the PTO shaft on the ground.
- Do not allow the PTO-shaft guards to pull apart.
- Keep all parts of the machine in good working condition and all hardware tightened.
- Replace all worn, damaged, or missing decals.

Emptying the Waste Receptacle

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Open the inspection hatch; refer to [Using the Inspection Hatch \(page 15\)](#).
4. Remove the pins and hairpin cotter from both sides of the attachment.

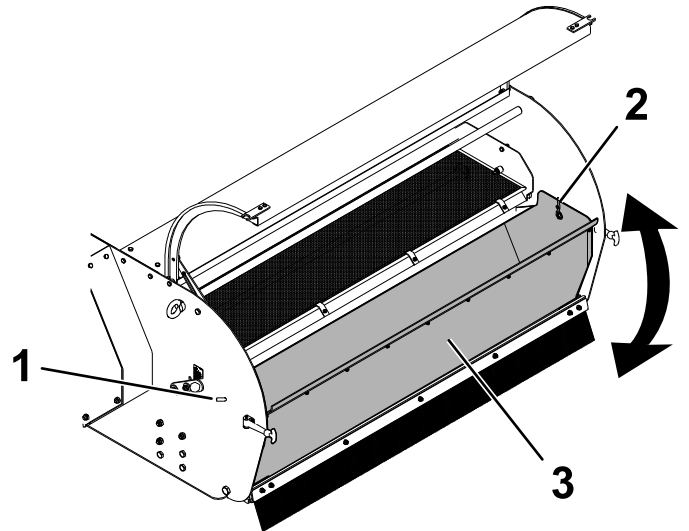


Figure 25

g345060

1. Pin (2)
2. Hairpin cotter (2)
3. Waste receptacle

5. Carefully tip the waste receptacle and rest it against the bottom stop.
6. Remove the waste from the receptacle.
7. Tip the receptacle back and secure it with the pins and hairpin cotters.
8. Carefully close the inspection hatch and secure it using the latches.

Note: Dispose of waste according to local regulations.

Emptying the Dust Bag

⚠ CAUTION

Inhaling dust is hazardous to your health.

Wear a dust mask when emptying the dust bag.

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Turn the 2 latch screws and open the door for the vacuum box.

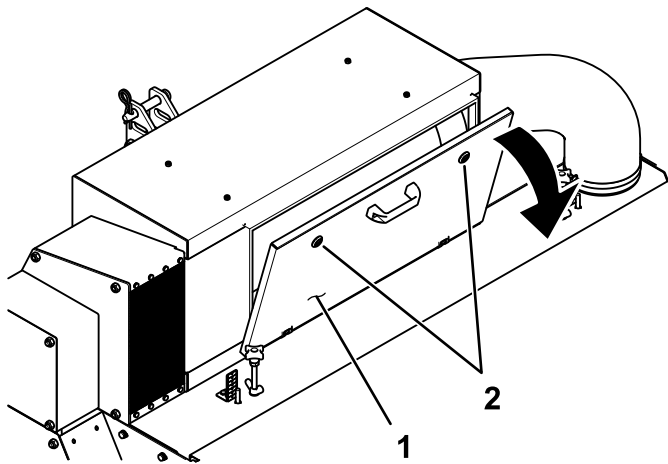


Figure 26

g346425

1. Door
2. Latch screw (2)

4. Loosen the bag band.

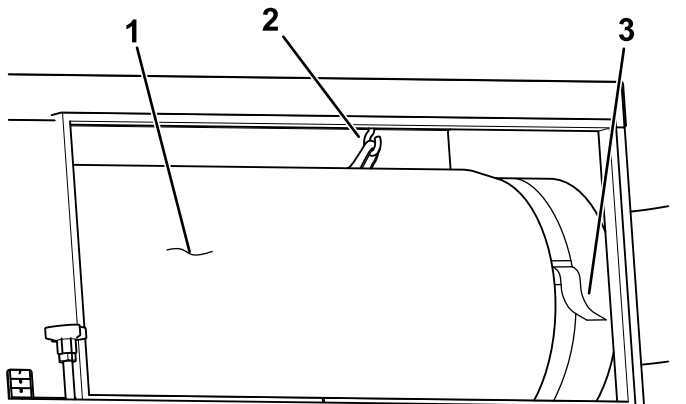


Figure 27

g346426

1. Dust bag
2. Hook (2)
3. Bag band

5. Unhook the dust bag and remove it.
6. Empty the bag.

7. Hang the bag loops on the hooks.
8. Install the bag over the hose opening.
9. Tighten the band.
10. Close the door for the vacuum box and secure it.

Removing the Attachment

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. On each side of the attachment, loosen the 2 bolts a few turns.

Note: Use the tools supplied in the *Operator's Manual* tube.

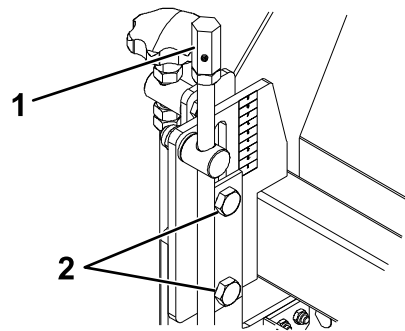


Figure 28

g346443

1. Spindle
2. Bolts

3. Lower the spindles all the way.
4. Turn the knobs to raise the rake so that the rake does not contact the ground when the attachment is lowered.

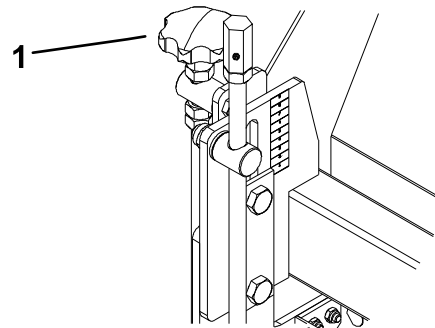


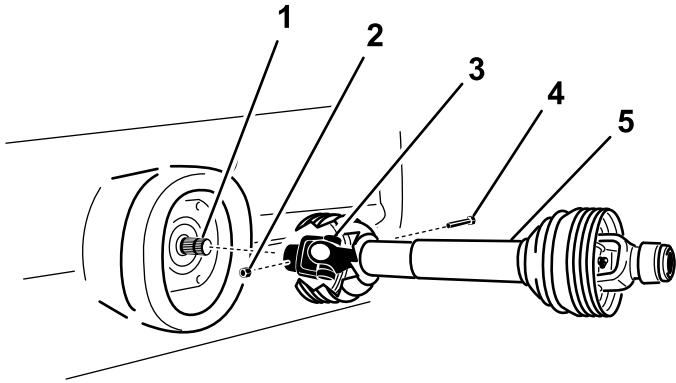
Figure 29

g346442

1. Knob

5. Start the traction unit and carefully lower the attachment to the ground. Shut off the engine and remove the key.

6. Remove the PTO driveshaft from the attachment.

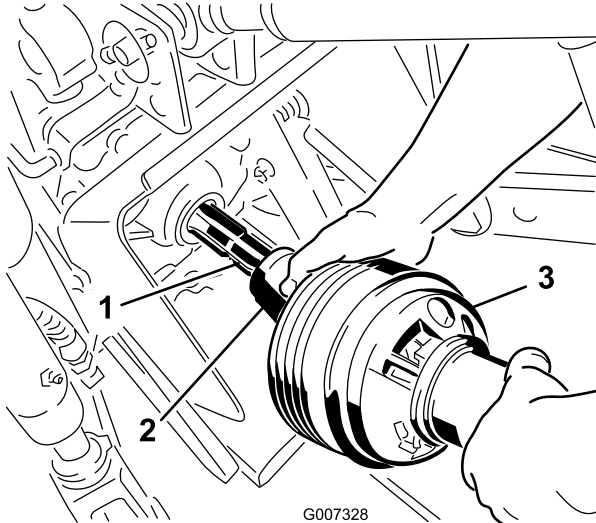


g345541

Figure 30

- | | |
|------------------------|-------------------|
| 1. Gearbox input shaft | 4. Bolt |
| 2. Nut | 5. PTO driveshaft |
| 3. PTO shaft coupler | |

7. Remove the PTO driveshaft from the traction unit.



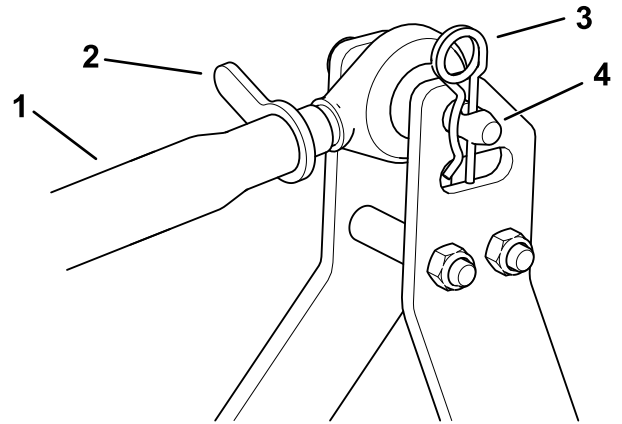
G007328

g007328

Figure 31

- | | |
|-------------------------------------|-------------------|
| 1. PTO output shaft (traction unit) | 3. PTO driveshaft |
| 2. PTO shaft coupler | |

8. Loosen the upper link jam nut and rotate the upper link.



g346444

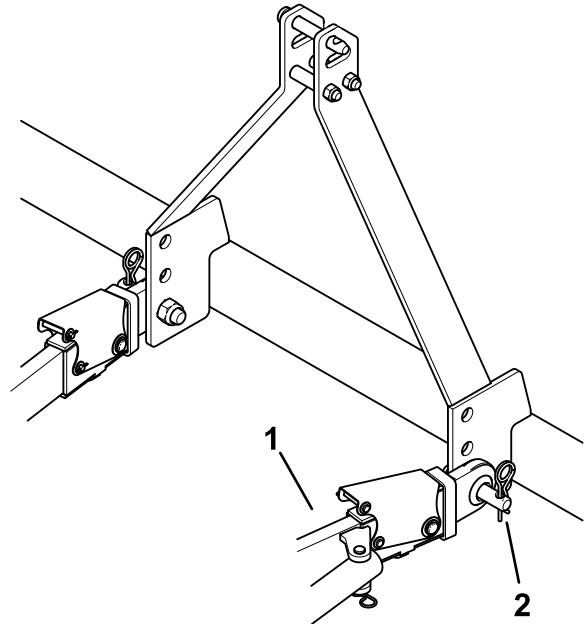
Figure 32

- | | |
|-------------------|-------------------|
| 1. Upper link arm | 3. Hairpin cotter |
| 2. Jam nut | 4. Link pin |

9. Remove the upper link arms.

10. Remove the lower link arms.

Important: Ensure that the attachment does not slide off the traction unit and cannot roll away.



g345538

Figure 33

- | | |
|-----------------------|-------------------------------------|
| 1. Lower link arm (2) | 2. Hitch pin and hairpin cotter (2) |
|-----------------------|-------------------------------------|

11. Start the traction unit and drive it away from the attachment.

12. Install the hairpin cotters to the hitch pins.

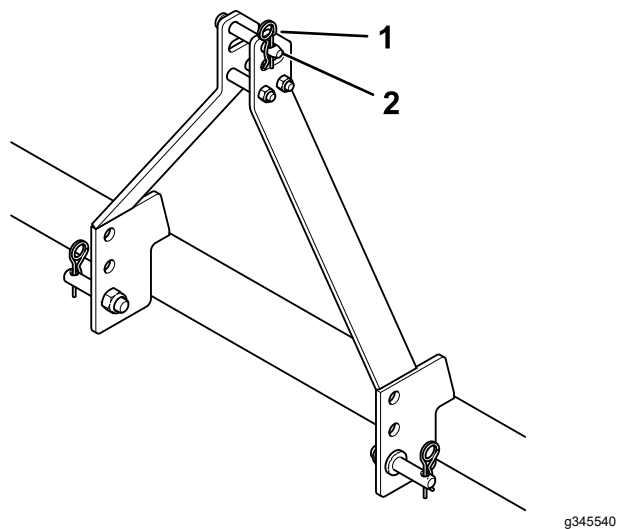


Figure 34

1. Hairpin cotter (3) 2. Hitch pin (3)

Important: When storing the attachment, do not allow the brush to touch the ground or other objects to avoid bending the bristles.

Maintenance

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 20 hours	<ul style="list-style-type: none">• Grease the attachment.• Check the belt tension.
Every 100 hours	<ul style="list-style-type: none">• Grease the attachment.• Check the brushes for wear. Repair or replace as necessary.• Check the gearbox for leaks.• Check the gearbox fluid level; add SAE 90 gearbox oil as needed.• Check the belt tension and wear.
Yearly	<ul style="list-style-type: none">• Service the PTO.

▲ CAUTION

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

Remove the key from the switch before you perform any maintenance.

Maintenance Safety

- Before adjusting, cleaning, servicing, or leaving the machine, do the following:
 - Position the machine on a level surface.
 - Move the throttle switch to the low-idle position.
 - Disengage the PTO (if applicable).
 - Ensure that the traction is in neutral.
 - Engage the parking brake.
 - Shut off the engine of the traction unit and remove the key.
 - Wait for all moving parts to stop.
 - Allow machine components to cool before performing maintenance.
- Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an authorized Bullseye distributor.
- Ensure that the machine is in safe operating condition by keeping nuts, bolts, and screws tight.
- If possible, do not perform maintenance while the engine is running. Keep away from moving parts.
- Carefully release pressure from components with stored energy.
- Support the machine with blocks or storage stands when working beneath it. Never rely on the hydraulic system to support the machine.
- Never crawl under the attachment. If necessary, tilt the attachment.
- Ensure that all guards are installed and secured after maintaining or adjusting the machine.
- To ensure safe, optimal performance of the machine, use only genuine Bullseye replacement parts. Replacement parts made by other manufacturers could be dangerous, and such use could void the product warranty.

Greasing the Attachment

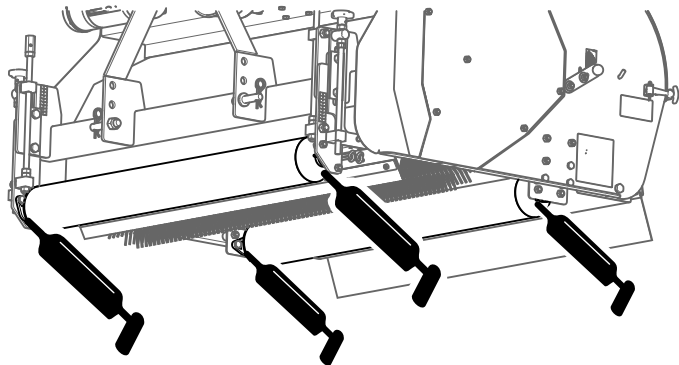
Service Interval: After the first 20 hours

Every 100 hours

The attachment has grease fittings that you must lubricate regularly with No. 2 lithium grease. Also, lubricate the attachment immediately after every washing and after long periods without use.

Wipe up any excess grease.

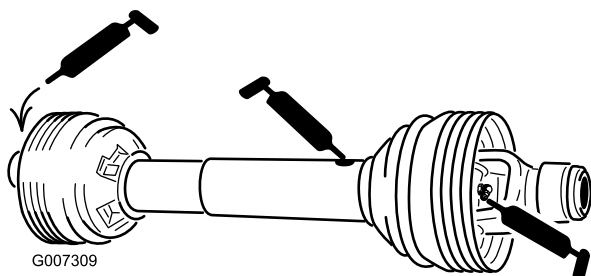
- Roller bearings (4)



g346465

Figure 35

- PTO driveshaft (3)



G007309

g007309

Figure 36

Servicing the PTO

Service Interval: Yearly

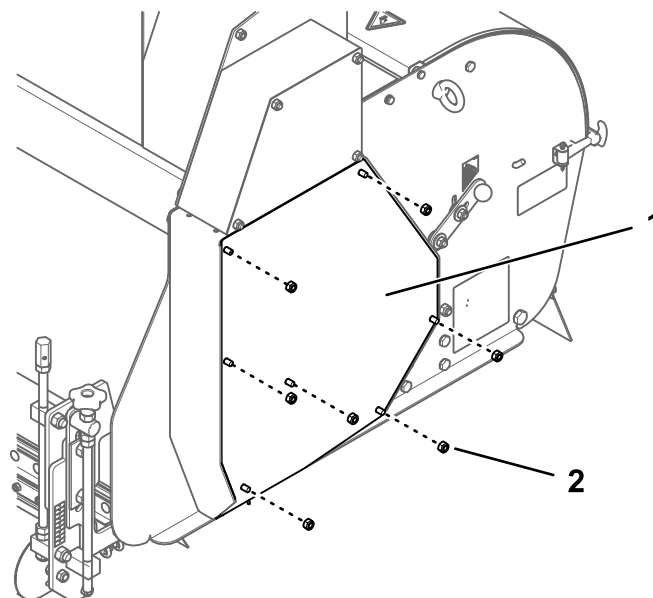
1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Disconnect the PTO from the traction unit and attachment.
4. Inspect the PTO components for damage; replace any damaged or worn components.
5. Clean all interlocking components.
6. Reassemble the components.
7. Grease the cylinders.
8. Assemble the PTO and mount it on the attachment.

Checking the Belt Tension

Service Interval: After the first 20 hours

Every 100 hours

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Remove the nuts and side panel.



g345202

Figure 37

1. Side panel
2. Nut (7)

- Verify that the belt deflects 2 mm (0.08 inch) when pulled with 4.5 kg (9.9 lb) of force at mid-span.

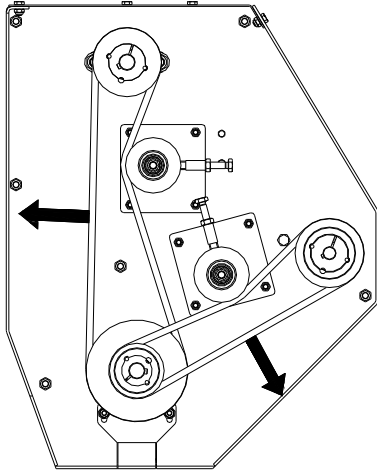


Figure 38

g345201

- If needed, proceed to [Adjusting the Belt Tension](#) (page 25). Otherwise, install the side panel and secure it with the nuts (Figure 37).

Adjusting the Belt Tension

Depending on the intensity of operation, wear on the driveline can cause the V-belts to slip. Tighten the V-belts when this occurs.

- Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
- Secure the attachment from movement.
- Remove the nuts and side panel.

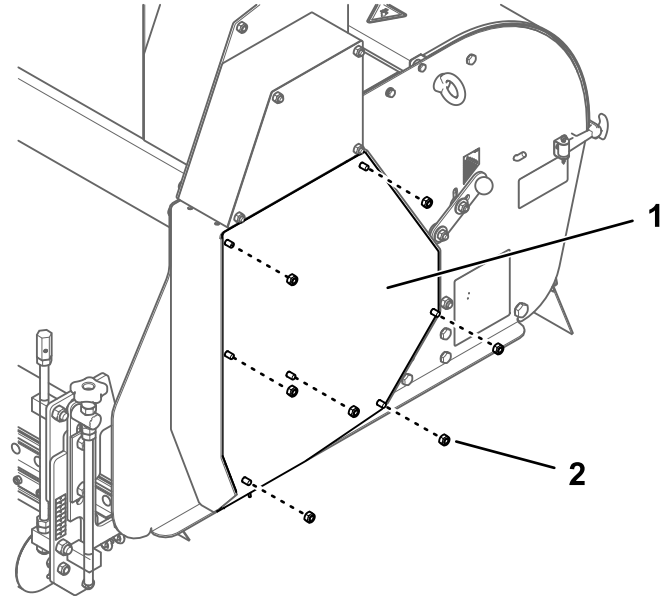


Figure 39

g345202

- Side panel
- Nut (7)

- Loosen the locknut.

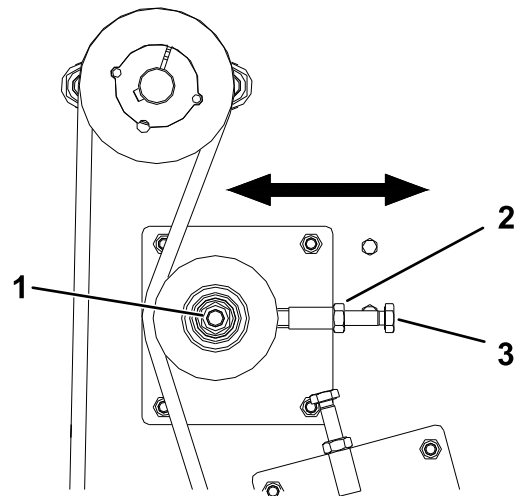


Figure 40

g345200

- Pulley nut
- Locknut
- Adjustment bolt

- Loosen the pulley nut slightly to release the tension.

6. Adjust the bolt to increase or decrease the pressure of the pulley on the belt.
7. Verify that the belt deflects 2 mm (0.08 inch) when pulled with 4.5 kg (9.9 lb) of force at mid-span. Continue adjusting the tension as needed.

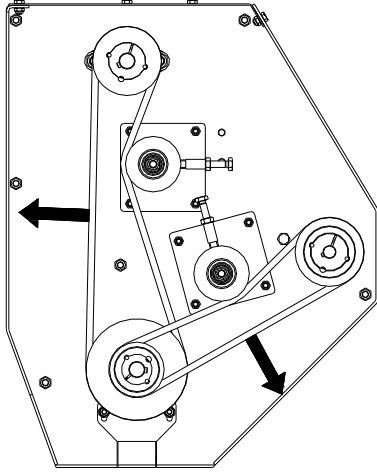


Figure 41

g345201

Changing the Sieve

Optional meshes are available and may be needed for processing different types of material.

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key from the traction unit.
2. Secure the attachment from movement.
3. Open the inspection hatch.
4. Rotate the clips to release the sieve.

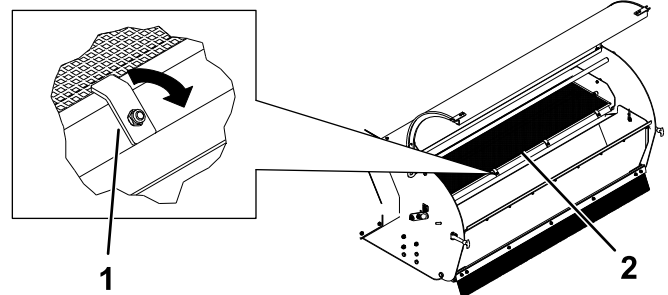


Figure 42

g345207

1. Clip
2. Sieve

8. Tighten the pulley nut.
9. Tighten the locknut.
10. Install the side panel and secure it with the nuts.

5. Remove the sieve and replace it with another sieve.
6. Turn the clips to secure the sieve.
7. Carefully close the inspection hatch and secure it using the latches.

Troubleshooting

Problem	Possible Cause	Corrective Action
The waste receptacle collects too much material.	<ol style="list-style-type: none"> 1. The PTO speed is too high. 2. The jiggling sieve is too flat. 3. The working depth is too deep. 4. The jiggling sieve is clogged. 5. The driving speed is too slow. 6. The field is too wet. 7. The mesh of the jiggling sieve is too small. 	<ol style="list-style-type: none"> 1. Lower the PTO speed. 2. Increase the angle of the sieve. 3. Decrease the working depth. 4. Clean the jiggling sieve. 5. Increase the driving speed. 6. Wait for the field to dry. 7. Use a sieve with a larger mesh.
The attachment does not clean enough material.	<ol style="list-style-type: none"> 1. The working depth is too shallow. 2. The driving speed is too fast. 3. The mesh of the jiggling sieve is too large. 4. A brush is worn. 5. The PTO speed is too low. 6. The opening of the brush outlet is blocked. 7. The V-belts are slipping. 	<ol style="list-style-type: none"> 1. Increase the working depth. 2. Decrease the driving speed. 3. Use a sieve with a smaller mesh. 4. Replace the brush. 5. Increase the PTO speed. 6. Remove the blockage. 7. Tighten the V-belts.
The appearance of the field is poor.	<ol style="list-style-type: none"> 1. The working depth is too deep. 2. The sliding brush is damaged. 	<ol style="list-style-type: none"> 1. Decrease the working depth. 2. Repair or replace the sliding brush.
There are squeaking noises during operation.	<ol style="list-style-type: none"> 1. The bearings need greasing or are worn out. 	<ol style="list-style-type: none"> 1. Grease the bearings using EP2 grease or replace them.

Notes:

Notes:

Notes:

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 do we include this warning?

Our company 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. We provide 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 our products may be negligible or well within the "no significant risk" range, out of an abundance of caution, we have elected to provide the Prop 65 warnings. Moreover, if we do 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.



Warranty Statement

One-Year Limited Warranty

Conditions and Products Covered

Your Bullseye product ("Product") is warranted to be free from defects in materials or workmanship for 1 year. Where a warrantable condition exists, we will repair the Product at no cost to you including diagnostics, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.

Instructions for Obtaining Warranty Service

You are responsible for notifying the distributor or authorized dealer from whom you purchased the Product as soon as you believe a warrantable condition exists. If you need help locating a distributor or authorized dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Bullseye Commercial Products Service Department
8111 Lyndale Avenue South
Bloomington, MN 55420-1196

952-888-8801 or 800-952-2740

Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This warranty does not cover the following:

- Product failures which result from the use of non-Bullseye replacement parts, or from installation and use of non-Bullseye branded accessories and products, or unapproved modifications to the Product, accessory, or replacement part.
- Product failures which result from failure to perform recommended maintenance and/or adjustments.
- Product failures which result from misusing the Product or using it in an abusive, negligent, or reckless manner.
- Parts consumed through use that are not defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, blades, reels, rollers and bearings (sealed or greasable), bed knives, spark plugs, castor wheels and bearings, tires, filters, belts, and discs, seed element castings, rotors, brushes, scrapers, fraze blades, rake tines, PTO's, and draw bars.
- Failures caused by outside influence, including, but not limited to, weather, natural disaster, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals.
- Failure or performance issues due to the use of fuels (e.g. gasoline, diesel, or biodiesel) that do not conform to their respective industry standards.
- Normal noise, vibration, wear and tear, and deterioration. Normal "wear and tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows.

Parts

Parts scheduled for replacement, as required maintenance, are covered for the same warranty period as the product warranty. Parts replaced under this warranty are covered for the duration of the original product warranty. Bullseye may retain all parts being replaced. Bullseye will make the final decision whether to repair any existing part or assembly or replace it. Bullseye may use remanufactured parts for warranty repairs.

Maintenance is at Owner's Expense

Engine tune-up, lubrication, cleaning and polishing, replacement of filters, coolant, and completing recommended maintenance are some of the normal services Bullseye products require that are at the owner's expense.

General Conditions

Repair by an Authorized Distributor or Dealer is your sole remedy under this warranty.

Neither Bullseye, nor any company involved in the manufacture, distribution, or sale of a Bullseye product shall be liable for indirect, incidental or consequential damages arising out of or related to the sale or use of the Product, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Except for the emissions warranty referenced below, if applicable, there is no other express or implied warranty.

Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Note Regarding Emissions Warranty

The emissions control system on your Product may be covered by a separate warranty from the engine manufacturer, meeting requirements established by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the emissions control system warranty. Refer to the engine emission control warranty statement supplied with your product or contained in the engine manufacturer's documentation.