



Form No. 3393-444 Rev A

**Count on it.**

# Operator's Manual

## Debris Blower

**Groundsmaster® 200/3280-D/3320 Series  
Traction Unit**

Model No. 30823—Serial No. 315000001 and Up



## ⚠ WARNING

### CALIFORNIA Proposition 65 Warning

**This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.**

## Introduction

This debris blower is mounted to a ride-on machine and is intended to be used by professional, hired operators in commercial applications. It is primarily designed to use wind power to quickly clear large areas of unwanted debris on well-maintained lawns in parks, sports fields, and on commercial grounds.

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.

You may contact Toro directly at [www.Toro.com](http://www.Toro.com) for product and 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. Write the numbers in the space provided.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

This manual identifies potential hazards and has safety messages identified by the safety alert symbol (Figure 1), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



**Figure 1**

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.

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# Safety

Hazard control and accident prevention are dependent upon the awareness, concern, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the machine. Improper use or maintenance of the machine can result in injury or death. To reduce the potential for injury or death, comply with the following safety instructions.

## Before Operating

- Read and understand the contents of this *Operator's Manual* before operating the machine. Become familiar with all of the controls and know how to stop quickly.
- Never allow children to operate the machine. Do not allow adults to operate machine without proper instruction. Only trained operators who have read this manual should operate this machine.
- Never operate the machine when under the influence of drugs or alcohol.
- Keep all bystanders away from the operating area.
- Keep all shields and safety devices in place. If a shield, safety device, or decal is illegible or damaged, repair or replace it before operation is commenced. Also tighten any loose nuts, bolts, and screws to ensure that the machine is in safe operating condition.
- Do not operate the machine while wearing sandals, tennis shoes, sneakers, or shorts. Also, do not wear loose fitting clothing which could get caught in moving parts. Always wear long pants and substantial shoes. Wearing safety glasses, safety shoes, and a helmet is advisable and required by some local ordinances and insurance regulations.

## While Operating

- Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.
- The maximum seating capacity is one person. Never carry passengers.
- Sit on the seat when starting the engine and operating the machine.
- This product may exceed noise levels of 85 dB(A) at the operator position. Hearing protection is recommended for prolonged exposure to reduce the potential of permanent hearing damage.
- Using the machine demands attention. To prevent loss of control:
  - Operate only in daylight or when there is good artificial light.
  - Drive slowly and watch for holes or other hidden hazards.

- Do not drive close to a sand trap, ditch, creek, or other hazard.
  - Reduce your speed when making sharp turns and when turning on hillsides.
  - Avoid sudden starts and stops.
  - Before backing up, look to the rear and ensure that no one is behind the machine.
  - Watch out for traffic when near or crossing roads. Always yield the right-of-way.
- Stay away from the discharge opening when the machine is operating. Keep all bystanders away from the discharge opening and don't direct discharge toward bystanders.
  - If the engine stalls or the machine loses headway and cannot make it to the top of a slope, do not turn the machine around. Always back slowly straight down the slope.
  - **Do not take an injury risk!** When a person or pet appears unexpectedly in or near the operating area, **stop operation**. Careless operation, combined with terrain angles, ricochets, or improperly positioned guards can lead to thrown object injuries. Do not resume operation until the area is cleared.
  - Lightning can cause severe injury or death. If lightning is seen or thunder is heard in the area, do not operate the machine; seek shelter.
  - Do not touch the engine or muffler while the engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

## Maintenance

- Remove the key from the ignition switch to prevent accidental starting of the engine when servicing, adjusting, or storing the machine.
- Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Toro Distributor.
- To reduce a potential fire hazard, keep the engine free of excessive grease, grass, leaves, and accumulations of dirt. Never wash a warm engine or any electrical parts with water.
- Be sure that the machine is in safe operating condition by keeping nuts, bolts, and screws tight. Check the fan shaft bearing mounting bolts and nuts frequently to be sure that they are tightened to specification.
- Make sure that all hydraulic line connectors are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Keep your body and hands away from pin hole leaks in hydraulic lines that eject high pressure hydraulic fluid. Use cardboard or paper to find hydraulic leaks. Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid accidentally injected into the skin must

be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

- Before disconnecting or performing any work on the hydraulic system, all pressure in the system must be relieved by stopping the engine and lowering the blower to the ground.
- If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing, and other parts of the body away from the fan and other moving parts.
- Do not overspeed the engine by changing the governor settings. To be sure of safety and accuracy, have an

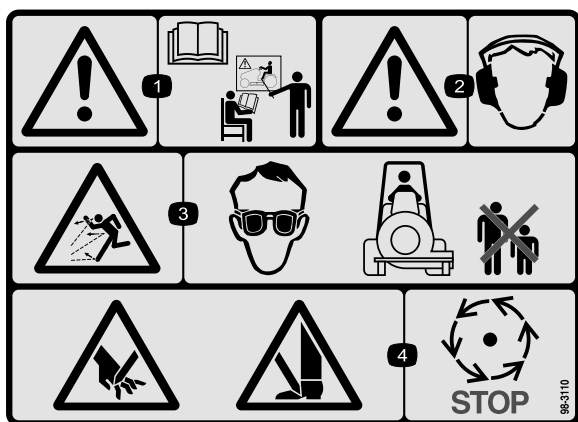
Authorized Toro Distributor check the maximum engine speed with a tachometer.

- The engine must be shut off before checking the oil or adding oil to the crankcase.
- To ensure optimum performance and safety, always purchase genuine Toro replacement parts and accessories to keep the machine all Toro. **Never use “will-fit” replacement parts and accessories made by other manufacturers.** Look for the Toro logo to ensure genuineness. Using unapproved replacement parts and accessories could void the warranty.

## Safety and Instructional Decals

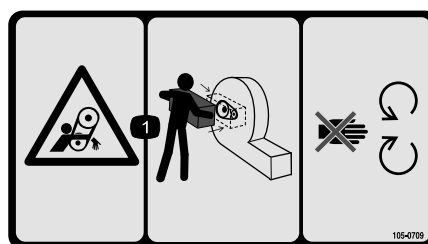


Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



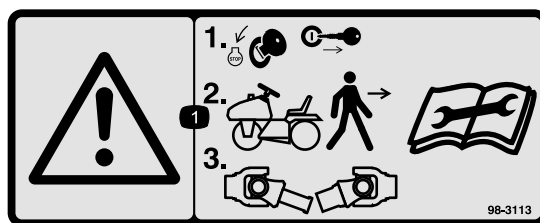
98-3110

1. Warning—read the *Operator's Manual* and receive training.
2. Warning—wear hearing protection.
3. Thrown object hazard—wear eye protection and keep bystanders a safe distance from the machine.
4. Cutting hazard of hand or foot—wait for moving parts to stop.



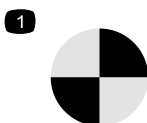
105-0709

1. Entanglement hazard, belt—keep all guards and shields in place; stay away from moving parts.



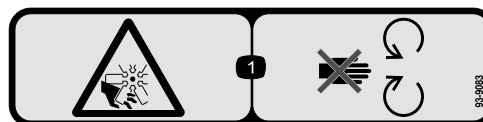
98-3113

1. Warning—stop the engine and remove the key before leaving the machine or disconnecting the PTO shaft; read the instructions before servicing or performing maintenance.



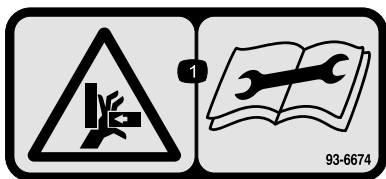
98-3111

1. Point of rotation



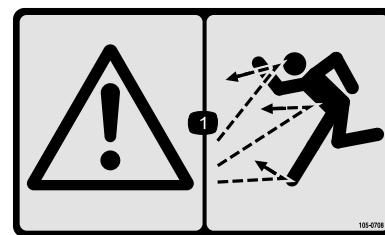
93-9083

1. Cutting/dismemberment hazard, fan—stay away from moving parts.



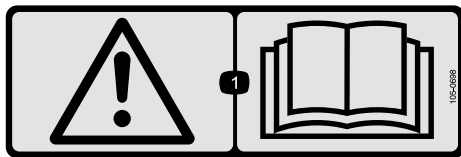
**93-6674**

1. Crushing hazard, hand—read the instructions before servicing or performing maintenance.



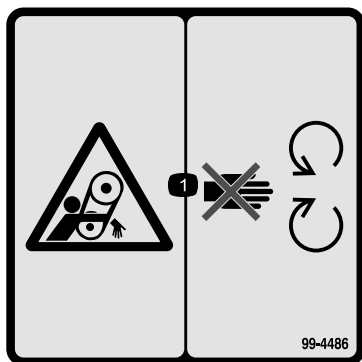
**105-0708**

1. Warning—thrown object hazard; keep bystanders away from machine.



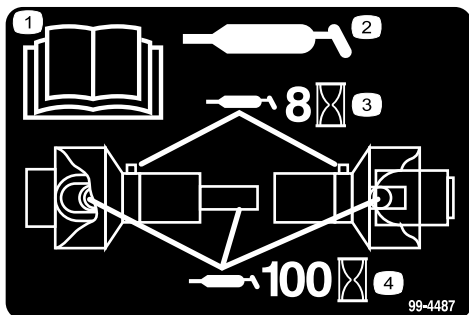
**105-0698**

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



**99-4486**

1. Entanglement hazard, belt—stay away from moving parts, keep all guards and shields in place.



**99-4487**

- |  |                            |
|--|----------------------------|
| 1. Read the <i>Operator's Manual</i> . | 3. Grease every 8 hours.   |
| 2. Grease                              | 4. Grease every 100 hours. |

# Setup

## Loose Parts

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

Procedure	Description	Qty.	Use
<b>1</b>	Arm Stop Bolts (7/16 x 3 inches) Locknut (7/16 inch) Washer Bolt (7/16 x 3-1/4 inches)	2 1 4 6 12 2	Mount the arms to the attachment frame.
<b>2</b>	No parts required	–	Mount the castor wheels to the debris blower (shipped on blower).
<b>3</b>	No parts required	–	Lower the stand (shipped on blower).
<b>4</b>	Bolts (7/16 x 3 inches) Locknut (7/16 inch) Washer	6 6 12	Mount the debris blower to the traction unit.
<b>5</b>	Drive shaft Roll pin Bolt (5/16 x 1–1/2 inches) Locknut (5/16 inch)	1 1 2 2	Install the drive shaft.
<b>6</b>	No parts required	–	Grease the blower.

## Media and Additional Parts

Description	Qty.	Use
Parts Catalog	1	Read before operating.
Operator's Manual	1	
Declaration of Conformity	1	Certificate of compliance

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

**Important:** The fasteners on the covers of this machine are designed to remain on the cover after removal. Loosen all of the fasteners on each cover a few turns so that the cover is loose but still attached, then go back and loosen them until the cover comes free. This will prevent you from accidentally stripping the bolts free of the retainers.

## ⚠ DANGER

Do not start the engine and engage the PTO when PTO shaft is not connected to blower shaft.

If not connected, the PTO shaft will rotate with enough force to cause serious injury.

**Note:** Equip this traction unit with the Attachment Frame Kit, Toro Part No. 110–8540 so that the Debris Blower Mounting Kit can be installed. Obtain the Attachment Frame Kit from your Toro Distributor.

**Note:** If you have purchased the traction unit without a cutting unit, the following parts must be purchased separately. Obtain the Attachment Frame Kit from your Toro Distributor.

Description	Part Number	Qty
Lift arm	117–0806	1
Lift arm	117–0800	1
Clevis pin	107–7904	2
Hair pin cotter	3290–256	2
Thrust washer	107–7915	4
Pivot pin assembly	98–2330	2
Cotter pin	3272–24	2
HOC collar	110–0641	2
Clevis pin	107–3457	2
Hair pin cotter	3290–467	2

# 1

## Mounting the Arms to the Attachment Frame

### Parts needed for this procedure:

2	Arm
1	Stop
4	Bolts (7/16 x 3 inches)
6	Locknut (7/16 inch)
12	Washer
2	Bolt (7/16 x 3-1/4 inches)

### Procedure

1. Position the machine on a clean, level surface. Lower any implement, stop the engine, apply the parking brake and remove the key from the ignition switch.
2. Loosely install the left arm to the attachment frame using 3 bolts (7/16 x 3 inches), 3 locknuts (7/16 inch), and 6 washers (Figure 2).

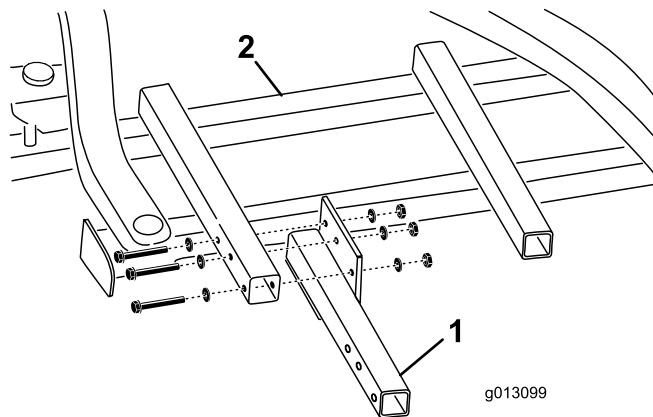
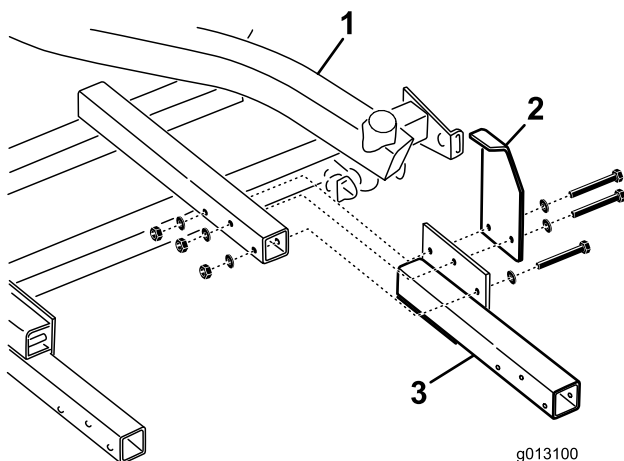


Figure 2

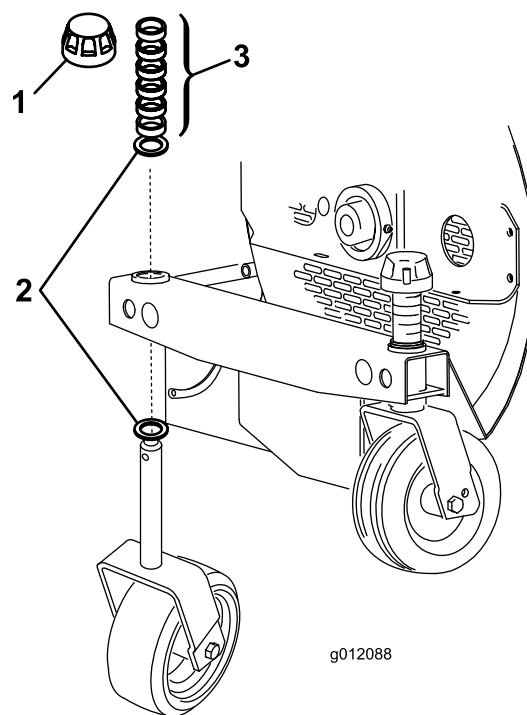
1. Left arm
2. Attachment frame

3. Loosely install the right arm and the stop to the attachment frame using 1 bolt (7/16 x 3 inches), 2 bolts (7/16 x 3-1/4 inches—installed through the stop), 3 locknuts (7/16 inch), and 6 washers (Figure 3).



**Figure 3**

1. Attachment frame
2. Stop
3. Right arm



**Figure 4**

1. Tensioning cap
2. Thrust washers
3. Spacers

## 2

## Mounting the Castor Wheels

### No Parts Required

### Procedure

The castor wheel assemblies are installed upside down on the debris blower for shipping

1. Remove the tensioning caps from the spindle shafts and slide off the castor wheel, spacers, and thrust washers (Figure 4).
2. Slide the spacers onto the castor spindle to get the desired height. Slide a thrust washer onto the spindle and push the castor spindle through the frame. Install another thrust washer and the remaining spacers onto the spindle and install the tensioning cap to secure the assembly (Figure 4).

**Important:** The thrust washers must contact the top and bottom of the blower frame.

3. Ensure that both castor wheels are set at the same height.

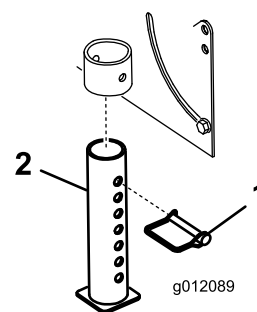
## 3

## Lowering the Stand

### No Parts Required

### Procedure

1. Remove the snapper pin securing the stand to the tube on the blower frame (Figure 5).



**Figure 5**

1. Snapper pin
2. Stand tube

2. Lower the stand, install the pin through the upper set of holes in the stand and tube (Figure 5), secure the pin.
3. Stand the blower up on the castor wheels and stand (storage position).

# 4

## Mounting the Debris Blower to the Traction Unit

### Parts needed for this procedure:

6	Bolts (7/16 x 3 inches)
6	Locknut (7/16 inch)
12	Washer

### Procedure

1. Position the traction unit in line with the rear of the debris blower.
2. Slide the blower into the attachment frame arms and loosely secure it using 6 bolts (7/16 x 3 inches), 6 locknuts (7/16 inch), and 12 washers (Figure 6).

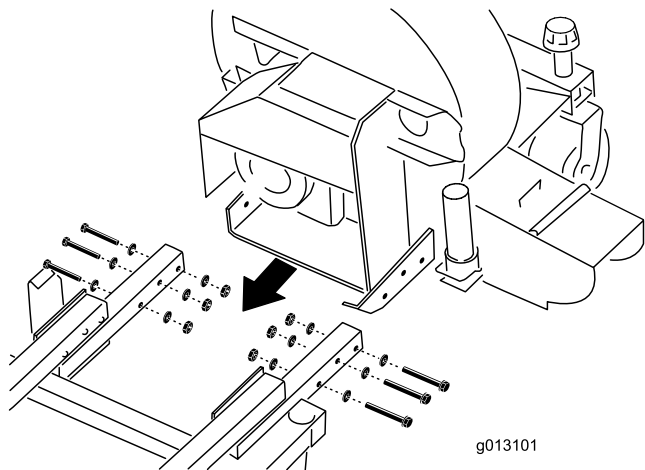


Figure 6

3. Tighten all fasteners securely.
4. Remove the snapper pin securing the stand to the tube on the blower frame.
5. Raise the stand, install the pin through the lower set of holes in the stand and tube, secure the pin.

# 5

## Installing the Drive Shaft

### Parts needed for this procedure:

1	Drive shaft
1	Roll pin
2	Bolt (5/16 x 1-1/2 inches)
2	Locknut (5/16 inch)

### Procedure

#### **⚠ DANGER**

The PTO shaft rotates with enough force to cause serious injury.

Do not start the engine and engage the PTO when the PTO shaft is not connected to the blower shaft.

1. Loosen the 3 bolts securing the belt guard to the blower frame (Figure 7). Remove the belt guard.

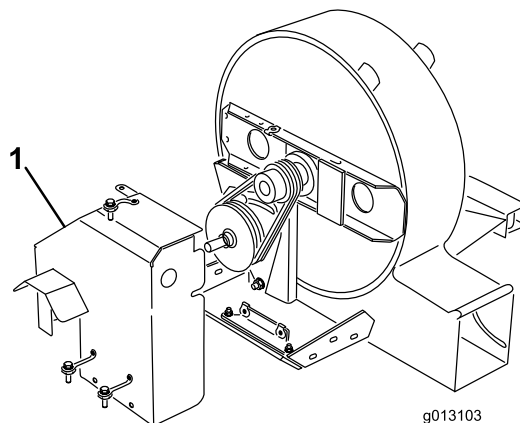
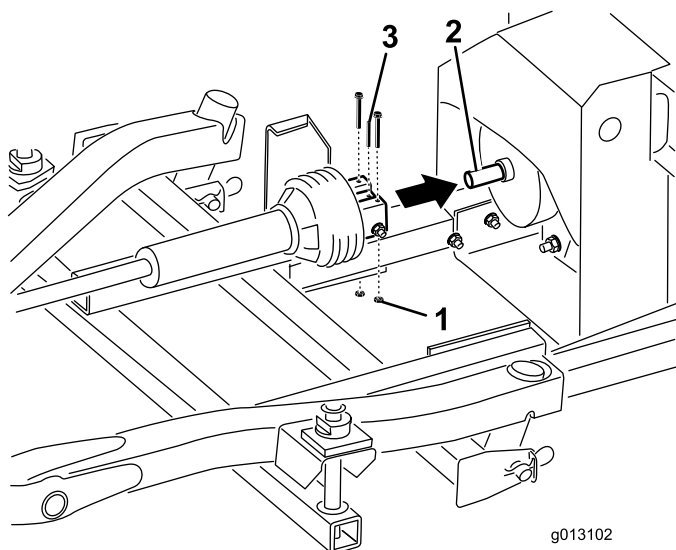


Figure 7

1. Belt guard
2. PTO shaft

2. Connect the female half of the drive shaft to the traction unit PTO, if not already installed.
3. Slide the male end of the drive shaft into the female half of the drive shaft.
4. Install the other end of the male drive shaft to the blower shaft, securing it with a roll pin and 2 bolts (5/16 x 1-1/2 inches) and locknuts (5/16 inch) (Figure 8).



**Figure 8**

1. End of the shaft
2. Blower-drive shaft
3. Roll pin

5. Torque the bolts and nuts to 22.5 N-m (200 in-lb).
6. Install the belt guard and tighten the mounting fasteners (Figure 7).

**Note:** To ensure proper blower operation, check and adjust the blower belt tension after the first 20 hours of operation; refer to (page ).

# 6

## Greasing the Blower

### No Parts Required

### Procedure

Grease the PTO shaft before operating the blower be to ensure proper lubricating characteristics; refer to (page ). Failure to properly grease the unit will result in premature failure of critical parts.

# Product Overview

## Specifications

Fan	The fan is a backward curved, cast aluminum fan with 12 blades per side, 53 cm (21 inch) outside diameter, 16 cm (6-3/8 inch) width, 16 kg (34 lb).
Fan housing	The fan housing is 10 gauge steel face plates welded to a 10 gauge wrapper. Increasing the scroll from cutoff.
Fan drive	The PTO driven A 3VX banded belt drive to fan.  The final drive has a ratio of 1.5:1 with a over running clutch in belt drive pulley.  The fan shaft rotates on greaseable ball bearings.
Fan speed	2700 rpm
Fan output	3650 ± 200 cfm, 225 km/h (130 ± 20 mph)
Outlet	Outlet opening is 303 square cm (47 square inches)
Net Weight	174 kg (384 lb)

# Operation

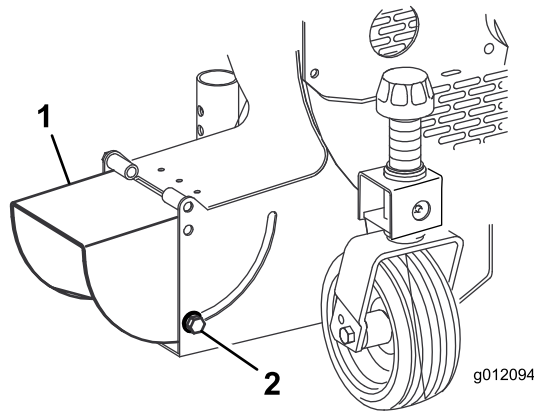
## Transporting the Blower

1. Reduce the engine speed to idle position.
2. Disengage the PTO and wait for the PTO to stop.
3. Raise the blower to the transport position.

## Adjusting the Discharge Opening

The discharge opening is adjustable to increase or decrease air output velocity and volume. Decreasing the discharge opening size will increase the velocity.

1. Loosen the discharge opening deflector mounting screws (Figure 9).



**Figure 9**

1. Deflector
2. Mounting screw

2. Pivot the deflector to the desired opening.
3. Tighten the mounting screws.

## Operating Tips

### **⚠ WARNING**

Discharged air has considerable force and could cause injury or loss of footing.

- Stay away from the discharge opening when the machine is operating.
- Keep bystanders away from the discharge opening when the machine is running.

1. Start the traction unit and run the engine at low idle.
2. Lower the blower using the traction unit lift mechanism.
3. Engage the PTO while the engine is at low idle
4. Increase the engine speed to high idle.

5. Practice blowing material.

**Note:** Blow the same direction the wind is blowing to prevent material from blowing back into the cleared area.

# Maintenance

## Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 20 hours	<ul style="list-style-type: none"><li>• Make sure that the belt is properly tensioned to ensure proper operation of the machine and unnecessary wear.</li></ul>
Before each use or daily	<ul style="list-style-type: none"><li>• Check the blower belt.</li></ul>
Every 20 hours	<ul style="list-style-type: none"><li>• Lubricate the idler arm bearing every 20 hours or weekly.</li><li>• Lubricate the overrunning clutch pulley every 20 hours or weekly.</li><li>• Lubricate the 2 fan-shaft bearings every 20 hours or weekly.</li><li>• Lubricate the 2 lift arm pivots every 20 hours or weekly.</li><li>• Lubricate the guards after every 20 hours of use or weekly.</li></ul>
Every 50 hours	<ul style="list-style-type: none"><li>• Lubricate the castor wheels every 50 hours.</li></ul>
Every 100 hours	<ul style="list-style-type: none"><li>• Lubricate the 2 drive shaft fitting after every 100 hours of use.</li></ul>

## Lubrication

### Idler-Arm Bearing

**Service Interval:** Every 20 hours

Lubricate the idler arm bearing (Figure 10) must be lubricated with a No. 2 general-purpose lithium-based grease.

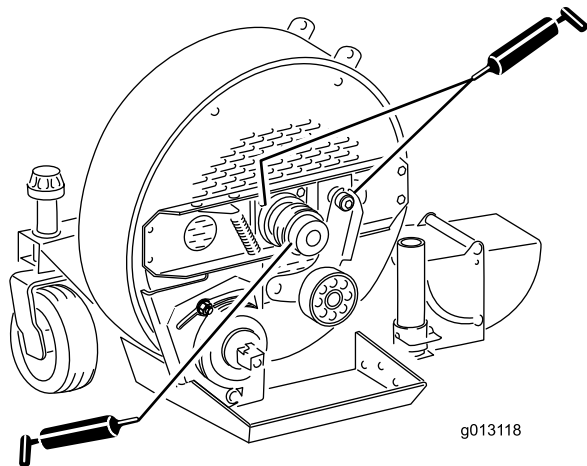


Figure 10

The 2 fan-shaft bearings (Figure 10 and Figure 11) must be lubricated with a No. 2 general-purpose lithium-based grease.

### Castor Wheels

**Service Interval:** Every 50 hours

Under normal conditions, grease the 2 wheels and 2 wheel pivot tubes (Figure 11) after every 50 hours of use. Use a No. 2 general-purpose lithium-based grease.

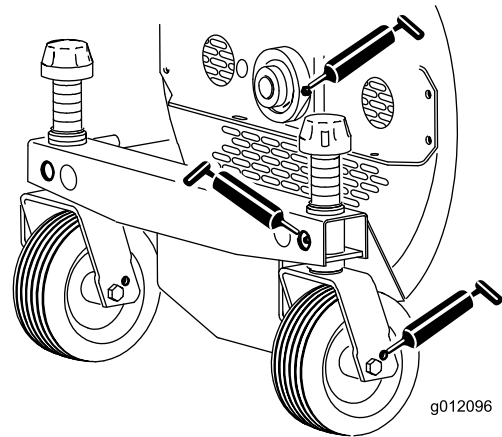


Figure 11

### Overrunning Clutch Pulley

**Service Interval:** Every 20 hours

The overrunning clutch pulley (Figure 10) must be lubricated with a No. 2 general-purpose lithium-based grease.

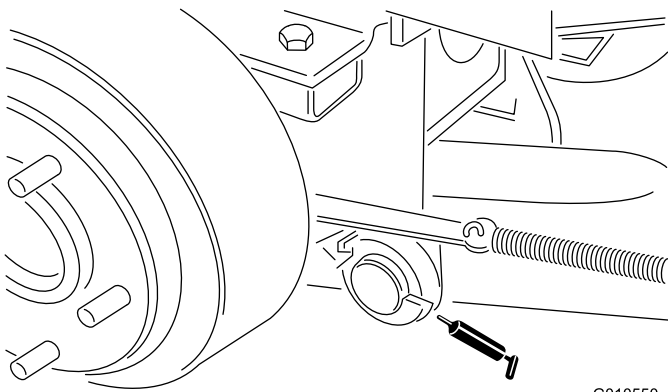
### Fan-Shaft Bearing

**Service Interval:** Every 20 hours

### Lift-Arm Pivots

**Service Interval:** Every 20 hours

The 2 lift arm pivots (Figure 12) must be lubricated with a No. 2 general-purpose lithium-based grease.



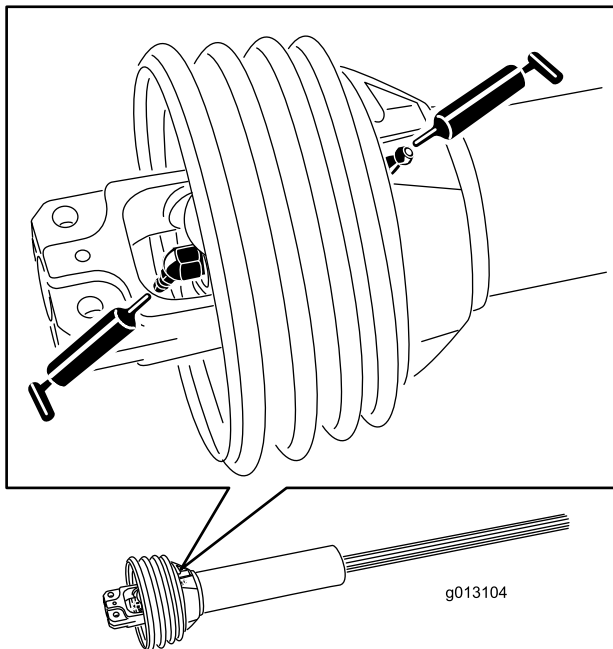
**Figure 12**

## Drive Shaft and Guards

**Service Interval:** Every 100 hours

Every 20 hours

Under normal conditions, grease the 2 drive shaft fittings after every 100 hours of use and the guards after every 8 hours of operation (Figure 13). Use a No. 2 general-purpose lithium-based grease.



**Figure 13**

## Adjusting the Blower Belt

**Service Interval:** After the first 20 hours

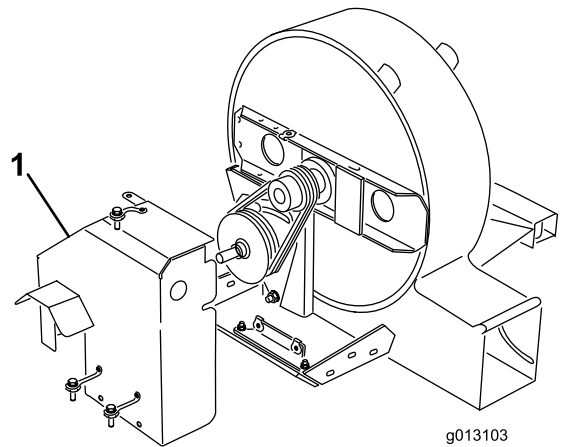
Before each use or daily

Make sure that the belt is properly tensioned to ensure proper operation of the machine and unnecessary wear. Check the belt frequently.

**Note:** Check/adjust the blower belt tension after the first 20 hours of operation.

1. Loosen the 3 bolts and 3 nuts securing the belt guard to the blower housing (Figure 14), remove the guard.

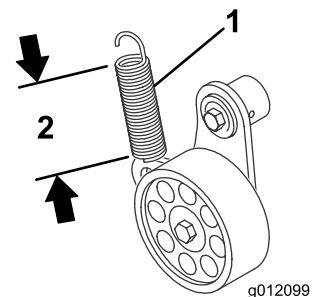
**Note:** The drive shaft does not have to be disconnected to adjust the belt.



**Figure 14**

1. Belt guard

2. A new belt is properly tensioned when the idler spring body is extended to a length of 83 to 89 mm (3-1/4 to 3-1/2 inches) (Figure 15).



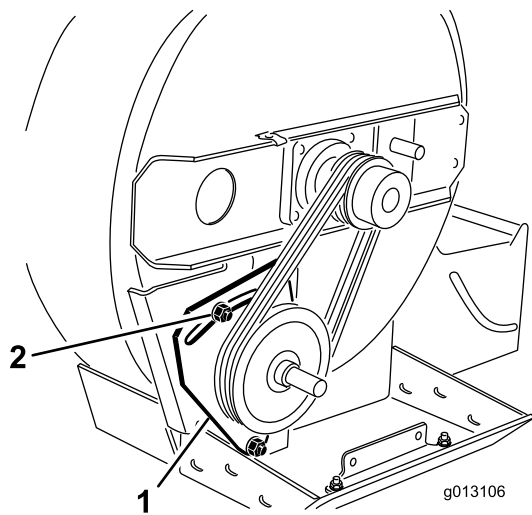
**Figure 15**

1. Idler spring
2. 83 to 89 mm (3-1/4 to 3-1/2 inches)

3. When the belt stretches, adjust it as follows:

- Loosen the nut securing the belt tensioner to the blower housing.
- Rotate the belt tensioner (Figure 15) until the idler spring body is extended to a length of 83 to 89 mm (3-1/4 to 3-1/2 inches) (Figure 16), then tighten the nut.

4. Install the belt guard to the blower housing and tighten the mounting fasteners.



**Figure 16**

1. Belt tensioner

2. Belt-tensioner notch

## Storage

1. Lower the stand.
2. Install the pin through the upper set of holes in the stand and tube (Figure 5).
3. Secure the pin.
4. Stand the blower up on the castor wheels and stand.
5. Thoroughly clean the blower.

**Note:** The fan housing should be free of dirt, leaves, and debris.

6. Lubricate all grease fittings and wipe off any excess lubricant.
7. Place a light coat of grease on the splines of the PTO adapter.
8. Tighten all fasteners.

# Troubleshooting

Problem	Possible Cause	Corrective Action
The fan quits turning.	<ol style="list-style-type: none"> <li>1. Belt may be loose or broken.</li> <li>2. Bearing pressed in the bearing mount may be damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace belt or adjust the tension of the belt.</li> <li>2. Replace the bearing; use thread-locking compound when replacing.</li> </ol>
There is excessive vibration.	<ol style="list-style-type: none"> <li>1. The bearing on the fan shaft is damaged.</li> <li>2. Material is built up on the fan blades.</li> <li>3. The speed of the PTO shaft is too fast.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the bearings.</li> <li>2. Clean out any buildup on the inside of the housing.</li> <li>3. Reduce the PTO speed to 540 rpm.</li> </ol>
There is lack of adequate air flow.	<ol style="list-style-type: none"> <li>1. The air slots are clogged with debris.</li> <li>2. The speed on the tractor is too slow.</li> <li>3. The throttle on the tractor engine is too low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean out any debris from the slots.</li> <li>2. Increase the PTO speed to 540 rpm.</li> <li>3. Make any necessary repairs to bring the tractor speed up to normal.</li> </ol>



## Toro General Commercial Product Warranty

### A Two-Year Limited Warranty

#### Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Commercial product ("Product") to be free from defects in materials or workmanship for two years or 1500 operational hours\*, whichever occurs first. This warranty is applicable to all products with the exception of Aerators (refer to separate warranty statements for these products). 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.

\* Product equipped with an hour meter.

#### Instructions for Obtaining Warranty Service

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

Toro Commercial Products Service Department  
Toro Warranty Company  
8111 Lyndale Avenue South  
Bloomington, MN 55420-1196  
  
952-888-8801 or 800-952-2740  
E-mail: commercial.warranty@toro.com

#### Owner Responsibilities

As the Product owner, you are responsible for required maintenance and adjustments stated in your *Operator's Manual*. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

#### 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-Toro replacement parts, or from installation and use of add-on, or modified non-Toro branded accessories and products. A separate warranty may be provided by the manufacturer of these items.
- Product failures which result from failure to perform recommended maintenance and/or adjustments. Failure to properly maintain your Toro product per the Recommended Maintenance listed in the *Operator's Manual* can result in claims for warranty being denied.
- Product failures which result from operating the Product in an abusive, negligent, or reckless manner.
- Parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, brake pads and linings, clutch linings, blades, reels, rollers and bearings (sealed or greasable), bed knives, spark plugs, castor wheels and bearings, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.
- Failures caused by outside influence. Conditions considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals, etc.
- 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, etc.

#### Parts

Parts scheduled for replacement as required maintenance are warranted for the period of time up to the scheduled replacement time for that part. Parts replaced under this warranty are covered for the duration of the original product warranty and become the property of Toro. Toro will make the final decision whether to repair any existing part or assembly or replace it. Toro may use remanufactured parts for warranty repairs.

#### Deep Cycle and Lithium-Ion Battery Warranty:

Deep cycle and Lithium-Ion batteries have a specified total number of kilowatt-hours they can deliver during their lifetime. Operating, recharging, and maintenance techniques can extend or reduce total battery life. As the batteries in this product are consumed, the amount of useful work between charging intervals will slowly decrease until the battery is completely worn out. Replacement of worn out batteries, due to normal consumption, is the responsibility of the product owner. Battery replacement may be required during the normal product warranty period at owner's expense. Note: (Lithium-Ion battery only): A Lithium-Ion battery has a part only prorated warranty beginning year 3 through year 5 based on the time in service and kilowatt hours used. Refer to the *Operator's Manual* for additional information.

#### 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 Toro products require that are at the owner's expense.

#### General Conditions

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

**Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, 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 warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express 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 engine warranty:

The Emissions Control System on your Product may be covered by a separate warranty 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 for details.

#### Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the Toro importer.