



Form No. 3415-485 Rev B

**Count on it.**

**Operator's Manual**

**Aerator 686 and 687**

Model No. 44856—Serial No. 400000000 and Up

Model No. 44867—Serial No. 400000000 and Up



This product complies with all relevant European directives when CE Kit 95-3350 is installed; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.



Figure 1

g000502

**⚠ 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.**

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 aerator is intended to be used by trained operators in residential and commercial applications. It is primarily designed for aerating areas of well-maintained lawns on residential grounds, 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. The 2 numbers are stamped on a plate that is riveted to the main arm. 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.

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# Safety

- Read and understand the contents of the *Operator's Manual* for both the aerator and the towing vehicle.
- All operators and service personnel should be trained on the aerator.
- Raise the tines, slow down, and use caution when crossing surfaces other than grass and when transporting the machine.
- Do not operate the machine when ill, tired, or under the influence of alcohol or drugs.
- Use extreme care when loading or unloading the aerator into a trailer or truck.
- Operate the aerator at a lower speed when you are on a slope.
- Do not use the aerator near drop-offs, ditches, embankments, or bodies of water. The aerator could suddenly roll over if a wheel goes off the edge.
- Always raise the tines and wait for all movement to stop before adjusting, cleaning, or repairing the aerator.
- Always wear gloves when servicing the tines. Replace damaged tines.
- Do not put hands or feet near moving components of the machine.

# Safety and Instructional Decals



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



decal106-0229

**106-0229**

1. Warning—remove the key from the ignition and read the *Operator's Manual* before performing maintenance.
2. Cutting/severing hazard of hand; cutting/severing hazard of foot.



**1**

**58-6520**

decal58-6520

1. Grease

# Setup

## Loose Parts

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

Procedure	Description	Qty.	Use
<b>3</b>	Tongue assembly	1	Mount the tongue assembly.
	Bracket	2	
	Bolt (1/2 x 2-1/2 inch)	6	
	Nut (1/2 inch)	6	
	Washer (1/2 inch)	6	
	Lock washer (1/2 inch)	6	
	Lock pin	1	
	Hairpin cotter pin (small)	1	
<b>4</b>	Pump and cylinder assembly	1	Attach the pump and cylinder assembly.
	Screw (3/8 x 1-1/4 inch)	2	
	Washer (3/8 inch)	2	
	Locknut (3/8 inch)	2	
	Screw (1/2 x 1-1/4 inch)	1	
	Nut (1/2 inch)	1	
	Lock washer (1/2 inch)	1	
	Vibration strap	1	
	Cylinder pin	2	
	Hairpin cotter pin (large)	2	

## Media and Additional Parts

Description	Qty.	Use
Operator's Manual	1	Read before operating the machine.

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

# 1

## Installing the Wheels

(Model 44856)

Parts needed for this procedure:

2	Wheel assembly
4	Spacer
2	Axle
2	Slotted nut
2	Cotter pin

### Procedure

1. Position the wheel assembly and 2 spacers (1 on each side of the wheel hub) between the frame as shown in [Figure 2](#).

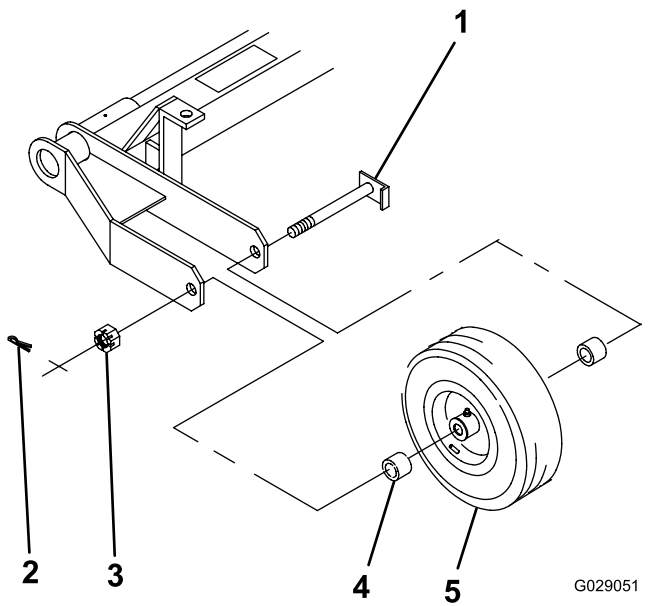


Figure 2

- |                |                   |
|----------------|-------------------|
| 1. Axle        | 4. Wheel spacer   |
| 2. Cotter pin  | 5. Wheel assembly |
| 3. Slotted nut |                   |

2. Insert the axle through the frame, spacers, and wheel ([Figure 2](#)).
3. Thread the slotted nut onto the axle and tighten it with a hand wrench to 8 to 20 N·m (75 to 180 in-lb).
4. Rotate the wheel to seat the bearings and remove any end play.

5. Loosen the castle nut until it is away from the frame, and the wheel hub has some end play.
6. Tighten the slotted nut to 1.5 to 2 N·m (15 to 20 in-lb) while rotating the wheel.

**Note:** If the cotter pin hole in the axle shaft is not aligned with a slot in the nut, loosen the nut until they are aligned.

7. Install the cotter pin.
8. Lubricate the wheel bearings until the wheel hub cavity is completely full and you see slight leakage at the seals.

# 2

## Installing the Weights

Parts needed for this procedure:

12	Weight
6	Bolt (1/2 x 2-3/4 inch)
6	Flanged locknut (1/2 inch)

### Procedure

Install the weights as shown in [Figure 3](#).

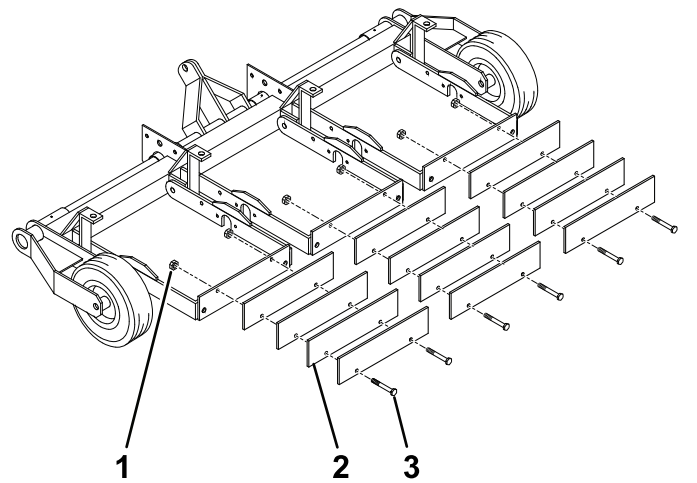


Figure 3

- |                               |                            |
|-------------------------------|----------------------------|
| 1. Flanged locknut (1/2 inch) | 3. Bolt (1/2 x 2-3/4 inch) |
| 2. Weight                     |                            |

# 3

## Mounting the Tongue Assembly

(Model 44856)

Parts needed for this procedure:

1	Tongue assembly
2	Bracket
6	Bolt (1/2 x 2-1/2 inch)
6	Nut (1/2 inch)
6	Washer (1/2 inch)
6	Lock washer (1/2 inch)
1	Lock pin
1	Hairpin cotter pin (small)

### Procedure

1. Remove the brackets, lockpin, and hardware from the tongue attachment points of the aerator.
2. Align the tongue assembly with the aerator as shown in [Figure 4](#).

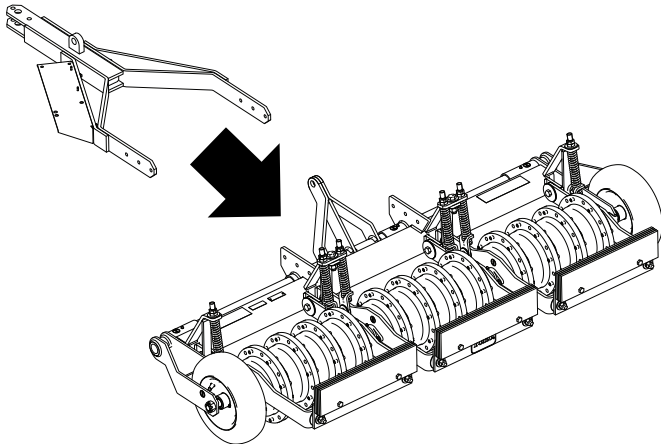


Figure 4

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3. Align the brackets on the aerator as shown in [Figure 5](#).

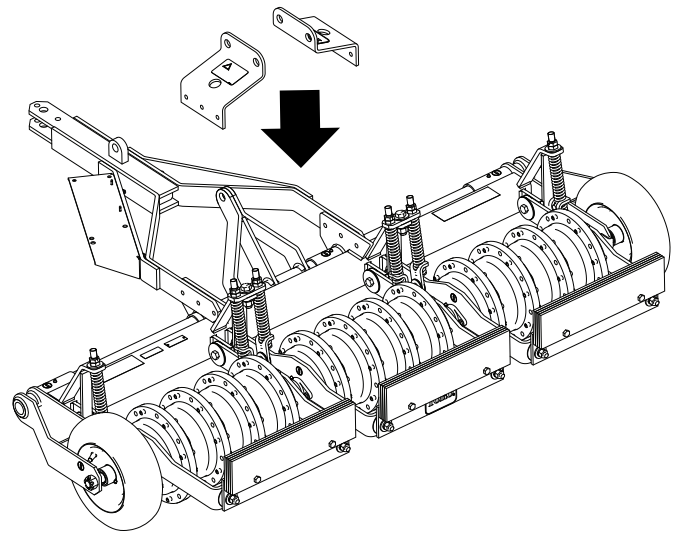


Figure 5

g216319

4. Secure the tongue assembly and the brackets with the hardware as shown in [Figure 6](#) and torque the nuts to 54 to 74 N·m (67-83 ft-lb).

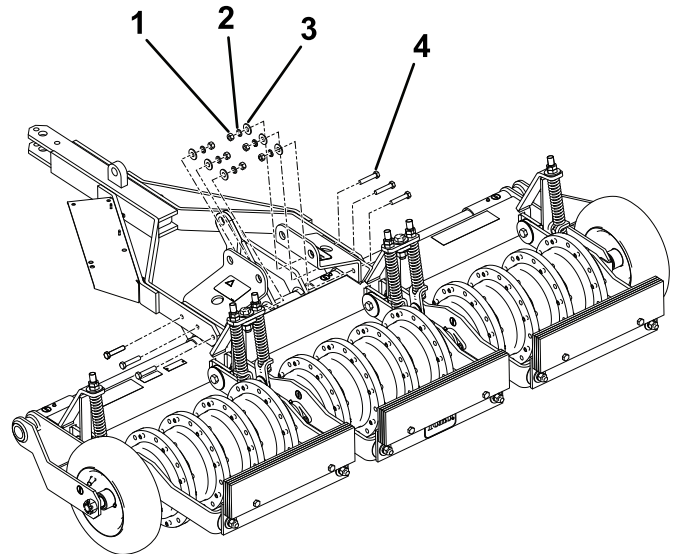


Figure 6

g216320

1. Nut (1/2 inch)
2. Lock washer (1/2 inch)
3. Washer (1/2 inch)
4. Bolt (1/2 x 2-1/2 inch)

5. Install the lock pin and secure it with the small hairpin cotter as shown in [Figure 7](#).

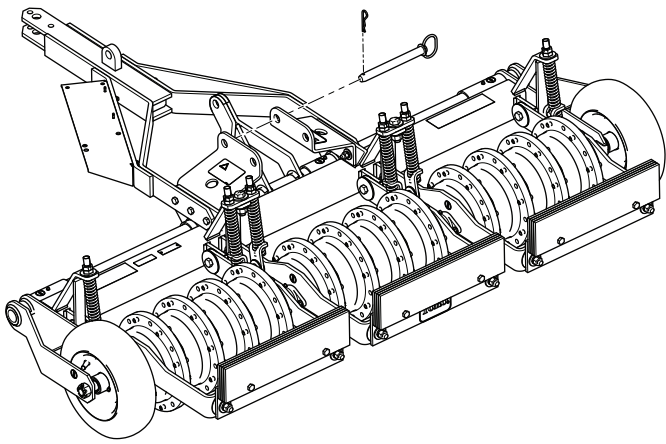
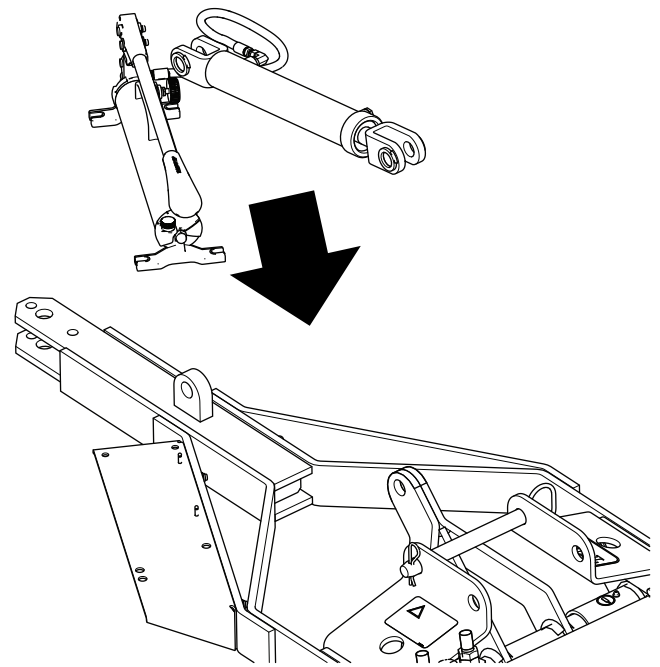


Figure 7

g216321



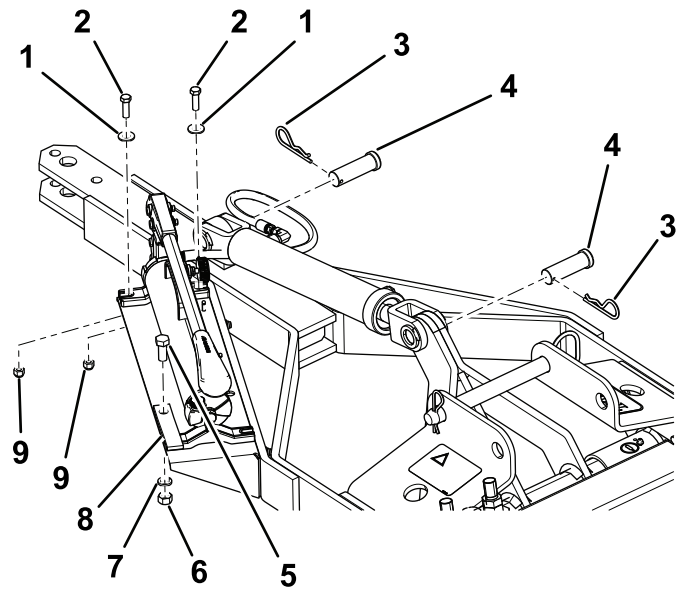
g216317

# 4

## Attaching the Pump and Cylinder Assembly (Model 44856)

### Parts needed for this procedure:

1	Pump and cylinder assembly
2	Screw (3/8 x 1-1/4 inch)
2	Washer (3/8 inch)
2	Locknut (3/8 inch)
1	Screw (1/2 x 1-1/4 inch)
1	Nut (1/2 inch)
1	Lock washer (1/2 inch)
1	Vibration strap
2	Cylinder pin
2	Hairpin cotter pin (large)



g216318

Figure 8

- |                             |                           |
|-----------------------------|---------------------------|
| 1. Washer (3/8 inch)        | 6. Nut (1/2 inch)         |
| 2. Screw (3/8 x 1-1/4 inch) | 7. Lock washer (1/2 inch) |
| 3. Hairpin cotter (large)   | 8. Vibration strap        |
| 4. Cylinder pin             | 9. Locknut (3/8 inch)     |
| 5. Screw (1/2 x 1-1/4 inch) |                           |

## Procedure

**Note:** Ensure that the hose is not kinked or pinched.

Align the pump and cylinder assembly and secure them as shown in [Figure 8](#).



# Product Overview

## Specifications

Frame	Welded tubular steel; divided into 3 sections, each section moves horizontally and diagonally to follow contour, spring loaded
Aerating wheels	12 castings, 70 lb, 4 per section, with permanent roll pin every other hole
Shaft	1-1/4 inch, machined to 1 inch
Tines	96, 8 per wheel, secured with 1 bolt, roll pin in wheel secures second hole in tine; 1/2 or 3/4 inch open or closed, 4 inch slicing blades are available
Bearings	Self sealed, self aligned
Transport tires (Model 44856 only)	4.80 x 8 — 2 ply
Hitch	Drop pin (Model 44856) 3 point—Category 1 tractor type (Model 44867)
Lift mechanism (Model 44856 only)	Hand hydraulic pump to a 10 inch stroke cylinder. Hydraulic fluid required is Mobil DTE 15 M or equivalent
Springs	6 to assist down pressure on tines
Aerating swath	2 m (78 inches)
Pattern	15 cm (6 inches) on center
Operating speed	1 to 16 km/h (1 to 10 mph), depending on conditions
Overall width	2.2 m (90 inches) (Model 44856)
	2 m (82 inches) (Model 44867)
Weight	674 kg (1,485 lb) (Model 44856)
	569 kg (1,255 lb) (Model 44867)

## Attachments/Accessories

A selection of Toro approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or Distributor.

To best protect your investment and maintain optimal performance of your Toro equipment, count on Toro genuine parts. When it comes to reliability, Toro delivers replacement parts designed to the exact engineering specification of our equipment. For peace of mind, insist on Toro genuine parts.

# Operation

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

## Preparing to Attach the Aerator

**Service Interval:** Before each use or daily

1. Park the towing machine on a level surface, shut off the engine, engage the parking brake, and remove the key.
2. Visually inspect the towing machine for any loose hardware or any other possible problems. Tighten hardware and correct any problems before operating.
3. For Model 44856, check the tire pressure and maintain it at 413 kPa (60 psi).

## Attaching the Aerator

### Attaching Model 44856

Attach the hitch of the aerator to the tongue of the towing machine using the hardware of the towing machine.

**Important:** Do not lift the tongue by hand. Use the tongue jack or powered lift to align the hitch to the towing machine.

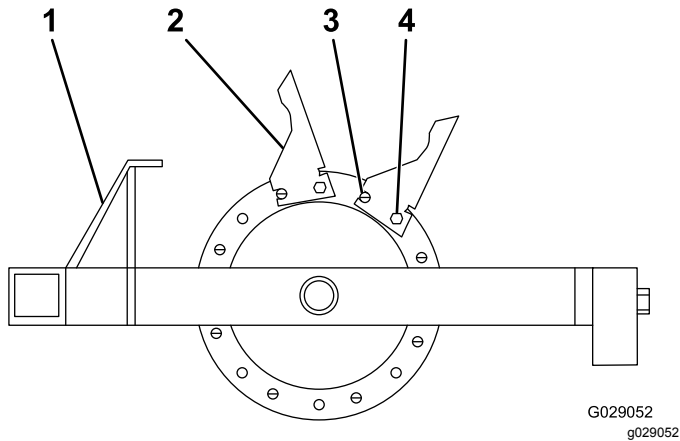
### Attaching Model 44867

1. Lower the 3-point hitch arms of the towing machine.
2. Position the aerator so that the 3-point hitch arms of the towing machine line up with the lift arms of the aerator.
3. Attach the arms of the towing machine to the hitch pins on the aerator lift arms.
4. Attach the stabilizer bar of the towing machine to the bolt (3/4 inch x 4 inches) on the top of the lift arms.

# Installing the Tines

**Important:** Install the tines only after attaching the aerator to the towing machine.

1. Start at the outside casting and install the tines as shown in [Figure 9](#).



**Figure 9**

- |          |             |
|----------|-------------|
| 1. Hitch | 3. Roll pin |
| 2. Tine  | 4. Bolt     |

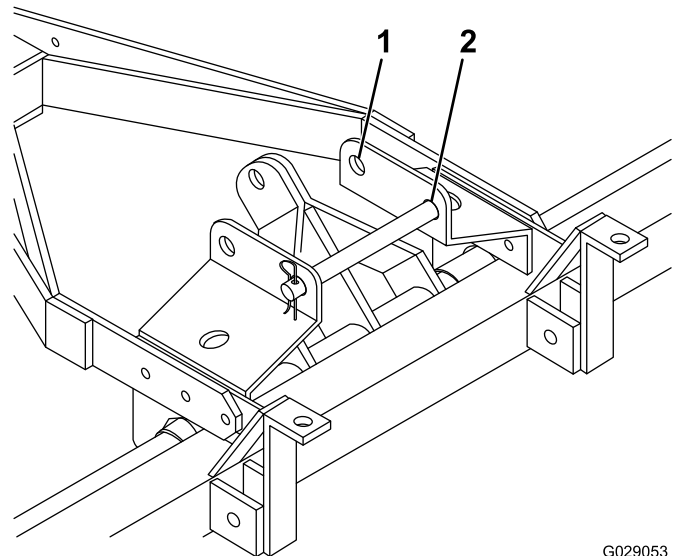
2. Install all 8 tines on the casting, using a roll pin and bolts (1/2 inch x 1-3/4 inches) and ensuring that the roll pin is in the front position ([Figure 9](#)).

**Note:** Ensure that the roll pin is in the front hole and the bolt is in the second hole.

# Using the Aerator

## Using Model 44856

1. Move the lock pin to the rear (aerating) position ([Figure 10](#)).



**Figure 10**

- |                       |                      |
|-----------------------|----------------------|
| 1. Transport position | 2. Aerating position |
|-----------------------|----------------------|

2. Open the hydraulic hand-pump bleed-valve on the base of the pump to release pressure and lower the aerator to the ground.
3. Return to the operator's seat and follow the towing machine's instructions and procedures for towing an implement.
4. At the end of the desired aerating region, stop the towing machine, engage the parking brake, shut off the engine, and remove the key before getting out of the operator's seat.
5. Close the hydraulic hand-pump bleed-valve and stroke the pump handle to raise the aerator to the transport position.
6. When transporting Model 44856, place the lock pin in the front hole ([Figure 10](#)).

## Using Model 44867

1. Start the towing machine engine and run it at a low rpm.
2. With 3-point or remote-hydraulics control of the towing machine, slowly lower the aerator while the towing machine is slowly moving forward.
3. As aerating begins, increase the speed of the towing machine.
4. Raise the aerator at the end of the pass before turning.

# Maintenance

## ⚠ WARNING

While maintenance or adjustments are being made, someone could start the engine of the towing machine. Accidental starting of the engine could seriously injure you or other bystanders.

Remove the key, engage parking brake, and pull the wire(s) off the spark plug(s) of the towing machine before you do any maintenance on the aerator. Also push the wire(s) aside to prevent contact with the spark plug(s).

## Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	<ul style="list-style-type: none"><li>• Check the tire pressure (Model 44856 only).</li><li>• Check the tines for wear.</li></ul>
Every 40 hours	<ul style="list-style-type: none"><li>• Grease the fittings.</li></ul>
Every 100 hours	<ul style="list-style-type: none"><li>• Check the main arm bushings for wear.</li><li>• Check the bronze bushings for signs of wear. Replace any worn bushings.</li></ul>

## Lubrication

Every 100 hours

Lubricate the aerator with No. 2 lithium grease as shown in [Figure 11](#).

## Lubricating the Bearings

Every 40 hours

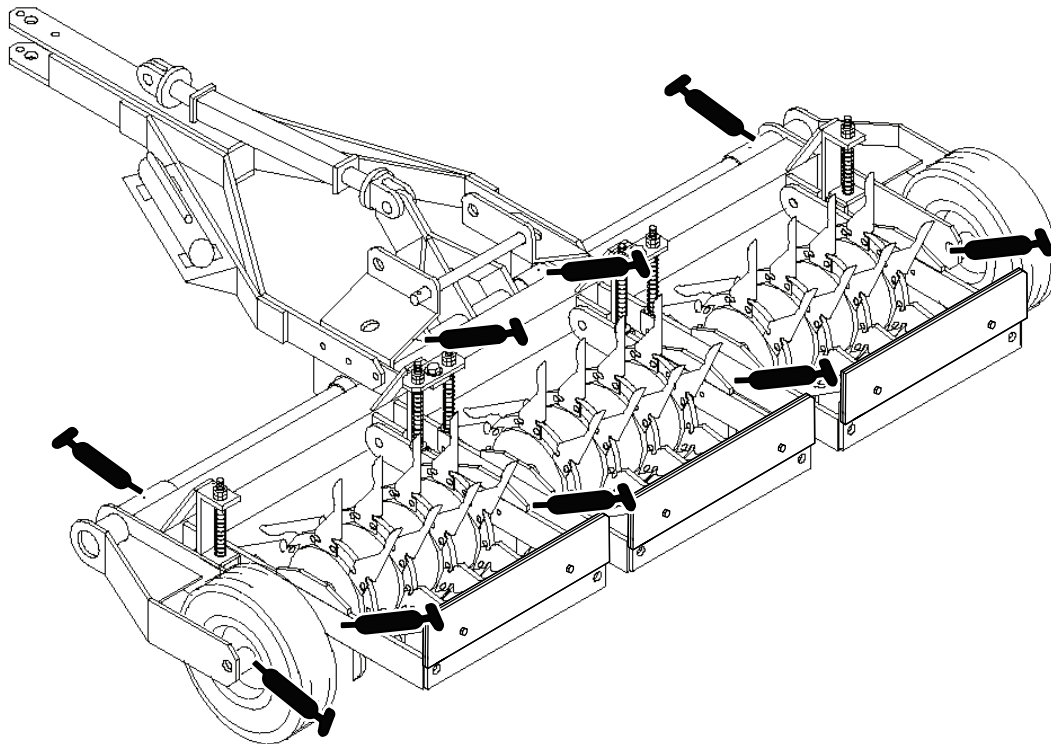


Figure 11

g214729

## Checking the Main Arms

The 6 main arms pivot freely horizontally and vertically to allow the unit to follow the contour of the ground. A bronze bushing is pressed inside the pivot holes between the main arm and mainframe. The bronze bushing is 3 mm (1/8 inch) longer than the thickness of both plates combined. Tighten the 5/8 x 2 inch bolt against the bushings, not the arms, to allow it to pivot freely (Figure 12).

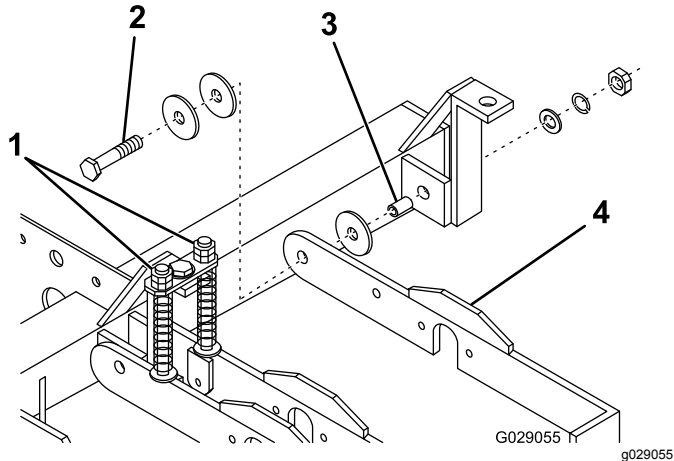


Figure 12

- |                          |                   |
|--------------------------|-------------------|
| 1. Spring rod nuts       | 3. Bronze bushing |
| 2. Bolt (5/8 x 2 inches) | 4. Main arm       |

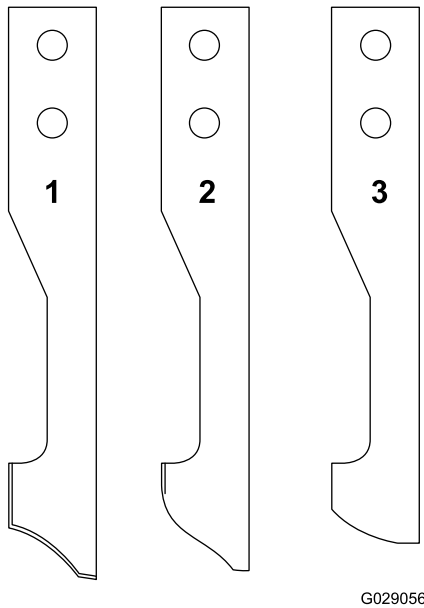
## Adjusting the Springs

The purpose of the springs is to distribute the weight evenly and reduce the shock load on the pivot points. The springs are adjusted evenly across to level the unit. Use the nuts on top of the spring rod to adjust the springs (Figure 12).

**Important:** Do not adjust the spring so that the coils are completely compressed. Allow at least 1.6 mm (1/16 inch) of space between coils.

# Checking the Tines

To obtain maximum aerating performance, always check the tines for wear before every use. Severely worn tines are easy to bend or break and leave the cores in the ground. See [Figure 13](#) for examples of tine wear.



**Figure 13**

1. New
2. Badly worn but usable
3. Needs to be replaced

---

Always clean cores out of the tines before storage. Cores left in tines for extended periods can cause pitting on the inside of the tine which keep the core from ejecting.

# Storage

1. Raise the tines.
2. Stop the towing machine, shut off the engine, engage the parking brake, and remove the key.
3. Remove dirt and grime from the entire aerator.

**Important:** You can wash the aerator with mild detergent and water. Do not pressure wash the aerator.

4. Lubricate the aerator.
5. Check the condition of the tines. Replace any broken or worn tines.
6. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
7. Paint all scratched or bare metal surfaces. Paint is available from your authorized Service dealer.
8. Store the aerator in a clean, dry garage or storage area.
9. Cover the aerator to protect it and keep it clean.

**Notes:**

## **European Privacy Notice**

### **The Information Toro Collects**

Toro Warranty Company (Toro) respects your privacy. In order to process your warranty claim and contact you in the event of a product recall, we ask you to share certain personal information with us, either directly or through your local Toro company or dealer.

The Toro warranty system is hosted on servers located within the United States where privacy law may not provide the same protection as applies in your country.

**BY SHARING YOUR PERSONAL INFORMATION WITH US, YOU ARE CONSENTING TO THE PROCESSING OF YOUR PERSONAL INFORMATION AS DESCRIBED IN THIS PRIVACY NOTICE.**

### **The Way Toro Uses Information**

Toro may use your personal information to process warranty claims, to contact you in the event of a product recall and for any other purpose which we tell you about. Toro may share your information with Toro's affiliates, dealers or other business partners in connection with any of these activities. We will not sell your personal information to any other company. We reserve the right to disclose personal information in order to comply with applicable laws and with requests by the appropriate authorities, to operate our systems properly or for our own protection or that of other users.

### **Retention of your Personal Information**

We will keep your personal information as long as we need it for the purposes for which it was originally collected or for other legitimate purposes (such as regulatory compliance), or as required by applicable law.

### **Toro's Commitment to Security of Your Personal Information**

We take reasonable precautions in order to protect the security of your personal information. We also take steps to maintain the accuracy and current status of personal information.

### **Access and Correction of your Personal Information**

If you would like to review or correct your personal information, please contact us by email at [legal@toro.com](mailto:legal@toro.com).

## **Australian Consumer Law**

Australian customers will find details relating to the Australian Consumer Law either inside the box or at your local Toro Dealer.



# The Toro 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 Hydroject or ProCore Aerator ("Product") to be free from defects in materials or workmanship for two years or 500 operational hours\*, whichever occurs first. This warranty is applicable to all products (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:

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, brakes pads and linings, clutch linings, blades, reels, bed knives, tines, spark plugs, castor wheels, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.

### 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. If all other remedies fail, you may contact us at Toro Warranty Company.

- Failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, fertilizers, water, or chemicals, etc.
- 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.

### Maintenance is at Owner's Expense

Engine tune-up, lubrication cleaning and polishing, replacement of Items and Conditions Not Covered, 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 printed in your *Operator's Manual* or contained in the engine manufacturer's documentation for details