

### **Covered Boom Kit**

### Multi Pro® Turf Sprayer with Truss-Style Boom

Model No. 41602—Serial No. 317000001 and Up

**Installation Instructions** 

### **A 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.

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

### **Loose Parts**

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

Procedure	Description	Qty.	Use
1	No parts required	_	Prepare the machine.
	11-nozzle, center-boom cover	1	
	Rubber cover	1	Decrease the content because of the con-
2	Reinforcement plate	1	Prepare the center-boom cover (for an 11-nozzle assembly).
_	Pop rivet (3/16 x 1/2 inch)	11	11-1102ZIE deserribiy).
	Washer (3/16 inch)	11	
	12-nozzle, center-boom cover	1	
	Pop rivet (3/16 x 1/2 inch)	22	
3	Washer (3/16 inch)	22	Attach an 11-nozzle boom cover to a 12-nozzle boom cover.
	Rubber cover	1	12-110221e bootii cover.
	Reinforcement plate	1	
	Center-boom bracket (2014 and earlier models)	2	
	Boom-mount plate	2	
	U-nut	8	
	Hex-head bolt (3/8 x 1-1/4 inch)	8	
4	Model/serial number decal	1	Install the center-boom brackets and
4	Regulatory decal (119-4986)	1	cover.
	Flange nut (3/8 inch)	8	
	Washer plate	4	
	Hex-head bolt (5/16 x 1-1/4 inch)	8	
	Center-boom bracket (2015 and later models)	4	
	Wing-boom cover	2	
<b></b>	Washer plate	16	Install the wing been severe
5	U-nut	12	Install the wing-boom covers.
	Hex-head bolt (5/16 x 1-1/4 inch)	12	

Bloomington, MN 55420

Procedure	Description	Qty.	Use
6	Drain-valve-mount bracket Carriage screw (5/16 x 1-1/4 inch) Flange nut (5/16 inch)	1 2 3	Install the drain-valve-mount bracket (2016 and before models).
7	No parts required	-	Move the drain valve (2015 and before models).
8	No parts required	_	Move the drain valve (2016 models).
9	Flange nut (5/16 inch) Flange-head bolts (5/16 x 1 inch)	2 2	Install the drain valve onto the mounting brackets (2016 and before models).
10	No parts required	_	Ensure that the boom covers have proper clearance.

**Important:** Use air-induction, flat-fan nozzles with the covered boom kit to avoid chemical buildup on the covers during application. Refer to the Toro nozzle chart for details.

Note: Install the Spring Upgrade Kit (Part No. 120-8508) with the covered boom.

1

## **Preparing the Machine**

No Parts Required

### **Procedure**

### **A** CAUTION

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

Remove the key from the key switch before you install the kit.

### **A WARNING**

Chemical substances used in the spreader-sprayer system may be hazardous and toxic to you, bystanders, animals, plants, soils or other property.

- Carefully read and follow the chemical warning labels and material safety data sheets (MSDS) for all chemicals used and protect yourself according to the chemical manufacturer's recommendations. Ensure that as little skin as possible is exposed while using chemicals. Use appropriate personal protective equipment (PPE) to guard against personal contact with chemicals, such as:
  - safety glasses, goggles, and/or face shield
  - respirator or filter mask
  - chemical resistant gloves
  - rubber boots or other substantial footwear
  - hearing protection
  - clean change of clothes, soap, and disposable towels, to be kept on-hand, in the event of a chemical spill.
- Before working on a sprayer system, make sure that the system has been triple rinsed and neutralized according to the recommendations of the chemical manufacturer(s) and all of the valves have been cycled 3 times.

- 1. Move the machine to a level surface.
- 2. Lower the outer-boom sections.
- 3. Engage the parking brake.
- 4. Shut off the engine.
- 5. Remove the key from the key switch.

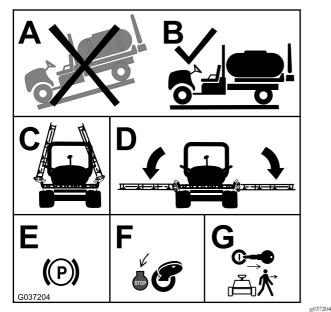


Figure 1



### Preparing the Center-Boom Cover (for an 11-Nozzle Assembly)

### Parts needed for this procedure:

1	11-nozzle, center-boom cover
1	Rubber cover
1	Reinforcement plate
11	Pop rivet (3/16 x 1/2 inch)
11	Washer (3/16 inch)

### **Procedure**

**Note:** One side of the center-boom cover is already attached, so you only need to install on 1 side of the cover.

1. Align the holes on the rubber cover with the holes on the center-boom cover (Figure 2).

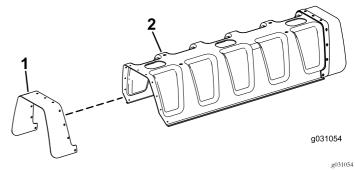


Figure 2

- 1. Rubber cover
- 2. Center-boom cover
- 2. Align the holes on the reinforcement plate with the holes on the rubber cover (Figure 3).

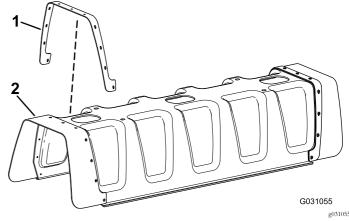


Figure 3

- 1. Reinforcement plate
- 2. Rubber cover
- 3. Install 11 pop rivets (3/16 x 1/2 inch) and washers (3/16 inch) to the center-boom cover (Figure 4).

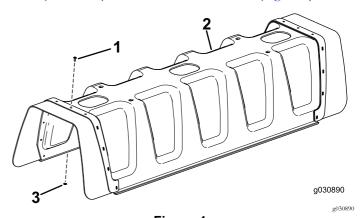


Figure 4

- . Pop rivet (3/16 x 1/2 inch) 3. Washer (3/16 inch)
- 2. Center-boom cover



# Attaching an 11-Nozzle Boom Cover to a 12-Nozzle Boom Cover

### Parts needed for this procedure:

1	12-nozzle, center-boom cover
22	Pop rivet (3/16 x 1/2 inch)
22	Washer (3/16 inch)
1	Rubber cover
1	Reinforcement plate

### **Procedure**

1. Align the holes on the 11-nozzle boom cover with the holes on the reinforcement plate attached to the 12-nozzle boom cover (Figure 5).

**Note:** The reinforcement plate comes attached to the 12-nozzle boom with pop rivets.

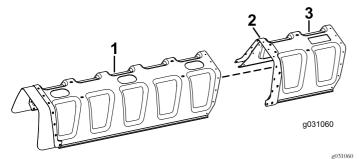


Figure 5

- 11-nozzle cover
- 2. Reinforcement plate
- 3. 12-nozzle cover

2. Install 11 pop rivets (3/16 x 1/2 inch) and washers (3/16 inch) to the reinforcement plate, attaching 11-nozzle cover to the 12-nozzle cover (Figure 6).

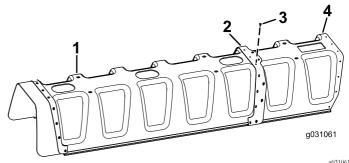


Figure 6

- 11-nozzle cover
- 3. Pop rivet (3/16 x 1/2 inch) and washer (3/16 inch)
- 2. Reinforcement plate
- 4. 12-nozzle cover
- 3. Using 11 pop rivets (3/16 x 1/2 inch) and washers (3/16 inch), install the rubber cover and reinforcement plate (from the 11-nozzle cover) to the 12-nozzle cover (Figure 7).

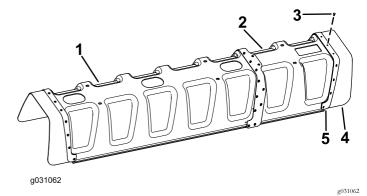


Figure 7

- 1. 11-nozzle cover
- 2. 12-nozzle cover
- 4. Rubber cover
- 3. Pop rivet (3/16 x 1/2 inch) and washer (3/16 inch)
- 5. Reinforcement plate



## Installing the Center-Boom Brackets and Cover

### Parts needed for this procedure:

2	Center-boom bracket (2014 and earlier models)
2	Boom-mount plate
8	U-nut
8	Hex-head bolt (3/8 x 1-1/4 inch)
1	Model/serial number decal
1	Regulatory decal (119-4986)
8	Flange nut (3/8 inch)
4	Washer plate
8	Hex-head bolt (5/16 x 1-1/4 inch)
4	Center-boom bracket (2015 and later models)

### **Procedure**

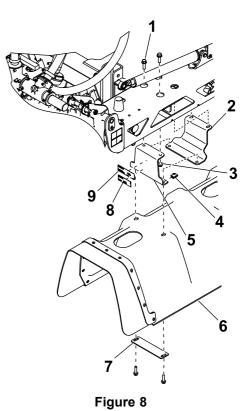
Attach the model/serial number decal and the regulatory decal to 1 of the center boom brackets as shown in Figure 8.

**Note:** Before applying the decals, clean the decal area and ensure that it is free of dirt, grease, or other foreign material.

#### For 2014 and earlier models:

1. Install each of the 2 center brackets and boom-mount plates to the center boom using 2 hex-head bolts (3/8 x 1-1/4 inch) and 2 flange nuts (3/8 inch) as shown in Figure 8.

**Note:** When mounting the kit to a sprayer, use the holes in the center bracket to attach the kit to the unit. When mounting the kit to a vehicle, use the holes in the boom-mount plate to attach the kit to the unit.



2014 and earlier models

- Hex-head bolt—3/8 x 1-1/4 inches (8)
- 2. Boom-mount plate (2)
- 3. Flange nut—3/8 inch (8)
- 4. U-nut (16)
- 5. Center-boom bracket (4)
- Center-boom cover
- 7. Washer plate (2)
- 8. Regulatory decal
- 9. Model/serial number decal

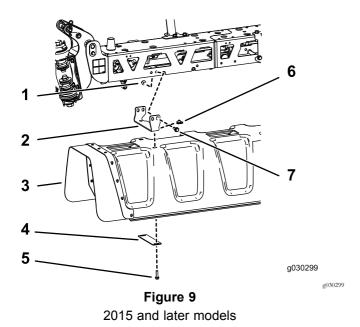
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2. Install the center cover to the center-boom brackets using 4 U-nuts, 2 washer plates, and 4 hex-head bolts (5/16 x 1-1/4 inch) as shown in Figure 8.

### For 2015 and later models:

**Important:** If you are installing an 11-nozzle assembly, you will only use 4 U-nuts, 4 hex-head bolts (3/8 x 1-1/4 inch), 4 flange nuts (3/8 inch), 2 washer plates, and 2 center-boom brackets.

1. Install the center cover to the bracket, using 8 U-nuts, 4 washer plates, and 8 hex-head bolts (5/16 x 1-1/4 inch) as shown in Figure 9.



- Flange nut (3/8 inch)
- 2. Bracket
- 3. Center-boom cover
- 4. Washer plate
- 5. Hex-head bolt (5/16 x 1-1/4 inch)
- 6. U-nut
- 7. Flange bolt (3/8 inch)
- 2. Install each of the 4 center-boom brackets and boom mount plates to the center boom using 4 hex-head bolts (3/8 x 1-1/4 inch) and 4 flange nuts (3/8 inch) as shown in Figure 9.



## Installing the Wing-Boom Covers

### Parts needed for this procedure:

2	Wing-boom cover
16	Washer plate
12	U-nut
12	Hex-head bolt (5/16 x 1-1/4 inch)

### **Procedure**

- 1. Orient the spray nozzles on both wing booms straight downward, so it can fit in the holes of the wing-boom covers.
- 2. Install 1 of the wing-boom covers (Figure 10) using 8 washer plates, 6 hex-head bolts (5/16 x 1-1/4 inch), and 6 U-nuts.

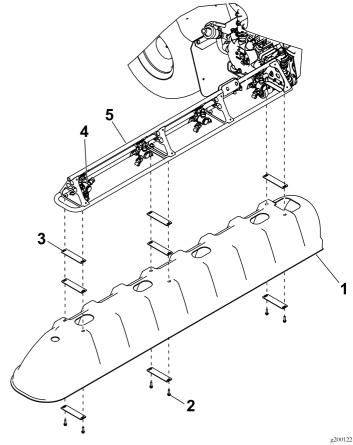


Figure 10

- 1. Wing-boom cover (2)
- Hex-head bolt—5/16 x 1-1/4 inches (6)
- 3. Washer plate (8)
- 4. Spray nozzle (properly oriented)
- 5. Truss frame (outer-boom section)
- 3. Repeat step 2 to install the other wing-boom cover.



### Installing the **Drain-Valve-Mount Bracket** (2016 and Before Models)

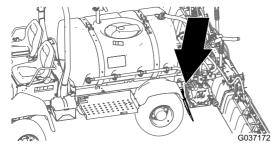
### Parts needed for this procedure:

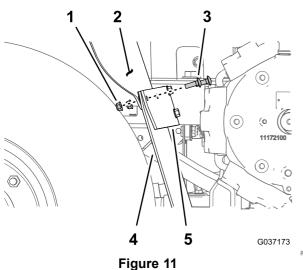
1	Drain-valve-mount bracket
2	Carriage screw (5/16 x 1-1/4 inch)
3	Flange nut (5/16 inch)

### **Procedure**

1. Remove the 2 carriage bolts (5/16 x 1 inch) and 2 flange locknuts (5/16 inch) that secure the fender and mud flap to the fender strap (Figure 11).

**Note:** Discard the carriage bolt and locknut.





- 1. Flange locknut (5/16 inch) 4. Mud flap
- 2. Left, rear fender
- 5. Fender strap
- Carriage bolt (5/16 x 1 inch)
- 2. Align the holes in the drain-valve bracket, fender strap, mud flap, and fender (Figure 11).

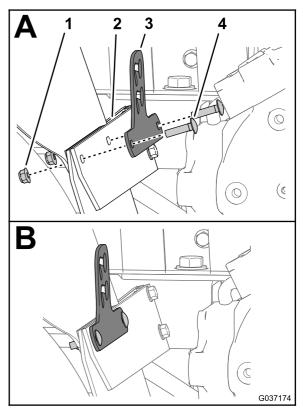


Figure 12

- 3. Drain-valve bracket 1. Flange locknut (5/16 inch)
- Fender strap

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Carriage bolt (5/16 x 1-1/4

inches)

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- 3. Assemble the valve bracket, fender strap, mud flap, and fender (Figure 12) with the 2 carriage bolts (5/16 x 1-1/4 inches) and 2 flange locknuts (5/16 inch).
- Torque the carriage bolts and flange locknuts to 20 to 25 N·m (175 to 225 in-lb).



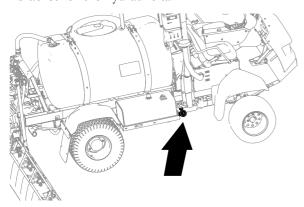
# Moving the Drain Valve (2015 and Before Models)

### No Parts Required

### **Procedure**

1. Remove the lynch pin that secures the drain valve to the tank bracket (Figure 13).

**Note:** The drain valve is located on the support bracket for the hydraulic tank.



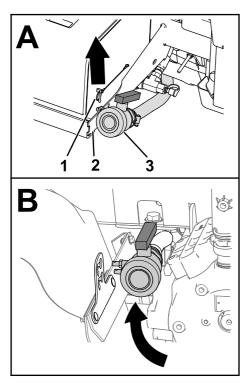


Figure 13

- 1. Lynch pin
- 2. Tank bracket
- 3. Drain valve

2. Move the drain valve between the left, rear fender and the sprayer pump (Figure 13).

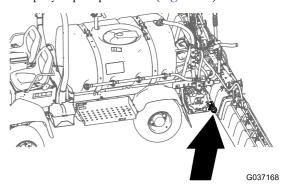


## Moving the Drain Valve (2016 Models)

### No Parts Required

### **Procedure**

1. Remove the lynch pin that secures the drain valve to the sprayer-pump bracket (Figure 14).



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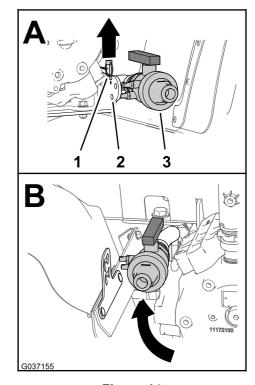


Figure 14

- 1. Lynch pin
- 3. Drain valve
- 2. Sprayer-pump bracket

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2. Move the drain valve between the left, rear fender and the sprayer pump (Figure 14).



# Installing the Drain Valve onto the Mounting Brackets (2016 and Before Models)

### Parts needed for this procedure:

2	Flange nut (5/16 inch)
2	Flange-head bolts (5/16 x 1 inch)

### **Procedure**

1. Remove the 2 mounting pegs from the drain valve (A of Figure 15).

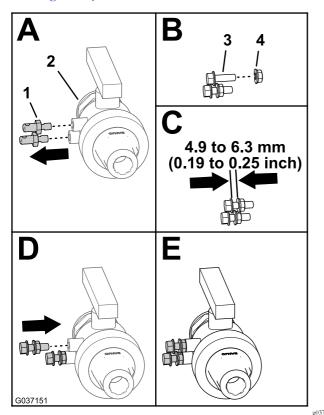


Figure 15

- Mounting peg
- 3. Flange-head bolts (5/16 x 1 inch)
- Drain valve
- 4. Flange locknuts (5/16 inch)
- 2. Thread the 2 flange locknuts (5/16 inch) onto the 2 flange-head bolts (5/16 x 1 inch) as shown in (B and C of Figure 15).

3. Assemble the flange locknuts and flange-head bolts to the drain valve and tighten them with a wrench (D and E of Figure 15).

**Note:** Ensure that the locknuts are secured tight to the drain valve.

4. Align the locknuts of the drain valve with the holes of the keyhole slots in the drain-valve bracket (A of Figure 16).

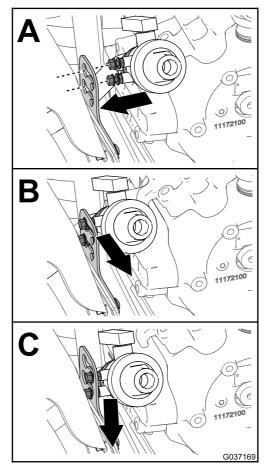


Figure 16

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Move the drain valve outboard and down to secure the valve to the bracket (B and C of Figure 16).

# 10

# **Checking the Clearance of the Boom Covers**

### No Parts Required

### **Procedure**

Verify that the outer-boom covers do not bind against the center-boom cover when you raise and lower the booms.

**Note:** Install additional washer plates between the outer-boom covers and the truss frame of the outer-boom section to add clearance between the covers as needed. Refer to Figure 10.

### **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.

#### **Australian Consumer Law**

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

# TORO<sub>®</sub>

### 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 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.

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