



# 2 Post ROPS Extension Kit

## Groundsmaster® 5900 Series Traction Unit

Model No. 31353—Serial No. 403500001 and Up

### Installation Instructions

# Installation

## 1

### Preparing the Machine

No Parts Required

#### Procedure

**Note:** Refer to [Figure 4](#) as you perform the following steps.

1. Park the machine on a level surface, engage the parking brake, shut off the engine, and remove the key.
2. If there are turn indicators on the ROPS posts, remove the turn indicators and the mounting hardware from the ROPS posts.

**Note:** Retain the turn indicators and mounting hardware.

3. Remove the bolts, washers, and nuts on the lower frame ([Figure 4](#)).

**Note:** Retain the bolts, washer, and nuts, but discard the thrust washer (item 34 in [Figure 4](#)).

4. Remove the front road lights and mounting brackets from the front platform ([Figure 1](#)).

**Note:** Retain the lights and hardware for installing the lights on the sunshade light-mounting brackets later.



# 2

## Assembling the Kit

### Parts needed for this procedure:

1	Front mount base
1	Rear roof mount
1	Sunshade
1	Left brace
1	Right brace
1	Left upper bracket
1	Right upper bracket
1	Lower bracket mount
4	Hex-head flange bolt (5/16 x1 inch)
58	Flange nut (5/16 inch)
54	Carriage bolt (5/16 x 3/4 inch)
1	Front roof mount
4	Clip
1	Left panel
1	Right panel
4	Channel mount
4	Sealing washer
4	Hex-head flange bolt (1/4 x 1 inch)
1	Front panel
26	Rivet
1	Upper left post cover
1	Lower left post cover
2	Panel plug
4	Plastic plug
1	Hole plug
1	Upper right post cover
1	Lower right post cover
2	Thumbscrew knob
2	Retainer nut
2	Speed nut
1	Fuse cover plate
1	Grab handle
8	Push-in fastener
12	Cable ties

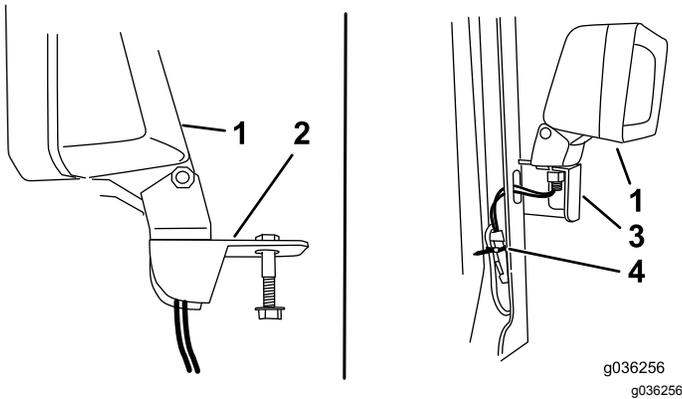
## Procedure

**Note:** If you are installing any of the 2 Post ROPS Extension Kit optional accessories, review the install manuals for both kits before installation.

1. Install the front mount base onto the floor panel with the fasteners that you removed in procedure 1, step 3 (except the thrust washer). Torque the bolts to 129 to 157 N·m (95 to 116 ft-lb).
2. Loosely install the rear roof mount onto the upper part of the ROPS bar with 2 channel mounts, 8 carriage bolts (5/16 x 3/4 inch), and 8 flange nuts (5/16 inch).  
**Note:** Ensure that the mount is centered on the ROPS bar.
3. Loosely install the left and right braces onto the front mount base with 6 carriage bolts (5/16 x 3/4 inch) and 6 flange nuts (5/16 inch) as shown in [Figure 4](#).
4. Loosely install the left and right upper brackets onto the rear roof mount and the left and right braces with 14 carriage bolts (5/16 x 3/4 inch) and 14 flange nuts (5/16 inch) as shown in [Figure 4](#).
5. Loosely install the front roof mount with 12 carriage bolts (5/16 x 3/4 inch) and 12 flange nuts (5/16 inch) as shown in [Figure 4](#).
6. Loosely install the left and right panels to the left and right upper brackets, respectively, with 4 carriage bolts (5/16 x 3/4 inch) and 4 flange nuts (5/16 inch) as shown in [Figure 4](#).
7. Loosely install the left and right panels to the ROPS bar.
  - If you are installing the security cage kit at the same time as this kit, review the installation instructions of the left, right, and both rear panels in order to streamline the installations.
  - If you are not installing the security cage kit to this kit, loosely install the left and right panels to the ROPS bar. with 2 channel mounts, 8 carriage bolts (5/16 x 3/4 inch), and 8 flange nuts (5/16 inch) as shown in [Figure 4](#).
8. Loosely install the lower bracket mount to the left and right brace assemblies with 4 hex-head flange bolts (5/16 x 1 inch) and 4 flange nuts (5/16 inch) as shown in [Figure 4](#).
9. Secure all fasteners that were left loose.
10. Install the front panel onto the front roof mount by aligning the mounting holes on the panel with the holes in the front roof mount, securing the front panel onto the front roof mount by inserting the 12 plastic rivets into their respective holes, and pushing the plunger on each plastic rivet until it is secure.

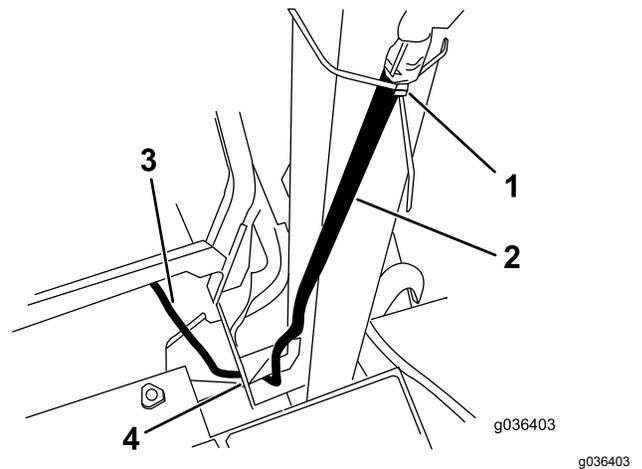
11. Install the grab handle with 2 carriage bolts (5/16 x 3/4 inch) and 2 flange nuts (5/16 inch) as shown in [Figure 4](#).
12. Install the front lights onto the front left and right braces ([Figure 1](#)).

**Note:** Use the existing nuts from the road lights.



**Figure 1**

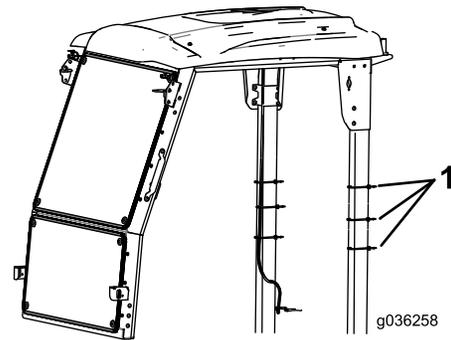
1. Front road lights
2. Discard the existing bracket and hardware.
3. Bracket on the front brace
4. Use a cable tie for the harness.



**Figure 2**

1. Cable tie
2. Lead from the main harness.
3. Route the harness to the front.
4. Ensure that the harness is not pinched.

21. Secure the harness with cable ties as shown in [Figure 3](#).

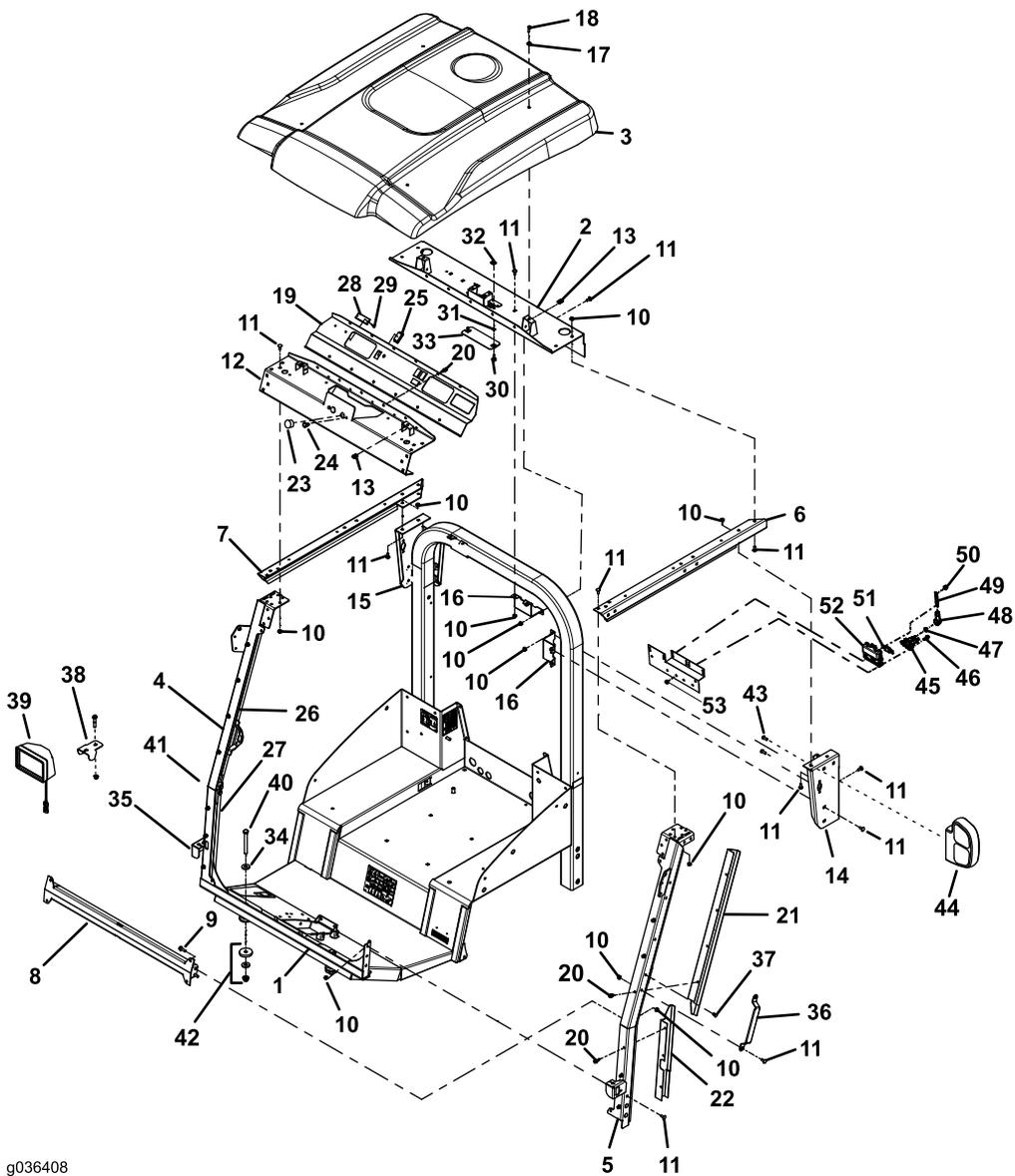


**Figure 3**

1. Cable-tie locations

13. Reuse the hardware that you removed earlier to install the turn indicators to the ROPS post ([Figure 4](#)).
14. Install the upper left and lower left post covers onto the left brace with 7 rivets.
 

**Note:** Ensure that you install and secure all of the accessories to the machine before you install the covers.
15. Install the upper right and lower right post covers onto the right brace with 7 rivets.
16. Install the sunshade onto the frame with 4 hex-head flange bolts (1/4 x 1 inch), sealing washers, and clips.
17. Install the fuse cover plate to the rear roof mount with thumbscrew knobs, retainer nuts, and speed nuts.
18. Install the push-in fasteners in the left and right braces.
19. Install the 2 plastic plugs and the 2 panel plugs into the front roof mount ([Figure 4](#)).
20. If needed, route the lead from the main harness to the front and under the ROPS post for the rear lights ([Figure 2](#)).



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**Figure 4**

- |   |   |  |   |
|---|---|--|---|
| 1. Front mount base                     | 15. Right panel                         | 29. Pop rivet                                      | 43. Existing bolts for the light (reuse)  |
| 2. Rear roof mount                      | 16. Channel mount                       | 30. Thumbscrew knob                                | 44. Existing turn indicator               |
| 3. Sunshade                             | 17. Sealing washer                      | 31. Retainer nut                                   | 45. Solenoid                              |
| 4. Right brace                          | 18. Hex-head-flange bolt (1/4 x 1 inch) | 32. Speed nut                                      | 46. Hex-head-flange bolt (1/4 x 3/4 inch) |
| 5. Left brace                           | 19. Front panel                         | 33. Fuse cover plate                               | 47. Nut (5/16 inch)                       |
| 6. Left, upper bracket                  | 20. Rivet                               | 34. Thrust washer (discard)                        | 48. Lug                                   |
| 7. Right, upper bracket                 | 21. Upper, left post cover              | 35. Light-mounting bracket                         | 49. Jumper strap                          |
| 8. Lower bracket mount                  | 22. Lower, left post cover              | 36. Grab handle                                    | 50. Nut (8 mm)                            |
| 9. Hex-head-flange bolt (5/16 x 1 inch) | 23. Panel plug                          | 37. Push-in fastener                               | 51. Fuse                                  |
| 10. Flange nut (5/16 inch)              | 24. Plastic plug                        | 38. Existing light bracket (discard)               | 52. Fuse holder                           |
| 11. Carriage bolt (5/16 x 3/4 inch)     | 25. Hole plug                           | 39. Existing road light                            | 53. Locknut (1/4 inch)                    |
| 12. Front-roof mount                    | 26. Upper right post cover              | 40. Existing bolt (reuse)                          |   |
| 13. Clip                                | 27. Lower right post cover              | 41. Ensure that the tabs are flush with the brace. |   |
| 14. Left panel                          | 28. Serial plate                        | 42. Washers and nut (reuse)                        |   |

# 3

## Installing the Electrical Connections

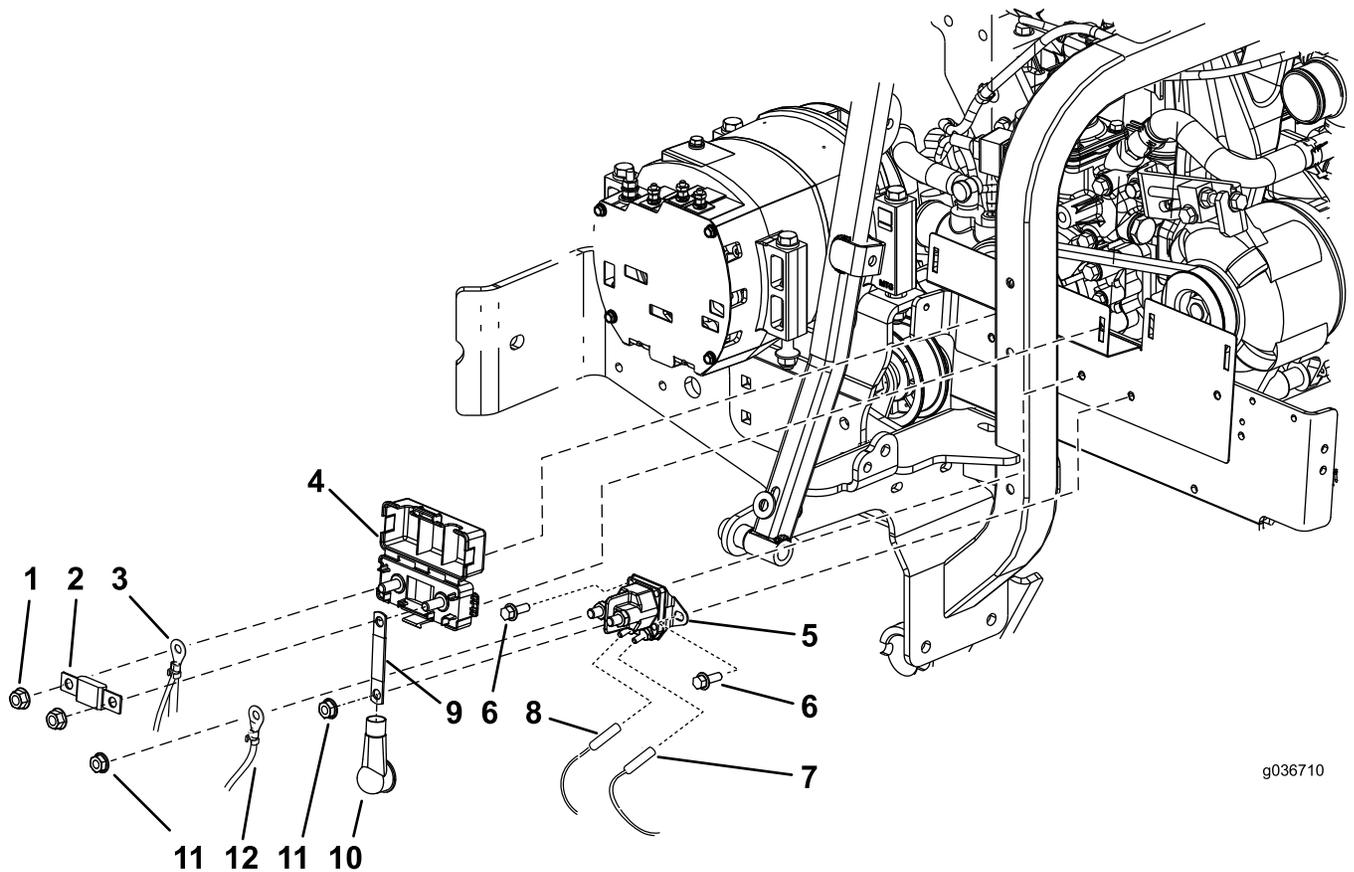
### Parts needed for this procedure:

1	Solenoid
2	Bolt (1/4 x 3/4 inch)
1	Fuse holder
1	Jumper strap
1	Fuse
2	Flange nut (8 mm)
2	Flange nut (5/16 inch)
1	Red insulator

### Procedure

**Install these parts only when you install optional electrical accessories for the 2 Post ROPS Extension Kit.**

1. Turn the battery-disconnect switch to the OFF position.
2. Using the slots in the bracket, push the fuse-holder tabs into the bracket.
3. Install the solenoid to the bracket with 2 bolts (1/4 x 3/4 inch).
4. Install the red insulator onto the jumper strap (Figure 5).
5. Install the jumper strap onto the fuse-holder right post (Figure 5).
6. Install the double-red wire connector onto the fuse-holder left post (Figure 5).
7. Install the fuse to the fuse holder and secure it with 2 nuts (8 mm).
8. Install the jumper strap to the right post of the solenoid with a flange nut (5/16 inch).
9. Slide the red insulator over the jumper strap (Figure 5 and Figure 6).



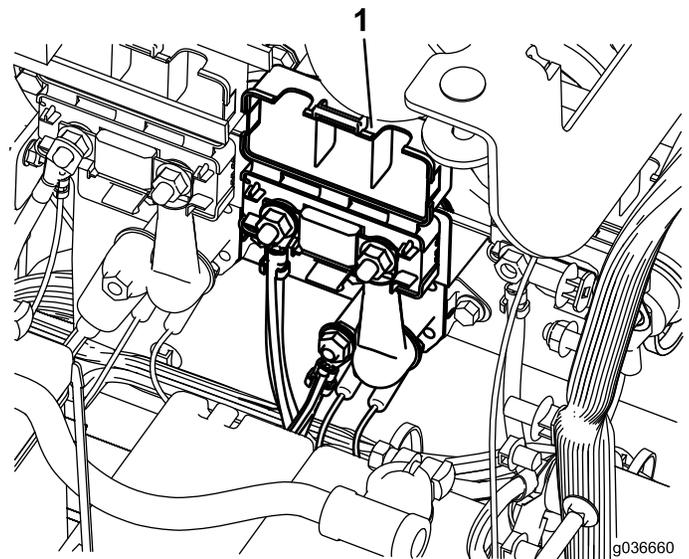
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**Figure 5**

- |                              |                          |  |                                |
|------------------------------|--------------------------|--|--------------------------------|
| 1. Flange nut (8 mm)         | 4. Fuse holder           | 7. Black-wire connector (coil - cab contactor) | 10. Red insulator              |
| 2. Fuse                      | 5. Solenoid              | 8. Pink-wire connector (coil + cab contactor)  | 11. Flange nut (5/16 inch)     |
| 3. Double-red wire connector | 6. Bolt (1/4 x 3/4 inch) | 9. Jumper strap                                | 12. Yellow-wire ring connector |

10. Install the yellow-wire ring connector to the left-solenoid post with a flange nut (5/16 inch) as shown in [Figure 5](#).
11. Install the pink-wire connector (coil + cab contactor) to the left post at the bottom of the solenoid ([Figure 5](#)).
12. Install the black-wire connector (coil - cab contactor) to the right post at the bottom of the solenoid ([Figure 5](#)).
13. Turn the battery-disconnect switch to the ON position.



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**Figure 6**

1. Installed fuse block with connections

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The Toro Company ("Toro") respects your privacy. When you purchase our products, we may collect certain personal information about you, either directly from you or through your local Toro company or dealer. Toro uses this information to fulfil contractual obligations - such as to register your warranty, process your warranty claim or to contact you in the event of a product recall - and for legitimate business purposes - such as to gauge customer satisfaction, improve our products or provide you with product information which may be of interest. Toro may share your information with our subsidiaries, affiliates, dealers or other business partners in connection these activities. We may also disclose personal information when required by law or in connection with the sale, purchase or merger of a business. We will never sell your personal information to any other company for marketing purposes.

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

Toro will keep your personal information as long as it is relevant for the above purposes and in accordance with legal requirements. For more information about applicable retention periods please contact [legal@toro.com](mailto:legal@toro.com).

### **Toro's Commitment to Security**

Your personal information may be processed in the US or another country which may have less strict data protection laws than your country of residence. Whenever we transfer your information outside of your country of residence, we will take legally required steps to ensure that appropriate safeguards are in place to protect your information and to make sure it is treated securely.

### **Access and Correction**

You may have the right to correct or review your personal data, or object to or restrict the processing of your data. To do so, please contact us by email at [legal@toro.com](mailto:legal@toro.com). If you have concerns about the way in which Toro has handled your information, we encourage you to raise this directly with us. Please note that European residents have the right to complain to your Data Protection Authority.



# The Toro Warranty

Two-Year or 1,500 Hours 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 2 years or 1,500 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*. Repairs for product issues caused by failure to perform required maintenance and adjustments are not covered under this warranty.

## 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.
- Product failures which result from failure to perform recommended maintenance and/or adjustments.
- Product failures which result from operating the Product 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, 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.
- Failures caused by outside influence, including, but not limited to, weather, 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.

## 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 your Authorized Toro Service Center.

## 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. Note: (Lithium-Ion battery only): Pro-rated after 2 years. Refer to the battery warranty for additional information.

## Lifetime Crankshaft Warranty (ProStripe 02657 Model Only)

The ProStripe which is fitted with a genuine Toro Friction Disc and Crank-Safe Blade Brake Clutch (integrated Blade Brake Clutch (BBC) + Friction Disc assembly) as original equipment and used by the original purchaser in accordance with recommended operating and maintenance procedures, are covered by a Lifetime Warranty against engine crankshaft bending. Machines fitted with friction washers, Blade Brake Clutch (BBC) units and other such devices are not covered by the Lifetime Crankshaft Warranty.

## 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 Emissions 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.