

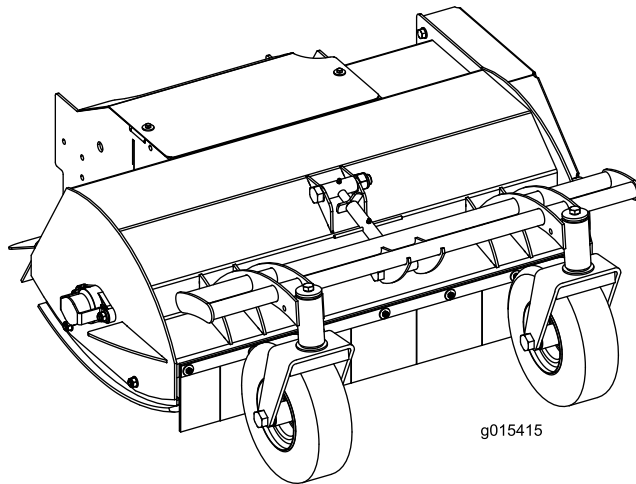


Count on it.

Operator's Manual

36in (92cm) Mid-Size Flail Attachment

Model No. 02720—Serial No. 312000001 and Up



g015415

This product complies with all relevant European directives, for details please see the separate product specific Declaration of Conformity (DOC) sheet.

Introduction

This flail-blade lawn cutting deck is mounted to a walk-behind traction unit and is intended to cut grass and other low-lying vegetation within the limitations stated in this manual. Use in any other way is considered as contrary to the intended use. You are responsible for operating the product properly and safely.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage.

You may contact Toro directly at 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 model and serial numbers are stamped on a plate on the right side of the cutting unit. 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 other 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

This equipment has been designed and constructed so that, in so far as is reasonably practical, they meet the safety requirements of European standard EN 12733 and they will not endanger the health and safety of those working with them. This is, however, subject to the machine being properly maintained and used according to the conditions stated in this *Operator's Manual*, which have been found necessary as a result of the research and testing of the Toro company.

This cutting flail attachment is capable of amputating hands and feet and throwing objects. Failure to observe the safety instructions could result in serious injury or death. For all safety information refer to the traction unit *Operator's Manual*.

Sound Power Level

This unit has a guaranteed sound power level of 107 dBA, which includes an Uncertainty Value (K) of 2 dBA.

Sound power level was determined according to the procedures outlined in EN 12733.

Sound Pressure Level

This unit has a sound pressure level at the operator's ear of 93 dBA, which includes an Uncertainty Value (K) of 2 dBA.

Sound pressure level was determined according to the procedures outlined in EN 12733.

Vibration Level

Measured vibration level for right hand = 3.3 m/s^2

Measured vibration level for left hand = 3.3 m/s^2

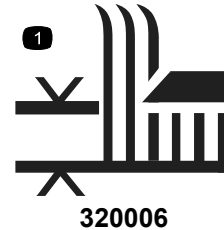
Uncertainty Value (K) = 1.6 m/s^2

Measured values were determined according to the procedures outlined in EN 12096.

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.



1. Height of cut



1. Cutting hazard of hand
2. Cutting hazard of foot

Product Overview

Specifications

Note: Specifications and design are subject to change without notice.

Length	83.5 inches (212 cm)
Width	43.1 inches (109.5 cm)
Height	44 inches (112 cm)
Weight, cutting unit only	298 lb (135 kg)
Engine Speed	3600 rpm
Rotor Speed	3000 rpm
Number of Blades	24

Attachments/Accessories

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

Operation

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

Setting the Height of Cut

You can set the height of cut of the mower from 1/2 to 5-1/2 inches (12.7 mm to 140 mm) as follows:

1. Stop the engine and allow all moving parts to stop.
2. While facing the mower from the front, release the turnbuckle lock (Figure 2).

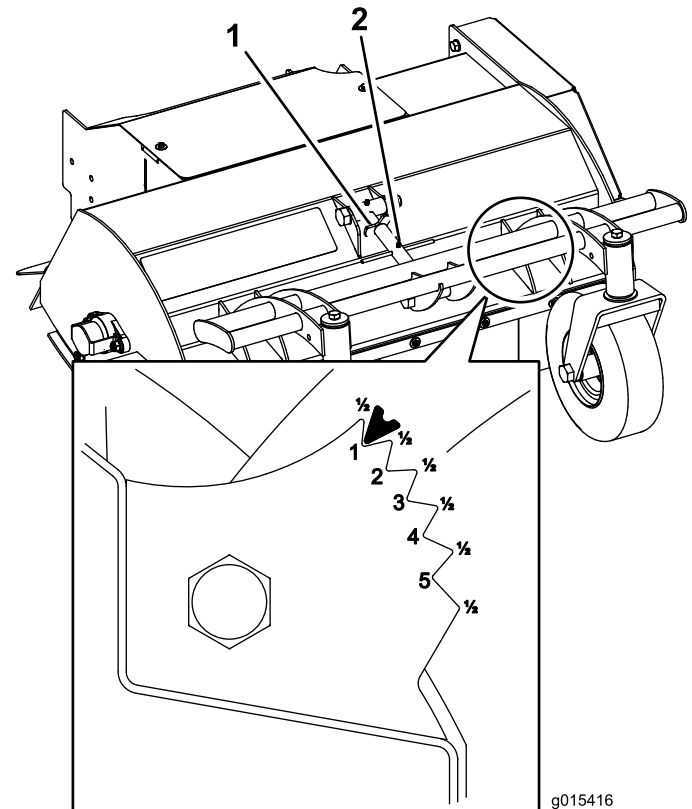


Figure 2

1. Turnbuckle lock
2. Turnbuckle

- Turn the turnbuckle clockwise to lower the height of cut and counterclockwise to raise it until you reach the desired setting on the height-of-cut gauge (Figure 2).

Height-of-cut Position (Height in Inches)	Height of Cut (mm)
1/2	13 mm
1	25 mm
1-1/2	38 mm
2	51 mm
2-1/2	64 mm
3	76 mm
3-1/2	89 mm
4	102 mm
4-1/2	114 mm
5	127 mm
5-1/2	140 mm

- Set the turnbuckle lock to lock the height-of-cut setting in place.

Adjusting the Anti-scalp Skids

- Park the machine on a flat level surface, stop the engine, and wait for all moving parts to stop.
- Loosen the two bolts and nuts securing an anti-scalp skid and raise or lower it so that they are lower than the blades but not touching the ground (Figure 3).

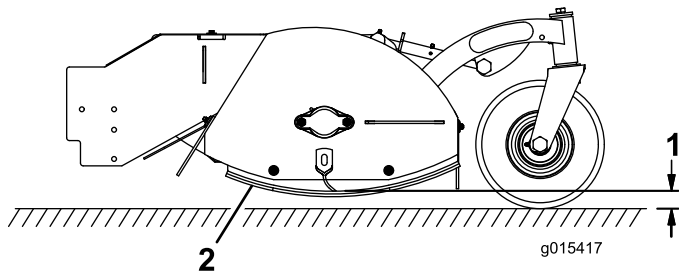


Figure 3

- Height of cut
- Anti-scalp skid

- Tighten the bolts and nuts.
- Repeat this procedure for the other side using the same measurement you set in step 2.

Maintenance

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

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	<ul style="list-style-type: none">• Inspect the blades for wear or damage.• Clean under the guards.• Check the rubber discharge guards.
Every 50 hours	<ul style="list-style-type: none">• Grease the fittings• Check the brake.• Check the gearbox drive belt for wear or damage.• Check the rotor drive belt for wear or damage.• Check the gearbox oil level.
Every 400 hours	<ul style="list-style-type: none">• Grease internal parts

⚠ CAUTION

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

Remove the key from the ignition and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.

Preparing the Machine for Maintenance

Before carrying out any inspection or maintenance, complete the following:

1. Park the machine on a level surface, disengage the blades and set the parking brake.
2. Turn the ignition key to the Off position and remove the key.
3. Disconnect the spark plug wires from the spark plugs.

Greasing the Machine

Service Interval: Every 50 hours—Grease the fittings
Every 400 hours—Grease internal parts

Grease all fittings (Figure 4) with No. 2 general purpose lithium based grease or molybdenum base grease, after every 50 hours of operation. Clean each grease fitting with a rag and pump grease into the fitting until a small amount begins to ooze out of the bearings. Wipe up any excess grease.

Note: You will need to remove some of the machine guards to reach all of the grease fittings. Replace the guards when finished.

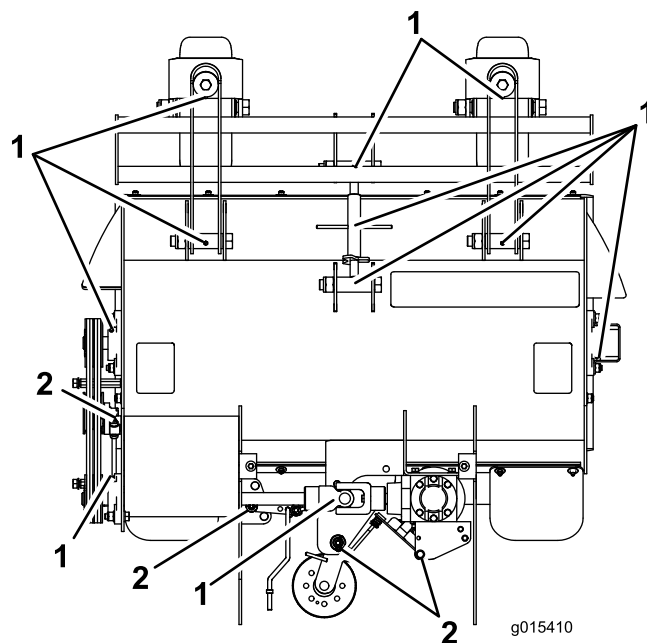


Figure 4

1. Grease fittings—grease every 50 hours
2. Internal grease points—grease every 400 hours

Every 400 operating hours disassemble the points illustrated at #2 in Figure 4 and apply anti-seize grease.

Maintaining the Blades

Inspecting the Blades

Service Interval: Before each use or daily

Check the blades for wear or damage paying particular attention to the cutting edge, curved area, and installation hole (Figure 5). If the blade is excessively worn or damaged replace the blade. To ensure a superior quality of cut, keep the blades sharp.

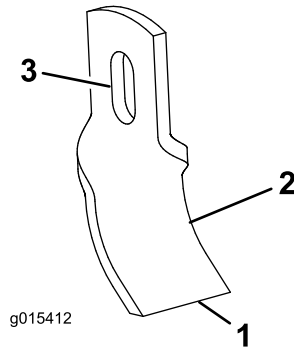


Figure 5

- | | |
|-----------------|----------------------|
| 1. Cutting edge | 3. Installation hole |
| 2. Curved area | |

⚠ WARNING

A worn or damaged blade can break, and a piece of the blade could be thrown into the operator's or bystander's area, resulting in serious personal injury or death.

- Inspect the blades periodically for wear or damage.
- Replace a worn or damaged blade.

Replacing a Blade

1. Holding the blade in a rag or padded glove, remove the nut, blade bolt, and blade (Figure 6).

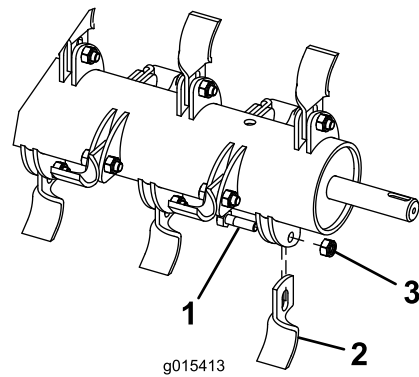


Figure 6

- | | |
|---------------|--------|
| 1. Blade bolt | 3. Nut |
| 2. Blade | |
-
2. Discard the blade, nut, and bolt.
 3. Install a new blade with a new nut and blade bolt (Figure 6).
 4. Torque the fasteners to 7.3 ft-lb (10 N-m).

Cleaning Under the Guards

Service Interval: Before each use or daily

Remove the top and side guards and remove any debris. Replace the guards when finished.

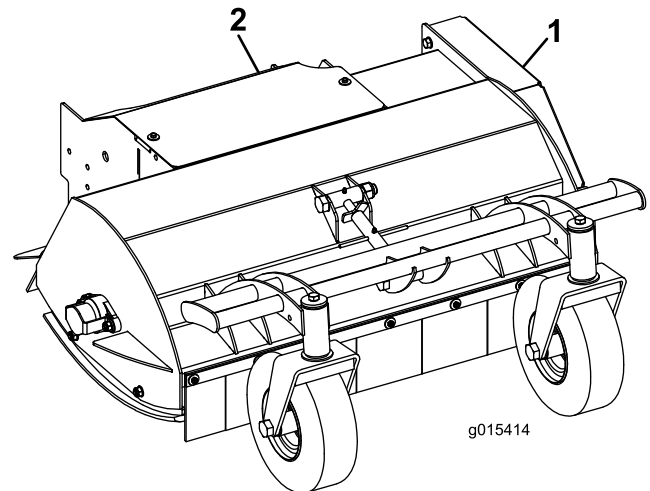


Figure 7

- | | |
|--------------------|--------------|
| 1. Side belt guard | 2. Top guard |
|--------------------|--------------|

Checking the Rubber Discharge Guards

Service Interval: Before each use or daily

Inspect the rear and the front rubber guards for wear or damage (Figure 8). Replace damaged rubber guards to prevent objects being thrown into the operator's area.

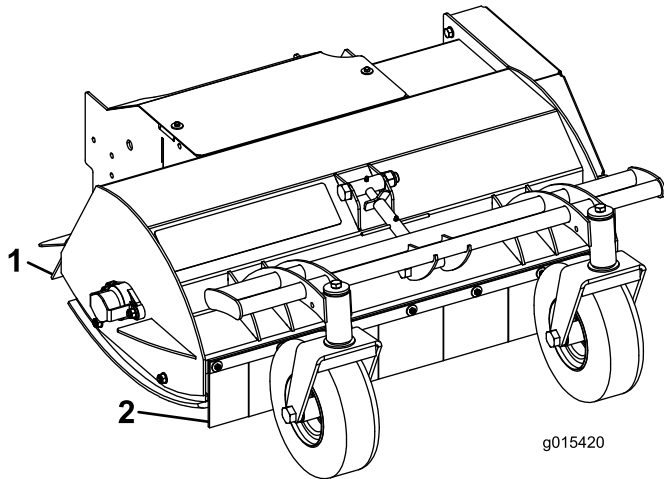


Figure 8

1. Rear rubber guard 2. Front rubber guard

Checking and Adjusting the Brake

Service Interval: Every 50 hours

With the PTO disengaged, check the brake clearance to ensure that it is 1 to 2 mm (Figure 9). If not, adjust the brake nut to give the proper clearance.

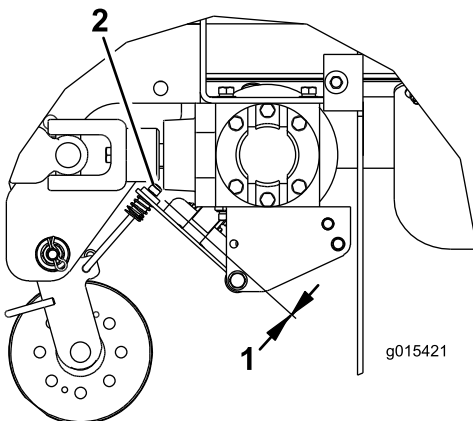


Figure 9

1. 1 to 2 mm 2. Brake nut

Replacing the Gearbox Drive Belt

Service Interval: Every 50 hours—Check the gearbox drive belt for wear or damage.

Visually inspect the belt (Figure 10), looking for dirt, wear, cracks, and signs of overheating. If belt is excessively worn or shows any signs of damage, replace the belt.

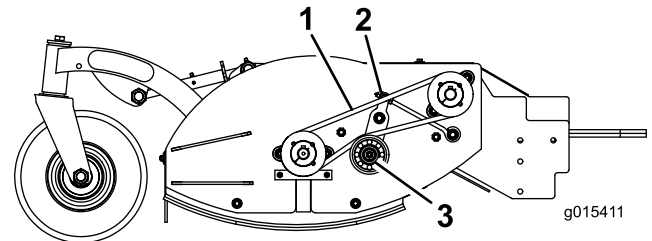


Figure 10

1. 1/2 inch (13 mm) deflection here 3. Idler pulley here
2. Locknut/adjuster nut

To replace the belt, complete the following procedure, referring to Figure 10 throughout:

1. Loosen the locknut and adjusting nut to remove tension in the belt
2. Remove the idler pulley and the worn belt.
3. Install the new belt with the idler pulley.
4. Check the belt tension.

The proper mower belt tension is 4.5 lb (2 kg) of force to deflect the belt 1/2 inch (13 mm) at the midpoint of the longest span (Figure 10).

Adjust the tension as follows:

- A. Loosen the locknut (Figure 10)
- B. Turn the adjusting nut to increase or decrease the tension in the belt.
- C. Tighten the locknut.

Replacing the Rotor Drive Belt

Service Interval: Every 50 hours—Check the rotor drive belt for wear or damage.

Visually inspect the belt (Figure 11), looking for dirt, wear, cracks, and signs of overheating. If belt is excessively worn or shows any signs of damage, replace the belt.

Note: Figure 11 shows the belt viewed from underneath but the belt can be checked, adjusted or replaced from either the top or the bottom after the removal of the relevant guard.

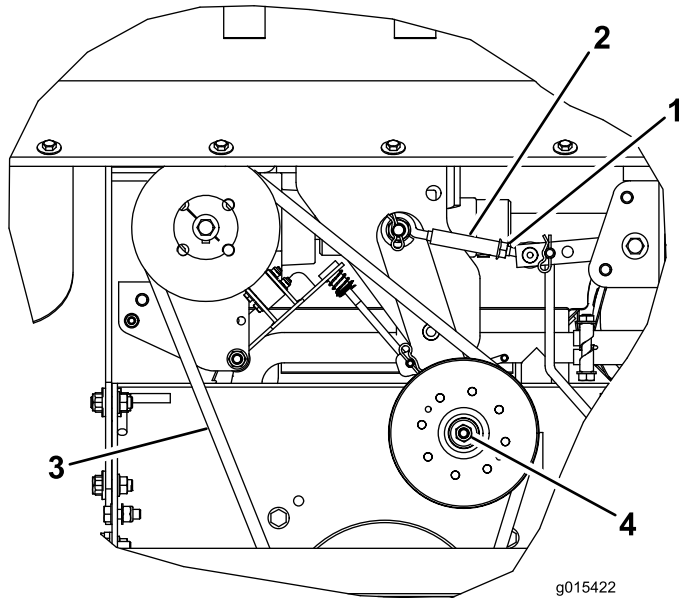


Figure 11

- | | |
|---------------|-------------------------------------|
| 1. Locknut | 3. 1/2 inch (13 mm) deflection here |
| 2. Turnbuckle | 4. Idler pulley |

To replace the belt, complete the following procedure, referring to Figure 11 throughout:

1. Remove the idler pulley and the worn belt.
2. Install the new belt with the idler pulley.
3. Engage the blade (PTO) lever and check the belt tension.

The proper mower belt tension is 10 lb (4.5 kg) of force to deflect the belt 1/2 inch (13 mm) at the midpoint of the longest span (Figure 11).

Important: The belt must be tight enough to not slip during heavy loads while cutting grass. Over tensioning the belt will reduce the gearbox, belt, and idler pulley life.

Adjust the tension as follows:

- A. Loosen the locknut (Figure 11)

- B. Rotate the turnbuckle. Increase the length between the eyebolts to add more tension into the belt or decrease the length to decrease the tension in the belt.
- C. Tighten the locknut.

Checking the Gearbox Oil Level

Service Interval: Every 50 hours

1. Remove the top guard (Figure 7).
2. Remove the plug from the gearbox fill hole and check the oil level (Figure 12).

The oil should be even with the bottom of the fill hole.

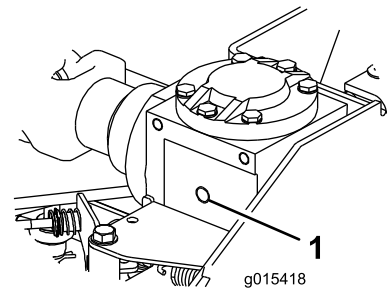


Figure 12

1. Gearbox fill hole

3. If it needs oil, add EP 220 gear oil to the fill hole until it starts to run out of the hole.
4. Install the plug in the fill hole.
5. Install the top guard.

Storage

Refer to the traction unit *Operator's Manual* for details of machine storage.

International Distributor List

Distributor:	Country:	Phone Number:
Atlantis Su ve Sulama Sisstemleri Lt	Turkey	90 216 344 86 74
Balama Prima Engineering Equip.	Hong Kong	852 2155 2163
B-Ray Corporation	Korea	82 32 551 2076
Casco Sales Company	Puerto Rico	787 788 8383
Ceres S.A.	Costa Rica	506 239 1138
CSSC Turf Equipment (pvt) Ltd.	Sri Lanka	94 11 2746100
Cyril Johnston & Co.	Northern Ireland	44 2890 813 121
Equivier	Mexico	52 55 539 95444
Femco S.A.	Guatemala	502 442 3277
G.Y.K. Company Ltd.	Japan	81 726 325 861
Geomechaniki of Athens	Greece	30 10 935 0054
Guandong Golden Star	China	86 20 876 51338
Hako Ground and Garden	Sweden	46 35 10 0000
Hako Ground and Garden	Norway	47 22 90 7760
Hayter Limited (U.K.)	United Kingdom	44 1279 723 444
Hydroturf Int. Co Dubai	United Arab Emirates	97 14 347 9479
Hydroturf Egypt LLC	Egypt	202 519 4308
Ibea S.P.A.	Italy	39 0331 853611
Irriamc	Portugal	351 21 238 8260
Irrigation Products Int'l Pvt Ltd.	India	86 22 83960789
Jean Heybroek b.v.	Netherlands	31 30 639 4611
Lely (U.K.) Limited	United Kingdom	44 1480 226 800
Maquiver S.A.	Colombia	57 1 236 4079
Maruyama Mfg. Co. Inc.	Japan	81 3 3252 2285
Metra Kft	Hungary	36 1 326 3880
Mountfield a.s.	Czech Republic	420 255 704 220
Munditol S.A.	Argentina	54 11 4 821 9999
Oslinger Turf Equipment SA	Ecuador	593 4 239 6970
Oy Hako Ground and Garden Ab	Finland	358 987 00733
Parkland Products Ltd.	New Zealand	64 3 34 93760
Prochaska & Cie	Austria	43 1 278 5100
RT Cohen 2004 Ltd.	Israel	972 986 17979
Riversa	Spain	34 9 52 83 7500
Sc Svend Carlsen A/S	Denmark	45 66 109 200
Solvert S.A.S.	France	33 1 30 81 77 00
Spypros Stavrinides Limited	Cyprus	357 22 434131
Surge Systems India Limited	India	91 1 292299901
T-Markt Logistics Ltd.	Hungary	36 26 525 500
Toro Australia	Australia	61 3 9580 7355
Toro Europe BVBA	Belgium	32 14 562 960



The Toro Total Coverage Guarantee

A 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:

Commercial Products Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
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.
- 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.

Note Regarding Deep Cycle Battery Warranty:

Deep cycle 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.

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.

Countries Other than the United States or Canada

Customers 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.