



**Recycler<sup>®</sup>**

**Walk-Behind Power Mower**

**Model No.: 20651-9900001 & Up**

**Operator's Manual**

# Contents

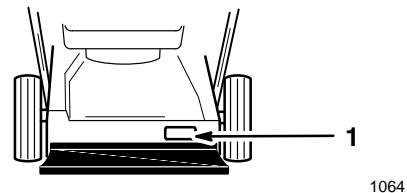
	Page
Introduction .....	2
Safety .....	3
Symbol Glossary .....	4
Assembly .....	7
Before Starting .....	7
Oil .....	7
Gasoline .....	8
Operation .....	9
Starting the Engine .....	9
Stopping the Engine .....	9
Self-propel Drive .....	10
Adjusting the Cutting Height .....	10
Operating Tips .....	10
Changing the Handle Height .....	11
Maintenance .....	12
Recommended Maintenance Schedule .....	12
Air Filter .....	13
Draining Gasoline .....	13
Change Engine Oil .....	13
Spark Plug .....	14
Adjusting the Self-propel Cable .....	14
Maintaining the Blade .....	15
Lubricating the Self-propel Drive .....	16
Cleaning the Underside of the Mower Housing ...	17
Cleaning Under the Belt Cover .....	17
Troubleshooting .....	18
Storage .....	19
Fuel .....	19
Preparing the Engine .....	19
Cleaning the Mower .....	19
General .....	19
Folding the Handle .....	19
Removing From Storage .....	20
Accessories .....	20
Rear Grass Catcher .....	20
Side Discharge Chute .....	23

# Introduction

Thank you for purchasing a Toro product.

All of us at Toro want you to be completely satisfied with your new product, so feel free to contact your local Authorized Service Dealer for help with service, genuine Toro parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the model and serial numbers of your product. These numbers will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number decal located in a unique place on the product as shown below.



1. Model and Serial Number Decal

For your convenience, write the product model and serial numbers in the space below.

<b>Model No:</b> _____  <b>Serial No.</b> _____
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Read this manual carefully to learn how to operate and maintain your product correctly. Reading this manual will help you and others avoid personal injury and damage to the product. Although Toro designs, produces and markets safe, state-of-the-art products, you are responsible for using the product properly and safely. You are also responsible for training persons who you allow to use the product about safe operation.

The Toro warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death. DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

**DANGER** signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**WARNING** signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**CAUTION** signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

The left and right side of the machine is determined by standing behind the handle in the normal operator’s position.

# Safety

## Training

- Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.
- Never allow children or people unfamiliar with these instructions to use the lawnmower. Local regulations may restrict the age of the operator.
- Never mow while people, especially children, or pets are nearby.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

## Preparation

- While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.
- **WARNING** – Gasoline is highly flammable.
  - Store fuel in containers specifically designed for this purpose.
  - Refuel outdoors only and do not smoke while refuelling.
  - Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot.
  - If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapors have dissipated.
  - Replace all fuel tanks and container caps securely.
- Replace faulty silencers.

- Before using, always visually inspect to see that the blades, blade bolts, and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.

## Operation

- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Mow only in daylight or in good artificial light.
- Avoid operating the equipment in wet grass, where feasible.
- Always be sure of your footing on slopes.
- Walk, never run.
- For wheeled rotary machines, mow across the face of slopes, never up and down.
- Exercise extreme caution when changing direction on slopes.
- Do not mow excessively steep slopes.
- Use extreme caution when reversing or pulling the lawnmower towards you.
- Stop the blade(s) if the lawnmower has to be tilted for transportation when crossing surfaces other than grass, and when transporting the lawnmower to and from the area to be mowed.
- Never operate the lawnmower with defective guards or shields, or without safety devices, for example deflectors and/or grass catchers, in place.
- Do not change the engine governor settings or overspeed the engine.
- Disengage all blade and drive clutches before starting the engine.
- Start the engine or switch on the motor carefully according to instructions and with feet well away from the blade(s).
- Do not tilt the lawnmower when starting the engine or switching on the motor, except if the lawnmower has to be tilted for starting. In this case, do not tilt it more than absolutely necessary and lift only the part which is away from the operator.
- Do not start the engine when standing in front of the discharge chute.
- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
- Never pick up or carry a lawnmower while the engine is running.

- Stop the engine and disconnect the spark plug wire:
  - before clearing blockages or unclogging chute
  - before checking, cleaning or working on the lawnmower
  - after striking a foreign object. Inspect the lawnmower for damage and make repairs before restarting and operating the lawnmower
  - if lawnmower starts to vibrate abnormally (check immediately)
- Stop the engine
  - whenever you leave the lawnmower;
  - before refuelling.
- Reduce the throttle setting during engine shut down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of mowing.
- Go slow when using a trailing seat.

## Maintenance and storage

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store the equipment with petrol in the tank inside a building where fumes may reach an open flame or spark.

## Symbol Glossary

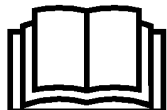
Safety alert triangle — symbol within triangle indicates a hazard.



Safety alert symbol



Read operator's manual.



Consult technical manual for proper service procedures.



- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage area free of grass, leaves, or excessive grease.
- Check the grass catcher frequently for wear or deterioration.
- Replace worn or damaged parts for safety.
- If the fuel tank has to be drained, this should be done outdoors.

## Sound Pressure Level

This unit has a sound pressure at the operator's ear of 85 dB(A), based on measurements of identical machines per Directive 81/1051/EEC.

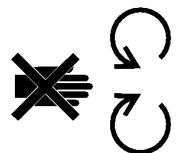
## Sound Power Level

This unit has a sound power level of 100 LwA, based on measurements of identical machines per Directive 84/538/EEC.

## Vibration Level

This unit has a maximum hand-arm vibration level of 8.0 m/s<sup>2</sup>, based on measurements of identical machines per EN 1033.

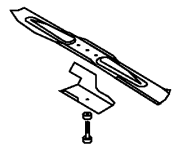
Do not open or remove safety shields while engine is running.



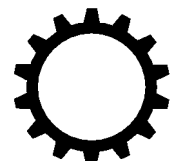
Rotating blade can cut off toes or fingers. Stay clear of mower blade as long as engine is running.



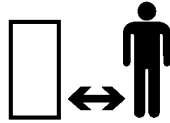
To avoid blade failure when mulching, use blade stiffener when mower is equipped with mulching plug.



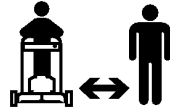
Transmission



Stay a safe distance from the machine.



Stay a safe distance from the mower.



Thrown or flying objects — Whole body exposure



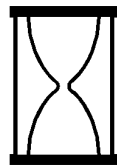
Thrown or flying objects — Rotary side-mounted mower. Keep deflector shield in place.



Stop engine before leaving operator position.



Hourmeter/elapsed operating hours



Fast



Slow



Decreasing/Increasing



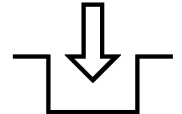
Oil



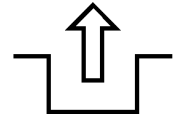
On/Run



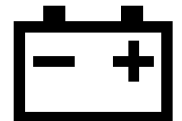
Engage



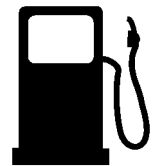
Disengage



Battery charging condition



Fuel



Neutral



First gear



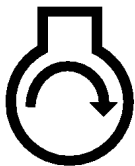
Second gear



Grease lubrication  
point



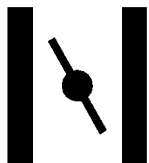
Engine start



Engine stop



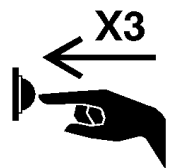
Choke



Primer (start aid)



Push primer three  
times.



Properly dispose of  
batteries.



Insert key into ignition  
switch.



Turn key in ignition  
switch.



Third gear



Cutting element —  
basic symbol



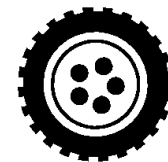
Cutting element —  
height adjustment



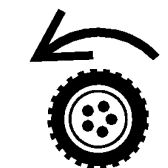
Pull rope.



Wheel



Wheel traction



Lower control bar.



Raise control bar.



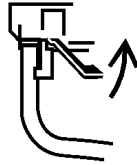
Raise/lower control  
bar.



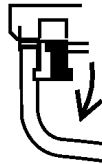
Move control.



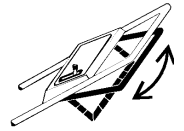
Move control forward.



Move control rearward.



Raise/lower control bar.



Raise control bar.



Raise control bar.



Lower control bar.



## Assembly

1. Loosen the handle knobs and lift the top handle half in an arc until the handle halves are in line and nest together (Fig. 1).

**Note:** Use care to prevent pinching or stretching the cables.

2. Tighten the knobs securely.
3. Rotate the handle toward rear of the mower until it snaps into the handle brackets (Fig. 1).

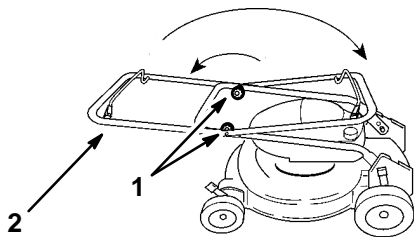


Figure 1

1. Knob
2. Top handle half

## Before Starting

### Oil

Initially, the crankcase must be filled with 20 ounces (0.6 liters) of SAE 30 oil; 10W-30 oil may be substituted if SAE 30 is not available. Use any high quality detergent oil having the American Petroleum Institute (API) “service classification”—SF, SG, SH or SJ.

Before each use, ensure that the oil level is between the FULL and ADD marks on the dipstick (Fig. 2). Add oil if the level is low.

1. Position the mower on a level surface and clean around the dipstick (Fig. 2).
2. Remove the dipstick by rotating the cap counterclockwise 1/4 turn.
3. Wipe the dipstick clean.
4. Insert the dipstick into the filler neck and rotate the cap clockwise 1/4 turn.
5. Remove the dipstick and check the level of the oil on the side of the dipstick with the FULL and ADD marks (Fig. 2).

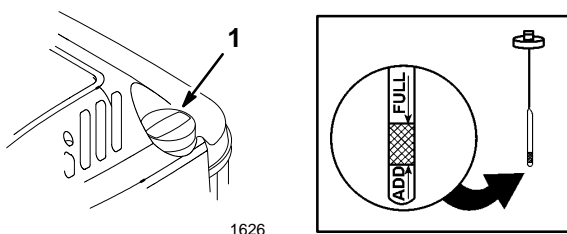


Figure 2

1. Dipstick

6. If the level is low, add enough oil to raise the level to the FULL mark on the dipstick.

**IMPORTANT:** Do not fill above the FULL mark because the engine could be damaged when started. Pour the oil slowly.

## Gasoline

! **DANGER** !

**POTENTIAL HAZARD**

- In certain conditions gasoline is extremely flammable and highly explosive.

**WHAT CAN HAPPEN**

- A fire or explosion from gasoline can burn you and others and cause property damage.

**HOW TO AVOID THE HAZARD**

- Use a funnel and fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.
- Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 1/4" to 1/2" (6 mm to 13 mm) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.
- Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.
- Store gasoline in an approved container and keep it out of the reach of children.
- Never buy more than a 30-day supply of gasoline.

! **DANGER** !

**POTENTIAL HAZARD**

- When fueling, under certain circumstances, a static charge can develop, igniting the gasoline.

**WHAT CAN HAPPEN**

- A fire or explosion from gasoline can burn you and others and cause property damage.

**HOW TO AVOID THE HAZARD**

- Always place gasoline containers on the ground away from your vehicle before filling.
- Do not fill gasoline containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.
- When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.
- If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.
- If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.

Do not use gasoline that has been stored from one season to the next. Use fresh, clean, **unleaded** regular grade gasoline. Unleaded gasoline burns cleaner, extends engine life, and promotes good starting. Leaded gasoline can be used if unleaded is not available.

Toro also recommends that Toro Stabilizer/Conditioner be used regularly during operation and storage. Toro Stabilizer/Conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming during periods of storage.

1. Pull the wire off of the spark plug (Fig. 3).

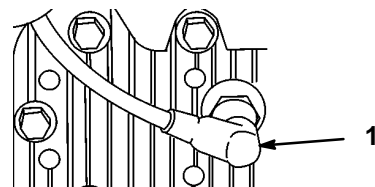
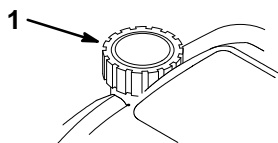


Figure 3

1. Spark plug wire

2. Clean around the fuel tank cap and remove the cap from the tank (Fig. 4).





1626

**Figure 4**

1. Fuel tank cap

3. Using unleaded gasoline, fill the fuel tank to within 1/4" to 1/2" (6 to 13 mm) from top of tank, not into filler neck.

**IMPORTANT: Do not fill the tank more than 1/4" from the top of the tank because the gasoline must have room to expand.**

4. Install the fuel tank cap and wipe up any spilled fuel.

**IMPORTANT: Do not mix oil with the gasoline. Never use methanol, gasoline containing methanol, gasohol containing more than 10% ethanol, or white gas because the fuel system could be damaged.**

**Do not use fuel additives other than those manufactured for fuel stabilization during storage, such as Toro Stabilizer/Conditioner. Toro Stabilizer/Conditioner is a petroleum distillate based product. Toro does not recommend stabilizers with an alcohol base such as ethanol, methanol, or isopropyl. Do not use additives to enhance the power or performance of the engine.**

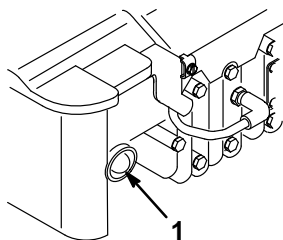
5. Connect the spark plug wire (Fig. 3).

## Operation

### Starting the Engine

1. Push the primer three times (five times if the temperature is 13°C/55°F or below), waiting 2 seconds between each push (Fig. 5).

**IMPORTANT: Do not use the primer to restart a warm engine.**



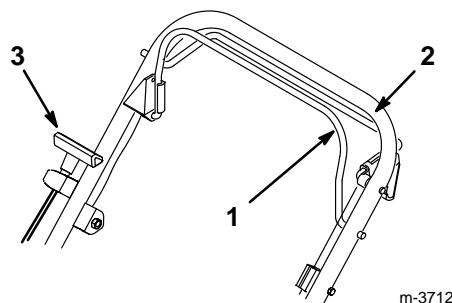
m-3855

**Figure 5**

1. Primer

2. Hold the blade control bail against the upper handle (Fig. 6).

3. Pull the starter handle lightly until resistance is felt, then pull it sharply (Fig. 6). Allow the rope to return to the handle slowly.



m-3712

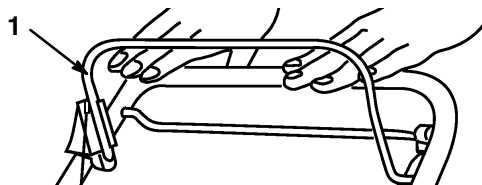
**Figure 6**

1. Blade control bail
2. Upper handle
3. Starter handle

**Note:** If the engine fails to start after three (3) pulls, repeat steps 1–3.

### Stopping the Engine

1. Release the blade control bail (Fig. 7). Both the engine and blade will stop. See your dealer immediately if they do not.



1060

**Figure 7**

1. Blade control bail

## Self-propel Drive

1. To operate the self-propel drive, squeeze the self-propel bail against the handle and hold it (Fig. 8).

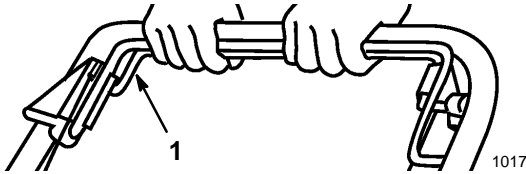


Figure 8

1. Self-propel bail

**Note:** Maximum self-propel ground speed is fixed. To reduce ground speed, increase the space between the bail and the handle.

2. To disengage the self-propel drive, release the self-propel bail (Fig. 9), then push the mower forward manually at least 1 in.

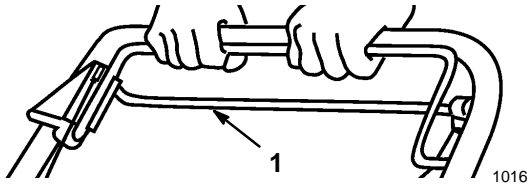


Figure 9

1. Self-propel bail

## Adjusting the Cutting Height

Each wheel is adjusted individually with a wheel height adjustment lever. Cutting heights are 1, 1-1/2, 2, 2-1/2, 3 and 3-1/2 inches (25, 38, 51, 64, 74 and 86 mm).



### DANGER



#### POTENTIAL HAZARD

- Adjusting the height-of-cut levers could bring your hands into contact with the moving blade.

#### WHAT CAN HAPPEN

- Contact with a rotating blade can cause serious injury.

#### HOW TO AVOID THE HAZARD

- Stop the engine and wait for all movement to stop before adjusting the cutting height.
- Do not put your fingers under the mower housing when adjusting the height-of-cut.

1. To change the cutting height, pull the adjusting lever toward the wheel and move it to the desired position (Fig. 10).

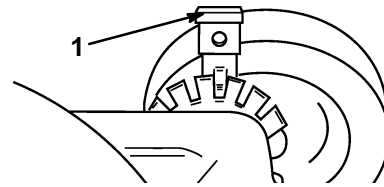


Figure 10

1. Wheel height adjustment lever

2. Release the height adjust lever and seat it securely in the notch.

**Note:** Set all four (4) wheels at the same height.

## Operating Tips

### General Tips

- Review the safety instructions and read this manual carefully before operating the mower.
- Clear the area of sticks, stones, wire, branches, and other debris which could be picked up or hit by the blade and become thrown objects.
- Keep everyone, especially children and pets, away from the area of operation.
- Avoid striking trees, walls, curbs, or other solid objects. Never deliberately mow over any object.
- If an object is struck, or the mower starts to vibrate, immediately stop the engine, disconnect the spark plug wire, and examine the mower for damage.
- Maintain a **sharp blade** throughout the cutting season. Periodically file down nicks on blade.
- Replace the blade when necessary with an original Toro replacement blade.
- Only mow dry grass or leaves. Wet grass and leaves tend to clump on the yard and may cause the mower to plug or the engine to stall. They may also be slippery to walk on and could cause you to slip and fall.



### WARNING

#### POTENTIAL HAZARD

- Wet grass or leaves can cause you to slip and contact the blade.

#### WHAT CAN HAPPEN

- Blade contact can seriously injure you.

#### HOW TO AVOID THE HAZARD

- Mow only in dry conditions.

- Clean clippings or leaves from the underside of the mower deck after each mowing.

- Keep the engine in good running condition.
- Clean the air filter frequently. Mulching stirs up more clippings and dust which clogs the air filter and reduces engine performance.

## Cutting Grass

- In the heat of Summer, cut the grass at the 2, 2.5, or 3 inch height-of-cut settings. Only about  $\frac{1}{3}$  of the grass blade should be cut off. Cut below the 2 inch setting only if the grass is sparse or it is Autumn when the grass grows slowly.
- When cutting grass over six inches tall, mow using the highest height-of-cut setting and a slower walking speed; then mow again at a lower setting for best lawn appearance. If the grass is too long, the mower may plug and cause the engine to stall.
- Alternate the mowing direction. This helps disperse clippings over the lawn for even fertilization.

If the finished lawn appearance is unsatisfactory, try one or more of the following:

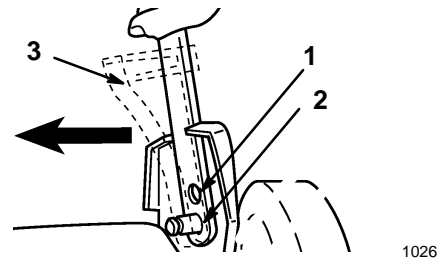
- Sharpen the blade.
- Walk at a slower pace while mowing.
- Raise the height-of-cut setting on your mower.
- Cut grass more frequently.
- Overlap cutting swaths instead of cutting a full swath with each pass.
- Set the height-of-cut on the front wheels one notch lower than the rear wheels. (example: set the front wheels at the 2 inch setting and the rear wheels at the 2.5 inch setting)

## Cutting Leaves

- When cutting is complete, ensure that 50% of the lawn shows through the cut leaf cover. This may require one or more passes over the leaves.
- Position all wheels at the same height-of-cut setting.
- Walk at a slower mowing speed if the leaves are not being cut up finely enough to be hidden in the grass.
- If you cut up a lot of oak leaves, add lime to your grass in the spring. Lime reduces the acidity of the leaves.

## Changing the Handle Height

The handle has two height positions—high and low (Fig. 11). Select a handle height position that is most comfortable for you.



**Figure 11**

- |                 |                 |
|-----------------|-----------------|
| 1. Low setting  | 3. Cable anchor |
| 2. High setting |                 |

1. Squeeze the bottom handle section (both sides) inward off of the pins.
2. Position the handle and cable anchor over the pins at the desired height.

**Note:** The belt cover may need to be loosened and moved slightly.

3. Adjust the cable. Refer to Adjusting the Self-propel Cable in the Maintenance section, page 14.

# Maintenance

## Recommended Maintenance Schedule

Service Item	Service Operation	After every use	5 Hours	25 Hours	50 Hours	100 Hours
Housing	Clean built-up grass clippings and dirt.	X				
Fasteners	Check blade and engine mounting fasteners. Keep all fasteners tight to keep the mower in safe working condition.		X			
Air Filter	Replace each mowing season or every 25 hours. <b>Replace more frequently if operating conditions are dusty.</b>			X		
Engine Oil	Drain and refill engine crankcase with fresh oil after first <b>5</b> hours of operation. Thereafter, change every <b>50</b> hours.				X	
Blade	Sharpen or replace; maintain more frequently if edge is dulled quickly in rough or sandy conditions.				X	
Blade Brake	Check stopping time every 50 hours or at the start of each mowing season. Blade must stop within 3 seconds of releasing bail; if not, see your Authorized Toro Service Dealer for repair.				X	
Lubrication	Grease rear height adjustor brackets.				X	
Fuel System	Check for leakage and/or deterioration of fuel hose. Replace if necessary.				X	
Belt Cover	Remove and clean grass, clippings and debris from under cover.				X	
Spark Plug	Inspect and clean. Replace if necessary.					X
Cooling System	Clean grass, clippings, debris or dirt that may clog engine air cooling fins and starter. Clean more frequently if operated under dirty or high chaff conditions.					X



### CAUTION



#### POTENTIAL HAZARD

- If you leave the wire on the spark plug, someone could start the engine.

#### WHAT CAN HAPPEN

- Accidental starting of engine could seriously injure you or other bystanders.

#### HOW TO AVOID THE HAZARD

- Pull the wire off of the spark plug before you do any maintenance. Also push wire aside so it does not accidentally contact spark plug.

## Air Filter

Replace the air filter once every season or every 25 hours; replace it more frequently under dusty conditions.

**IMPORTANT: Do not operate the engine without the air filter element; extreme engine damage will occur.**

1. Stop the engine and pull the wire off of the spark plug (Fig. 14).
2. Loosen the screw securing the air cleaner cover (Fig. 12).
3. Tilt the cover down and clean it thoroughly (Fig. 12).

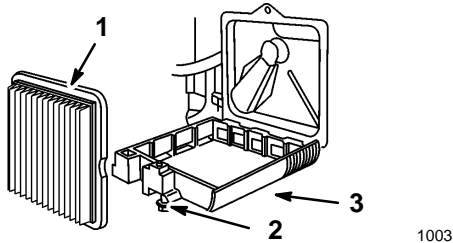


Figure 12

1. Air filter  
2. Screw

3. Cover

4. Remove the paper air filter and discard it (Fig. 12).

**IMPORTANT: Do not try to clean a paper filter.**

5. Insert a new paper air cleaner filter (Fig. 12).
6. Install the air cleaner cover and secure it with the screw.

## Draining Gasoline

1. Stop the engine and wait for it to cool.

**IMPORTANT: Drain gasoline from a cold engine only.**

2. Pull the wire off of the spark plug (Fig. 14).
3. Remove the cap from the fuel tank and use a pump-type syphon to drain the fuel into a clean gas can.

**Note:** This is the only procedure recommended for draining fuel.

## Change Engine Oil

Change the engine oil after the first 5 hours of operation and after 50 hours of operation thereafter. Change oil while the engine is warm.



### WARNING



#### POTENTIAL HAZARD

- Gasoline is extremely flammable, highly explosive and under certain conditions can cause personal injury or property damage.

#### WHAT CAN HAPPEN

- Tipping the mower may cause fuel leakage from the carburetor or fuel tank.

#### HOW TO AVOID THE HAZARD

- Avoid fuel spills by running the engine dry or removing gas with a hand pump; never siphon.

1. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 13.
2. Start the engine and let it run until it runs out of fuel.
3. Pull the wire off of the spark plug (Fig. 14).
4. Remove the dipstick and tip the mower on the left side, draining the oil out the oil fill tube into an appropriate container (Fig. 13).

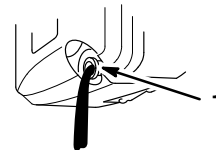


Figure 13

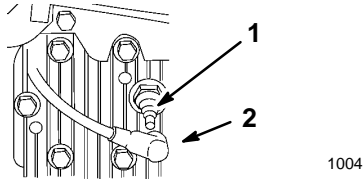
1. Oil fill tube

5. Recycle the oil as per local codes.
6. Turn the mower upright.
7. Fill the crankcase to the FULL line on the dipstick with fresh oil. Refer to the Oil section, page 7, for specifications.
8. Check the oil level and install the dipstick.
9. Wipe up any spilled oil.

## Spark Plug

Use a Champion RJ19LM spark plug or equivalent. The correct air gap is 0.030" (0.76 mm). Remove the plug after every 25 operating hours and check its condition.

1. Stop the engine and pull the wire off the spark plug (Fig. 14).



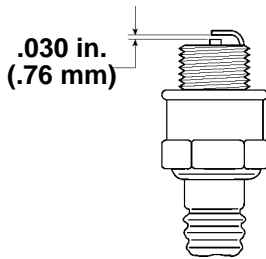
**Figure 14**

1. Spark plug
2. Spark plug wire

2. Clean around the spark plug and remove it from the cylinder head.

**IMPORTANT: Replace a cracked, fouled, or dirty spark plug. Do not clean the electrodes because engine damage could result from grit entering the cylinder.**

3. Set the gap on the new plug to 0.030" (0.76 mm) (Fig. 15).



**Figure 15**

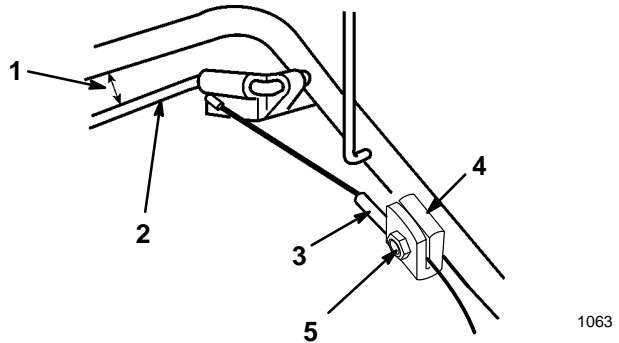
4. Install the spark plug and gasket seal. Tighten the plug to 15 ft-lb (20 N·m).
5. Connect the spark plug wire (Fig. 14).

## Adjusting the Self-propel Cable

Whenever the handle height is changed, a new self-propelled cable is installed, or the traction drive belt slips, adjustment is required.

The self-propelled cable is adjusted on the handle by moving the cable jacket held by the cable support.

1. Loosen the nut on the cable support (Fig. 16).
2. Hold the self-propel bail 1 to 1 1/2 in. (25 to 38 mm) from the handle (Fig. 16).



**Figure 16**

1. 1 to 1 1/2 in. (25 to 38 mm)
2. Self-propelled bail
3. Cable jacket
4. Cable support
5. Nut

3. Pull the cable jacket down (away from the bail).



4. Tighten the nut on the cable support.

5. Release the bail and ensure that the cable is loose.

**Note:** The cable must be loose with the bail in the released position or the mower may creep when the bail is disengaged.

## Maintaining the Blade

A straight, sharp blade provides maximum cutting performance. Regularly inspect and sharpen the blade.

**WARNING**

**POTENTIAL HAZARD**

- The blade is sharp.



**WHAT CAN HAPPEN**

- Contact with a sharp blade can cause serious personal injury.

**HOW TO AVOID THE HAZARD**

- Wear gloves or wrap the sharp edges of the blade with a rag.

1. Stop the engine and pull the wire off of the spark plug (Fig. 14).

**WARNING**

**POTENTIAL HAZARD**

- Gasoline is extremely flammable, highly explosive and under certain conditions can cause personal injury or property damage.

**WHAT CAN HAPPEN**

- Tipping the mower may cause fuel leakage from the carburetor or fuel tank.

**HOW TO AVOID THE HAZARD**

- Avoid fuel spills by running the engine dry or removing gas with a hand pump; never siphon.

2. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 13.
3. Tip the mower on its left side (Fig. 17). Avoid rotating the blade because starting problems may result.

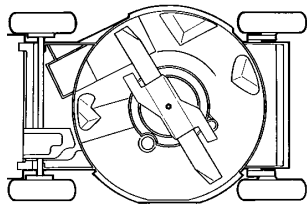


Figure 17

## Inspecting the Blade

1. Examine the blade for sharpness and wear, especially where flat and curved parts meet (Fig. 18A).

2. Complete one of the following:

- A. If a slot or wear is noticed, (Fig. 18B & C), replace the blade. Refer to the Removing and Installing the Blade sections.
- B. If the blade is nicked or dull, sharpen it. Refer to the Removing, Sharpening, Balancing, and Installing the Blade sections.
- C. If there are no signs of wear or dullness, return the mower to the upright position and replace the spark plug wire (Fig. 14).

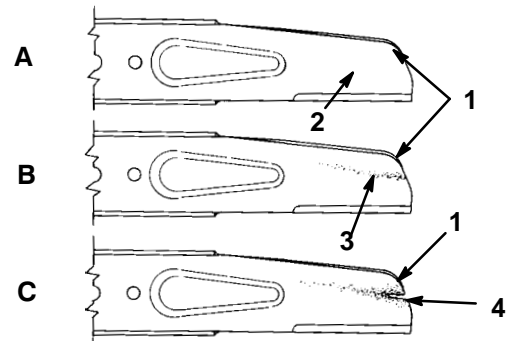




Figure 18

- |                       |                |
|-----------------------|----------------|
| 1. Sail               | 3. Wear        |
| 2. Flat part of blade | 4. Slot formed |

270

**DANGER**

**POTENTIAL HAZARD**

- A worn or damaged blade could break and a piece of the blade could be thrown into operator's or bystander's area.

**WHAT CAN HAPPEN**

- A thrown piece of the blade could cause serious personal injury or death to the operator or bystanders.

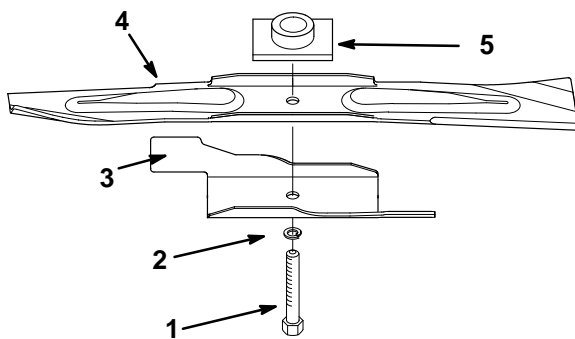
**HOW TO AVOID THE HAZARD**

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

## Removing the Blade

1. Grasp the end of the blade using a rag or thickly padded glove.
2. Remove the blade bolt, lockwasher, blade accelerator and blade (Fig. 19).

757



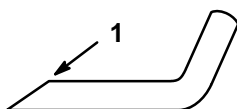
**Figure 19**

- |                |                 |
|----------------|-----------------|
| 1. Blade bolt  | 4. Blade        |
| 2. Lock washer | 5. Blade driver |
| 3. Accelerator |                 |

1627

## Sharpening the Blade

Using a file, sharpen top side of the blade and maintain the original cutting angle (Fig. 20).



**Figure 20**

1. Sharpen at this angle only

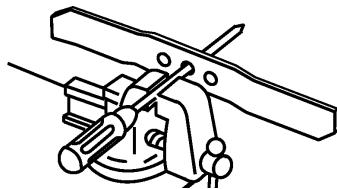
153

**Note:** The blade will remain balanced if same amount of material is removed from both cutting edges.

## Balancing the Blade

1. Check the balance of the blade by placing the center hole of the blade over a nail or screwdriver shank clamped horizontally in a vise (Fig. 21).

**Note:** You can also check the balance using a commercially manufactured, blade balancer.



**Figure 21**

1007

2. If either end of the blade rotates downward, file that end (not the cutting edge or the end near the cutting edge). The blade is properly balanced when neither end drops.

## Installing the Blade

1. Position the blade onto the spindle and blade driver, with the curved blade tips pointing toward the mower and the blade driver nesting in the recess of the blade (Fig. 19).
2. Install the accelerator, lock washer, and blade bolt (Fig. 19).
3. Tighten the blade bolt to 50 ft-lb (68 N·m).



## WARNING



### POTENTIAL HAZARD

- Operating the mower without the accelerator in place could cause the blade to flex, bend, or break.

### WHAT CAN HAPPEN

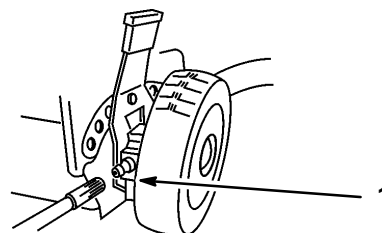
- A broken blade could cause serious injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Do not operate the mower without the accelerator.

## Lubricating the Self-propel Drive

1. Wipe the grease fittings on the rear height-of-cut adjusters (Fig. 22) with a clean rag.



**Figure 22**

1018

1. Grease fitting
2. Install a grease gun onto each fitting in turn and gently apply one or two pumps of #2 multi-purpose lithium grease to each.

**IMPORTANT:** Excess grease may damage seals and prevent proper wheel clutch operation.



## Cleaning the Underside of the Mower Housing

To ensure best performance, keep the underside of the mower housing clean. Be especially careful to keep the kickers free of debris (Fig. 23).

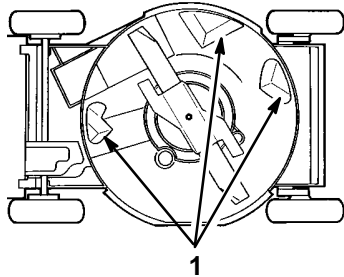


Figure 23

1. Kickers

### Washing Method

1. Position the mower on a flat, concrete or asphalt surface near a garden hose.
2. Start the engine.
3. Hold the running garden hose at handle level and direct the water to flow on the ground just in front of the right rear tire (Fig. 24).

The blade will draw in water and wash out clippings. Let the water run until you no longer see clippings being washed out from under housing.

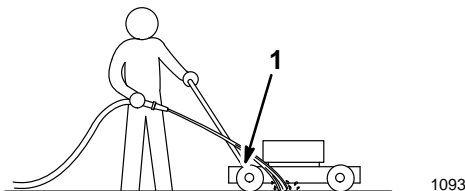


Figure 24

1. Rear right wheel

4. Stop the engine.
5. Turn off the garden hose.
6. Start the mower and let it run for a few minutes to dry out the moisture on the mower and its components.
7. While the engine is running, engage and disengage the traction drive several times to dry it out.

### Scraping Method

If washing does not remove all debris from under the mower, tip it and scrape it clean.

1. Pull the wire off of the spark plug (Fig. 14).
2. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 13.



### WARNING



#### POTENTIAL HAZARD

- Gasoline is extremely flammable, highly explosive and under certain conditions can cause personal injury or property damage.

#### WHAT CAN HAPPEN

- Tipping the mower may cause fuel leakage from the carburetor or fuel tank.

#### HOW TO AVOID THE HAZARD

- Avoid fuel spills by running the engine dry or removing gas with a hand pump; never siphon.

3. Tip the mower on its left side with the air filter up (Fig. 23).
4. Remove dirt and grass clippings with a hardwood scraper. Avoid burrs and sharp edges.
5. Turn the mower upright.
6. Refill the gas tank.
7. Connect the spark plug wire (Fig. 14).

## Cleaning Under the Belt Cover

Keep area under belt cover free of debris.

1. With the engine turned off, remove the bolt securing the belt cover (Fig. 25) to the mower housing.

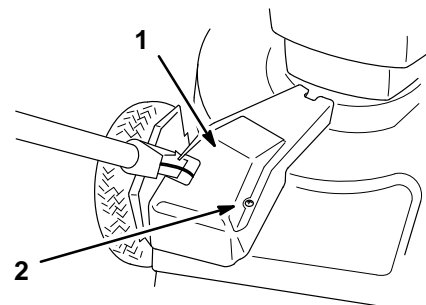


Figure 25

1. Belt cover

2. Bolt

2. Lift off the cover and brush out all debris from the belt area.
3. Install the belt cover.

# Troubleshooting

Your mower was designed and built for trouble-free operation. Check the following components and items carefully. If a problem continues, see your Authorized Toro Service Dealer.

PROBLEM	CORRECTIVE ACTION
Engine will not start	<ol style="list-style-type: none"> <li>1. Fill fuel tank with fresh gasoline</li> <li>2. Move throttle lever to the FAST position</li> <li>3. Press primer three (3) times</li> <li>4. Spark plug <ul style="list-style-type: none"> <li>• Connect spark plug wire</li> <li>• Clean spark plug, check spark plug gap, replace if damaged</li> </ul> </li> </ol>
Engine starts hard or loses power	<ol style="list-style-type: none"> <li>1. Drain and refill fuel tank with fresh gasoline</li> <li>2. Replace air filter element</li> <li>3. Clean underside of mower deck</li> <li>4. Clean spark plug, check spark plug gap, replace if damaged</li> <li>5. Check engine oil</li> </ol>
Engine runs rough	<ol style="list-style-type: none"> <li>1. Connect spark plug wire</li> <li>2. Clean spark plug, check spark plug gap, replace if damaged</li> <li>3. Move throttle lever from SLOW to FAST position</li> <li>4. Replace air filter element</li> </ol>
Mower or engine vibrates excessively	<ol style="list-style-type: none"> <li>1. Balance blade. Or if blade is bent, replace it.</li> <li>2. Tighten blade mounting bolt</li> <li>3. Clean underside of mower deck</li> <li>4. Tighten engine mounting bolts</li> </ol>
Uneven cutting pattern	<ol style="list-style-type: none"> <li>1. Place all four (4) wheels at same height</li> <li>2. Sharpen and balance blade</li> <li>3. Change mowing pattern</li> <li>4. Clean underside of mower deck</li> </ol>
Discharge chute plugs	<ol style="list-style-type: none"> <li>1. Move throttle lever from SLOW to FAST position</li> <li>2. Raise cutting height</li> <li>3. Slow down</li> <li>4. Allow grass to dry before mowing</li> <li>5. Clean underside of mower deck</li> </ol>
Will not self-propel	<ol style="list-style-type: none"> <li>1. Adjust self-propelled cable</li> <li>2. Clean debris from under belt cover.</li> </ol>

# Storage

To prepare the lawn mower for off-season storage, perform the recommended maintenance procedures. Refer to the Maintenance section, page 12.

Store the mower in a cool, clean, dry place. Cover the mower to keep it clean and protected.

## Fuel



### WARNING



#### POTENTIAL HAZARD

- Gasoline can vaporize if stored over long periods of time.

#### WHAT CAN HAPPEN

- Vaporized fuel can explode if it comes into contact with open flame.

#### HOW TO AVOID THE HAZARD

- Do not store gasoline (fuel) over long periods of time.
- Do not store mower with fuel in the tank in an enclosure with an open flame. (Example: a furnace or water heater pilot light.)
- Allow the engine to cool before storing in any enclosure.

We recommend Toro Fuel Conditioner to stabilize fuel for storage. If possible, the last fuel fill of the year should be treated with Toro Fuel Conditioner.

Run the fuel tank empty when mowing the last time prior to storage. The smaller the amount of fuel in the tank, the shorter the time required to run the fuel system dry. Run the mower until engine stops from lack of fuel.

## Preparing the Engine

1. While the engine is still warm, drain oil from crankcase. Refer to the Changing Engine Oil section, page 13.
2. Remove the spark plug (Fig. 14).
3. Using an oil can, squirt about one tablespoon of oil through spark plug hole (Fig. 26).
4. Slowly rotate the engine several times, using the starter rope, to distribute the oil.

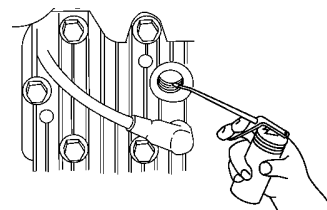


Figure 26

5. Install spark plug but **do not** connect the spark plug wire.

## Cleaning the Mower

1. Clean the mower housing. Refer to the Cleaning the Underside of the Mower Housing section, page 17.
2. Clean any dirt and chaff from the cylinder, cylinder head fins, and blower housing. Also remove grass clippings, dirt, and grime from external parts of the engine, shrouding, and top of the mower housing.

## General

1. Check the condition of the blade. Refer to the Maintaining the Blade section, page 15.
2. Tighten all nuts, bolts, and screws.
3. Lubricate the wheels. Refer to the Lubricating the Self-Propel Drive section, page 16.
4. Touch up all rusted or chipped paint surfaces. Paint is available from an Authorized Toro Service Dealer.

## Folding the Handle

1. Push in the right bottom handle section until the handle slides past the stops on the handle brackets (Fig. 27).

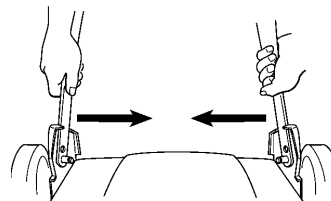


Figure 27

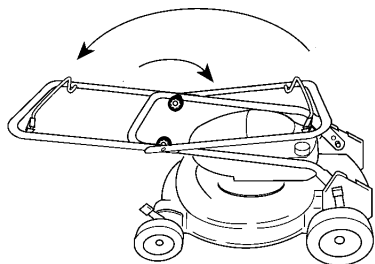
2. Rotate the handle toward the front of mower (Fig. 28).

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- Loosen the knobs securing the top handle section to bottom section and fold the top handle section back toward the rear of the mower into the storage position (Fig 28).

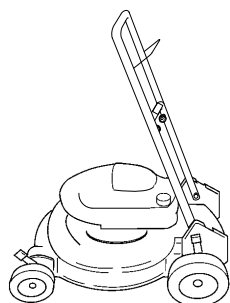
**Note:** When folding the handle, do not allow the cables to get pinched, crimped, or caught on the handle knobs. Fold the handle only in the direction illustrated (Fig. 28).



**Figure 28**

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**Note:** For short term storage, place the handle in the position shown in Figure 29.



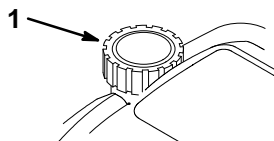
**Figure 29**

1684

## Removing From Storage

- Unfold the handle. Refer to the Assembly section, page 7.
- Check and tighten all fasteners.
- Remove the spark plug (Fig. 14) and spin the engine rapidly using the starter to blow excess oil from the cylinder.
- Clean the spark plug or replace it if it is cracked, broken, or the electrodes are worn.
- Install the spark plug and torque it to 15 ft.-lbs. (20 N·m).

- Perform the recommended maintenance procedures. Refer to the Maintenance section, page 12.
- Fill the fuel tank (Fig. 30) with fresh, clean gasoline.



**Figure 30**

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- Fuel tank cap

- Check the engine oil level.
- Connect the spark plug wire (Fig. 14).

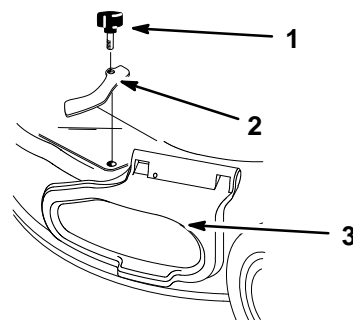
## Accessories

Accessories may have been shipped with your mower or are available from your Authorized Toro Dealer. For proper installation, follow these instructions.

### Rear Grass Catcher

#### Installing the Discharge Tunnel

- Stop the engine and disconnect the spark plug wire.
- Remove the knob and side cover clamp (Fig. 31).

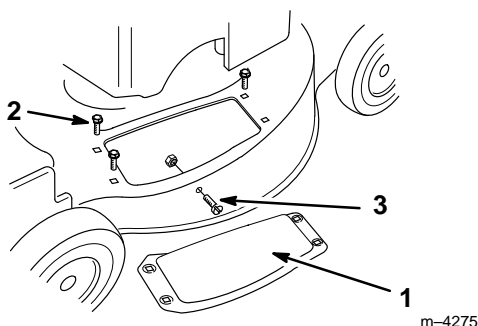


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**Figure 31**

- Knob
- Side cover clamp
- Side opening cover

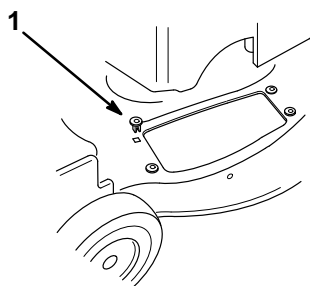
- Remove and save the three bolts securing the discharge cover to the mower (Fig. 32). Save the cover and bolts for future use.



**Figure 32**

- |                    |                  |
|--------------------|------------------|
| 1. Discharge cover | 3. Screw and nut |
| 2. Bolt (3)        |                  |

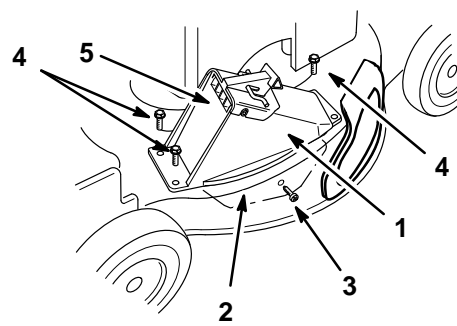
4. Remove the screw and nut from side of the mower (Fig. 32). Save them for future use.
5. Install four grommets supplied with the grass catcher into the four square holes in the mower (Fig. 33).



**Figure 33**

- |                |
|----------------|
| 1. Grommet (4) |
|----------------|

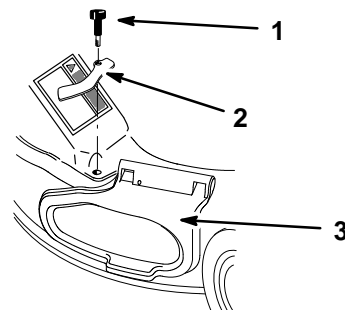
6. Insert the tongue of the discharge tunnel into the mower (Fig. 34).
7. Align the holes in the tunnel with the grommets in the mower (Fig. 34).
8. Ensure that the hole in the tongue aligns with the hole in the side of the mower (Fig. 34).



**Figure 34**

- |                       |                          |
|-----------------------|--------------------------|
| 1. Discharge tunnel   | 4. Bolt (3)              |
| 2. Tongue             | 5. Discharge tunnel door |
| 3. Self-tapping screw |                          |

9. Install the self-tapping plastite screw supplied with the grass catcher into the side hole and tongue, and partially tighten the screw (Fig. 34).
10. Using three screws supplied with the grass catcher, fasten the discharge tunnel to the mower (Fig. 34).
11. Secure the front, right corner of the discharge tunnel and the side opening cover with the side cover clamp removed previously and the long knob supplied with the grass catcher (Fig. 35)



**Figure 35**

- |                     |                       |
|---------------------|-----------------------|
| 1. Long knob        | 3. Side opening cover |
| 2. Side cover clamp |                       |



## DANGER



### POTENTIAL HAZARD

- If the side opening cover is not securely clamped in place, debris could be thrown out of the side opening.

### WHAT CAN HAPPEN

- Thrown debris can cause serious personal injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Always ensure that either the side opening cover is closed and locked in place by the side cover clamp or that the side discharge chute is securely seated in place before starting the lawn mower.

12. Tighten all four screws and the long knob.

13. Open and close the tunnel door to ensure that it moves freely (Fig. 34).

## Installing the Grass Bag

**Note:** To recycle grass instead of catch it, do not install the grass bag and ensure that the discharge tunnel door is closed and secured.



## DANGER



### POTENTIAL HAZARD

- Thrown objects may result if the discharge door does not close completely.

### WHAT CAN HAPPEN

- Thrown objects can cause serious personal injury or death.

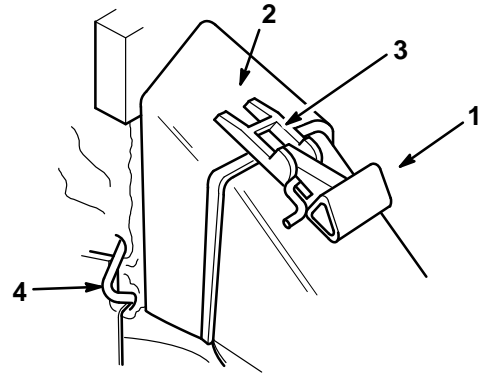
### HOW TO AVOID THE HAZARD

- If the discharge door cannot be closed because grass clippings clog the discharge area, stop the engine and gently move the discharge door handle back and forth until the door can be closed completely. If door still cannot be closed, remove the obstruction with a stick; not your hand.

1. Stop the engine and wait for all moving parts to stop.
2. Ensure that the discharge door handle is fully forward (door closed) (Fig. 36).
3. Fit the bag door opening over the discharge tunnel opening as shown in Figure 36.

The bag door latches should straddle the door handle, and the bag rod hook should be in front of the handle bracket.

4. Set the rear of the bag frame onto the lower handle.



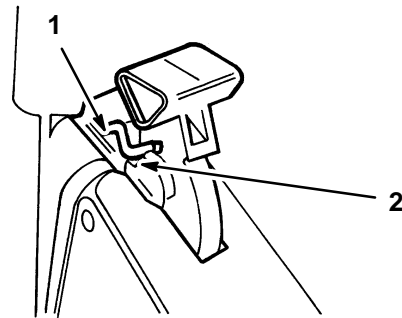
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Figure 36

1. Handle fully forward
2. Bag door
3. Bag door latch
4. Bag rod hook in front of handle bracket

5. Pull the handle rearward until the handle latch locks in the notch in the bag door latch (Fig. 37).

The discharge door in the mower housing is now open and the bag is locked into position. The latch should seat in bottom of the notch.



548

Figure 37

1. Handle latch locked in bag
2. Notch in bag door latch notch



## DANGER



### POTENTIAL HAZARD

- Grass clippings and other objects can be thrown from an open discharge tunnel.

### WHAT CAN HAPPEN

- Objects thrown with enough force could cause serious personal injury or death to the operator or bystander.

### HOW TO AVOID THE HAZARD

- Never open the door on the discharge tunnel when the engine is running.



## DANGER



### POTENTIAL HAZARD

- A worn grass bag could allow small stones and other similar debris to be thrown in operator's or bystander's direction.

### WHAT CAN HAPPEN

- Thrown objects can cause serious personal injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Check the grass bag frequently. If it is damaged, install a new genuine Toro replacement bag that has this or a similar warning.

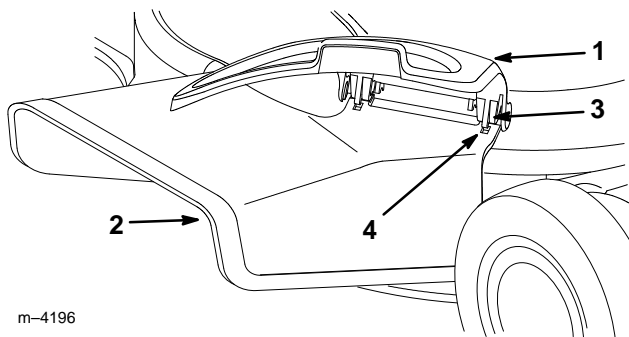
## Emptying the Grass Bag

1. Stop the engine and wait for all moving parts to stop.
2. Lift the door latch until it clears the bag notch and move the discharge door handle forward (Fig. 36).
3. Grasp the bag frame handle and the rear of the grass bag and lift the bag off of the mower.
4. Gradually tip bag forward to empty clippings.

## Side Discharge Chute

### Installing the Side Discharge Chute

1. Stop the engine and disconnect the spark plug wire.
2. Remove the knob and side cover clamp, then replace the knob in the hole and save the clamp for future use (Fig. 31).
3. Lift up on the side opening cover (Fig. 31).
4. Slide the chute over the opening with the slots in the chute lined up with the tabs under the cover (Fig. 38).



m-4196

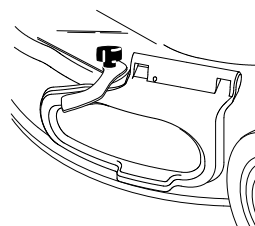
Figure 38

- |                         |         |
|-------------------------|---------|
| 1. Side opening cover   | 3. Tab  |
| 2. Side discharge chute | 4. Slot |

5. Close the cover.

### Removing the Side Discharge Chute

1. Stop the engine and disconnect the spark plug wire.
2. Open the side opening cover and remove the side discharge chute (Fig. 38).
3. Close the cover.
4. Remove the knob, then install the side cover clamp and the knob, securing the side opening cover (Fig. 31 and 39).



m-4279

Figure 39



## DANGER



### POTENTIAL HAZARD

- If the side opening cover is not securely clamped in place, debris could be thrown out of the side opening.

### WHAT CAN HAPPEN

- Thrown debris can cause serious personal injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Always ensure that either the side opening cover is closed and locked in place by the side cover clamp or that the side discharge chute is securely seated in place before starting the lawn mower.

