Form No. 3418-989 Rev D

53cm Super Bagger Lawn Mower

Model No. 20899—Serial No. 401000000 and Up

Operator's Manual

Introduction

This rotary-blade, walk-behind lawn mower is intended to be used by residential homeowners. It is designed primarily for cutting grass on well-maintained lawns on residential properties. It is not designed for cutting brush or for agricultural uses.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit www.Toro.com for more information, including safety tips, training materials, 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. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

Important: **With your mobile device, you can scan the QR code on the serial number decal (if equipped) to access warranty, parts, and other product information**



g226629

Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



g000502

Figure 2

Safety-alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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

Gross or Net Torque: The gross or net torque of this engine was laboratory rated by the engine manufacturer in accordance with the Society of Automotive Engineers (SAE) J1940 or J2723. As configured to meet safety, emission, and operating requirements, the actual engine torque on this class of mower will be significantly lower. Please refer to the engine manufacturer's information included with the machine.

Do not tamper with or disable safety devices on the machine, and check their proper operation regularly. Do not attempt to adjust or tamper with the engine speed control; doing so may create an unsafe operating condition, resulting in personal injury.

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3418-989 D

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Safety

This machine has been designed in accordance with EN ISO 5395:2013.

General Safety

This product is capable of amputating hands and feet and of throwing objects. Always follow all safety instructions to avoid serious personal injury.

Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

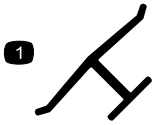
- Read, understand, and follow the instructions and warnings in this *Operator's Manual* and on the machine and attachments before starting the engine.
- Do not put your hands or feet near moving parts of or under the machine. Keep clear of any discharge opening.
- Do not operate the machine without all guards and other safety protective devices in place and working on the machine.
- Keep bystanders and children a safe distance away from the machine. Do not allow children to operate the machine. Allow only people who are responsible, trained, familiar with the instructions, and physically capable to operate the machine.
- Stop the machine, shut off the engine, and wait for all moving parts to stop before servicing, fueling, or unclogging the machine.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol, which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

You can find additional safety information where needed throughout this manual.

Safety and Instructional Decals

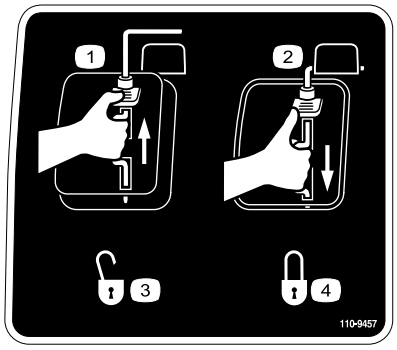
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



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Manufacturer's Mark

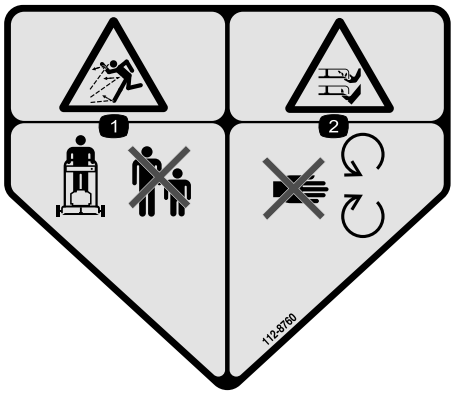
1. This mark indicates that the blade is identified as a part from the original machine manufacturer.



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110-9457

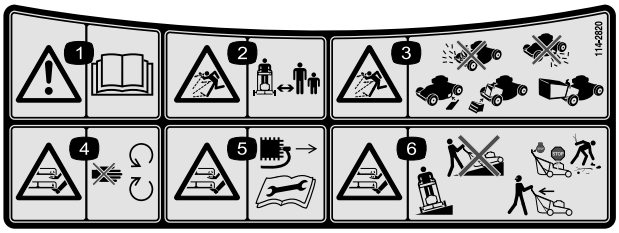
1. Engine switch Off
2. Engine switch On
3. Unlocked
4. Locked



decal112-8760

112-8760

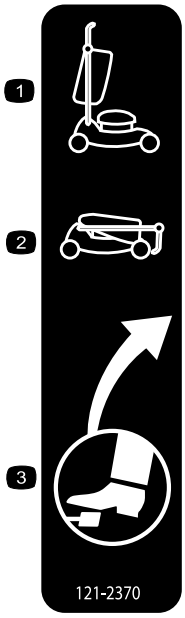
1. Thrown object hazard—keep bystanders away.
2. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.



decal114-2820

114-2820

1. Warning—read the *Operator's Manual*.
2. Thrown object hazard—keep bystanders a safe distance away from the machine.
3. Thrown object hazard—do not operate the machine without the rear-discharge plug or bag in place; do not operate the machine without the side-discharge cover or deflector in place.
4. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.
5. Cutting/dismemberment hazard of hand or foot, mower blade—remove the ignition key and read the instructions before servicing or performing maintenance.
6. Cutting/dismemberment hazard of hand or foot, mower blade—do not operate the machine up and down slopes; operate it side to side on slopes; shut off the engine before leaving the operating position; and look behind you when backing up.



decal121-2370

121–2370

1. Handle in raised position
2. Handle in lowered position
3. Foot pedal location

Setup

Important: **Remove and discard the protective plastic sheet that covers the engine.**

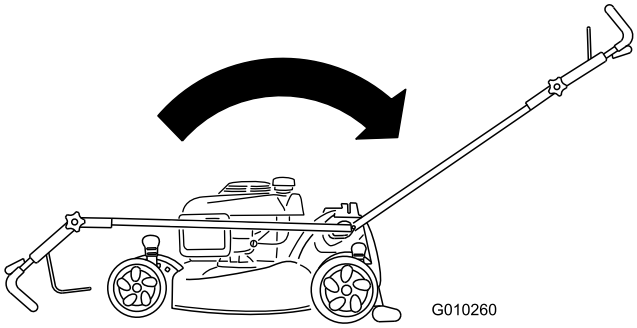
1

Unfolding the Handle

No Parts Required

Procedure

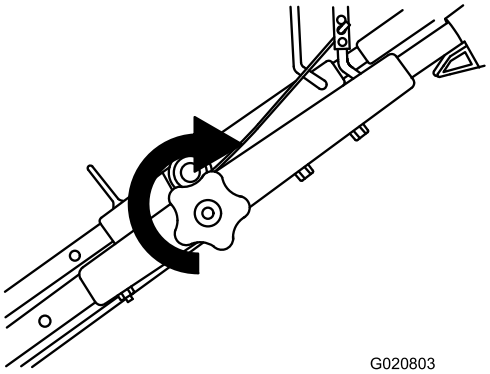
1. Move the handle rearward and hold the upper handle in place (Figure 3).



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Figure 3

2. Tighten the upper handle knob as tight as you can (Figure 4).



g020803

Figure 4

2

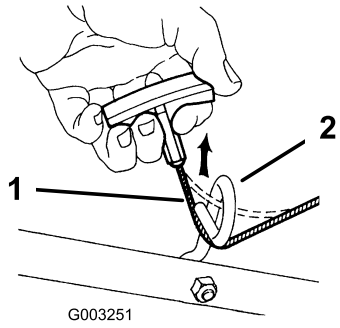
Installing the Recoil-Starter Rope in the Rope Guide

No Parts Required

Procedure

Important: **To start the engine safely and easily whenever you use the machine, install the recoil-starter rope in the rope guide.**

Hold the blade-control bar to the upper handle and pull the recoil-starter rope through the rope guide on the handle (Figure 5).



g003251

Figure 5

1. Recoil-starter rope
2. Rope guide

3

Filling the Engine with Oil

No Parts Required

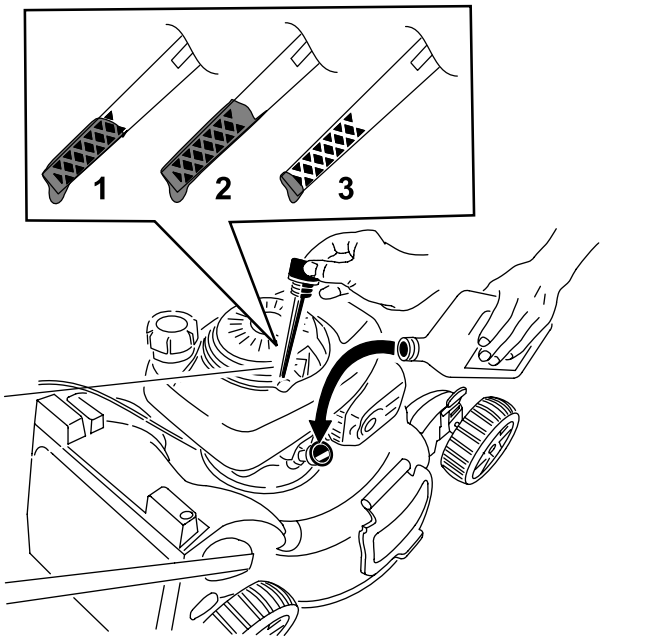
Procedure

Important: **Your machine does not come with oil in the engine. Before starting the engine, fill the engine with oil.**

Engine Oil Specifications

Engine oil capacity	0.55 L (18.6 fl oz)
Oil viscosity	SAE 30 or SAE 10W-30 detergent oil
API service classification	SJ or higher

1. Move the machine to a level surface.
2. Remove the dipstick by rotating the cap counterclockwise and pulling it out (Figure 6).



g232743

Figure 6

1. Full
2. High
3. Add

3. Carefully pour about 3/4 of the engine capacity of oil into the oil-fill tube.
4. Wait 3 minutes for the oil to settle in the engine.
5. Wipe the dipstick clean with a clean cloth.
6. Insert the dipstick into the oil-fill tube, but do not screw it in, then remove the dipstick.
7. Read the oil level on the dipstick (Figure 6).
   - If the oil level on the dipstick is too low, carefully pour a small amount of oil into the oil-fill tube, wait 3 minutes, and repeat steps 5 through 7 until the oil on the dipstick is at the correct level.
   - If the oil level on the dipstick is too high, drain the excess oil until the oil on the dipstick is at the correct level; refer to Changing the Engine Oil (page 18).

   Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**
8. Install the dipstick into the oil-fill tube securely.

Important: **Change the engine oil after the first 5 operating hours; change it yearly thereafter. Refer to Changing the Engine Oil (page 18).**

4

Installing the Mulch Plug or the Grass Bag

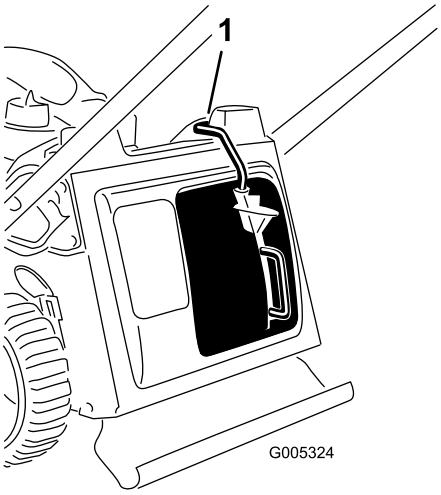
No Parts Required

Procedure

You must correctly install either the mulch plug (for recycling or side-discharging the grass clippings) or the grass bag; otherwise, **the engine will not start**.

The machine has a safety switch (located at the bottom of the channel on the upper right rear of the machine) that prevents the machine from operating without a mulch plug or a grass bag in place. This prevents the machine from throwing debris at you through the rear opening.

For the switch to detect the mulch plug, the top of the mulch plug lever must **lie fully** in the **bottom of the channel** (Figure 7).

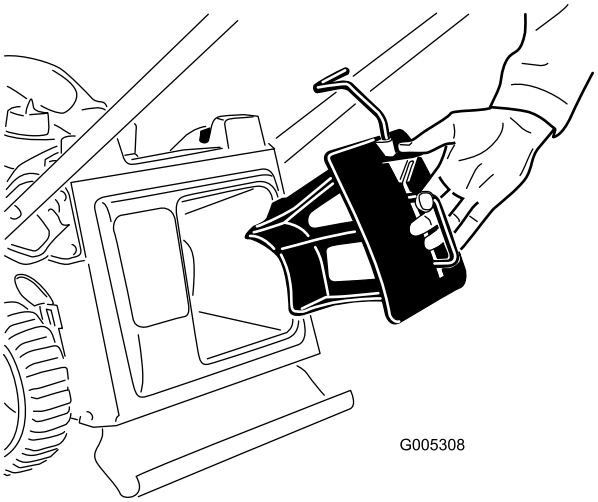


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Figure 7

1. The top of mulch plug lever in the switch channel

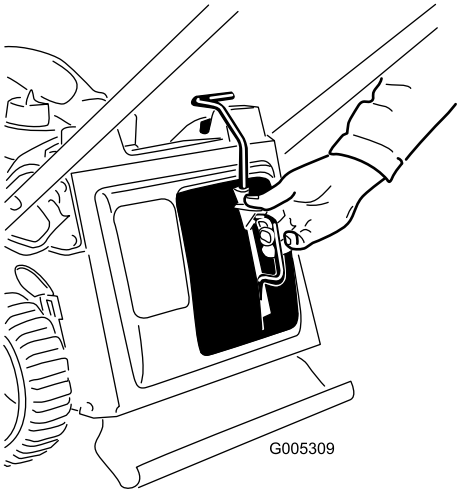
1. Insert the mulch plug into the machine if it is not already installed (Figure 8).



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Figure 8

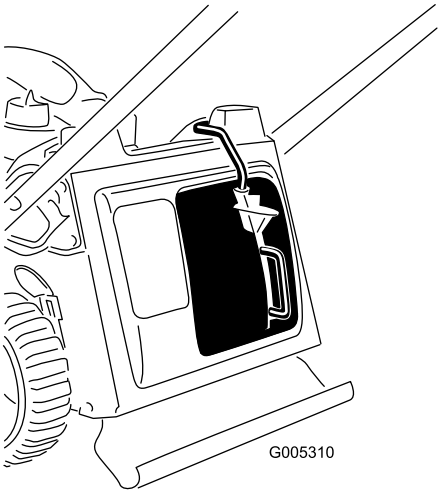
2. Squeeze the button on the lever with your thumb, and fully insert the mulch plug into the opening (Figure 9).



g005309

Figure 9

3. Release the button on the lever and ensure that the top of the lever lies fully in the switch channel (Figure 10). **If the top of the lever is not in the switch channel, your machine will not start!**



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Figure 10

Note: If the lever does not latch properly, disconnect the wire from the spark plug and check for and remove any debris buildup in the tunnel.

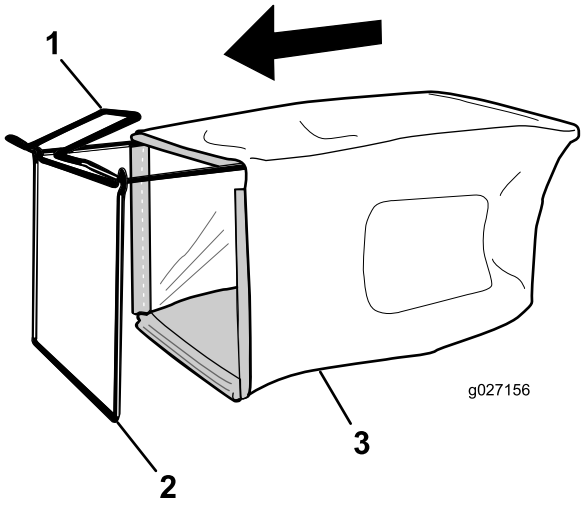
5

Assembling the Grass Bag

No Parts Required

Procedure

1. Slip the grass bag over the frame as shown in Figure 11.



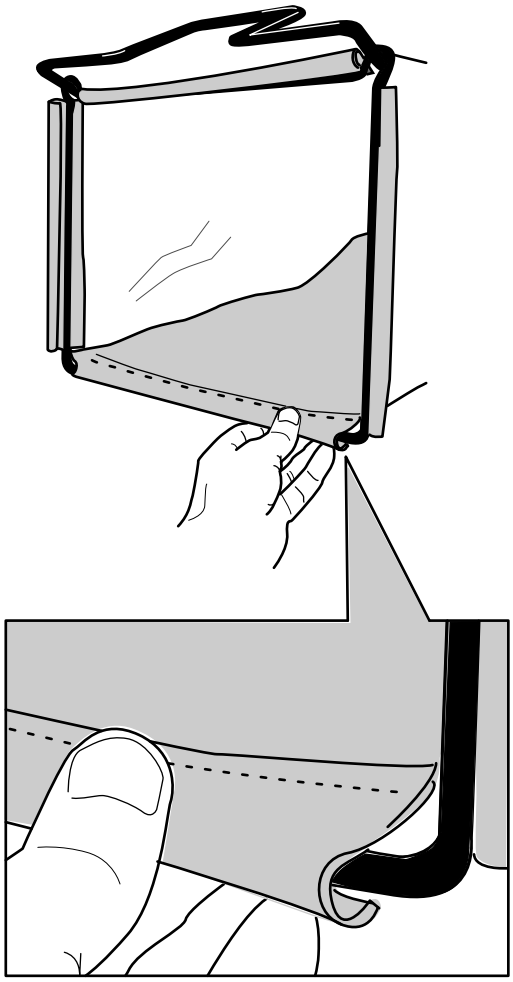
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Figure 11

1. Handle
2. Frame
3. Grass bag

Note: Do not slip the bag over the handle (Figure 11).

2. Hook the bottom channel of the bag onto the bottom of the frame (Figure 12).



g027157

Figure 12

3. Hook the top and side channels of the bag onto the top and sides of the frame, respectively (Figure 12).

Product Overview

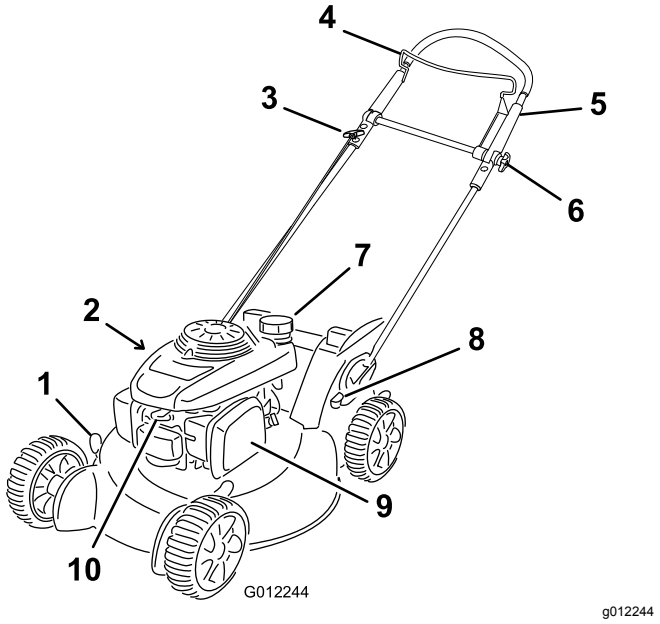


Figure 13

1. Cutting-height lever (4)
2. Oil fill/dipstick (not shown)
3. Recoil-start handle
4. Blade-control bar
5. Upper handle
6. Upper-handle knob
7. Fuel-tank cap
8. Foot pedal
9. Air filter
10. Spark plug

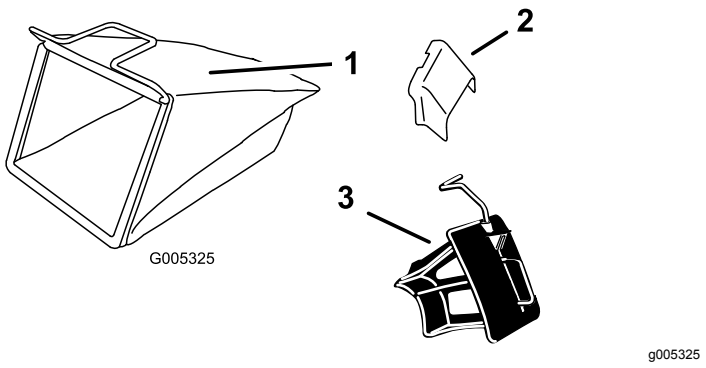


Figure 14

1. Grass bag
2. Side-discharge chute
3. Mulch plug (comes installed on the machine)

Specifications

Model	Weight	Length	Width	Height
20899	34 kg (75 lb)	159 cm (63 inches)	56 cm (22 inches)	110 cm (43 inches)

Operation

Before Operation

Before Operation Safety

General Safety

- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Check that all guards and safety devices, such as deflectors and/or grass catcher, are in place and working properly.
- Always inspect the machine to ensure that the blades, blade bolts, and cutting assembly are not worn or damaged.
- Inspect the area where you will use the machine, and remove all objects that could interfere with the operation of the machine or that the machine could throw.
- Adjusting the cutting height may bring you into contact with the moving blade, causing serious injury.
  - Shut off the engine, remove the ignition key (electric-start model only), and wait for all moving parts to stop.
  - Do not put your fingers under the housing when adjusting the cutting height.

Fuel Safety

- Fuel is extremely flammable and highly explosive. A fire or explosion from fuel can burn you and others and can damage property.
  - To prevent a static charge from igniting the fuel, place the container and/or machine directly on the ground before filling, not in a vehicle or on an object.
  - Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any fuel that spills.
  - Do not handle fuel when smoking or around an open flame or sparks.
  - Do not remove the fuel cap or add fuel to the tank while the engine is running or hot.
  - If you spill fuel, do not attempt to start the engine. Avoid creating a source of ignition until the fuel vapors have dissipated.
  - Store fuel in an approved container and keep it out of the reach of children.
- Fuel is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness.

– Avoid prolonged breathing of vapors.
– Keep your hands and face away from the nozzle and the fuel-tank opening.
– Keep fuel away from your eyes and skin.

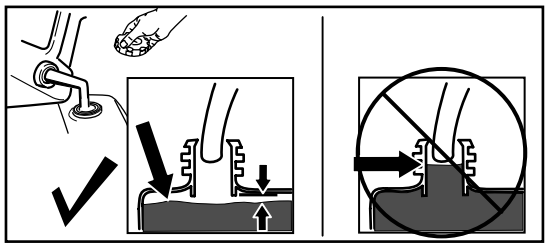
Filling the Fuel Tank

- For best results, use only clean, fresh, unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
- Oxygenated fuel with up to 10% ethanol or 15% MTBE by volume is acceptable.
- **Do not** use ethanol blends of gasoline, such as E15 or E85, with more than 10% ethanol by volume. Performance problems and/or engine damage may result, which may not be covered under warranty.
- **Do not** use gasoline containing methanol.
- **Do not** store fuel either in the fuel tank or in fuel containers over the winter unless fuel stabilizer has been added to the fuel.
- **Do not** add oil to gasoline.

Fill the fuel tank with fresh unleaded regular gasoline from a major name-brand service station (Figure 15).

Important: **To reduce starting problems, add fuel stabilizer to the gasoline all season. Mix the stabilizer with gasoline less than 30 days old.**

Refer to your engine owner's manual for additional information.

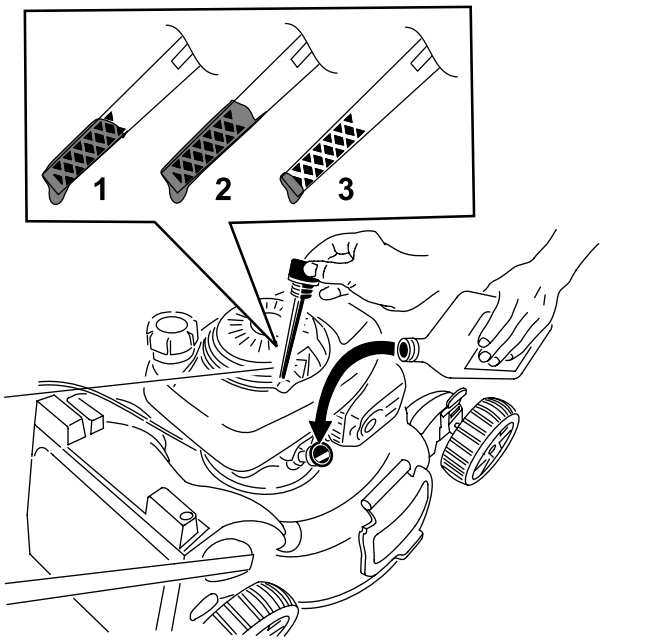


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Figure 15

Checking the Engine-Oil Level

1. Move the machine to a level surface.
2. Remove the dipstick by rotating the cap counterclockwise and pulling it out (Figure 16).



g232743

Figure 16

1. Full
2. High
3. Add

3. Wipe the dipstick clean with a clean cloth.
4. Insert the dipstick into the oil-fill tube, but do not screw it in, then remove the dipstick.
5. Read the oil level on the dipstick (Figure 16).
   - If the oil level on the dipstick is too low (Figure 16), carefully pour a small amount of SAE 30 or SAE 10W-30 detergent oil into the oil-fill tube, wait 3 minutes, and repeat steps 3 through 5 until the oil on the dipstick is at the correct level.
   - If the oil level on the dipstick is too high (Figure 16), drain the excess oil until the oil on the dipstick is at the correct level; refer to Changing the Engine Oil (page 18).

   Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**
6. Install the dipstick into the oil-fill tube securely.

Adjusting the Upper Handle Height

You may raise or lower the upper handle to a position comfortable for you.

Note: You cannot raise the upper handle higher than the angle of the lower handle.

1. Loosen the upper-handle knob (Figure 17).

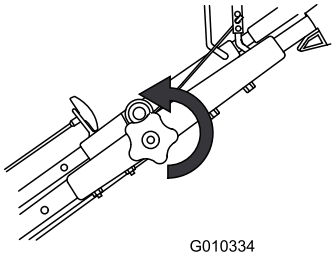


Figure 17

2. Move the upper handle to the desired position (Figure 18).

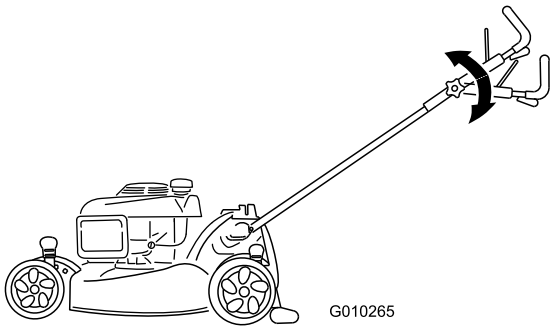


Figure 18

3. Tighten the upper handle knob as tight as you can (Figure 19).

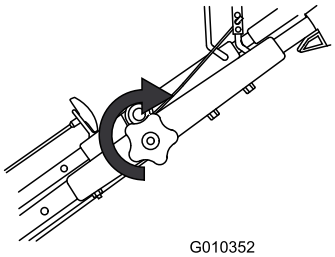


Figure 19

Adjusting the Cutting Height

Adjust the cutting height as desired. Set the front wheels to the same height as the rear wheels (Figure 20).

Note: To raise the machine, move all the cutting-height levers forward; to lower the machine, move all the cutting-height levers rearward.

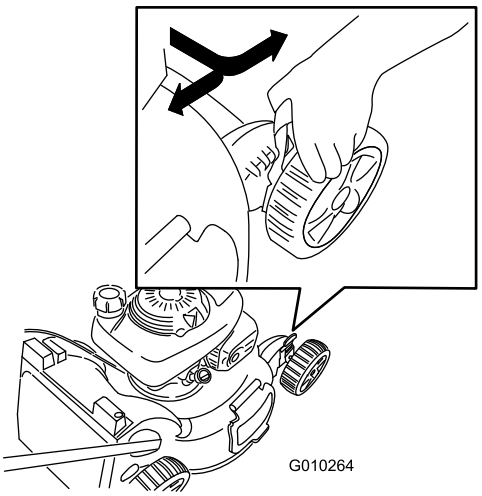


Figure 20

Note: The cutting-height settings are 25 mm (1 inch); 35 mm (1-3/8 inch); 44 mm (1-3/4 inch); 54 mm (2-1/8 inches); 64 mm (2-1/2 inches); 73 mm (2-7/8 inches); 83 mm (3-1/4 inches); 92 mm (3-5/8 inches); and 102 mm (4 inches).

During Operation

During Operation Safety

General Safety

- Wear appropriate clothing, including eye protection; long pants; slip-resistant, substantial footwear; and hearing protection. Tie back long hair, secure loose clothing, and do not wear loose jewelry.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- The blade is sharp; contacting the blade can result in serious personal injury. Shut off the engine, remove the ignition key (electric-start model only), and wait for all moving parts to stop before leaving the operating position.
- When you release the blade-control bar, the engine should shut off and the blade should stop within 3 seconds. If not, stop using your machine

immediately and contact an Authorized Service Dealer.

- Keep bystanders, especially small children, out of the operating area. Stop the machine if anyone enters the area.
- Always look down and behind you before moving the machine in reverse.
- Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lighting.
- Wet grass or leaves can cause serious injury if you slip and contact the blade. Avoid mowing in wet conditions.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause the machine to overturn or cause you to lose your balance or footing.
- If the machine strikes an object or starts to vibrate, immediately shut off the engine, remove the key (if equipped), wait for all moving parts to stop, and disconnect the wire from the spark plug before examining the machine for damage. Make all necessary repairs before resuming operation.
- Before leaving the operating position, shut off the engine, remove the ignition key (electric-start model only), and wait for all moving parts to stop.
- If the engine has been running the muffler will be hot and can severely burn you. Keep away from the hot muffler.
- Check the grass catcher components and the discharge chute frequently for any wear or deterioration and replace them with the manufacturer's recommended parts when necessary.
- Use accessories and attachments approved by Exmark Mfg. Co., Inc. only.

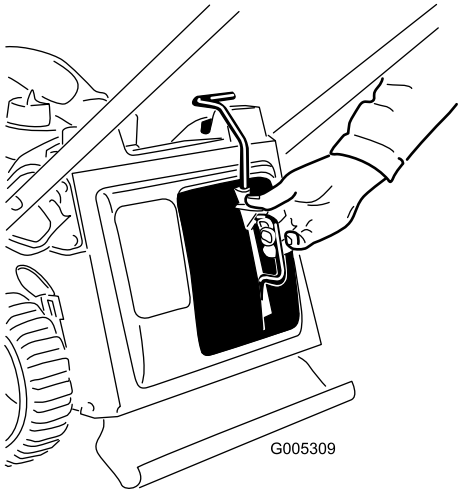
Slope Safety

- Mow across the face of slopes; never up and down. Use extreme caution when changing direction on slopes.
- Do not mow on excessively steep slopes. Poor footing could cause a slip-and-fall accident.
- Mow with caution near drop-offs, ditches, or embankments.

Starting the Engine

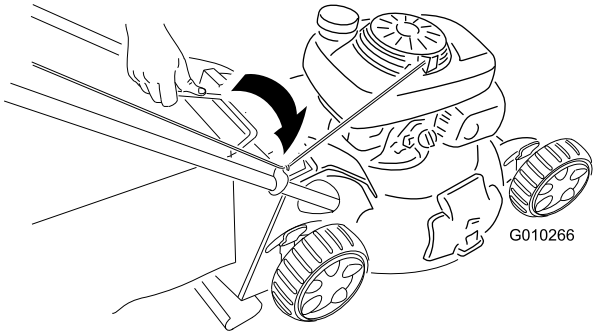
Important: **The machine has a safety switch that prevents you from starting the machine unless you first install the mulch plug or the grass bag securely on the machine.**

1. Install the mulch plug (Figure 21) or the grass bag (Figure 22) on the machine.



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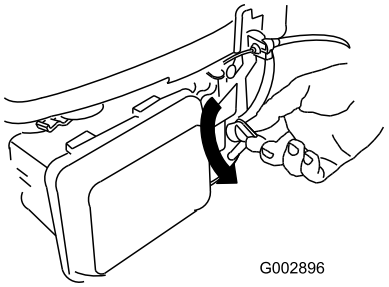
Figure 21



g010266

Figure 22

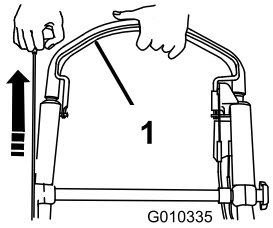
2. Turn the fuel valve lever to the ON position (Figure 23).



g002896

Figure 23

3. Pull and hold the blade-control bar to the handle and pull the recoil-start handle (Figure 24).



g010335

Figure 24

1. Blade-control bar

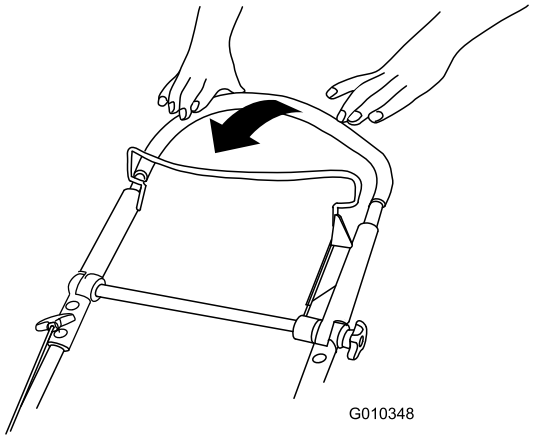
Note: If the machine still does not start, contact an Authorized Service Dealer.

Using the Self-Propel Drive

To operate the self-propel drive, simply walk with your hands on the upper handle and your elbows at your sides, and the machine will automatically keep pace with you.

Shutting Off the Engine

To shut off the engine, release the blade-control bar (Figure 25).



g010348

Figure 25

Important: **When you release the blade-control bar, the engine should shut off and the blade should stop within 3 seconds. If they do not, stop using your machine immediately and contact an Authorized Service Dealer.**

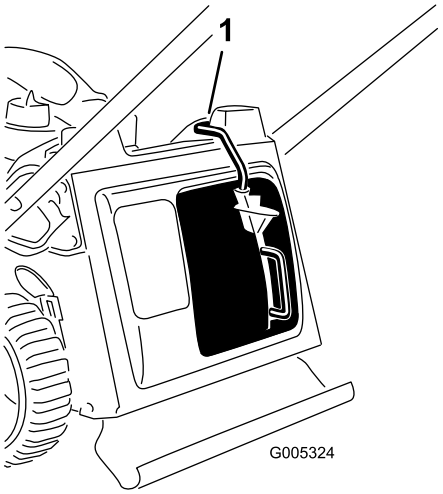
Mulching the Clippings

Your machine comes from the factory ready to mulch the grass and leaf clippings back into the lawn.

If the grass bag is on the machine, remove it; refer to Removing the Grass Bag (page 13) before mulching the clippings. If the side-discharge chute is on the machine, remove it and lock the side-discharge deflector; refer to Removing the Side-Discharge Chute (page 15) before mulching the clippings.

Important: **The machine has a safety switch that prevents you from starting the machine unless you first install the mulch plug securely on the machine (Figure 26).**

Install the mulch plug as illustrated in Figure 26.



g005324

Figure 26

1. Top of mulch plug lever in switch channel

Bagging the Clippings

Use the grass bag when you want to collect grass and leaf clippings from the lawn.

⚠ WARNING

A worn grass bag could allow small stones and other similar debris to be thrown at you or bystanders, resulting in serious personal injury or death.

Check the grass bag frequently. If it is damaged, install a new Exmark replacement bag.

If the side-discharge chute is on the machine, remove it and lock the side-discharge deflector; refer to Removing the Side-Discharge Chute (page 15) before bagging the clippings.

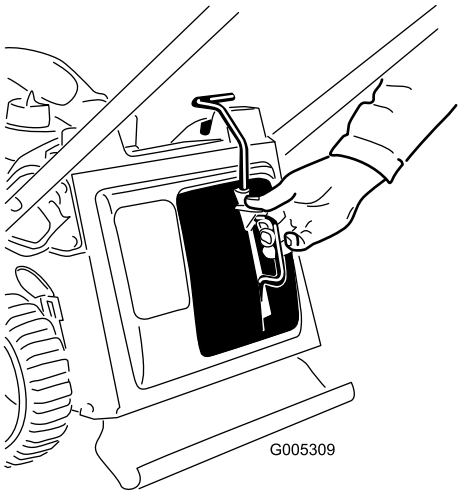
⚠ WARNING

The blade is sharp; contacting the blade can result in serious personal injury.

Shut off the engine and wait for all moving parts to stop before leaving the operating position.

Installing the Grass Bag

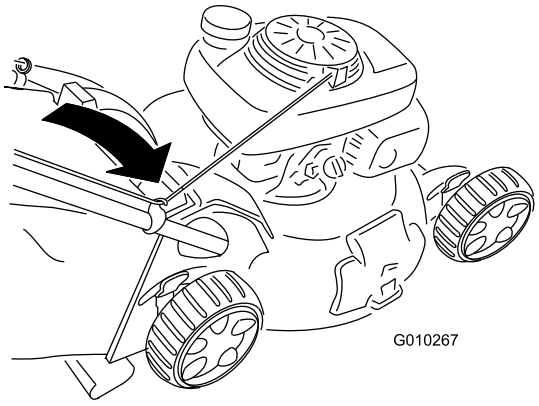
1. Remove the mulch plug (Figure 27).



g005309

Figure 27

2. Route the starter rope around the lower-rope guide (Figure 28).



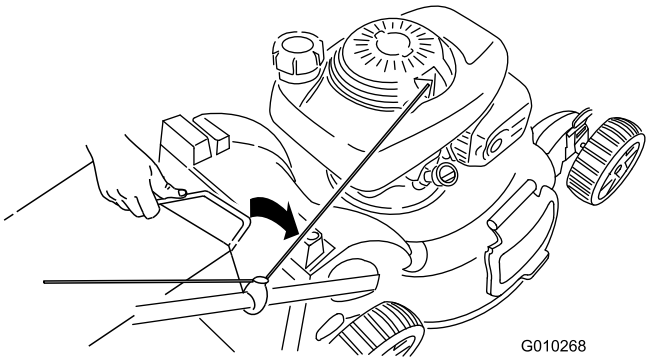
g010267

Figure 28

Note: The lower rope guide releases the starter rope when you pull the recoil-start handle.

3. Insert the grass-bag handle into the grooves at the top of the machine (Figure 29).

Important: **The machine has a safety switch that prevents you from starting the machine unless you first install the grass bag securely on the machine.**



g010268

Figure 29

Removing the Grass Bag

1. Route the starter rope around the lower-rope guide (Figure 30).

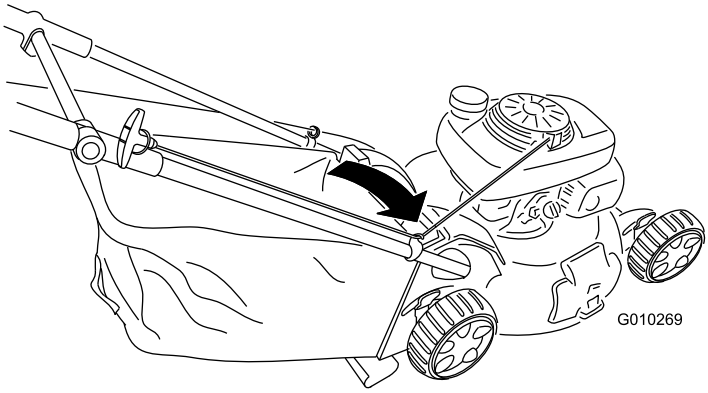


Figure 30

2. Lift the grass-bag handle out from the grooves at the top of the machine, and remove the bag from the machine (Figure 31).

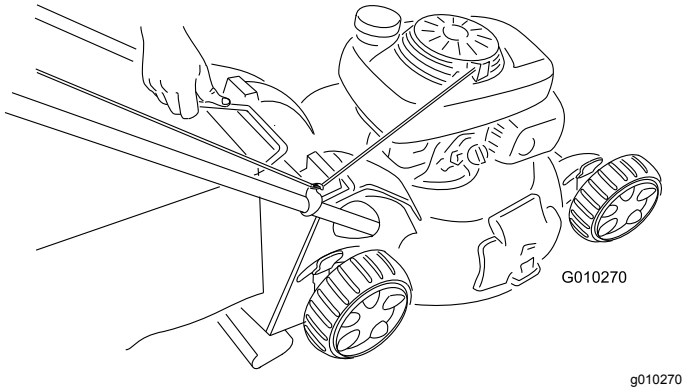


Figure 31

3. Insert the mulch plug (Figure 32).

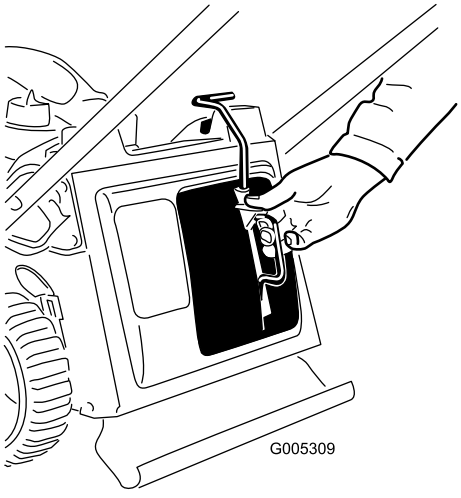


Figure 32

Side-Discharging the Clippings

Use the side discharge for cutting very tall grass.

If the grass bag is on the machine, remove it before side-discharging the clippings; refer to Removing the Grass Bag (page 13).

Important: **The machine has a safety switch that prevents you from starting the machine unless you first install the mulch plug securely on the machine; refer to Mulching the Clippings (page 12).**

Installing the Side-Discharge Chute

Unlock, unlatch, and lift up the side deflector and install the side-discharge chute (Figure 33).

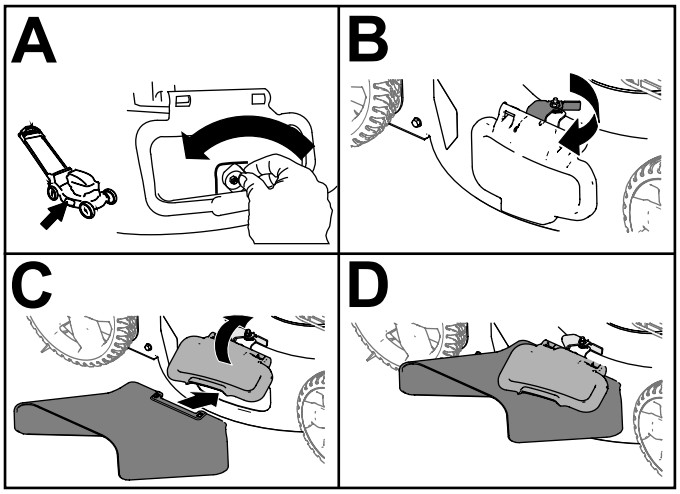
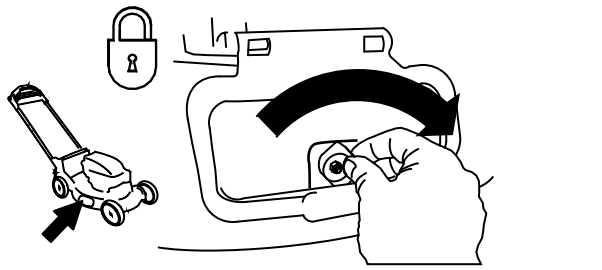


Figure 33

Removing the Side-Discharge Chute

To remove the side-discharge chute, lift up the side deflector, remove the side-discharge chute, and lower the side-discharge deflector.

Important: **Lock the side-discharge deflector after you close it (Figure 34).**



g231921

Figure 34

Operating Tips

General Mowing Tips

- Inspect the area where you will use the machine and remove all objects that the machine could throw.
- Avoid striking solid objects with the blade. Never deliberately mow over any object.
- If the machine strikes an object or starts to vibrate, immediately shut off the engine, remove the key (if equipped), wait for all moving parts to stop, and disconnect the wire from the spark plug before examining the machine for damage. Make all necessary repairs before resuming operation.
- For best performance, install a new blade before the cutting season begins.
- Replace the blade when necessary with a Toro replacement blade.

Cutting Grass

- Cut only about a third of the grass blade at a time. Do not cut below 51 mm (2 inches) unless the grass is sparse or it is late fall when grass growth begins to slow down.
- When cutting grass over 15 cm (6 inches) tall, mow at the highest cutting height setting and walk slower; then mow again at a lower setting for the best lawn appearance. If the grass is too long, the machine may plug and cause the engine to stall.
- Wet grass and leaves tend to clump on the yard and can cause the machine to plug or the engine to stall. Avoid mowing in wet conditions.
- Be aware of a potential fire hazard in very dry conditions, follow all local fire warnings, and keep the machine free of dry grass and leaf debris.
- Alternate the mowing direction. This helps disperse the clippings over the lawn for even fertilization.
- If the finished lawn appearance is unsatisfactory, try 1 or more of the following:
  - Replace the blade or have it sharpened.
  - Walk at a slower pace while mowing.
  - Raise the cutting height on your machine.
  - Cut the grass more frequently.
  - Overlap cutting swaths instead of cutting a full swath with each pass.

Cutting Leaves

- After cutting the lawn, ensure that half of the lawn shows through the cut leaf cover. You may need to make more than a single pass over the leaves.
- If there are more than 13 cm (5 inches) of leaves on the lawn, mow at a higher cutting height and then again at the desired cutting height.
- Slow down your mowing speed if the machine does not cut the leaves finely enough.

After Operation

After Operation Safety

General Safety

- Clean grass and debris from the machine to help prevent fires. Clean up oil or fuel spills.
- Allow the engine to cool before storing the machine in any enclosure.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light, such as on a water heater or on other appliances.

Hauling Safety

- Remove the ignition key (if equipped) before loading the machine for hauling.
- Use care when loading or unloading the machine.
- Secure the machine from rolling.

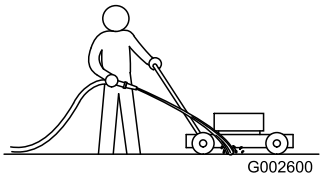
Cleaning under the Machine

Service Interval: After each use

For best results, clean under the machine soon after you have completed mowing.

1. Lower the machine to its lowest cutting-height setting.
2. Move the machine onto a paved level surface.
3. With the engine running and the blade engaged, spray a stream of water in front of the **right**, rear wheel (Figure 35).

   Note: The water will splash into the path of the blade, cleaning out the clippings.



g002600

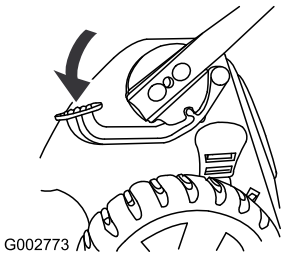
Figure 35

4. When no more clippings come out, stop the water and move the machine to a dry area.
5. Run the engine for a few minutes to dry the underside of the machine.

Folding the Handle

Upright Position

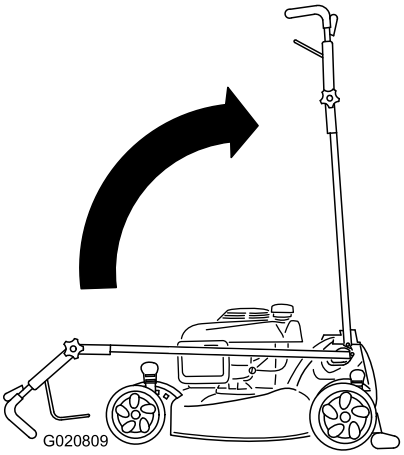
1. Step on the foot pedal and hold it down (Figure 36).



g002773

Figure 36

2. Move the handle to the upright position (Figure 37).

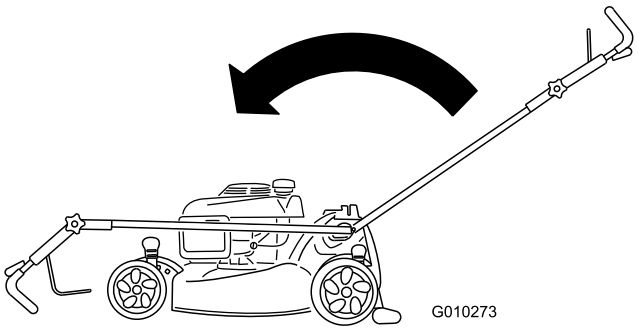


g020809

Figure 37

Forward Position

1. With the handle in the upright position, step on the foot pedal and hold it down.
2. Move the handle all the way forward and loosen the upper handle knob (Figure 38).



g010273

Figure 38

3. To unfold the handle, refer to 1 Unfolding the Handle (page 4).

Maintenance

Important: **Refer to your engine owner's manual for additional maintenance procedures.**

Recommended Maintenance Schedule(s)

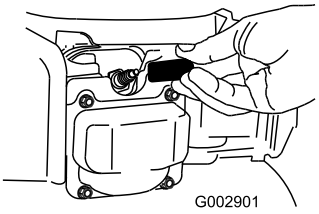
Maintenance Service Interval	Maintenance Procedure
Before each use or daily	• Ensure that the engine shuts off within 3 seconds after releasing the blade-control bar. • Check the air filter for dirt and damage and clean or replace it if necessary.
After each use	• Clean grass clippings and dirt from under the machine.
Yearly	• Clean or replace the air filter (more frequently in dusty operating conditions). • Change the engine oil. • Lubricate the upper handle. • Replace the blade or have it sharpened (more frequently if the edge dulls quickly). • Clean the engine by removing dirt and debris from its top and sides; clean it more frequently in dusty operating conditions.
Yearly or before storage	• Empty the fuel tank before repairs as directed and before yearly storage.

Maintenance Safety

- Disconnect the spark-plug wire from the spark plug before performing any maintenance procedure.
- Wear gloves and eye protection when servicing the machine.
- The blade is sharp; contacting the blade can result in serious personal injury. Wear gloves when servicing the blade. Do not repair or alter the blade(s).
- Never tamper with safety devices. Check their proper operation regularly.
- Tipping the machine may cause the fuel to leak. Fuel is flammable and explosive, and can cause personal injury. Run the engine dry or remove the fuel with a hand pump; never siphon the fuel.
- To ensure optimum performance and continued safety certification of the machine, use only genuine Exmark replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

Preparing for Maintenance

1. Shut off the engine and wait for all moving parts to stop.
2. Disconnect the spark-plug wire from the spark plug (Figure 39).



g002901

Figure 39

1. Spark-plug wire

3. After performing the maintenance procedure(s), connect the spark-plug wire to the spark plug.

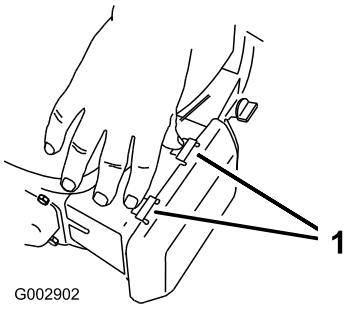
   Important: **Before tipping the machine to change the oil or replace the blade, allow the fuel tank to run dry through normal usage. If you must tip the machine prior to running out of fuel, use a hand fuel pump to remove the fuel. Always tip the machine onto its side, with the dipstick down.**

Servicing the Air Filter

Service Interval: Before each use or daily

Yearly

1. Press down on the latch tabs on top of the air-filter cover (Figure 40).

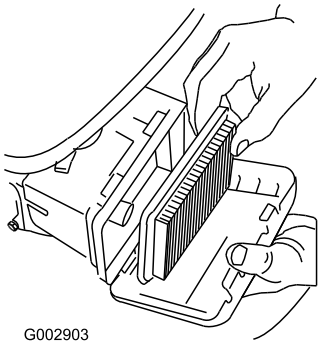


g002902

Figure 40

1. Latch tabs

2. Open the cover.
3. Remove the air filter (Figure 41).



g002903

Figure 41

4. If the air filter is damaged or is wet with oil or fuel, replace it.
5. If the air filter is dirty, tap it on a hard surface several times or blow compressed air less than 207 kPa (30 psi) through the side of the filter that faces the engine.

   Note: Do not brush the dirt off the filter; brushing forces dirt into the fibers.
6. Remove dirt from the air-filter body and cover using a moist rag. **Do not wipe dirt into the air duct.**
7. Install the air filter.
8. Close the cover.

Changing the Engine Oil

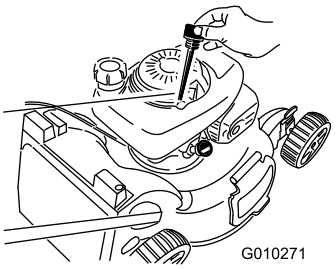
Service Interval: Yearly

Note: Run the engine a few minutes before changing the oil to warm it. Warm oil flows better and carries more contaminants.

Engine Oil Specifications

Engine oil capacity	0.55 L (18.6 fl oz)
Oil viscosity	SAE 30 or SAE 10W-30 detergent oil
API service classification	SJ or higher

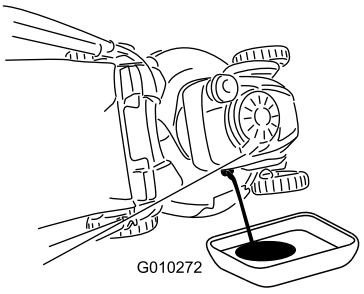
1. Move the machine to a level surface.
2. Refer to Preparing for Maintenance (page 17).
3. Remove the dipstick by rotating the cap counterclockwise and pulling it out (Figure 42).



g010271

Figure 42

4. Tip the machine onto its side (so that the air filter is up) to drain the used oil from the oil-fill tube (Figure 42).



g010272

Figure 43

5. After draining the used oil, return the machine to the operating position.
6. Carefully pour about 3/4 of the engine capacity of oil into the oil-fill tube.
7. Wait 3 minutes for the oil to settle in the engine.
8. Wipe the dipstick clean with a clean cloth.
9. Insert the dipstick into the oil-fill tube, **but do not screw it in,** then remove the dipstick.
10. Read the oil level on the dipstick (Figure 16).

- If the oil level on the dipstick is too low, carefully pour a small amount of oil into the oil-fill tube, wait 3 minutes, and repeat steps 8 through 10 until the oil level on the dipstick is correct.
- If the oil level on the dipstick is too high, drain the excess oil until the oil level on the dipstick is correct.

Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**

11. Install the dipstick into the oil-fill tube securely.
12. Recycle the used oil properly.

Lubricating the Upper Handle

Service Interval: Yearly

Lubricate the left and right sides of the upper handle with a low-viscosity silicone spray lubricant.

1. Spray the outer plastic end of the inner handle (Figure 44).

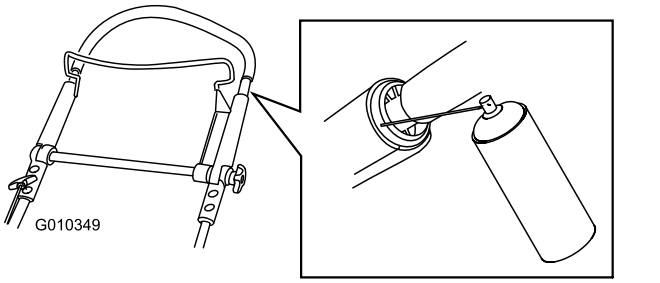


Figure 44

Note: Use the straw that comes with the spray can to direct the spray.

2. Push the upper handle fully down and spray the inner plastic surface of the outer handle (Figure 45).

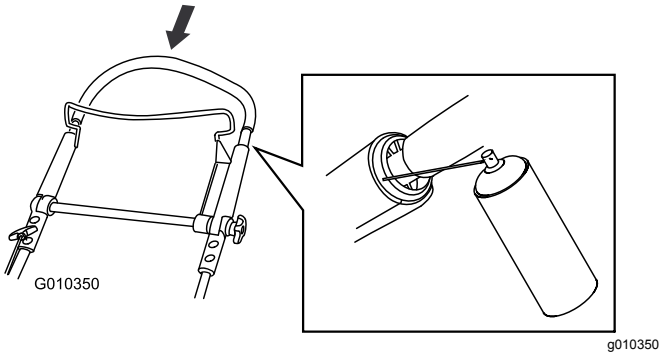


Figure 45

Adjusting the Self-Propel Drive

If your machine does not self-propel properly, adjust the self-propel-drive cable.

1. Loosen the nut on the cable mount (Figure 46).

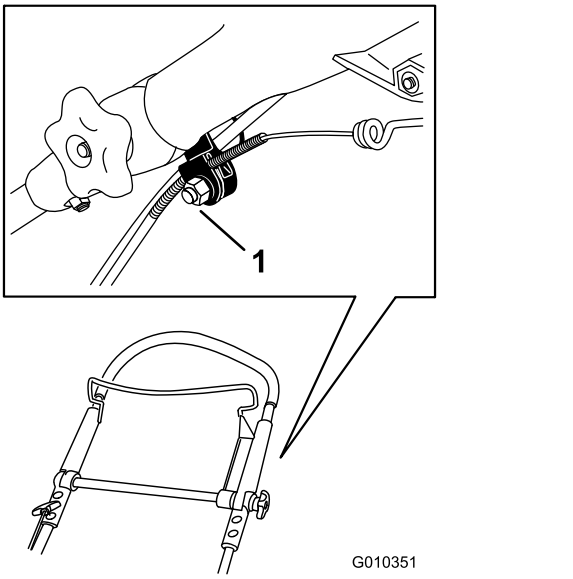


Figure 46

1. Cable mount

2. Pull the upper handle back fully rearward.

   Note: If the handle does not move smoothly, refer to Lubricating the Upper Handle (page 19).

3. Pull the cable jacket downward until you remove the slack in the exposed cable (Figure 47).

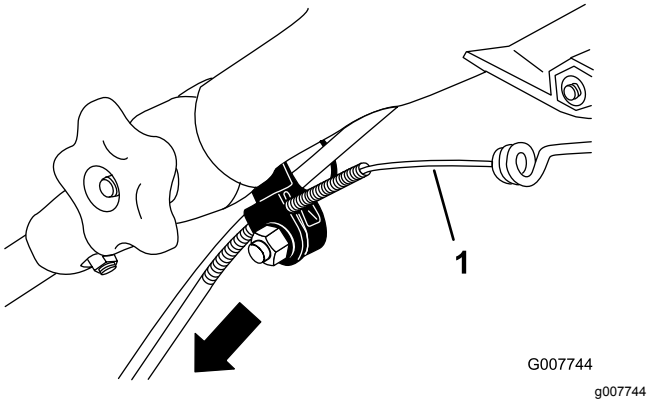


Figure 47

1. Exposed cable

4. Push the cable jacket upward 3 mm (1/8 inch).

   Note: You can place a ruler against the upper side of the black cable mount and measure how far the upper end of the cable jacket moves (Figure 48).

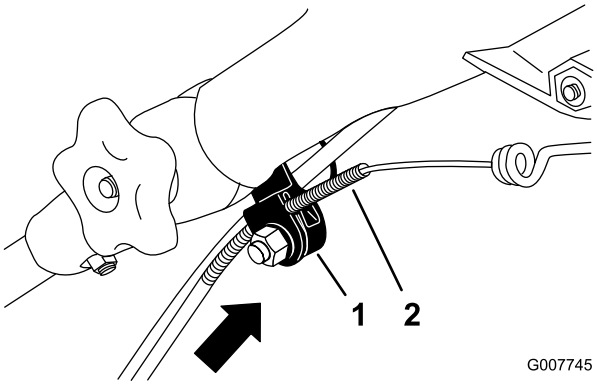


Figure 48

1. Cable mount
2. Cable jacket

Important: **Moving the cable jacket upward decreases the ground speed; moving the jacket downward increases the ground speed.**

5. Tighten the nut firmly.
6. Start the machine and check the adjustment.

   Note: If the self-propel drive is not properly adjusted, repeat this procedure.

Replacing the Blade

Service Interval: Yearly

***Important: You will need a torque wrench to install the blade properly*. If you do not have a torque wrench or are uncomfortable performing this procedure, contact an Authorized Service Dealer.**

Examine the blade whenever you run out of fuel. If the blade is damaged or cracked, replace it immediately. If the blade edge is dull or nicked, have it sharpened and balanced, or replace it.

⚠ WARNING

The blade is sharp; contacting the blade can result in serious personal injury.

Wear gloves when servicing the blade.

1. Refer to Preparing for Maintenance (page 17).
2. Tip the machine onto its side with the air filter up.
3. Use a block of wood to hold the blade steady (Figure 49).

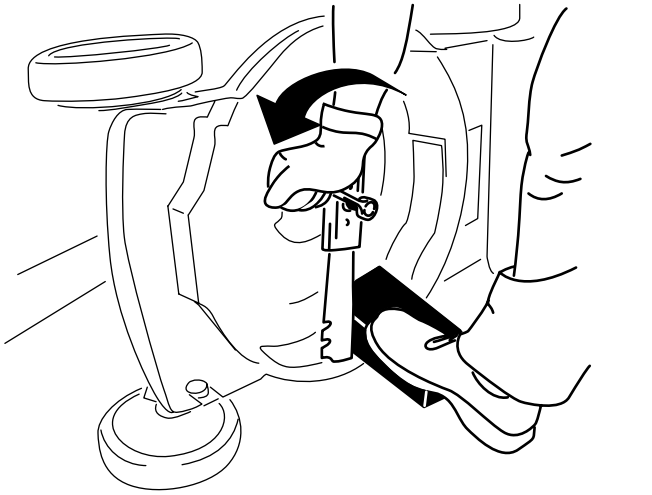
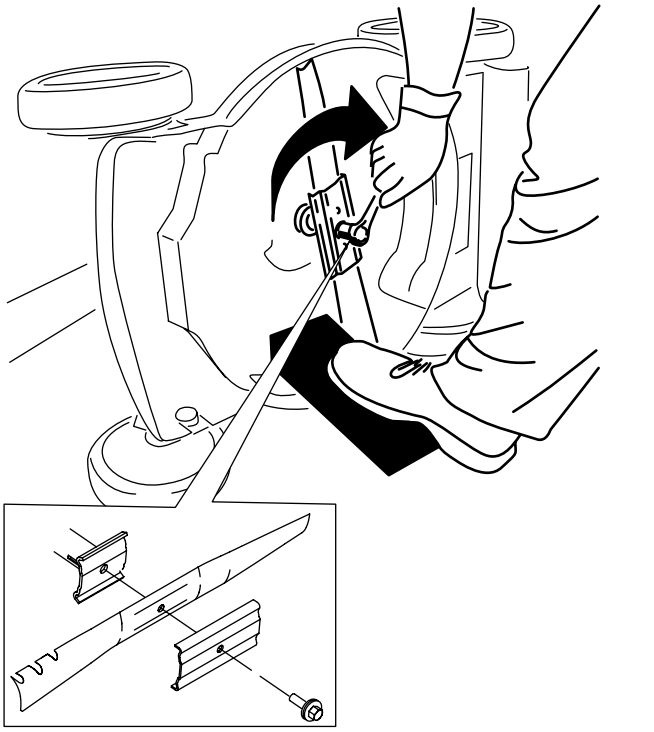


Figure 49

4. Remove the blade, saving all mounting hardware (Figure 49).
5. Install the new blade and all mounting hardware (Figure 50).



g231390

Figure 50

Important: **Position the curved ends of the blade to point toward the machine housing.**

6. **Use a torque wrench to tighten the blade bolt to 61 to 74 N·m (45 to 55 ft-lb).**

Storage

Store the machine in a cool, clean, dry place.

Preparing the Machine for Storage

1. On the last refueling of the year, add fuel stabilizer (such as Toro Premium Fuel Treatment) to the fuel as directed on the label.
2. Dispose of any unused fuel properly. Recycle it according to local codes or use it in your automobile.

   Note: Old fuel in the fuel tank is the leading cause of hard starting. Do not store fuel without fuel stabilizer more than 30 days, and do not store stabilized fuel more than 90 days.
3. Run the machine until the engine shuts off from running out of fuel.
4. Start the engine again and allow it to run until it shuts off. When you can no longer start the engine, it is sufficiently dry.
5. Disconnect the wire from the spark plug and connect the wire to the retaining post (if equipped).
6. Remove the spark plug, add 30 ml (1 fl oz) of engine oil through the spark-plug hole, and pull the starter rope slowly several times to distribute oil throughout the cylinder to prevent cylinder corrosion during the off-season.
7. Loosely install the spark plug.
8. Tighten all nuts, bolts, and screws.

Removing the Machine from Storage

1. Check and tighten all fasteners.
2. Remove the spark plug and spin the engine rapidly by pulling the recoil-start handle to blow the excess oil from the cylinder.
3. Install the spark plug and tighten it with a torque wrench to 20 N·m (15 ft-lb).
4. Perform any maintenance procedures; refer to Maintenance (page 17).
5. Check the engine-oil level; refer to Checking the Engine-Oil Level (page 9).
6. Fill the fuel tank with fresh fuel; refer to Filling the Fuel Tank (page 9).
7. Connect the wire to the spark plug.

Notes:

European Privacy Notice

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

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

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

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

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

Toro's Commitment to Security of Your Personal Information
We take reasonable precautions in order to protect the security of your personal information. We also take steps to maintain the accuracy and current status of personal information.

Access and Correction of your Personal Information
If you would like to review or correct your personal information, please contact us by email at legal@toro.com.

Australian Consumer Law

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