Form No. 3367-669 Rev A

53cm Recycler® Lawn Mower

Model No. 20998—Serial No. 311000001 and Up

Model No. 20999—Serial No. 311000001 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.

You may contact Toro directly at www.Toro.com for product and accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product.

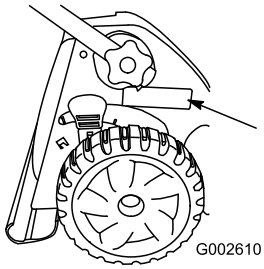


Figure 1

1. Model and serial number plate

Write the product model and serial numbers in the space below:

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.



Figure 2

1. Safety alert symbol

This manual uses two 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.

For models with stated engine horsepower, the gross horsepower of the engine was laboratory rated by the engine manufacturer in accordance with SAE J1940. As configured to meet safety, emission, and operating requirements, the actual engine horsepower on this class of lawn mower will be significantly lower.

Do not tamper with the engine controls or alter the governor speed; doing so may create an unsafe condition resulting in personal injury.

Safety

Improperly using or maintaining this mower can result in injury. To reduce the potential for injury, comply with these safety instructions.

Toro designed and tested this mower for reasonably safe service; however, failure to comply with the following instructions may result in personal injury.

To ensure maximum safety, best performance, and to gain knowledge of the product, it is essential that you and any other operator of the mower read and understand the contents of this manual before the engine is ever started. Pay particular attention to the safety alert symbol (Figure 2) which means Caution, Warning, or Danger—"personal safety

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CE

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instruction." Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

General Lawn Mower Safety

The following instructions have been adapted from EN 836.

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

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 mower. Local regulations can restrict the age of the operator.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- Understand explanations for all pictograms used on the mower or in the instructions.

Gasoline

WARNING-Gasoline is highly flammable. Take the following precautions.

- Store fuel in containers specifically designed for this purpose.
- Refuel outdoors only and do not smoke while refueling.
- Add fuel before starting the engine. Never remove the cap of the fuel tank or ad gasoline while the engine is running or when the engine is hot.
- If gasoline is spilled, do not attempt to start the engine but move the mower away from the area of spillage and avoid creating any source of ignition until gasoline vapors have dissipated.
- Replace all fuel tank and container caps securely.

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 stones, sticks, wires, bones and other foreign objects.
- Before using, always visually inspect to see that guards, and safety devices, such as deflectors and/or grass catchers, are in place and working correctly.
- 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.

Starting

- Do not tilt mower when starting the engine unless the mower 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.
- Start the engine carefully according to instructions and with feet well away from the blade(s) and not in front of the discharge chute.

Operation

- Never mow while people, especially children, or pets are nearby.
- Mow only in daylight or in good artificial light.
- Stay alert for holes in the terrain and other hidden hazards.
- 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 lawn mower while the engine is running.
- Use extreme caution when reversing or pulling a pedestrian controlled lawn mower towards you.
- Walk, never run.
- Slopes:
  - Do not mow excessively steep slopes.
  - Exercise extreme caution when on slopes.
  - Mow across the face of slopes, never up and down and exercise extreme caution when changing direction on slopes.
  - Always be sure of your footing on slopes.
- Use low throttle settings when engaging the traction-clutch, especially in high gears. Reduce speed on slopes and in sharp turns to prevent overturning or loss of control.
- Stop the blade if the lawn mower has to be tilted for transportation when crossing surfaces other than grass and when transporting the lawn mower to and from the area to be mowed.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Stop the engine
  - whenever you leave the lawn mower.

  - before refueling.
  - before removing the grass catcher.
  - before making height adjustment unless adjustment can be made from the operator's position.
- Stop the engine and disconnect the spark-plug wire.
  - before clearing blockages or unclogging chute.
  - before checking, cleaning or working on the lawn mower.
  - after striking a foreign object, inspect the lawn mower for damage and make repairs before restarting and operating the lawn mower.
  - if lawn mower starts to vibrate abnormally (check immediately).
- Lightning can cause severe injury or death. If you see lightning or hear thunder in the area, do not operate the machine; seek shelter.
- Watch out for traffic when crossing or near roadways.

Maintenance and Storage

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Do not use pressure cleaning equipment on machine.
- Never store the equipment with gasoline in the tank and inside a building where fumes can reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, silencer, battery compartment and gasoline storage area free of grass, leaves, or excessive grease.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Replace worn or damaged parts for safety.
- Replace faulty silencers.
- If the fuel tank has to be drained, do this out-doors.
- Do not change the engine governor settings or overspeed the engine. Operating an engine at excessive speed can increase the hazard of personal injury.
- On multibladed lawn mowers, take care as rotating one blade may cause others to rotate.
- Be careful during adjustment of the lawn mower to prevent entrapment of the fingers between moving blades and fixed parts of the lawn mower.
- **To ensure the best performance and safety, purchase only genuine Toro replacement parts and accessories. Do not use *will fit* parts and accessories; they may cause a safety hazard.**

Sound Pressure

This unit has a sound pressure level at the operator's ear of 89 dBA, which includes an Uncertainty Value (K) of 1 dBA. The sound pressure level was determined according to the procedures outlined in EN 836.

Sound Power

This unit has a guaranteed sound power level of 98 dBA, which includes an Uncertainty Value (K) of 1 dBA. The sound power level was determined according to the procedures outlined in ISO 11094.

Hand-Arm Vibration

Measured vibration level for the left hand = 6.6 m/s^2

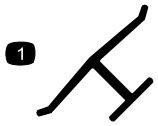
Measured vibration level for the right hand = 7.9 m/s^2

Uncertainty Value (K) = 3.1 m/s^2.

The measured values were determined according to the procedures outlined in EN 836.

Safety and Instructional Decals

Important: **Safety and instruction decals are located near areas of potential danger. Replace damaged decals.**



Manufacturer's Mark

1. Indicates the blade is identified as a part from the original machine manufacturer.



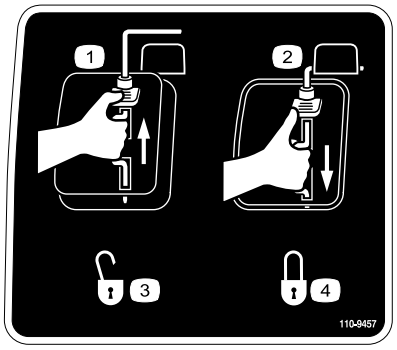
108-7450

1. Height of cut



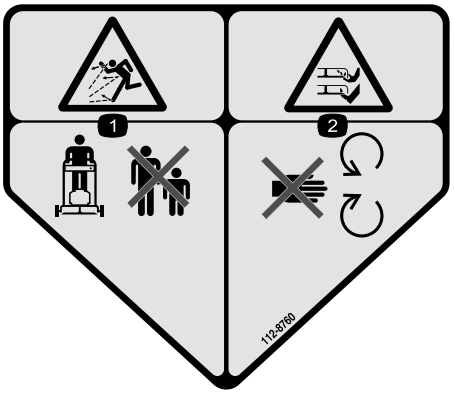
108-7451

1. Height of cut



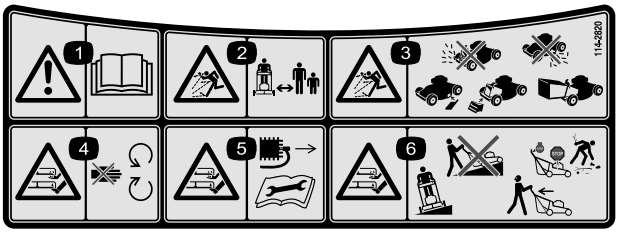
110-9457

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



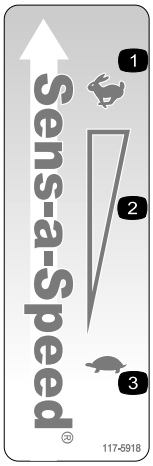
112-8760

1. Thrown object hazard—keep bystanders a safe distance from the machine.
2. Cutting/dismemberment of hand or foot—stay away from moving parts.



114-2820

1. Warning—read the *Operator's Manual*.
2. Thrown object hazard—keep bystanders a safe distance from the machine.
3. Thrown object hazard—do not operate the mower without the rear discharge plug or bag in place; do not operate the mower 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 up and down slopes; operate side to side on slopes; stop the engine before leaving the operating position; and look behind you when backing up.



117-5918

1. Fast
2. Continuous variable setting
3. Slow

Setup

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

1

Unfolding the Handle

No Parts Required

Procedure

1. Unfold the handle as illustrated in Figure 3 and Figure 4.

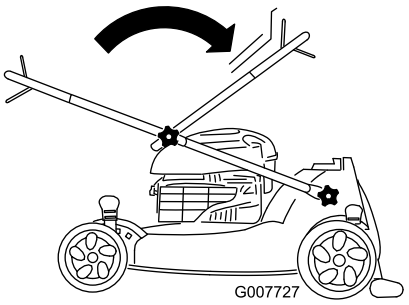


Figure 3
Model 20998 shown

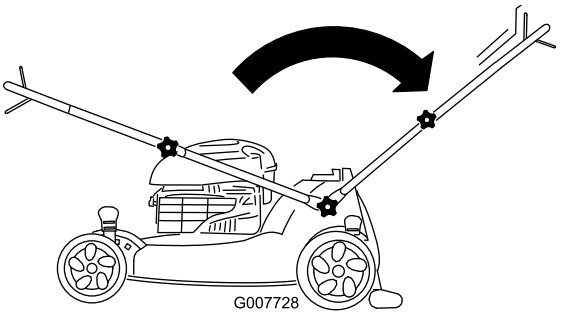


Figure 4
Model 20998 shown

2. Tighten all handle knobs.

3. Move the upper handle to the desired position and tighten the upper handle knob firmly (model 20999 only) (Figure 5).

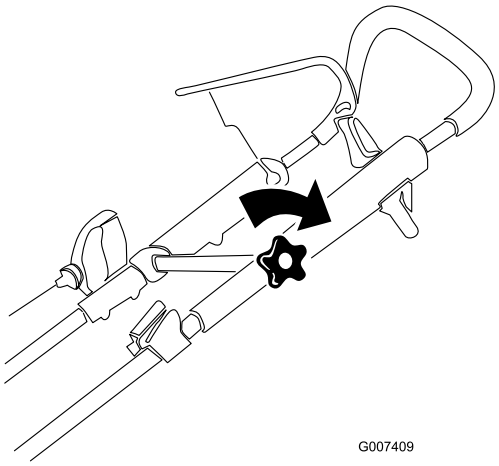


Figure 5

2

Filling the Engine with Oil

No Parts Required

Procedure

Important: Your mower does not come with oil in the engine.

1. Remove the dipstick (Figure 6).

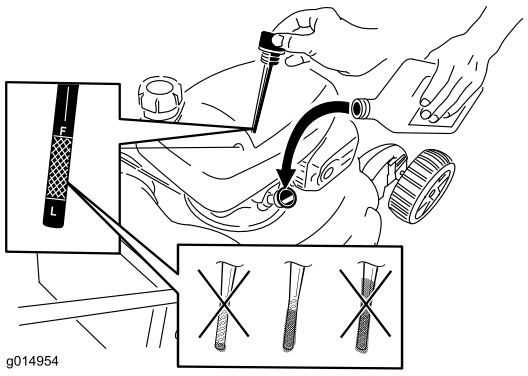


Figure 6

2. **Slowly** pour oil into the oil fill tube until the oil level reaches the **Full** line on the dipstick (Figure 6). **Do not overfill.** (Max. fill: 20 oz., type: SAE 30 detergent oil with an API service classification of SF, SG, SH, SJ, SL, or higher.)

   Note: If you overfill the engine, pour some oil out of it as directed in Changing the Engine Oil.

3. Install the dipstick securely.

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

3

Install the Recycle Plug or Grass Bag

No Parts Required

Procedure

You must correctly install the recycle plug (for recycling or side-discharging) or grass bag (for bagging) or **the engine will not start**.

The mower has a safety switch, located at the bottom of a channel on the top, right rear of the mower, that prevents the mower from operating without a recycle plug or grass bag. This prevents the mower from throwing debris at the operator through the rear chute.

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

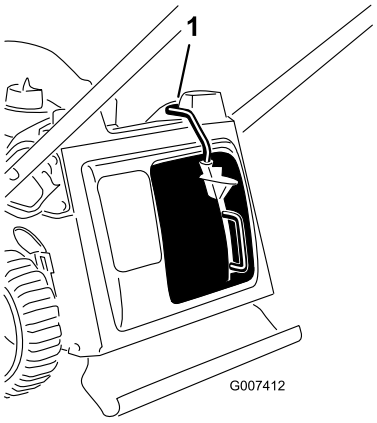


Figure 7

1. Top of recycle plug lever in switch channel

1. Insert the recycle plug into the mower, if it isn't already installed (Figure 8).

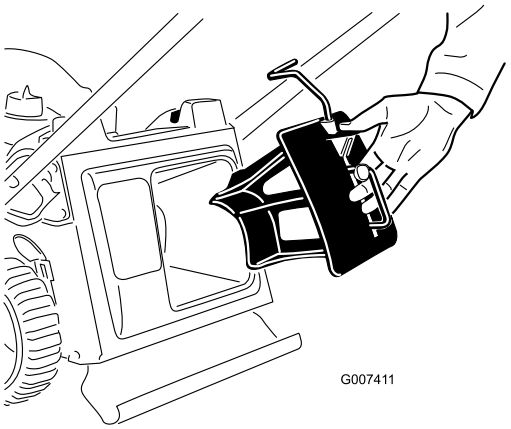


Figure 8

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

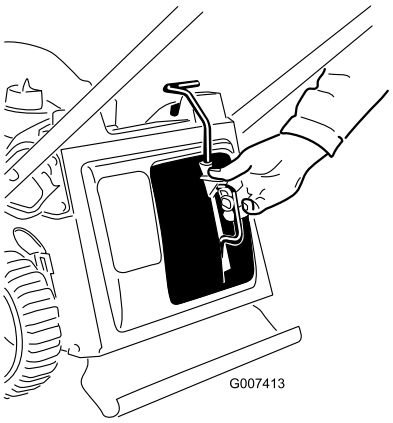


Figure 9

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

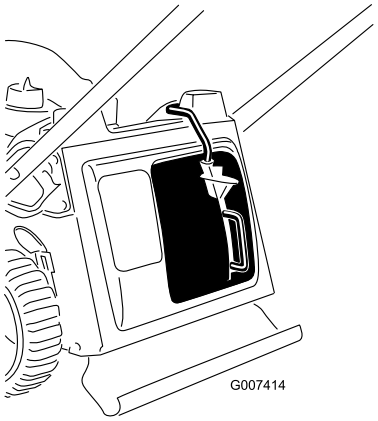


Figure 10

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.

Product Overview

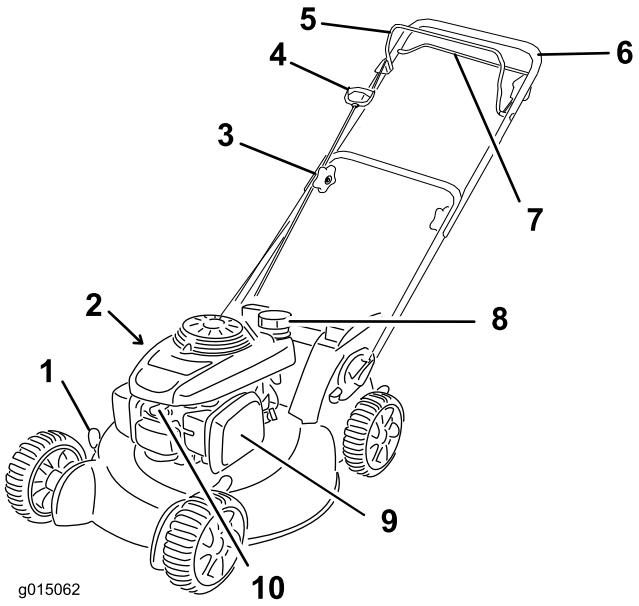


Figure 11

Model 20998

1. Cutting height lever (4)
2. Oil fill/Dipstick
3. Upper handle knob
4. Recoil start handle
5. Blade control bar
6. Upper handle
7. Self-propel drive bar
8. Fuel tank cap
9. Air filter
10. Spark plug

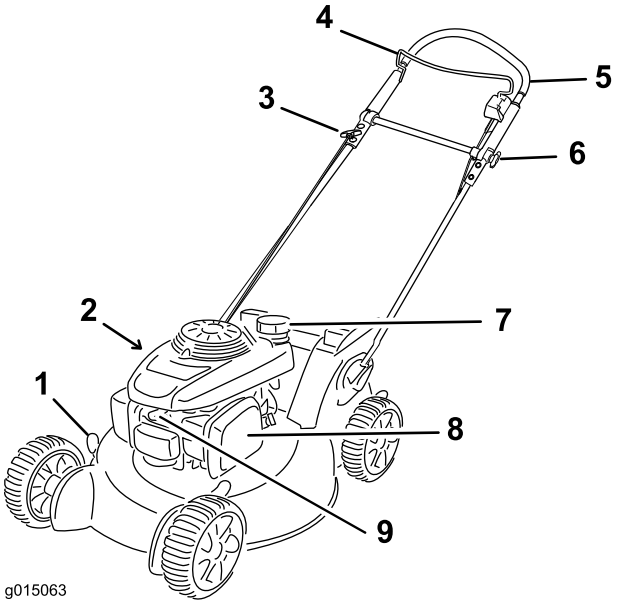


Figure 12

Model 20999

1. Cutting height lever (4)
2. Oil fill/Dipstick
3. Recoil start handle
4. Blade control bar
5. Upper handle
6. Upper handle knob
7. Fuel tank cap
8. Air filter
9. Spark plug

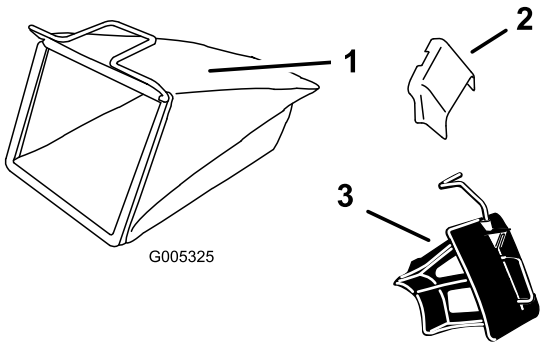


Figure 13

1. Grass bag
2. Side discharge chute
3. Recycle plug (installed)

Specifications

Model	Weight	Length	Width	Height
20998	76 lb (34 kg)	57 in (145 cm)	22 in (56 cm)	39 in (99 cm)
20999	84 lb (38 kg)	62 in (157 cm)	22 in (56 cm)	44 in (112 cm)

Operation

Filling the Fuel Tank

⚠ DANGER

Gasoline is extremely flammable and explosive. A fire or explosion from gasoline can burn you and others.

- **To prevent a static charge from igniting the gasoline, place the container and/or mower directly on the ground before filling, not in a vehicle or on an object.**
- **Fill the tank outdoors when the engine is cold. Wipe up spills.**
- **Do not handle gasoline when smoking or around an open flame or sparks.**
- **Store gasoline in an approved fuel container, out of the reach of children.**

Fill the fuel tank with fresh unleaded regular gasoline from a major name-brand service station (Figure 14).

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

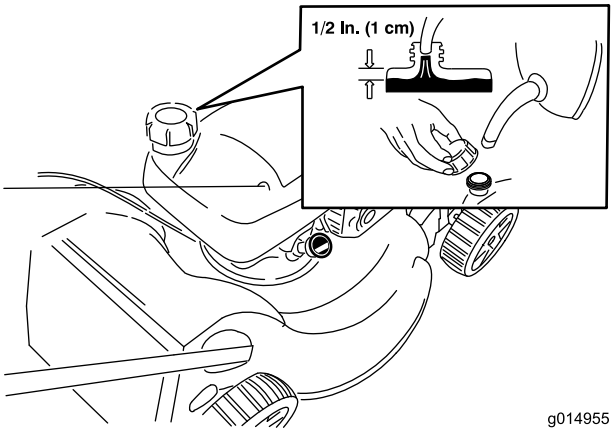


Figure 14

1. 1/2 inch (1 cm)

Checking the Engine Oil Level

Service Interval: Before each use or daily

1. Remove the dipstick, wipe it clean, and fully install the dipstick (Figure 15).

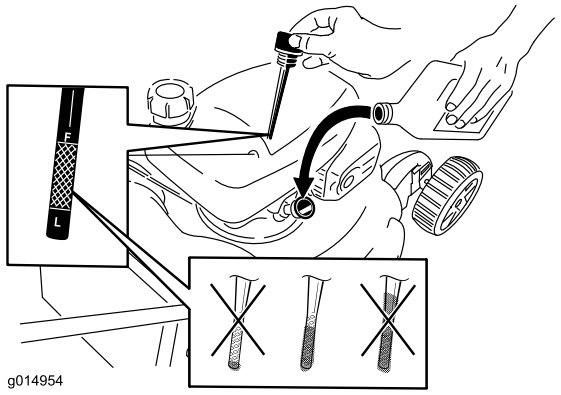


Figure 15

2. Remove the dipstick and check the oil level (Figure 15). If the oil level is below the **Add** mark on the dipstick, slowly pour oil into the oil fill tube to raise the oil level to the **Full** mark on the dipstick. **Do not overfill.** (Max. fill: 20 oz., type: SAE 30 detergent oil with an API service classification of SF, SG, SH, SJ, SL, or higher.)
3. Install the dipstick securely.

Adjusting the Cutting Height

⚠ WARNING

Adjusting the cutting height may bring you into contact with the moving blade, causing serious injury.

- **Stop the engine and wait for all moving parts to stop.**
- **Do not put your fingers under the housing when adjusting the cutting height.**

⚠ CAUTION

If the engine has been running, the muffler will be hot and can severely burn you. Keep away from the hot muffler.

Adjust the cutting height as desired. Set all four wheels to the same height.

Note: To raise the mower, move all 4 cutting height levers forward; to lower the mower, move them all rearward (Figure 16).

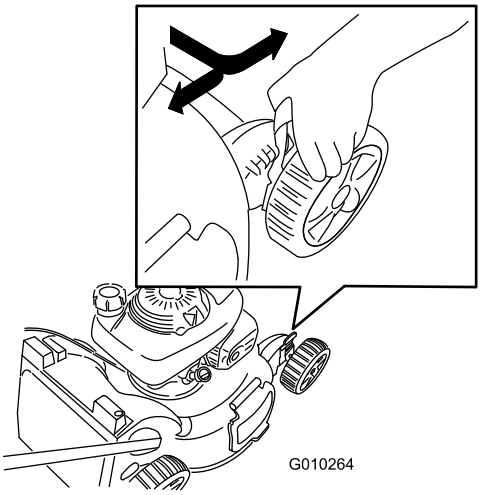


Figure 16

Note: The cutting height settings are 1 inch (25 mm); 1-1/2 inches (38 mm); 2 inches (51 mm); 2-1/2 inches (64 mm); 3 inches (76 mm); 3-1/2 inches (89 mm); 4 inches (102 mm); and 4-1/2 inches (114 mm).

Adjusting the Upper Handle Height

Model 20999 only

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).

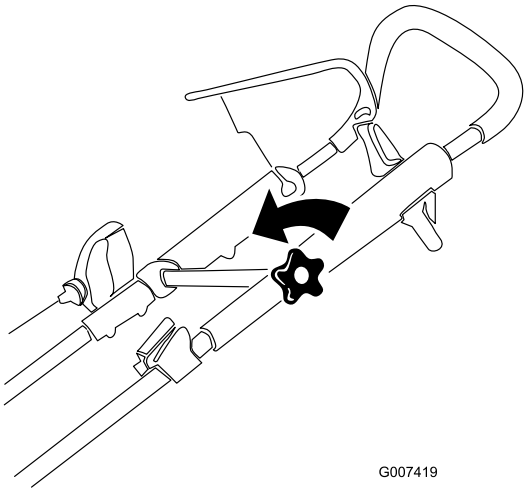


Figure 17

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

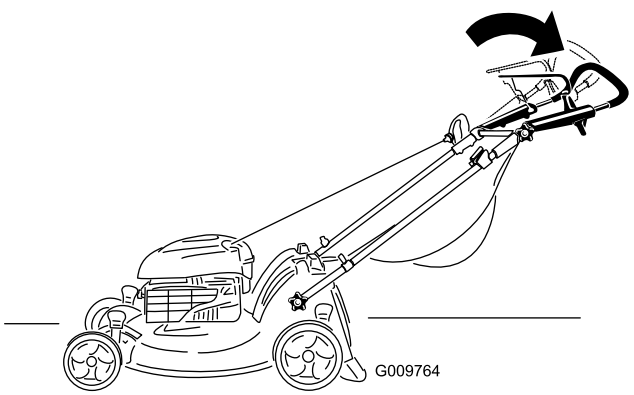


Figure 18

3. Tighten the upper handle knob firmly (Figure 19).

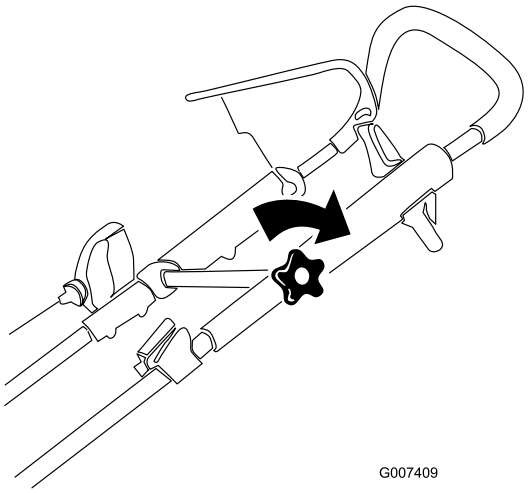


Figure 19

Starting the Engine

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

1. Install the recycle plug (Figure 20) or the grass bag (Figure 21) on the mower.

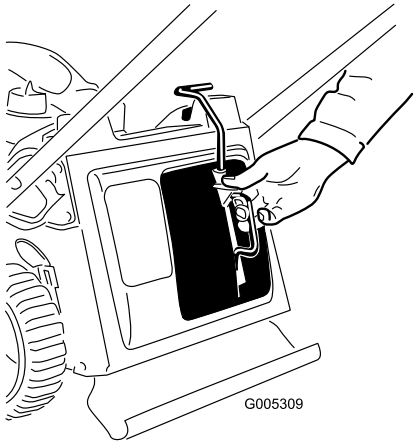


Figure 20

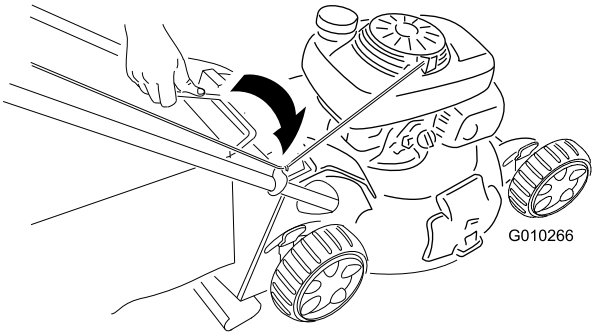


Figure 21

2. Hold the blade control bar against the handle and pull the recoil starter (Figure 22 or Figure 23).

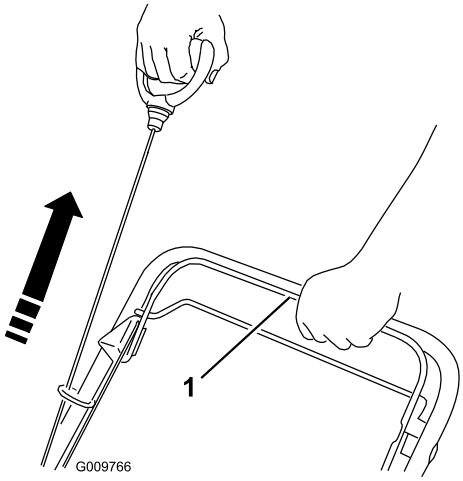


Figure 22
Model 20998 only

1. Blade control bar

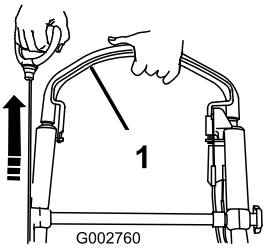


Figure 23
Model 20999 only

1. Blade control bar

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

Using the Self-propel Drive

Model 20998 only

To operate the self-propel drive, squeeze the self-propel drive bar (Figure 24) toward the handle and hold it.

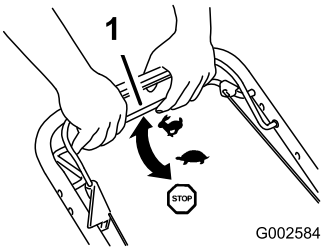


Figure 24

1. Self-propel drive bar

To disengage the self-propel drive, release the self-propel drive bar.

Note: The maximum self-propel ground speed is fixed. To reduce the ground speed, increase the space between the self-propel drive bar and the handle.

Using the Self-propel Drive

Model 20999 only

To operate the self-propel drive, simply walk with your hands on the upper handle and your elbows at your sides, and the mower will automatically keep pace with you (Figure 25 and Figure 26).

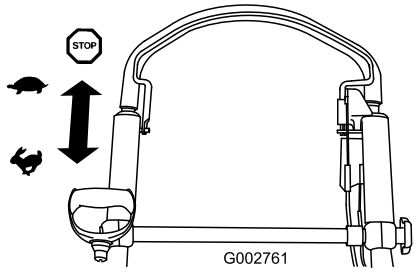


Figure 25



Figure 26

Note: If the mower does not freely roll backward after self-propelling, stop walking, hold your hands in place, and allow the mower to roll a couple of inches (centimeters) forward to disengage the wheel drive. You can also try reaching just under the personal pace handle to the metal handle and push the mower forward a couple of inches (centimeters). If the mower still does not roll backward easily, contact an Authorized Service Dealer.

Stopping the Engine

Service Interval: Before each use or daily—Ensure that the engine stops within 3 seconds after releasing the blade control bar.

To stop the engine, release the blade control bar (Figure 27).

Important: When you release the blade control bar, both the engine and blade should stop within 3 seconds. If they do not stop properly, stop using your mower immediately and contact an Authorized Service Dealer.

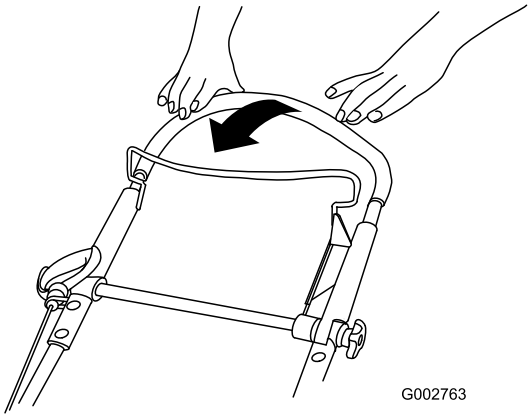


Figure 27
Model 20999 shown

Recycling the Clippings

Your mower comes from the factory ready to recycle the grass and leaf clippings back into the lawn.

If the grass bag is on the mower, remove it (refer to Removing the Grass Bag) before recycling the clippings. If the side discharge chute is on the mower, remove it and lock the side discharge door (refer to Removing the Side Discharge Chute) before recycling the clippings.

Important: The mower has a safety switch that prevents you from starting the mower unless you first install the recycle plug securely on the mower (Figure 28).

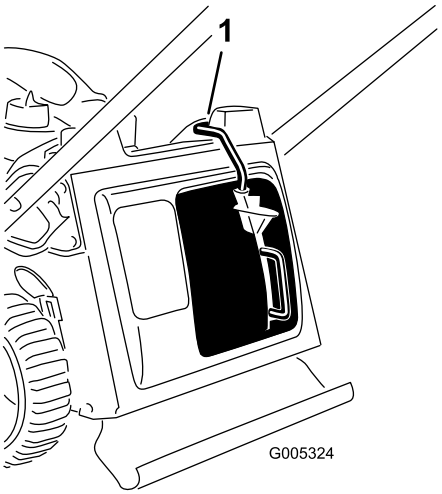


Figure 28

1. Top of recycle plug lever in switch channel

Bagging the Clippings

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

If the side discharge chute is on the mower, remove it and lock the side discharge door (refer to Removing the Side Discharge Chute) before bagging the clippings.

⚠ WARNING

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

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

Installing the Grass Bag

1. Remove the recycle plug (Figure 29).

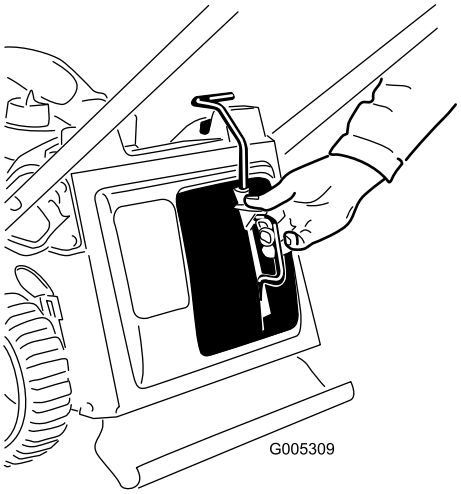


Figure 29

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

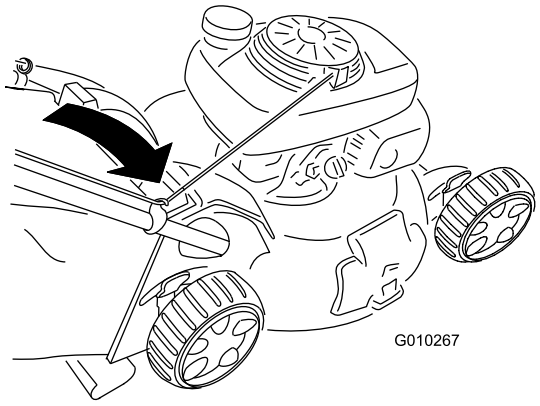


Figure 30

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 mower (Figure 31).

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

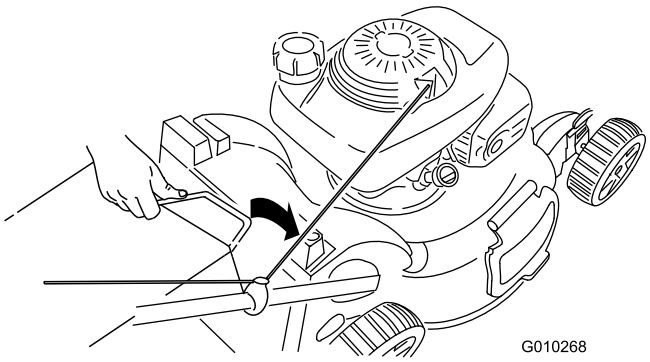


Figure 31

Removing the Grass Bag

1. Route the starter rope around the lower rope guide (Figure 32).

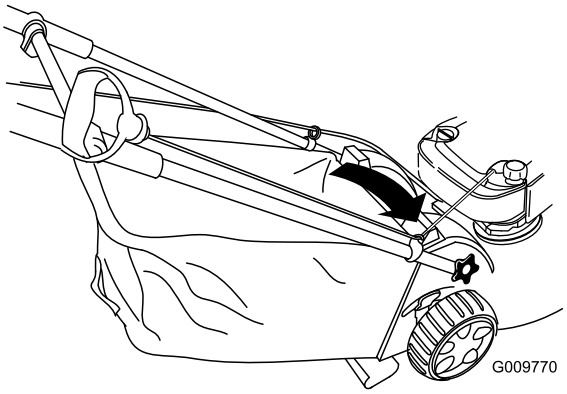


Figure 32

2. Lift the grass bag handle out from the grooves at the top of the mower and remove the bag from the mower (Figure 33).

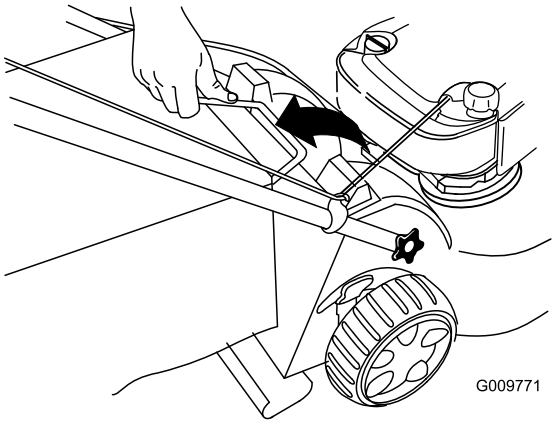


Figure 33

3. Insert the recycle plug (Figure 34.

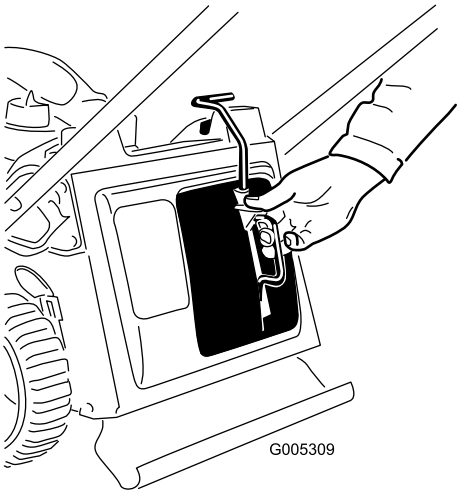


Figure 34

Side-discharging the Clippings

Use the side discharge for cutting very tall grass.

If the bag is on the mower, remove it and insert the recycle plug (refer to Removing the Grass Bag) before side-discharging the clippings.

Important: The mower has a safety switch that prevents you from starting the mower unless you first install the recycle plug securely on the mower (refer to Recycling the Clippings).

Installing the Side Discharge Chute

1. Unlock the side discharge door (Figure 35).

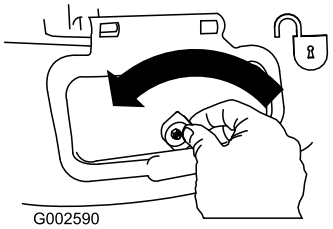


Figure 35

2. Lift open the side discharge door (Figure 36).

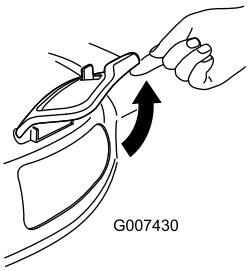


Figure 36

3. Install the side discharge chute and close the door onto the chute (Figure 37).

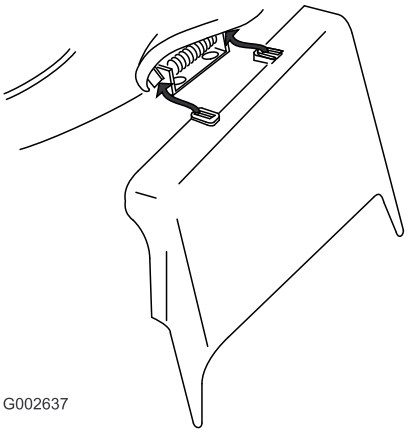


Figure 37

Removing the Side Discharge Chute

To remove the side discharge chute, reverse the steps above.

Important: Lock the side discharge door after you close it (Figure 38).

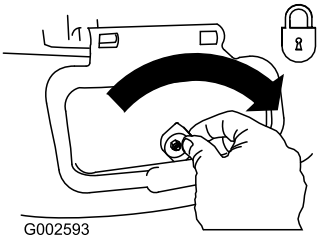


Figure 38

Operating Tips

General Mowing Tips

- Clear the area of sticks, stones, wire, branches, and other debris that the blade could hit.
- Avoid striking solid objects with the blade. Never deliberately mow over any object.

- If the mower strikes an object or starts to vibrate, immediately stop the engine, disconnect the wire from the spark plug, and examine the mower for damage.
- 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 the 2 inch (51 mm) setting unless the grass is sparse or it is late fall when grass growth begins to slow down. Refer to Adjusting the Cutting Height.
- When cutting grass over 6 inches (15 cm) 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 mower may plug and cause the engine to stall.
- Mow only dry grass or leaves. Wet grass and leaves tend to clump on the yard and can cause the mower to plug or the engine to stall.

⚠ WARNING

Wet grass or leaves can cause serious injury if you slip and contact the blade. Mow only in dry conditions.

- Alternate the mowing direction. This helps disperse the clippings over the lawn for even fertilization.
- If the finished lawn appearance is unsatisfactory, try one 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 mower.
  - Cut the grass more frequently.
  - Overlap cutting swaths instead of cutting a full swath with each pass.
  - Set the cutting height on the front wheels one notch lower than the rear wheels. For example, set the front wheels at 2 inches (51 mm) and the rear wheels at 2-1/2 inches (64 mm).

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 one pass over the leaves.
- If there are more than 5 inches (13 cm) of leaves on the lawn, set the front cutting height one or two notches higher than the rear cutting height.
- Slow down your mowing speed if the mower does not cut the leaves finely enough.

Maintenance

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

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	• Change the engine oil.
Before each use or daily	• Check the engine oil level. • Ensure that the engine stops within 3 seconds after releasing the blade control bar. • Clean grass clippings and dirt from under the mower.
Every 25 hours	• Replace the air filter; replace it more frequently in dusty operating conditions.
Before storage	• Empty the fuel tank before repairs as directed and before annual storage.
Yearly	• Change the engine oil. • Lubricate the wheel gears. • Lubricate the upper handle. • Replace the blade or have it sharpened (more frequently if the edge dulls quickly). • Refer to your Engine Operator's Manual for any additional yearly maintenance procedures.

Important: Refer to your *Engine Operator's Manual* for additional maintenance procedures.

Preparing for Maintenance

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the spark plug wire from the spark plug (Figure 39) before performing any maintenance procedure.

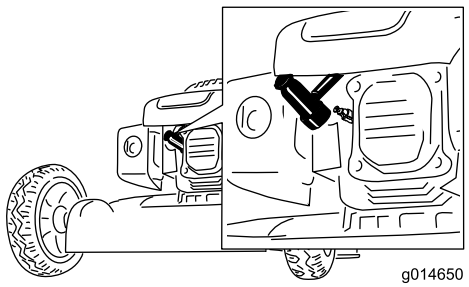


Figure 39

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

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

⚠ WARNING

Tipping the mower may cause the fuel to leak. Gasoline is flammable, explosive and can cause personal injury.

Run the engine dry or remove the gasoline with a hand pump; never siphon.

Replacing the Air Filter

Service Interval: Every 25 hours

Replace the air filter yearly; replace it more frequently in dusty operating conditions. Refer to Preparing for Maintenance.

1. Use a screw driver to open the air filter cover (Figure 40).

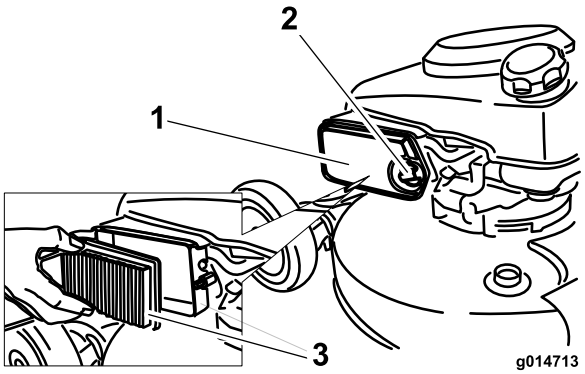


Figure 40

2. Replace the air filter (Figure 40).
3. Install the cover.

Changing the Engine Oil

Service Interval: After the first 5 hours

Yearly

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

1. Perform the pre-maintenance procedures; refer to Preparing for Maintenance.
2. Remove the dipstick (Figure 41).

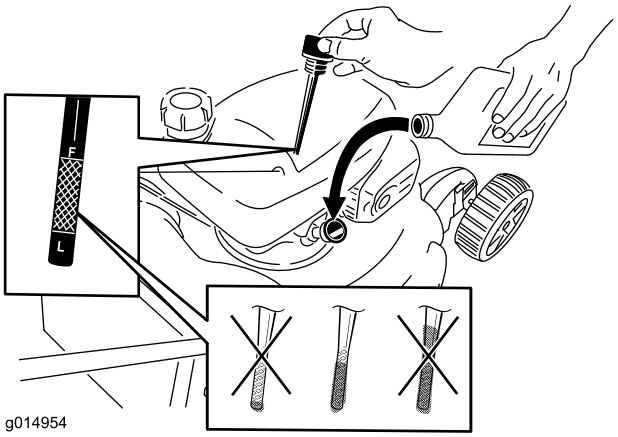


Figure 41

3. Tip the mower onto its side, with the air filter up, to drain the used oil out through the oil fill tube (Figure 42).

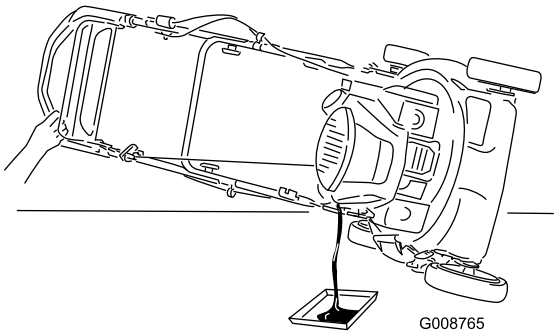


Figure 42

4. **Slowly** pour oil into the oil fill tube until the oil level reaches the **Full** line on the dipstick (Figure 41). **Do not overfill.** (Max. fill: 20 oz., type: SAE 30 detergent oil with an API service classification of SF, SG, SH, SJ, SL, or higher.)
5. Install the dipstick securely.
6. Dispose of the used oil properly at a local recycling center.

Lubricating the Wheel Gears

Service Interval: Yearly

1. Remove the wheel bolt in the center of each **rear** wheel and remove the rear wheels.
2. Apply a lubricating oil to the inner and outer sides of the gear as shown in Figure 43.

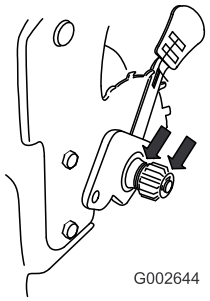


Figure 43

3. Install the rear wheels.

Lubricating the Upper Handle

Service Interval: Yearly

Model 20999 only

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

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

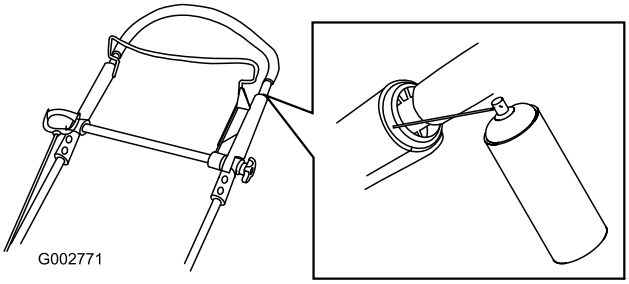


Figure 44

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).

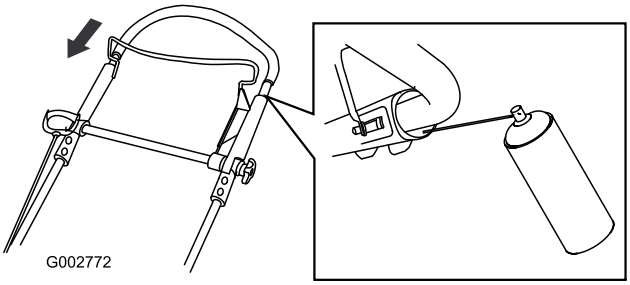


Figure 45

Adjusting the Self-propel Drive Cable

Model 20998 only

Whenever you install a new self-propel cable or if the self-propel drive is out of adjustment, adjust the self-propel drive cable.

1. Loosen the cable support nut (Figure 46).

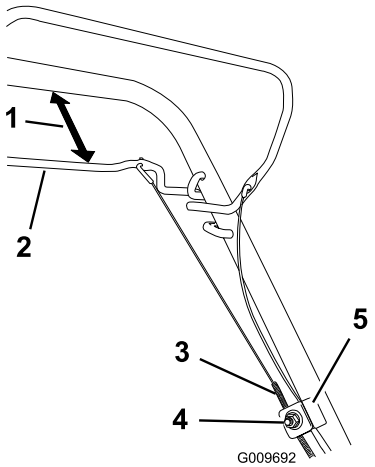


Figure 46

1. 1 to 1-1/2 inches (25 to 38 mm)
2. Self-propel drive bar
3. Cable jacket
4. Cable support nut
5. Cable support

2. Hold the self-propel bail 1 to 1-1/2 inches (25 to 38 mm) from the handle (Figure 46).
3. Pull down the cable jacket (toward the mower) until there is no slack in the cable (Figure 46).
4. Tighten the nut on the cable support.
5. Release the self-propel drive bar and ensure that the cable is loose.

   Note: The cable must be loose with the self-propel drive bar in the released position; otherwise, the mower may creep when the bar is disengaged.

Adjusting the Self-propel Drive

Model 20999 only

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

1. Loosen the nut on the cable mount (Figure 47).

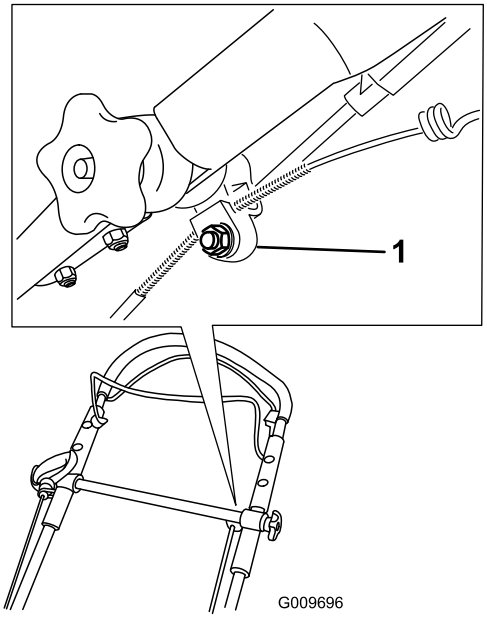


Figure 47

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.
3. Pull the cable jacket downward until you remove the slack in the exposed cable (Figure 48).

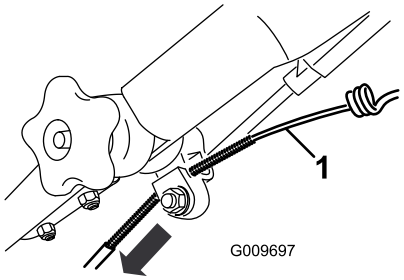


Figure 48

1. Exposed cable

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

   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 49).

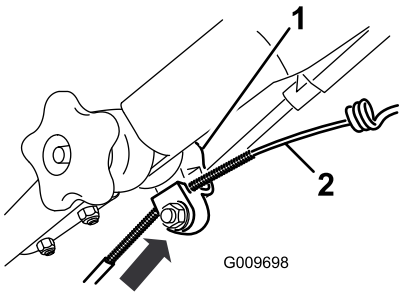


Figure 49

1. Cable mount
2. Cable jacket

Note: 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 mower 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 gasoline. If the blade is damaged or cracked, replace it immediately. If the blade edge is dull or nicked, have it sharpened or replace it.

⚠ WARNING

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

Wear gloves when servicing the blade.

1. Disconnect the spark plug wire from the spark plug. Refer to Preparing for Maintenance.
2. Tip the mower onto its side, with the air filter up.
3. Use a block of wood to hold the blade steady (Figure 50).

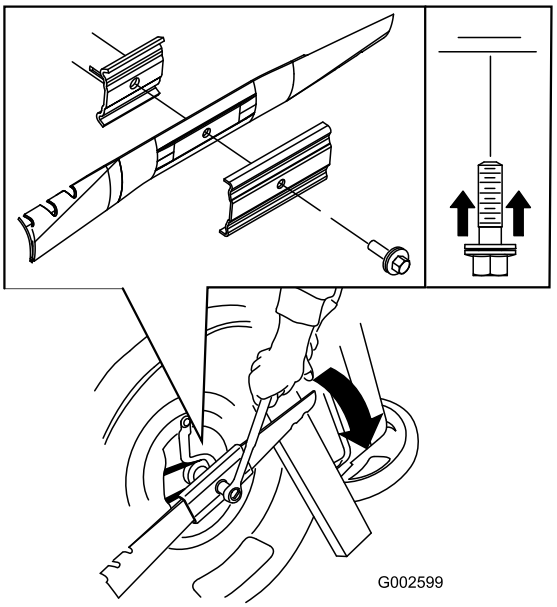


Figure 50

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

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

6. **Use a torque wrench to tighten the blade bolt to 60 ft-lb (82 N·m).**

Important: A bolt torqued to 60 ft-lb (82 N·m) is very tight. While holding the blade with a block of wood, put your weight behind the ratchet or wrench and tighten the bolt securely. This bolt is very difficult to overtighten.

Cleaning the Mower

Service Interval: Before each use or daily

⚠ WARNING

The mower may dislodge material from under the mower housing.

- **Wear eye protection.**
- **Stay in the operating position (behind the handle).**
- **Do not allow bystanders in the area.**

1. With the engine running on a flat paved surface, spray a stream of water in front of the **right** rear wheel (Figure 51).

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

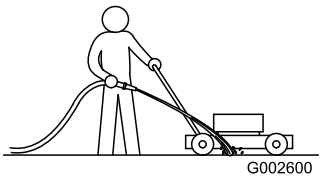


Figure 51

2. When no more clippings come out, stop the water and move the mower to a dry area.
3. Run the engine for a few minutes to dry the housing to prevent it from rusting.

Storage

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

Preparing the Mower for Storage

⚠ WARNING

Gasoline vapors can explode.

- **Do not store gasoline more than 30 days.**
- **Do not store the mower in an enclosure near an open flame.**
- **Allow the engine to cool before storing it.**

1. On the last refueling of the year, add fuel stabilizer to the fuel as directed by the engine manufacturer.
2. Run the mower until the engine stops from running out of fuel.
3. Prime the engine and start it again.
4. Allow the engine to run until it stops. When you can no longer start the engine, it is sufficiently dry.
5. Disconnect the wire from the spark plug and connect the wire onto the retaining post.
6. Remove the spark plug, add 1 oz. (30 ml) of 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.
9. Charge the battery for 24 hours, then unplug the battery charger and store the mower in an unheated area. If you must store the mower in a heated area, you must charge the battery every 90 days.

Folding the Handle

⚠ WARNING

Folding or unfolding the handle improperly can damage the cables, causing an unsafe operating condition.

- **Do not damage the cables when folding or unfolding the handle.**
- **If a cable is damaged, contact an Authorized Service Dealer.**

1. Loosen the handle knobs until you can move the upper handle freely (Figure 52).

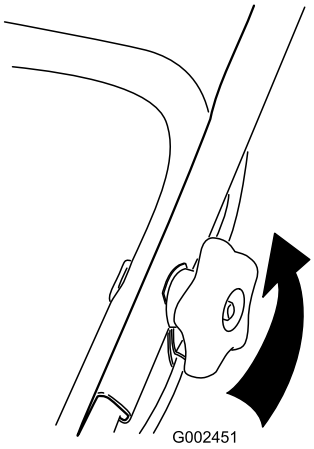


Figure 52

2. Fold the upper handle forward as shown in Figure 53.

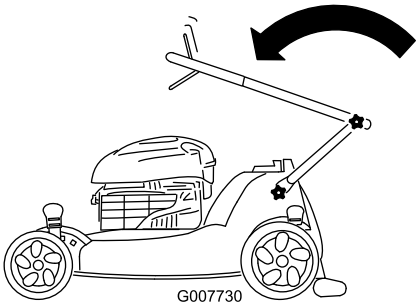


Figure 53
Model 20998 shown

3. To unfold the handle, reverse the steps above.

Removing the Mower from Storage

1. Remove the spark plug and spin the engine rapidly using the starter to blow the excess oil from the cylinder.
2. Install the spark plug and tighten it with a torque wrench to 15 ft-lb (20 N-m).
3. Connect the wire to the spark plug.

Notes:

International Distributor List

Distributor:	Country:	Phone Number:
Atlantis Su ve Sulama Sisstemleri Lt	Turkey	90 216 344 86 74
Balama Prima Engineering Equip.	Hong Kong	852 2155 2163
B-Ray Corporation	Korea	82 32 551 2076
Casco Sales Company	Puerto Rico	787 788 8383
Ceres S.A.	Costa Rica	506 239 1138
CSSC Turf Equipment (pvt) Ltd.	Sri Lanka	94 11 2746100
Cyril Johnston & Co.	Northern Ireland	44 2890 813 121
Equiver	Mexico	52 55 539 95444
Femco S.A.	Guatemala	502 442 3277
G.Y.K. Company Ltd.	Japan	81 726 325 861
Geomechaniki of Athens	Greece	30 10 935 0054
Guandong Golden Star	China	86 20 876 51338
Hako Ground and Garden	Sweden	46 35 10 0000
Hako Ground and Garden	Norway	47 22 90 7760
Hayter Limited (U.K.)	United Kingdom	44 1279 723 444
Hydroturf Int. Co Dubai	United Arab Emirates	97 14 347 9479
Hydroturf Egypt LLC	Egypt	202 519 4308
Ibea S.P.A.	Italy	39 0331 853611
Irriamc	Portugal	351 21 238 8260
Irrigation Products Int'l Pvt Ltd.	India	86 22 83960789
Jean Heybroek b.v.	Netherlands	31 30 639 4611
Lely (U.K.) Limited	United Kingdom	44 1480 226 800
Maquiver S.A.	Colombia	57 1 236 4079
Maruyama Mfg. Co. Inc.	Japan	81 3 3252 2285
Metra Kft	Hungary	36 1 326 3880
Mountfield a.s.	Czech Republic	420 255 704 220
Munditol S.A.	Argentina	54 11 4 821 9999
Oslinger Turf Equipment SA	Ecuador	593 4 239 6970
Oy Hako Ground and Garden Ab	Finland	358 987 00733
Parkland Products Ltd.	New Zealand	64 3 34 93760
Prochaska & Cie	Austria	43 1 278 5100
RT Cohen 2004 Ltd.	Israel	972 986 17979
Riversa	Spain	34 9 52 83 7500
Roth Motorgerate GmBh & Co.	Germany	49 7144 2050
Sc Svend Carlsen A/S	Denmark	45 66 109 200
Solvert S.A.S.	France	33 1 30 81 77 00
Spypros Stavrinides Limited	Cyprus	357 22 434131
Surge Systems India Limited	India	91 1 292299901
T-Markt Logistics Ltd.	Hungary	36 26 525 500
Toro Australia	Australia	61 3 9580 7355
Toro Europe BVBA	Belgium	32 14 562 960

The Toro Warranty

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly promise to the original purchaser* to repair the Toro Products listed below if defective in materials or workmanship.

The following time periods apply from the date of purchase:

Products	Warranty Period
Walk Power Mowers	2 year limited warranty
• Steel Deck	90 Days Commercial Use
	2 years Residential Use[2]
• Engine	2 years GTS Promise
	See engine manufacturer's warranty[1]
• Power Train	3 years
Electric Hand Held Products	2 year limited warranty
Snowthrowers	2 year limited warranty
• Single Stage	45 Days Commercial Use
	2 years Residential Use[2]
• Two Stage	45 Days Commercial Use
	2 years Residential Use[2]
• Electric	2 years Residential Use[2]
All Units Below	
• Engine	See engine manufacturer's warranty[1]
• Battery	90 days Parts and Labor
	1 year Parts only
• Attachments	1 year
Rear Engine Riders	90 Days Commercial Use
	2 years Residential Use[2]
Lawn & Garden Tractors	90 Days Commercial Use
	2 years Residential Use[2]
TimeCutter Z Mowers	30 Days Commercial Use
	3 years Residential Use[2]
TITAN Mowers	3 years or 240 hours[3]
• Frame	Lifetime (original owner only)[4]
TITAN MX Mowers	3 years or 400 hours[3]
• Frame	Lifetime (original owner only)[4]

*Original Purchaser means the person who originally purchased the Toro Product.

[1]Some engines used on Toro Products are warranted by the engine manufacturer.

[2]Residential use means use of the product on the same lot as your home. Use at more than one location is considered commercial use and the commercial use warranty would apply.

[3]Whichever occurs first.

[4]Lifetime Frame Warranty - If the main frame, consisting of the parts welded together to form the tractor structure that other components such as the engine are secured to, cracks or breaks in normal use, it will be repaired or replaced, at Toro's option, under warranty at no cost for parts and labor. Frame failure due to misuse or abuse and failure or repair required due to rust or corrosion are not covered.

This warranty includes the cost of parts and labor, but you must pay transportation costs.

Warranty may be denied if the hour meter is disconnected, altered, or shows signs of being tampered with.

Owner Responsibilities

You must maintain your Toro Product by following the maintenance procedures described in the *Operator's Manual*. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

Instructions for Obtaining Warranty Service

If you think that your Toro Product contains a defect in materials or workmanship, follow this procedure:

1. Contact your seller to arrange service of the product. If for any reason it is impossible for you to contact your seller, you may contact any Toro Authorized Distributor to arrange service.
2. Bring the product and your proof of purchase (sales receipt) to the Service Dealer. If for any reason you are dissatisfied with the Service Dealer's analysis or with the assistance provided, contact us at:

   Customer Care Department, RLC Division
   The Toro Company
   8111 Lyndale Avenue South
   Bloomington, MN 55420-1196
   Manager: Technical Product Support: 001–952–887–8248

   See attached Distributor List

Items and Conditions Not Covered

This express warranty does not cover the following:

- Cost of regular maintenance service or wear parts, such as blades, rotor blades (paddles), scraper blades, belts, fuel, lubricants, oil changes, spark plugs, cable/linkage or brake adjustments
- Any product or part which has been altered or misused and requires replacement or repair due to accidents or lack of proper maintenance
- Repairs necessary due to failure to use fresh fuel (less than one month old), or failure to properly prepare the unit prior to any period of non-use over one month
- Engine and transmission. These are covered by the appropriate manufacturer's guarantees with separate terms and conditions

All repairs covered by these warranties must be performed by an Authorized Toro Service Dealer using Toro approved replacement parts.

General Conditions

The purchaser is covered by the national laws of each country. The rights to which the purchaser is entitled with the support of these laws are not restricted by this warranty.