

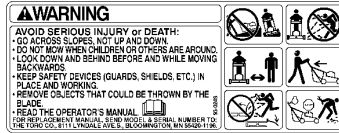
# Safety and Instruction Decals



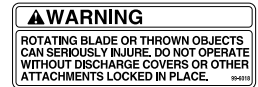
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



**ON MOWER HOUSING**  
(Part No. 43-8480)



**ON MOWER HOUSING**  
(Part No. 93-0248)



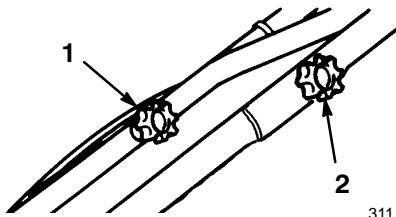
**ON MOWER HOUSING**  
(Part No. 99-6018)

# Assembly

## Assembling the Mower

### Hand Push Model Only

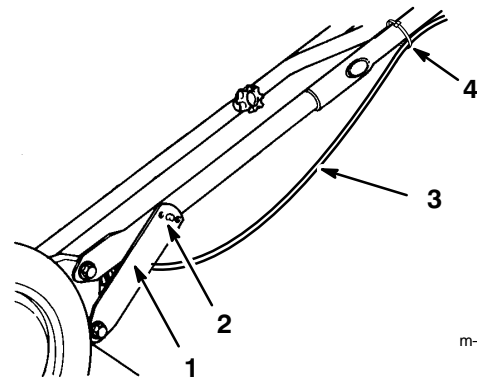
1. Align the upper and lower handles and remove the packing filler from between the handles with a pliers.
2. Remove the left knob and bolt then install the knob and bolt on inside of the handle (Fig. 1).



**Figure 1**

1. Right handle knob
2. Left handle knob (before moving it to the inside)

3. Tighten both handle knobs.
4. Move the handle support brackets slightly outward so they will not be in the way when pivoting the handle backward into the operating position (Fig. 2).



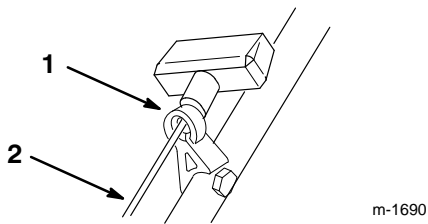
**Figure 2**

1. Support bracket
2. Handle stud
3. Control cable
4. Cable tie

5. Pivot the handle backward.
6. Move the support brackets inward while positioning the handle studs into center hole of the brackets (Fig. 2).

**Note:** If handle height is not satisfactory, adjust it by placing handle stud into a different hole.

7. If a support bracket does not fit tightly against the handle, remove the bracket from the handle stud, bend it inward, and attach it to handle stud.
8. Secure the cable to the upper handle with a cable tie (Fig. 2).
9. Pull the starter rope through the rope guide on the handle (Fig. 3).



**Figure 3**

1. Rope guide                      2. Starter rope

**Note:** To make the rope easier to loop, squeeze the control bail on the handle to release the blade brake.

## Assembling the Mower

### Self Propelled Models Only

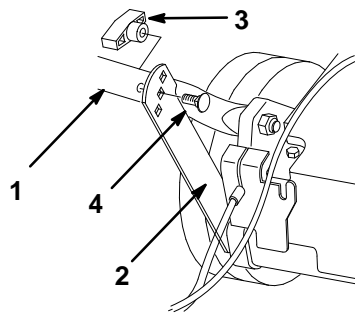
### Unpacking the Mower

**IMPORTANT:** Be extremely careful when unpacking and handling the mower and upper handle so that you do not pull, crimp, or in any way damage the cables.

1. Open the box from the top.
2. Remove the fillers from the box, allowing the upper handle to rest on the top of the mower.
3. Remove the mower from the box.
4. Lay the upper handle on the ground behind the mower with the handle label facing up and the control cables routed between the handle mounting brackets.

### Assembling the Handle

1. Remove the four handle bolts and knobs that are installed in the lower handle (two bolts will have flat caps and two will be contoured to fit the handle).
2. Swing the lower handle back and the support brackets up, aligning the brackets with the holes in the handle (Fig. 4).
3. Secure the handle to the support brackets with the two flat handle bolts and two knobs, using the height adjustment holes on the brackets that best suit your height requirements (Fig. 4).



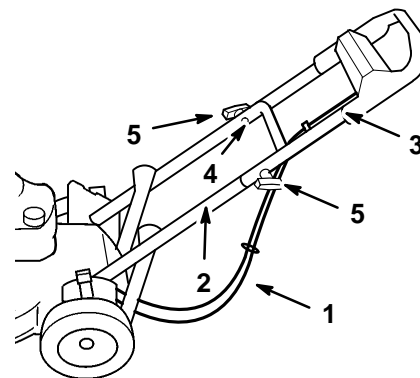
**Figure 4**

1. Lower handle                      3. Knob  
2. Support bracket                  4. Flat handle bolt

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

**Note:** If handle height is not satisfactory, adjust it by installing the handle bolt and knob through a different set of holes.

4. Slide the upper handle section ends over the lower handle so that the sections nest together (Fig. 5)
5. Ensure that the cables are routed below/behind the lower handle as illustrated in Figure 5.
6. Secure the upper handle to the lower handle using two contoured handle bolts and two knobs (Fig. 5).





**Figure 5**

1. Cables                              4. Contoured handle bolt  
2. Lower handle                      (only one shown)  
3. Upper handle                      5. Knobs

## Installing the Discharge Tunnel

### Model 20043 Only

Before operating the mower, you must install the discharge tunnel; refer to Installing the Discharge Tunnel, page 19. Note that no discharge plate has been shipped with model 20043; and therefore you do not need to remove it when installing the discharge tunnel.

 **DANGER** 

**POTENTIAL HAZARD**

- If the mower is operated without the discharge tunnel or discharge plate fastened in place, blade contact could occur or objects could be thrown.

**WHAT CAN HAPPEN**

- The moving blade can cut off hands and feet, and thrown objects can cause serious personal injury or death.

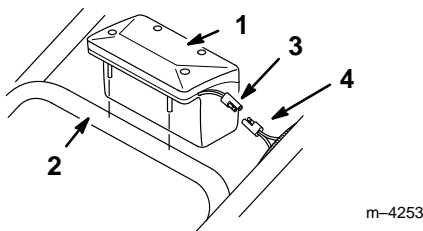
**HOW TO AVOID THE HAZARD**

- Ensure that either the discharge tunnel or a discharge plate is installed on the mower. When using a mower with a discharge tunnel, always ensure that either the grass bag is installed or the discharge door is closed.

## Installing the Battery

### Electric Start Models Only

1. Remove the battery from the packaging material and charge it; refer to Charging the Battery, page 16.
2. Align the pins in the battery case with the holes in the lower handle and lower the pins into the holes until the battery case snaps into place (Fig. 6).
3. Connect the wire lead from the battery to the wire lead from the electrical wire harness in the corrugated tube (Fig. 6).



**Figure 6**

1. Battery case
2. Lower handle
3. Wire lead from battery
4. Wire lead from harness

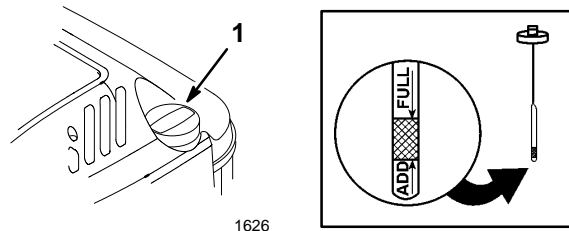
# Before Starting

## Oil

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

Before each use, ensure that the oil level is between the FULL and ADD marks on the dipstick (Fig. 7). Add oil if the level is low.

1. Position the mower on a level surface and clean around the dipstick (Fig. 7).
2. Remove the dipstick by rotating the cap counterclockwise 1/4 turn.
3. Wipe the dipstick clean.
4. Insert the dipstick into the filler neck and rotate the cap clockwise 1/4 turn.
5. Remove the dipstick and check the level of the oil on the side of the dipstick with the FULL and ADD marks (Fig. 7).



**Figure 7**

1. Dipstick

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

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

# Gasoline



**DANGER**



## POTENTIAL HAZARD

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

## WHAT CAN HAPPEN

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

## HOW TO AVOID THE HAZARD

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



**DANGER**



## POTENTIAL HAZARD

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

## WHAT CAN HAPPEN

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

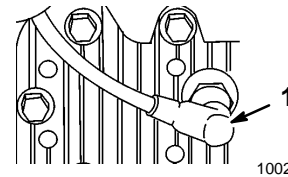
## HOW TO AVOID THE HAZARD

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

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

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

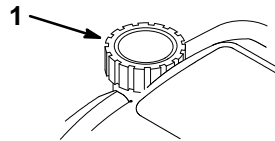
1. Pull the wire off of the spark plug (Fig. 8).



**Figure 8**

1. Spark plug wire

2. Clean around the fuel tank cap and remove the cap from the tank (Fig. 9).



**Figure 9**

1. Fuel tank cap

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

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

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

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

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

5. Connect the spark plug wire (Fig. 8).

# Operation

## Starting the Engine

1. Push the primer three times (five times if the temperature is 13°C/55°F or below), waiting 2 seconds between each push (Fig. 10).

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

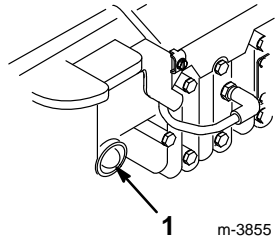
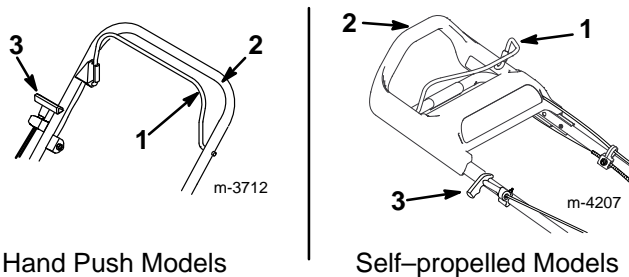


Figure 10

1. Primer

2. Hold the blade control bail against the upper handle (Fig. 11).



Hand Push Models

Self-propelled Models

Figure 11

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

3. Start the mower.

- **Manual Starting**—Pull the starter handle lightly until resistance is felt, then pull it sharply (Fig. 11). Allow the rope to return to the handle slowly.
- **Key-lectric Starting (Electric start models only)**—Insert the key into the switch. Turn the key to the right and release it when the engine starts (Fig. 12).

**Note:** If the battery charge is too low to start the engine, start the engine with the recoil starter.

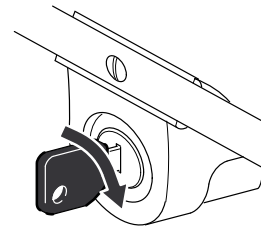


Figure 12

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

## Stopping the Engine

Release the blade control bail. Both the engine and blade will stop. See your dealer immediately if they do not.

## Self-propel Drive

### Self-propelled Models Only

To operate the self-propel drive, simply walk forward with your hands on the upper handle. As you move forward, the upper handle will slide toward the mower, activating the self-propel drive. The faster you walk, the farther the handle will slide and the faster the mower will propel (Fig. 13).

**Note:** The mower propels at the maximum speed when the upper handle is pushed as far forward as possible.

To slow down or stop, simply slow your walking speed or stop (Fig. 13). **If, when backing up after self-propelling, the mower does not roll backward freely, nudge the mower forward about an inch without engaging the self-propel drive, then pull the mower backward.**

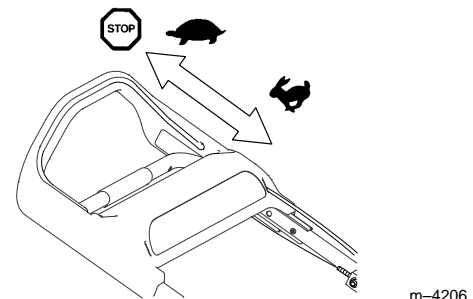


Figure 13

## Adjusting the Cutting Height

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

**!** **DANGER** **!**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

- **Contact with a rotating blade can cause serious injury.**

**HOW TO AVOID THE HAZARD**

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

1. To change the cutting height, pull the adjusting lever toward the wheel and move it to the desired position (Fig. 14).

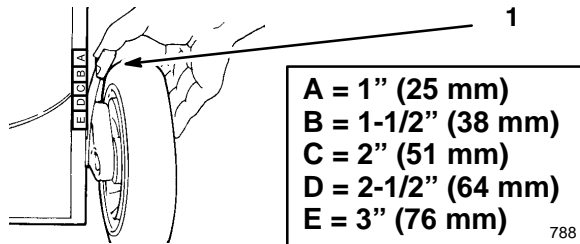


Figure 14

1. Wheel height adjustment lever

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

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

## Operating Tips

### General Tips

- Review the safety instructions and read this manual carefully before operating the mower.
- Clear the area of sticks, stones, wire, branches, and other debris which could be picked up or hit by the blade and become thrown objects.
- Keep everyone, especially children and pets, away from the area of operation.
- Avoid striking trees, walls, curbs, or other solid objects. Never deliberately mow over any object.

- If an object is struck, or the mower starts to vibrate, immediately stop the engine, disconnect the spark plug wire, and examine the mower for damage.
- Maintain a **sharp blade** throughout the cutting season. Periodically file down nicks on blade.
- Replace the blade when necessary with an original Toro replacement blade.
- Only mow dry grass or leaves. Wet grass and leaves tend to clump on the yard and may cause the mower to plug or the engine to stall. They may also be slippery to walk on and could cause you to slip and fall.

**!** **WARNING**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

- **Blade contact can seriously injure you.**

**HOW TO AVOID THE HAZARD**

- **Mow only in dry conditions.**

- Clean clippings or leaves from the underside of the mower deck after each mowing.
- Keep the engine in good running condition.
- Clean the air filter frequently. Mulching stirs up more clippings and dust which clogs the air filter and reduces engine performance.

## Cutting Grass

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

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

- Sharpen the blade.
- Walk at a slower pace while mowing.
- Raise the height-of-cut setting on your mower.
- Cut grass more frequently.

- Overlap cutting swaths instead of cutting a full swath with each pass.
- Set the height-of-cut on the front wheels one notch lower than the rear wheels. (example: set the front wheels at the 2 inch setting and the rear wheels at the 2.5 inch setting)
- Position all wheels at the same height-of-cut setting.
- Walk at a slower mowing speed if the leaves are not being cut up finely enough to be hidden in the grass.
- If you cut up a lot of oak leaves, add lime to your grass in the spring. Lime reduces the acidity of the leaves.

## Cutting Leaves

- When cutting is complete, ensure that 50% of the grass blades show through the cut leaf cover. This may require one or more passes over the leaves.

# Maintenance

## Recommended Maintenance Schedule

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



## CAUTION



### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

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

## Air Filter

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

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

1. Stop the engine and pull the wire off of the spark plug (Fig. 17).
2. Loosen the screw securing the air cleaner cover (Fig. 15).
3. Tilt the cover down and clean it thoroughly (Fig. 15).

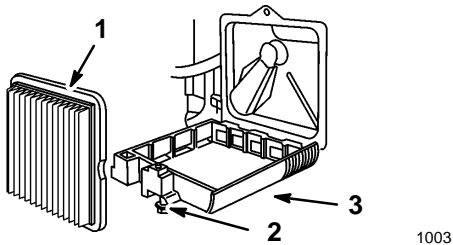


Figure 15

1. Air filter
2. Screw
3. Cover

4. Remove the paper air filter and discard it (Fig. 15).

**IMPORTANT: Do not try to clean the filter.**

5. Insert a new paper air cleaner filter (Fig. 15).
6. Install the air cleaner cover and secure it with the screw.

## Draining Gasoline

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

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

2. Pull the wire off of the spark plug (Fig. 17).
3. Remove the cap from the fuel tank and use a hand pump to drain the fuel into a clean gas can.

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

## Change Engine Oil

Change the engine oil after the first 5 hours of operation and after 50 hours of operation or yearly thereafter.



## WARNING



### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

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

1. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 12.
2. Start the engine and let it run until it runs out of fuel.
3. Pull the wire off of the spark plug (Fig. 17).
4. Remove the dipstick and tip the mower on the left side, draining the oil out the oil fill tube into an appropriate container (Fig. 16).

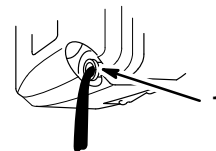


Figure 16

1. Oil fill tube

5. Recycle the oil as per local codes.
6. Turn the mower upright.

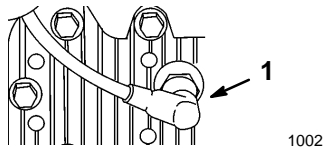


7. Fill the crankcase to the FULL line on the dipstick with fresh oil. Refer to the Oil section, page 7, for specifications.
8. Check the oil level and install the dipstick.
9. Wipe up any spilled oil.

## Spark Plug

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

1. Stop the engine and pull the wire off the spark plug (Fig. 17).



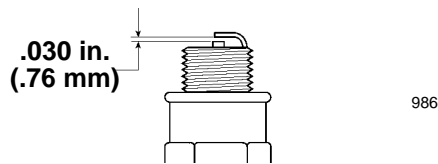
**Figure 17**

1. Spark plug wire

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

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

3. Set the gap on the new plug to 0.030" (0.76 mm) (Fig. 18).



**Figure 18**

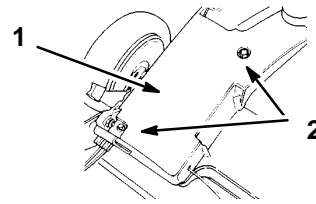
4. Install the spark plug and gasket seal. Tighten the plug to 15 ft-lb (20 N·m).
5. Connect the spark plug wire (Fig. 17).

## Adjusting the Self-propel Cable

### Self-propelled Models Only

If the top speed begins to slow on the mower, adjust the self-propel cable.

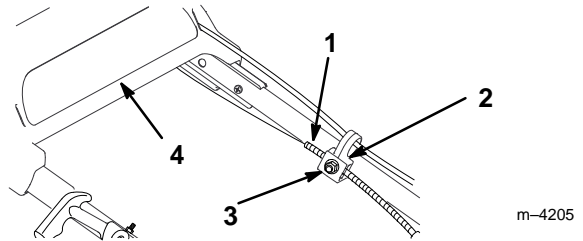
1. With the engine turned off, remove the two bolts securing the belt cover (Fig. 19) and remove the cover.



**Figure 19**

1. Belt cover
2. Bolt

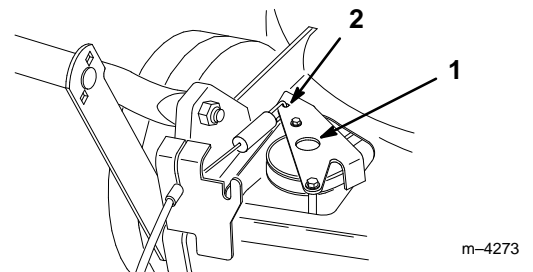
2. Loosen the cable support nut (Fig. 20).



**Figure 20**

1. Cable jacket
2. Cable support
3. Nut
4. Upper handle

3. Push the drive bracket down until it contacts the mower, then hold it in place (Fig. 21).



**Figure 21**

1. Drive bracket
2. Push here

4. With the upper handle pushed and held back as far as possible and while holding the drive bracket down, pull the cable jacket down (toward the mower) until all slack is removed from the cable (Fig. 20).
5. Tighten the nut on the cable support (Fig. 20).
6. Release the drive bracket and install the belt cover.

## Maintaining the Blade

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

**WARNING**

**POTENTIAL HAZARD**

- The blade is sharp.

**WHAT CAN HAPPEN**

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

**HOW TO AVOID THE HAZARD**

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

1. Stop the engine and pull the wire off of the spark plug (Fig. 17).

**WARNING**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

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

**HOW TO AVOID THE HAZARD**

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

2. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 12.
3. Tip the mower on its left side (Fig. 22). Avoid rotating the blade because starting problems may result.

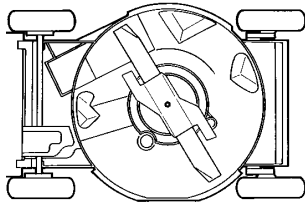


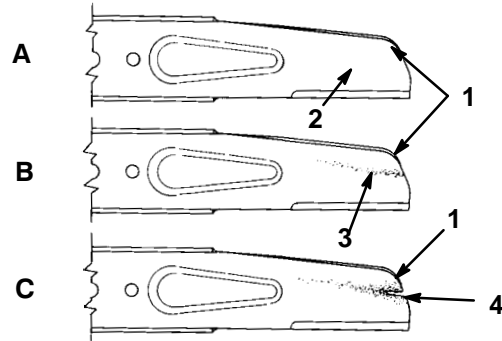
Figure 22

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### Inspecting the Blade

1. Examine the blade for sharpness and wear, especially where flat and curved parts meet (Fig. 23A).
2. Complete one of the following:

- A. If a slot or wear is noticed, (Fig. 23B & C), replace the blade. Refer to the Removing and Installing the Blade sections.
- B. If the blade is nicked or dull, sharpen it. Refer to the Removing, Sharpening, Balancing, and Installing the Blade sections.
- C. If there are no signs of wear or dullness, return the mower to the upright position and replace the spark plug wire (Fig. 17).



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Figure 23

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

**DANGER**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

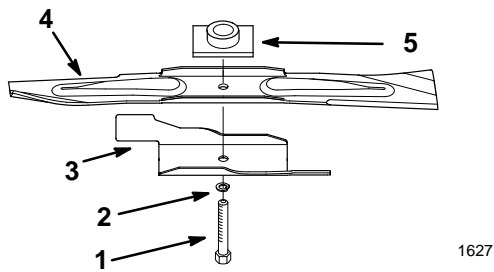
- A thrown piece of the blade could cause serious personal injury or death to the operator or bystanders.

**HOW TO AVOID THE HAZARD**

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

### Removing the Blade

1. Grasp the end of the blade using a rag or thickly padded glove.
2. Remove the blade bolt, lockwasher, blade accelerator and blade (Fig. 24).



**Figure 24**

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

## Sharpening the Blade

Using a file, sharpen top side of the blade and maintain the original cutting angle (Fig. 25).



**Figure 25**

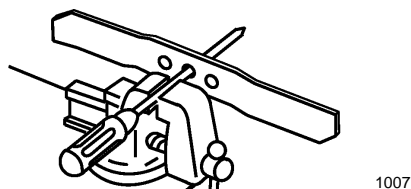
1. Sharpen at this angle only

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

## Balancing the Blade

1. Check the balance of the blade by placing the center hole of the blade over a nail or screwdriver shank clamped horizontally in a vise (Fig. 26).

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



**Figure 26**

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

## Installing the Blade

1. Position the blade onto the spindle and blade driver, with the curved blade tips pointing toward the mower and the blade driver nesting in the recess of the blade (Fig. 24).
2. Install the accelerator, lock washer, and blade bolt (Fig. 24).
3. Tighten the blade bolt to 50 ft-lb (68 N·m).

! **WARNING** !

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

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

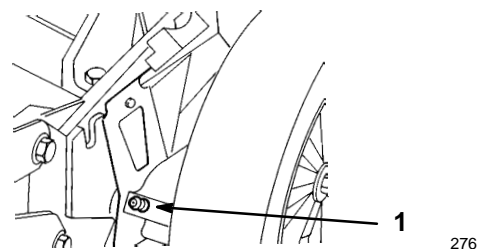
**HOW TO AVOID THE HAZARD**

- Do not operate the mower without the accelerator.

## Lubricating the Self-propel Drive

### Self-propelled Models Only

1. Wipe the grease fittings on the rear height-of-cut adjusters (Fig. 27) with a clean rag.



**Figure 27**

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

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

# Charging the Battery

## Electric Start Models Only

A new battery must be charged for 72 continuous hours to ensure a full charge. Charge the battery for 72 hours before and after long periods of storage. During normal operation, the engine alternator keeps the battery charged.

1. Stop the engine and disconnect the wire harness from the battery (Fig. 6).
2. If desired, the battery can be removed by lifting it up and off of the lower handle; however, removal is not required if mower can be positioned near an electrical outlet.
3. Connect the Toro electro charger to the battery and plug it into a 120VAC power outlet.

**IMPORTANT: Only the Toro electro charger is recommended because other chargers could damage the battery. Always use the charger indoors and charge the battery at room temperature (+70°F) whenever possible. Do not charge the battery longer than 72 hours because damage could result.**

4. After charging the battery, unplug the charger and disconnect it from the battery.
5. Connect the wire harness to the battery terminal.

# Disposing of the Battery

## Electric Start Models Only

**IMPORTANT: Do not place used batteries in your regular trash!**

**IMPORTANT: The sealed lead (acid battery must be collected, recycled, or disposed of in an environmentally sound manner.**

The incineration, landfilling, or mixing of sealed lead (acid) batteries with the municipal solid waste stream is **PROHIBITED BY LAW** in most areas.

Return this battery to a federal or state approved, sealed lead (acid) battery recycler. This may be where you purchased the battery.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of this battery.

# Cleaning the Underside of the Mower Housing

To ensure best performance, keep the underside of the mower housing clean. Be especially careful to keep the kickers free of debris (Fig. 28).

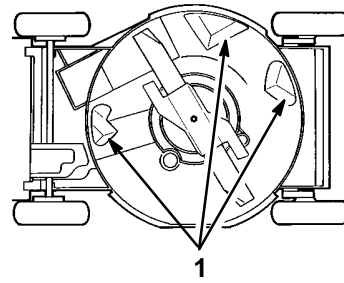


Figure 28

1. Kickers

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## Washing Method

1. Position the mower on a flat, concrete or asphalt surface near a garden hose.
2. Start the engine.
3. Hold the running garden hose at handle level and direct the water to flow on the ground just in front of the right rear tire (Fig. 29).

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

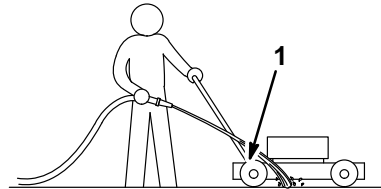


Figure 29

1. Rear right wheel

1093

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

## Scraping Method

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

1. Pull the wire off of the spark plug (Fig. 17).
2. Drain the gasoline from the fuel tank. Refer to the Draining Gasoline section, page 12.

**WARNING**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

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

**HOW TO AVOID THE HAZARD**

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

- Tip the mower on its left side (Fig. 28).
- Remove dirt and grass clippings with a hardwood scraper. Avoid burrs and sharp edges.

**IMPORTANT:** Move the blade as little as possible to avoid future starting problems.

- Turn the mower upright.
- Refill the gas tank.
- Connect the spark plug wire (Fig. 17).

## Cleaning Under the Belt Cover

### Self-propelled Models Only

Keep area under belt cover free of debris.

- With the engine turned off, remove the two bolts securing the belt cover (Fig. 19) to the mower housing.
- Lift off the cover and brush out all debris from the belt area.
- Install the belt cover.

# Troubleshooting

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

PROBLEM	CORRECTIVE ACTION
Engine will not start	<ol style="list-style-type: none"> <li>Fill fuel tank with fresh gasoline</li> <li>Move throttle lever to the FAST position</li> <li>Press primer three (3) times</li> <li>Spark plug <ul style="list-style-type: none"> <li>Connect spark plug wire</li> <li>Clean spark plug, check spark plug gap, replace if damaged</li> </ul> </li> </ol>
Engine starts hard or loses power	<ol style="list-style-type: none"> <li>Drain and refill fuel tank with fresh gasoline</li> <li>Replace air filter element</li> <li>Clean underside of mower deck</li> <li>Clean spark plug, check spark plug gap, replace if damaged</li> <li>Check engine oil</li> </ol>
Engine runs rough	<ol style="list-style-type: none"> <li>Connect spark plug wire</li> <li>Clean spark plug, check spark plug gap, replace if damaged</li> <li>Move throttle lever from SLOW to FAST position</li> <li>Replace air filter element</li> </ol>
Mower or engine vibrates excessively	<ol style="list-style-type: none"> <li>Balance blade. Or if blade is bent, straighten it.</li> <li>Tighten blade mounting bolt</li> <li>Clean underside of mower deck</li> <li>Tighten engine mounting bolts</li> </ol>

PROBLEM	CORRECTIVE ACTION
Uneven cutting pattern	<ol style="list-style-type: none"> <li>1. Place all four (4) wheels at same height</li> <li>2. Sharpen and balance blade</li> <li>3. Change mowing pattern</li> <li>4. Clean underside of mower deck</li> </ol>
Discharge chute plugs	<ol style="list-style-type: none"> <li>1. Move throttle lever from SLOW to FAST position</li> <li>2. Raise cutting height</li> <li>3. Slow down</li> <li>4. Allow grass to dry before mowing</li> <li>5. Clean underside of mower deck</li> </ol>
Will not self-propel	<ol style="list-style-type: none"> <li>1. Adjust self-propelled cable</li> <li>2. Clean debris from under belt cover.</li> </ol>

## Storage

To prepare the lawn mower for off-season storage, perform the recommended maintenance procedures. Refer to the Maintenance section, page 11.

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

## Fuel

**WARNING**

**POTENTIAL HAZARD**

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

**WHAT CAN HAPPEN**

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

**HOW TO AVOID THE HAZARD**

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

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

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

the mower until engine stops from lack of fuel, then prime it and restart again allowing it to run until it stops. When you can no longer start the engine, it is sufficiently dry.

## Preparing the Engine

1. While the engine is still warm, drain oil from crankcase. Refer to the Changing Engine Oil section, page 12.
2. Remove the spark plug (Fig. 17).
3. Using an oil can, squirt about one tablespoon of oil through spark plug hole.
4. Slowly rotate the engine several times, using the starter rope, to distribute the oil.
5. Install spark plug but **do not** connect the spark plug wire.

## General

1. Clean the mower housing. Refer to the Cleaning the Underside of the Mower Housing section, page 16.
2. Clean any dirt and chaff from the cylinder, cylinder head fins, and blower housing. Also remove grass clippings, dirt, and grime from external parts of the engine, shrouding, and top of the mower housing.
3. Check the condition of the blade. Refer to the Maintaining the Blade section, page 13.
4. Charge the battery; refer to Charging the battery, page 16.
5. Tighten all nuts, bolts, and screws.
6. Lubricate the wheels. Refer to the Lubricating the Self-Propel Drive section, page 15.

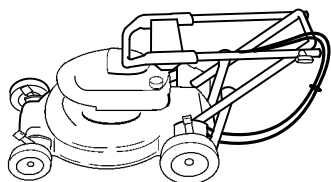
7. Touch up all rusted or chipped paint surfaces. Paint is available from an Authorized Toro Service Dealer.

## Folding the Handle

**IMPORTANT:** Be extremely careful when folding the handle so that you do not pull, crimp, or in any way damage the cables.

**IMPORTANT:** Do not remove or loosen the knobs securing the lower handle to the swing bracket. Do not fold the upper handle backwards.

1. Loosen the knobs that secure the upper handle.
2. Carefully swing the upper handle forward until it rests on the engine (Fig. 30).



m-4217

Figure 30

## Removing From Storage

1. Carefully unfold the upper handle until it nests with the lower handle, then tighten the knobs.

**IMPORTANT:** Be extremely careful when unfolding the handle so that you do not pull, crimp, or in any way damage the control cables.

2. Check and tighten all fasteners.
3. Remove the spark plug (Fig. 17) and spin the engine rapidly using the starter to blow excess oil from the cylinder.
4. Clean the spark plug or replace it if it is cracked, broken, or the electrodes are worn.
5. Install the spark plug and torque it to 15 ft.-lbs. (20 N·m).
6. Perform the recommended maintenance procedures. Refer to the Maintenance section, page 11.
7. Charge the battery; refer to Charging the battery, page 16.
8. Fill the fuel tank (Fig. 31) with fresh, clean gasoline.

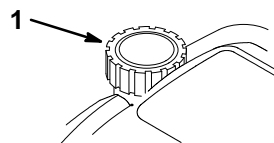


Figure 31

1. Fuel tank cap

9. Check the engine oil level.
10. Connect the spark plug wire (Fig. 17).

## Accessories

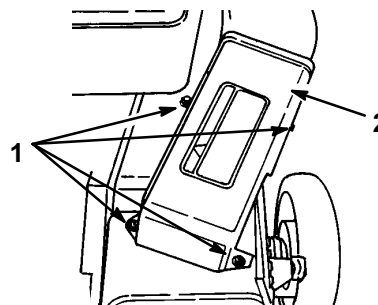
Accessories may have been shipped with your mower or are available from your Authorized Toro Dealer. For proper installation, follow these instructions.

### Rear Grass Catcher

#### Installing the Discharge Tunnel

**Note:** Determine the left and right sides of the mower by standing behind the handles.

1. Disconnect the spark plug wire.
2. Remove and save the four bolts securing the Recycler® cover and deflector assembly to the mower (Fig. 32). Save the parts for future use.

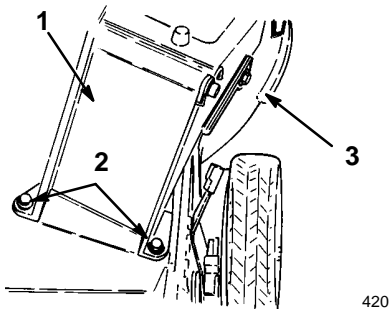


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Figure 32

1. Bolt (4)
2. Cover and deflector assembly

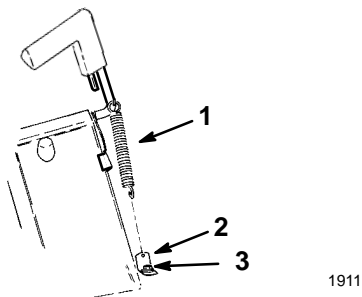
3. Position the discharge tunnel and door assembly on the mower, aligning the holes in the discharge tunnel with holes in the mower (Fig. 33).



**Figure 33**

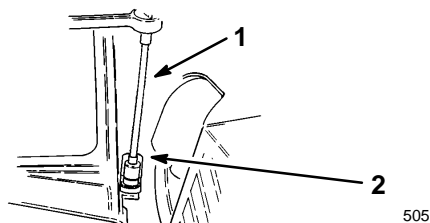
1. Discharge tunnel
2. Vertical bolts
3. Horizontal bolt

4. Fasten the front right, rear right, and rear left corners of the discharge tunnel to the mower, using the bolts saved from step 2. Ensure that the shorter horizontal bolt is installed in the front right location.
5. Secure the spring bracket and discharge tunnel to the mower with the left front bolt (Fig. 34). A socket set extension may be necessary (Fig. 35).



**Figure 34**

1. Spring
2. Spring bracket
3. Left front bolt



**Figure 35**

1. Socket set extension
2. Spring bracket

6. Hook the end of the spring through the small hole on the spring bracket (Fig. 34).

7. Open and close the discharge door to ensure that the spring is not contacting any part of the engine and that the door closes when the handle is released.

! **WARNING** !

**POTENTIAL HAZARD**

- Ensure that the spring does not contact the gas tank or any other part of the engine.

**WHAT CAN HAPPEN**

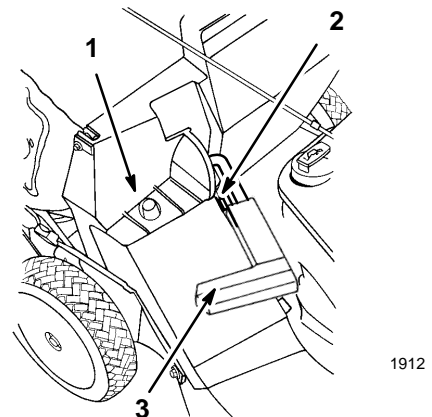
- Wear between the spring and engine parts may result in an unsafe operating condition.

**HOW TO AVOID THE HAZARD**

- If the spring contacts any part of engine, do not install the bagger kit on the mower and contact an Authorized Toro Service Dealer before proceeding.

### Using the Grass Bag

1. Stop the engine and wait for all moving parts to stop.
2. Ensure that the discharge door handle is fully forward and the pin is engaged in the catch (Fig. 36).



**Figure 36**

1. Bag frame on retaining post
2. Pin contacting latch plate
3. Handle fully forward-discharge door closed

3. Slide the hole in the bag frame onto the retaining post on the discharge tunnel (Fig. 36).
4. Set the rear of the bag frame onto the lower handle.
5. Open the discharge door by pulling the discharge door handle forward until the pin clears the ramp on the bag door and moving the handle rearward until the pin locks in the bag notch (Fig. 37).