



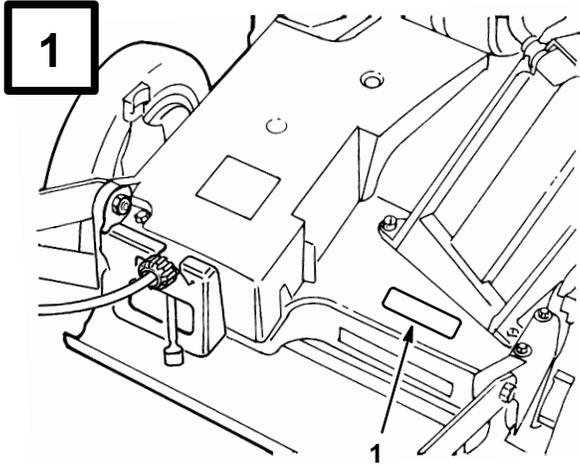
**ProLine 53cm Recycler<sup>®</sup> II**

**Walk-behind Power Mower**

**Model No. 22157 — 8900001 & Up**

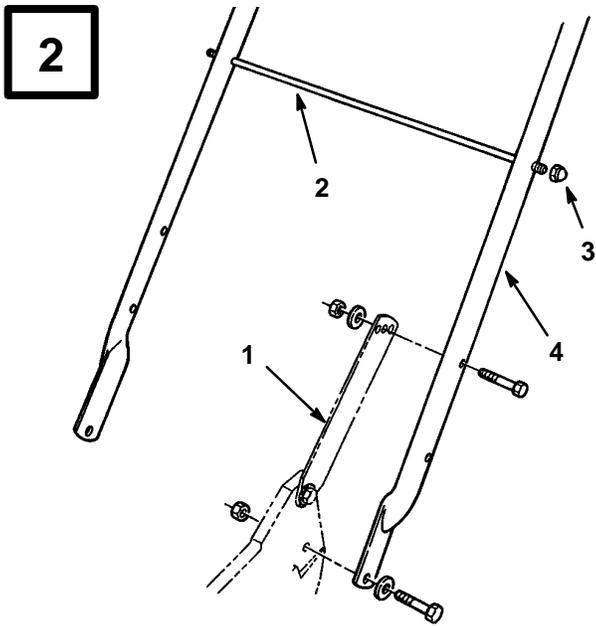
**Operator's Manual**

# Figures



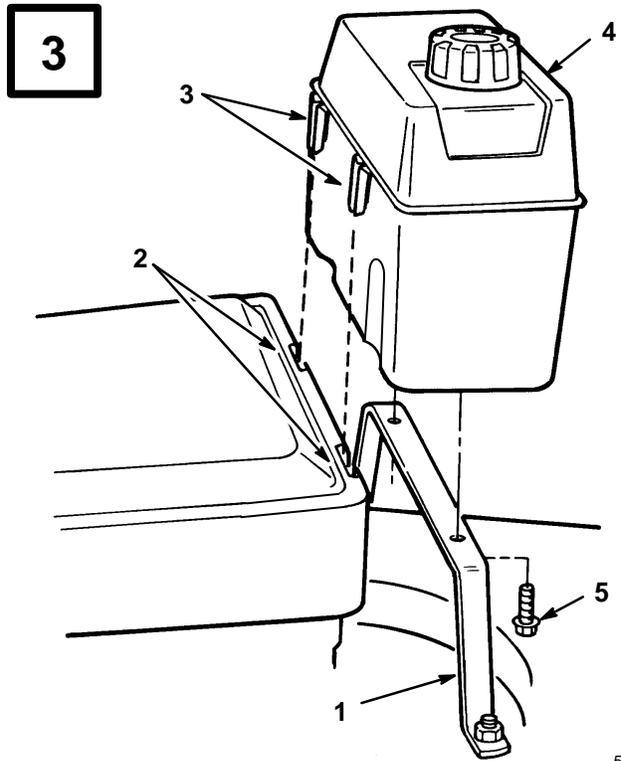
224

1. Model and serial number decal



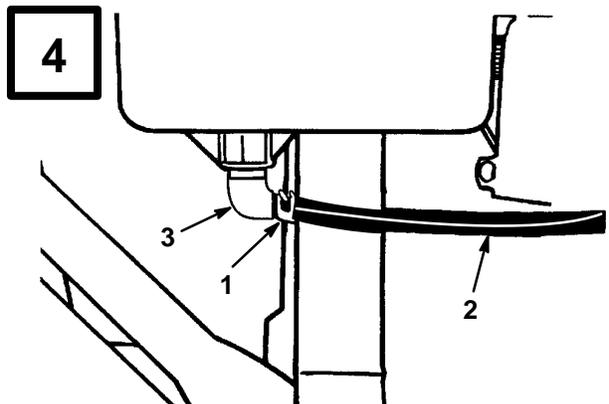
534

1. Handle latch  
2. Bag support rod  
3. Cap locknut  
4. Handle



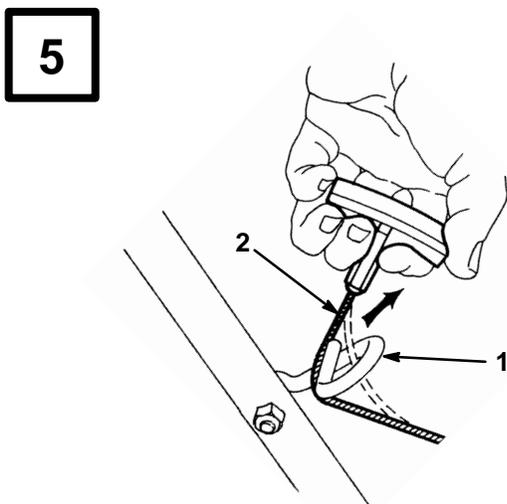
530

1. Tank bracket  
2. Slots  
3. Plastic clips  
4. Gas tank  
5. Self-tapping screw



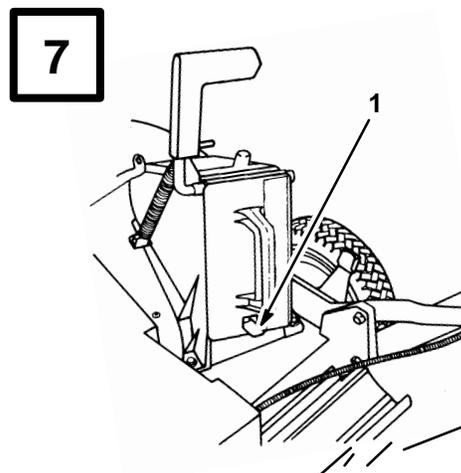
2045

1. Fuel line clamp  
2. Fuel line  
3. Elbow fitting



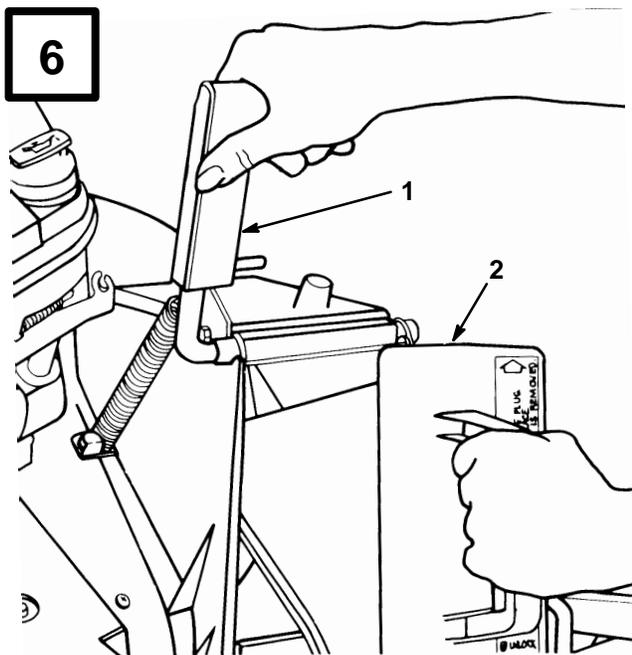
m-210

- 1. Rope guide
- 2. Starter rope



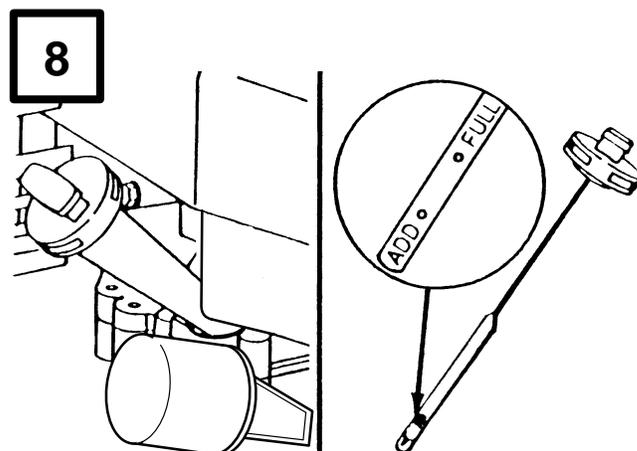
m-275

- 1. Spring clip



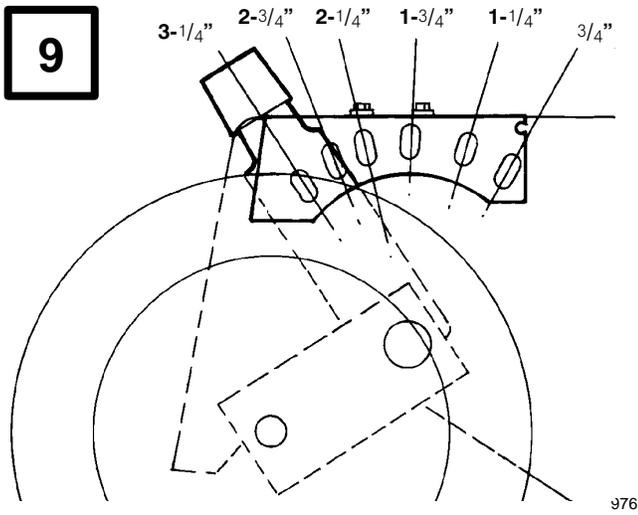
m-262

- 1. Discharge door handle
- 2. Plug rotated clockwise

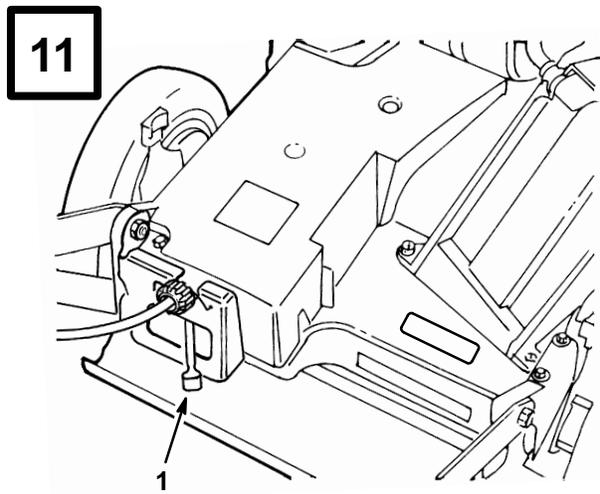


m-3845

- 1. Oil fill tube
- 2. Dipstick

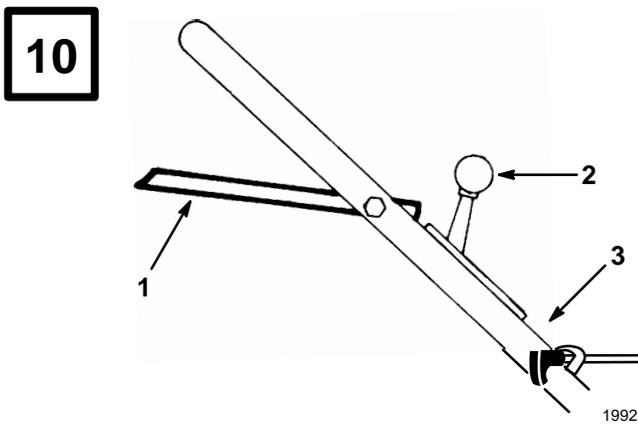


976



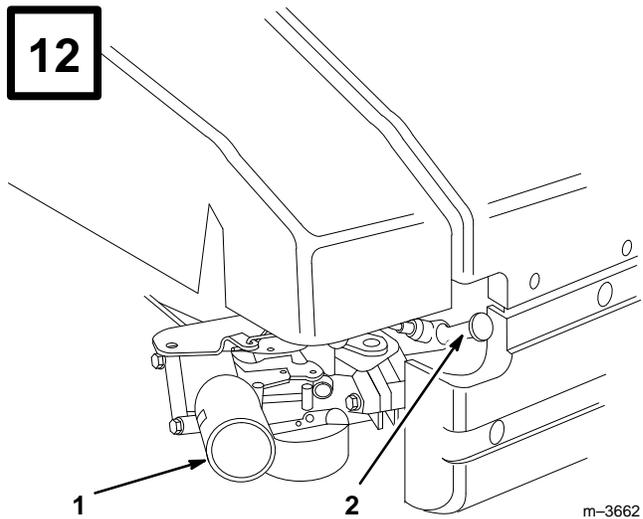
224

1. Ground speed control



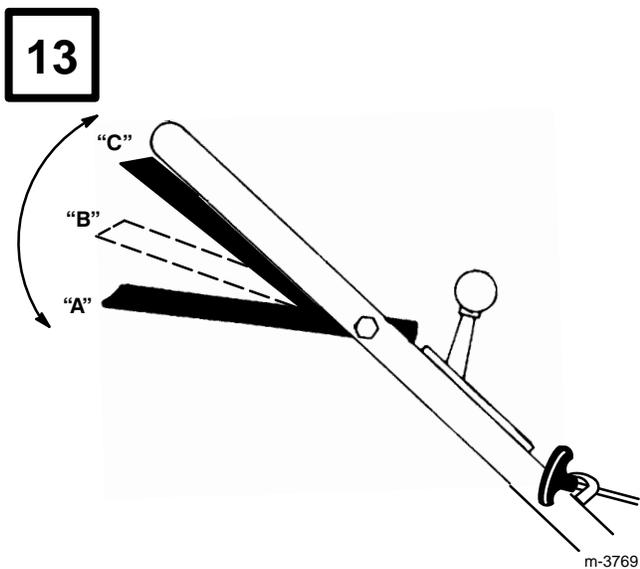
1992

1. Blade/self-propelled control bar  
2. Throttle  
3. Fingertip starter

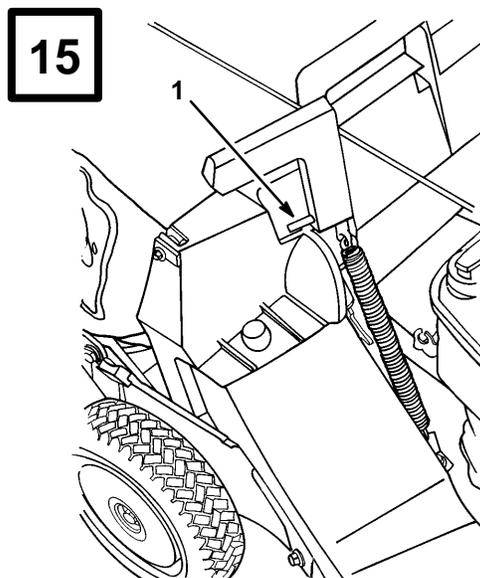


m-3662

1. Primer  
2. Spark plug wire

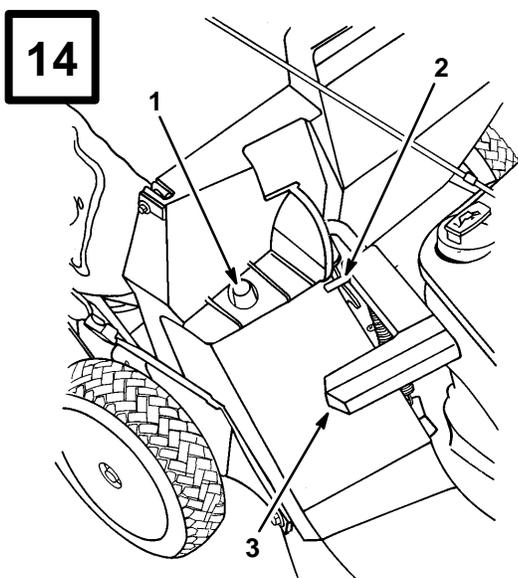


m-3769



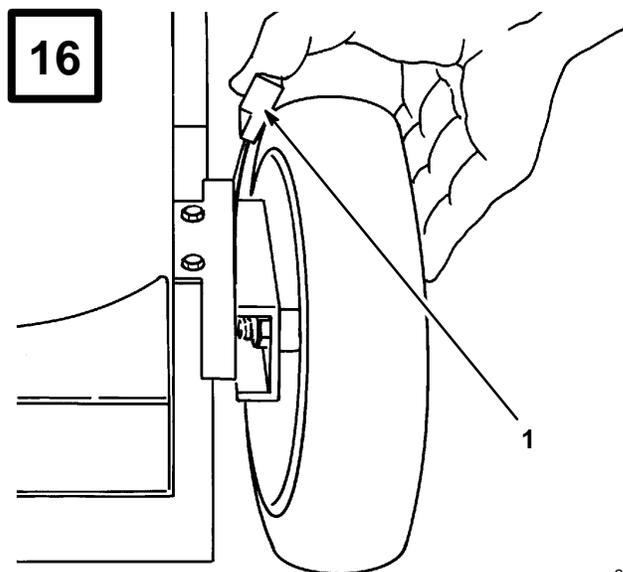
m-260

1. Pin locked in bag notch



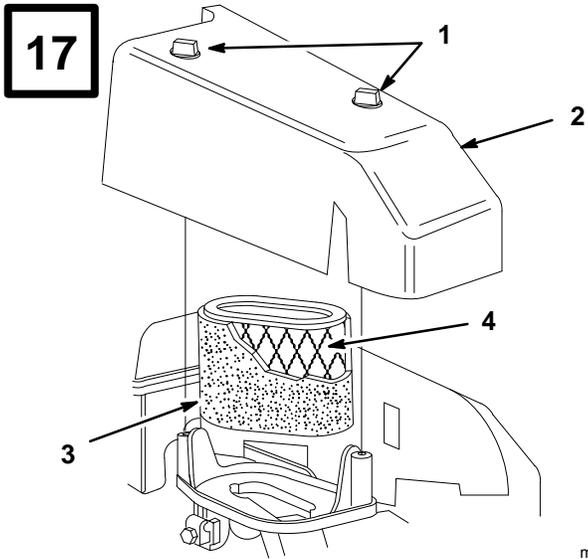
m-261

- 1. Bag frame on retaining post
- 2. Pin engaged in catch
- 3. Handle fully forward. Discharge door closed.

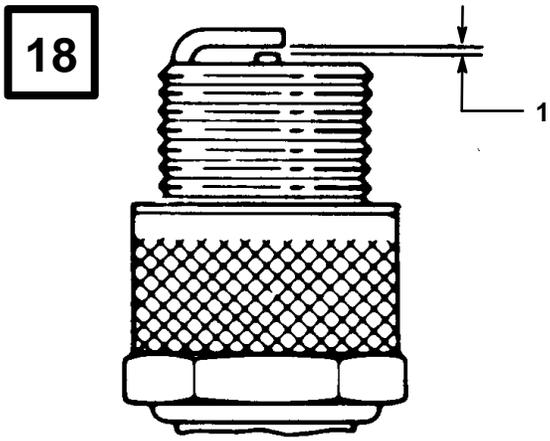


225

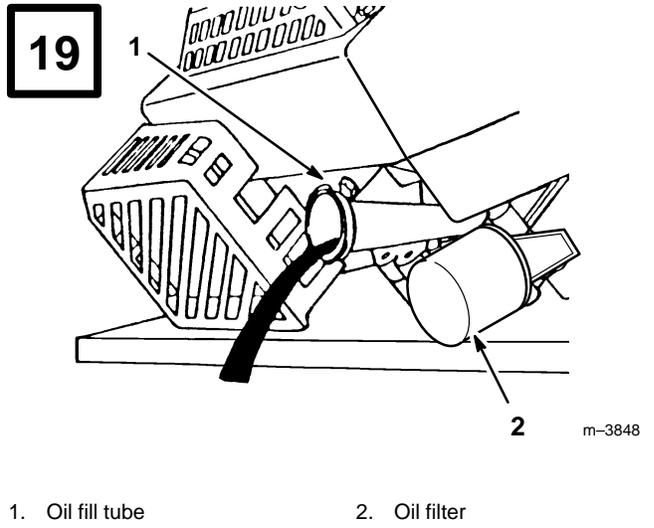
1. Height-of-cut adjuster



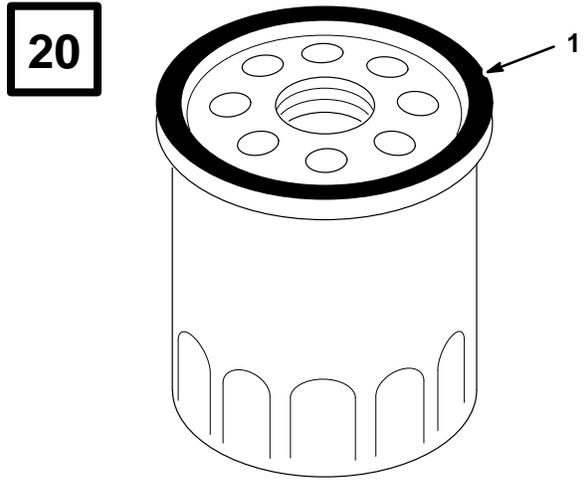
- 1. Knob
- 2. Cover
- 3. Foam pre-cleaner
- 4. Paper cartridge



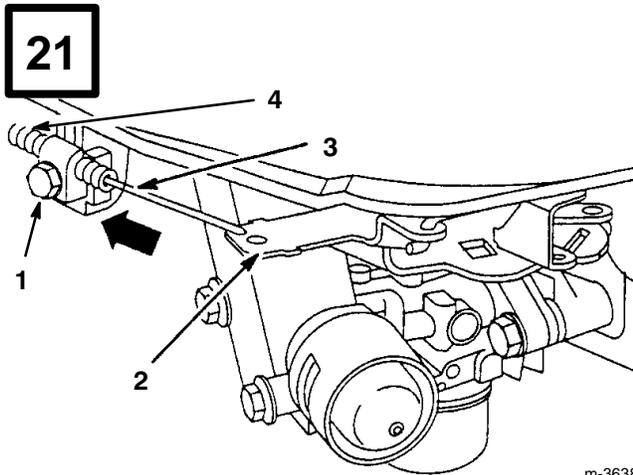
- 1. .020 in. (.5 mm)



- 1. Oil fill tube
- 2. Oil filter

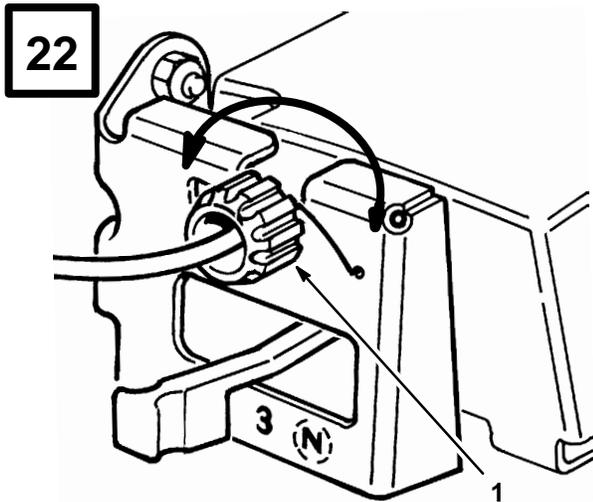


- 1. Gasket



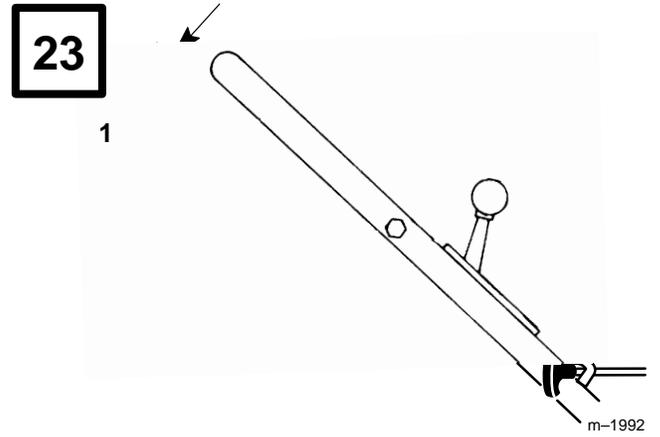
m-3638

- 1. Cable clamp screw
- 2. Governor control lever
- 3. Throttle cable
- 4. Casing



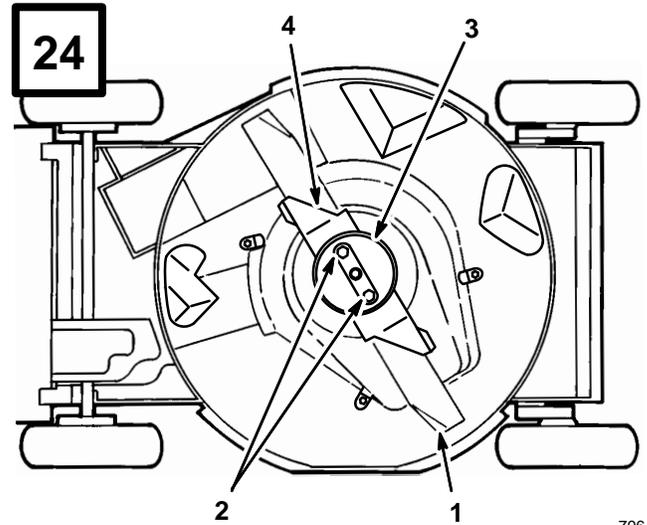
228

- 1. Control knob



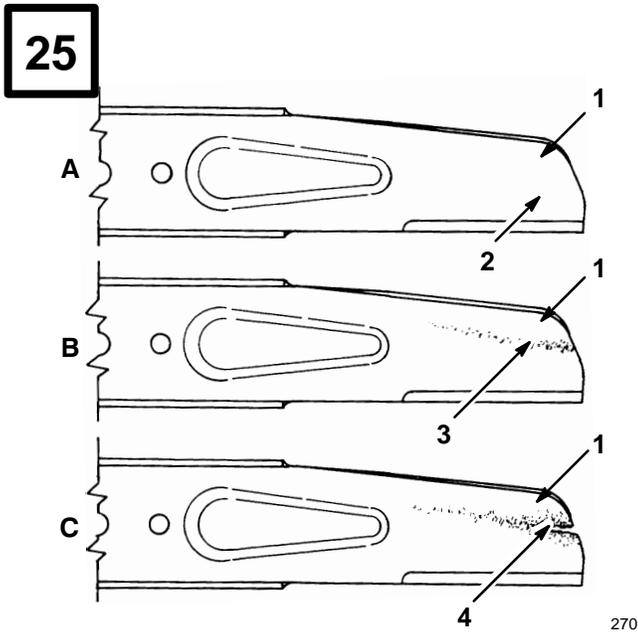
m-1992

- 1. One inch

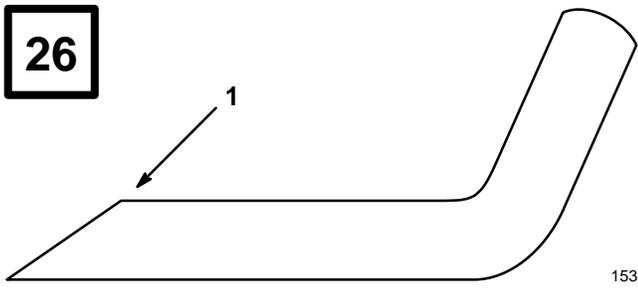


796

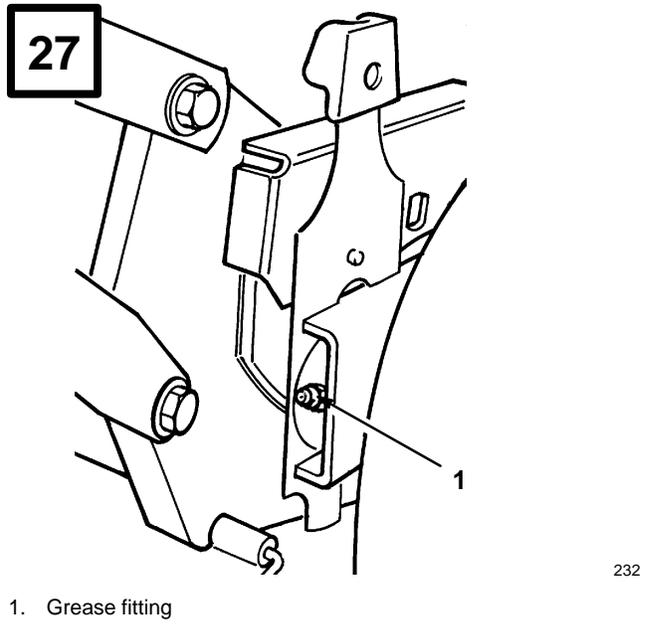
- 1. Blade
- 2. Blade nuts
- 3. Anti-scalp cup
- 4. Accelerator



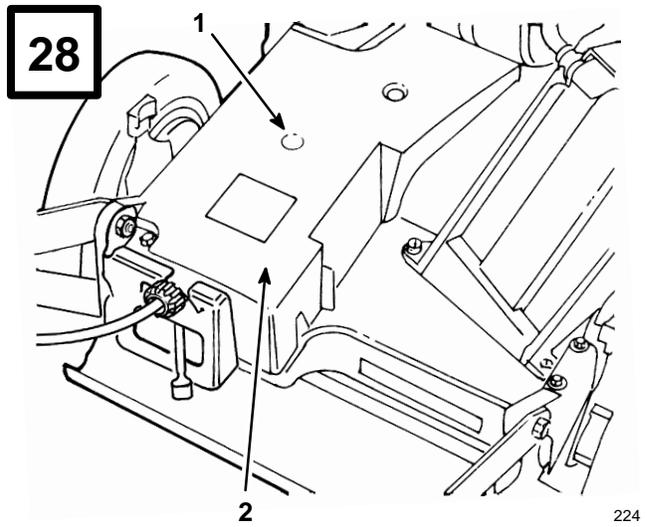
- 1. Sail
- 2. Flat part of blade
- 3. Wear
- 4. Slot formed



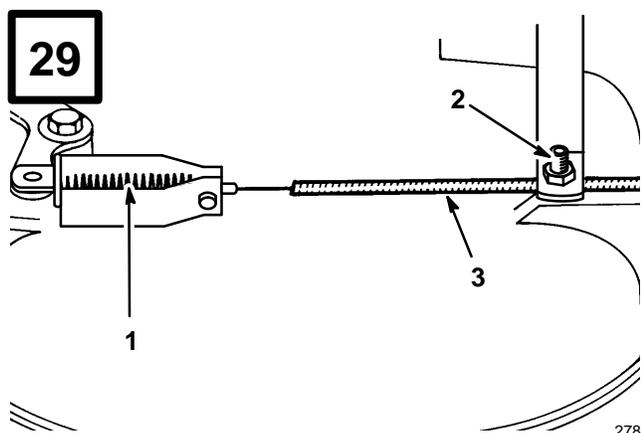
- 1. Sharpen at this angle only



- 1. Grease fitting

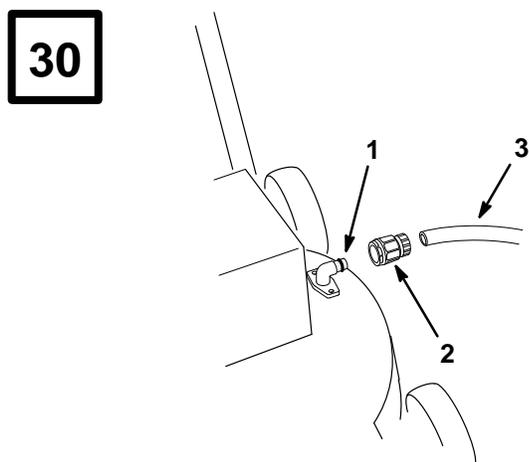


- 1. Grease fitting
- 2. Belt cover



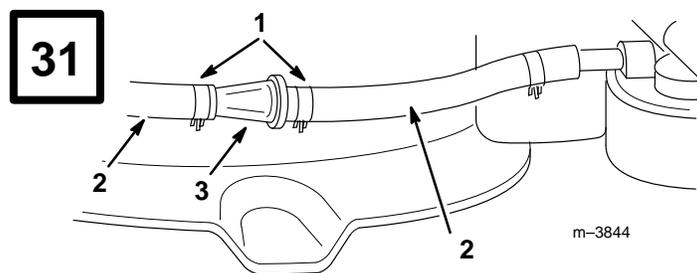
- 1. Spring
- 2. Cable clamp screw
- 3. Cable conduit

278



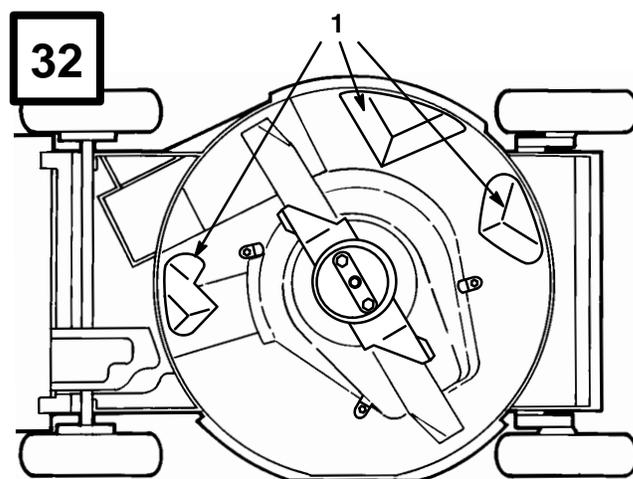
- 1. Washout fitting
- 2. Quick disconnect coupling
- 3. Hose

m-2858



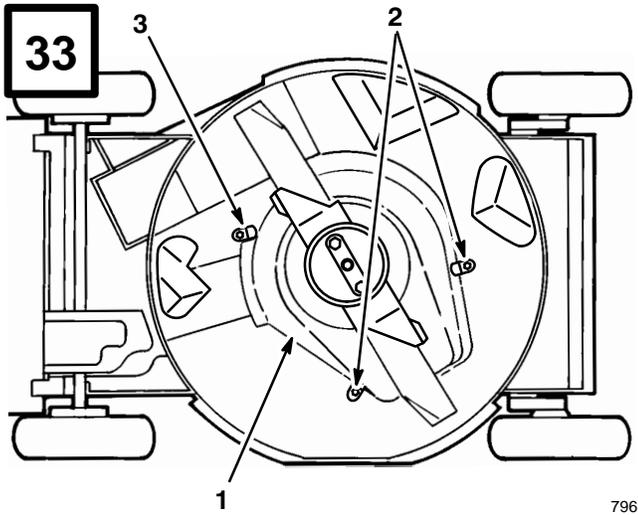
- 1. Hose clamp
- 2. Fuel line
- 3. Filter

m-3844

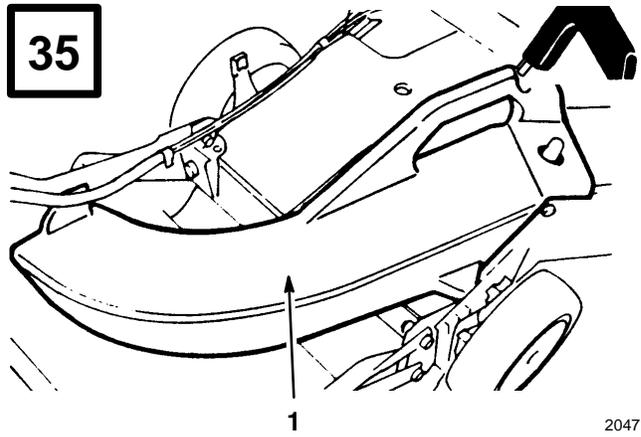


- 1. Kicker plates

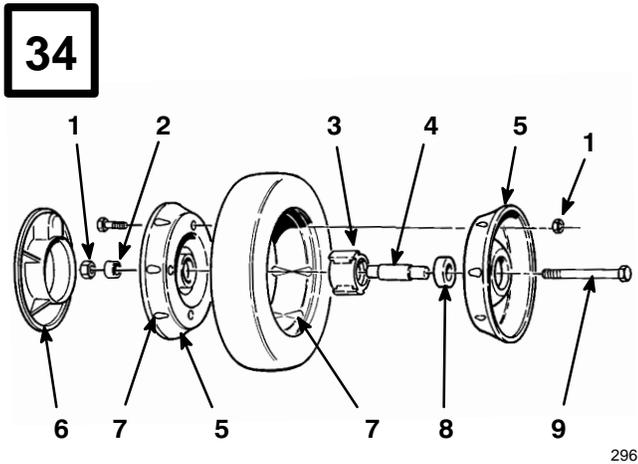
796



- 1. BBC shield
- 2. Tabs and nuts
- 3. Tab and bolt



- 1. Side discharge chute



- 1. Locknuts
- 2. Wheel spacer
- 3. Bearing/hub assembly
- 4. Bearing spacer
- 5. Wheel half
- 6. Plastic cover (rear wheels only)
- 7. Lug
- 8. Bearing (2)
- 9. Capscrew

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## Introduction

Thank you for purchasing a Toro product.

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

Whenever you contact your Authorized Service Dealer or the factory, always know the model and serial numbers of your product. These numbers will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number decal located in a unique place on the product (Fig. 1).

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

<p><b>Model No:</b> _____</p> <p><b>Serial No.</b> _____</p>
--

Read this manual carefully to learn how to operate and maintain your product correctly. Reading this manual will help you and others avoid personal injury and damage to the product. Although Toro designs, produces and markets safe, state-of-the-art products, you are responsible for using the product properly and safely. You are also responsible for training persons who you allow to use the product about safe operation.

The Toro warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death.

DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

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

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

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

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

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

# Safety

## Training

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

## Preparation

1. While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
2. Always wear safety glasses or eye shields during operation to protect eyes from foreign objects that may be thrown from the machine. Keep face, hands, and feet away from the mower housing and cutter blade when the engine is running. Stay behind the handle until the engine stops.
3. Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.
4. **WARNING** – Petrol is highly flammable.
  - Store fuel in containers specifically designed for this purpose.
  - Refuel outdoors only and do not smoke while refuelling.
  - Add fuel before starting the engine. Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
  - If petrol is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapors have dissipated.
  - Replace all fuel tanks and container caps securely.
5. Replace faulty silencers.
6. 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.
7. On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.

## Operation

1. Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.

2. Mow only in daylight or in good artificial light.
3. Avoid operating the equipment in wet grass, where feasible.
4. Always be sure of your footing on slopes.
5. Walk, never run.
6. For wheeled rotary machines, mow across the face of slopes, never up and down.
7. Exercise extreme caution when changing direction on slopes.
8. Do not mow excessively steep slopes.
9. Use extreme caution when reversing or pulling the lawnmower towards you.
10. Stop the blade(s) if the lawnmower has to be tilted for transportation when crossing surfaces other than grass, and when transporting the lawnmower to and from the area to be mowed.
11. Never operate the lawnmower with defective guards or shields, or without safety devices for example deflectors and/or grass catchers in place.
12. Do not change the engine governor settings or overspeed the engine.
13. Disengage all blade and drive clutches before starting the engine.
14. Start the engine or switch on the motor carefully according to instructions and with feet well away from the blade(s).
15. Do not tilt the lawnmower when starting the engine or switching on the motor, except if the lawnmower has to be tilted for starting. In this case, do not tilt it more than absolutely necessary and lift only the part which is away from the operator.
16. Do not start the engine when standing in front of the discharge chute.
17. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
18. Never pick up or carry a lawnmower while the engine is running.
19. Stop the engine and disconnect the spark plug wire.
  - before clearing blockages or unclogging chute;
  - before checking, cleaning or working on the lawnmower;
  - after striking a foreign object. Inspect the lawnmower for damage and make repairs before restarting and operating the lawnmower;
  - if lawnmower starts to vibrate abnormally (check immediately).
20. Stop the engine
  - whenever you leave the lawnmower;
  - before refuelling.
21. Reduce the throttle setting during engine shut down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of mowing.
22. Go slow when using a trailing seat.

## Maintenance And Storage

1. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
2. Never store the equipment with petrol in the tank inside a building where fumes may reach an open flame or spark.
3. Allow the engine to cool before storing in any enclosure.
4. To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage area free of grass, leaves, or excessive grease.
5. Check the grass catcher frequently for wear or deterioration.

6. Replace worn or damaged parts for safety.
7. If the fuel tank has to be drained, this should be done outdoors.

## **Sound Pressure Level**

This unit has an equivalent continuous A-weighted sound pressure at the operator ear of: 85 dB(A), based on measurements of identical machines per ANSI B71.5-1984 procedures.

## **Sound Power Level**

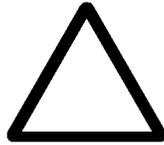
This unit has a sound power level of: 100 dB(A)/1 pW, based on measurements of identical machines per Directive 84/538/EEC and amendments.

## **Vibration Level**

This unit has a maximum hand-arm vibration level of 4.20 m/s<sup>2</sup>, based on measurement of identical machines per ISO 5349 procedures.

# Symbol Glossary

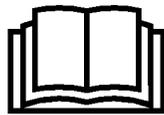
Safety alert triangle — symbol within triangle indicates a hazard.



Safety alert symbol



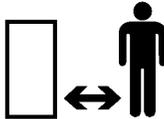
Read operator's manual.



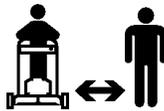
Consult technical manual for proper service procedures.



Stay a safe distance from the machine.



Stay a safe distance from the mower.



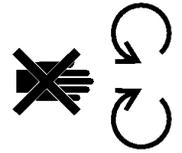
Throw or flying objects — Whole body exposure



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



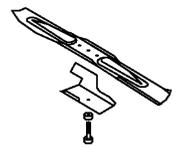
Do not open or remove safety shields while engine is running.



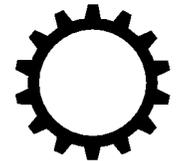
Rotating blade can cut off toes or fingers. Stay clear of mower blade as long as engine is running.



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



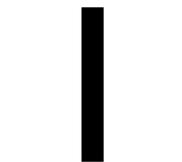
Transmission



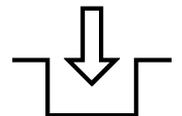
Oil



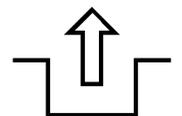
On/Run



Engage



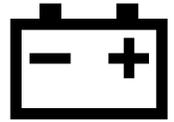
Disengage



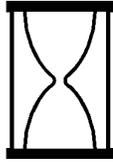
Stop engine before leaving operator position.



Battery charging condition



Hourmeter/elapsed operating hours



Fuel



Fast



Neutral



Slow



First gear



Decreasing/Increasing



Second gear



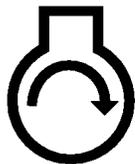
Grease lubrication point



Third gear



Engine start



Cutting element — basic symbol



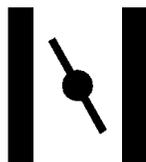
Engine stop



Cutting element — height adjustment



Choke



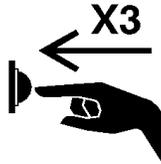
Pull rope.



Primer (start aid)



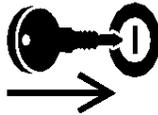
Push primer three times.



Properly dispose of batteries.



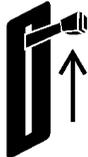
Insert key in ignition switch.



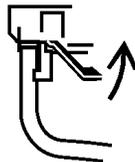
Turn key in ignition switch.



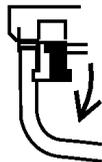
Move control.



Move control forward.



Move control rearward.



Wheel



Wheel traction



Lower control bar.



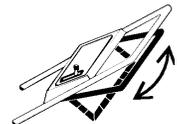
Raise control bar.



Raise/lower control bar.



Raise/lower control bar.



Raise control bar.



Raise control bar.



Lower control bar.



# Assembly

## Handle

1. Mount handle to outside of mower housing, using bottom hole, with (2) 5/16–18 x 1–1/4” lg. capscrews, washers, and thin nylon insert locknuts (Fig. 2).
2. Secure handle latches to handle with (2) 5/16–18 x 1–1/2” lg. capscrews, washers and nylon insert locknuts (Fig. 2).

**Note:** Handle height is adjustable for operator comfort. Stand behind mower handle to gauge height. To adjust handle height, reposition capscrews and locknuts securing handle latches to handle into other mounting holes in latches.

3. Slide bag support rod thru **top** mounting holes in handle and secure each end with a cap locknut (Fig. 2).
4. Use a cable tie to secure the control cables to left handle below the bag support rod.
5. Pull starter rope through rope guide on handle (Fig. 5).

## Gas Tank

1. Start self-tapping screws into bottom of gas tank and then remove screws.
2. Hook plastic clips on front of gas tank into slots on rear of engine (Fig. 3).
3. Secure gas tank to tank base with (2) self-tapping screws (Fig. 3). Do not overtighten screws.
4. Remove red cap from end of fuel line and from end of elbow fitting on gas tank. Slide end of fuel line onto elbow fitting (Fig. 4). Secure fuel line in place with fuel line clamp.

## Discharge Tunnel Plug

1. Open the discharge door by pulling forward on the handle and moving it rearwards (Fig. 6). Hold the discharge door handle to prevent the spring-loaded door from closing while inserting the plug.
2. Since the plug is slightly wider than the discharge tunnel opening, rotate the plug clockwise slightly while inserting it (Fig. 6). Make sure the arrow on the plug decal is pointing upwards.
3. Push the plug all the way in until the spring clip on the bottom of the plug clicks into place, locking the plug securely into the discharge tunnel (Fig. 6). Release discharge door handle to lock top of plug.

# Before Starting

## Fill Crankcase With Oil

Fill crankcase with SAE 30 or 10W30 oil until oil level reaches FULL mark on dipstick as shown in (Fig. 8). The maximum crankcase capacity is 26 ounces (0.77 liters) of oil with the oil filter installed and 22 ounces (0.65 liters) without the oil filter installed. Use any high quality detergent oil having the American Petroleum Institute (API) “service classification” — SF, SG, SH or SJ.

Before each use, ensure oil level is between ADD and FULL marks on dipstick (Fig. 8). Add oil if level is low.

1. Position mower on level surface and clean around oil dipstick.
2. Remove dipstick by rotating cap counterclockwise 1/4 turn.
3. Wipe dipstick and insert it into filler neck. Rotate cap clockwise 1/4 turn. Then remove dipstick and check level of oil (Fig. 8). If level is low, add only enough oil to raise level to FULL mark on dipstick. **DO NOT FILL ABOVE FULL MARK BECAUSE ENGINE COULD BE DAMAGED WHEN STARTED. POUR OIL SLOWLY.**

4. Insert dipstick into filler neck and rotate cap clockwise 1/4 turn to lock.

**Note:** Check oil level each time mower is used or after every 5 operating hours. Initially, change oil after the first 5 hours of operation; thereafter, change oil after every 50 hours of operation. More frequent oil changes are required in dusty or dirty conditions.

## Fill Fuel Tank With 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, 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.

This engine is certified to operate on unleaded gasoline. Toro strongly recommends the use of fresh, clean, **UNLEADED** regular grade gasoline with an octane rating of 85 or higher in Toro gasoline powered products. Unleaded gasoline burns cleaner, extends engine life, and promotes good starting by reducing the build-up of combustion chamber

deposits. In countries other than U.S.A., leaded gasoline may be used if it is commercially available and unleaded is unavailable.

**IMPORTANT: Do not mix oil with the gasoline. Do not use gasoline that has been stored in an approved container from one season to the next.**

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

**IMPORTANT: Some fuels, called oxygenated or reformulated gasolines, are gasolines blended with alcohols or ethers. Excessive amounts of these blends can damage the fuel system or cause performance problems. Never use methanol, gasoline containing methanol, gasohol containing more than 10% ethanol or white gas because engine fuel system damage could result. If any undesirable operating symptoms occur, use gasoline with a lower percentage of alcohol or ether.**

Do not use fuel additives other than those manufactured for fuel stabilization during storage such as Toro's Stabilizer/Conditioner or a similar product. Toro's Stabilizer/Conditioner is a petroleum distillate based conditioner/stabilizer. Toro does not recommend stabilizers with an alcohol base such as ethanol, methanol or isopropyl. Additives should not be used to try to enhance the power or performance of machine.

1. Clean around fuel tank cap and remove cap from tank. Using unleaded gasoline, add fuel to 1/4" to 1/2" (6 to 13 mm) from top of tank, not into the filler neck. Do not fill the tank full.
2. Reinstall fuel tank cap and wipe up any spilled gasoline.
3. Connect spark plug wire (if disconnected) (Fig. 12).

# Recycling Tips

## General Tips

Follow these instructions whether cutting grass or leaves for the best cutting results and lawn appearance:

- Maintain a **sharp blade** throughout the cutting season. Periodically file down nicks on blade.
- **Only mow dry grass or leaves.** Wet grass and leaves tend to clump on yard and may cause mower to plug or engine to stall. They also may 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 blade.**

#### WHAT CAN HAPPEN

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

#### HOW TO AVOID THE HAZARD

- **Mow only in dry conditions.**

- Set engine speed to fastest position. Maximum horsepower provides best cutting results.
- Clean clippings or leaves from underside of mower deck after each mowing.
- Keep engine in good running condition. Cutting and recutting requires more horsepower.
- Clean air filter more frequently. Cutting and recutting stirs up more clippings and dust which clogs the air filter and reduces engine performance.

## Cutting Grass

- Grass grows at different rates at different times of the year. In the heat of the summer, it is generally best to cut grass at the 1-3/4", 2-1/4" or 2-3/4" height-of-cut settings (Fig. 9). Only about

1/3 of the grass blade should be cut off. Cutting below the 1-3/4" setting is not recommended unless grass is sparse or it is late fall when grass growth begins to slow down.

- When cutting grass over six inches tall, you may want to first 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 grass is too long and leaves clumps on top of lawn, mower may plug and cause engine to stall.
- Alternate mowing direction. This helps disperse clippings over lawn for even fertilization.

If the finished cut 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.
- Mow across the marginal areas a second time.
- Set height-of-cut on front wheels one notch lower than rear wheels. (example: set front wheels at 1-3/4" setting and rear wheels at 2-1/4" setting)

## Cutting Leaves

- When cutting is complete, always be sure that 50% of the lawn shows through the cut leaf cover. This may require one or more passes over the leaves.
- For light leaf coverage, position all wheels at the same height-of-cut setting.
- If there are more than five inches of leaves on lawn, set the front wheels one or two notches higher than the rear wheels. This makes it easier to feed leaves under mower deck.
- Walk at a slower mowing speed if leaves are not being cut up finely enough to be hidden down in the grass.

- If you cut up a lot of oak leaves, you might want to add lime to your grass in the spring. Lime reduces the acidity of oak leaves.

# Operation

## Operating Tips

1. **CHECK OIL LEVEL**—Maintain oil level between ADD and FULL marks as shown on dipstick (Fig. 8).
2. **BEFORE EACH MOWING**—Be sure blade brake, self-propelled drive, and control bar function properly. When control bar is released, blade and self-propelled drive are designed to stop. If controls are not functioning properly, do not use mower until controls are repaired.
3. **SHARP BLADE**—Begin each cutting season with a sharp blade. Periodically file down nicks.

## Controls

Throttle control, blade/self-propelled control bar and fingertip starter are on upper handle (Fig. 10). Ground speed control is located at rear of belt cover (Fig. 11).

## Starting, Stopping, And Self-propelling

**Note:** The engine requires a warm-up period of one minute to several minutes, depending on the temperature.

1. Push spark plug wire onto spark plug (Fig. 12).
2. Move throttle control to  (FAST) position.
3. Move ground speed control to  (NEUTRAL).
4. Push primer three (3) times (Fig. 12). **Wait about two (2) seconds between each push.**

**Note:** Do not use primer to restart a warm engine after a short shutdown. However, cool weather may require priming to be repeated.

5. Pull recoil starter out until positive engagement results; then pull vigorously to start the engine. Allow the engine to warm-up. During warm-up, the equipment can be operated. Regulate throttle as desired when engine starts. Move ground speed control to desired setting.
6. **BLADE AND TRACTION OPERATION** (Fig. 13)—When control bar is in position “A”, slide control bar to right and raise to position “B” to engage blade. Squeeze control bar against handle to position “C” to drive. To disengage traction drive but keep blade engaged, gradually release control bar to position “B”. To self-propel with blade disengaged, simply squeeze control bar against handle to position “C”, without sliding control bar to right.
7. **STOPPING**—To stop engine, release control bar and move throttle control to  (OFF). Pull wire off spark plug if mower will be unattended or not used.

## Using Discharge Tunnel Plug

1. Make sure engine is off. Open the discharge door by pulling forward on the handle and moving it rearwards (Fig. 6). Hold the discharge door handle to prevent the spring-loaded door from closing while inserting the plug.
2. Since the plug is slightly wider than the discharge tunnel opening, you must rotate the plug clockwise slightly while inserting it (Fig. 6). Make sure the arrow on the plug decal is pointing upwards.
3. Push the plug all the way in until the spring clip on the bottom of the plug clicks into place, locking the plug securely into the discharge tunnel (Fig. 7). Release the discharge door handle to lock the top of the plug.

4. To remove the plug, move the discharge door handle rearwards while at the same time lift up the spring clip on the bottom of the plug. When the plug is unlocked, pull it out of the discharge tunnel.

**Note:** When grass is thick and lush, clippings may collect on and around the discharge tunnel plug. This may make plug removal difficult. Clean plug thoroughly after each use. Refer to *Cleaning Mower*, page 17.

## Using Grass Bag

Occasionally you may wish to use the grass bag for bagging extra long grass, lush grass or leaves.

1. Stop engine and wait for all moving parts to stop.
2. Ensure discharge door handle is fully forward and pin is engaged in catch (Fig. 14).
3. **INSTALLING BAG**—Slide hole in bag frame onto retaining post on discharge tunnel (Fig. 14). Set rear of bag frame onto lower handle.

### **DANGER**

#### **POTENTIAL HAZARD**

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

#### **WHAT CAN HAPPEN**

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

#### **HOW TO AVOID THE HAZARD**

- Never open door on discharge tunnel when engine is running unless the grass bag, optional side discharge attachment or discharge tunnel plug is securely installed.

4. Pull discharge door handle forward until pin clears catch and move handle rearward until pin locks in bag notch (Fig. 15). Discharge door in mower housing is now open.

### **DANGER**

#### **POTENTIAL HAZARD**

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

#### **WHAT CAN HAPPEN**

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

#### **HOW TO AVOID THE HAZARD**

- Check the grass bag frequently. If it is damaged, install a new genuine TORO replacement bag.

### **DANGER**

#### **POTENTIAL HAZARD**

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

#### **WHAT CAN HAPPEN**

- Thrown objects can cause serious personal injury or death.

#### **HOW TO AVOID THE HAZARD**

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

5. **EMPTYING BAG**—Stop engine and wait for all moving parts to stop. Raise discharge door handle and move it forward to engage the locking pin with the catch (Fig. 14). Grasp handles at front and rear of bag and lift bag off mower. Gradually tip bag forward to empty clippings.

6. To reinstall bag, repeat steps 3-4.

## Adjusting Height-of-cut

The height-of-cut is adjustable from approximately 3/4 to 3-1/4 inches (19 mm to 83 mm), in 1/2 inch (12.7 mm) increments (Fig. 9). Moving height-of-cut adjuster forward raises height-of-cut.

1. Stop the engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. For easier adjustment, lift housing up so wheel is off ground. **Do not place hands under deck to lift housing.** Squeeze adjusting lever toward wheel (Fig. 16) and move it to the desired setting. Assure pin on adjusting lever engages notch in mower housing wear plate. Adjust all wheels to the same setting.

### DANGER

#### POTENTIAL HAZARD

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

#### WHAT CAN HAPPEN

- Contact with blade could cause serious personal injury.

#### HOW TO AVOID THE HAZARD

- Stop engine and wait for all moving parts to stop before changing height-of-cut.
- Do not put fingers under housing to lift mower when adjusting height-of-cut levers.

## Maintenance

### CAUTION

#### POTENTIAL HAZARD

- When wire is on spark plug, someone could accidentally start the engine.

#### WHAT CAN HAPPEN

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

#### HOW TO AVOID THE HAZARD

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

## Servicing Air Cleaner

Normally, clean air cleaner pre-cleaner after every 25 operating hours or every season. Clean the paper cartridge after every 100 hours or every season. More frequent cleaning is required when mower is operated in dusty or dirty conditions. Replace air cleaner parts, if very dirty.

**IMPORTANT: Do not operate engine without air filter elements; extreme engine wear or damage will occur.**

**Note:** Tipping mower on wrong side to service underside of mower may cause damage to air filters.

1. Stop engine and pull wire off spark plug (Fig. 12).
2. Remove two (2) knobs securing air cleaner cover to engine (Fig. 17).
3. Lift cover off. Clean cover thoroughly.
4. Carefully remove pre-cleaner. If pre-cleaner is dirty, carefully wash it in a solution of liquid soap and warm water. Rinse in clear water. Allow to dry thoroughly before using.
5. If paper cartridge is dirty, clean the paper filter by tapping it **gently** on a flat surface. If very dirty, replace cartridge.

**IMPORTANT: Do not oil pre-cleaner or paper cartridge. Do not use pressurized air to clean paper cartridge.**

6. Reinstall pre-cleaner over paper cartridge. Reinstall air cleaner cover and tighten securely in place with two (2) knobs.

## Replacing Spark Plug

Remove plug after every 25 operating hours and check its condition. Replace spark plug every 100 operating hours or every season. Use a Champion RC12YC spark plug or equivalent.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Clean around spark plug and remove plug from cylinder head.

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

3. Set air gap at 0.020" (0.5 mm) (Fig. 18). Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 14 ft-lb (19 N·m).

## Draining Gasoline

1. Stop engine and wait for engine to cool. Pull wire off spark plug (Fig. 12).

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

2. Remove cap from fuel tank and use pump-type syphon to drain fuel into clean gas can.

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

## Changing Crankcase Oil

Change oil after the first 5 operating hours and then after every 50 hours or every season. Change oil while engine is warm.

**Note:** Change oil every 25 hours when operating under heavy load or in high temperatures.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Remove grass bag. Drain gasoline from fuel tank: refer to Draining Gasoline, page 14.
3. Remove dipstick from oil fill tube and place a drain pan next to left side of mower.
4. Tip mower on its left side, allowing oil to drain into drain pan (Fig. 19).
5. When oil is drained, return mower to upright position and add fresh oil to engine. Refer to Fill Crankcase With Oil, page 8.

## Replacing Oil Filter

Replace the oil filter (Fig. 19) after every 100 operating hours or yearly, whichever occurs first.

1. Drain gasoline from fuel tank; refer to Draining Gasoline, page 14.
2. Drain oil. Refer to Changing Crankcase Oil, page 14.
3. Place a rag under oil filter to catch any oil that may leak out as filter is removed.
4. Remove oil filter and discard it.
5. Using your finger, coat the gasket on the new filter with oil (Fig. 20).
6. Install the new filter and hand tighten it 2/3 turn only.
7. Check the filter for any oil leaks.
8. Properly discard the oily rag.

## Adjusting Throttle

Throttle control adjustment may be required if engine does not start. Whenever a new throttle control cable is installed, throttle must be adjusted.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Loosen cable clamp screw until throttle cable slides (Fig. 21).
3. Move governor control lever, throttle cable and casing in direction of arrow as far as possible (Fig. 21).
4. Move throttle control to  (FAST position).
5. Tighten cable clamp screw to lock adjustment in place.

## Cleaning Cooling System

After every 100 operating hours, clean dirt and chaff from cylinder, cylinder head fins and from around carburetor and linkage. Also remove debris from air intake slots on recoil housing. This will ensure proper cooling and optimum engine performance.

## Adjusting Wheel Drive

If mower does not self-propel or self-propels when control bar is **more** than 1-1/2 inches from the handle, adjust wheel drive control knob on rear of gear box.

1. Close door in mower housing and remove grass bag.
2. ADJUSTMENT (Fig. 22)—Rotate control knob clockwise 1/2 turn if mower does not self-propel. If mower creeps forward, rotate knob 1/2 turn counterclockwise to loosen belt.

3. CHECK ADJUSTMENT—Slowly pull mower backward while control bar is gradually moved toward handle. Adjustment is correct when rear wheels stop turning and control bar is about 1 inch from handle (Fig. 23).

## Inspecting/Removing/Sharpening Blade

Always mow with a sharp blade. A sharp blade cuts cleanly and without tearing or shredding the grass blades like a dull blade.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Drain gasoline from fuel tank; refer to Draining Gasoline, page 14.
3. Tip mower on its left side (Fig. 24).

### CAUTION

#### POTENTIAL HAZARD

- Someone could accidentally start the engine.

#### WHAT CAN HAPPEN

- Accidental starting of engine could cause serious injury to operator or bystanders.

#### HOW TO AVOID THE HAZARD

- Do not attempt to inspect, remove or replace blade without first removing the spark plug wire from spark plug and fastening it away from accidental contact with spark plug.

4. INSPECTING BLADE—Carefully examine blade for sharpness and wear, especially where flat and curved parts meet (Fig. 25A). Since sand and abrasive material can wear away the metal that connects the flat and curved parts of the blade, check blade before using the mower. If a slot or wear is noticed, (Fig. 25B & C), replace blade. Refer to step 5.

**Note:** For best performance, install new blade before cutting season begins. During the year, file down small nicks to maintain the cutting edge.

## DANGER

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

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

## WARNING

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

- Do not operate mower without accelerator.

5. REMOVING BLADE—Grasp end of blade using a rag or thickly padded glove. Remove blade nuts, anti-scalp cup, accelerator, and blade (Fig. 24).
6. SHARPENING BLADE—Using a file, sharpen top side of blade and maintain original cutting angle (Fig. 26). The blade will remain balanced if same amount of material is removed from both cutting edges.

**IMPORTANT: Check balance of blade by putting it on a blade balancer. An inexpensive balancer can be purchased at a hardware store. A balanced blade stays in a horizontal position and an unbalanced blade settles to the heavy side. If blade is not balanced, file more metal off cutting edge on heavy end of blade.**

7. Reinstall sharp, balanced blade, blade accelerator, anti-scalp cup, and blade nuts. Sail part of blade must point toward top of mower housing to assure correct installation. Tighten blade nuts to 15–27 ft-lbs (20–37 N·m).

## Lubrication

After every 25 operating hours or when season ends, pivot arms must be lubricated.

1. Move rear wheel height-of-cut levers to center setting. Wipe grease fittings with clean rag (Fig. 27). Install grease gun onto fitting and gently apply 2 or 3 pumps of #2 Multi-Purpose Lithium Base Grease. Excessive grease pressure may damage seals.

## Lubricating Gear Case

After every 100 operating hours, grease the gear case with #2 Multi-Purpose Lithium Base Grease.

1. Remove bag.
2. Install grease gun onto fitting thru belt cover opening (Fig. 28). Gently apply 1–2 pumps of grease.
3. Reinstall bag.

## Adjusting Blade Brake Cable

Whenever a new blade brake cable assembly is installed or the blade brake belt is replaced, the blade brake cable should be adjusted.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).

2. Loosen cable clamp screw until brake cable conduit slides (Fig. 29). Pull cable to remove slack, but do not put tension on spring. Tighten screw to lock adjustment in place.

## WARNING

### POTENTIAL HAZARD

- Do not over-tighten blade brake cable. Over-tightening could cause blade brake to be pulled off brake drum. If brake does not contact drum, blade will not stop rotating when control bar is released.

### WHAT CAN HAPPEN

- A rotating blade could cause serious personal injury.

### HOW TO AVOID THE HAZARD

- Check the blade brake mechanism each time brake cable is adjusted to ensure brake is stopping blade in 3 seconds or less.
- If blade does not stop rotating in 3 seconds or less, bring unit to your local Authorized Toro Service Dealer for inspection and repair.

## WARNING

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

- Thrown objects can cause serious injury or kill operator or bystanders.

### HOW TO AVOID THE HAZARD

- Never start or operate the mower unless one of the following is true:
  1. The discharge tunnel plug is locked securely in discharge tunnel.
  2. The grass bag is locked in place.
  3. The optional side discharge chute is locked in place.
  4. The discharge tunnel door is locked in place.

## Cleaning Mower

### Plug

To ensure best performance, the discharge tunnel plug must be cleaned after each use. When grass is thick and lush, clippings may collect on and around the plug; this may make plug removal difficult. After each use, remove plug from discharge tunnel and clean off all debris.

### Discharge Tunnel

Always be sure that discharge tunnel door closes securely when handle is released. If debris prevents discharge door from closing securely, clean inside of discharge tunnel and door thoroughly.

## Underside of Mower Housing

Keep underside of mower housing clean. Be especially careful to keep kickers free of debris (Fig. 32).

### Washing Method

1. Position mower on a flat surface near a garden hose.
2. Attach a quick disconnect coupling (sold separately) to the end of the garden hose. Attach coupling to mower washout fitting and turn water on high (Fig. 30).
3. Start the engine.
4. Let mower run for two minutes.
5. Stop the engine.
6. Turn the water off and remove coupling from the washout fitting.
7. Restart mower and let it run for one minute to dry out moisture on the mower and its components.

8. If underside of mower deck has excessive grass build-up or packing, reconnect the hose to the washout fitting, turn the water on high and run the mower for two minutes. Stop the mower and turn off the water. Let the mower soak for 30 minutes. Then turn the water on high again and run the mower for another two minutes.

### **Scraping Method**

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

1. Pull wire off spark plug (Fig. 12).
2. Drain gasoline from fuel tank: refer to Draining Gasoline, page 14.
3. Tip mower on its left side (Fig. 32).
4. Remove dirt and grass clippings with a hardwood scraper. Avoid burrs and sharp edges.
5. Turn mower upright.
6. Refill gas tank.
7. Reconnect spark plug wire.

### **Belt Cover**

Keep area under belt cover free of debris.

1. Remove bolts securing belt cover (Fig. 28) to mower housing. Lift off cover and brush out all debris from belt area. Reinstall belt cover.

## **Cleaning Blade Brake Clutch Shield**

The BBC (Blade Brake Clutch) shield should be cleaned periodically during the mowing season and at the end of each mowing season to ensure best performance and to prevent parts degradation. It is convenient to clean the BBC shield at the same time the blade is being sharpened because the blade needs to be removed in order to remove the BBC shield.

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Drain gasoline from fuel tank; refer to Draining Gasoline, page 14.
3. Tip mower on its left side.
4. Remove (2) blade nuts, anti-scalp cup, accelerator, and blade (Fig. 24).
5. Loosen tabs securing BBC shield to deck by loosening nuts or bolts on tabs (Fig. 33). Rotate tabs 180° to move them out of the way.
6. Remove BBC shield and brush or blow all debris from under shield and around BBC system.
7. Reinstall BBC shield. Rotate tabs 180° back into position. Tighten nuts or bolts on tabs to secure BBC shield to deck.
8. Reinstall blade, accelerator, anti-scalp cup, and (2) blade nuts.
9. Turn mower upright.
10. Reinstall spark plug wire on spark plug.

## **Servicing Wheels (Fig. 34)**

### **Removal**

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 12).
2. Remove capscrew, wheel spacer, and locknut mounting wheel to pivot arm.
3. Separate wheel halves from tire by removing (4) capscrews and locknuts.

**Note:** If bearings are to be removed from bearing/hub assembly, remove by pressing on bearing spacer.

### **Assembly**

1. Position tire onto (1) wheel half, aligning lugs on each.

2. Place bearing/hub assembly into center hole of wheel half. Make sure legs of hub are positioned over flange of hole.
3. Place other wheel half onto bearing/hub assembly aligning wheel and tire lugs and mounting holes.
4. Using (2) 1/4—20 x 1.50" lg. fully threaded screws or bolts and non-locking nuts, loosely secure wheel halves together. Mount screws or bolts in opposing holes.
5. Check alignment of all parts and tighten screws, alternating from side to side for a uniform fit, until wheel halves are drawn together.
6. Install (2) capscrews and locknuts, previously removed, in remaining holes in wheel halves and tighten. Remove (2) long screws or bolts and replace with (2) capscrews and locknuts.
7. Reinstall wheel to pivot arm with capscrews, spacer, and locknut. Make sure spacer is positioned between wheel hub and pivot arm.

## Fuel Filter

### Replacing the Fuel Filter

Replace the fuel filter after every 100 operating hours or yearly, whichever occurs first. The best time to replace the fuel filter (Fig. 31) is when the fuel tank is empty. Never install a dirty filter if it is removed from the fuel line.

1. Squeeze the ends of the hose clamps together and slide them away from the filter (Fig. 31).
2. Remove the filter from the fuel lines.
3. Install a new filter and move the hose clamps close to the filter.

## Storage

1. For long term storage, either drain gasoline from fuel tank or add a fuel stabilizer to the gasoline. To drain gasoline, refer to Draining Gasoline, page 14. After fuel is drained, start engine and let it idle until all fuel is consumed and engine stops. Repeat the starting procedure two more times to ensure all gas is removed from the engine. If gasoline is not drained, gum-like varnish deposits will form and cause poor engine operation, even starting problems.

**Note:** If engine is operating on oxygenated or reformulated gasoline (gasoline blended with an alcohol or an ether), remove all fuel from tank and run engine until it stops from lack of fuel before storing.

Fuel can be left in gas tank only if a fuel additive, such as Toro's Stabilizer/Conditioner, is added to gasoline and run through engine before storing. Toro's Stabilizer/Conditioner is a petroleum distillate based conditioner/stabilizer. Toro does not recommend stabilizers with an alcohol base, such as ethanol, methanol or isopropyl. Use fuel additive in recommended quantities as specified on container.

Under normal conditions, fuel additives remain effective in fuel for 6–8 months.

2. Drain oil: refer to Changing Crankcase Oil, page 14. After oil is drained, do not fill crankcase with oil until the following steps (3–11) are completed.
3. Remove spark plug and pour 2 tablespoons of SAE 30 oil into hole in cylinder. Pull starter rope slowly to coat inside of cylinder. Install spark plug and tighten to 14 ft–lb (19 N·m). **DO NOT REINSTALL WIRE ON SPARK PLUG.**
4. Clean mower housing: refer to Cleaning Mower, page 17.
5. Clean BBC shield: refer to Cleaning Blade Brake Clutch Shield, page 18.

6. Clean dirt and chaff from cylinder, cylinder head fins, and blower housing. Also remove grass clippings, dirt, and grime from external parts of the engine, shrouding, and top of mower housing.
7. Check condition of blade: refer to Inspecting/Removing/Sharpening Blade, page 15.
8. Tighten all nuts, bolts, and screws.
9. Clean air cleaner: refer to Servicing Air Cleaner, page 13.
10. Lubricate the pivot arms: refer to Lubrication, page 16.
11. Touch up all rusted or chipped paint surfaces. Toro Re-Kote paint is available from an Authorized TORO Service Dealer.
12. Fill crankcase with oil: refer to Fill Crankcase With Oil, page 8.
13. Store mower in a clean, dry place, out of the reach of children. Cover mower to keep it clean and protected.

## Accessories

For special conditions, the following accessories may be purchased at your local Authorized Toro Service Dealer.

1. **Side Discharge Kit, Model No. 59113**—Installs in seconds. Rear mounted in place of the grass bag or discharge tunnel plug. Disperses clippings while trimming on both sides (Fig. 35).
2. **Spark Arrestor and Screw (Part No. 94-1681)**—If a spark arrestor is required because of local, state, or federal regulations, it may be purchased at your local Authorized TORO Service Dealer. Clean screen after every 75 hours of operation. If mower is operated on any California forest, brush, or grass covered land without a properly operating spark arrestor, the operator is violating state law, Section 4442 Public Resources Code.