FORM NO. 3321–947

TORO®

ProLine 53 cm Recycler® II

Walk-behind Power Mower

Model No. 22045 – 9900001 & Up

Operator’s Manual

International English (GB)

Contents

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).

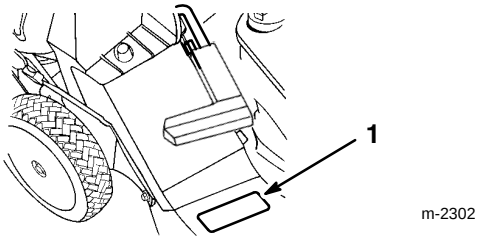


Figure 1

1. Model and serial number decal

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

Model No. _____

Serial No. _____

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.

Printed in USA

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. Wearing of hearing protection, protective gloves and a safety helmet is advisable.
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 – gasoline is highly flammable.
    - Store fuel in containers specifically designed for this purpose.
    - Refuel outdoors only and do not smoke while refuelling.
    - Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot.
    - If gasoline is spilled, do not attempt to start the engine but move the machine away from the are of spillage and avoid creating any source of ignition until gasoline 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 toward 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 broken 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.

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 gasoline 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 gasoline 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: 83.6 dB(A), based on measurements of identical machines per ANSI B71.5-1984 procedures.

Sound Power Level

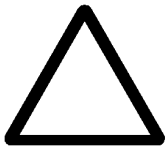
This unit has a sound power level of: 100 dB(A)/1 pW, based on measurements of identical machines per Directive 84/538/EEC and amendments.

Vibration Level

This unit has a maximum hand-arm vibration level of 3.45 m/s^2, based on measurement of identical machines per ISO 5349 procedures.

Symbol Glossary

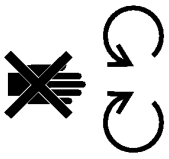
Safety alert triangle — symbol within triangle indicates a hazard.



Safety alert symbol

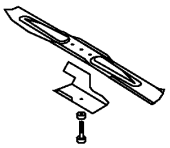
Read operator's manual.

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



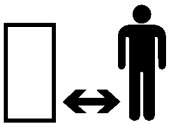
Rotating blade can cut off toes or fingers. Stay clear of mower blade as long as engine is running.

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

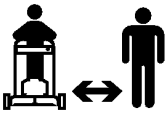


Consult technical manual for proper service procedures.

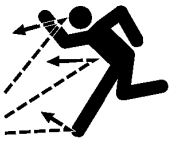
Stay a safe distance from the machine.



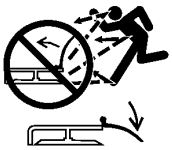
Stay a safe distance from the mower.



Throw or flying objects — Whole body exposure

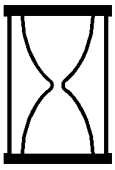


Thrown or flying objects — Rotary side-mounted mower. Keep deflector shield in place.



Stop engine before leaving operator position.

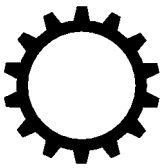
Hourmeter/elapsed operating hours



Fast

Slow

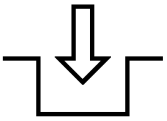
Transmission



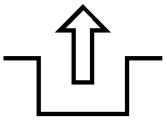
Oil

On/Run

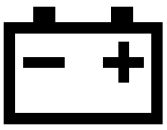
Engage



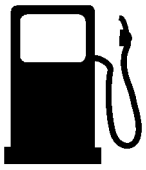
Disengage



Battery charging condition



Fuel



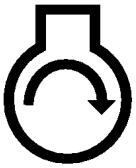
Neutral

First gear

Decreasing/Increasing

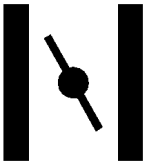
Grease lubrication point

Engine start



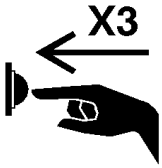
Engine stop

Choke



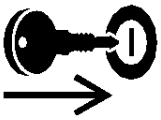
Primer (start aid)

Push primer three times.



Properly dispose of batteries.

Insert key in ignition switch.



Second gear

Third gear

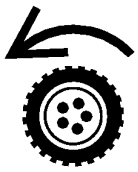
Cutting element — basic symbol

Cutting element — height adjustment

Pull rope.

Wheel

Wheel traction



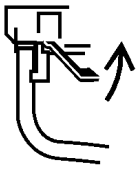
Lower control bar.

Raise control bar.

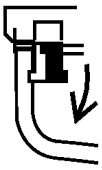
Turn key in ignition switch.

Move control.

Move control forward.

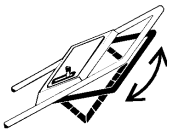


Move control rearward.



Raise/lower control bar.

Raise/lower control bar.



Raise control bar.

Raise control bar.

Lower control bar.

Assembly

Install Handle (Fig. 2)

1. Mount handle to outside of mower housing, using bottom hole, with (2) 5/16–18 x 1–1/4” (8 mm x 31 mm) capscrews, washers, and thin nylon insert locknuts (Fig. 2).
2. Secure handle latches to handle with (2) 5/16–18 x 1–1/2” (8 mm x 38 mm) 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).

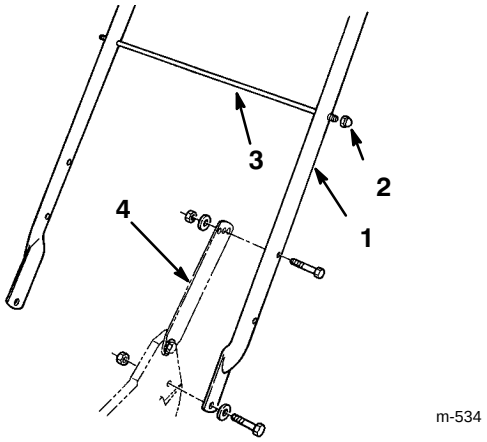


Figure 2

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

4. Use cable ties to secure the control cables to handles below the bag support rod.

Install Gas Tank And Fuel Line

1. Start self–tapping screws into bottom of gas tank and then remove screws.
2. Hook plastic clips on front of gas tank onto gas tank bracket (Fig. 3).
3. Secure gas tank to tank base with the (2) self–tapping screws (Fig. 3). Do not overtighten screws.
4. Hook gas tank retainer onto rear of gas tank and slide end of retainer into hole in tank bracket. Secure retainer to tank bracket with locknut (Fig. 3). Do not overtighten locknut.

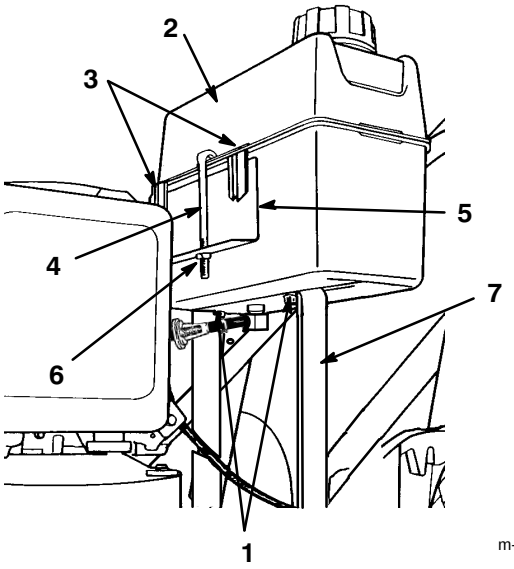


Figure 3

1. Self-tapping screws
2. Gas tank
3. Plastic clips
4. Gas tank retainer
5. Gas tank bracket
6. Lock nut
7. Tank base

5. 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.

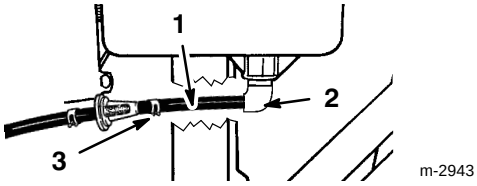


Figure 4

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

Install Air Cleaner Cover

1. Insert bottom tabs of air cleaner cover into slots. Rotate cover upwards and snap into place (Fig. 5).

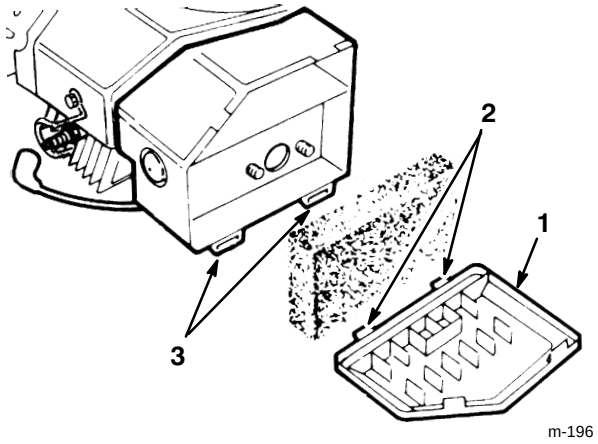


Figure 5

1. Cover
2. Tabs
3. Slots

Install 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.

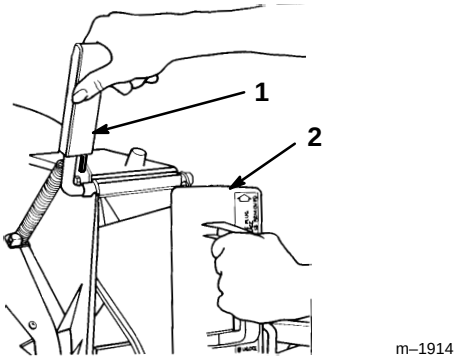


Figure 6

1. Discharge door handle
2. Plug rotated clockwise

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 discharge door handle to lock top of plug.

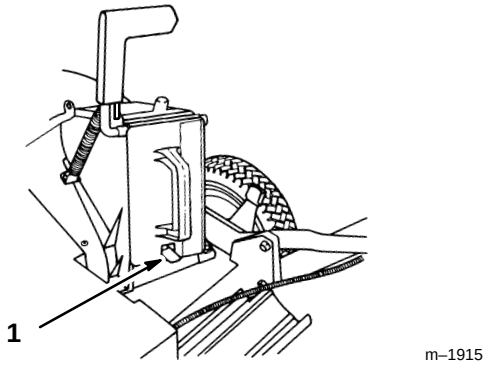


Figure 7

1. Spring clip

Before Starting

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.**

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 round.**
- **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.**

Mix Gasoline And Oil—50:1 Ratio

APPROVED OIL—For simplicity and best engine performance, mix the contents of one bottle of Toro 50:1 Two-Cycle Oil with 7.6 liters (two gallons) of fresh, unleaded regular gasoline. Leaded regular gasoline may be used if unleaded regular is not available.

Toro Two-Cycle Oil is specially formulated to provide superior lubrication, make starting easy, and prolong engine life. if Toro Two-Cycle Oil is not available, mix 7.6 liters (two gallons) of gasoline and 154 ml (5.2 ounces) of another high grade two-cycle oil that has the NMMA or BIA-TCW certification printed on the label.

IMPORTANT: YOU CAN ALSO USE TORO “EASY-MIX” TWO-CYCLE OIL 95 ml (3.2 OUNCE) BOTTLE MIXED ONE PER 3.8 LITERS (ONE GALLON) OF GASOLINE (this is a 40:1 ratio) IN THIS TORO TWO-CYCLE ENGINE.

NEVER USE AUTOMOTIVE OIL (i.e. SAE 30, 10W30 etc.), TWO-CYCLE OIL THAT IS NOT CERTIFIED NMMA/BIA-TCW, OR THE WRONG MIX RATIO BECAUSE THE ENGINE CAN BE DAMAGED, AND IT WOULD NOT BE COVERED BY THE TORO WARRANTY.

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.

1. Mixing Gasoline and Oil (Fig. 8)—Pour correct amount of two-cycle oil into an approved gasoline container and add a 1.9 liters (half gallon) of gasoline. Install cap on gasoline container and shake the container to mix oil and gas thoroughly. Remove cap and add remaining amount of gasoline.

Figure 8

1. Add oil to small amount of gasoline.
2. Install cap and shake can to mix.
3. Add remaining amount of gasoline.

IMPORTANT: NEVER USE METHANOL, GASOLINE CONTAINING METHANOL, GASOHOL CONTAINING MORE THAN 10% ETHANOL, PREMIUM GASOLINE, OR WHITE GAS BECAUSE ENGINE FUEL SYSTEM DAMAGE COULD RESULT.

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.

Note: Do not mix gasoline and oil in the product fuel tank. Oil that is at room temperature mixes easier and more thoroughly than cold oil.

50:1 GAS/OIL Mixing Chart

U.S. GALLON	
Gasoline	**Oil**
3.8 liters (1 gallon)	77 ml (2.6 oz.)
7.6 liters (2 gallons)	154 ml (5.2 oz.)

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 44 mm (1-3/4"), 57 mm (2-1/4") or 70 mm (2-3/4") height-of-cut settings (Fig. 9). Only

about 1/3 of the grass blade should be cut off. Cutting below the 44 mm (1-3/4") setting is not recommended unless grass is sparse or it is late fall when grass growth begins to slow down.

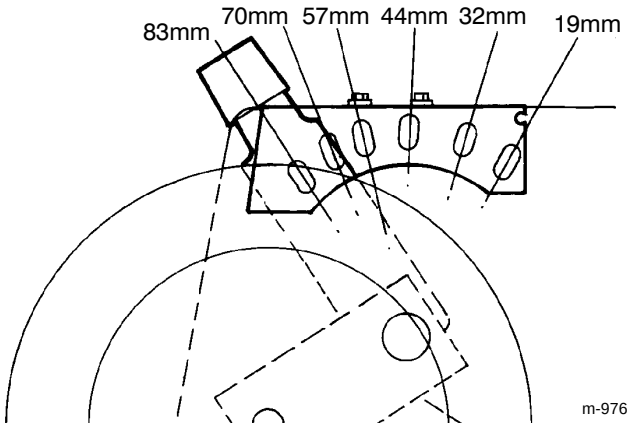


Figure 9

- When cutting grass over 15 cm 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 44 mm (1-3/4") setting and rear wheels at 57 mm (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. 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.
2. SHARP BLADE—Begin each cutting season with a sharp blade. Periodically file down nicks.

Starting, Stopping, And Self-propelling

CONTROLS (Fig. 10)—The throttle control and ground speed control levers are on the console on the handle with the throttle control to the left and the ground speed control to the right. The blade/self-propelled control bar is under the upper handle. The recoil starter is on top of engine.

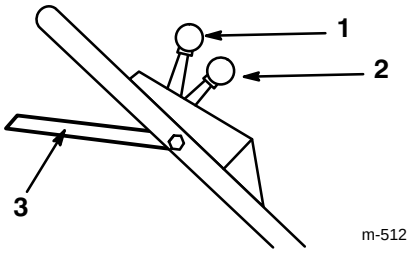


Figure 10

1. Throttle control
2. Ground speed control
3. Blade/self-propelled control bar

1. Push spark plug wire onto spark plug.
2. STARTING—Move ground speed control to neutral and throttle to |\| (CHOKE). Cover hole in center of primer (Fig. 15) with thumb and push once. With your foot on the mower housing, pull the recoil starter out until resistance is felt; then pull vigorously to start the engine. Regulate throttle and ground speed control as desired when engine starts.

Note: When starting a warm engine, (CHOKE) may not be necessary.

3. BLADE AND TRACTION OPERATION (Fig. 11)—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.

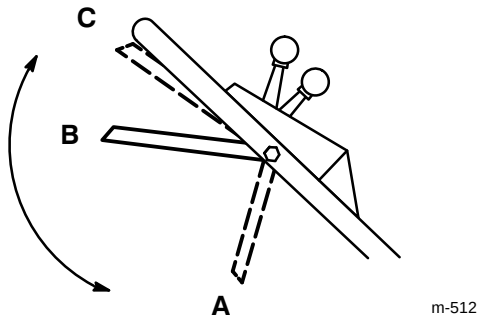


Figure 11

4. STOPPING—To stop engine, release control bar and move throttle 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 rearward (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 upward.

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.

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. 12).

3. INSTALLING BAG—Slide hole in bag frame onto retaining post on discharge tunnel (Fig. 12). Set rear of bag frame onto support rod.

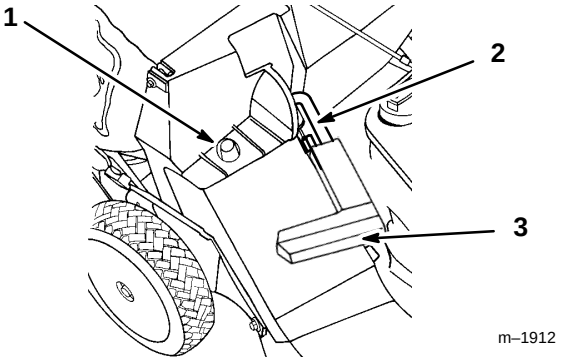


Figure 12

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

4. Pull discharge door handle forward until pin clears catch and move handle rearward until pin locks in bag notch (Fig. 13). Discharge door in mower housing is now open.

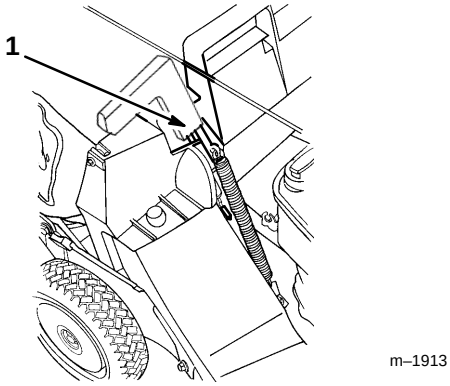


Figure 13

1. Pin locked in bag notch

DANGER

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

WHAT CAN HAPPEN
- **Objects thrown with enough force could cause serious personal injury or death to 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.**

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 catch (Fig. 12). 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 19 mm to 83 mm ($3/4$ to $3\text{-}1/4$ inches), in 12.7 mm ($1/2$ inch) increments (Fig. 9). Moving height-of-cut adjuster forward raises height-of-cut.

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.**

1. Stop the engine and wait for all moving parts to stop.

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. 14) 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.

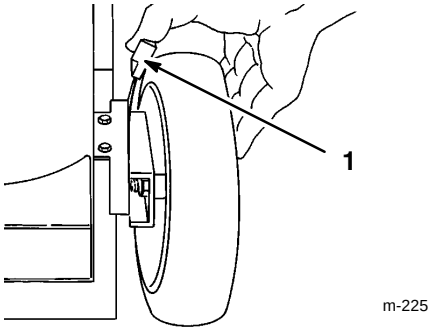


Figure 14

1. Height-of-cut adjuster

Maintenance

WARNING

POTENTIAL HAZARD
- **When wire is on spark plug, 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
- **Pull wire off spark plug before performing any maintenance or adjustments.**

Servicing Air Cleaner

Normally, clean air cleaner after every 25 operating hours. More frequent cleaning is required when mower is operated in dusty or dirty conditions.

1. Stop engine and pull wire off spark plug (Fig. 15).

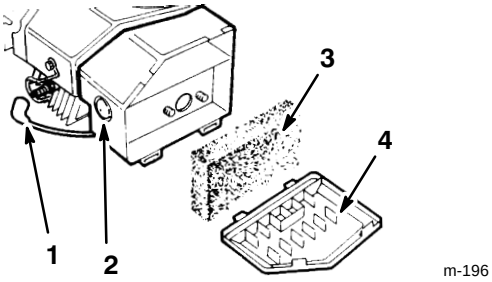


Figure 15

1. Spark plug wire
2. Primer
3. Foam element
4. Cover

2. Lift tabs at top of air cleaner cover and pivot cover down. Clean cover thoroughly.

3. If outside of foam element is dirty, remove it from air cleaner body. Clean thoroughly.

A. WASH foam element in a solution of liquid soap and warm water. Squeeze to remove dirt, but do not twist because foam may tear. Rinse thoroughly in clear water.

B. DRY by wrapping in a clean rag. Squeeze rag and foam element to dry.

C. SATURATE element with engine oil. Squeeze element to remove excess oil and to distribute oil thoroughly. A damp element is desirable.

4. Reinstall foam element and air cleaner cover.

IMPORTANT: Do not operate engine without air cleaner element because extreme engine wear and damage will likely result.

Replacing Spark Plug

Use an NGK BPMR4A spark plug or equivalent. Correct air gap is 0.81 mm (0.032”). Remove plug after every 25 operating hours and check its condition.

1. Stop engine and pull wire off spark plug (Fig. 15).

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 0.81 mm (0.032”) (Fig. 16). Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 13.6 N·m (10 ft–lb).

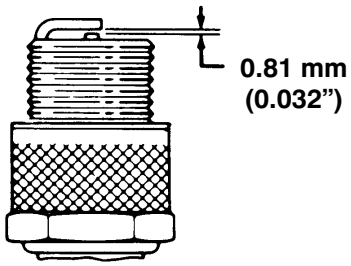


Figure 16

Draining Gasoline

1. Stop engine and pull wire off spark plug (Fig. 15).

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.

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 pull wire off spark plug (Fig. 15).

2. Move throttle control to (FAST) position.

3. Loosen cable clamp screw until throttle cable slides (Fig. 17).

4. Check to see if holes in throttle bracket and choke lever are aligned (Fig. 17). If not, follow adjustment procedure in step 5.

5. ADJUSTMENT—A small diameter pin may be inserted into aligned holes to hold adjustment. Push throttle cable until throttle lever contacts choke lever (Fig. 17). Tighten cable clamp screw. Remove pin if used.

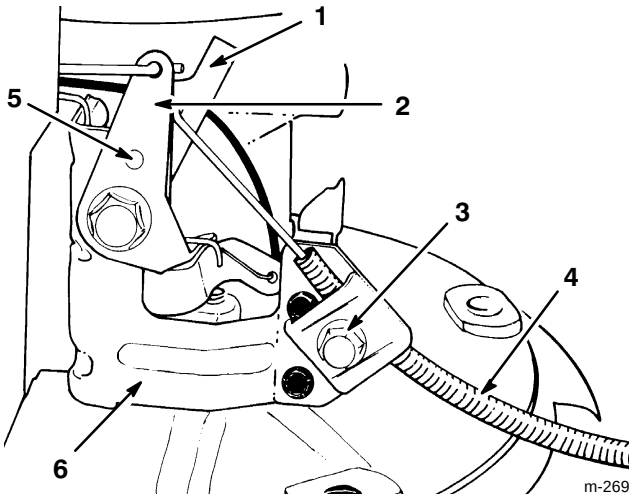


Figure 17

1. Throttle lever
2. Choke lever
3. Cable clamp screw
4. Throttle cable
5. Aligned holes
6. Throttle bracket

Cleaning Cooling System

After every 75 operating hours, clean dirt and chaff from cylinder, cylinder head fins and from around carburetor and linkage with a brush or air hose. Also remove debris from air intake slots on recoil housing. This will assure proper cooling and optimum engine performance.

Cleaning Muffler And Exhaust Port

Clean end of muffler pipe and exhaust port after every 75 hours of operation.

CAUTION

POTENTIAL HAZARD
- **Muffler and engine surface become hot when mower is in operation.**

WHAT CAN HAPPEN
- **Contact with hot muffler surface could cause a burn.**

HOW TO AVOID THE HAZARD
- **Clean muffler and exhaust port only after engine and muffler are cool.**

1. Stop engine and remove wire from spark plug.

2. Use hard wood scraper and remove carbon from end of muffler pipe (Fig. 18).

3. Remove screw, two nuts, and lockwashers (Fig. 18). Slide muffler off mounting pins.

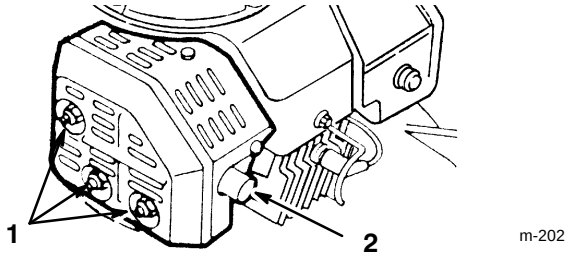


Figure 18

1. Screw, nuts, lockwasher
2. Muffler pipe

4. Slowly pull recoil starter so piston covers exhaust port (Fig. 19).

5. Clean carbon from exhaust port (Fig. 19) with flat, hard wood scraper.

IMPORTANT: Do not use a metal scraper or similar object to clean exhaust port because accidental damage to the piston or cylinder could easily occur.

6. Reinstall muffler with screw, (2) nuts and lockwashers (Fig. 19). After cleaning exhaust port, make sure muffler gasket is still usable.

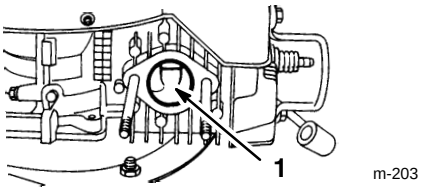


Figure 19

1. Exhaust port

Adjusting the Self-propel Drive System

If mower does not self–propel or self–propels when control bar is **more** than 38 mm (1 1/2 inches) from the handle, adjust the gear control cable and the wheel drive cable.

Adjusting the Control Cable

1. Stop engine and pull wire off spark plug (Fig. 15).

2. Remove the bolts securing the belt cover (Fig. 20) to the mower housing and lift off the cover.

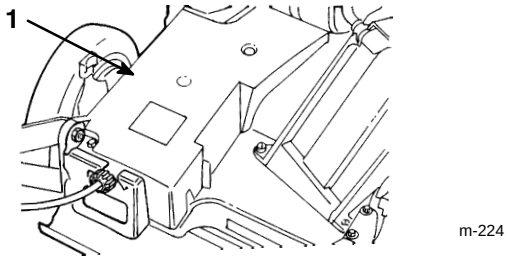


Figure 20

1. Belt cover

3. Move the ground speed control lever into neutral and as far back as possible.

4. Loosen the cable retaining screw (Fig. 21).

5. Pull the shift lever to the right until it is tight against the stop on the gear case (Fig. 21).

6. Pull the cable through the cable retainer to the right to remove any slack (Fig. 21).

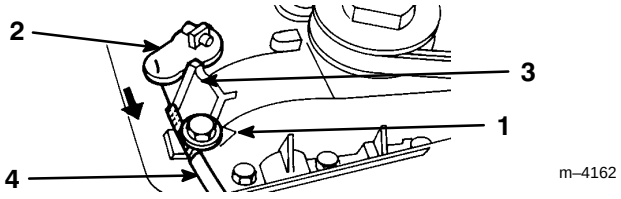


Figure 21

1. Cable retaining screw
2. Shift lever
3. Stop on gear case
4. Cable

7. Tighten the cable retaining screw.

8. Replace the belt cover.

Adjusting Wheel Drive Cable

1. Close door in mower housing and remove 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.

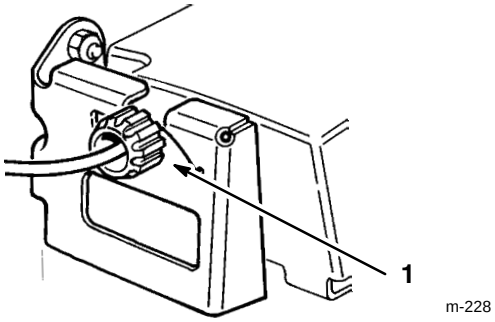


Figure 22

1. Control knob

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 25 mm (1 inch) from handle (Fig. 23).

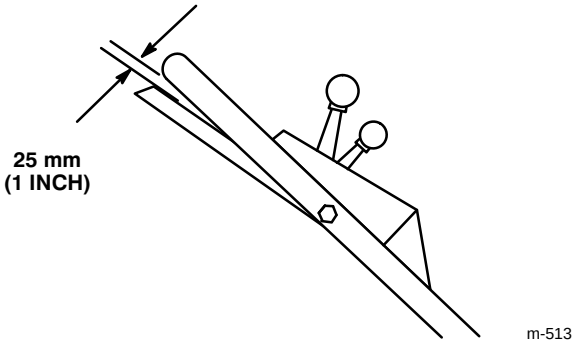


Figure 23

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. 15).

CAUTION

POTENTIAL HAZARD
- **When wire is on spark plug, 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.**

2. Drain gasoline from fuel tank; refer to Draining Gasoline, page 15.

3. Tip mower on its right side (Fig. 24).

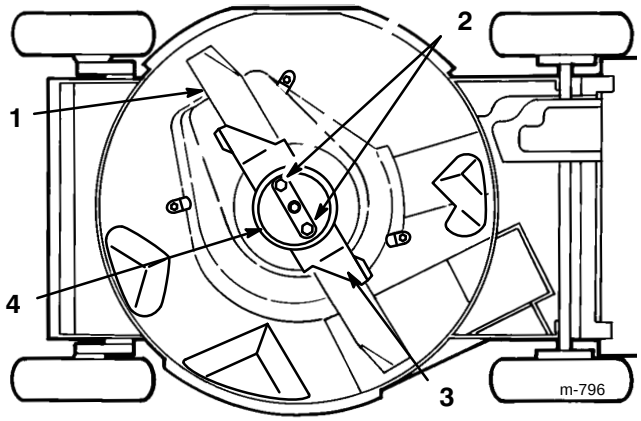


Figure 24

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

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.

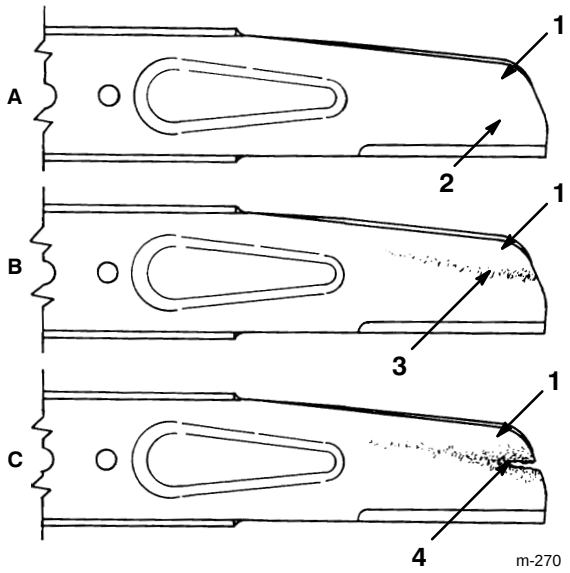


Figure 25

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

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.**

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.

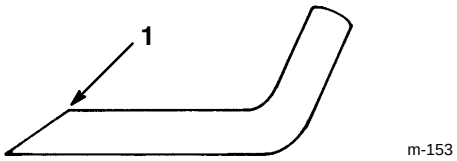


Figure 26

1. Sharpen at this angle only

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

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.**

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.

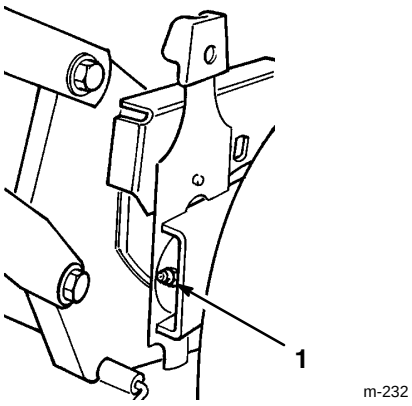


Figure 27

1. Grease fitting

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.

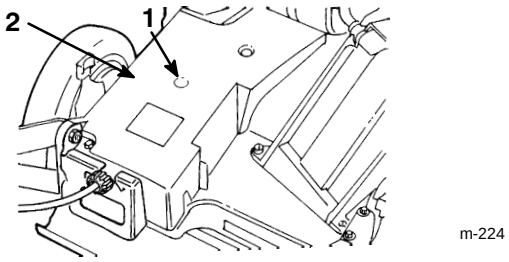


Figure 28

1. Grease fitting
2. Belt cover

3. Reinstall bag.

Adjusting Blade Brake Cable

Whenever a new blade brake cable assembly is installed or the 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. 15).

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.

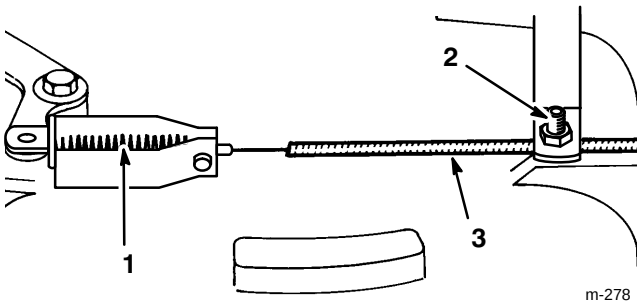


Figure 29

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

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

- **Each time brake cable is adjusted, ensure that the brake is stopping the 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.**

Cleaning Mower

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.

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 <u>one</u> 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.**

Underside of Mower Housing

Keep underside of mower housing clean. Be especially careful to keep kickers free of debris (Fig. 30).

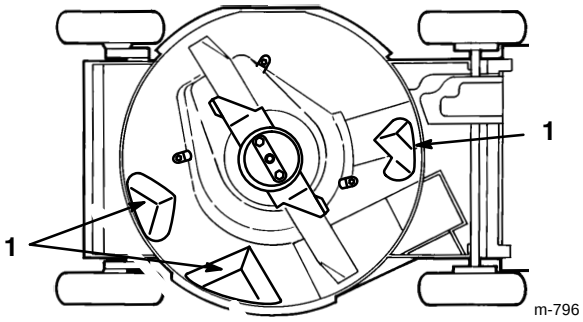


Figure 30

1. Kickers plates

<u>Washing Method</u>

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. 31).

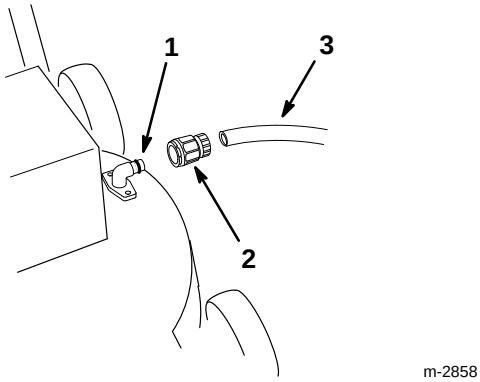


Figure 31

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

3. Start the engine.

4. Engage the blade.

5. Let mower run for two minutes.

6. Disengage the blade.

7. Stop the engine.

8. Turn the water off and remove coupling from the washout fitting.

9. Restart mower and let it run for one minute to dry out moisture on the mower and its components.

10. 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.

WARNING

POTENTIAL HAZARD
- **A broken or missing washout fitting could expose you and others to thrown objects or blade contact.**

WHAT CAN HAPPEN
- **Contact with thrown debris or blade contact will cause injury or death.**

HOW TO AVOID THE HAZARD
- **Replace broken or missing washout fitting immediately before using mower again.**
- **Plug any hole(s) in mower with bolts and lock nuts.**
- **Never put your hands or feet under the mower or through openings in the mower.**

Scraping Method

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

WARNING

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

WHAT CAN HAPPEN
- **Tipping mower may cause fuel leakage from carburetor or fuel tank.**

HOW TO AVOID THE HAZARD
- **Avoid fuel spills by running engine dry or remove gas with hand pump, never siphon.**

1. Pull wire off spark plug.
2. Drain gasoline from fuel tank: refer to Draining Gasoline, page 15.
3. Tip mower on its right side (Fig. 24).
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.
2. Lift off cover and brush out all debris from belt area.
3. 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. 15).
2. Drain gasoline from fuel tank; refer to Draining Gasoline, page 15.
3. Tip mower on its right side.

WARNING

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

WHAT CAN HAPPEN
- **Tipping mower may cause fuel leakage from carburetor or fuel tank.**

HOW TO AVOID THE HAZARD
- **Avoid fuel spills by running engine dry or remove gas with hand pump, never siphon.**

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. 32). Rotate tabs 180° to move them out of the way.

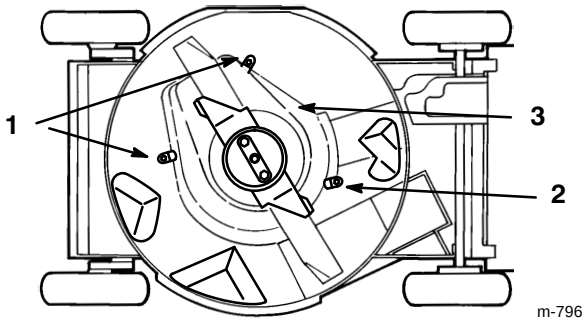


Figure 32

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

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. 33)

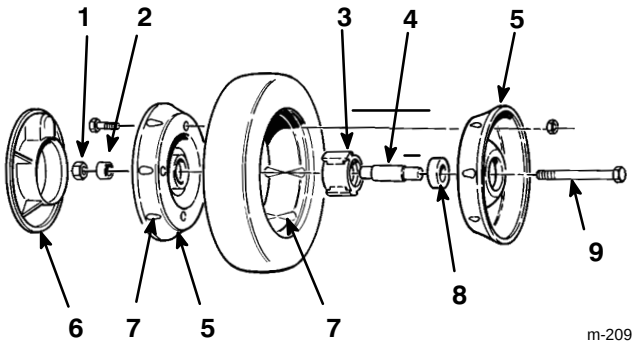


Figure 33

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

Removal

1. Stop engine and wait for all moving parts to stop. Pull wire off spark plug (Fig. 15).
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) 6 mm x 38 mm (1/4—20 x 1.50”) 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. 34) 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. 34).

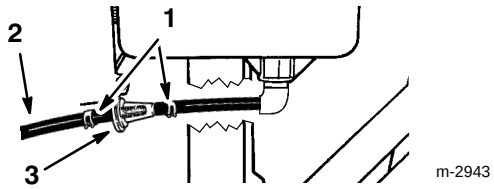


Figure 34

1. Hose clamp
2. Fuel line
3. Filter

2. Remove the filter from the fuel lines.
3. Install a new filter and move the hose clamps close to the filter.

   Note: The flow arrow on the filter must point toward the carburetor.

Preparing Mower For 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 15. 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 assure 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.

   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. Remove spark plug and pour 2 teaspoons of Toro Two–Cycle oil into hole in cylinder. Pull starter rope slowly to coat inside of cylinder. Install spark plug and tighten to 13.6 N·m (10 ft–lb). DO NOT INSTALL WIRE ON SPARK PLUG.

3. Clean underside of housing: refer to Cleaning Mower, page 19.

4. Check condition of blade: refer to Inspecting/Removing/Sharpening Blade, page 17.

5. Tighten all nuts, bolts, and screws.

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. Clean BBC shield: refer to Cleaning Blade Brake Clutch Shield, page 21.

8. Clean air cleaner: refer to Servicing Air Cleaner, page 14.

9. Lubricate the pivot arms: refer to Lubrication, page 18.

10. Touch up all rusted or chipped paint surfaces. Toro Re–Kote paint is available from an Authorized TORO Service Dealer.

11. 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).

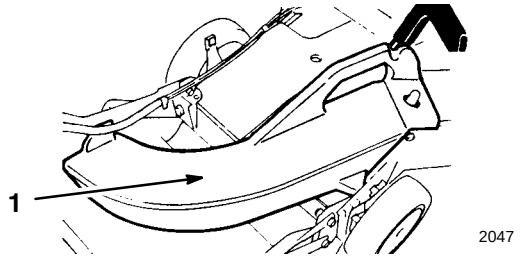


Figure 35

1. Side discharge chute

2. **Spark Arrestor (Part No. 81–0200)**—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.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