



MODEL NO. 22700BC – 5900001 & UP

OPERATOR'S
MANUALPROLINE® 53CM SIDE DISCHARGE
MOWER

SAFETY INSTRUCTIONS

WARNING: Engine exhaust contains carbon monoxide which is an odorless, deadly poison. Carbon monoxide is also known to the State of California to cause birth defects. Do not run engine indoors or in an enclosed area.

BEFORE OPERATING

1. Read this manual carefully before operating the mower. Become familiar with the controls and proper use of the mower. Never allow children to operate the mower or adults to operate it without proper instructions.
2. Keep everyone, especially children and pets, away from area of operation. Thoroughly inspect area where mower will be used and remove sticks, stones, wire, and debris.
3. Wear long pants and substantial shoes. Do not operate mower while wearing open sandals or when bare-foot.
4. Check fuel level before starting engine. Do not fill fuel tank indoors, when the engine is running, or until engine cools for several minutes after running. Wipe up spilled gasoline before starting engine.
5. Keep all guards, shields, and safety devices in place. Repair or replace damaged parts, including decals.
6. Traction drive is designed to stop when the control bar is released. Ensure control bar functions properly before each use of mower.

WHILE OPERATING

7. Do not run engine indoors.
8. Always maintain secure footing. Keep a firm grip on the handle and walk; never run. Never operate mower in wet grass. Mow only in daylight or in good artificial light.

9. Mow across the face of slopes; never up and down. Use extreme caution when changing direction on slopes. Do not mow excessively steep slopes.

10. 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 and keep clear of discharge opening at all times.

11. During operation grass deflector must be installed on mower.

12. Since the blade rotates for a few seconds after the engine is stopped, stay behind the handle until all moving parts stop.

13. After striking a foreign object or if mower vibrates abnormally, stop engine and remove wire from spark plug. Check mower for damage and make all repairs before using mower again.

14. Shut off engine and wait for all moving parts to stop before adjusting the height-of-cut.

15. Stop the engine when crossing a gravel driveway, road or sidewalk.

16. Stop engine before leaving the operator's position—behind the handle. Disconnect wire from spark plug if mower will be unattended.

17. Do not touch engine while it is running or shortly after it is stopped because engine will be hot enough to cause a burn.

18. Refuel only when engine is cool.

SAFETY INSTRUCTIONS

MAINTENANCE

19. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or if assistance is desired, contact your local Authorized TORO Service Dealer.

20. Before mower is cleaned, inspected, serviced, or adjusted, stop engine and disconnect wire from spark plug. Keep wire away from plug to prevent accidental starting.

21. To ensure the mower is in safe operating condition, frequently check and keep all nuts, bolts, and screws tight. Ensure blade bolt is tightened to 50 ft-lb (68 N·m).

22. To reduce fire hazard, keep engine free of excessive grease, grass, leaves, and accumulations of dirt.

23. Allow engine to cool before storing mower in any enclosure. Do not store mower near any open flame or where gasoline fumes may be ignited by a spark.

24. Do not overspeed the engine by changing governor settings.

25. At the time of manufacture, the mower conformed to the safety standards in effect for rotary mowers. To ensure best performance and continued safety certification of the mower, use genuine TORO replacement parts and accessories. Replacement parts and accessories made by other manufacturers may result in non-conformance with the safety standards, and that could be dangerous.

SAFETY SYMBOL GLOSSARY

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



Safety alert



Keep hands/feet away from blade



Place foot here when starting



Keep hands away



Keep all guards in place



Choke on



Stop engine before leaving operator position



50:1

50:1 ratio unleaded gasoline to 2-cycle oil



Read and understand operator's manual



Keep bystanders from mowing area



Slow



Fast



Engine speed (Throttle)

TABLE OF CONTENTS

	Page		Page
Set-Up Instructions	3	Adjusting Wheel Drive	10
Before Operating	5	Inspecting/Removing/Sharpening Blade	10
Operating Instructions	6	Lubrication	12
Maintenance	8	Lubricating Gear Case	12
Servicing Air Cleaner	8	Servicing Wheels	12
Replacing Spark Plug	8	Cleaning Mower Housing	13
Draining Gasoline	8	Preparing Mower For Storage	13
Adjusting Throttle	9	Optional Spark Arrestor	14
Cleaning Cooling System	9	Toro Service Support	14
Cleaning Muffler Exhaust Port	9	Product Identification	14

SET-UP INSTRUCTIONS

INSTALL HANDLES

1. Remove (2) screws securing belt cover to housing and remove cover (Fig. 1).

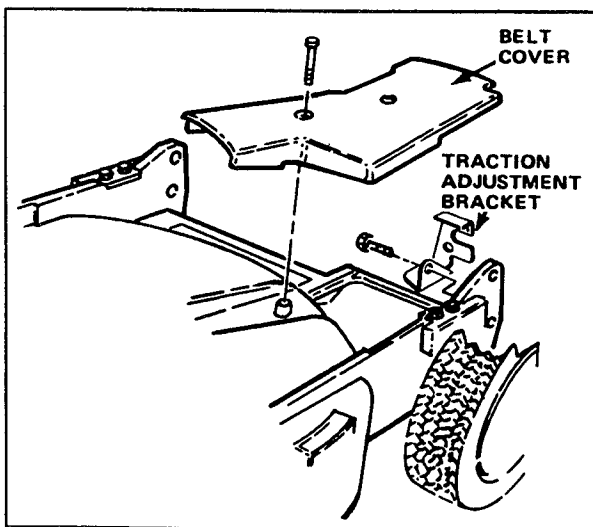


Figure 1

2. Remove screw securing traction adjustment bracket to housing and move bracket to side (Fig. 1).

3. Using front set of mounting holes, mount lower handle to inside of mower housing with (2) (5/16-18 x 1-1/4" lg.) capscrews, Belleville washers and locknuts as shown in fig. 2. Position washer next to capscrew head.

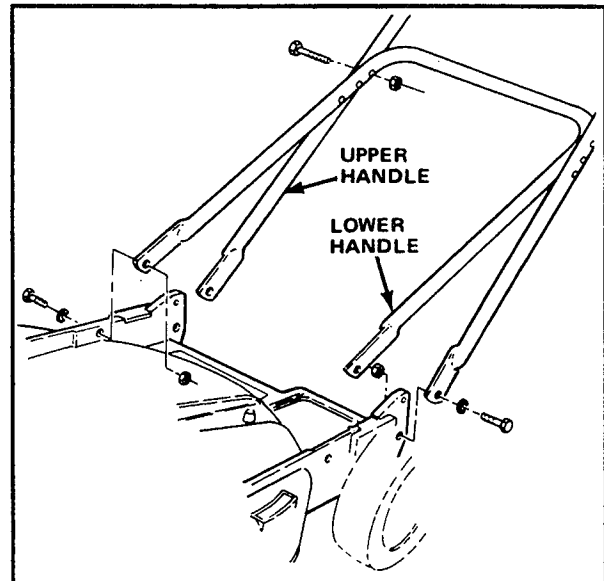


Figure 2

4. Using rear set of mounting holes, mount upper handle to outside of mower housing with (2) (5/16-18 x 1-1/4" lg.) capscrews, Belleville washers and locknuts as shown in fig. 2.

5. Align mounting holes in upper and lower handles and secure with (2) (5/16-18 x 2-1/2" lg.) capscrews and locknuts.

NOTE: Handle height can be set in either set of holes in handles, depending on operator height.

6. Reassemble traction adjustment bracket and belt cover.

SET-UP INSTRUCTIONS

INSTALL THROTTLE CONTROL

1. Route throttle control under lower handle, hook traction cable onto traction control lever and install control against inside of upper handle with (2) (1/4-20 x 1-3/8" lg.) capscrews and curved washers (Fig. 3).
2. Secure cables to upper handle with a cable tie.

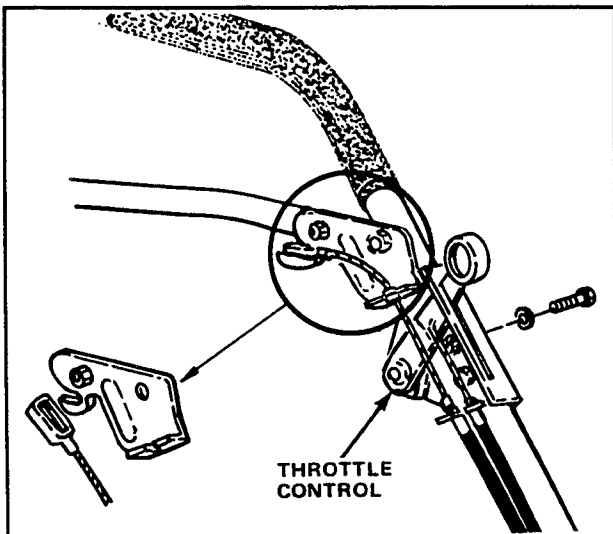


Figure 3

INSTALL DEFLECTOR

1. Position the deflector onto mower housing opening and align mounting holes (Fig. 4).

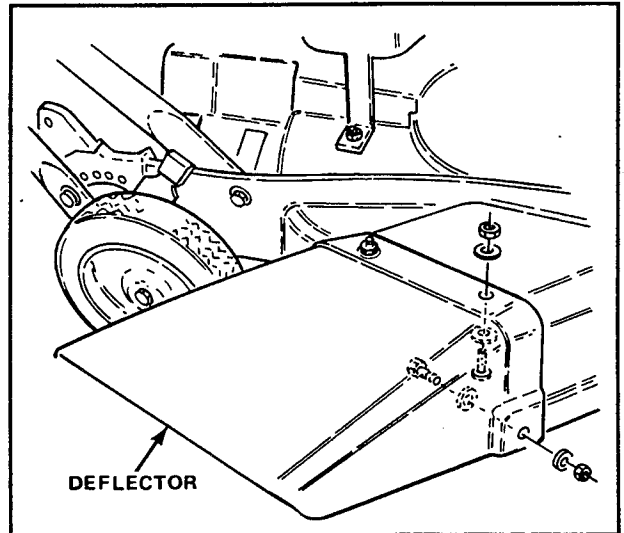


Figure 4

2. Secure top of deflector to mower housing with (2) (1/4-20 x 7/8" lg.) capscrews, (4) washers and (2) lock-nuts. Washers must be positioned next to capscrew head and nut.
3. Secure front of deflector to mower housing with a (1/4-20 x 1-1/8" lg.) capscrew, (2) washers and a locknut. Washers to be positioned next to capscrew head and nut.

BEFORE OPERATING



WARNING

DANGER: Gasoline is extremely flammable and explosive under certain conditions. Do not smoke when handling fuel and keep fuel far away from open flames and sparks. Never buy more than a 30 day supply of gasoline. Store it in an approved container. Keep gasoline out of reach of children.

Refuel outdoors and only when engine is cold. Fill tank to within 1/4" to 1/2" (6 to 13 mm) from top of tank, not into filler neck. This space is for expansion of fuel. Use funnel or spout to prevent spilling. Wipe up any spilled gas.

MIX GASOLINE AND OIL—50:1 RATIO

1. APPROVED OIL—For simplicity and best engine performance, mix the contents of one bottle of Toro 50:1 Two-Cycle Oil with 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 two gallons of gasoline and 5.2 ounces of another high grade two-cycle oil that has the NMMA or BIA-TCW certification printed on the label.

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: YOU CAN ALSO USE TORO "EASY-MIX" TWO-CYCLE OIL (3.2 OUNCE BOTTLE MIXED ONE PER GALLON OF GASOLINE) 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 DAM-

AGED, AND IT WOULD NOT BE COVERED BY THE TORO WARRANTY.

2. Mixing Gasoline and Oil—Pour correct amount of gasoline into an approved gasoline container and add the correct amount of two-cycle oil. Install cap on gasoline container and shake the container to mix oil and gas thoroughly. Remove cap and add remaining amount of gasoline.

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.

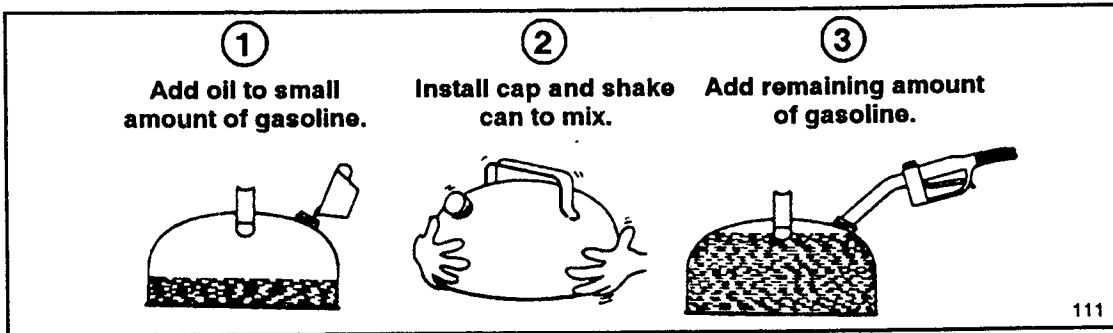
IMPORTANT: NEVER USE METHANOL, GASOLINE CONTAINING METHANOL, GASOHOL CONTAINING MORE THAN 10% ETHANOL, PREMIUM GASOLINE, OR WHITE GAS BECAUSE ENGINE FUEL SYSTEM DAMAGE COULD RESULT.

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 STABILIZER/CONDITIONER. TORO DOES NOT RECOMMEND STABILIZERS WITH AN ALCOHOL BASE SUCH AS ETHANOL, METHANOL OR ISOPROPYL. STABILIZERS SHOULD NOT BE USED TO TRY TO ENHANCE THE POWER OR PERFORMANCE OF MACHINE.

BEFORE OPERATING



50:1 GAS/OIL Mixing Chart

U.S. GALLON	
Gasoline	Oil
1 gallon	2.6 oz.
2 gallons	5.2 oz.



OPERATING INSTRUCTIONS

STARTING, STOPPING, AND SELF-PROPELLING

1. CONTROLS—Throttle control and control bar are on upper handle. Ground speed control is located at rear of belt cover. Fingertip starter is on engine.
 2. Push spark plug wire onto spark plug.
 3. Open fuel shut-off valve below fuel tank.
 4. STARTING—Move throttle to  (CHOKE) (Fig. 5). Pull fingertip starter out slowly until positive engagement results; then pull vigorously to start the engine. Regulate throttle as desired when engine starts (Fig. 5).
- NOTE:** A cold engine will start easier by pumping the primer bulb 3–5 times before pulling the starter rope. When starting a warm engine,  (CHOKE) may not be necessary.
5. TRACTION OPERATION—Move ground speed control to desired speed

selection (Fig. 6). Squeeze control bar against handle to drive. Ground speed varies, depending on space between control bar and handle (Fig. 5).

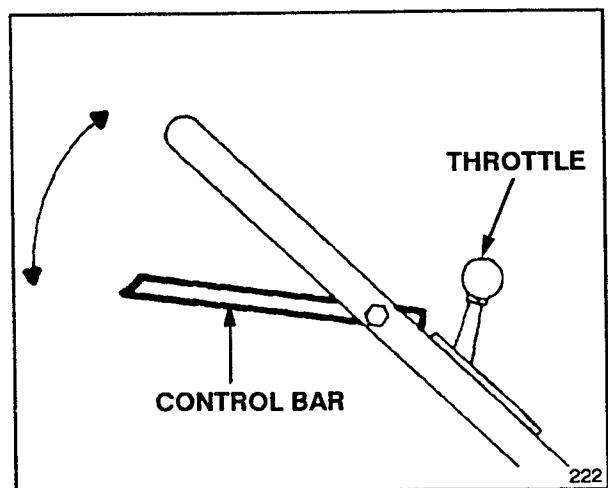


Figure 5

6. STOPPING—To stop engine, move throttle to stop position. Pull wire off spark plug if mower will be unattended or not used.

OPERATING INSTRUCTIONS

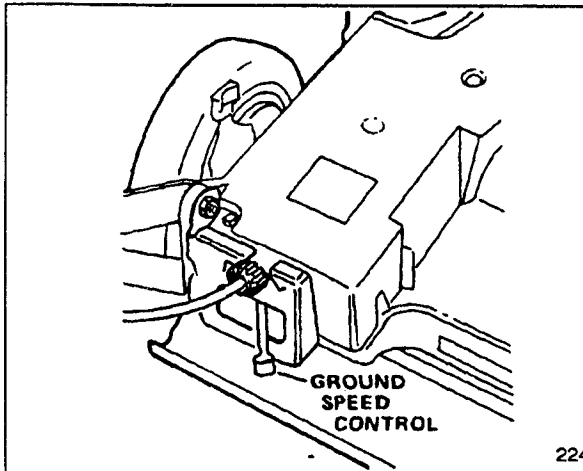


Figure 6

CAUTION

- Blade continues to rotate for a few seconds after throttle control is moved to STOP.
- Contact with the blade or other moving parts could cause serious personal injury.
- Stay behind handle until engine, blade and all moving parts stop.
- Stay away from the discharge area and do not get hands or feet close to mower housing.

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. Moving height-of-cut adjuster forward raises height-of-cut.

1. Stop the engine.
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. 7) and move it to the desired setting. Ensure pin on adjusting lever engages notch in mower housing wear plate. Adjust all wheels to the same setting.

DANGER

- Adjusting height-of-cut levers could bring hands into contact with moving blade.
- Contact with blade could cause serious personal injury.
- Do not adjust the height-of-cut settings when engine is running and blade is rotating.
- Do not put fingers under housing to lift mower when adjusting height-of-cut levers.

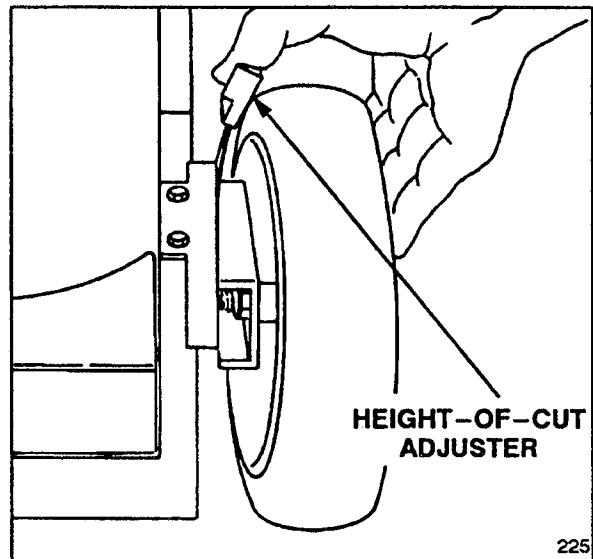


Figure 7

OPERATING TIPS

1. CUTTING—Best results are achieved when engine is running at maximum speed and only about 1/3 of the grass blade is cut. If long grass must be cut, use highest height-of-cut setting for first mowing, Then recut the grass at a more normal setting. If too long of grass is cut, mower may plug and cause engine to stall.
2. SHARPEN BLADE—Begin each cutting season with a sharp blade. Periodically file down nicks.

MAINTENANCE

CAUTION

- Engine could start accidentally.
- Accidental starting of engine could cause serious injury to operator or bystanders.
- 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. 8).
2. Lift tabs at top of air cleaner cover and pivot cover down. Clean cover thoroughly (Fig. 8).

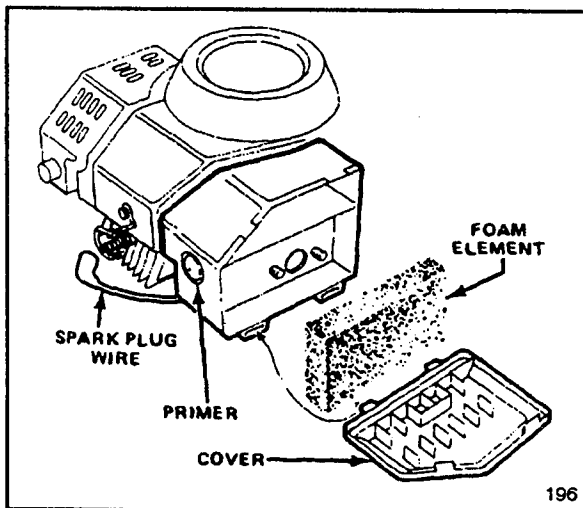


Figure 8

3. If outside of foam element is dirty, remove it from air cleaner body (Fig. 8). 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 approximately 5 ounces (150 ml) of SAE 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 0.032" (0.81 mm). Remove plug after every 25 operating hours and check its condition.

1. Stop engine and pull wire off spark plug (Fig. 9).
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 0.032" (0.81 mm) (Fig. 9). Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 10 ft-lb (13.6 N-m).

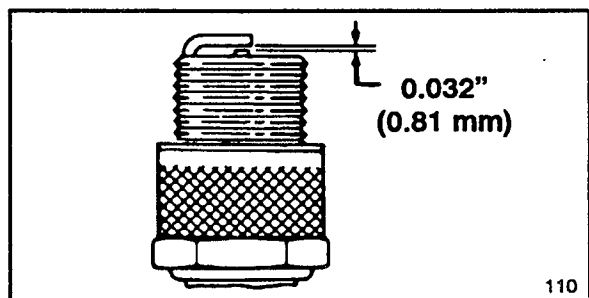


Figure 9

DRAINING GASOLINE

1. Stop engine and pull wire off spark plug (Fig. 8).
2. Close fuel shut-off valve.

MAINTENANCE

3. 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. 8).

2. Move throttle control to  (FAST).

3. Loosen cable clamp screw until throttle cable slides (Fig. 10). Align holes in choke arm and throttle bracket. A small dia. pin may be inserted into aligned holes to hold adjustment. Push throttle cable until throttle arm makes contact with choke arm. Tighten cable clamp. Remove pin if used.

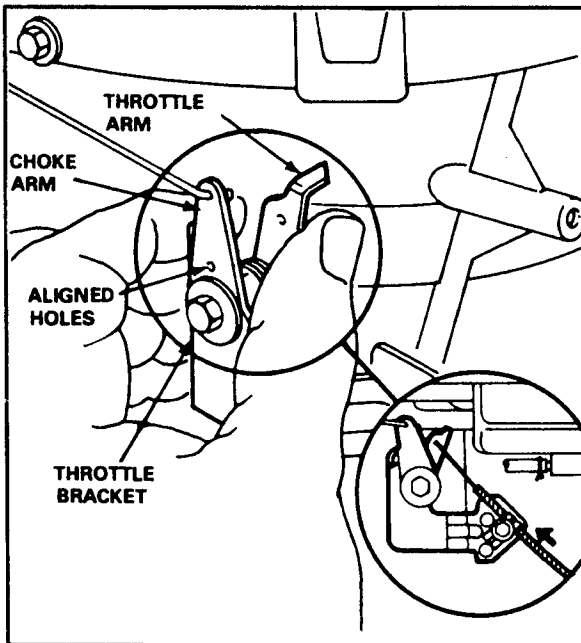


Figure 10

CLEANING COOLING SYSTEM

After every 75 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 best engine performance.

CLEANING MUFFLER AND EXHAUST PORT

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

CAUTION

- Muffler and engine become hot when mower is operating.
- A hot engine and muffler can cause burns.
- Clean muffler and exhaust port only after engine and muffler are cool.

1. Use hard wood scraper and remove carbon from end of muffler pipe (Fig. 11).

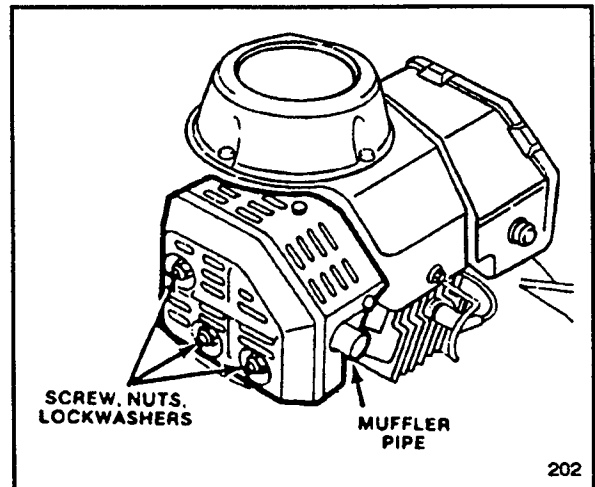


Figure 11

2. Remove screw, two nuts, and lockwashers (Fig. 11). Slide muffler off mounting pins.

3. Pull wire off spark plug. Slowly pull recoil starter so piston covers exhaust port (Fig. 12).

4. Clean carbon from exhaust port (Fig. 12) 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.

MAINTENANCE

5. Reinstall muffler with screw, (2) nuts and lockwashers (Fig. 12). After cleaning exhaust port, make sure muffler gasket is still usable.

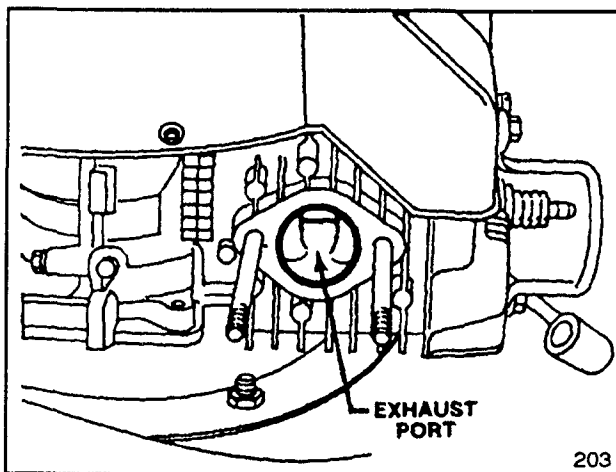


Figure 12

ADJUSTING WHEEL DRIVE

If mower does not self-propel or has a tendency to creep forward when drive is not engaged, adjust wheel drive control knob on rear of gear box.

1. ADJUSTMENT (Fig. 13)—Rotate control knob clockwise 1/2 turn if mower does not self-propel. If mower creeps forward, rotate knob 1/2 turn counter-clockwise to loosen belt.

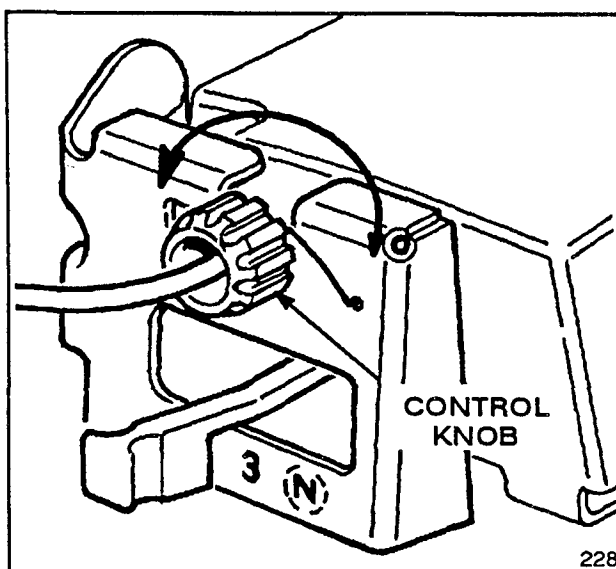


Figure 13

2. 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. 14).

3. Repeat steps 1 and 2 until properly adjusted.

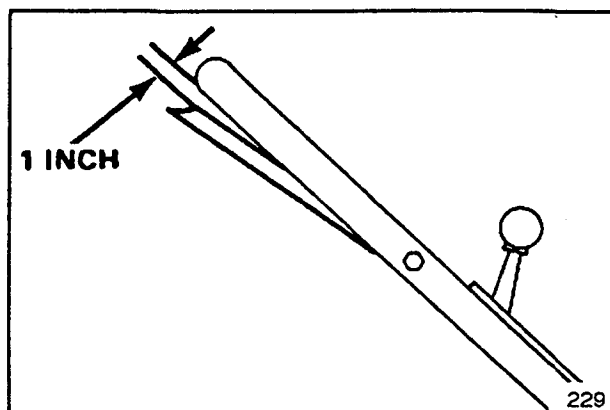


Figure 14

INSPECTING/REMOVING/SHARPENING BLADE

1. Stop engine and pull wire off spark plug (Fig. 8).

2. Drain gasoline from fuel tank; refer to Draining Gasoline, page 8.

CAUTION

- Engine could start accidentally.
- Accidental starting of engine could cause serious injury to operator or bystanders.
- Pull wire off spark plug before inspecting, removing or replacing blade or before performing any maintenance or adjustments.

3. Tip mower on its left side (Fig. 15).

MAINTENANCE

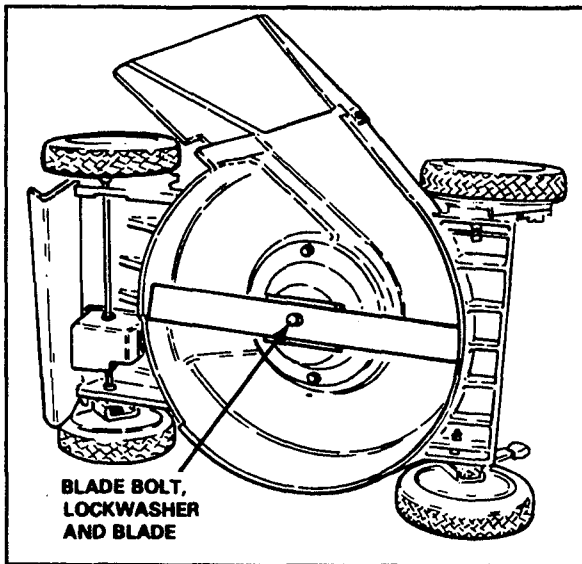


Figure 15

4. **INSPECTING BLADE**—Carefully examine blade for sharpness and wear, especially where flat and curved parts meet (Fig. 16A). 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. 16B & 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.

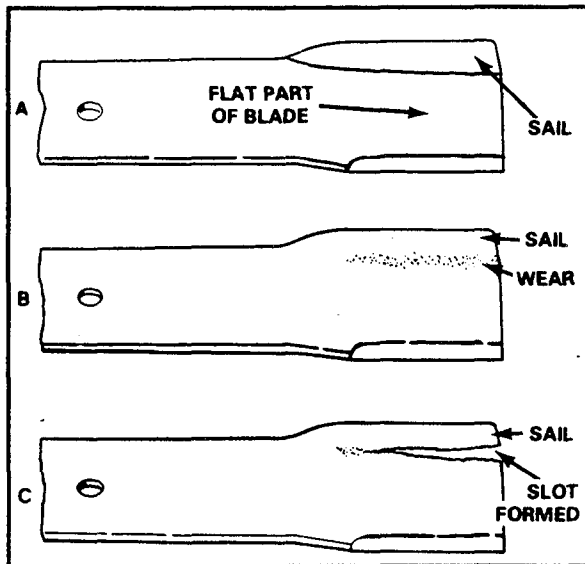


Figure 16

5. **REMOVING BLADE**—Grasp end of blade using a rag or thickly padded glove. Remove blade bolt, lockwasher, and blade (Fig. 15).

6. **SHARPENING BLADE**—Using a file, sharpen top side of blade and maintain original cutting angle (Fig. 17). The blade will remain balanced if same amount of material is removed from both cutting edges.

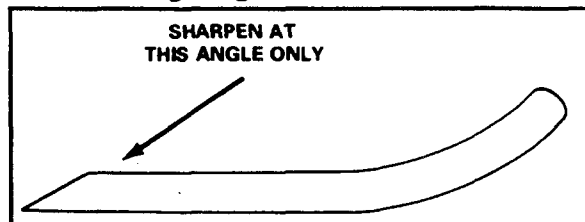


Figure 17

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. Install sharp, balanced blade with lockwasher and blade bolt. Sail part of blade must point toward top of mower housing to ensure correct installation. Tighten blade bolt to 50 ft-lb (68 N-m).



DANGER

- A worn or damaged blade could break and a piece of blade could be thrown into operator's or bystander's area.
- A thrown piece of blade could cause serious personal injury or death to operator or bystanders.
- Inspect blade periodically for wear or damage.
- Replace a worn or damaged blade.

MAINTENANCE

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. 18). Install grease gun onto fitting and gently apply 2 or 3 pumps of #2 Multi-Purpose Lithium Base Grease. Excessive pressure may damage seals.

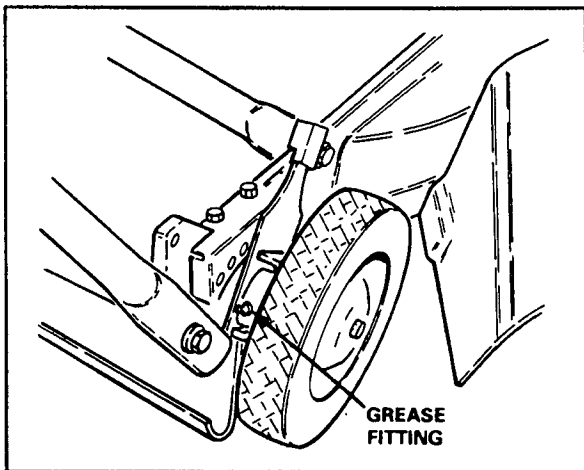


Figure 18

LUBRICATING GEAR CASE

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

1. Install grease gun onto fitting thru belt cover opening (Fig. 19). Gently apply 1-2 pumps of grease.

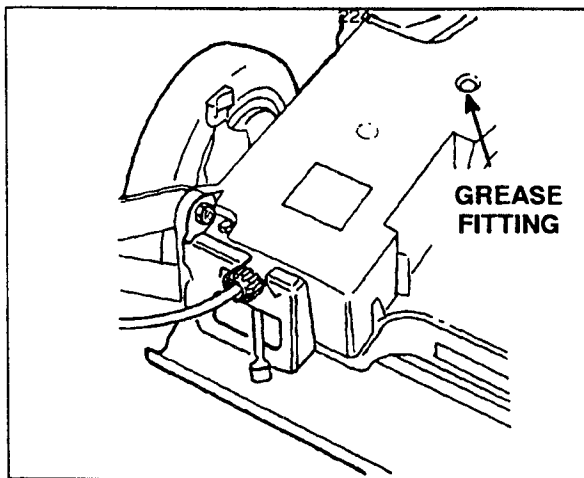


Figure 19

SERVICING WHEELS (Fig. 20)

Removal

1. Stop engine and remove capscrew, wheel spacer, and locknut mounting wheel to pivot arm.

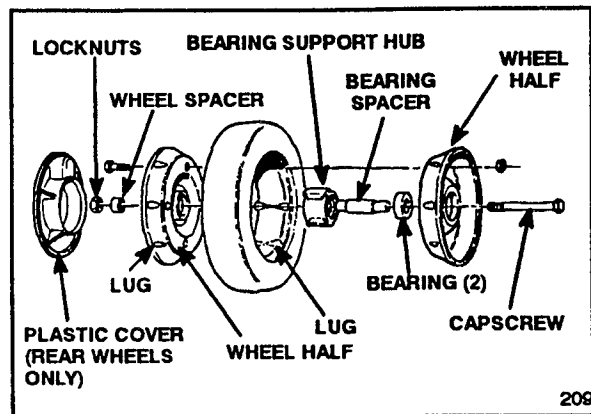


Figure 20

2. Separate wheel halves from tire by removing (4) capscrews and locknuts.
Note: If bearings are to be removed from bearing support hub, remove by pressing on bearing spacer.

Assembly

1. Position tire onto (1) wheel half, aligning lugs on each (Fig. 20).
2. Place bearing support hub into center hole of wheel half. Make sure legs of hub are positioned over flange of hole.
3. Place other wheel half onto bearing support hub, 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.

MAINTENANCE

6. Install (2) capscrews and locknuts, previously removed, in remaining holes in wheel halves and tighten. Remove (2) long screws or bolts and replace them with (2) flange 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.

CLEANING MOWER HOUSING

To ensure best performance, keep underside of mower housing and inside of discharge area clean.

1. Pull wire off spark plug (Fig. 8).
2. Drain gasoline from fuel tank: refer to Draining Gasoline, page 8.
3. Tip mower on its left side.
4. Remove dirt and grass clippings that stick to housing with a hardwood scraper. Avoid burrs and sharp edges.

PREPARING MOWER FOR STORAGE

1. For long term storage, either drain gasoline from fuel tank or add a fuel additive to the gasoline. To drain gasoline, refer to Draining Gasoline, page 8. After fuel is drained, start engine and let it idle until all fuel is consumed and engine stops. 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 stabilizer, such as Toro's Stabilizer/Conditioner, is added to gasoline before storing. Toro's Stabilizer/Condi-

tioner is a petroleum distillate based stabilizer/conditioner. Toro does not recommend stabilizers with an alcohol base, such as ethanol, methanol or isopropyl. Use fuel stabilizer in recommended quantities as specified on container.

Under normal conditions, fuel stabilizers 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 10 ft-lb (13.6 N·m). **DO NOT REINSTALL WIRE ON SPARK PLUG.**

3. Clean underside of housing: refer to Cleaning Mower Housing, page 13.

4. Check condition of blade: refer to Inspecting/Removing/Sharpening Blade, page 10.

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

8. Lubricate the pivot arms: refer to Lubrication, page 12.

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

10. Store mower in a clean, dry place, out of the reach of children. Cover mower to keep it clean and protected.

OPTIONAL SPARK ARRESTOR – PART #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. 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.

TORO SERVICE SUPPORT

If help – concerning safety, set-up, operation, maintenance, or troubleshooting – is ever needed, contact the local Authorized TORO Service Dealer or Distributor. Refer to the “Yellow Pages” for assistance. In addition to skilled service technicians, the dealer and distributor have factory approved accessories and replacement parts. Keep your Toro all TORO. Buy genuine TORO replacement parts and accessories.

PRODUCT IDENTIFICATION

The model and serial number decal is located at rear of mower housing. Always refer to specific numbers on this decal in correspondence or when replacement parts are needed.

