1976

FORM NO. 3310-740 Rev. A

TORO®

MODEL NO. 20451-600001 & UP
MODEL NO. 20562-600001 & UP
MODEL NO. 20673-600001 & UP

**OWNER'S MANUAL**

# 21" GRASSMASTER




Congratulations on your recent purchase of a GRASSMASTER mower by TORO. It's the finest rear bagging rotary mower available today, designed and built for high quality grass cutting performance.

To assure maximum safety, optimum performance, and to gain knowledge of the product, it is essential that you or any other operator of the mower read and understand the contents of this manual before the engine is ever started. Pay particular attention to the SAFETY INSTRUCTIONS highlighted by this symbol ⚠. The symbol means CAUTION – personal safety instruction. Failure to comply with the instruction may result in personal injury.

MODEL CONFORMS TO SAFETY STANDARDS PROGRAM SPONSORED BY Outdoor Power Equipment Institute
MODEL TESTED BY INDEPENDENT LABORATORY

PRICE $1.00

# FOREWORD

The rear bagging GRASSMASTER rotary mower has advanced concepts in engineering, design, and safety; and if maintained properly, the mower will be reliable.

Since the GRASSMASTER is a high-quality product, Toro is concerned about the future use of the mower and the safety of the user. Therefore, read this manual to familiarize yourself with the safety instructions and the product before operating the mower. The five major sections of the manual are:

1. Safety Instructions
2. Setting Up Instructions
3. Preparation Before Starting
4. Operating Instructions
5. Maintenance

Note that safety, mechanical, and some general information in the manual is emphasized. The words WARNING, CAUTION, IMPORTANT, and NOTE are used to classify the information. WARNING and CAUTION identify safety related information, IMPORTANT identifies special mechanical information, and NOTE identifies general information worthy of special attention.

If help – concerning set-up, operation, maintenance, or safety of the mower – 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 other TORO Products, as well as factory approved accessories and replacement parts. Keep your Toro all TORO. Buy genuine TORO replacement parts and accessories.

# TABLE OF CONTENTS


| | Page |
|---|---|
| Safety Instructions | 3 |
| Safety Decals | 4 |
| Specifications | 5 |
| Loose Parts | 5 |
| Setting Up Instructions | 6-7 |
| Install Lower and Upper Handles | 6 |
| Install Control Panel | 6 |
| Assemble and Install Bag | 7 |
| Install Battery and Connect Wires | 7 |
| Preparation Before Starting | 8 |
| Fill Crankcase With Oil | 8 |
| Fill Fuel Tank With Gasoline | 8 |
| Controls | 9 |
| Starting and Stopping Instructions | 10-11 |
| Starting Recoil Equipped Engine | 10 |
| Starting KEY-LECTRIC Equipped Engine | 11 |
| Dead Battery Starting | 11 |
| Operating Instructions | 12-16 |
| Rear Safety Shield | 12 |
| Using Wash-Out Port | 12 |
| Opening Rear Door | 13 |
| Adjusting Height-Of-Cut | 13 |
| Increasing Traction | 14 |
| Mulching | 14 |
| Using Rear Bagging Feature | 15 |
| Bagging Tips | 16 |
| Maintenance | 17-23 |
| Lubricating Wheel Bearings | 17 |
| Servicing Air Cleaner | 17 |
| Changing Crankcase Oil | 18 |
| Draining Gasoline | 18 |
| Replacing Spark Plug | 19 |
| Cleaning Mower Housing | 19 |
| Servicing Cutter Blade | 20 |
| Adjusting Throttle | 20 |
| Checking Power Drive Gear Case | 21 |
| Adjusting Traction Control | 21 |
| Adjusting Recoil Traction Lockout | 22 |
| Charging Battery | 22 |
| Preparing Mower For Storage | 23 |
| Identification and Ordering | Back Cover |
| The Toro Promise | Back Cover |


COPYRIGHT 1975 BY
The Toro Company
BLOOMINGTON, MINN 55420 – U S A

# SAFETY INSTRUCTIONS



**This safety symbol means CAUTION – PERSONAL SAFETY INSTRUCTION Read the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.**

The following instructions are comparable to the "Instructions for Safe Mowing" adopted by ANSI – American National Standards Institute. The GRASSMASTER is designed and tested to offer reasonably safe service, provided it is operated in strict accordance with the following Safety Instructions. Failure to comply with these instructions MAY RESULT IN PERSONAL INJURY.

### Before Operating

1. Operate the mower only after reading this manual. NEVER ALLOW CHILDREN TO OPERATE THE ROTARY MOWER.

2. Become familiar with the controls and know how to stop the engine quickly.

3. Keep everyone, especially children and pets away from the area of operation. Remove sticks, stones, wire, and any other debris from the turf area to be cut.

4. Keep all shields and safety devices in place. If a shield or safety device is defective or damaged, replace it before operating the mower. Also tighten loose nuts, bolts and screws.

5. Wear long pants and substantial shoes while using the mower. Do not operate the mower while bare foot, wearing sandals, tennis shoes, sneakers, or shorts.

6. If long grass will be cut, set height-of-cut in highest position. After mowing, reinspect the area and remove all debris. Then lower the height-of-cut and mow grass again.

7. Fill fuel tank with gasoline before starting the engine. Avoid spilling any gasoline.
   A. Use an approved gasoline container.
   B. Fill mower fuel tank outdoors. Engine must be cool and not running.
   C. Wipe up any gasoline that spilled, and install gasoline container cap and mower fuel tank cap before starting the engine.

8. Move traction control to DISENGAGE position before trying to start the engine. Engine WILL NOT start when traction control is in the ENGAGE position.

### While Operating

9. Do not operate the mower if someone is near the turf area to be cut.

10. Cutting grass with a rotary mower demands attention. Always maintain secure footing, balance, and control.

11. Cut grass during the daytime or when there is adequate artificial light. Do not cut wet grass: cut grass when it is dry.

12. Cut grass slopes from side to side; not up and down. Avoid steep slopes.

13. Keep face, hands, feet, and any other part of the body or clothing away from concealed, moving, or rotating parts such as the cutter blade, wheels, self-propelled drive, and engine. Stay behind the handle and away from the mower housing when engine is running.

14. When operating mower without the bag, rear discharge door must be closed. Shut engine off and wait for the blade to stop before removing the bagging assembly or unclogging the discharge chute. If chute must be unclogged, disconnect high tension wire from spark plug; then use a stick to remove the obstruction. Make sure high tension wire stays away from the plug to prevent possibility of accidental starting.

15. Since the blade rotates for a few seconds after throttle control is moved to STOP or key is turned to OFF, stay behind handles until engine and all moving parts stop.

16. If a solid object is hit by the blade or if mower vibrates abnormally, shut engine off immediately and wait for all moving parts to stop. Remove key from switch if mower has key start. Disconnect high tension wire from spark plug and keep wire away from plug to prevent possibility of accidental starting. Check mower for possible damage, bent blade, an obstruction, or loose part(s). Make all repairs before using the mower.

17. Do not adjust height-of-cut while engine is running.

18. If a gravel driveway, road, or side walk must be crossed, shut engine off so loose sand and rocks are not thrown.

19. Before leaving the operator's position – behind handle – shut engine off by moving throttle control to STOP, or rotate key to OFF if mower has a key-start; then wait for all moving parts to stop. DO NOT WALK IN FRONT OF A SELF-PROPELLED MOWER WHILE ENGINE IS RUNNING.

# SAFETY INSTRUCTIONS

20. Do not touch any part of the engine when it is running or shortly after it has stopped because engine is hot enough to cause a burn.

### Maintaining Mower

21. Before performing any maintenance or servicing mower, disconnect high tension wire from spark plug. Make sure high tension wire stays away from the plug to prevent possibility of accidental starting. If mower has key-start, remove key from switch.

22. When storing a key-start mower, REMOVE KEY FROM SWITCH and store key in a memorable place.

23. Perform maintenance instructions described in this manual. If major repairs are ever needed or if assistance is desired, contact an Authorized TORO Service Dealer.

24. If mower must be tipped to perform maintenance or an adjustment, drain gasoline from fuel tank.

25. If a guard, safety device, or safety decal is damaged, replace it before operating the mower. Keep nuts, bolts, and screws tight, especially blade attaching bolt (45-60 ft-lb) and engine mounting bolts (14-18 ft-lb).

26. Check grass bag before each use to assure it is not torn or deteriorated. Replace a defective grass bag. Do not wash grass bag because the fabric may shrink, but most important, fabric may deteriorate.

27. To reduce possibility of fire, keep engine free of dirt, grease, leaves, and any other foreign buildup.

28. Allow engine to cool before storing mower in any building, and make sure the mower fuel tank is empty. Do not store mower near any open flame or where gasoline fumes may be ignited. Store gasoline in an approved – red – metal container. The mower and gasoline storage area must be cool and dry.

29. Do not overspeed engine. Recommended speed of the engine is 2650 rpm. To assure safety and accuracy, have an Authorized TORO Service Dealer check maximum engine speed (2650 rpm) with a tachometer.

30. At the time of manufacture, the GRASS MASTER conformed to safety standards in effect for rotary mowers. Therefore, to assure optimum performance and safety, always purchase genuine TORO replacement parts and accessories to keep the Toro all TORO. NEVER USE "WILL FIT" REPLACEMENT PARTS AND ACCESSORIES. Look for the TORO logo to assure "genuine" TORO replacement parts and accessories.

**Genuine TORO PARTS & ACCESSORIES**

# SAFETY DECALS

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

ON CONTROL PANEL
(21" SP Key Model)

**Starting Instructions**

CAUTION: WHEEL DRIVE CONTROL MUST BE PLACED IN "DISENGAGED" POSITION BEFORE ENGINE WILL START.

MOVE THROTTLE CONTROL TO OPERATING RANGE.

TURN KEY TO "START" POSITION. RELEASE WHEN ENGINE STARTS OR AFTER THREE SECONDS OF CRANKING. IF NECESSARY TO REPEAT CRANKING, WAIT FIVE SECONDS.

TO STOP ENGINE AND BLADE, TURN KEY TO "OFF."

ON CONTROL PANEL
(All Models)

**⚠ WARNING**
**Stop Engine Before:**
LEAVING OPERATOR POSITION,
EMPTYING OR ATTACHING GRASS CATCHER,
CLEARING CHUTE, ADDING GAS,
CHANGING HEIGHT OF CUT.

ON CONTROL PANEL
(21" HPFT Model)

**Starting Instructions**

MOVE THROTTLE LEVER TO OPERATING RANGE.

PLACE FOOT ON STEP OF HOUSING. PULL STARTER HANDLE STRAIGHT UP. DO NOT LET ROPE SNAP BACK.

TO STOP ENGINE MOVE THROTTLE LEVER TO "OFF."

ON TOP OF REAR DISCHARGE
(All Models)

**⚠ CAUTION**
**DO NOT OPERATE UNLESS BAG IS IN PLACE OR REAR DOOR IS CLOSED.**




**SWING DOOR BACK AND FORTH TO CLOSE.**

ON CONTROL PANEL
(21" SPFT Model)

**Starting Instructions**

PLACE WHEEL DRIVE IN "DISENGAGE" POSITION.

MOVE THROTTLE LEVER TO OPERATING RANGE.

PLACE FOOT ON STEP OF HOUSING. PULL STARTER HANDLE STRAIGHT UP. DO NOT LET ROPE SNAP BACK.

TO STOP ENGINE MOVE THROTTLE LEVER TO "OFF."

# SPECIFICATIONS

**10 Cubic Inch Tecumseh Engine:** Model TNT 100, type 10045 and 10046, four cycle, air cooled engine with output of 4.5 ft-lb of torque @ 2650 rpm. Fuel tank capacity is 1.3 quarts and crankcase capacity is 21 oz. Air cleaner is removable, servicable polyurethane type. KEY-LECTRIC model has auxiliary rope starter on top of engine, which is shielded by a cover, and other models have easy-pull fingertip starter.

**Mower Housing:** Die cast aluminum alloy housing has spiral grass chamber with rear bagging or mulching features. Width-of-cut is 21 inches.

**Cutter Blade:** Blade is 21 inches long and heat treated for hardness.

**Blade Tip Speed:** Tip speed is 14,570 ft/min @ 2650 engine rpm.

**Traction Control:** Control is mounted on left side of control panel. Hand operated control connects to and operates a spiral jaw clutch in gear case. Control has two positions: ENGAGE and DISENGAGE.

**Throttle Control:** Control is mounted on left side of control panel. Hand operated control connects to and operates the carburetor. KEY-LECTRIC model has two positions: SLOW and FAST. Recoil model has three positions: OFF, SLOW, and FAST.

**Handles:** Two handles are 7/8 inch diameter, 16 gauge welded steel tubing with chrome plating. Handle is adjustable to one of three operating positions. An upright storage position is also available, and no tool is required to perform the adjustment. Handle can be folded for compact storage.

**Traction Drive:** Front wheel drive has a special 3L section V-belt that connects the front gear box to an output shaft on the engine. Engine to gear box reduction is 0.98:1.

**Gear Case:** Case is die cast aluminum. Input to output reduction is 6.25:1. Lubrication requirement is 1.5 oz of SAE 90EP gear lube.

**Wheels:** Stamped steel wheels have two ball bearings with grease fittings for lubrication.

**Front Wheel Reduction:** Wheel reduction is 3:1.

**Engine to Front Wheel Reduction:** Reduction is 18.375:1.

**Tires:** 8" x 1.75" semi-pneumatic, diamond tread tires on self-propelled model and smooth tread on hand-propelled model.

**Ground Speed:** At 2100 engine rpm, ground speed is 2.43 mph, 3.24 mph at 2500 engine rpm, and 3.44 mph at 2650 rpm.

**Height-of-Cut:** Height-of-cut is adjustable to one of five approximate settings: 1 inch; 1-1/2 inches; 2 inches; 2-1/2 inches; and 3 inches. A 5/8 inch setting is available on front wheels only.

**Dimensions:**

Overall width is 21-3/4 inches (approx).

Overall length without handle is 33-1/4 inches (approx).

Height without handle and wheels set at 1 inch is 14 inches (approx).

**Weight:** Dry weight of mower including bagging attachment is approximately 80 lb.

# LOOSE PARTS

**NOTE:** Carefully remove mower and other parts from carton. Use chart below to assure all parts have been shipped.

| Part | Qty. | Use |
|---|---|---|
| Lower Handle<br>Hair Pin Cotter<br>Upper Handle<br>Curved-Head Bolt<br>Knob | 1<br>2<br>1<br>2<br>2 | Install Lower and Upper Handles, page 6. |
| Self-Tapping Screw<br>Cable Tie or Cable Clamp | 4<br>2 | Install Control Panel, page 6. |
| Latch<br>Cap Screw (1/4"-20 x 1/2")<br>Lock Nut (1/4-20) | 1<br>2<br>2 | Assemble and Install Bag, page 7. |
| Battery and Charger<br>Starter Rope<br>Key | 1<br>1<br>2 | Install Battery and Connect Wires (Key-Lectric Model), page 7. |
| Owner's Manual | 1 | Read before operating mower. |
| Registration Card | 1 | Fill out card and send it to The Toro Company. |

# SETTING UP INSTRUCTIONS

### Install Lower and Upper Handles

**Tools Required: None**

1. By pushing ends of lower handle together, install handle on pivot studs (Fig. 1A). Retain handle on pivot studs with two large hair pin cotters (Fig. 1A).

2. Move handle latch backward until handle studs snap into hole at end of latches (Fig. 1A).

**NOTE:** If handle latch does not stay engaged with handle stud, bend latch outward; then install latch on stud.

3. The upper handle has studs on both ends that are used to retain handle in place by fitting into holes in lower handle. To attach upper handle to lower handle, pull ends outward and slide studs into holes in lower handle. Secure handles together with two curved-head bolts and handle knobs (Fig. 1A). Knobs must be installed on inside of handles.

**NOTE:** Upper handle can be adjusted to one of three handle height positions. Select position most comfortable for operation.

### Install Control Panel

**Tools Required: Medium Blade Screwdriver**

**NOTE:** Control panel must be installed so wiring harness (KEY-LECTRIC model) and control cable(s) are behind the lower handle. This prevents interference with the bag frame.

1. Route control panel behind lower handle and install it against upper handle with four self-tapping screws (Fig. 1B).

2. Secure wiring harness (KEY-LECTRIC model) and control cable(s) to inside of upper and lower handles with two cable-ties (Fig. 1B). On all other models, use the cable clamps to retain control cables to handle.

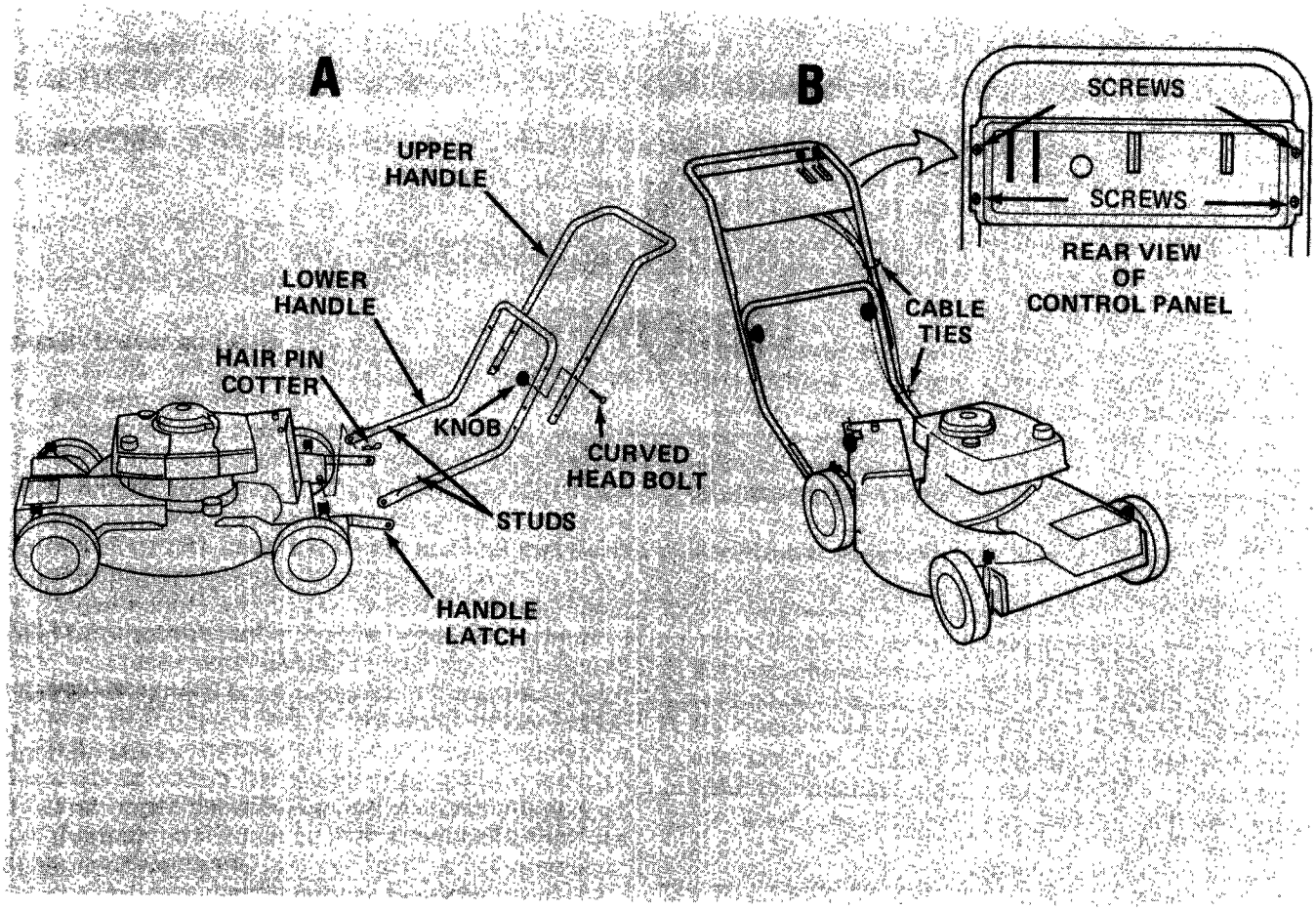



Figure 1

# SETTING UP INSTRUCTIONS

### Assemble and Install Bag

**Tools Required: Screwdriver and 7/16-Inch Wrench**

1. Install bag latch on top of bag frame with two low-profile screws and lock nuts (Fig. 2A). Nuts must be installed on top of latch. Tighten both lock nuts securely.

2. Close the grass bag door (Figs. 2A and 24). Top and side lips of door must fit outside the bag frame, not inside the frame.

3. Move rear door handle fully forward (Fig.2B). Slide guide hole in bag frame onto locating stud (Fig. 2B) and set bag down so it rests on the lower handle.

4. Squeeze lockout lever (Fig. 2B) until it disengages the latch; then move rear door handle (Fig 2B) fully to the rear until it locks in the notch. The door is now open fully.

### Install Battery and Connect Wires (KEY-LECTRIC Model)

**Tools Required: None**

1. Charge the battery: refer to Charging Battery, page 22.

2. Hold battery so connector terminal is to the left; then slide battery between mounting slots on back of control panel (Fig. 2C).

3. Push ignition connector onto ignition switch (Fig. 2C). Also push wiring harness connector onto battery terminals (Fig. 2C).

NOTE: Key for ignition switch is in loose parts bag. Do not install key into switch, however, until engine is ready to be started.

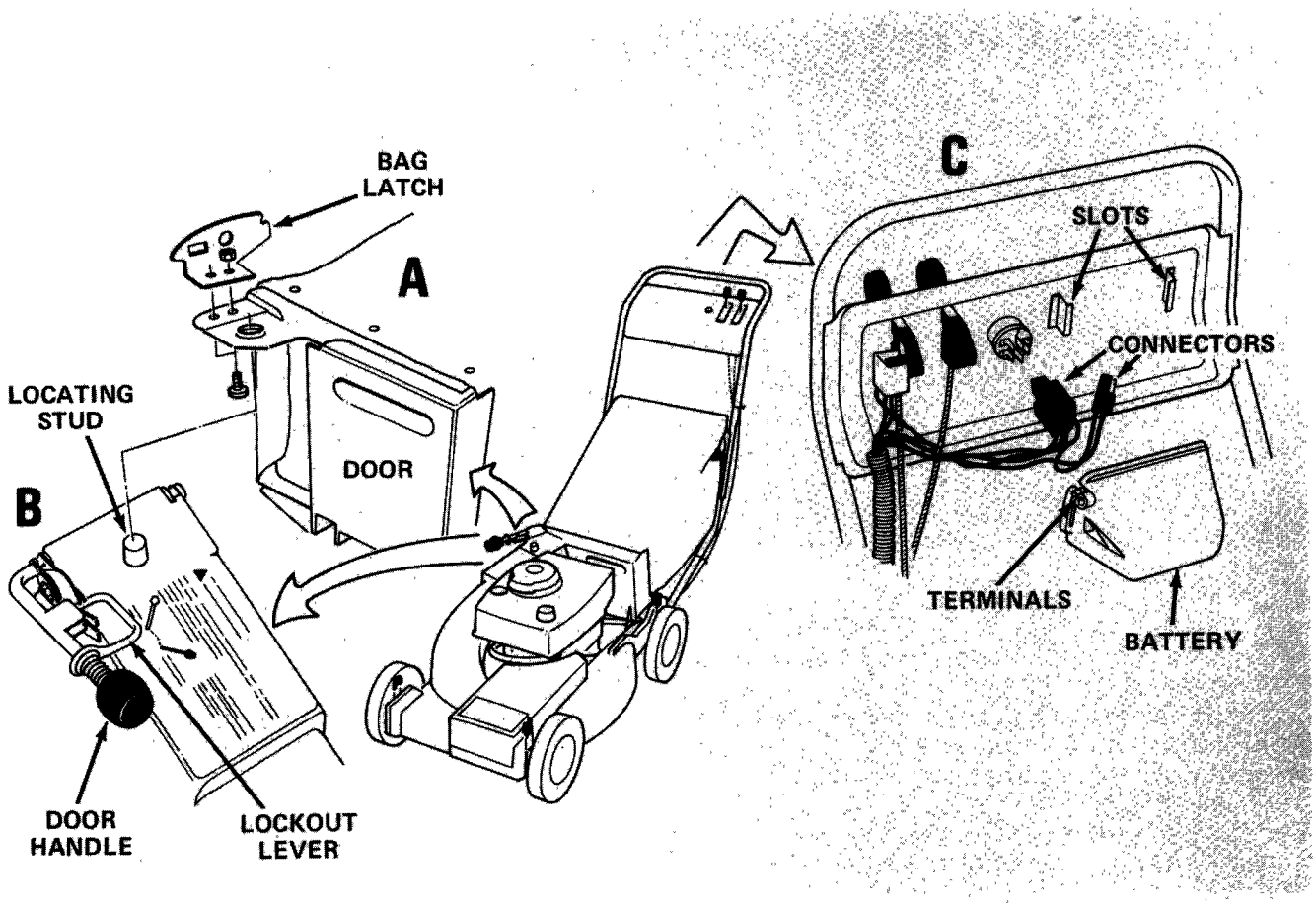



Figure 2

# PREPARATION BEFORE STARTING

**Fill Crankcase With Oil**

**Tools Required: Funnel and Clean Rag**

1. Move mower to level surface to assure accurate oil level reading.

2. Clean area around oil dipstick so foreign matter cannot enter filler hole when dipstick is removed.

3. Remove dipstick (Fig. 3) by pulling it up.

4. Slowly, pour approximately 21 ounces of oil into filler hole (Fig. 3). The Tecumseh engine uses any high-quality detergent oil having the American Petroleum Institute – API – "service classification" MS, SC, SD, or SE. The recommended oil to use in all GRASSMASTER models is **10W-30 or 10W-40.**

5. Wipe end of dipstick. Next, push dipstick into filler neck. Make sure dipstick cap snaps into place to assure accurate oil level reading.

6. Pull dipstick out and check oil level. If level of oil is low, add enough oil to raise level to FULL mark (Fig. 3) on dipstick. DO NOT OVERFILL.

7. Push dipstick into filler neck and make sure cap snaps into place.

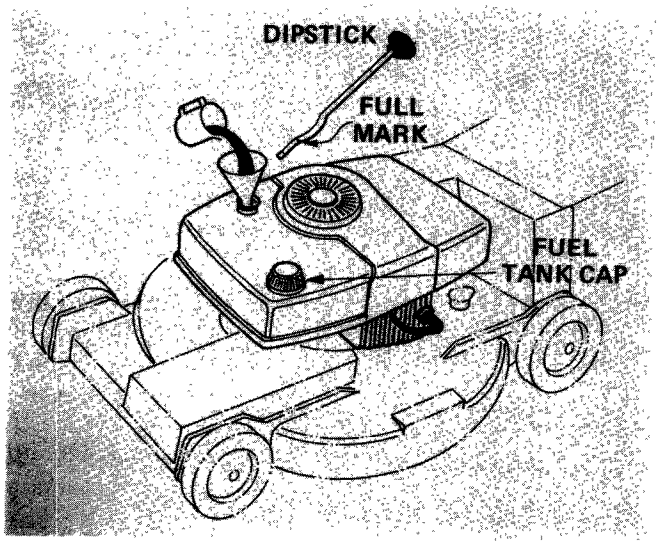



Figure 3

NOTE: Check level of oil every 5 operating hours or each time mower is used. Initially, change oil after the first 2 operating hours; thereafter, under normal conditions, change oil every 25 hours of operation. However, change oil more frequently when engine is operated in dusty or dirty conditions. If possible, run engine for about 3-5 minutes before changing oil because warm oil flows better and carries more contaminants than cold oil.

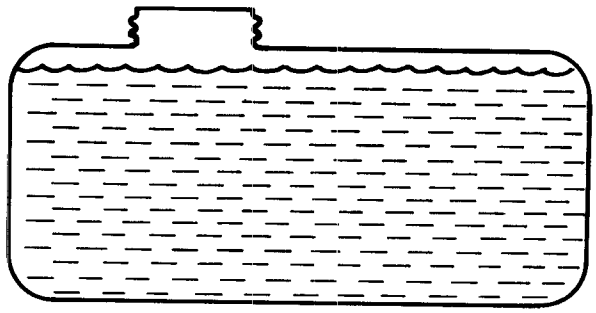
FILL FUEL TANK WITH GASOLINE

**Tools Required: Clean Rag and Funnel**

**IMPORTANT: Do not mix oil w/gasoline because engine damage and poor performance may result. Do not use premium gas, white gas or gasoline additives. Unleaded regular gasoline is recommended to fill the 2 quart fuel tank, and leaded regular is an acceptable substitute.**

**CAUTION**

**Because gasoline is flammable, caution must be used when storing or handling it. Do not fill fuel tank while engine is running, hot or when unit is in an enclosed area. Keep away from open flame and electrical spark, and DO NOT SMOKE while filling the fuel tank to prevent the possibility of an explosion. Always fill fuel tank outside and wipe up any spilled gasoline before starting engine. Use a funnel or spout to prevent spilling gasoline, and fill fuel tank no fuller that 1/2 inch from the top.**



**Store gasoline in a clean, approved container and keep the cap in place on the container. Keep gasoline in a cool, well-ventilated place; never in the house. To assure volatility, do not buy more than a 30 day supply of gasoline. Gasoline is a fuel for internal combustion engines; therefore, do not use it for any other purpose. Since many children like the smell of gasoline, keep it out of their reach because the fumes are explosive and dangerous to inhale.**

1. Clean area around the fuel tank cap. Remove cap from fuel tank and fill tank to within 1/2 inch from the top with unleaded regular gasoline. Reinstall fuel tank cap.

NOTE: Unleaded regular gasoline reduces combustion deposits and extends valve life, and when available, this type of gasoline is recommended. Otherwise, use leaded-regular gasoline.

# CONTROLS

Throttle Control – The KEY-LECTRIC model throttle control (Fig. 4) has two positions: SLOW and FAST. Move control between SLOW and FAST to operate engine at various speeds. Engine cannot be shut off by moving throttle control to SLOW: the ignition key must be turned OFF. By comparison, the recoil model throttle control (Fig. 5) has three positions: OFF, SLOW, and FAST. Move control between SLOW and FAST to operate engine at various speeds. To stop engine, move throttle control to OFF.

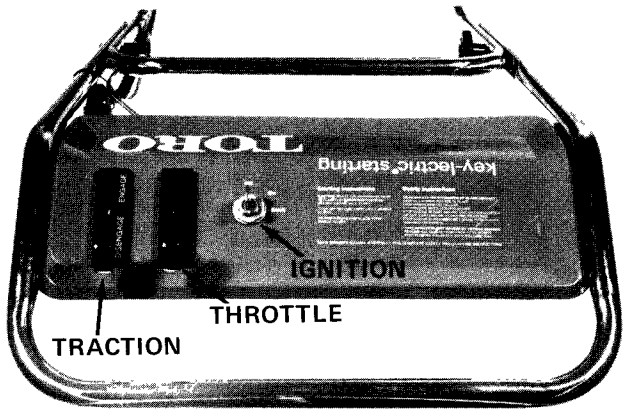



Figure 4

Traction Control – The traction control (Fig. 4 or 5) on self-propelled models has two positions: ENGAGE and DISENGAGE. Move control to the left and forward to engage POW-R-DRIVE. Pull control backward into detent position to disengage POW-R-DRIVE. The detent holds traction control in DISENGAGE position. Traction control (Fig. 4) must be in DISENGAGE detent before engine on self-propelled model can be started.

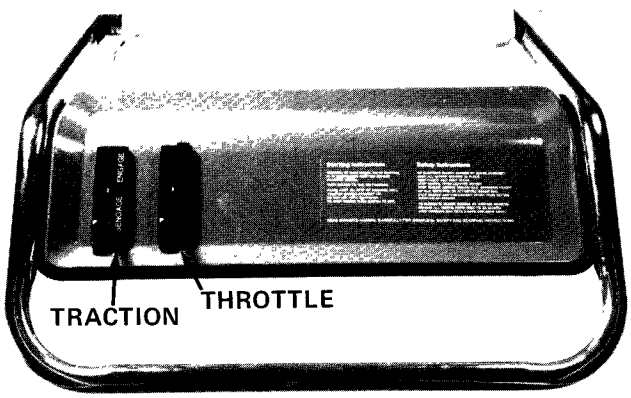



Figure 5

Ignition Switch (Fig. 4) – Ignition switch on KEY-LECTRIC model is used to start and stop the engine. Rotate key to START position to start engine. Release key immediately when engine starts. When released, key will move automatically to the ON position. DO NOT TURN KEY TO START POSITION WHILE ENGINE IS RUNNING because mechanical damage will likely result. Rotate key to OFF position to stop engine.

Recoil Starter (Fig. 6) – Pull fingertip starter to start recoil-equipped engine.

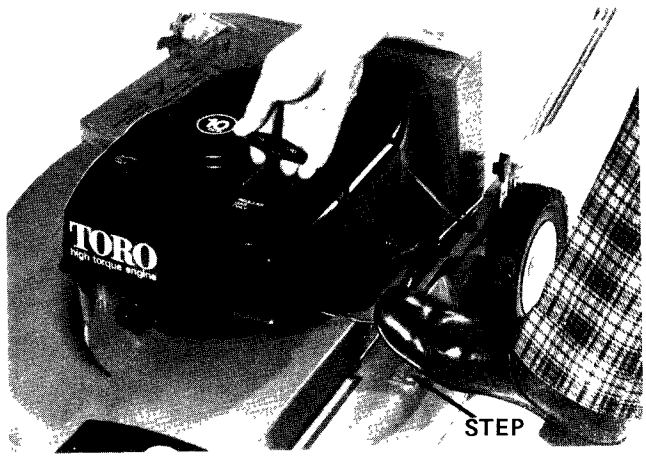



Figure 6

Height-of-Cut Adjusters (Fig. 7) – Front and rear height-of-cut is adjustable to one of five settings: 1 inch, 1-1/2 inches, 2 inches, 2-1/2 inches, or 3 inches. However, front wheels also have a 5/8 inch setting that can be used with the 1 inch rear wheel setting. When cutting thatch-type grass, it may be beneficial to raise rear of mower one setting above the front wheel setting to assure optimum power performance.



Figure 7

# STARTING AND STOPPING INSTRUCTIONS

### Starting Recoil Equipped Engine

1. Push high tension wire onto the spark plug (Fig. 10).

2. Move traction control (self-propelled model) to the DISENGAGE detent (Fig 8). Also move throttle control to FAST position (Fig. 8).

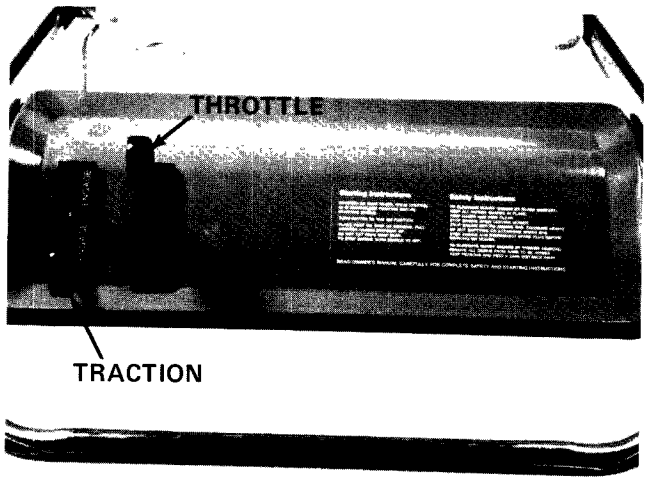



Figure 8

3. Put one foot on STEP at left side of mower housing and keep other foot from beneath the housing. Pull fingertip starter up until positive engagement results (Fig. 9); then pull vigorously to start the engine.

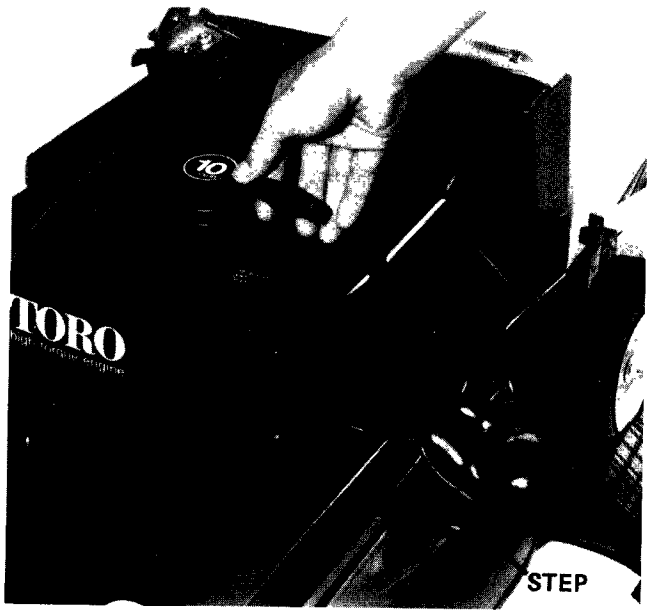



Figure 9

**IMPORTANT: The carburetor has a prime-well that supplies an extra-rich charge of gasoline for starting the engine. If engine does not start after 2 or 3 pulls of the fingertip starter, wait about 10 seconds to allow prime-well to refill. Repeat this procedure until engine starts. Also, do not pull recoil rope to its limit or let go of fingertip starter when rope is pulled out, because starter mechanism or rope may break. If rope is allowed to snap back into place, starter gear may bounce into partial engagement with the lockout arm, thereby preventing engagement of the traction control. So, if starter gear happens to lock, shut engine off and pull recoil starter handle out about 10 inches; then let it return slowly. Gear will return to its normal position.**

4. After engine starts and is running smoothly, move throttle control (Fig. 8) to desired speed.

5. To stop engine, move traction control to DISENGAGE detent (self-propelled model) and throttle control to OFF position (Fig. 8).

**CAUTION**

**Since blades rotates for a few seconds after throttle control is moved to OFF position, stay behind the handle until engine, blade, and all moving parts stop. Stay away from discharge area, and do not get hands or feet close to mower housing. Contact with blade or another moving part will likely cause personal injury.**

6. Pull high tension wire off spark plug (Fig. 10) to prevent possibility of accidental starting when mower is unattended or not used.




Figure 10

# STARTING AND STOPPING INSTRUCTIONS

### Starting KEY-LECTRIC Equipped Engine

1. Push high tension wire onto spark plug (Fig. 10).

2. Move traction control (Fig. 11) to DISENGAGE detent. Also move throttle control to FAST position (Fig. 11). Insert key into ignition switch (Fig. 11) until it snaps in place; then rotate key to START position.

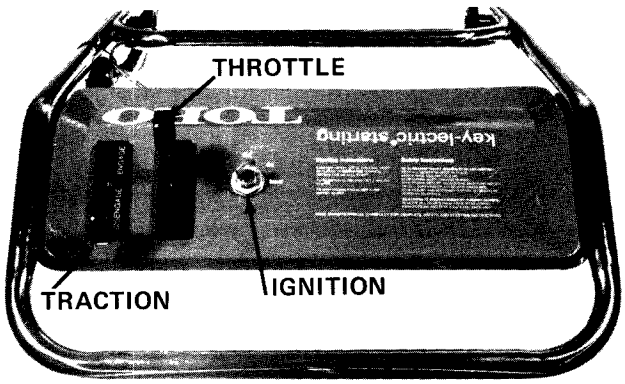



Figure 11

**IMPORTANT: The carburetor has a prime-well that supplies an extra rich charge of gasoline for starting the engine. If engine does not start after 3 seconds of continuous cranking with the electric starter, wait about 10 seconds to allow prime-well to refill. Repeat this procedure until engine starts. Failure to wait 10 seconds may cause starting problems. If engine does not start, even though 10 seconds elapses between each starting attempt, check electrical connections for proper contact. Make sure the POW-R-PACK is fully charged.**

3. After engine starts and is running smoothly, move throttle control (Fig. 11) to desired speed.

5. To stop engine, move traction control to DISENGAGE detent and rotate key to OFF position (Fig. 11).

**CAUTION**

**Since blade rotates for a few seconds after key is rotated to OFF position, stay behind the handle until the engine, blade, and all moving parts stop. Stay away from discharge area, and do not get hands or feet close to mower housing. Contact with blade or another moving part will likely cause personal injury.**

6. Pull high tension wire off spark plug (Fig. 10) to prevent possibility of accidental starting. Also remove key from ignition switch (Fig. 11).

### Dead Battery Starting (Auxiliary Starter)

If battery – because of low charge – does not have enough power to start the engine, check electrical connections for proper contact. To start engine without the battery, use starting procedure that follows:

1. Push high tension wire onto spark plug (Fig. 10).

2. Move traction control to DISENGAGE detent and throttle control to FAST position (Fig. 11). Also rotate ignition key (Fig. 11) to ON position.

3. Push against back of hinged cover while lifting up on front of cover (Fig. 12) to gain access to the auxiliary starting pulley.



Figure 12

4. Insert knot at end of starter rope into slot in auxiliary starting pulley; then wind rope clockwise around pulley (Fig. 13).

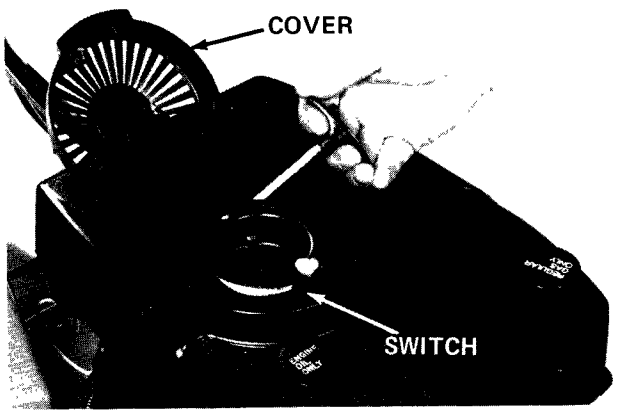



Figure 13

5. Put foot on STEP at left side of mower housing to prevent mower from rolling or moving, and keep other foot from beneath housing. Pull starter rope out slowly until positive engagement results; then pull vigorously to start engine.

# STARTING AND STOPPING INSTRUCTIONS

**CAUTION**

**Since blade rotates when starter rope is pulled, keep hands and feet away from mower housing. Contact with a moving part will likely cause personal injury.**

**IMPORTANT: The carburetor has a prime-well that supplies an extra-rich charge of gasoline for starting the engine. If engine does not start after 2 or 3 pulls with starter rope, wait about 10 seconds and allow prime-well to refill. Repeat this procedure until engine starts.**

6. After engine starts, CLOSE HINGED COVER TIGHTLY TO "OPEN" INTERLOCK SWITCH.

**IMPORTANT: If hinged cover is not closed tightly, engine will shut off when traction control is moved to ENGAGE position.**

7. To stop engine, move traction control to DISENGAGE detent and rotate key to OFF position (Fig. 11).

**CAUTION**

**Since blade rotates for a few seconds after key is rotated to OFF position, stay behind the handle until engine, blade and all moving parts stop. Stay away from the rear door and do not get hands or feet close to mower housing. Contact with blade or another moving part will likely cause personal injury.**

8. Pull high tension wire off spark plug (Fig. 10) to prevent possibility of accidental starting when mower is unattended or not used. Also remove key from ignition switch (Fig. 11).

# OPERATING INSTRUCTIONS

### Rear Safety Shield

**CAUTION**

**The rear shield (Fig. 14) is a safety device; therefore, DO NOT REMOVE REAR SAFETY SHIELD FROM MOWER HOUSING. The shield protects the operator, pivots to ride over uneven turf, and does not affect mobility, even when backing up. If shield is ever damaged or does not operate properly, replace it. Without the shield mounted in place, debris or rocks could possibly be thrown rearward from under mower housing.**

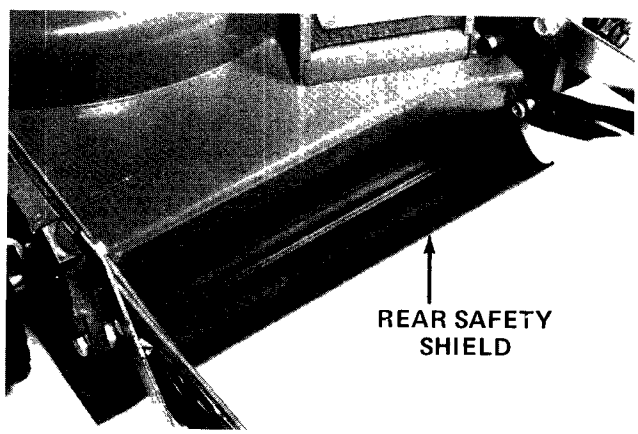



Figure 14

### Using Wash-Out Port

After mower is used, underside of mower housing must be cleaned to prevent grass clippings from adhering to the housing. To clean underside of mower housing, use the wash-out port.

**CAUTION**

**Before using the wash-out port, move traction control to DISENGAGE detent (self-propelled models), shut engine off, remove bagging attachment, and make sure rear door is closed and latched securely. Also keep hands from under housing. Contacting a moving part or being hit by discharged material can cause personal injury. Stay away from rear discharge opening.**

1. After engine is shut off, set height-of-cut in the lowest position – shortest cut.

2. Open the wash-out port (Fig. 15).

3. Move traction control to DISENGAGE detent (self-propelled models) and start engine. Using moderate water pressure, put end of hose without nozzle, into wash-out port opening (Fig. 15). Allow engine and water to run for approximately 2 minutes; then shut engine off. Pull high tension wire off spark plug after all moving parts stop.

**IMPORTANT: On KEY-LECTRIC models, do not spray water onto starter motor because damage could result.**

# OPERATING INSTRUCTIONS

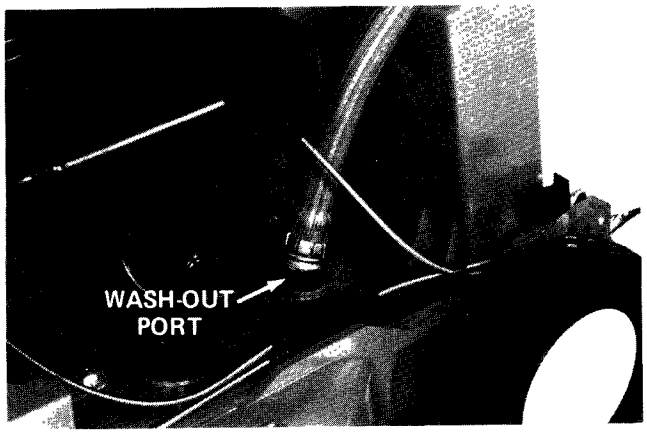



Figure 15

NOTE: The action created by the rotating blade and water flushes accumulations of grass clippings from underside of mower housing. Dry, bulky accumulations of grass clippings must be cleaned with a scraper; refer to cleaning Mower Housing, page 19.

### Opening Rear Door When Using Bag

**CAUTION**

**If mower is used for mulching, the rear door must be closed. Never open rear door when engine is running unless bagging attachment is installed, because contact with discharged material will likely cause personal injury.**

1. Move traction control to DISENGAGE detent (self-propelled model) and shut engine off.

**CAUTION**

**Since blade rotates for a few seconds after engine is shut off, stay behind handle until engine, blade, and all moving parts stop. Keep hands and feet away from mower housing because contact with blade or another moving part will likely cause personal injury.**

2. Pull high tension wire off spark plug to prevent possibility of accidental starting.

3. Squeeze lockout lever until it disengages the latch; then move rear door handle rearward into detent lock (Fig. 16). Door is now open fully.

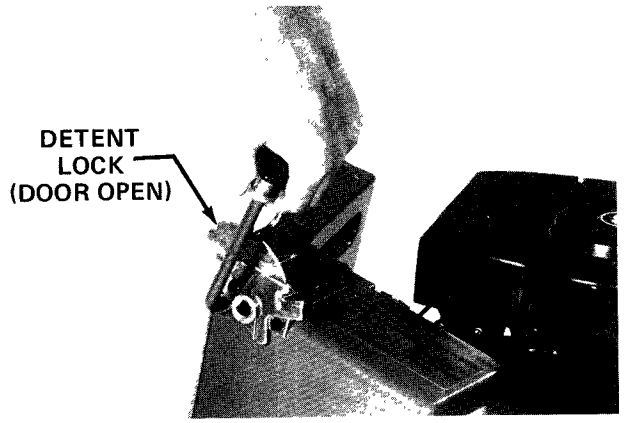



Figure 16

### Adjusting Height-Of-Cut

The height-of-cut is adjustable to one of five approximate settings: 1 inch, 1-1/2 inches, 2 inches, 2-1/2 inches, or 3 inches. However, front wheels also have a 5/8 inch setting that can be used with the 1 inch rear wheel setting when cutting thatch grass.

NOTE: The five settings from 1 to 3 inches have letters to designate specific heights-of-cut. For normal cutting, set all four wheels at same letter.

**CAUTION**

**Move traction control to DISENGAGE detent and shut engine off before adjusting height-of-cut. Contact with blade or another moving part will likely cause personal injury.**

1. Place thumb against inside of pivot arm and fingers against outside of wheel (Fig. 17).

2. Pull pivot arm out until its locating stud disengages notch in side of mower housing; then move pivot arm to desired setting and release locating stud into notch in mower housing.

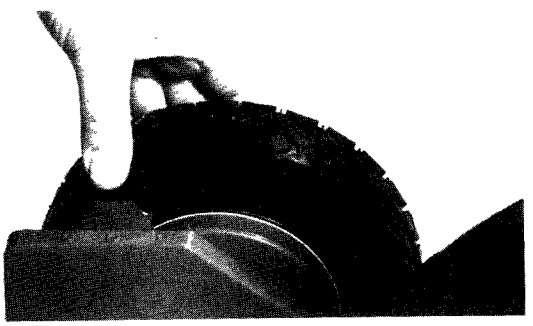


Figure 17

3. Adjust wheels to same height-of-cut (Fig. 18).

**IMPORTANT: If rear wheels are moved backward to increase traction of self-propelled models, the letters for height-of-cut settings do not correspond. To keep height-of-cut adjusted equally, use reverse letter settings (Fig. 21).**

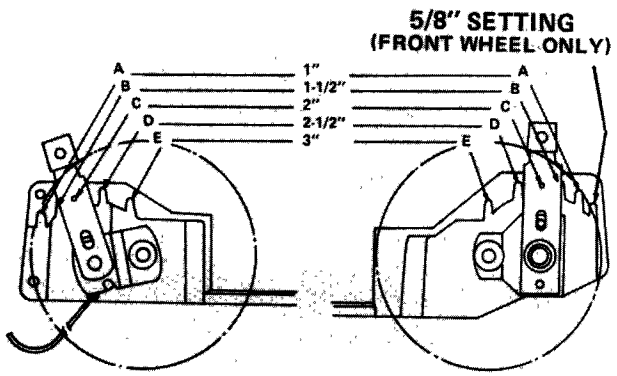



Figure 18

Increasing Traction (Self-Propelled Model)

**Tools Required: 1/2-Inch Open End Wrench and 5/8-Inch Open End Wrench.**

Traction can be increased on self-propelled models by moving rear wheels backward. This is advantageous when bagging moisture-saturated or lush grass that is heavier than normal, dry grass.

1. Pull high tension wire off spark plug.

2. Loosen pivot bolt and lock nut (Fig. 19) until nut is at end of bolt.

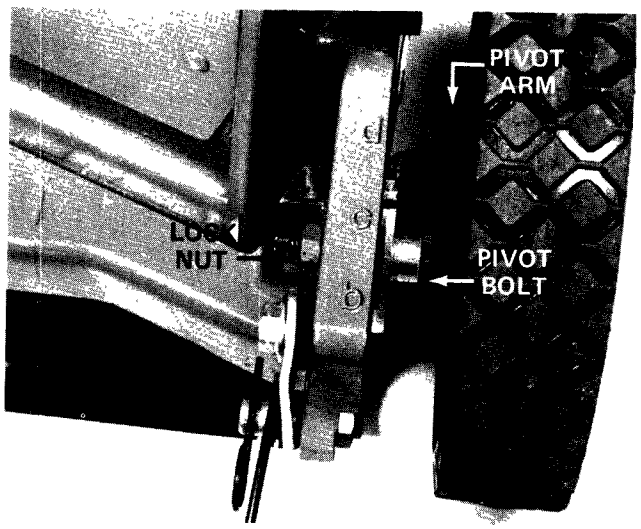



Figure 19

3. Pull the wheel with pivot arm out; then move wheel to the rear while maintaining position of spring arm (Fig. 20).

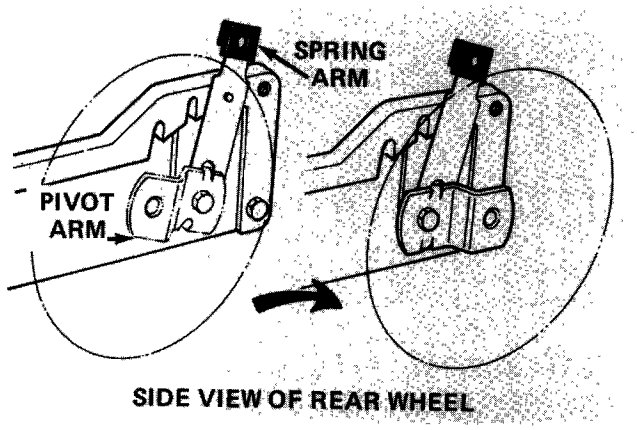



Figure 20

4. When tab in pivot arm engages slot in spring arm, tighten pivot bolt and lock nut (Fig. 19).

**IMPORTANT: Make sure pivot arm tab engages slot in spring arm. If parts are not seated properly, spring arm will be pinched between shoulder of pivot bolt and mower housing.**

5. After rear wheels are moved to the back position for increased traction, letters for height-of-cut settings do not correspond. To keep height-of-cut adjusted equally, use the corresponding settings (Fig. 21).

| Front Wheel Setting | | Rear Wheel Setting |
|---|---|---|
| a | 1" | e |
| b | 1-1/2" | d |
| c | 2" | c |
| d | 2-1/2" | b |
| e | 3" | a |

Figure 21

**IMPORTANT: Incorrect height-of-cut settings will cause improper pitch of the blade, resulting in loss of power and poor quality of cut.**

Mulching

To use GRASSMASTER as a mulching mower:

1. Move traction control to DISENGAGE detent (self-propelled model) and make sure engine is shut off.

2. Pull high tension wire off spark plug to prevent possibility of accidental starting.

# OPERATING INSTRUCTIONS

3. Lift up on lock-out lever and move rear door handle fully forward until door closes. (Fig 22).

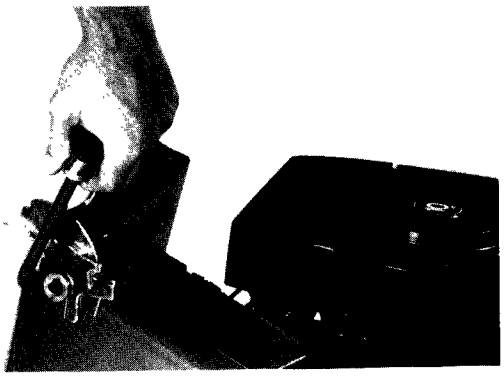


Figure 22

**CAUTION**

**When mower is used for mulching, rear door must be closed. Never open rear door when engine is running because contact with blade or discharged material will likely cause personal injury.**

NOTE: If desired, bag may remain on mower when mulching.

4. Grasp bag at rear and at door; then remove bag by lifting straight up (Fig. 23). Mower is ready for mulching.




Figure 23

5. Push high tension wire onto spark plug so engine can be started.

### Using Rear Bagging Feature

1. Close grass bag door. Top and side lips of door must fit outside the bag frame, not inside the frame (Fig. 24).

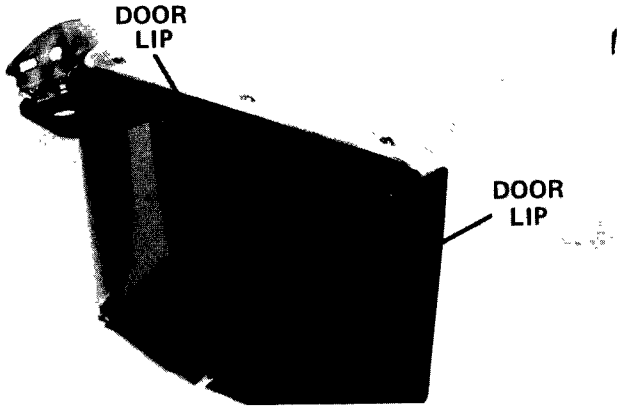



Figure 24

2. Squeeze lock-out lever and move rear door handle forward to assure door closes fully.

3. Slide guide hole in bag frame onto locating stud and set bag down on the lower handle (Fig. 25).

4. Move rear door handle fully to the rear until it locks in the notch (Fig. 25). Door is now open fully, and mower is ready to use.

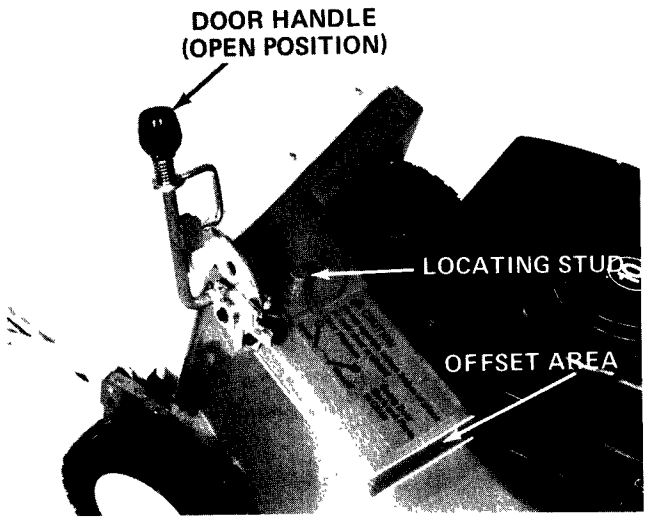



Figure 25

NOTE: Rear door must be open fully and into the offset area (Fig. 25) in the housing to prevent grass clippings from lodging above the door.

5. When bag must be emptied, move traction control to DISENGAGE detent (self-propelled model) and shut engine off. Also move rear door handle forward until it is closed. Next, grasp bag at rear and at bag door (Fig. 23); then lift bag straight up so clippings stay in the bag rather than falling out the opening.

# OPERATING INSTRUCTIONS

**CAUTION**

Since blade rotates for a few seconds after engine is shut off, stay behind handle and do not get hands or feet close to mower housing. Contact with blade or another moving part will likely cause personal injury.

IMPORTANT: If rear door of mower cannot be closed because grass clippings are clogging the discharge area, move rear door gently back and forth (Fig. 26 Inset). Do this until clippings are pushed into the bag and rear door can be closed completely. DO NOT FORCE REAR DOOR CLOSED because door or handle may be damaged by compacted grass in mower housing and discharge area.

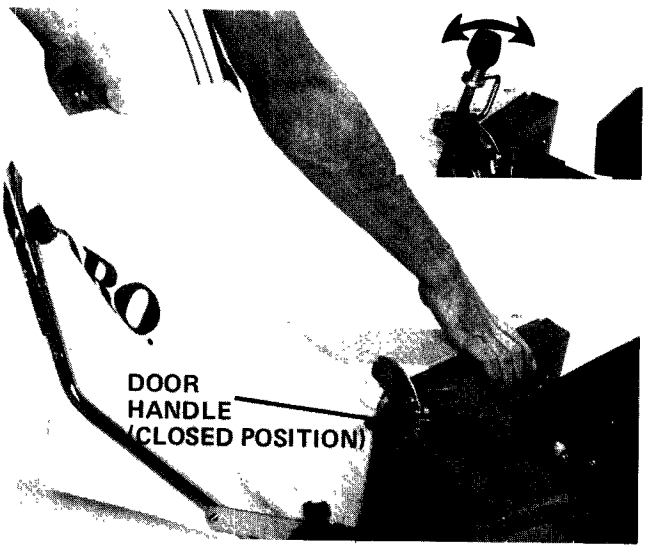



Figure 26

**CAUTION**

Rear door of mower must be closed to remove bag. Never open rear door when engine is running or grass bag is removed because contact with blade or discharged material will likely cause personal injury.

6. Open door at front of grass bag. While shaking the bag, gradually tip it forward so grass sifts out (Fig. 27). Do not try to dump all the grass at once.

7. Reinstall bag on mower by using steps 1-4.

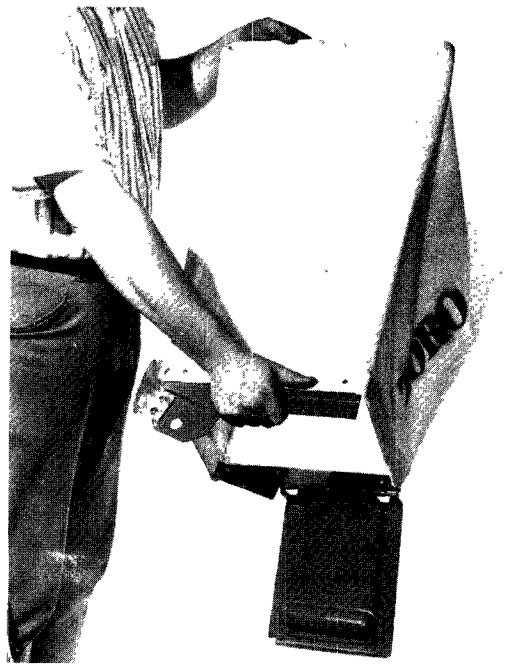


Figure 27

Bagging Tips

**WARNING**

**The grass bag is made of material that will catch and contain the majority of foreign objects, such as small stones that may be thrown into it. However, under normal use, the bag material is subject to deterioration and wear; therefore, check bag frequently. If bag is defective, replace it with a genuine TORO bag that bears this Warning.**

1. Always install bagging attachment before starting the engine. When removing or reinstalling bag, shut engine off.

2. Walk behind the mower; do not run.

3. Cut grass when it is dry and avoid cutting wet grass.

4. Cut long grass with height-of-cut at highest setting. Then cut grass again using lower setting.

5. Empty the bag often to reduce possibility of clogging mower housing and discharge area: refer to Using Rear Bagging Feature, page 15.

# MAINTENANCE

**CAUTION**

**To prevent accidental starting of the engine while performing maintenance, shut engine off and pull high tension wire off spark plug (Fig. 28). Make sure wire does not touch plug accidentally.**

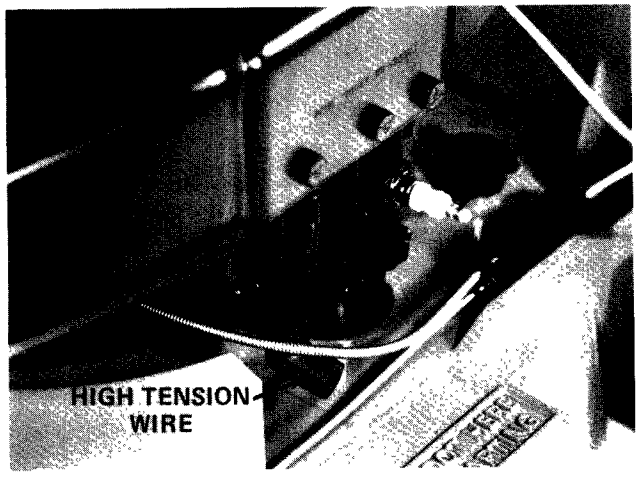



Figure 28

### Lubricating Wheel Bearings

**Tools Required: Clean Rag and Grease Gun with No. 2 General Purpose Grease.**

On outside of each wheel hub there is a grease fitting (Fig. 29) for lubricating the wheel bearings. After fitting is wiped clean, lubricate wheel bearings with No. 2 general purpose grease after every 25 hours of operation; however, lubricate bearings before each mowing when conditions are dusty or sandy.

NOTE: If wheels get wobbly because of bearing wear, either replace the wheel or have bearings, felt washers, and wave washers replaced.

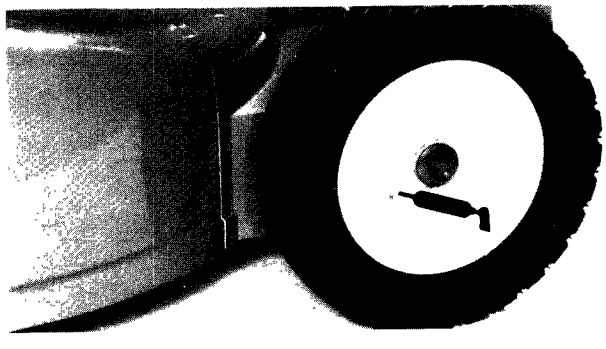


Figure 29

### Servicing Air Cleaner

**Tools Required: Solution of Liquid Soap Detergent and Water, Clean Rag, and Engine Oil**

The air cleaner element must be cleaned after every 25 hours of engine operation if the engine is operated in clean air conditions. However, element must be cleaned more frequently when mower is operated in dusty or dirty conditions.

1. Place fingers under cover and lift it up (Fig. 30). Clean cover if it is dirty.

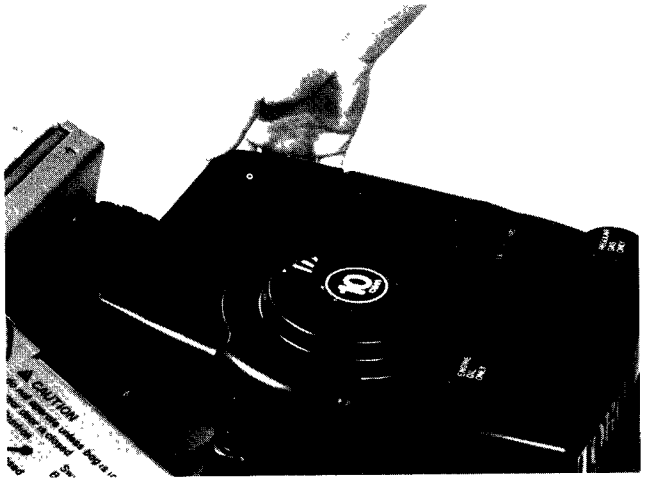


Figure 30

2. Look at top of air cleaner element (Fig. 31). If it is dirty, the element must be removed from air cleaner body (Fig. 31); then cleaned.

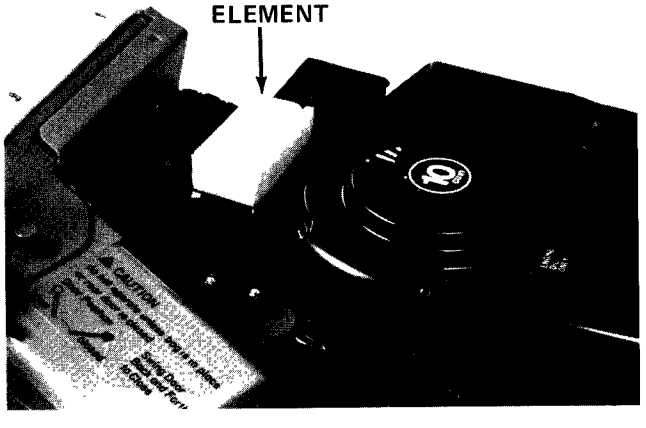



Figure 31

A. WASH element in a solution of liquid soap detergent and water. Squeeze the element to remove dirt. Do not twist element because it may tear.

B. DRY the element by wrapping it in a clean rag. Squeeze the rag and element until element is dry.

C. SATURATE the element with 5 teaspoons of 10W-40 oil; then squeeze it to distribute oil thoroughly. Also, squeeze element to remove excess oil. A damp element is desireable.

D. Place element into air cleaner body (Fig. 31).

3. Install cover on air cleaner body. Make sure cover snaps in place and is seated securely on air cleaner body.

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

### Changing Crankcase Oil

**Tools Required: Clean Rag, Shallow Oil Drain Pan, Small Funnel, and 1/2-Inch Wrench**

Change oil after the first 2 hours of engine operation; thereafter, change oil after 25 hours of engine operation. If possible, run engine just before changing oil because warm oil drains better and carries more contaminants than cold oil.

NOTE: Drain oil when fuel tank is empty to prevent spilling gasoline. Oil can be drained two ways: one way is out the bottom of the oil sump – steps 1-4 and 6 – and the other way is out the filler neck – steps 1, 5, and 6.

1. Make sure engine is shut off. Also pull high tension wire off spark plug.

**CAUTION**
**Drain gasoline from fuel tank to prevent a potential hazard.**

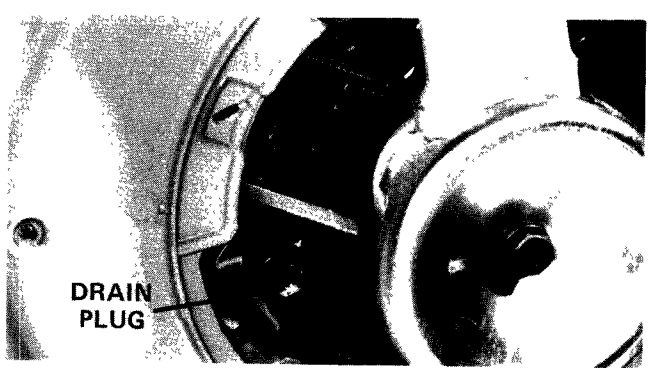



Figure 32

2. Tip mower on left – spark plug – side, and allow mower to remain in tipped position for a short time only. Avoid rotating blade when mower is tipped because starting problems may result.

3. Clean area around drain plug. Remove drain plug and tip mower gradually back to its normal position so oil flows into drain pan.

4. After all oil is drained, tip mower on its left side and reinstall oil drain plug. Tip mower back to its normal position.

5. Remove dipstick from filler neck. Tip mower forward so all oil drains out filler neck and into drain pan (Fig. 33). Install dipstick in filler neck.

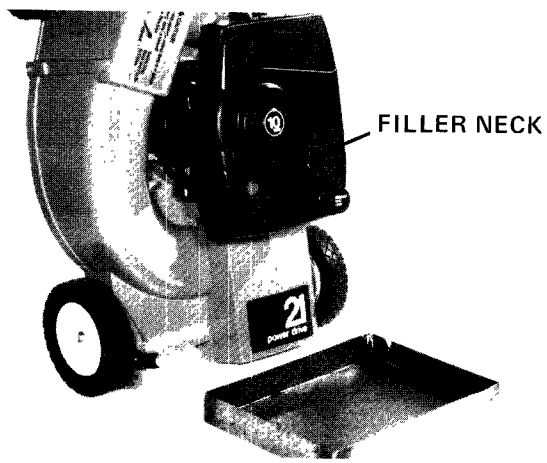



Figure 33

6. Move mower to a level surface. Fill crankcase with oil to FULL mark on dipstick; refer to Fill Crankcase With Oil, page 8.

### Draining Gasoline

**Tools Required: Pliers and Shallow Drain Pan**

1. Place a clean, shallow drain pan below the fuel tank (Fig. 34).

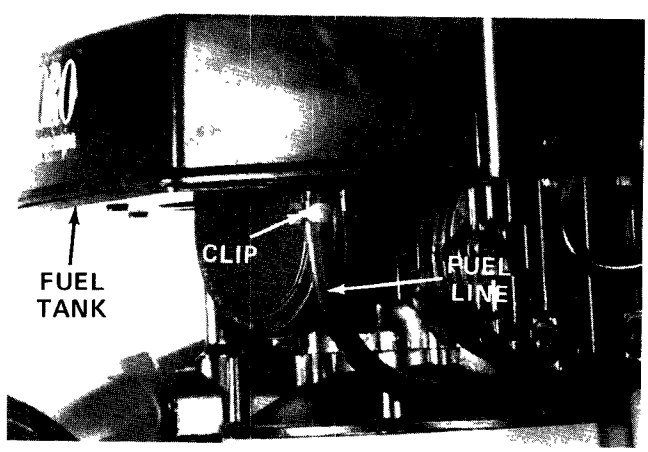



Figure 34

2. Compress clip holding fuel line on fuel tank fitting (Fig. 34); then slide clip down fuel line.

3. Carefully pull fuel line off fitting to allow gasoline to flow into drain pan.

4. When gasoline is drained, install fuel line on fuel tank fitting. Reinstall fuel line clip.

### Replacing Spark Plug

**Tools Required: 13/16-Inch Spark Plug Socket, Spark Plug Gapping Tool, and Clean Rag**

Recommended spark plug to use is a Champion CJ-8 or equivalent, and correct air gap is 0.030 of an inch. Since air gap between center and side electrodes of the spark plug increases gradually during normal engine operation, remove plug after every 25 hours of engine operation and check its condition.

1. Clean area around spark plug so foreign matter does not fall into cylinder when plug is removed.

2. Pull high tension wire off spark plug and remove plug from cylinder head (Fig. 35).

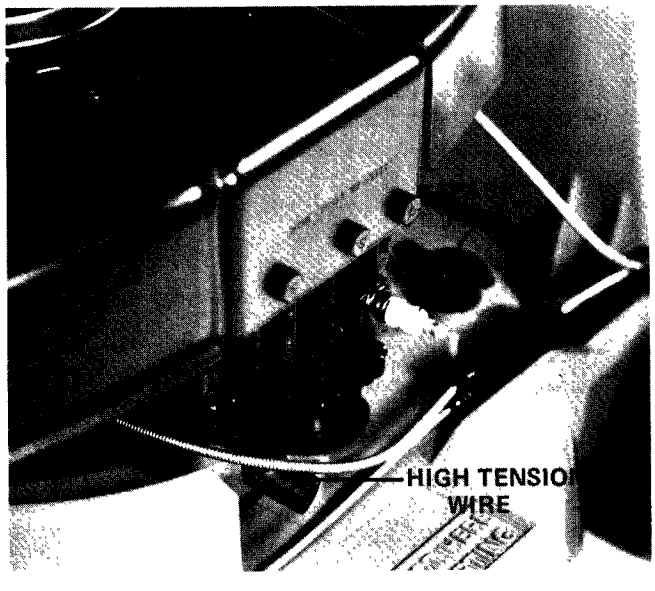



Figure 35

**IMPORTANT: A cracked, fouled, or dirty spark plug must be replaced. Do not sand blast, scrape, or clean electrodes using a wire brush because grit may eventually release from the plug and fall into the cylinder. The result will likely be engine damage.**

3. Set air gap between electrodes at 0.030 of an inch (Fig. 36). Next, install correctly gapped spark plug with gasket seal and tighten plug to 15 ft-lb. If torque wrench is not used, tighten plug firmly.

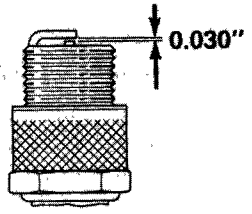



Figure 36

4. If mower will be used immediately, push high tension wire onto spark plug. However, do not install high tension wire if mower will not be used: accidental starting will be prevented.

### Cleaning Mower Housing

**Tools Required: Wooden Scraper**

To assure a good cut and efficient grass bagging, underside of mower housing and inside of discharge area must be kept clean.

1. Pull high tension wire off spark plug.

**CAUTION**

**Drain gasoline from fuel tank to prevent a potential hazard.**

2. Tip mower on left – spark plug – side, and allow mower to remain in tipped position for a short time only. Avoid rotating blade when mower is tipped because starting problems may result.

3. Remove grass clippings and dirt that sticks to the housing by spraying with a garden hose. Scrape out any grass that water does not remove from housing; then spray housing again with water.

4. Set mower upright.

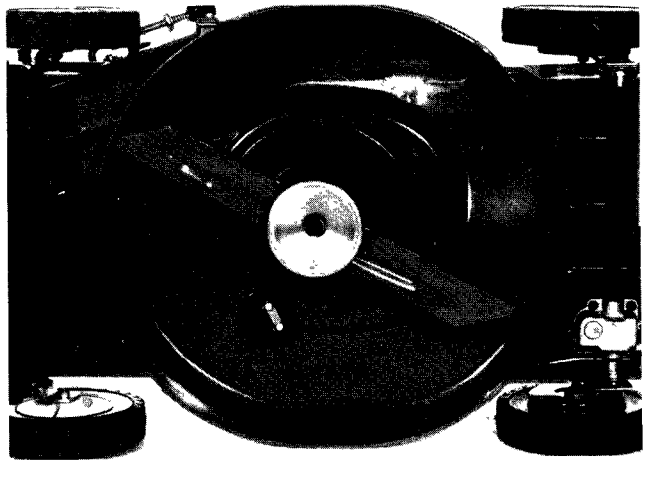


Figure 37

# MAINTENANCE

### Servicing Cutter Blade

**Tools Required: 5/8-Inch Socket or Wrench and Clean Rag**

**CAUTION**

Check cutter blade before mower is used or stored and whenever mower is serviced. If bolt holding blade is loose, tighten it to 45-60 ft-lb. Carefully examine cutting ends of blade, especially where the flat and sail parts of the blade meet. When mowing in dry or sandy areas, sand and abrasive material can wear away the metal that joins the sail and flat part of the blade (Fig. 38A). For safety, it is important that when any wear is noticed (Fig. 38B), the blade is replaced. If the condition is not corrected and wear continues, a slot will form (Fig. 38C). Eventually a piece of the sail may break off and be thrown from under the housing, possibly resulting in serious injury to yourself or bystander.

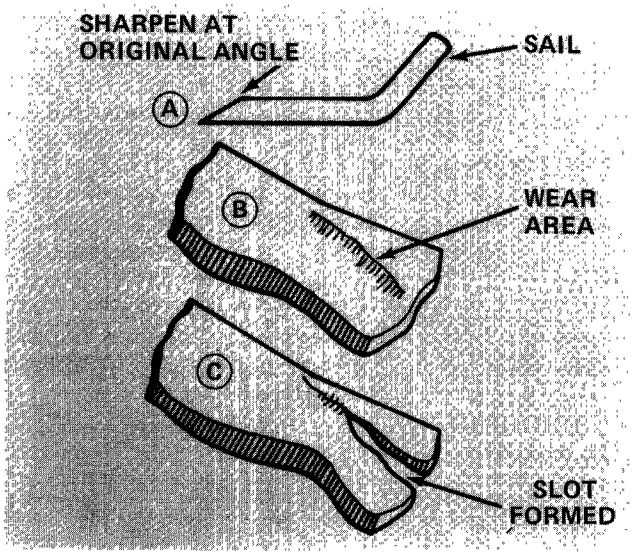



Figure 38

If the blade ever hits a solid object, replace it. Also replace the blade if it is bent or out-of-balance. Always use genuine TORO replacement blades to assure safety and optimum performance. NEVER USE "WILL-FIT" BLADES MADE BY OTHER MANUFACTURERS.

1. Pull high tension wire off spark plug.

2. Tip mower on left – spark plug – side, and allow mower to remain in tipped position for a short time only. Avoid rotating blade when mower is tipped because starting problems may result.

3. Grasp end of blade using a rag or thickly padded glove; then remove cap screw, lock washer, anti-scalp cup, and blade (Fig. 39).

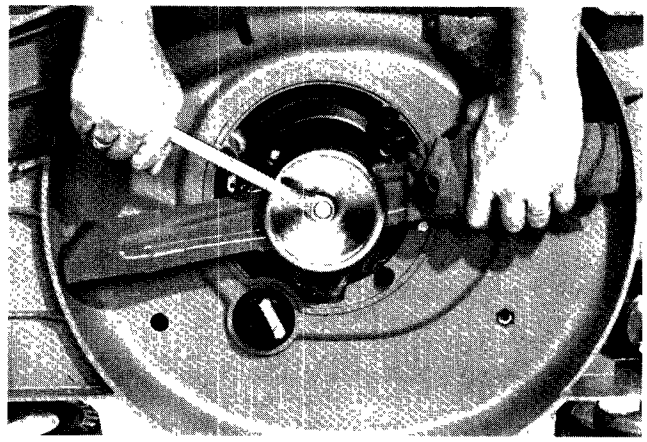


Figure 39

4. Using a file, sharpen cutting edge at both ends of blade (Fig. 38A).

**IMPORTANT: Sharpen top side of blade and maintain original cutting angle (Fig. 38A) to assure a sharp cutting edge. The blade will remain balanced if same amount of material is removed from both cutting edges.**

5. Check balance of blade by putting it on a blade balancer. A balanced blade will stay in a horizontal position on the balancer. By contrast, a blade that is not balanced will settle to the heavy side. If blade is not balanced, file some metal off heavy "end" of the blade, not off the cutting edge. Next, check blade balance again.

NOTE: An inexpensive blade balancer can be purhcased at a hardware store.

6. In sequence, install sharp, balanced blade, anti-scalp cup, lock washer and cap screw (Fig. 39). Tighten cap screw to 45-60 ft-lb.

7. Set mower upright. If mower will be used immediately, push high tension wire onto spark plug. However, do not install high tension wire if mower will not be used: accidental starting will be prevented.

### Adjusting Throttle Control

**Tools Required: Screwdriver**

If engine does not stop or start, or if throttle control is replaced, an adjustment may be required.

1. Remove grass bag.

2. Move panel-mounted throttle control fully to the rear.

3. Loosen cable clamp screw until throttle cable is free to slide (Fig. 41).

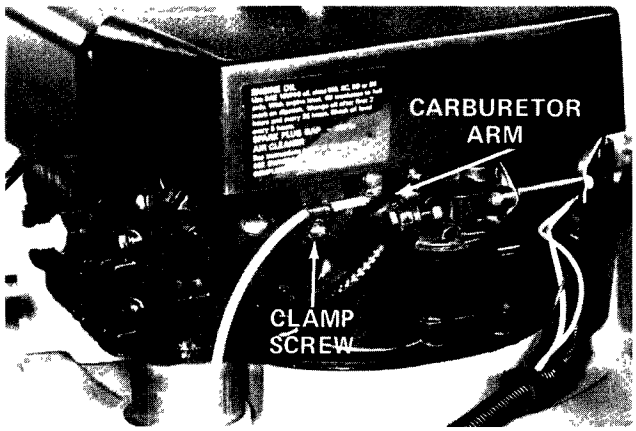



Figure 41

4. Move carburetor control arm to the left until it contacts grounding bracket (Fig. 41).

5. Pull throttle cable slightly to remove any slack; then tighten cable clamp screw.

6. Install grass bag.

### Checking Power Drive Gear Case

**Tools Required: None**

The Power Drive gear case is filled with oil and sealed at the factory; therefore, regular maintenance is not necessary. However, check gear case periodically for oil leaks between sides of case and axle (Fig. 42). If oil leak is excessive or continuous, have mower inspected by an Authorized TORO Service Dealer.

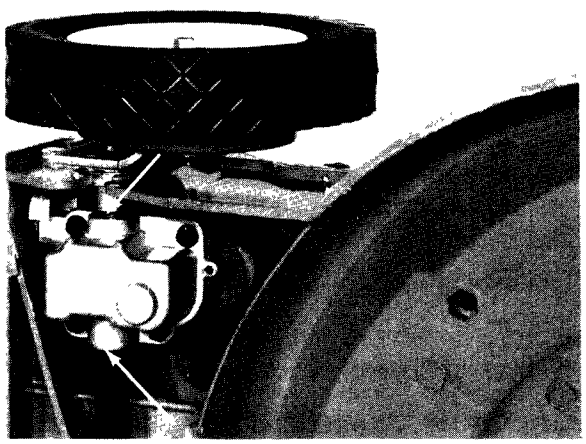


Figure 42

### Adjusting Traction Control

**Tools Required: Medium Blade Screwdriver and 1/2-Inch Wrench**

If a new traction control cable is ever installed, an adjustment is required.

1. Shut engine off and pull high tension wire off spark plug.

2. Remove screws holding POW-R-DRIVE cover and set cover aside.

NOTE: Check the belt (Fig. 43): it is properly adjusted when 10 lb of tension is placed on outside of belt and a minimum clearance of 1 inch remains between inside of belt. Adjust stop screw to maintain this setting.

3. Loosen cable retaining screw until cable is free to slide (Fig. 43).

4. Move panel-mounted traction control back as far as possible to the DISENGAGE position.

5. Push shifter arm (Fig. 43) backward until it stops, and hold it in place.

6. Pull control cable and wire backward to remove any slack; then secure cable in place by tightening the retaining screw (Fig. 43). This adjustment will assure that POW-R-DRIVE is disengaged when panel-mounted traction control is in DISENGAGE detent.

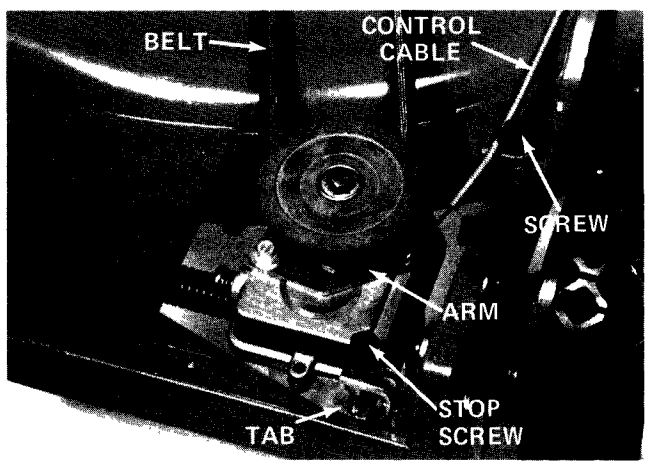



Figure 43

7. Adjust the traction lockout: refer to Adjusting Recoil Traction Lockout, page 22.

8. Install POW-R-DRIVE cover with screws.

9. If mower will be used immediately, push high tension wire onto spark plug. However, do not install high tension wire if mower will not be used: accidental starting will be prevented.

# MAINTENANCE

### Adjusting Recoil Traction Lockout

**Tools Required: Medium Blade Screwdriver**

There is a recoil lockout arm at front of engine. In conjunction with traction control, it disengages the recoil starter so engine cannot be started when traction control is in the ENGAGE position. Unless the control cable and wire breaks and is replaced, an adjustment should not be required.

1. Shut engine off and pull high tension wire off spark plug.

2. Adjust the traction control: refer to Adjusting Traction Control, steps 1-6, page 21.

3. Make sure panel-mounted traction control is in DISENGAGE position.

4. Loosen cable clamp screw until cable is free to slide (Fig. 43).

5. Pull recoil starter handle out about 10 inches and hold it in that position.

6. With recoil handle pulled out 10 inches, move control cable, wire, and lockout arm to the left until lockout arm stops (Fig. 44).

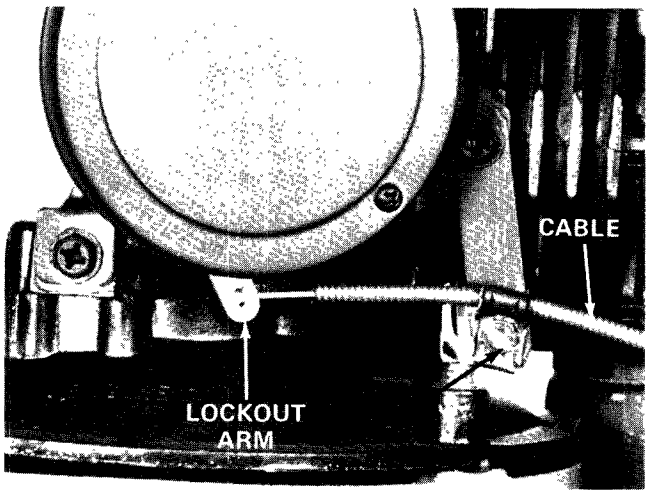



Figure 44

7. Allow starter rope to retract slowly.

8. Move control cable, wire, and arm 1/16 of an inch or two or three coils of the cable to the right, and secure cable in place by tightening cable clamp screw (Fig. 44).

NOTE: This adjustment provides slight clearance between lockout arm and starter gear. Clearance allows starter gear to engage with engine ring gear when panel-mounted traction control is in DISENGAGE detent.

9. Test the adjustment by moving panel-mounted traction control to ENGAGE position. Pull recoil starter handle slowly: it must be very easy to pull, and engine must not turn over.

10. If mower will be used immediately, push high tension wire onto spark plug. However, do not install high tension wire if mower will not be used: accidental starting will be prevented.

### Charging Battery

**Tools Required: TORO Electro Charger**

A new battery is not charged. Therefore, if mower must be used immediately, charge the battery for 4 hours to provide enough energy to start engine several times. However, 48 hours of continuous charging are required for full charge. The 48 hour charge of a new battery is recommended for the initial charge, storage charge, and the spring charge. After a new battery is initially and subsequently used, the following charging times apply.

| Type of Mower Use | Charging |
|---|---|
| When bagging with frequent engine starts | 24 hrs * |
| When mulching with 1 or 2 starts each mowing | 24 hrs ** |
| * Charge battery immediately after each mowing. | |
| ** Charge battery once a month during mowing season. | |

Figure 45

**IMPORTANT: Use only the TORO Electro Charger supplied with the mower because it is specially designed for the battery. Using a different charger will likely damage the battery. Remember to use the charger indoors, not outdoors where it can be affected adversely by rain. Charge battery at room temperature – +70° F – whenever possible. Do not charge the battery for more than 72 consecutive hours because battery damage can result.**

NOTE: The battery can be charged while it is on or off the mower. To charge battery while it is off the mower, use steps 1-6. To charge battery on the mower, use steps 1, 3, 4, and 6.

1. Pull wire harness connector off battery terminal.

2. To remove battery, slide it out of mounting slots on back of control panel.

3. Push Electro Charger connector onto battery terminal (Fig. 46). Next, insert charger into power outlet (Fig. 46).

# MAINTENANCE

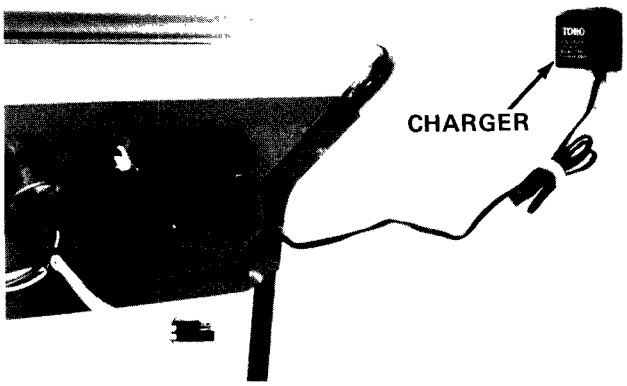



Figure 46

4. When battery has charged for specified amount of time, pull charger out of power outlet; then separate charger connector from battery terminal.

5. Hold battery so terminal side is to the left; then slide battery between mounting slots on back of control panel.

6. Push wiring harness connector onto battery terminal.

### Preparing Mower For Storage

1. Drain gasoline from fuel tank and fuel line: refer to Draining Gasoline, page 18. Next, start engine and let it run at idle speed until it stops because all gasoline is used.

NOTE: All gasoline must be expended to prevent gum-like varnish deposits from forming in the carburetor, fuel line, and fuel tank. Such deposits, if allowed to form, will cause starting problems and poor engine operation.

2. Pull high tension wire off spark plug and clean area around the plug so foreign matter cannot fall into cylinder when plug is removed. Next, remove plug from cylinder head and pour two tablespoons of 10W-40 oil into spark plug hole. Pull recoil starter handle slowly to distribute oil on inside of cylinder. Then reinstall spark plug and tighten it to 15 ft-lb. If torque wrench is not used, tighten plug firmly. DO NOT INSTALL HIGH TENSION WIRE ON SPARK PLUG.

3. Drain oil from crankcase: refer to Changing Crankcase Oil, steps 1-5, page 18. However, do not fill crankcase with oil at this time.

4. Clean dirt and chaff from outside of cylinder, cylinder head fins, and blower housing. Also, remove grass clippings, dirt, and grime from external parts of engine, shrouding, and top of mower housing.

5. Clean underside of mower housing: refer to Cleaning Mower Housing, page 19.

6. Check condition of blade and blade capscrew: refer to Servicing Cutter Blade, page 20.

7. Check and tighten all cap screws, bolts, screws, nuts, and mating parts. If any part is damaged, repair or replace it.

8. Lubricate wheel bearings with grease: refer to Lubricating Wheel Bearings, page 17.

9. Wash air cleaner element in a liquid soap detergent and water: refer to Servicing Air Cleaner, page 17.

10. Fill crankcase with oil: refer to Fill Crankcase With Oil, page 8.

11. "Touch up" all rusted or chipped paint surfaces. Make sure to sand affected area before painting.

NOTE: TORO Re-Kote "touch-up" paint is available from any Authorized TORO Service Dealer. The spray paint dries in minutes to a glossy, factory-finish.

12. Store the mower in a clean, dry place. For convenience, handle can be folded for more compact storage. Cover the mower to protect it and keep it clean.

13. Charge battery fully before storing for the off-season, and store it in a cool, dry place. Battery can be left on mower or removed and stored in a separate place.

**CAUTION**

**Do not dispose of a defective battery by putting it in a fire because an explosion may result, possibly causing personal injury. Always dispose of the battery in a refuse container.**

# IDENTIFICATION AND ORDERING

### Model and Serial Numbers

The GRASSMASTER has two identification numbers: a model number and a serial number. The two numbers are stamped on a decal (Fig. 47) that is located on left side of the mower housing, near the step. In any correspondence concerning the mower, supply model and serial numbers to assure that correct information and replacement parts are obtained.

To order replacement parts from an Authorized TORO Service Dealer, supply the following information:

1. Model and serial numbers of the mower.

2. Part number, description, and quantity of part(s) desired.

NOTE: Do not order by reference number if a parts catalog is being used; use the PART NUMBER.

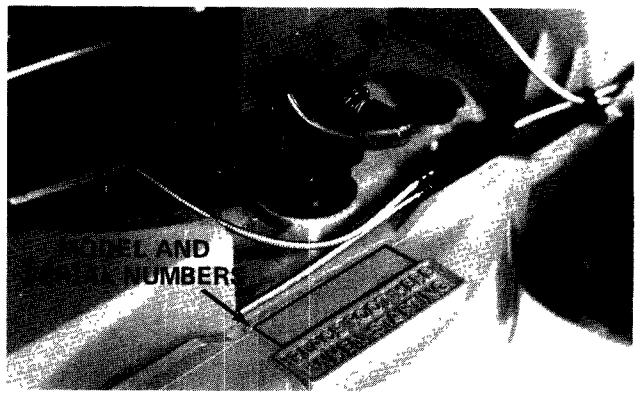


Figure 47

# THE TORO PROMISE

It is Toro's policy to design and produce TORO products to provide our customers with a high level of performance and durability in normal operation. Our products, however, are produced in high volume, and it is inevitable that occasionally a unit will reach a customer with a defect in materials or workmanship which causes the unit to fall below the normal high level of TORO performance. Invariably, such a defect will be noticed in a residential product within one year after purchase. Recognizing this possibility, Toro has established a simple guarantee policy and procedure that is intended to assure customer satisfaction. This guarantee statement is as follows:

## The Toro Promise

*A Full One Year Warranty*

*The Toro Company promises to repair any TORO Product if defective in materials or workmanship. The following time periods from the date of purchase apply:*

Residential Product . . . . . 1 year
Residential Products Used Commercially . . 45 days

*The costs of parts and labor are included, but the customer pays the transportation costs. Just return any residential product to an Authorized TORO Service Dealer or TORO Distributor.*

Should the customer feel that a product is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact any Authorized TORO Service Dealer or Distributor, but preferably the dealer or distributor from whom you purchased the product.
2. He will instruct you to either return the product to him, or tell you the name and address of your nearest Authorized TORO Service Dealer or Distributor if the product is to be returned to such a dealer or distributor.
3. Bring the product and your original sales slip, or other evidence of purchase date, to the service dealer or distributor.
4. The servicing dealer or distributor will inspect the unit, advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without extra charge to the customer.

If for any reason the customer is dissatisfied with the dealer's or distributor's analysis of the defect or the service he performs, he can contact us. Write:

TORO "Customer Care" Department
8111Lyndale Avenue South
Bloomington, Minnesota 55420

Litho in U.S.A.