FORM NO. 3317-413 UK

TORO®

MODEL NO. 04051—50001 & UP

OPERATOR'S MANUAL

GREENSMASTER® 1000



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FOREWORD

The GREENSMASTER 1000 was developed to provide an efficient, trouble-free method of mowing high quality-turf on the finest greens. The latest concepts of engineering, design and safety have been incorporated into this machine, along with the highest quality parts and workmanship. Excellent service will be derived if proper operation and maintenance practices are followed.

Safety, mechanical and some general information in this manual are emphasized. DANGER, WARNING and CAUTION identify safety messages. Whenever the triangle safety symbol appears, it is followed by a safety message that must be read and understood. For more details concerning safety, read the safety instructions on pages 3 and 4. IMPORTANT identifies special mechanical information and NOTE identifies general information worthy of special attention.

If help about operation or safety is ever needed, contact your local Authorized TORO Distributor. In addition to genuine TORO replacement parts, the distributor also has optional equipment for the complete line of TORO turf care equipment. Keep your Toro all TORO. Buy genuine TORO parts and accessories.

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Safety

Training

1. Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.

2. Never allow children or people unfamiliar with these instructions to use the lawn mower. Local regulations may restrict the age of the operator.

3. Never mow while people, especially children, or pets are nearby.

4. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

5. Do not carry passengers.

6. All drivers should seek and obtain professional and practical instruction. Such instruction should emphasize:
   - the need for care and concentration when working with ride-on machines;
   - control of a ride-on machine sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are:
     - insufficient wheel grip;
     - being driven too fast;
     - inadequate braking;
     - the type of machine is unsuitable for its task;
     - lack of awareness of the effects of ground conditions, especially slopes;
     - ##incorrect hitching and load distribution.

Preparation

1. While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.

2. Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.

3. **WARNING—Petrol is highly flammable.**
   - Store fuel in containers specifically designed for this purpose.
   - Refuel outdoors only and do not smoke while refueling.
   - Add fuel before starting the engine. Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
   - If petrol is spilled, do not attempt to start the engine but move the machine away from the are of spillage and avoid creating any source of ignition until petrol vapors have dissipated.
   - Replace all fuel tanks and container caps securely.

4. Replace faulty silencers.

Operation

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

2. Mow only in daylight or in good artificial light.

3. Before attempting to start the engine, disengage all blade attachment clutches and shift into neutral.

4. Do not use on slopes of more than:
   - Never mow side hills over 5°
   - Never mow uphill over 10°
   - Never mow downhill over 15°

5. Remember there is no such thing as a "safe" slope. Travel on grass slopes requires particular

care. To guard against overturning:

- do not stop or start suddenly when going up or downhill;
- engage the clutch slowly, and always keep the machine in gear, especially when travailing downhill;
- machine speeds should be kept low on slopes and during tight turns;
- stay alert for bumps and hollows and other hidden hazards;
- never mow across the face of the slope, unless the lawn mower is designed for this purpose.

6. Use care when pulling loads or using heavy equipment.

- Use only approved drawbar hitch points.
- Limit loads to those you can safely control.
- Do not turn sharply. Use care when reversing.
- Use counterweight(s) or wheel weights when suggested in the instruction handbook.

7. Watch out for traffic when crossing or near roadways.

8. Stop the blades rotating before crossing surfaces other than grass.

9. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation .

10. Never operate the lawn mower with defective guards, shields or without safety protective devices in place.

11. Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speeds may increase the hazard of personal injury.

12. Before leaving the operator's position:

- disengage the power take-off and lower the attachments;
- change into neutral and set the parking brake;
- stop the engine and remove the key.

13. Disengage the drive to attachments when transporting or not in use.

14. Stop the engine and disengage the drive to the attachment

- before refueling;
- before removing the grass catcher;
- before making height adjustments unless the adjustment can be made from the operator's position.
- before clearing blockages;
- before checking, cleaning or working on the lawnmower;
- after striking a foreign object. Inspect the lawnmower for damage and make repairs before restarting and operating the equipment.

15. Reduce the throttle setting during engine runout and, if the engine is provided with a shutoff valve, turn the fuel off at the conclusion of mowing.

Maintenance and Storage

1. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

2. Never store the equipment with petrol in the tank inside a building where fumes may reach an open flame or spark.

3. Allow the engine to cool before storing in any enclosure.

4. To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage area free of grass, leaves, or excessive grease.

5. Check the grass catcher frequently for wear or deterioration.

6. Replace worn or damaged parts for safety.

7. If the fuel tank has to be drained, this should be done outdoors.

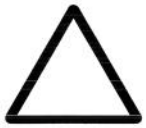
8. Be careful during adjustment of the machine to prevent entrapment of the fingers between moving blades and fixed parts of the machine.

9. On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.

10. When the machine is to be parked, stored or left unattended, lower the cutting means unless a positive mechanical lock is used.

Symbol Glossary

Safety alert symbol



Safety alert symbol



Read operator's manual



Consult technical manual for proper service procedures



Thrown or flying objects—whole body exposure



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



Severing toes or foot—mower blade



Severing fingers or hand—mower blade



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



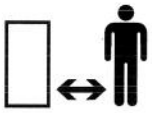
Do not open or remove safety shields while the engine is running.



Dismemberment—Mower in rearward position.



Stay a safe distance from the machine.



Stay a safe distance from the mower.



Keep children a safe distance from the machine.



Machine rollover—side hill



Machine rollover—up hill



Machine rollover—down hill



Machine rollover—roll over protection system



Fast 

Slow 

Decreasing/increasing 

On/Run 

Off/Stop 

Engine 

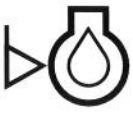
Engine start 

Engine stop 

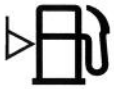
Choke 

Engine temperature 

Engine lubricating oil pressure 

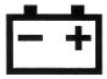
Engine lubricating oil pressure 

Fuel 

Fuel level 

Volume empty 

Volume full 

Battery charging condition 

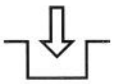
Head lights—Main/high beam 

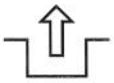
Brake system 

Parking brake 

Clutch 

PTO (Power Take Off) 

Engage 

Disengage 

Unlock 

Lock 

Cutting element—basic symbol



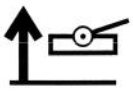
Cutting element—height adjustment



Cutting unit—lower



Cutting unit—raised



Cutting or entanglement of foot—rotating auger



Severing of fingers or hand—impeller blade



Keep a safe distance from snowthrower.



Stay a safe distance from snowthrower.



Tractors must be equipped with 45 kg rear wheel wheel weight with this attachment installed.



Machine rollover protection system snowthrower



Severing of hand—rotating knives



Severing of foot—rotating knives



Riding on this machine is allowed only on a passenger seat and only if the driver's view is not hindered.



Crushing of fingers or hands—force applied from the side



Kickback or upward motion—stored energy



Shut off engine and remove key before performing maintenance or repair work.



Machine travel direction—combined



Low — L

High — H

Reverse — R

Neutral — N

First gear — 1

Second gear — 2

Third gear up to a maximum number of forward gears. — 3

Specifications

Engine: Kawasaki, air cooled, overhead valve, 4 cycle, 3.7 horsepower, 2.36" x 1.73" bore and stroke, 7.57 cu. in. (124 cc) displacement, 8.4:1 compression ratio, 11 ft. lbs. @ 1400 rpm. Electronic ignition, maximum noise suppression muffler. 2.64 quart fuel tank capacity.

Traction Drive: Engine to countershaft drive: two "A" section V—belts. Countershaft to differential drive: 5 mm pitch timing belt. Differential to drum drive: 8 mm pitch timing belt.

Differential: Peerless Series 100.

Transport Clutch: Belt idler

Brake: Band drum

Optional Transport Tires: Quick detachable, 3.00/3.25 x 6, 32.5 tread width.

Traction Drum: Dual cast aluminum, 7.5" Diameter.

Controls: Engine has recoil starter and choke. Handle has on/off switch, throttle lever, traction engage lever and service/ park brake lever. The mower has reel drive engage lever. Safety devices: neutral interlock system.

Handle: Loop style, 1" Diameter.

Reel Construction: 5" diameter, 11 carbon steel blades welded to 5 stamped steel spiders.

Width of Cut: 21"

Height of Cut Range: 5/64" to 1/2"

Clip: .16"

Reel Clutch: Jaw Type.

Bedknife and bedbar: Single edged high carbon steel bedknife, induction hardened to Rc 48—55. Fastened to machined, cast iron bedbar. Tournament bedknife (Part No. 63-8560), standard.

Grass Basket: Molded polyethylene.

Dimensions:

Width: 36"
Height: 47"
Length: 59"
Dry Weight: 208 lbs. with basket and Wiehle roller, without wheels or grooming reel.

Preparation Before Operating

ADD OIL

Initially, the crankcase must be filled with 16 ounces of proper viscosity oil (See chart below). Use any high-quality detergent oil having the American Petroleum Institute (API) "service classification"–MS, or SC.

Temperature	Oil Viscosity
10°C or below	SAE 10W30
10°C to 35°C	SAE 10W30 or 30
Above 35°C	SAE 40

1. Position the mower so the engine is level and clean around the oil level gauge (Fig. 1).

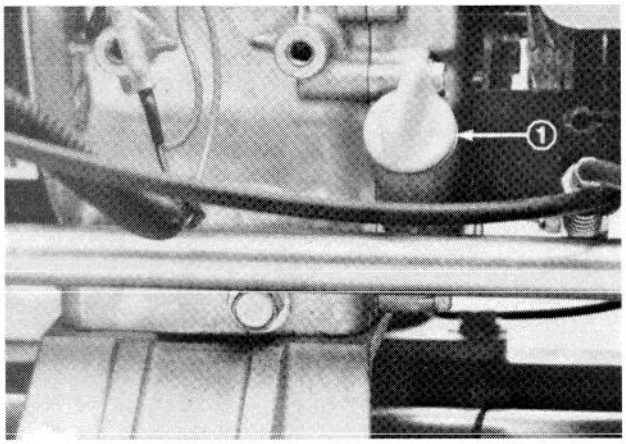


Fig. 1

1. Oil level gauge

2. Remove the gauge by turning it counterclockwise.

3. Wipe the gauge clean and insert it into the filler port. Then remove it and check the level of oil. Do not screw the gauge into the port. If the level is low, add only enough oil to raise the level to the filler opening.

   Note: We recommend that the oil level be checked each time the mower is used or after every 5 operating hours. Initially, change the oil after the first 20 hours of operation; thereafter, change the oil after every 50 hours of operation. More frequent oil changes are required in dusty or dirty conditions.

FILL THE FUEL TANK

NOTE: THE TORO COMPANY STRONGLY RECOMMENDS THE USE OF FRESH, CLEAN, UNLEADED REGULAR GRADE GASOLINE IN TORO GASOLINE POWERED PRODUCTS. UNLEADED GASOLINE BURNS CLEANER, EXTENDS ENGINE LIFE, AND PROMOTES GOOD STARTING BY REDUCING THE BUILD-UP OF COMBUSTION CHAMBER DEPOSITS. LEADED GASOLINE CAN BE USED IF UNLEADED IS NOT AVAILABLE.

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

1. Clean around the fuel tank cap and remove the cap from tank (Fig. 2). Using unleaded gasoline, fill the fuel tank no higher than to the bottom of the filter screen. DO NOT OVER FILL.

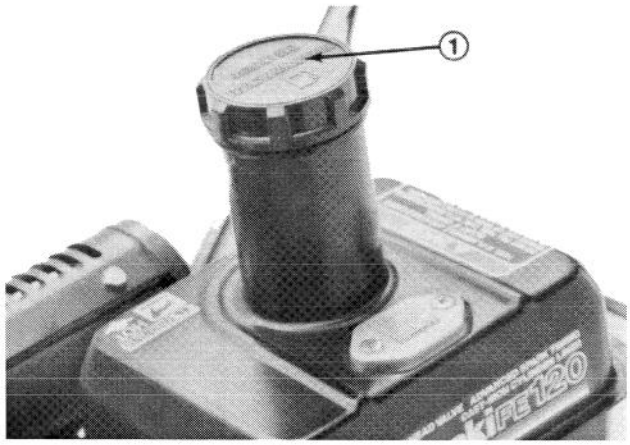


Fig. 2

1. Fuel tank cap

2. Install the fuel tank cap and wipe up any spilled gasoline.

LEVELING THE REAR DRUM TO THE REEL

1. Position the machine on a flat, level surface, preferably a precision steel plate. Place a 1/4" x 1" flat steel strip, 24" long, under the reel blades and against the front edge of the bed knife to prevent the bedbar from resting on the work surface.

2. Raise the front roller so that only the rear drum and the reel are on the surface.

3. Firmly press down on the machine above the reel so all reel blades contact the steel strip.

4. While pressing down on the reel, slide a feeler gauge under one end of the drum, then check the other end of the drum. If there is a gap between the drum and the work surface, greater than .010" on either end, an adjustment to the drum is required; go to step 5. If the gap is less than .010" no adjustment is required.

5. Remove the rear belt cover from the right side of the machine.

6. Rotate the drive pulley until the holes align with the (4) roller bearing flange screws (Fig. 3).

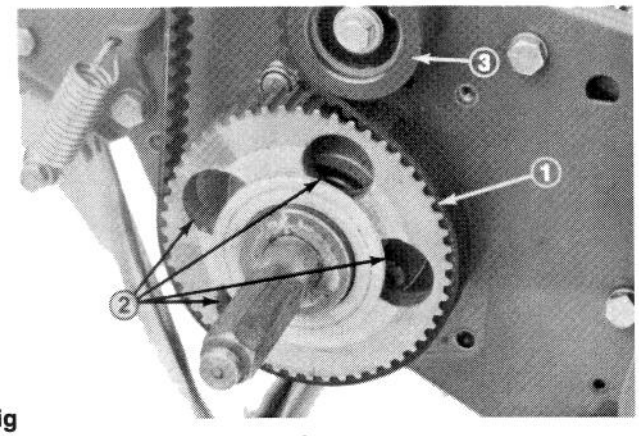


Fig 3.

1. *Drive pulley*
2. Four holes
3. Idler pulley

7. Loosen the four roller bearing screws and the screw securing the idler pulley. Raise or lower the right side of the roller assembly until the gap is reduced to less than .010". Tighten the roller-bearing screws. Adjust belt tension and tighten idler pulley mounting screw (Fig. 4).

ADJUST THE BEDKNIFE TO THE REEL

Bedknife-to-reel adjustment is done by loosening or tightening the bedknife adjusting screws, located on top of the mower.

1. Position the machine on a flat, level work surface. Make sure the reel contact is removed by loosening jam nuts on the bedknife adjusting screws and rotating the adjusting screws counterclockwise (Fig. 4).

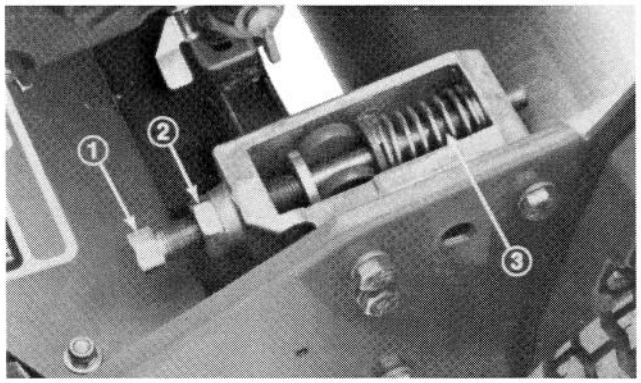


Fig. 4

1. Bedknife adjusting screw
2. Jam nut
3. Spring

2. Tilt the mower back on the handle to expose the bedknife and reel.

3. On one end of the front side of the reel, insert a long strip of newspaper between the reel and the bedknife (Fig. 5). While slowly rotating the reel forward, tighten the bedknife adjusting screw (on same end of the reel), one flat at a time, until the paper is pinched lightly when inserted from the front, parallel to the bedknife, which results in a slight drag when the paper is pulled (Fig. 4).

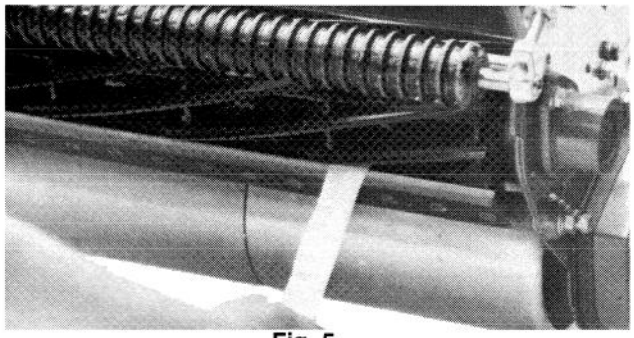


Fig. 5

Note: Each time the adjusting screw is rotated one flat, the bedknife moves .003" closer to the reel. DO NOT OVERTIGHTEN THE ADJUSTING SCREW.

4. Check for light contact at the other end of the reel using the paper and adjust as required. Make sure to tighten the jam nuts on the adjusting screws after completing adjustment.

5. After adjustment, check to see if the reel can pinch paper when it is inserted from the front and cut paper when inserted at a right angle to the bedknife (Fig. 5). It should be possible to cut paper with minimum contact between the bedknife and the reel blades. Should excessive reel drag be evident, it will be either necessary to backlap or regrind the cutting unit to achieve the sharp edges needed for precision cutting (see Toro reel sharpening manual).

WARNING: Use caution if removing the bedbar because the adjusting screw springs (Fig. 4) are under tension and could release suddenly.

ADJUST THE HEIGHT OF CUT

1. Verify that the rear roller is level and that the bedknife-to-reel contact is correct. Tip the mower back on its handle to expose the front and rear rollers and the bedknife.

2. Loosen the locknuts securing the height-of-cut brackets to the side plates (Fig. 6).

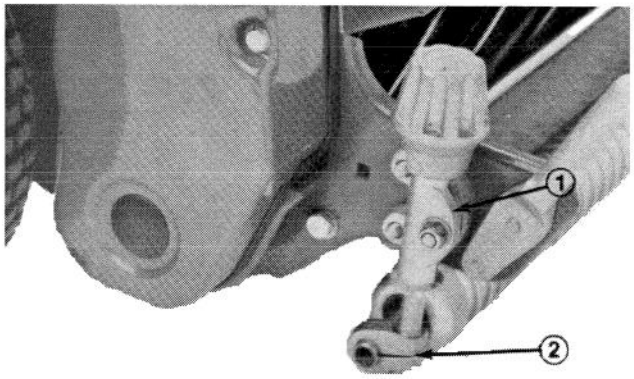


Fig. 6

1. Height-of-cut bracket
2. Roller support

3. Loosen the nut on the gauge bar (Fig. 7) and set the adjusting screw to desired height of cut. Distance between bottom of screw head and face of bar is height of cut.

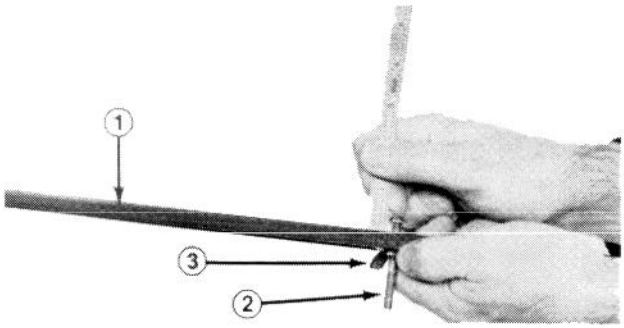


Fig. 7

1. Gauge bar
2. Height adjusting screw
3. Nut

4. Hook the screw head on the cutting edge of the bedknife and rest the rear end of the bar on the rear roller (Fig. 8).

5. Rotate the adjusting knob until the roller contacts the front of the gauge bar. Adjust both ends of the roller until the entire roller is parallel to the bedknife.

IMPORTANT: When set properly, the rear and front rollers will contact the gauge bar and the screw will be snug against the bedknife. This assures height of cut is identical at both ends of the bedknife.

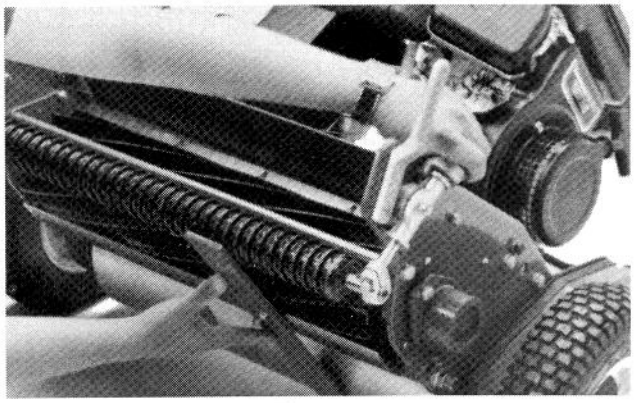


Fig. 8

6. Tighten the nuts at the sides of the height-of-cut brackets to lock adjustment.

IMPORTANT: To avoid scalping on undulating turf, make sure the roller supports are positioned rearward (roller closer to the reel).

ADJUSTING GRASS SHIELD HEIGHT

Adjust the shield to assure proper grass clipping discharge into the basket.

1. Measure the distance from the top of the front support rod to the front lip of the shield at each end of the cutting unit (Fig. 9).

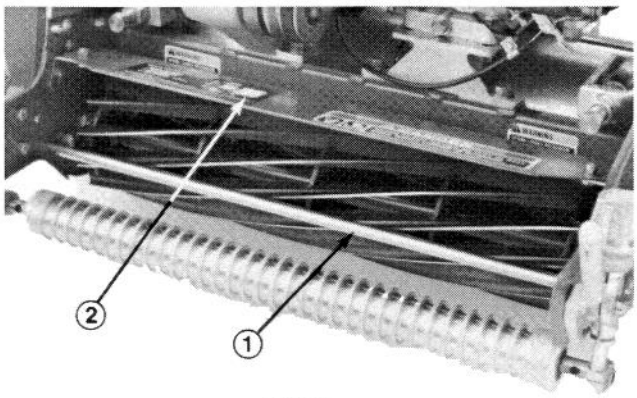


Fig. 9

1. Support rod 2. Shield

2. The height of the shield from the support rod for normal cutting conditions should be 4 inches. Loosen the capscrews and nuts securing each end of the shield to the side plate, adjust the shield to its correct height and tighten the fasteners.

Note: The shield can be lowered for drier conditions (clippings fly over the top of the basket) or raised to allow for heavy wet grass conditions (clippings build up on the rear of the basket).

ADJUSTING CUT-OFF BAR

Adjust the cut-off bar to assure clippings are cleanly discharged from the reel area:

1. Loosen the screws securing the top bar (Fig. 10) to the cutting unit. Insert a .060 inch feeler gauge between the top of the reel and the bar and tighten the screws. Assure the bar and the reel are equal distance apart across the entire reel.

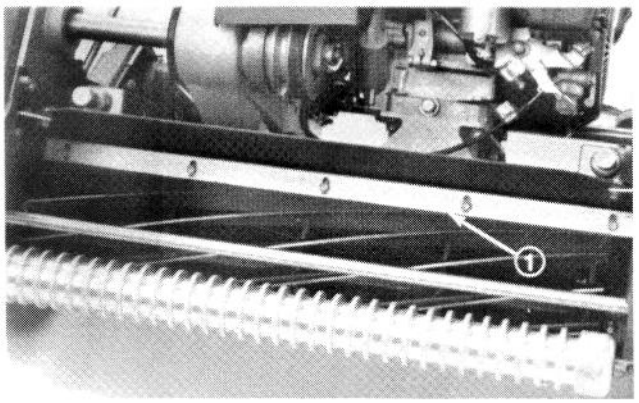


Fig. 10

1. Support rod

Note: The bar is adjustable to compensate for changes in turf conditions. The bar should be adjusted closer to the reel when turf is extremely wet. By contrast, adjust the bar further away from the reel when turf conditions are dry.

The bar should be parallel to the reel to assure optimum performance and should be adjusted whenever shield height is adjusted or whenever the reel is sharpened on a reel grinder.

INSTALL THE GRASS BASKET

1. Grasp the basket by the top rear lip and slide it onto the basket mounting rods (Fig. 11).

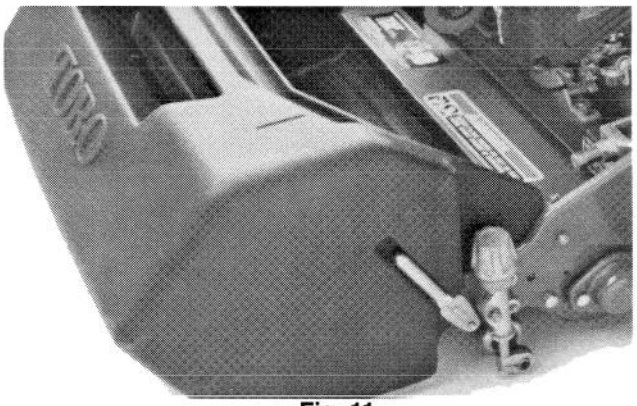


Fig. 11

CHECK INTERLOCK SWITCH OPERATION

1. Place the traction lever into the ENGAGE position and the engine controls in STARTING position.

2. Try to start the engine. The engine should not start. If it does, the interlock switch needs service. Correct the problem before operating.

Controls

Traction Engagement Lever (Fig. 12)—Located on the front right side of the control panel. The lever has two positions: NEUTRAL and FORWARD. Pushing the lever forward engages the traction drive.

On/Off Switch (Fig. 12)—Located on the left rear side of control panel. Move switch to ON to start the engine and to OFF to stop the engine.

Service/Park Brake (Fig. 12)—Located on the left front side of control panel. Use the brake to slow or stop the machine. The brake can also be used as a parking brake. Pulling the lever back over the center will set the parking brake.

Throttle Control (Fig. 12)—Located on the rear right side of control panel. Control has two positions: SLOW and FAST. Engine speed can be varied between the two settings.

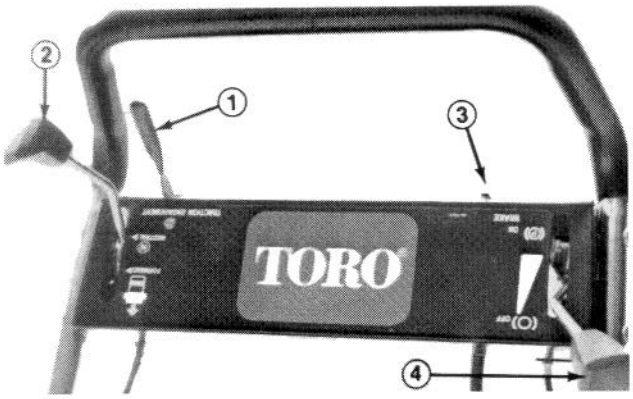


Fig. 12

1. Throttle control
2. Traction engagement pedal
3. On/off switch
4. Service/park brake

Reel Drive Engagement Lever (Fig. 13)—Located on the right front corner of the machine. The lever has two positions: ENGAGE and DISENGAGE. Pull up on the lever to engage the reel or push down on the lever to disengage the reel.

Choke Lever (Fig. 14)—Located on the left front of the engine. The lever has two positions: RUN and CHOKE. Move the lever to CHOKE when starting a cold engine. After the engine starts, move the lever to RUN.

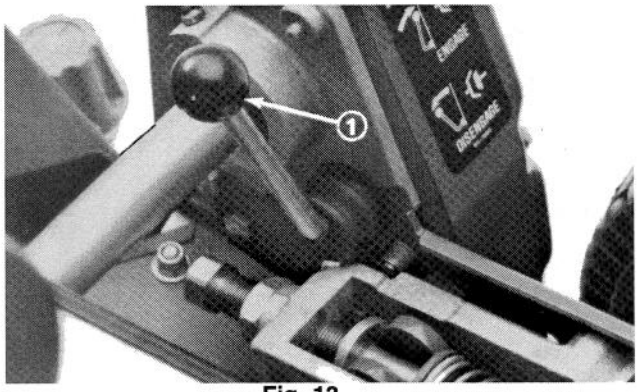


Fig. 13

1. Reel drive engagement lever

Fuel Shut-off Valve (Fig. 14)—Located on the left front of the engine. The valve has two positions: CLOSED and OPEN. Move the lever to CLOSED when storing or transporting the machine. Move the valve to OPEN before starting the engine.

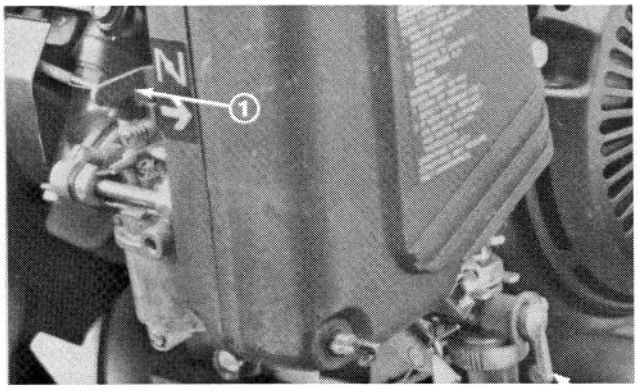


Fig. 14

1. Choke lever
2. Fuel shut off valve

Recoil Starter (Fig. 15)—Pull the recoil starter handle to start the engine.

Kick Stand (Fig. 15)—Located at the rear of the machine, the kickstand is used to raise the rear of the machine for installation or removal of transport wheels.

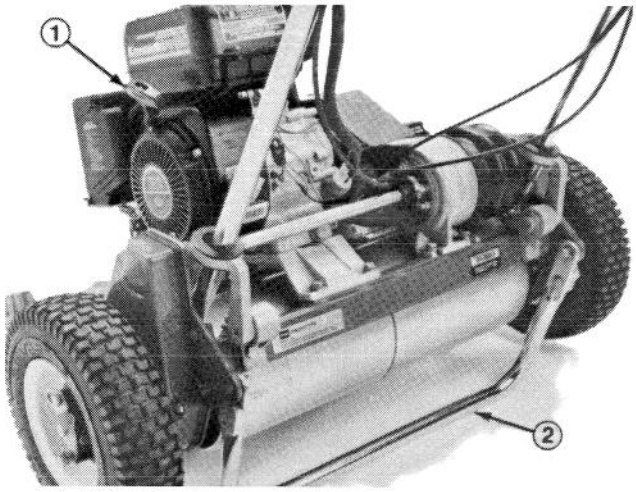


Fig. 15

1. Recoil starter
2. Kickstand

Operating Instructions

STARTING AND STOPPING

Note: Make sure the spark plug wire is installed on the spark plug.

1. Make sure the traction (Fig. 12) and reel drive (Fig. 13) levers are in the DISENGAGED position.

   Note: The engine will not start if the traction lever is in the engaged position.

2. Open the fuel shut-off valve on the engine (Fig. 14).

3. Move the ON/OFF switch (Fig. 12) to ON.

4. Move the throttle control (Fig. 12) to FAST.

5. Move the choke lever (Fig. 14) to the half-open position when starting a cold engine. The choke may not be required when starting a warm engine.

6. Pull the recoil starter handle out until positive engagement results, then pull vigorously to start the engine. Close the choke as the engine warms up.

   Note: Do not pull the recoil rope to its limit or let go of the starter handle when pulling the rope because the rope may break or the recoil assembly may be damaged.

7. To stop the engine during operation, move the traction and reel drive controls to DISENGAGED, the throttle control to SLOW and the ON/OFF switch to OFF.

8. Before storing the machine, pull the spark plug wire off the spark plug to prevent accidental starting.

9. Close the fuel shut-off valve before storing or transporting the mower in a vehicle.

TRANSPORT OPERATION

1. Push the kick stand down with your foot and pull up on the handle to raise the rear of the mower and install the transport wheels.

2. To release the kickstand, push the mower forward and then downward on handle.

3. Assure the traction and reel drive controls are in DISENGAGE and start the engine.

4. Set throttle control in SLOW, tip the front of the machine up and slowly increase engine speed while gradually engaging the traction drive so the mower moves forward slowly.

5. Adjust the throttle to operate the mower at the desired ground speed and transport the mower to desired destination.

PREPARING TO MOW

1. Return the traction control lever to DISENGAGE, the throttle to SLOW and stop the engine.

2. Push the kickstand down with your foot and pull up on the handle to raise the wheels off the ground.

3. Push the locking clips on the wheels out of the grooves in the shafts and slide the wheels off the shafts.

MOWING OPERATION

Proper use of the Greensmaster 1000 provides the smoothest turf cutting available. The instructions will provide the utmost performance from your mower.

BEFORE MOWING

Remove dew and worm casts from turf before mowing

by whipping the turf with a bamboo pole or by dragging a hose over the area. Be sure the mower is carefully adjusted and is set evenly on both sides of the reel. Improper mower adjustment is magnified many times in the appearance of the clipped turf. A three-to-five foot wide "collar" should be mowed around the area at a slightly higher cut than the putting green area. This will provide sufficient space for turning the mower without turning on the green area.

METHOD OF MOWING

The Greens should be mowed in a straight back-and-forth direction across the green. Avoid circular mowing or turning the mower on greens areas since scuffing may occur. Turning the mower should be done off the green by raising the cutting reel (pushing the handle down) and turning on the traction drum. The greens area should not be mowed in the same direction at any two successive mowings. Cutting in different directions at each mowing will keep the grass growing in an upright position, preventing grain formation. Mowing should be done at a normal walking pace. Fast speeds saves very little time and will result in an inferior mowing job.

Move the traction lever to ENGAGED, increase throttle speed until the mower is traveling at the desired ground speed, drive the mower out onto the green area, lower the front of the mower and commence operation.

CONTROL OPERATION

To operate the controls while mowing:

1. Start the engine, set the throttle at reduced speed, push down on the handle to raise the cutting unit, move the traction lever to ENGAGED and transport the mower onto the collar of green.

2. Move the traction lever to DISENGAGED and ENGAGE the reel drive lever.

AFTER MOWING

1. Drive off green, move the traction control lever to DISENGAGE, stop the engine and push the reel drive lever to DISENGAGED.

2. Empty the grass catcher of clippings, install grass catcher and commence transport operation.

LUBRICATION

GREASE FITTINGS

The (12) grease fittings on the mower should be greased at least every 25 hours. Lubricate using No. 2 multi-purpose lithium base grease. A hand operated grease gun is recommended for best results.

1. Wipe each grease fitting with a clean rag.

2. The grease fitting locations are: (2) on The front Roller (Fig. 16), (2) on the reel bearings (Fig. 16), (2) on Drum Axles (Fig. 17), (3) on Differential (Fig. 17), (2) on The reel Countershaft Bearings (Fig. 18) and (1) on Belt Idler Pivot (Fig. 19).

   IMPORTANT: Do not apply too much pressure or the grease seals will become permanently damaged.

3. Wipe off excess grease.

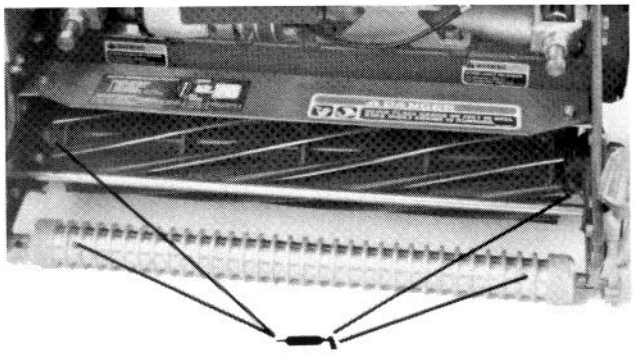


Figure 16

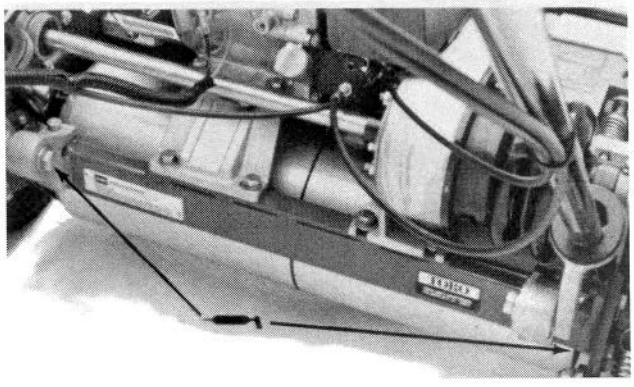


Figure 17

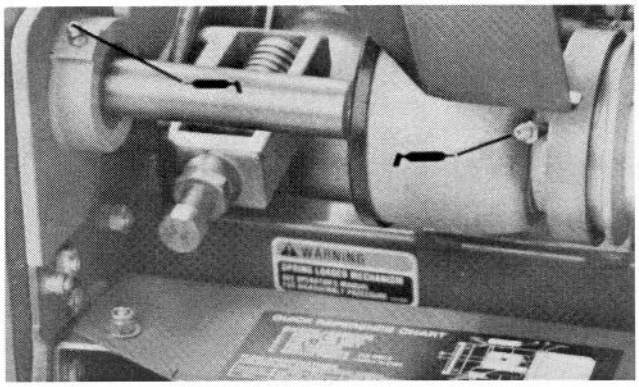


Figure 18

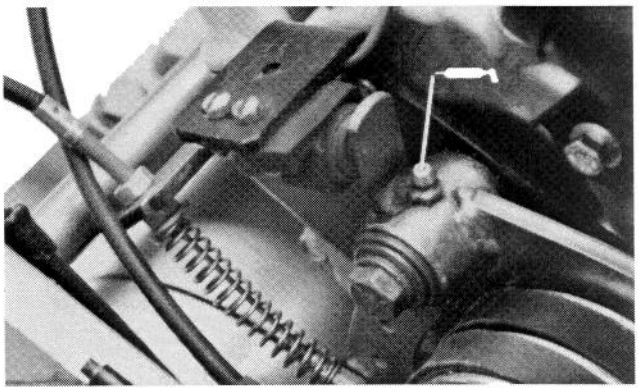


Figure 19

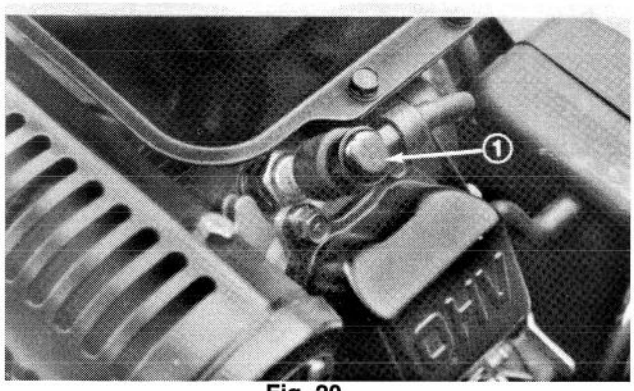


Fig. 20

1. *Spark plug*

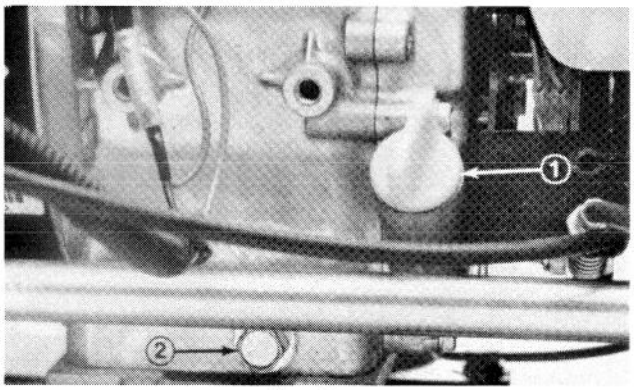


Fig. 21

1. *Oil level gauge*
2. *Drain plug*

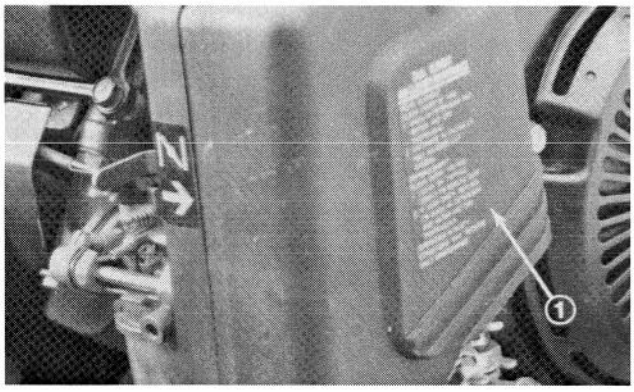


Fig. 22

1. *Air cleaner*

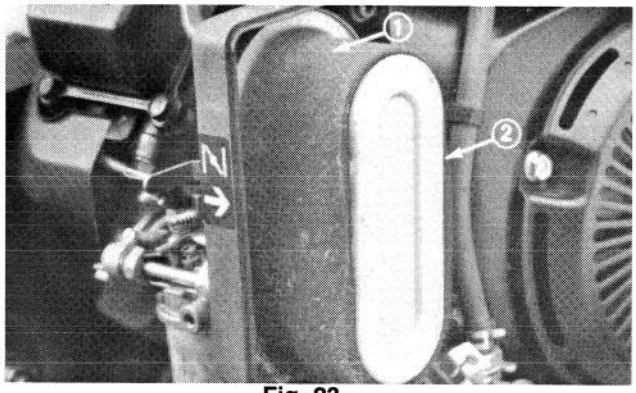


Fig. 23

1. *Foam element*
2. *Paper element*

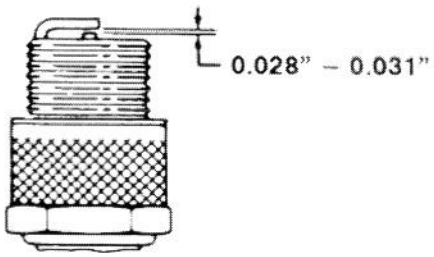


Fig. 24

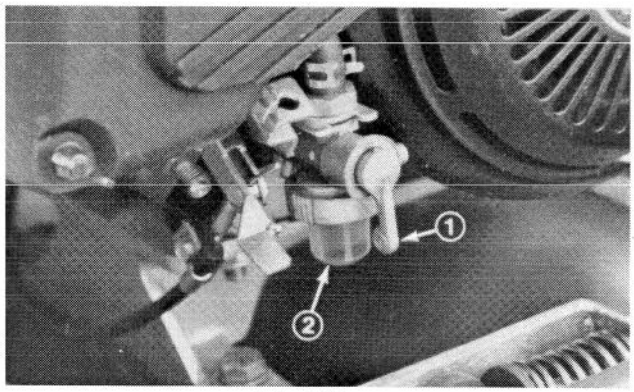


Fig. 25

1. *Shut-off valve*
2. *Bowl*

IDENTIFICATION AND ORDERING

MODEL AND SERIAL NUMBERS

The Greensmaster 1000 has two identification numbers: a model number and a serial number. These numbers are stamped into a plate located on the rear of frame. In any correspondence concerning the unit, supply the model and serial numbers to ensure correct information and replacement parts are obtained.

Note: Do not order by reference number if a parts catalog is being used; use the part number.

To order replacement parts from an authorized TORO Distributor, supply the following information:

1. Model and serial numbers.

2. Part number, description, and quantity of parts desired.