FORM NO. 3320-138 Rev. A

TORO®

MODEL: 20798-9000001 THRU
0000001 & UP

OPERATOR'S MANUAL

18 INCH (0.457 m) REAR BAGGER

FINGERTIP START



ENGLISH

FOREWORD

The Rear Bagger, a most innovative walk power mower, provides a new degree of mowing efficiency and convenience. If the mower is set up, operated and maintained properly, it will give long, dependable service.

To familiarize yourself with set-up, operating and maintenance instructions, read this manual thoroughly. The major sections of this manual are:

1. Set-up Instructions
2. Before Operating
3. Controls
4. Operating Instructions
5. Maintenance
6. Trouble Shooting

Safety, mechanical, and some general information in this manual is emphasized. DANGER, WARNING, and CAUTION identify the safety messages. Whenever the safety symbol appears, it is followed by a safety message; therefore, refer to the safety instructions attached to your mower for complete details. IMPORTANT identifies special mechanical information and NOTE identifies general information worthy of special attention.

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LOOSE PARTS

PART	QTY.	WHERE USED
Bag	1	Install on mower.
Operator's Manual	1	Read manual before operating mower.

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SET-UP INSTRUCTIONS

HANDLE HEIGHT ADJUSTMENT

1. Lift handle upward and rotate to rear of mower. Do not damage cable (Fig. 1).



Figure 1

2. Loosen one knob and remove other knob from opposite side. Align threaded stud with hole in handle latch (Fig. 2), spring latch inward and allow latch to clip over stud.

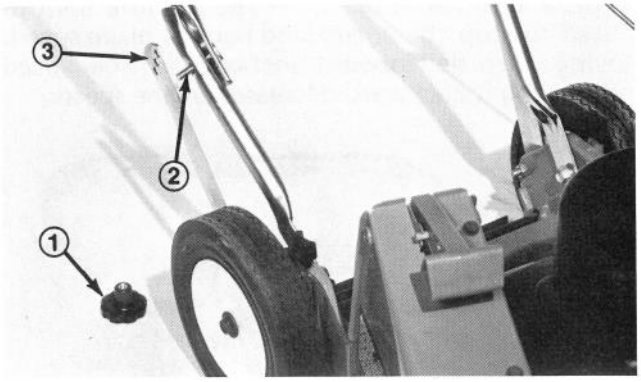

Figure 2

1. Knob
2. Threaded stud
3. Handle latch

3. Install knob tightly to secure handle in place and repeat on opposite side, same hole.

4. Check handle height and adjust if necessary.

Note: Do not assemble bag to mower until after oil is added to engine: Refer to Fill Crankcase With Oil, page 3. For bag assembly refer to Bagging, page 5.

BEFORE OPERATING

FILL CRANKCASE WITH OIL

Before engine is started fill crankcase with oil:

1. Position mower on level surface.

2. Remove oil fill plug (Fig. 3).

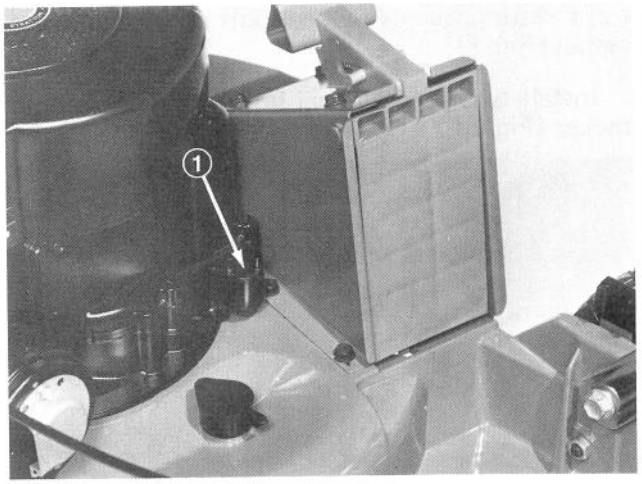

Figure 3

1. Oil fill plug

3. Using a funnel, fill to the point of overflowing with approximately 0.591 l of oil. Use SAE 10W-30 or 10W-40.

4. Replace plug.

FILL FUEL TANK WITH PETROL

1. Remove cap from fuel tank (Fig. 4).

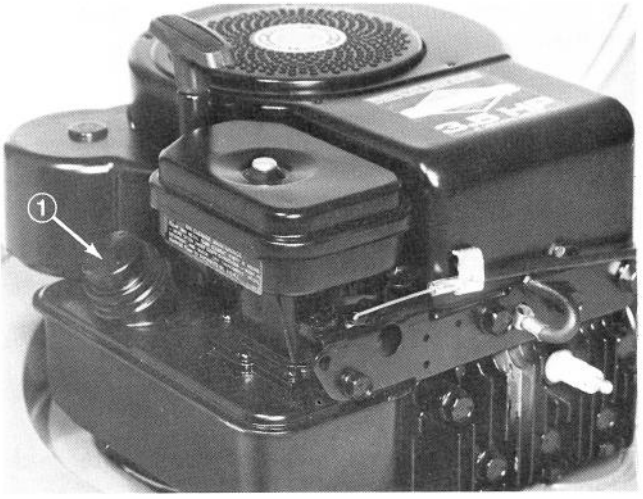

Figure 4

1. Fuel tank cap

2. Fill fuel tank with regular petrol. Replace fuel tank cap.

3. Wipe up spilled petrol.

CONTROLS

Throttle Control (Fig. 5) – The throttle control is used to stop the engine and control blade speed. Moving throttle forward increases engine speed and moving it backward decreases engine speed.

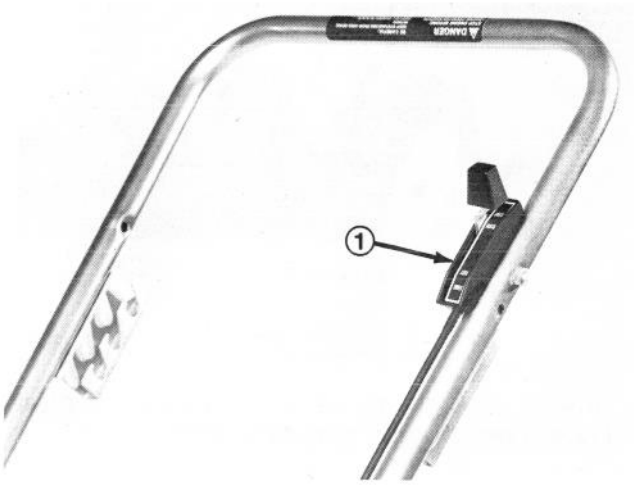

Figure 5

1. Throttle control

Recoil Starter (Fig. 6) – Pull fingertip starter to start the engine.

Height-of-Cut Adjusters (Fig. 7) – Height-of-cut is adjustable to one of five approximate settings.

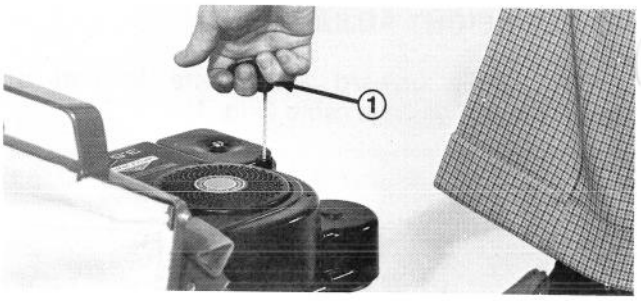

Figure 6

1. Pull recoil starter

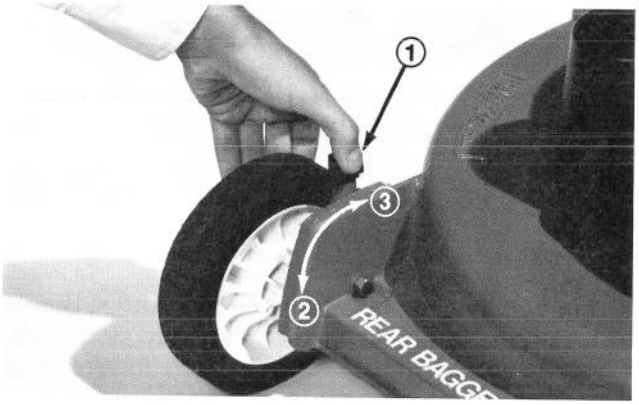

Figure 7

1. Height-of-cut adjuster
2. Higher setting
3. Lower setting

OPERATING INSTRUCTIONS

ADJUST HEIGHT-OF-CUT

The height-of-cut is adjustable from approximately 25 to 76 mm in 13 mm increments, and letters cast into the housing represent each graduated increment.

Standard Height	Alternate Height
A = 25 mm	13 mm
B = 38 mm	25 mm
C = 51 mm	38 mm
D = 64 mm	51 mm
E = 76 mm	64 mm

1. ⚠ Assure engine is not running.

2. Place thumb against height-of-cut adjuster and fingers on outside of wheel (Fig. 7).

3. Raise mower housing until wheel is off the ground. Squeeze height-of-cut adjuster toward wheel so its locating pin disengages notch in mower housing. Then pivot the wheel and adjuster to the desired height-of-cut and release adjuster so locating pin engages notch in housing.

ADJUSTING FOR ALTERNATE HEIGHT SETTINGS (13 mm to 64 mm)

All four wheels must be positioned to upper mount hole.

1. Position height-of-cut adjuster in "E" height-of cut setting, remove wheel bolt and wheel from bracket (Fig. 8).

2. Install wheel and wheel bolt into TOP hole in bracket (Fig. 8).

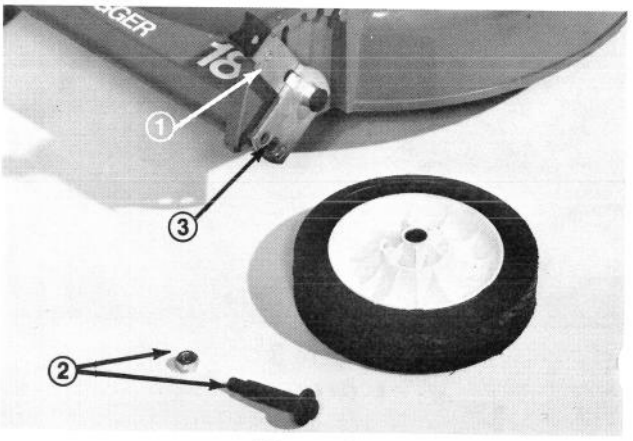

Figure 8

1. Height-of-cut adjuster
2. Wheel bolt and nut
3. Wheel mount bracket

OPERATING INSTRUCTIONS

STARTING/STOPPING THE ENGINE

1. Move throttle control to START.

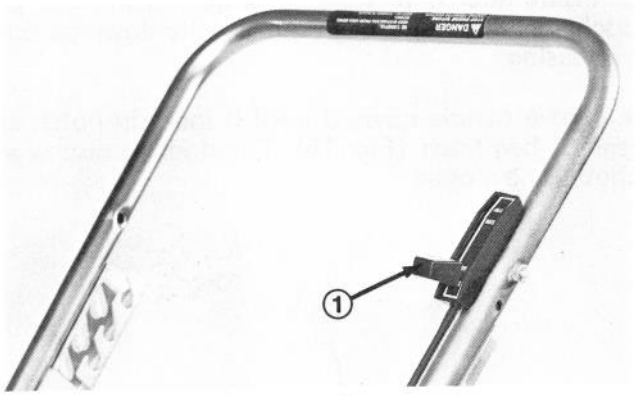

Figure 9

1. Throttle control in start position.

2. Place foot on STEP at right side of mower housing. Pull fingertip starter up until positive engagement results; then pull vigorously to start engine. Retract starter rope slowly.

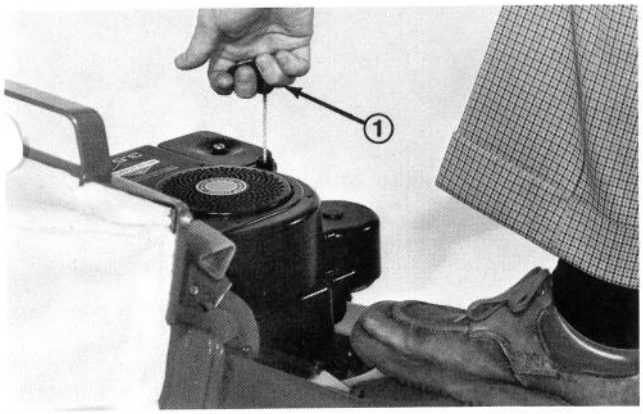

Figure 10

1. Pull recoil starter

IMPORTANT: 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.

3. After engine starts, move throttle control to desired speed.

4. To stop engine, move throttle control to STOP position.

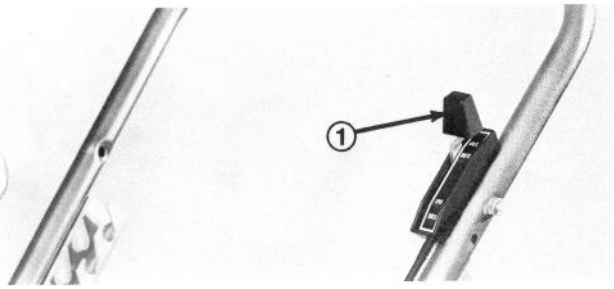

Figure 11

1. Throttle control in stop position

OPERATING CHARACTERISTICS AND TIPS

The Rear Bagger has a 147.8 cc engine that delivers the blade turning force necessary to produce a good quality of cut.

The mower can be used either with or without the bag: refer to Bagging, page 5 and Mowing Without the Bag, page 7.

To use the mower for bagging grass, install the bag, open the chute door in mower housing and start the engine. Notice that the grass bag expands at the sides and top. This expansion by the bag is caused by the air currents, generated by the blade, flowing through the bag. As grass is cut and discharged into the 0.079 m^3 bag, the air currents through the bag decrease gradually as it is being filled. While the bag is expanded, grass can be cut. Stop the engine and empty the bag before it becomes overfilled.

Since the mower is equipped with a rear shield (Fig. 12), feet are protected from most objects that might be thrown rearward and from possible contact with the blade. Because of its flexible design, maneuverability of the mower is unaffected. Never remove the rear shield because it is a safety device, designed for your protection. If the shield is ever damaged, replace it before operating the mower.

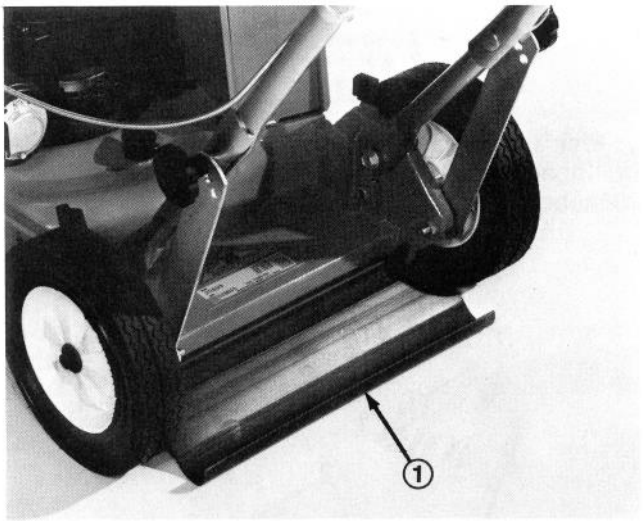

Figure 12

1. Rear shield

BAGGING

The Rear Bagger discharges grass clippings into a large 0.079 m^3 bag, and because of the rear bagging feature, both sides of the mower can be used for trimming. Bagging is most effective when engine is running at maximum speed and only about 1/3 of grass blade is being cut. If an excessive amount of grass is being cut off, the mower can plug and

OPERATING INSTRUCTIONS

cause the engine to stall. If long grass must be cut, adjust mower to the highest height-of-cut; then cut the grass. Follow this by lowering the height-of-cut and cutting the grass again.

To bag the grass with the mower:

1. Assure chute door handle is fully forward and latch pin is released into latch (Fig. 13). The chute door is now closed.

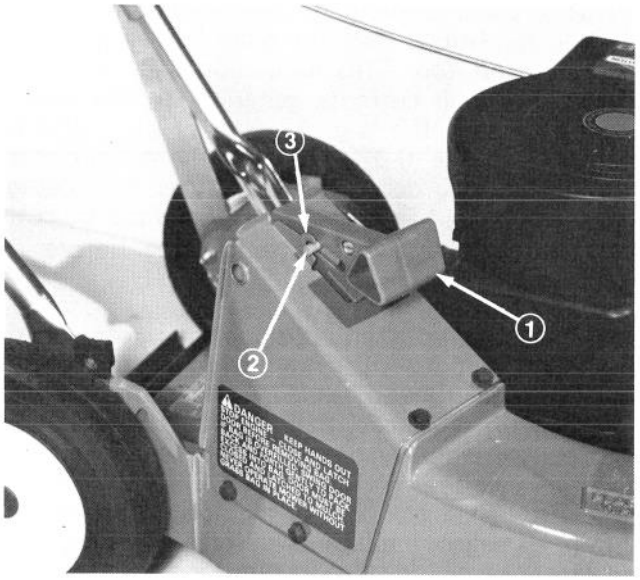

Figure 13

1. *Handle forward*
2. *Latch pin*
3. *Latch*

2. Pick up bag assembly by front and rear handle and hang rear of bag in lower notch of rear brackets.

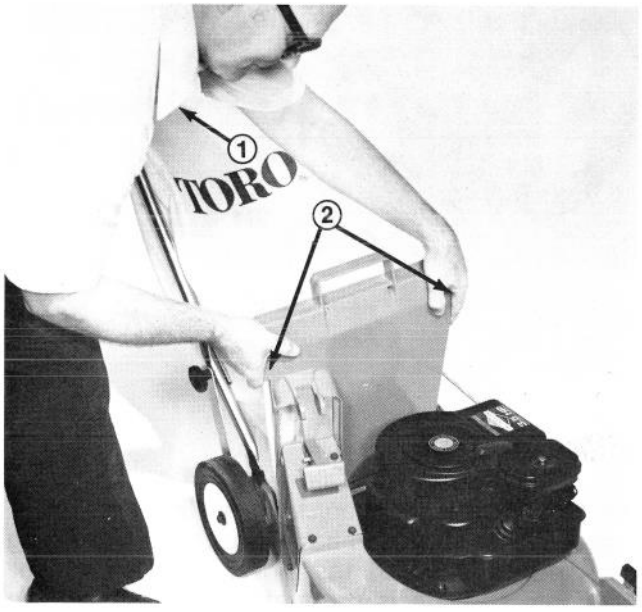

Figure 14

1. *Rear of bag in lower notch*
2. *Hold bag and door together*

3. Hold front of bag and bag door together and slide door opening frame over projections on outside of mower rear discharge chute (Fig. 14). Check to insure door is forward of projections in rear of discharge chute and bag door is fully down on top of housing.

4. Move handle upward until it locks in notch at rear of bag latch (Fig. 15). The door in discharge chute is now open.

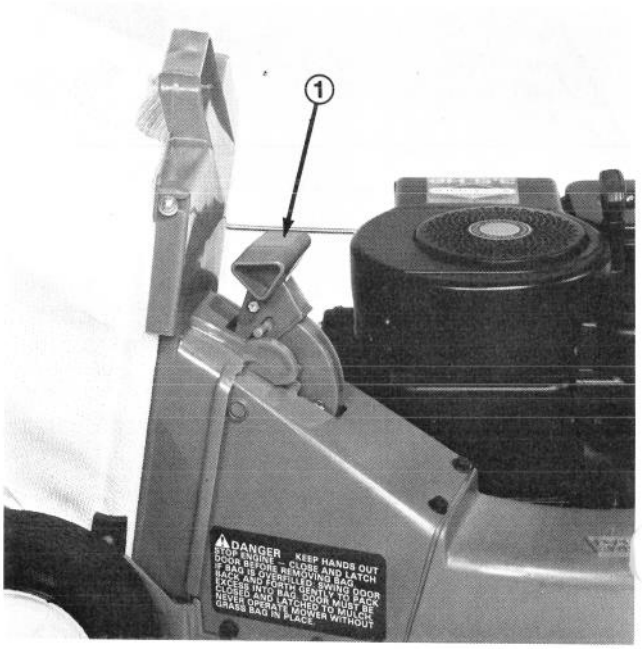

Figure 15

1. *Chute door handle rotated upward. Bag locked in place and door open.*

5. Reposition rear bag handle in the highest notch in which it will easily fit (Fig. 16).



Figure 16

1. *Rear brackets*
2. *Lift off brackets*

OPERATING INSTRUCTIONS

6. To remove bag, stop the engine and move chute door handle forward until pin locks in the latch (Fig. 17). Then, lift rear of bag off rear brackets (Fig. 16), grasp front bag handle and lift straight up (Fig. 18).

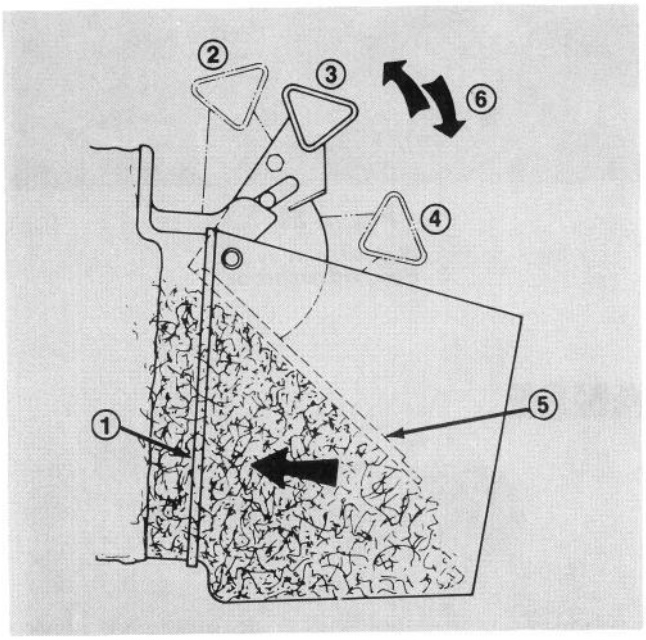

Figure 17

1. Bag door Open
3. Handle
4. Closed
5. Chute door
6. Packing motion to move excess grass into the bag



Figure 18

7. Empty bag before it is completely full.

CAUTION

Never open the chute door when grass bag is removed from the mower and engine is running. Grass clippings and other debris will be discharged with enough force to cause personal injury.

8. To dump grass, release hold on front bag handle and lift up rear of bag (Fig. 19).



Figure 19

9. Replace bag.

MOWING WITHOUT THE BAG

The Rear Bagger can be used for shredding dry grass. However, this is effective when only about 1/4 of the grass blade is cut. During the shredding process, the blade slices the cut pieces of grass again and again, so very fine particles of grass are deposited on the lawn. These fine grass clippings eventually decompose.

To mow without the bag:

1. Move chute door handle fully forward, and check to insure handle latch pin is against inside of hook indicating door is fully closed (Fig. 20).

Note: If desired, the grass bag may remain on the mower.

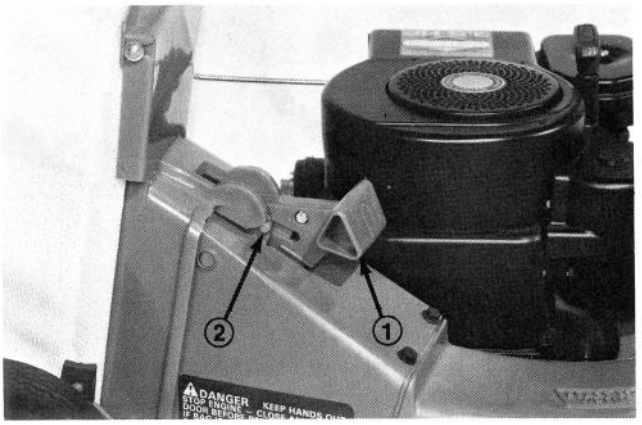

Figure 20

1. Handle fully forward, chute door closed
2. Latch pin into latch

OPERATING INSTRUCTIONS

USING WASH-OUT PORT

After mower is used, underside of mower housing must be cleaned.

1. ⚠ Stop the engine.

2. Set height-of-cut in the lowest position and open the wash-out port.

3. Start the engine. Insert end of hose, without nozzle, into wash-out port opening (Fig. 21). Using moderate water pressure, allow water and engine to run for approximately two minutes.

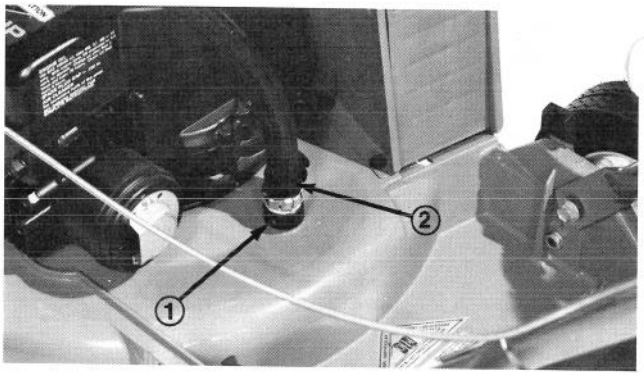

Figure 21

1. Wash-out port
2. Hose without nozzle

MAINTENANCE

⚠ CAUTION

Never perform an adjustment or maintenance procedure while the engine is running.

LUBRICATION

1. After every 25 hours of operation or at the end of the mowing season, apply 2 or 3 drops of light oil on the inside of all the wheel bolts (Fig. 22). Spin the wheel to distribute oil into the wheel bushings.

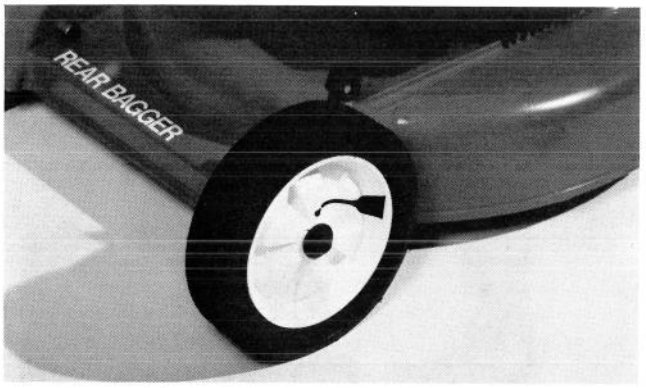

Figure 22

SERVICING AIR CLEANER

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

1. Remove screw and cover, clean (Fig. 23).



Figure 23

1. Air filter screw
2. Air filter cover

2. Inspect air cleaner element (Fig. 24). If necessary remove and clean.

A. WASH element in a solution of liquid soap and warm 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 element with engine oi Squeeze element to remove excess oil an to distribute the oil thoroughly. A damp element is desirable.

D. Place element into the air cleaner body (Fig. 24).

MAINTENANCE

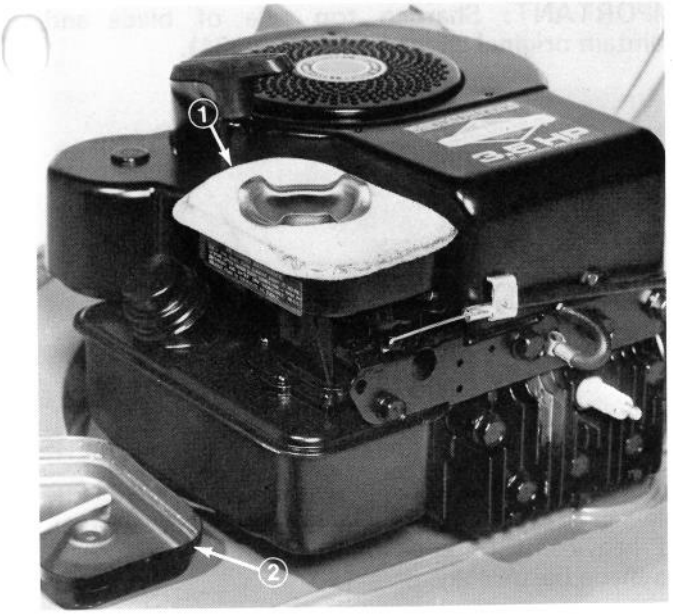

Figure 24

1. Air cleaner element
2. Air cleaner cover and screw

3. Replace cover and screw.

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

REPLACING SPARK PLUG

1. Remove spark plug (Fig. 25).

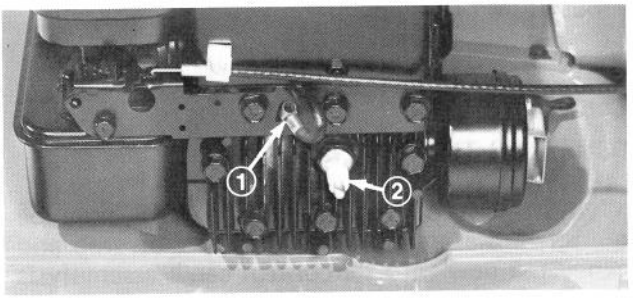

Figure 25

1. High tension wire. End installed in notched hole.
2. Spark plug

IMPORTANT: A cracked, fouled or dirty spark plug must be replaced. Recommended spark plug to use is a Champion RCJ-8 or equivalent.

2. Set air gap between electrodes at 0.762 mm (Fig. 26). Install the spark plug with gasket seal and tighten plug to 20.4 N·m. If torque wrench is not used, tighten plug firmly.

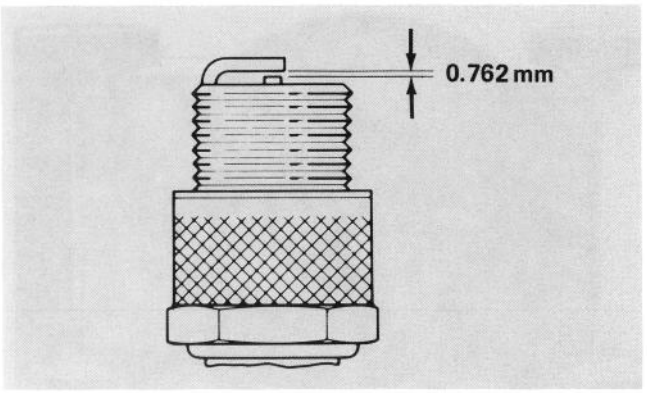

Figure 26

CHANGING CRANKCASE OIL

Change oil after the first 2 hours of engine operation, and after every 25 hours thereafter. Since warm oil drains better and carries more contaminants than cold oil, run the engine for a minute or so before changing oil.

1. Drain petrol from fuel tank.

2. Tip mower on its right side (Fig. 27).

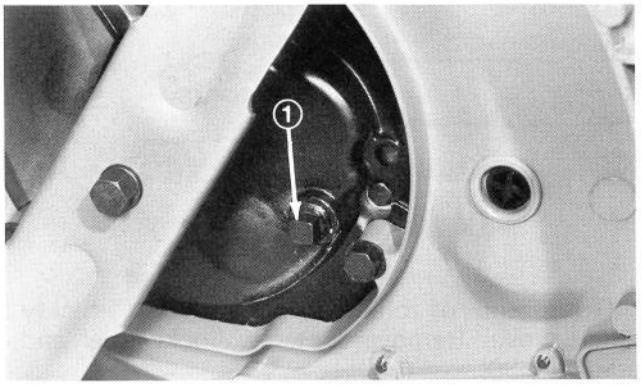

Figure 27

1. Oil drain plug

3. Remove drain plug and tip mower back to normal position to drain oil.

4. After oil is drained, install oil drain plug.

5. Fill crankcase with oil.

INSPECTING BLADE FOR DAMAGE: SHARPENING OR REPLACING

1. ⚠ Drain petrol from fuel tank.

2. Tip mower on its right side (Fig. 28).

MAINTENANCE

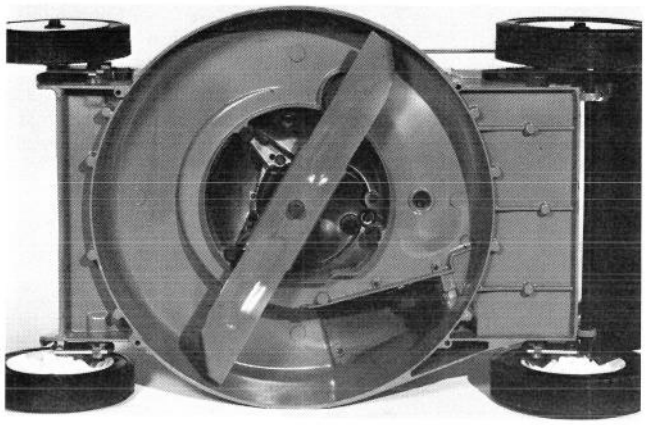

Figure 28

3. Examine cutting ends of blade carefully; sharpen or replace as needed (Fig. 29).

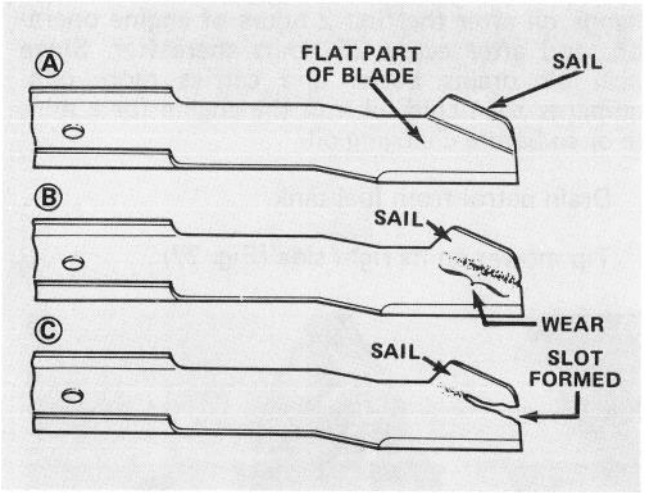

Figure 29

4. Grasp end of blade using a rag or thickly padded glove. Remove capscrew, lockwasher and blade (Fig. 30).

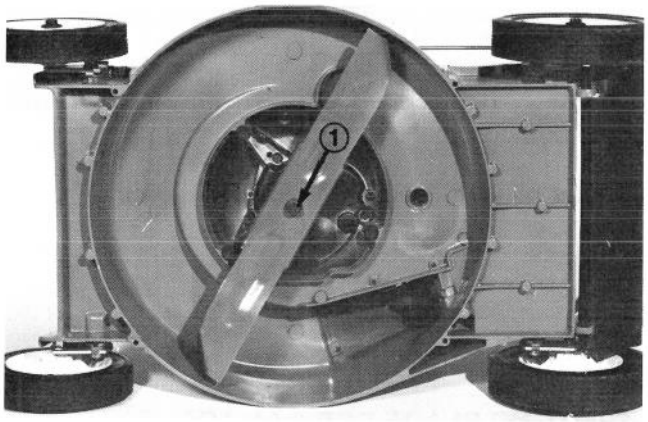

Figure 30

1. Capscrew and lockwasher

5. Using a file, sharpen cutting edge at both ends of the blade (Fig. 31).

IMPORTANT: Sharpen top side of blade and maintain original cutting angle (Fig. 31).

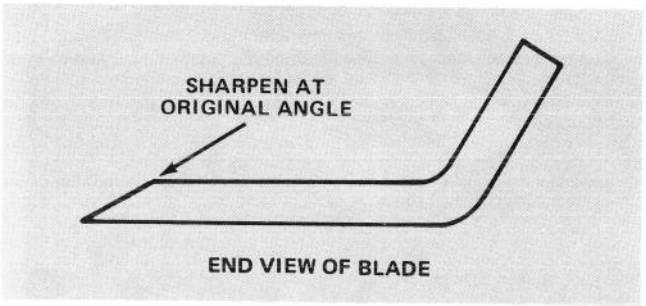

Figure 31

6. Check balance of blade by putting it on a blade balancer. If blade is not balanced, file some metal off heavy cutting edge of the blade. Then check the blade balance again.

7. Install sharp, balanced blade with lockwasher and capscrew. Sail part of the blade must point toward the mower housing. Tighten capscrew to 68 N·m.

8. Set mower upright.

CLEANING MOWER HOUSING

1. ⚠ Drain petrol from fuel tank. Tip mower on its right side (Fig. 30).

2. Remove grass clippings and dirt by spraying with a garden hose or wooden scraper.

3. Set mower upright.

ADJUSTING THROTTLE CONTROL

An adjustment of the throttle control may be required if the engine does not start or stop and whenever a new throttle control cable assembly is installed.

1. Close chute door in mower housing and remove bag.

2. Move the throttle control lever to the STOP position.

3. Loosen cable clamp screw until throttle cable is free to slide (Fig. 32).

4. Move carburetor control arm to the right until it contacts grounding bracket (Fig. 32). Pull

MAINTENANCE

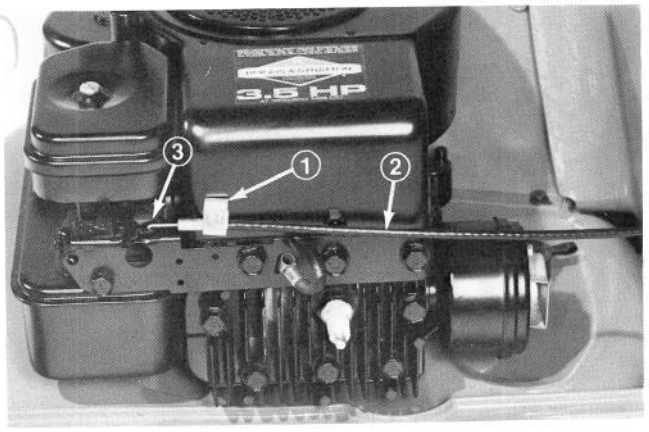

Figure 32

1. Clamp screw
2. Throttle cable
3. Control arm

throttle cable slightly to remove any slack and tighten the cable clamp screw to lock the adjustment in place.

ADJUSTING CARBURETOR

IMPORTANT: Air cleaner must be installed on the engine whenever carburetor is adjusted. The air cleaner mounting screw must also be installed when engine is run. Fuel tank must be half full of petrol to get best carburetor adjustment.

1. Needle Valve (Fig. 33) – Close valve by gently rotating it clockwise.



Figure 33

1. Needle valve
2. Idle adjusting screw

IMPORTANT: Do not close needle valve too tight because valve and seat in carburetor could be damaged.

2. Rotate – open – needle valve 1-1/2 turns counterclockwise.

Note: This needle valve setting is an approximate; however, the setting will allow engine to be started so carburetor can be fine tuned – steps 3-8.

3. Start engine and let it warm up for approximately two minutes. Move throttle control to START position.

4. Rotate needle valve (Fig. 33) clockwise, 1/8 turn at a time, until engine starts to lose speed. Let engine react to each 1/8 turn setting.

5. Rotate needle valve (Fig. 33) counterclockwise – out – 1/8 turn at a time, until engine first starts to run rough. Let engine react to each 1/8 turn setting.

6. Rotate needle valve (Fig. 33) clockwise – in – very slowly until engine starts to run smoothly. This setting under no load may be slightly rich; however, the slightly rich setting will assure proper operation when engine is under load.

7. Move throttle control backward so engine idles. Rotate idle adjusting screw (Fig. 33) until engine speed is 1750 rpm.

Note: Rotate idle adjusting screw clockwise to increase idle rpm and counterclockwise to decrease idle rpm.

8. Check carburetor adjustment by quickly moving throttle control from idle speed to START position. Engine speed should increase without hesitation. If engine tends to stall or die out, rotate needle valve 1/8 turn counterclockwise until engine accelerates smoothly. If engine smokes black exhaust upon acceleration, rotate needle valve 1/8 turn clockwise.

PREPARING MOWER FOR STORAGE

1. Drain petrol from fuel tank. Start engine and let it run until all petrol is used.

2. Pull high tension wire off spark plug, and remove plug from cylinder head. Pour 30 ml of SAE 30 oil into spark plug hole. Pull recoil starter handle slowly to distribute oil on inside of cylinder. Install spark plug and tighten it to 20.3 N·m. If torque wrench is not used, tighten plug firmly. DO NOT INSTALL HIGH TENSION WIRE ON SPARK PLUG.

3. Drain oil from crankcase; do not fill crankcase with oil at this time.

4. Clean dirt and chaff from outside of cylinder, cylinder head fins, blower housing, shrouding, and top of mower housing.

5. Clean underside of mower and blade.

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

MAINTENANCE

7. Lubricate wheel bushings.

8. Wash the air cleaner element.

9. Fill crankcase with oil.

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

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



Figure 34

1. Handle in storage position

IDENTIFICATION AND ORDERING

MODEL AND SERIAL NUMBERS

The Rear Bagger has two identification numbers: a model number and a serial number. The two numbers are stamped into a decal (Fig. 35) located at rear of the mower housing. In any correspondence concerning the mower, supply model and serial numbers to assure correct information and replacement parts are obtained.

To order replacment 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.

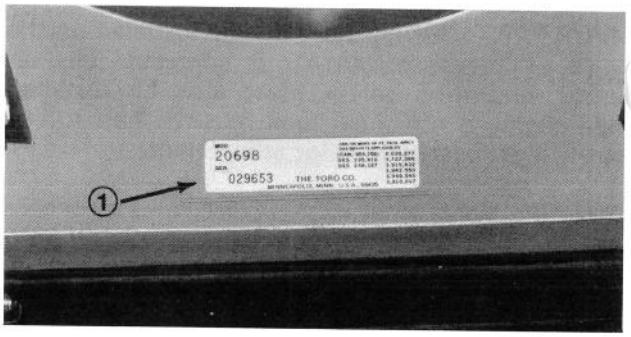

Figure 35

1. Model and serial number

TROUBLE SHOOTING

Problem	Possible Causes	Correction Action
Engine does not start.	1. Throttle not in START position.	1. Move throttle to START.
	2. Petrol tank is empty.	2. Fill fuel tank with petrol.
	3. Air cleaner element is dirty.	3. Clean air cleaner element: refer to Servicing Air Cleaner, page 8.
	4. Spark plug loose.	4. Tighten spark plug to 20.3 N·m.
	5. High tension wire loose or disconnected from spark plug.	5. Install high tension wire on plug.
	6. Spark plug gap is incorrect.	6. Set gap between electrodes at 0.762 mm.
	7. Spark plug is defective.	7. Install new, correctly gapped plug: refer to Replacing Spark Plug, page 9.
	8. Carburetor is flooded with petrol.	8. Remove air cleaner element and pull starter rope continuously until carburetor clears itself and engine starts. When engine starts, stop it and install air cleaner element.
	9. Blade bolt is loose.	9. Tighten blade bolt to 68 N·m.
	10. Faulty points or condenser.	10. Contact TORO Service Dealer.
Engine starts hard or loses power.	1. Dirt or water in gas tank.	1. Drain petrol and clean fuel tank. Fill tank with clean, fresh petrol: refer to Fill Tank With Petrol, page 3.
	2. Vent hole in fuel tank cap is plugged.	2. Clean or replace fuel tank cap.
	3. Air cleaner is dirty.	3. Clean the air cleaner element: refer to Servicing Air Cleaner, page 8.
	4. Blade bolt is loose.	4. Tighten blade bolt to 68 N·m.
Engine operates erratically or idles poorly.	1. Spark plug is defective.	1. Install new, correctly gapped plug: refer to Replacing Spark Plug, page 9.
	2. Spark plug gapped incorrectly.	2. Set gap between electrodes at 0.762 mm.
	3. Air cleaner is dirty.	3. Clean the air cleaner element: refer to Servicing Air Cleaner, page 8.
	4. Carburetor maladjusted.	4. Adjust carburetor: refer to Adjusting Carburetor, page 11.
	5. Oil level in crankcase is low.	5. Add oil to crankcase: refer to Fill Crankcase With Oil, page 3.
	6. Air slots in engine shroud are plugged.	6. Remove obstruction from slots.
	7. Cooling fins and air passages under engine blower housing are plugged.	7. Remove obstruction from cooling fins and air passages.

TROUBLE SHOOTING

Problem	Possible Causes	Correction Action
Engine skips at high speed.	1. Air gap between electrodes of spark plug is too close.	1. Set air gap at 0.762 mm.
	2. Carburetor maladjusted.	2. Adjusted carburetor: refer to Adjusting Carburetor, page 11.
Engine overheats.	1. Cooling air flow is restricted.	1. Remove any obstruction from slots in shroud, blower housing, air passages, and cooling fins on engine.
	2. Oil level in crankcase is low.	2. Add oil to crankcase: refer to Fill Crankcase With Oil, page 3.
	3. Incorrect spark plug.	3. Install Champion RCJ-8 spark plug that is gapped at 0.762 mm.
Mower vibrates abnormally.	1. Blade bolt is loose.	1. Tighten blade bolt to 68 N·m.
	2. Cutter blade is unbalanced.	2. Sharpen cutter blade and check the balance: refer to Sharpening or Replacing Cutter Blade, page 9. Replace the blade if it cannot be balanced.

MAINTENANCE RECORD

Date	Hours Used	Oil Change	Air Cleaner Service	Lubrication	Sharpen Blade	Winter Storage	Spring Service	Spark Plug

MAINTENANCE RECORD

Date	Hours Used	Oil Change	Air Cleaner Service	Lubrication	Sharpen Blade	Winter Storage	Spring Service	Spark Plug



Litho in U.S.A.