FORM NO. 3320-134 Rev. A

TORO®

MODEL: 20788-9000001
THRU 0000001 & UP

OPERATOR'S MANUAL

18 (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 safety, 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 slip over stud.

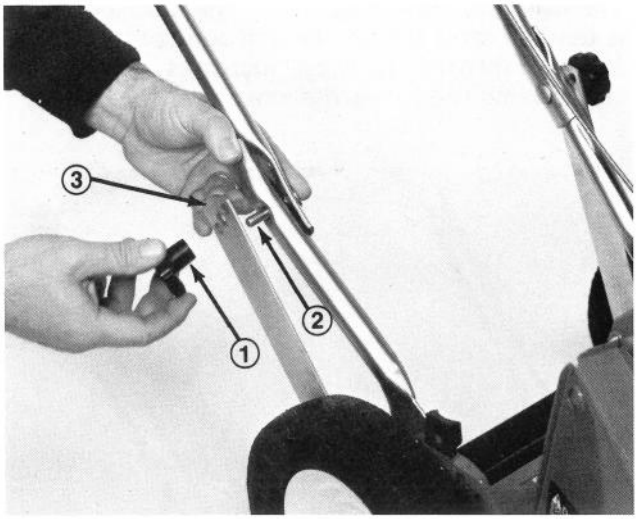


Figure 2

1. Knob
2. Threaded stud
3. Handle latch

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

4. Check handle height and adjust if necessary.

BEFORE OPERATING

FILL CRANKCASE WITH OIL

1. Position mower on level surface.
2. Remove dipstick.
3. Fill with approximately 0.62 l of oil.

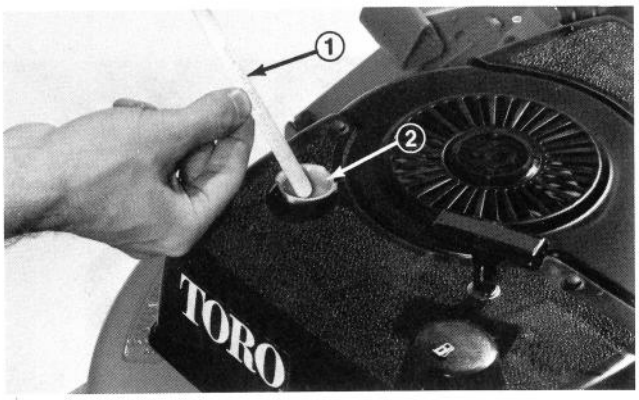


Figure 3

1. Dipstick
2. Fill hole

Note: Use SAE 10W-30 or 10W-40.

4. Check oil level and replace dipstick.

FILL FUEL TANK WITH PETROL

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

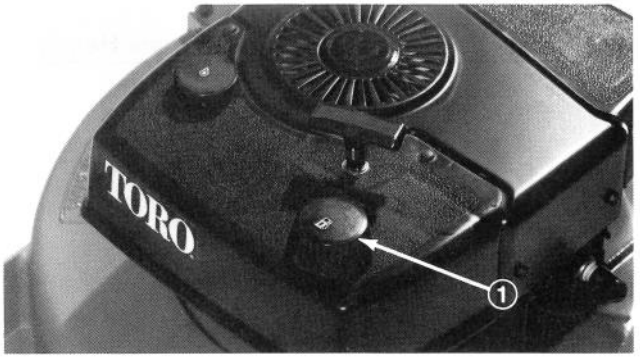


Figure 4

1. Fuel tank cap

2. Fill fuel tank with regular petrol. Install fuel tank cap securely.

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.

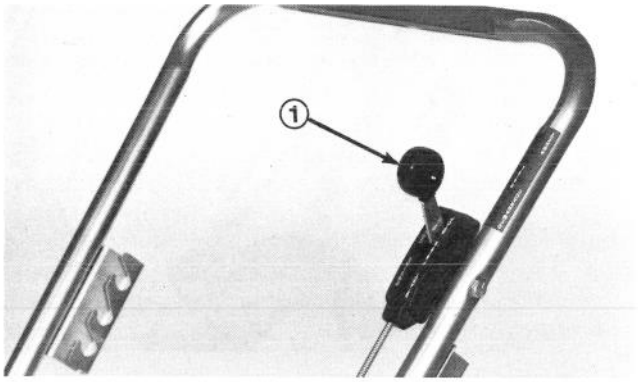


Figure 5

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

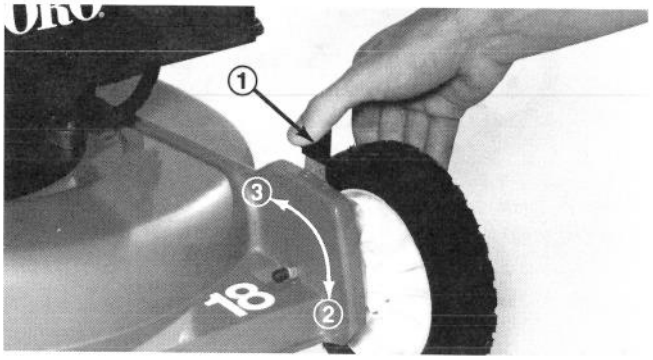


Figure 7

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, and remove wheel bolt and wheel from bracket.

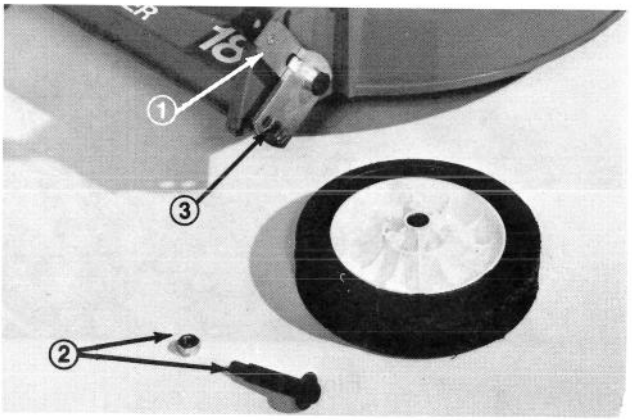


Figure 8

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

OPERATING INSTRUCTIONS

2. Install wheel and wheel bolt into top hole in bracket.

STARTING/STOPPING THE ENGINE

1. Move throttle control to FAST.

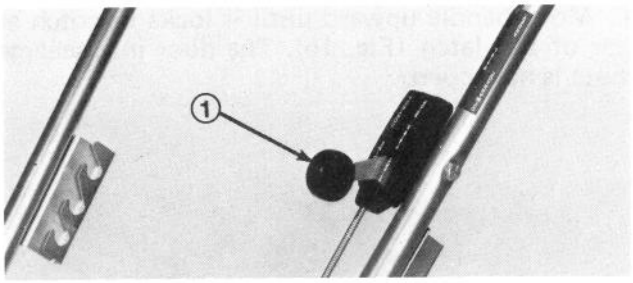


Figure 9

1. Throttle control in start position

2. Put one 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.

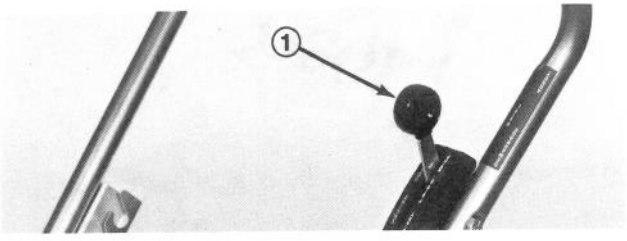


Figure 11

1. Throttle control in stop position

OPERATING CHARACTERISTICS AND TIPS

The Rear Bagger has a 164 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 6 and Mowing without the Bag, page 8. Bagging can be accomplished by installing the bag on the mower and opening the rear door in the mower housing and mowing without using the bag by closing the door.

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. But 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.

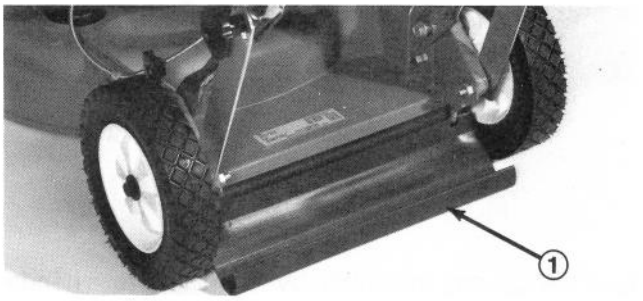


Figure 12

1. Rear shield

After the mower is used, it must be cleaned and maintained so it is ready for the next cutting. Use the wash-out port to clean the underside of the mower housing. However, avoid getting water directly onto the engine or electrical connections because damage could result. Periodically, check the air cleaner and blade, and assure the blade bolt is tightened to 68 N·m. The oil in the crankcase must be changed after the first 2 hours operation and after every 25 hours thereafter. Assure level of oil is always in the SAFE range.

Whenever the mower is being operated, adjusted or maintained, the safety instructions at the front of this manual must be kept in mind. Safe operation is your responsibility.

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 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.

1. ⚠ Assure engine is not running and the chute door is closed.

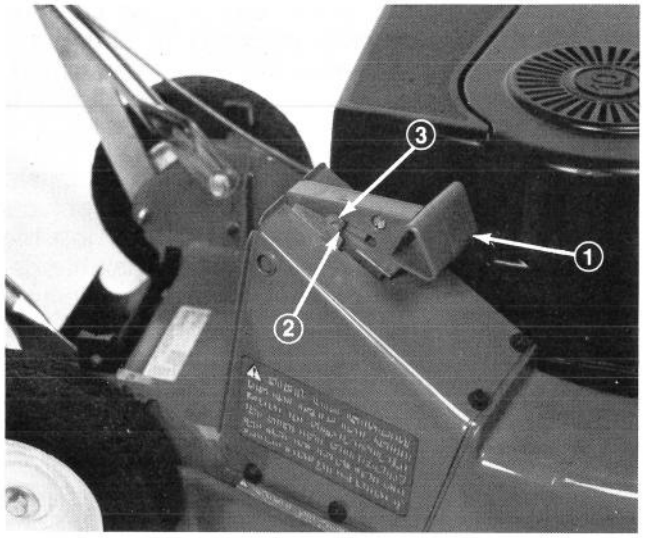


Figure 13

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.

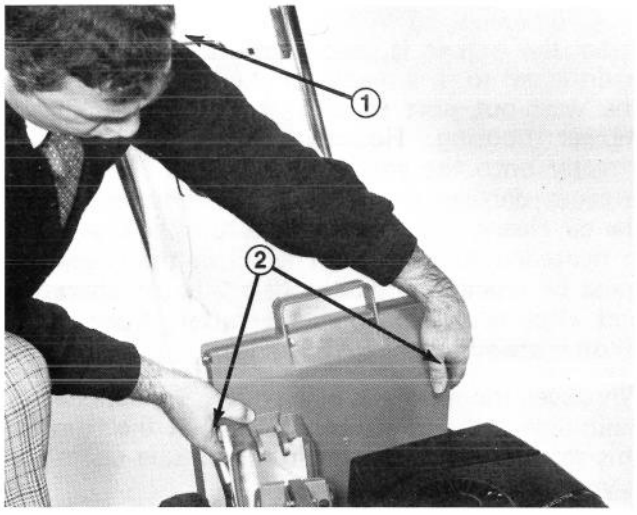


Figure 14

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

3. Hold front of bag and bag door together. Slide door opening frame over projections on outside of 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.

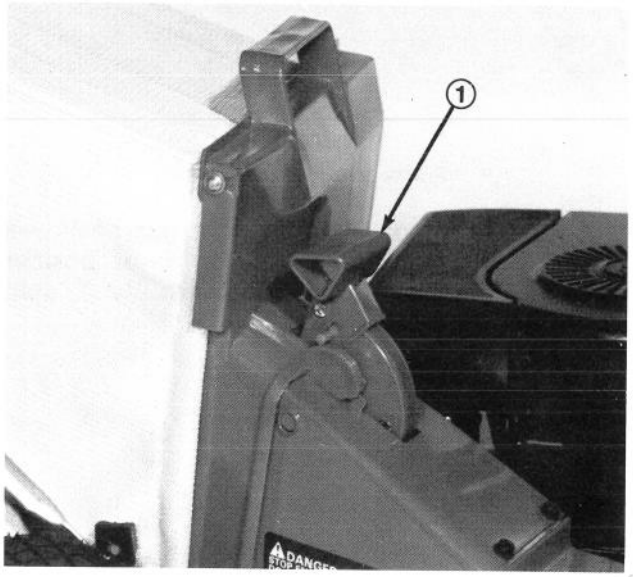


Figure 15

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. ⚠ When bag must be emptied, stop the engine. Move chute door handle forward until pin locks in the latch. Then, lift rear of bag off rear brackets (Fig. 16), grasp front bag handle and lift straight up to remove bag from mower (Fig. 18).

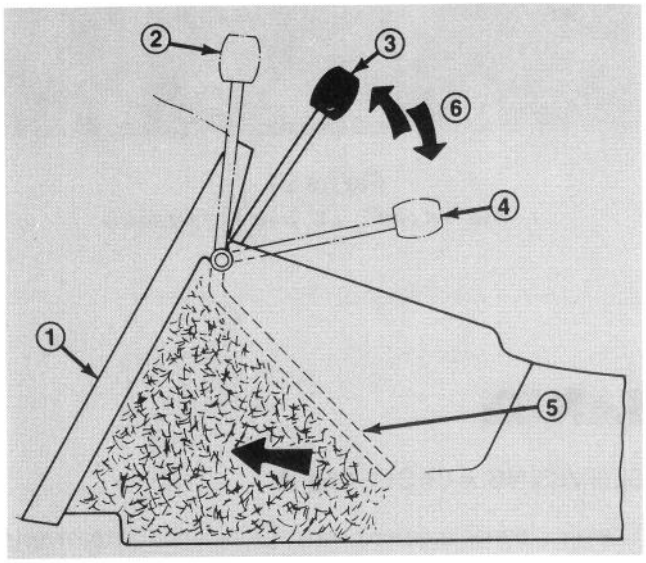


Figure 17

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

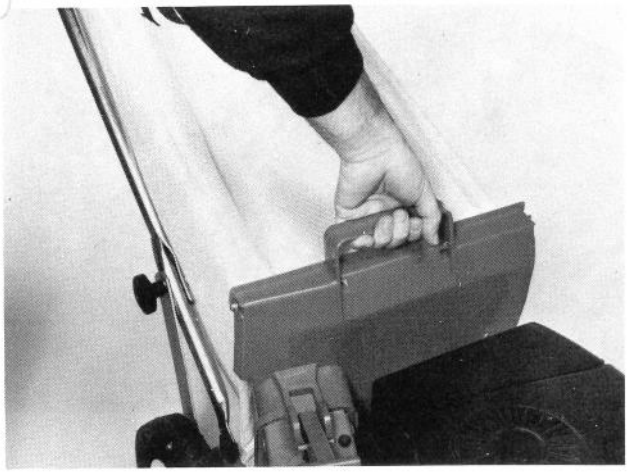


Figure 18

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

CAUTION

Never open the chute door when grass bag is removed from the mower and engine is running.

8. Reinstall bag.

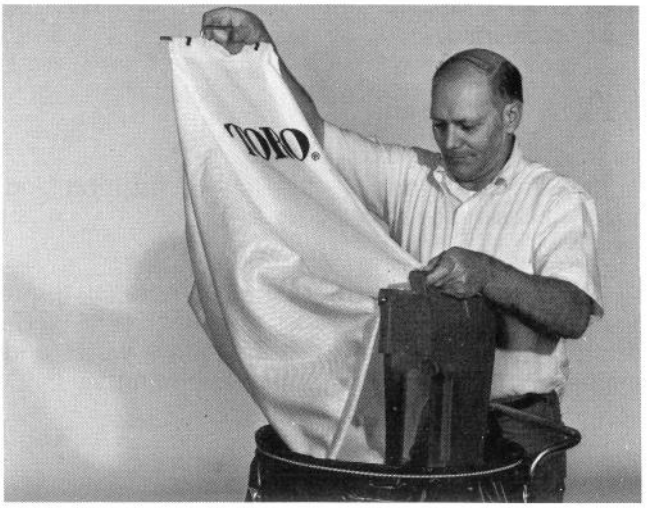


Figure 19

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. ⚠ Assure engine is not running, move chute door handle fully forward, and check to insure handle latch pin is against inside of hook (Fig. 20).

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

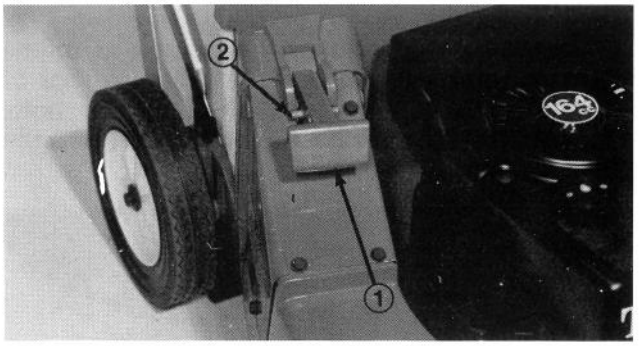


Figure 20

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.

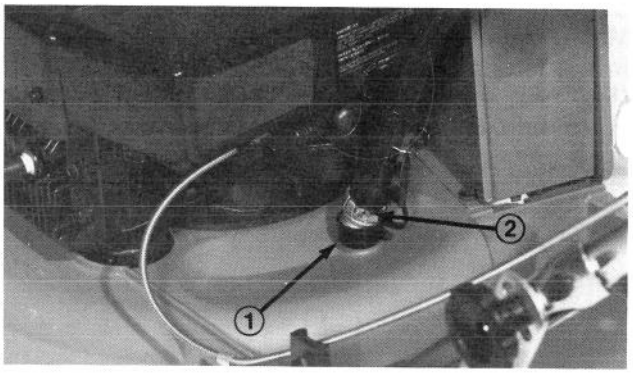


Figure 21

1. Wash-out port 2. Hose without nozzle

MAINTENANCE

⚠ CAUTION

Never perform an adjustment or maintenance procedure while the engine is running. Pull high tension wire (Fig. 22) off spark plug.

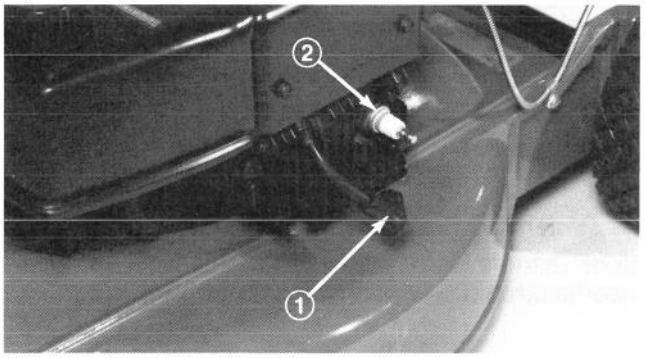


Figure 22

1. High tension wire 2. Spark plug

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. 23). Spin the wheel to distribute oil into the wheel bushings.

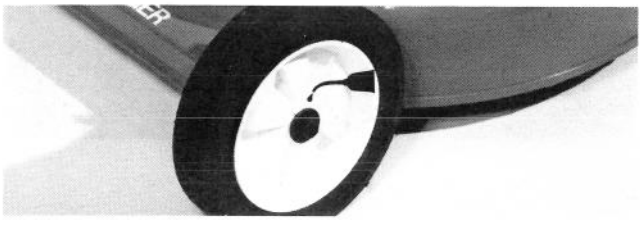


Figure 23

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 air filter cover and clean (Fig. 24).

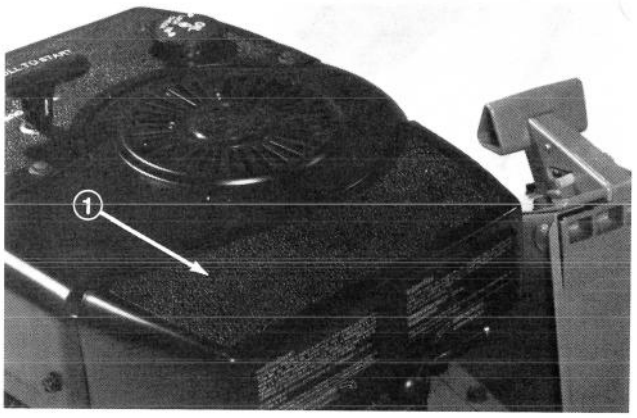


Figure 24

1. Air filter cover

2. Inspect air cleaner element (Fig. 25). 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.

MAINTENANCE

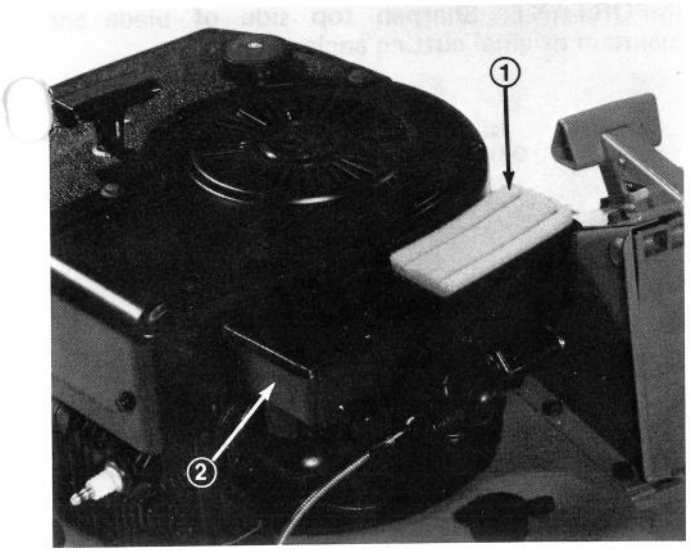


Figure 25

1. Air cleaner element
2. Air cleaner body

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

D. Place element into the air cleaner body (Fig. 25).

REPLACING SPARK PLUG

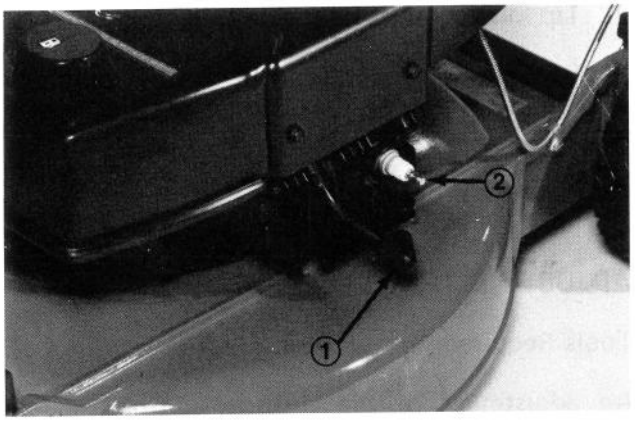


Figure 26

1. High tension wire
2. Spark plug

1. Remove spark plug.

IMPORTANT: A cracked, fouled or dirty spark plug must be replaced. Recommended spark plug to use is a Champion RJ17-LM or equivalent.

2. Set air gap between electrodes at 0.762 mm (Fig. 27). Install spark plug with gasket seal and tighten plug to 20.4 N·m. If torque wrench is not used, tighten plug firmly.

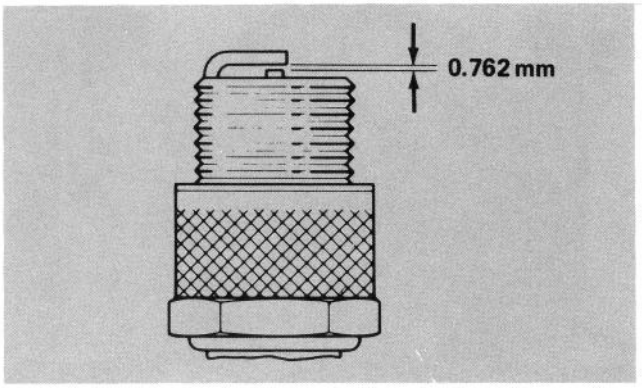


Figure 27

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. 28).

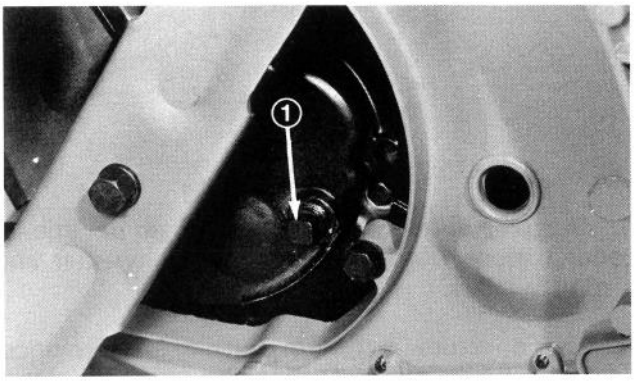


Figure 28

1. Oil drain plug

3. Remove drain plug (Fig. 28), and tip mower back to its 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. 29).

MAINTENANCE

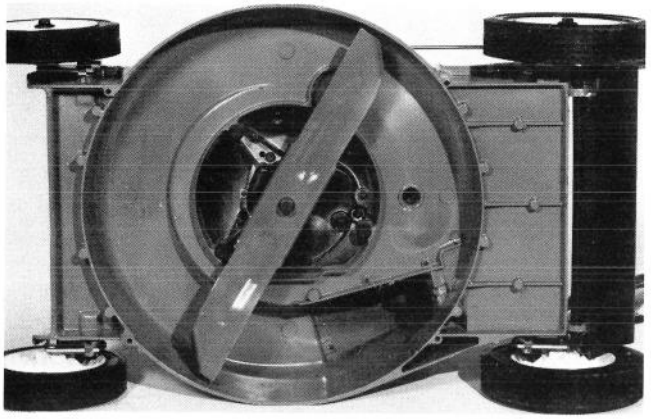


Figure 29

3. Examine cutting ends of the blade carefully; sharpen or replace as needed (Fig. 30).

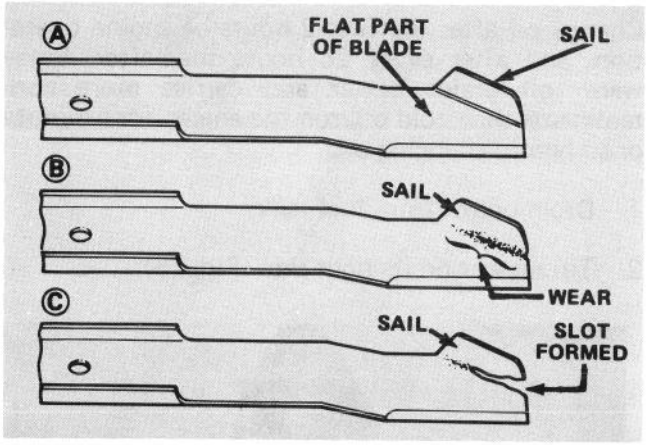


Figure 30

4. Grasp end of blade using a rag or thickly padded glove. Remove capscrew, lockwasher and blade (Fig. 31).

Note: To assure optimum cutting performance, keep the blade sharp. During the year, file down small nicks to maintain a fine cutting edge.

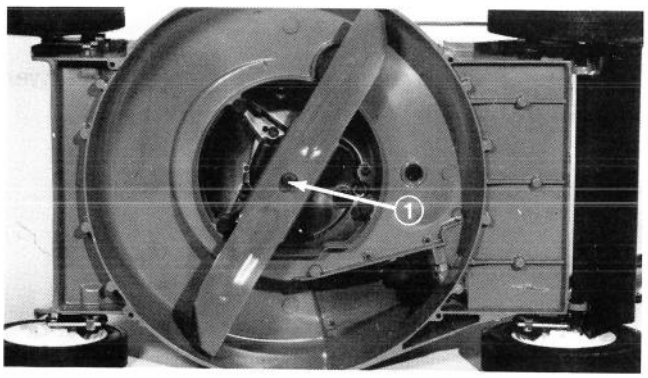


Figure 31

1. Capscrew and lockwasher

5. Using a file, sharpen cutting edge at both ends of the blade (Fig. 32).

IMPORTANT: Sharpen top side of blade and maintain original cutting angle (Fig. 32).

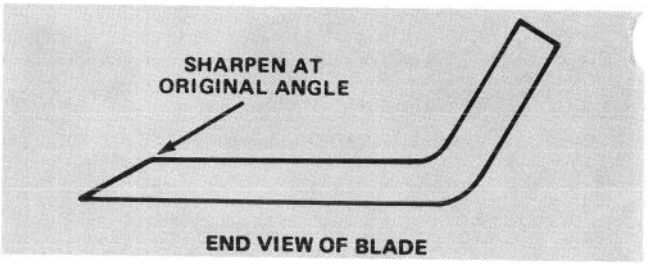


Figure 32

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 to assure correct installation. Tighten capscrew to 68 N·m.

8. Set mower upright.

CLEANING MOWER HOUSING

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

1. Drain petrol from fuel tank.

2. Tip mower on its right side (Fig. 31).

3. Remove grass clippings and dirt by spraying it with a garden hose or scraping with a wooden scraper.

4. Set mower upright.

ADJUSTING THROTTLE CONTROL

Tools Required: Screwdriver

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. Move the throttle control lever to the STOP position, remove screw securing cover to engine and remove cover.

2. Loosen cable clamp screw until throttle cable is free to slide (Fig. 33).

3. Move carburetor control arm to the left unti it contacts grounding bracket (Fig. 32). Pull throttle cable slightly to remove any slack and tighten the cable clamp screw to lock the adjustment in place.

MAINTENANCE

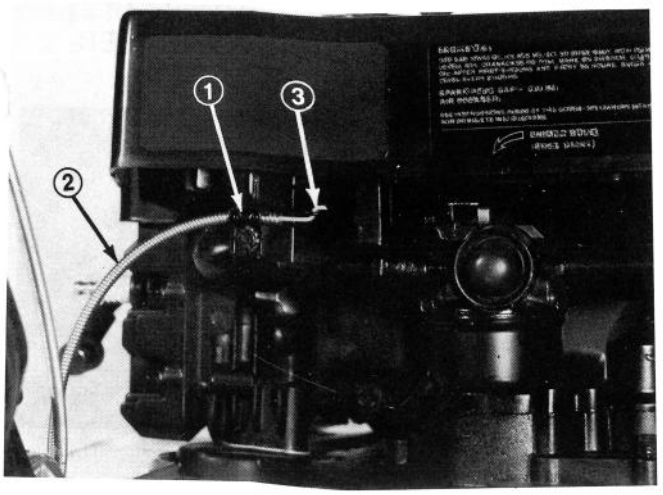


Figure 33
1. *Clamp screw*
2. *Throttle cable*
3. *Control arm*

DRAINING PETROL

1. Stop engine.

2. Squeeze ends of clip holding fuel line on fuel tank fitting (Fig. 33). Slide clip down fuel line.

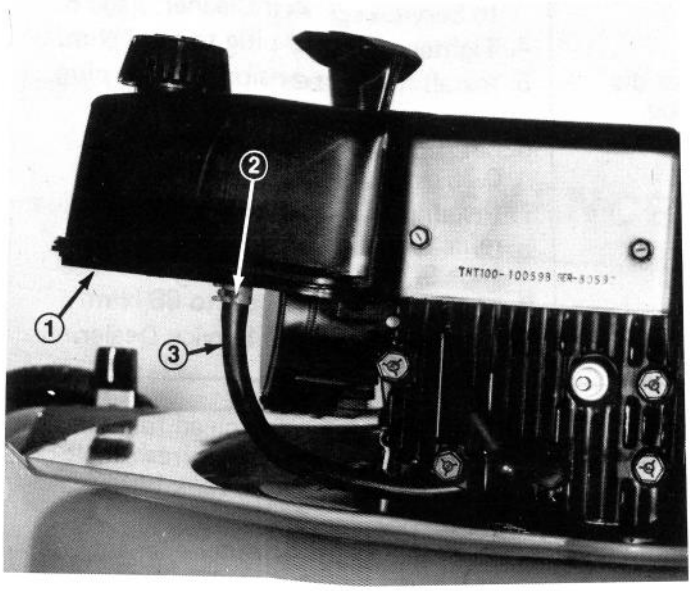


Figure 34
1. *Fuel tank*
2. *Clip*
3. *Fuel line*

3. Remove fuel line and allow fuel to drain.

4. Install fuel line.

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 inside of cylinder. Then 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, external parts of engine, shrouding and top of mower housing.

5. Clean underside of mower housing.

6. Check condition of blade and blade capscrew; repair or replace if necessary.

7. Check and tighten all capscrews, bolts, screws, nuts and mating parts. Repair or replace if necessary.

8. Lubricate wheel bushings.

9. Wash the air cleaner element.

10. Fill crankcase with oil.

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

12. Store the mower in a clean, dry place. For convenience, upper handle can be folded for more compact storage.



Figure 35
1. *Handle in storage position*

MAINTENANCE RECORD

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

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Litho in U.S.A.