

///ATOM[®]


**PATENTED WORLD'S BEST
LAWN EDGERS**

Model 501AV

Honda Powered 31cc 4-Stroke
Gasoline Model

OPERATOR/OWNER MANUAL

- Safety Precautions
- Assembling
- Operating & Edging Instructions
- Maintenance & Workshop Manual

 ACN 000 583 924



**AS WITH ANY
POWER TOOL
IMPROPER USE
CAN CAUSE
SERIOUS INJURY**

MAKE SURE THIS
MANUAL IS READ
AND CAREFULLY
UNDERSTOOD
BEFORE STARTING
OR OPERATING
THIS EQUIPMENT

NOTE: For full "Honda" engine instructions and maintenance please refer to separate "Honda Owners Manual" supplied.

IMPORTANT MANUAL - DO NOT THROW AWAY

Manual always to be available for reference or instructing new operators. Please fill in details of purchase on back cover page.

INTRODUCTION

This Atom Gasoline Powered Lawn Edger is designed to the highest standards to ensure you many hours of uninterrupted service.

Pay special attention to the safety precautions outlined on pages 2 to 5. Only persons who understand this Manual are to operate the Lawn Edger.

To receive maximum performance and satisfaction from your Lawn Edger, it is important that you read and understand the maintenance and safety precautions before using the edger. Contact your Atom dealer or the Atom distributor in your area if you do not understand or cannot carry out any of the operating instructions in this Manual.

Atom's philosophy is to continually improve all of its products. As a result, engineering changes and improvements are made from time to time. If the operating characteristics or the appearance of your Atom Edger differs from those described in this manual, please contact your Atom dealer for information and assistance. Call (02) 9810 0194 (within Australia) for your nearest servicing dealer.

CONTENTS

Parts and Controls	2-3
Safety Precautions	3-5
Assembling the Lawn Edger	6
Fuel Mix and Fueling	6
Starting and Stopping Instructions	7-8
Edging Instructions	8-10
Maintenance Instructions	
Blade Replacement	10
Lubrication of Gears	11
Spark Plug	11
Air Filter Maintenance	11
Removing Blade Cover Lid	11
Carburettor Adjustment	12
Trouble Shooting tips	13
Parts List and exploded View	14-16
Included at the rear of this manual is a complete workshop manual which is information for persons with suitable servicing experience should this unit ever require workshop repair	17-27
Warranty	28

! SAFETY WARNINGS THE PURPOSE OF SAFETY WARNING AND NOTES IN THIS MANUAL IS TO ATTRACT YOUR ATTENTION TO POSSIBLE DANGERS AND THE EXPLANATIONS WITH THEM DESERVE YOUR CAREFUL ATTENTION AND UNDERSTANDING. THE SAFETY WARNINGS IN THIS MANUAL AND ON THE EDGER DO NOT, BY THEMSELVES, ELIMINATE ANY DANGER. THE INSTRUCTIONS OR WARNINGS THEY GIVE ARE NOT SUBSTITUTES FOR PROPER ACCIDENT PREVENTION MEASURES.

! WARNING Failure to obey a safety warning can result in injury to yourself and others.

! NOTE Advises you of information or instructions vital to the operation or maintenance of the equipment.

PARTS & CONTROLS

- 1,2 The **handles** of the Lawn Edger are held by both hands.
- 3 The **throttle trigger** which increases speed of engine for automatic safety clutch to engage and thus rotate blade.
- 4 **ON/STOP** switch.
- 5 **Starter grip** the grip of the pull starter which is the device to start the engine.
- 6 **Handle nut** for holding handles onto housing.
- 7 **Height adjustment** for adjusting depth of cutting blade.
- 8 **Blade cover** reduces the risk of flying debris and direct contact with the feet or hands.
- 9 **Sight guide** for edging.
- 10 **Cutter blades** rotate when engine speed is increased above idle.
- 11 **Grass shield** debris deflector reduces flyback of stones and foreign material.
- 12 **Wheel** for moving and guiding edger.
- 13 **Cross Brace**, attaches downward on handle.
- 14 Left and right **Handle Tubes**.
- 15 **Fuel cap**, for sealing the fuel tank filler.
- 16 **Fuel Tank**.
- 17 **EZ-start lever** for engine starting.
- 18 **Filter housing** covers the air filter element, muffler and carburettor, and carburettor adjusting screws for tuning carburettor.
- 19 **Muffler** reduces exhaust noises and diverts gases away from operator.
- 20 **Spark Plug terminal cap** connects the spark plug to the ignition wire
- 21 **Fuel pump primer** provides additional fuel for a cold start.
- 22 **Warning Label**, on left handle.
- 23 **Warning Label**, on blade guard.

PARTS & CONTROLS (CONTINUED)

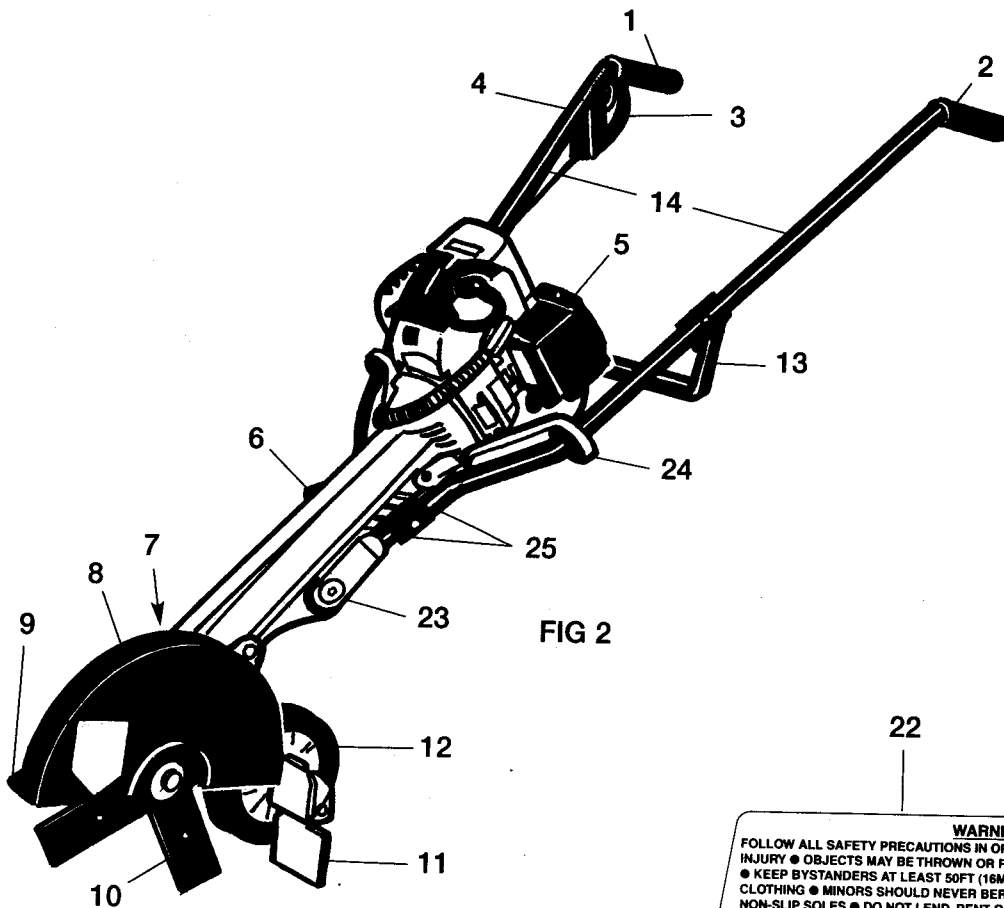
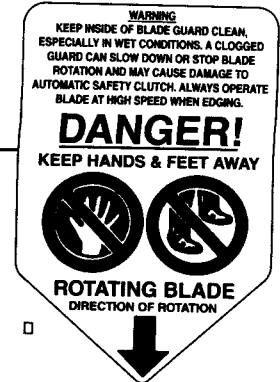
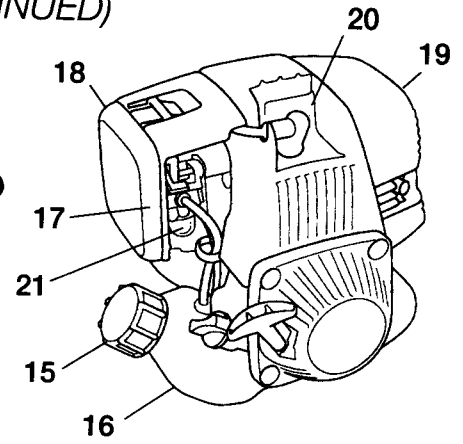


FIG 2



WARNING - TO PREVENT SERIOUS INJURY
 FOLLOW ALL SAFETY PRECAUTIONS IN OPERATOR MANUAL - IMPROPER USE CAN CAUSE SERIOUS OR FATAL INJURY ● OBJECTS MAY BE THROWN OR RICOCHET IN ALL DIRECTIONS - ALWAYS WEAR EYE PROTECTION ● KEEP BYSTANDERS AT LEAST 50FT (16M) AWAY ● ALWAYS WEAR EAR PROTECTION ● WEAR SNUG FITTING CLOTHING ● MINORS SHOULD NEVER BE PERMITTED TO USE THIS EDGER ● WEAR STURDY SHOES WITH NON-SLIP SOLES ● DO NOT LEND, RENT OR SELL THIS EDGER WITHOUT THE OPERATOR MANUAL.

SAFETY PRECAUTIONS

WARNING As with any power tool, the use of any lawn edger may be dangerous. It is important that you read, fully understand, and observe the following safety precautions and warnings. Re-read this operator's manual and the safety instructions periodically.

WARNING Do not lend, rent or sell this machine without the operator's manual. Be sure that anyone using this unit understands the information contained in this manual before use.

WARNING As with any power tool, some special safety precautions must be observed to reduce the risk of personal injury. Careless or improper use may cause serious or even fatal injury.

THE OPERATOR

PHYSICAL CONDITION

Operator must be in good physical condition and mental health, and not under the influence of any substance (drugs, alcohol, etc.) which might impair vision, dexterity or judgement (Fig. 3).



FIG 3

WARNING This Lawn Edger must not be operated by minors. Bystanders, especially children and animals, should not be allowed in the area where a machine is in use at least 15 metres (50 feet) away (Fig. 4). Never let the unit run unattended.

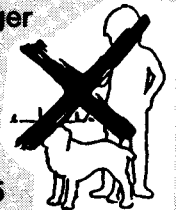


FIG 4

WARNING Electrical shock. Never touch electrical wires or components while the engine is running. They are sources of high voltage and can give you an electrical shock. Replace immediately any faulty tension lead or spark plug cap.

Safe use of an Atom Lawn Edger involves:

1. The Operator
2. The Atom Edger
3. The use of the Atom Edger

SAFETY PRECAUTIONS (CONTINUED)

Do not operate the Edger when fatigued. Be alert - if you get tired while operating the machine, take a break. Tiredness may result in loss of control. Working with any power tool can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating the machine.

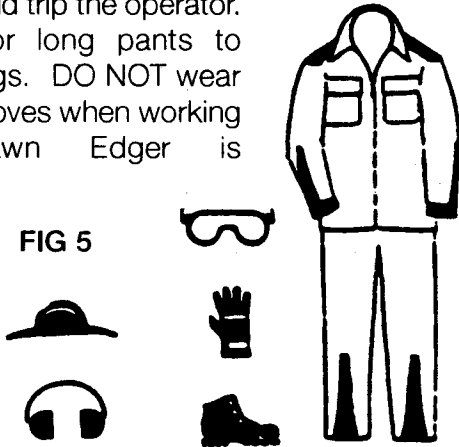
! WARNING Prolonged use of any hand-held powered machine exposing the operator to vibrations may produce whitefinger disease (Raynaud's phenomenon) or carpal tunnel syndrome. These conditions reduce the hand's ability to feel and regulate temperature, produce numbness and burning sensations, and may cause nerve and circulation damage and tissue necrosis.

PROPER CLOTHING

Clothing must be sturdy and snug-fitting, but allow complete freedom of movement (see Fig. 5). Avoid loose-fitting jackets, flared or cuffed pants, or anything that could trip the operator. Wear overalls or long pants to protect your legs. DO NOT wear shorts. Use of gloves when working with the Lawn Edger is recommended.

Good footing is most important. Wear sturdy shoes with nonslip soles. DO NOT wear

sandals or operate with bare feet. In hot or sunny conditions, always wear a hat and long sleeve shirt for protection against skin cancers. Use of a good brand of sunscreen cream is also recommended on exposed skin surfaces.



! WARNING Proper eye protection is a must. The blade cover may not protect the operator from all fast moving foreign objects, even though the discharge is directed away from the operator, as ricochets and bouncebacks may occur during lawn edging operations. Never operate an Atom Edger unless wearing goggles or properly fitting safety glasses with adequate top and side protection which comply with ANSI Z 87.1.

Replace immediately broken or cracked blade covers and grass shield debris deflector.

Engine noise may damage your hearing. Wear sound barriers (ear plugs or ear muffs) to protect your hearing. Continual and regular users should have their hearing checked regularly.

SAFE FUELING INSTRUCTIONS

! WARNING Gasoline is an extremely flammable and explosive fuel. Use extreme caution when handling gasoline or fuel mix. Do not smoke or bring any fire or flame near the fuel (Fig.6).



Refuel outdoors only. Always switch off the engine and allow it to cool before refueling. Relieve fuel tank pressure by loosening fuel cap slowly. Never remove fuel filler cap while engine is running.

Select bare ground for fueling, then move at least 3 metres (10 feet) from the fueling spot before starting the engine. Wipe off any spilled fuel before starting your Atom Edger and check for leakage.

Always tighten fuel filler cap securely after fueling.

! WARNING Always allow engine to cool before refueling. Accidental spillage of gasoline over hot engine could cause fire or explosion to occur with consequent possible disfigurement or fatal injury. Wash and clean hands after fueling.

The Atom Edger unit uses an oil-gasoline mixture for fuel (Refer "Fuel Mix and Fuelling," page 6).

SAFE STARTING

You should always inspect your unit before starting it. Make sure the controls and safety devices are working properly.

Place the machine on firm ground or other solid surface in an open area. Maintain good balance and secure footing.

! NOTE When you pull the starter grip, do not wrap starter rope around your hand. Do not allow grip to snap back, but guide starter rope slowly back to permit rope to rewind properly.

SAFETY PRECAUTIONS (CONTINUED)

Failure to follow this procedure may result in injury to hand or fingers or may damage the starter mechanism.

! WARNING The Atom Edger is a one-person machine. To reduce the risk of eye or other injury from thrown objects, ensure that bystanders are at least 15 metres (50 feet) away during use. Replace immediately any worn or broken debris deflector shield or blade cover. If approached, release throttle trigger to immediately de-accelerate the engine.

SAFE WORKING INSTRUCTIONS AND IMPORTANT ADJUSTMENTS

Never operate your machine if it is damaged, improperly adjusted or not completely and securely assembled. At correct idle speed, the blade should not turn. Do not use the Atom Edger with incorrect idle speed; refer speed setting instructions on page 12.

SAFE MAINTENANCE, REPAIR AND STORING

Use only original Atom replacement parts for maintenance and repair. Use of parts manufactured by others will void warranty and/or may cause serious or fatal injury.

! WARNING Always stop the engine, make sure that the blade is stopped, and disconnect the spark plug before adjusting blade height, doing any maintenance or repair work, or cleaning the unit or blade.

Follow the maintenance instructions in the appropriate section of this manual. Any repairs should be carried out by an authorized service dealer or person with suitable servicing experience.

! WARNING A worn or damaged muffler is a fire hazard and may cause loss of hearing. Check to see that the muffler is in good condition. The lawn edger must not be operated if the muffler is not functioning properly, is damaged, or has been removed. In order to reduce the risk of fire, do not modify or remove any part of the muffler and ensure it is not worn or broken.

Remember that the risk of forest or grass fires is greater in hot weather.

Check fuel filler cap for leaks at regular intervals. Use the specified spark plug and make sure it and the ignition lead are always in good condition.

! WARNING Never touch a hot muffler as burns will result.

Store Atom Edger in a dry, high or locked location and out of reach of children.

! WARNING Never store the machine with gasoline inside a building where fumes may reach an open flame or spark (e.g. gas or oil-fired heater appliance, electric motor, etc.).

Before storing for a longer period, always empty the fuel tank.

! WARNING Start and operate your unit outdoors and in a ventilated area.

Keep the space behind and beside the engine clear at all times to allow for the escape of hot and toxic exhaust fumes.

Operate your machine under good visibility and daylight conditions only. Work carefully.

! WARNING The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

SAFE WORKING CONDITIONS

When working with the Atom Edger, always wrap your fingers tightly around each handle. Keep your hands in this position to have your machine under control at all times. NEVER attempt to operate the Atom Edger with one hand, as a loss of control may result in serious or fatal injury.

Make sure the handle grips are in good condition and free of moisture, pitch, oil or grease. Use both hands, one on each handle, to operate and control the lawn edger. Do not overreach. Keep proper footing and balance at all times.

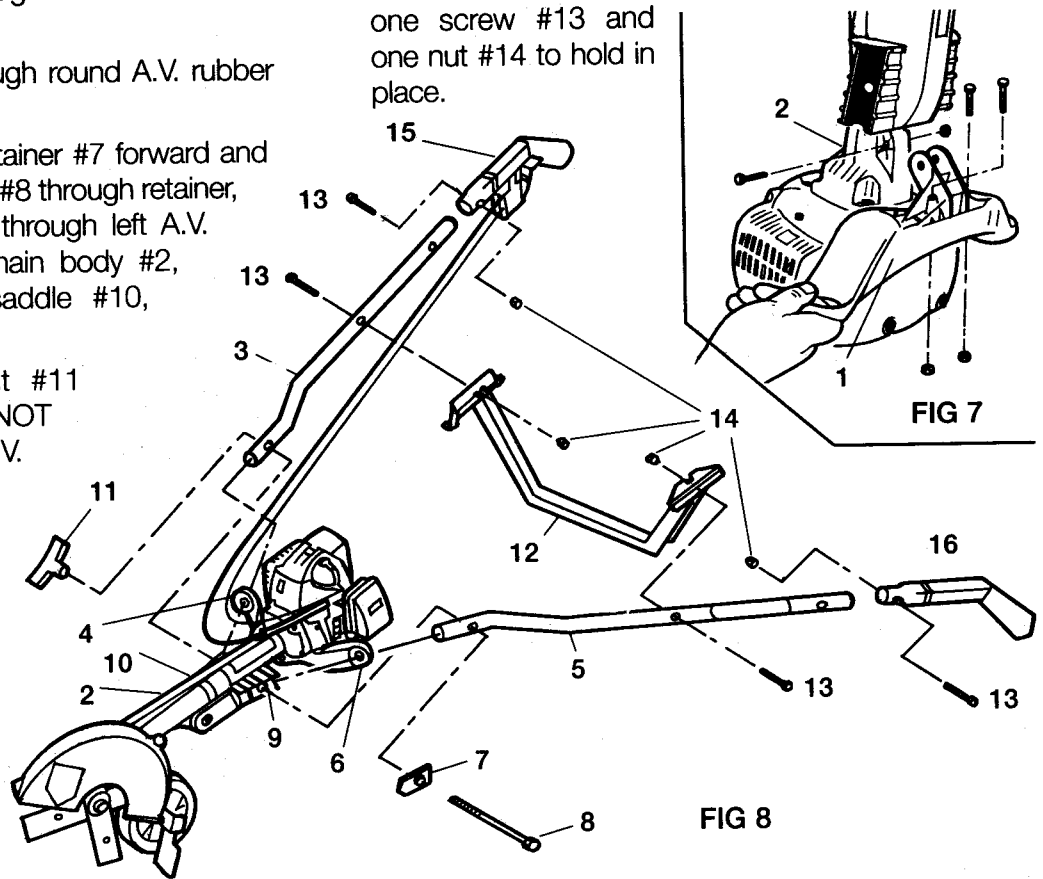
! WARNING Do not touch hot engine during and immediately after use as you may burn yourself.

ASSEMBLING THE //ATOM LAWN EDGER

1. Fit A.V. handle brace #1 to main body #2 (fig.7) with screws and nuts provided. Use straight bladed screwdriver or torx 25 driver.
2. Slide right handle tube #3 through round A.V. rubber mount #4.
3. Slide left handle tube #5 through round A.V. rubber mount #6.
4. Point black female hex bolt retainer #7 forward and insert the 150mm (6") hex bolt #8 through retainer, through left handle tube #5, through left A.V. rubber saddle #9, through main body #2, through right A.V. rubber saddle #10, through handle tube #3.
5. Screw on handle wing nut #11 sufficiently. DO NOT OVERTIGHTEN wing nut as A.V. becomes less effective.
6. Fit handle cross-brace #12 to handle tubes #3 and #5. Use 2 screws #13 and 3 lock nuts #14 provided.
7. Insert trigger handle #15 into right handle tube #3 using one screw #13 and one nut #14 to hold into place. NOTE: Throttle

cable/switch wire from engine must be fitted under handle and clipped into holding lugs of cross-brace #12. Do not loop throttle/switch wire over handle.

8. Insert left handle #16 into left handle tube #5 using one screw #13 and one nut #14 to hold in place.



FUEL AND OIL

⚠ WARNING DANGER!
FUEL IS EXTREMELY FLAMMABLE. HANDLE IT WITH CARE. KEEP AWAY FROM IGNITION SOURCES. DO NOT SMOKE WHILE FUELING YOUR EQUIPMENT.

Your Atom Edger is powered by a four-stroke, air cooled engine which requires unleaded gasoline only in the fuel tank.

NOTE: Do not mix oil with the gasoline.

Only use sufficient fuel for a few weeks work and store in an approved safety type container.

⚠ WARNING Pressure may build up in the canister. Remove fuel cap slowly to avoid injury from fuel spray. Replace fuel cap securely. Take care when handling gasoline. Avoid direct contact with the skin and avoid inhaling fuel vapor.

Before fueling the edger, clean the filler cap and the

area around it to ensure that no dirt falls into the tank.

⚠ WARNING Always allow engine to cool before refueling. Accidental spillage of gasoline over a hot engine could cause fire or explosion to occur. See Page 4 - Safety Precautions, Fueling.

ENGINE OIL LEVEL

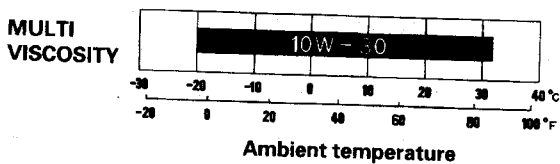
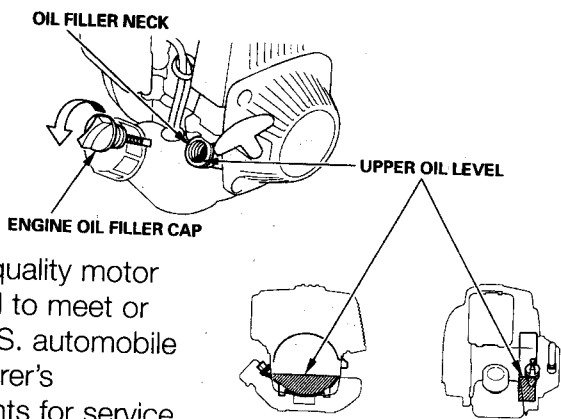
⚠ WARNING Running the engine with insufficient oil can cause serious engine damage. Be sure to check the engine on a level surface, with the engine stopped, at regular intervals.

1. Remove the oil filler cap and fill tank with oil container supplied and check the oil level: it should reach the top of the oil filler neck.
2. If the level is low, fill to the top of the oil filler neck with the recommended oil.

After every 10 hours use, check the engine oil level and replenish oil up to the top of the oil filler neck.

FUEL AND OIL (CONTINUED)

Use Honda 4-stroke, or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for service classification SG, SF. Motor oils classified SG, SF will show this designation on the container. SAE 10W-30 is recommended for general, all temperature use.



WARNING Using nondetergent oil or 2 stroke engine oil could shorten the engine's service life.

WARNING Fill or add fuel to the tank only when the edger is in a horizontal position as shown (Fig. 9). Allow engine to cool down for at least 5 minutes before adding fuel. Use fuel funnel (not supplied) to prevent spills.

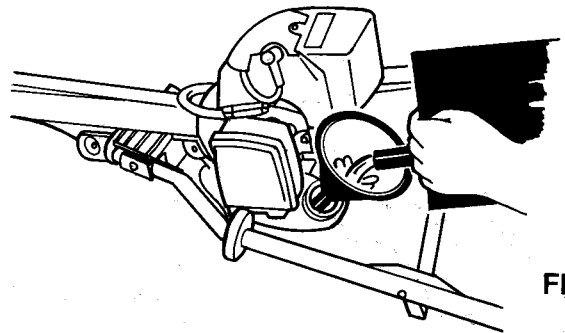


FIG 9

IMPORTANT NOTE

DO NOT use old or stale gasoline. Always use the proper gasoline. If you do not, your engine will suffer rapid, permanent damage and you will void the engine warranty.

STARTING & STOPPING INSTRUCTIONS

1. Place lawn edger on ground in horizontal position (see Fig. 14). Be sure the ignition switch is "ON". Slide switch toward operator to turn ON. Switch located on right side of trigger (See Fig. 10).

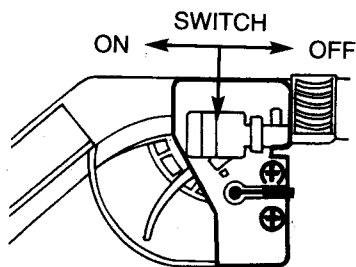


FIG 10

2. COLD START: Slide the choke lever to full choke position (Fig. 12).

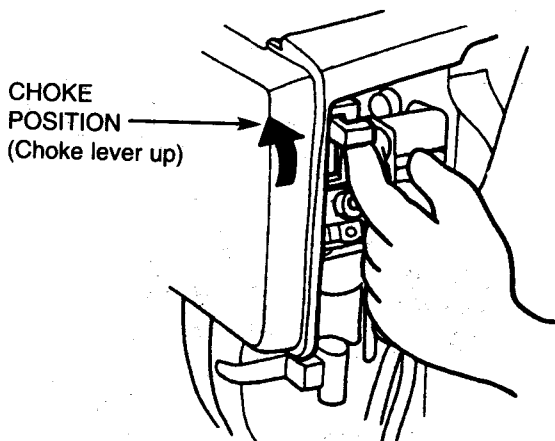


FIG 12A

3. Press and release the primer bulb 5 times (Fig. 13).

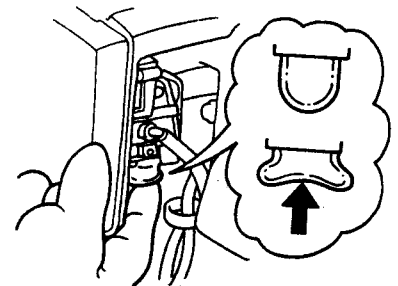


FIG 13

4. Make sure you have a firm footing. Hold down motor with left hand and put one foot on the cross brace. With right hand pull the starter grip slowly until you feel it engage - and then give it a fast pull (Fig. 14).

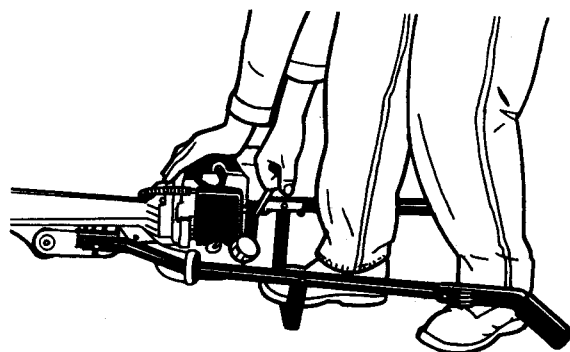


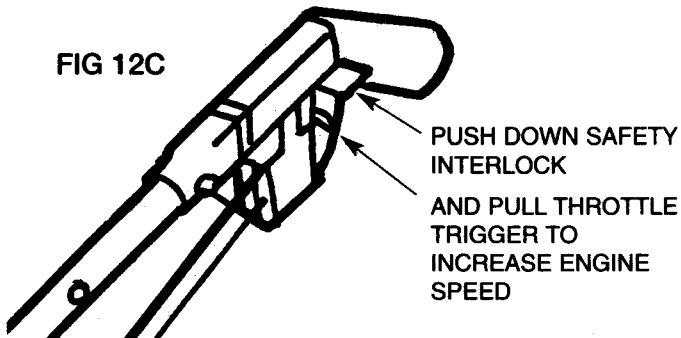
FIG 14

Do not pull out starter rope more than 65cm (26") - it might break. Stand between handles to start. Do not let starter grip snap back. Guide it back slowly so that the starter rope can rewind slowly.

STARTING & STOPPING INSTRUCTIONS (CONTINUED)

5. PULL THE STARTER ROPE BRISKLY until the engine starts. Gradually move the choke lever to the open position. Allow engine to warm-up until it runs smoothly.

6. Throttle trigger (engine accelerator control) is operated by pushing down interlock with thumb and pulling on trigger (Fig. 12C).



7. HOT OR WARM START: (Engine has already been started and warmed up). Switch ignition "ON".

Make sure you have a firm footing with one foot on the cross brace. Pull starter until motor runs, allow to warm-up.

NOTE: A built in automatic centrifugal clutch disengages the blade from rotating at engine idle speed. The clutch engages the blade when the engine speed is increased.

8. FLOODED ENGINE: (Engine will not start). If smoke or fuel comes from exhaust and engine will not start.

a) Check that ignition switch is "ON", CHOKE LEVER is on RUN position.

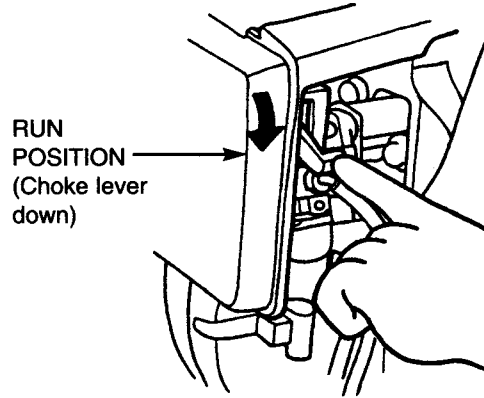


FIG 12B

b) Pull starter rope up to 10 times to clear engine of fuel so it can start.

c) If engine has excessive fuel that cannot be cleared by (a) & (b) above, remove spark plug from engine and from spark plug terminal, crank engine to clear excess fuel, wipe and dry spark plug of all fuel, re-install spark plug and terminal, and restart as above.

9. To stop engine push ignition switch slide on right side of throttle trigger forward.

⚠ WARNING TO AVOID PERSONAL INJURY, NEVER CARRY THE EDGER WHILE THE ENGINE IS RUNNING. Stay clear of the rotating blade. Stop the engine prior to making adjustments and cleaning.

AFTER FINISHING WORK

Storing for a short period: Keep the unit in a dry place until you need it again. Do not store where open flame or electrical machinery is operating.

Storing for a long period: Drain the fuel tank and run engine until carburettor is dry.

EDGING INSTRUCTIONS

1. The Atom Edger is very easy and simple to use. For some people, it may take a few edgings to become an expert.

2. Thoroughly inspect the area where the edger is to be used and remove all stones, sticks wires and other foreign objects.

3. Adjust blade height (Fig. 15). With a new blade, try the second hole closest to operator.

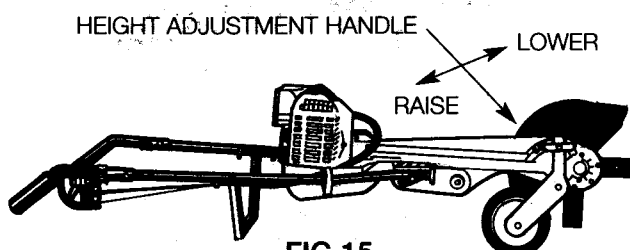
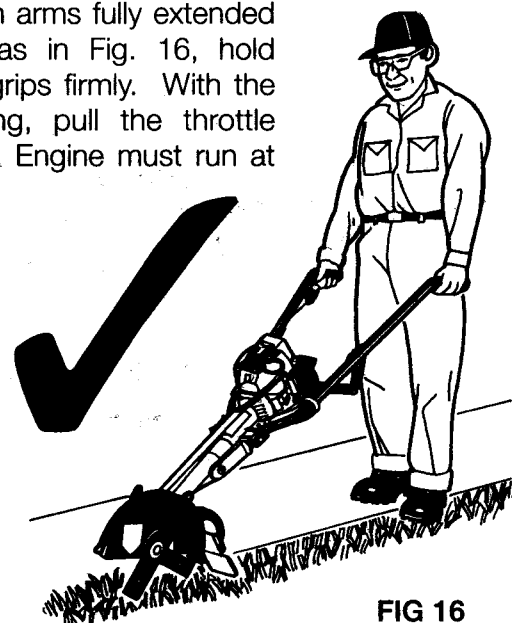


FIG 15

4. With both arms fully extended downwards, as in Fig. 16, hold both handle grips firmly. With the engine running, pull the throttle trigger full on. Engine must run at full speed.



EDGING INSTRUCTIONS (CONTINUED)

! WARNING Only operate unit when moving forward. **DO NOT** operate walking backwards, as you may trip, fall and injure yourself.

5. If blade is not deep enough, or if digging too deep, adjust blade height, or slightly raise or lower handles to suit depth required (Fig. 17). However, it is always more comfortable and relaxed to have arms fully extended downwards.

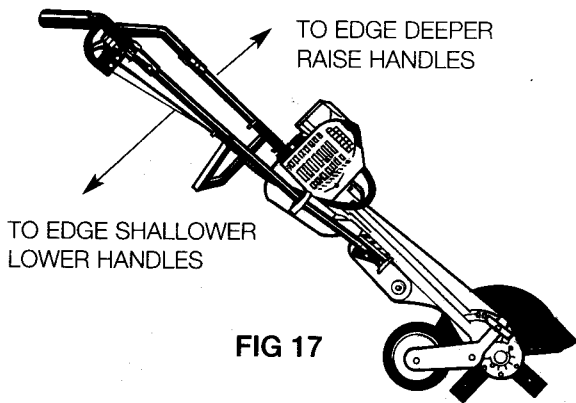


FIG 17

6. Do not lift handles by excessive bending of elbows (Fig 18). Always keep arms straight as shown in Fig 16.



FIG 18

7. As cutting action begins, move the lawn edger forward so that the blade can cut the edge as you move forward (Fig. 19).

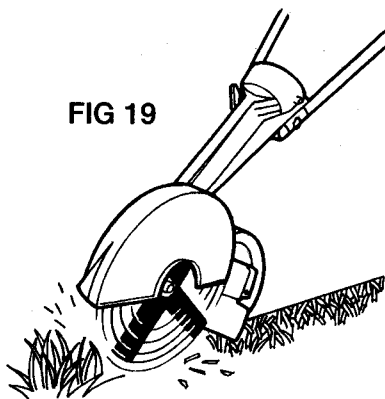


FIG 19

8. Continue at a moderate pace until you are familiar with the controls and the handling of the Atom Edger.

Note: When cutting efficiently, engine speed should be full throttle under load.

9. If blade jams or stops in the ground (Fig. 20), lower handles or pull back unit and recommence. Engine speed should be full throttle under load with blade rotating.

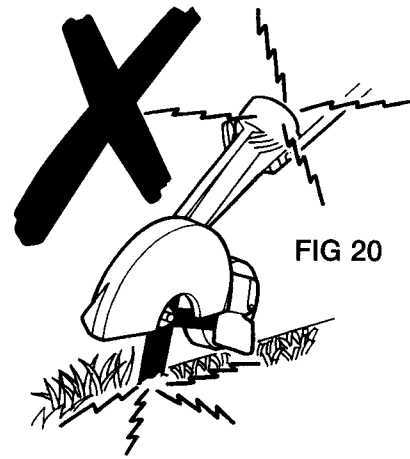


FIG 20

10. **Edging along Concrete edge:**

For position of blade, align edge guide (at front of blade cover) with edge of concrete. If blade hits concrete, lower handles and re-position blade at side of concrete. Even with the grass growing over the concrete and you cannot see the edge, **you can feel the edge of the concrete with the rotating blade by slightly sideways tilting the handles of the edger away from the concrete so that the blade tilts towards the concrete and touches or "kisses" the concrete edge and acts as a guide (Fig 21).** Edger blades are made from high tensile hardened spring steel and will last a long time. Once the edge is established the second and subsequent times around are very fast.

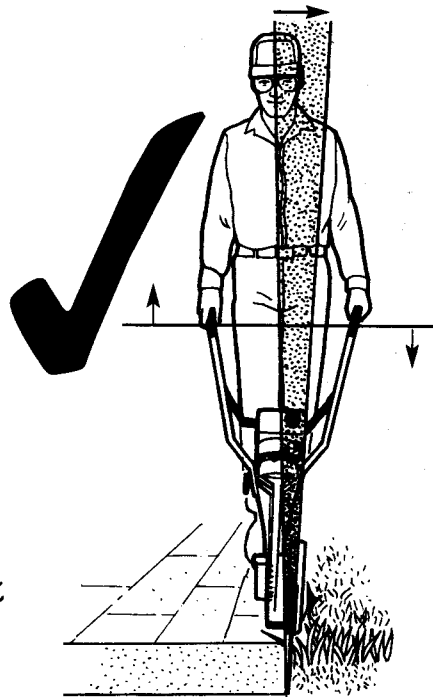


FIG 21

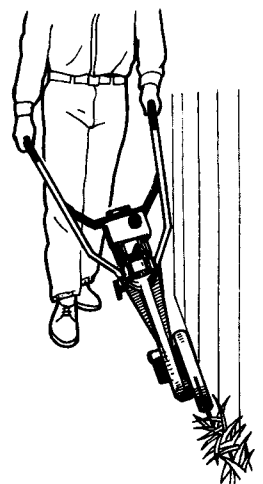


FIG 22

11. **Sideways Tilting:** Lower either left or right handle to achieve angle cutting (Fig 22).

12. **Clutch:** The Atom Edger is equipped with a centrifugal clutch. **DO NOT** run edger at low speeds (or, if blade is jammed, at high engine speeds) as clutch shoes will prematurely wear and cause damage if cutting blades do not rotate.

EDGING INSTRUCTIONS (CONTINUED)

! NOTE

Keep inside of blade guard clean, especially in wet conditions. A clogged guard can slow down or stop blade rotation and may cause damage to automatic safety clutch. Always operate blade at high speed when edging.

The Lawn edger can be transported by pushing it on it's wheel, or carrying it with engine switched off as in Fig. 23.

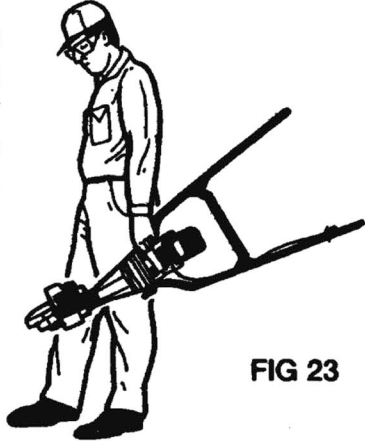


FIG 23



WARNING

TO AVOID PERSONAL

INJURY, NEVER CARRY THE EDGER WHILE THE ENGINE IS RUNNING.

Never hold the handle cross brace if the engine is running (Fig.24). Stop the engine prior to lifting or carrying.



FIG 24

MAINTENANCE INSTRUCTIONS

BLADE REPLACEMENT

1. Stop engine. Clean area around dust cover #44042 and pry out with screwdriver (Fig. 25) exposing 14mm hex head for unscrewing blade nut.

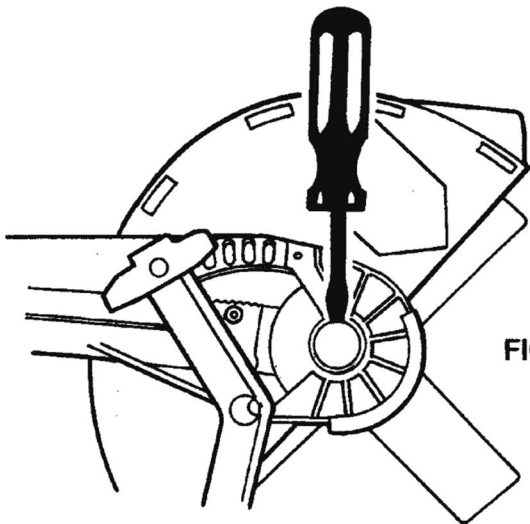


FIG 25

2. Through dust cover hole, place 14 mm socket and place 17 mm wrench on blade nut (Fig. 26). Alternatively use an impact wrench.

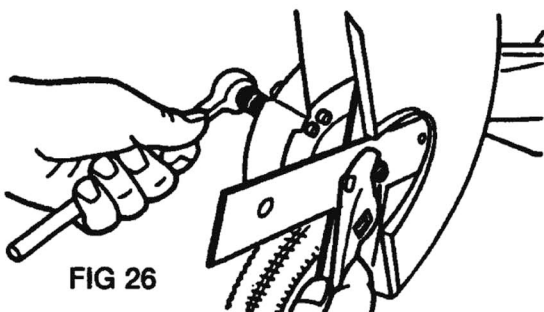


FIG 26

3. Unscrew nut counter (anti) clockwise (normal right hand thread).

4. Remove one small and one large washer and two blades (Fig 27). Before installing blade and washers, clean all grit and grease. Assemble these parts clean and dry. Fit new blades with spiggots of one blade interlocking with holes on opposite blade and nut. Tighten nut to 15-20 ft. lbs. (20-27Nm) or hand tight with 8" (200mm) or longer spanner or use impact wrench.

FITTING INSTRUCTIONS

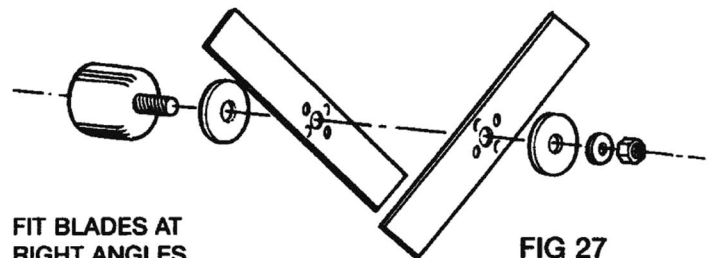


FIG 27

FIT BLADES AT RIGHT ANGLES.

2 SPIGOTS ON EACH

BLADE FIT INTO HOLES OF OTHER BLADE



WARNING

USE ONLY GENUINE ATOM BLADES

Non-genuine blades can break, and have larger centre holes which causes out-of-balance vibrations, either or both causing damage to unit and/or major personal injury. Use of non-genuine Atom blades will void all warranties due to that part not being approved to Atom specifications.

! NOTE

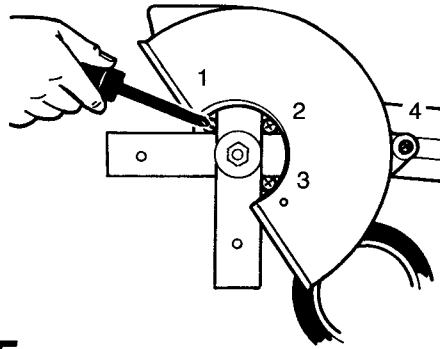
Do not run engine without blade tightened to blade shaft as gear damage will occur.

MAINTENANCE INSTRUCTIONS (CONTINUED)

5. Clean plastic dust cap and housing; press back by gently tapping into place. Clean inside blade cover of any built up dirt.

TO REMOVE BLADE COVER LID

Remove 4 screws as shown. Lift off cover. To reinstall, reverse procedure with blade cover metal support in place #43109. FIG.28



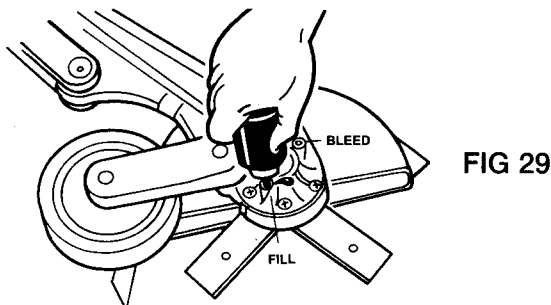
LOOSE BLADE

Follow steps 1 and 2 of Blade Replacement and tighten nut clockwise.

LUBRICATION OF GEARS

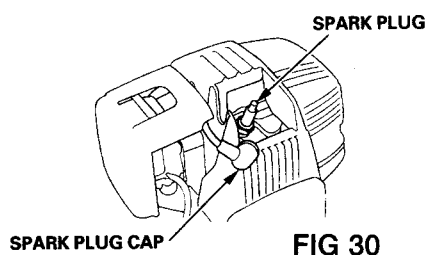
There is usually sufficient grease to last at least 6 months or 125 hours for professional use before topping it up. The grease in the gear case should be added according to use. Use a light, free-flowing lithium-based grease such as Castrol EPL1 or its equivalent. This is available in a handy to use squeeze pack with nozzle (#43227). Remove two screws marked FILL and BLEED. Inject grease into FILL screw hole and allow grease to begin to eject from BLEED hole indicating gear box is 3/4 full (Fig.29). Refit and tighten BLEED screw and squeeze in 3 to 4 more lots of grease. Refit FILL screw and tighten.

NOTE: Do not use light or heavy gear oil as it might leak out. If case joint is damaged, clean and dry and use a gasket sealant. Replace o-ring if damaged. Tighten all screws. Refill casing.



SPARK PLUG

The following information is a guide only. For more details, refer to your "Honda Owner's manual" supplied with this unit.



CHECKING THE SPARK PLUG

If engine is low on power, difficult to start or runs poorly at idling speed, check the spark plug.

- Allow engine to cool down.
- Remove spark plug.
- Clean dirty spark plug.
- Check electrode gap.
- Rectify faults which have caused fouling of spark plug. Possible faults include:
 - Incorrect carburetor setting.
 - Too much oil in oil tank.
 - Old fuel.
 - Dirty air filter.
 - Unfavorable running conditions (e.g. operating at part load).

Do not clean the spark plug in an abrasive grit spark plug cleaner, as expensive damage to the engine could occur through loose grit damaging chrome in cylinder bore.

Fit a new spark plug after approximately 100 operating hours or earlier if electrodes are badly eroded.

! NOTE

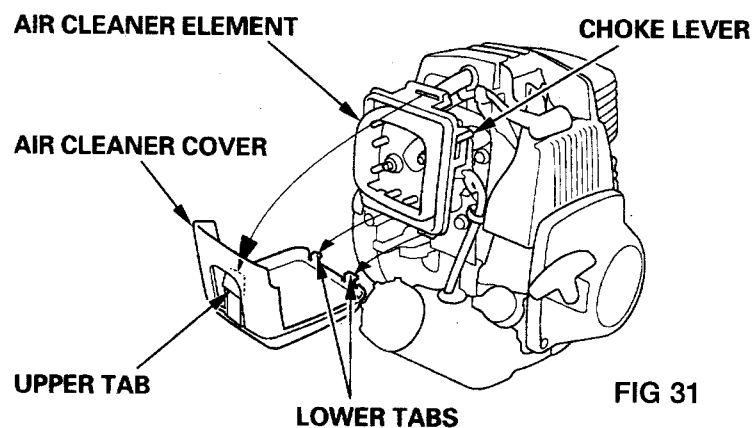
Using spark plugs other than those designated may result in the engine failing to operate properly or in the engine becoming overheated and damaged.

AIR FILTER MAINTENANCE

! NOTE

CLEAN AND RE-OIL THE AIR FILTER EVERY 5 HOURS OF OPERATION OR DAILY.

The air filter is one of the most important areas to maintain. If it is not maintained, you will void the warranty. Before cleaning, make sure the unit is turned off.



MAINTENANCE INSTRUCTIONS (CONTINUED)

2. If filter torn or very dirty replace.

3. Wash the filter in detergent and water (Fig. 32). Rinse the filter thoroughly and allow it to dry.

4. Apply enough clean SAE 30 oil to saturate the filter when squeezed. Squeeze the filter to spread the oil and to remove excess oil.

5. Reinstall the filter (Fig. 31) air filter cover.

6. Note sequence of parts (Fig 33A).

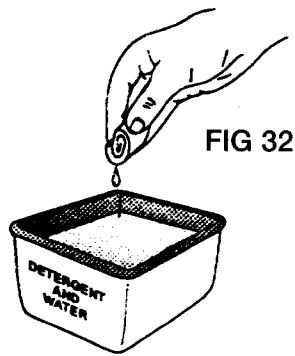
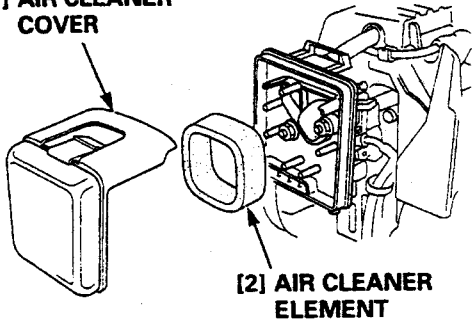


FIG 32

! NOTE If the unit is operated with dry or dirty filter or without the air filter &/or carburettor air filter cover, you will void the warranty.

! NOTE CHECK TIGHTNESS OF SCREWS at regular intervals and retighten as necessary especially during the first few hours of operation.

[1] AIR CLEANER COVER



[2] AIR CLEANER ELEMENT

FIG 33A

CARBURETTOR

This unit is equipped with a diaphragm-type carburettor that has been carefully calibrated at the factory. In most cases, no further adjustment will be required. The condition of the air filter is important to the operation of the edger. A dirty air filter will restrict the air flow, which upsets the fuel-air mixture in the carburettor. The resulting symptoms are often mistaken for an out-of-adjustment carburettor. Therefore, check the condition of the air filter before adjusting the carburettor. Refer to Air Filter Maintenance on page 11. If the following conditions are experienced, it may be necessary to adjust the carburettor:

- The engine will not idle.
- The engine hesitates or stalls on acceleration.

- The loss of engine power that is not corrected by cleaning the air filter and muffler.
- The engine operates in an erratic or fuel-rich condition (indicated by excessive exhaust smoke from the muffler).

! NOTE Careless adjustments can seriously damage the carburettor &/or engine.

ADJUSTING THE CARBURETTOR

1. The idling screw adjustment is accessible without removing the air filter cover. See Fig. 33B. To increase engine idle speed, turn IDLE SCREW (#1) clockwise (Refer Fig.33B). To decrease engine speed, turn IDLE SCREW counter (anti) clockwise. Throttle trigger to be in idle position.

2. If air filter is dirty then correct idle adjustment can not be made and air filter must be cleaned. Refer to Air Filter Maintenance and Figs 31, 32 and 33A.

! NOTE Edger blade NOT to rotate when engine is idling.

! NOTE Throttle cable wire is NOT to be pulled tight (against trigger throttle). Trigger to have small initial movement before it pulls cable and carby throttle lever.

The throttle cable normal play is .040" to .080" (1 to 2mm) when measured at the carburettor side. Re-adjust with the cable adjuster (#2) as required and re-adjust the idle screw (#1) on carburettor as required.

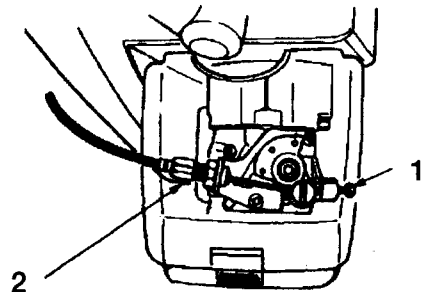


FIG 33B

! NOTE No mixture screws for high or low speed settings are fitted to this carburettor. Use clean fuel and clean air filter. No other adjustment is required due to fixed jets fitted.

MAINTENANCE INSTRUCTIONS (CONTINUED)

FUEL FILTER

When the engine runs short of fuel supply and the tank has gasoline in it, clean the fuel filter for blockage (Fig. 34).

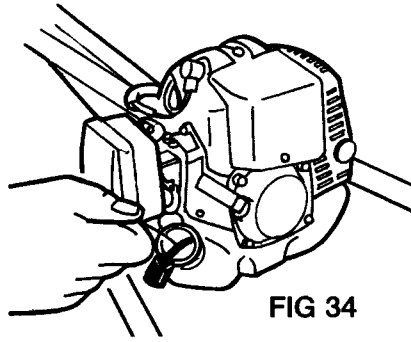


FIG 34

CHECKING EXHAUST MUFFLER

Tighten exhaust screws. If exhaust gasket is leaking, replace gasket. If the engine is low on power, check the muffler. Allow motor to cool down. Remove and scrape out excess carbon (Fig. 35) on both inlet and exit exhaust or have this done by a service dealer. Replace exhaust spark arrestor if worn, broken or blocked (Fig 36).

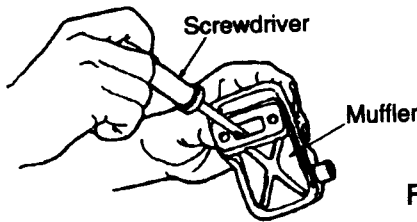


FIG 35

! NOTE

If debris causes blockage around the intake air cooling vent or between the cylinder fins, it may cause the engine to overheat, and that in turn may cause mechanical failure on the part of the Atom Edger. Remove air deflector to clean.

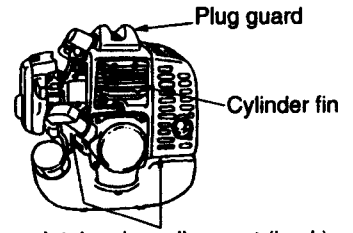
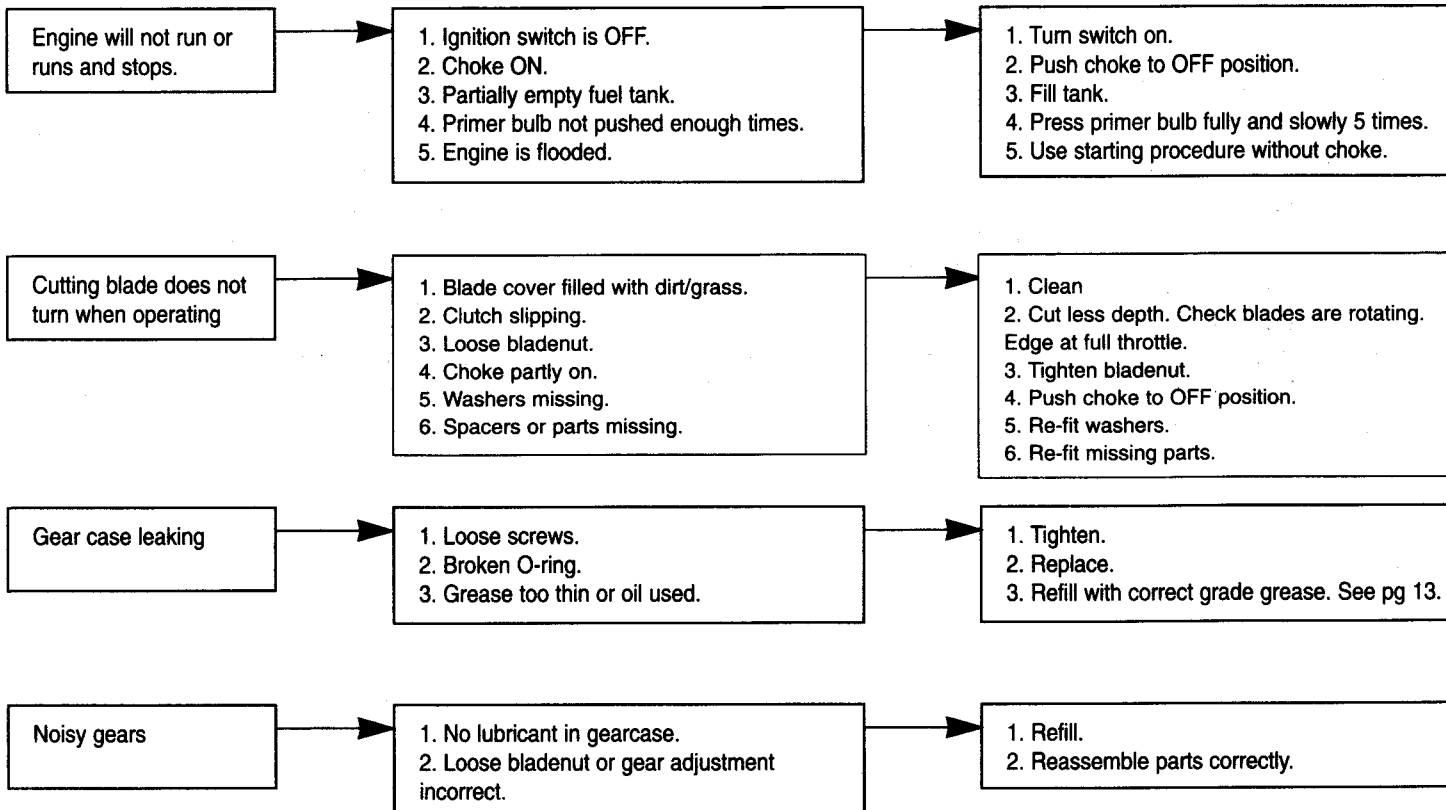


FIG 37

Intake air cooling vent (back)

TROUBLE SHOOTING TIPS



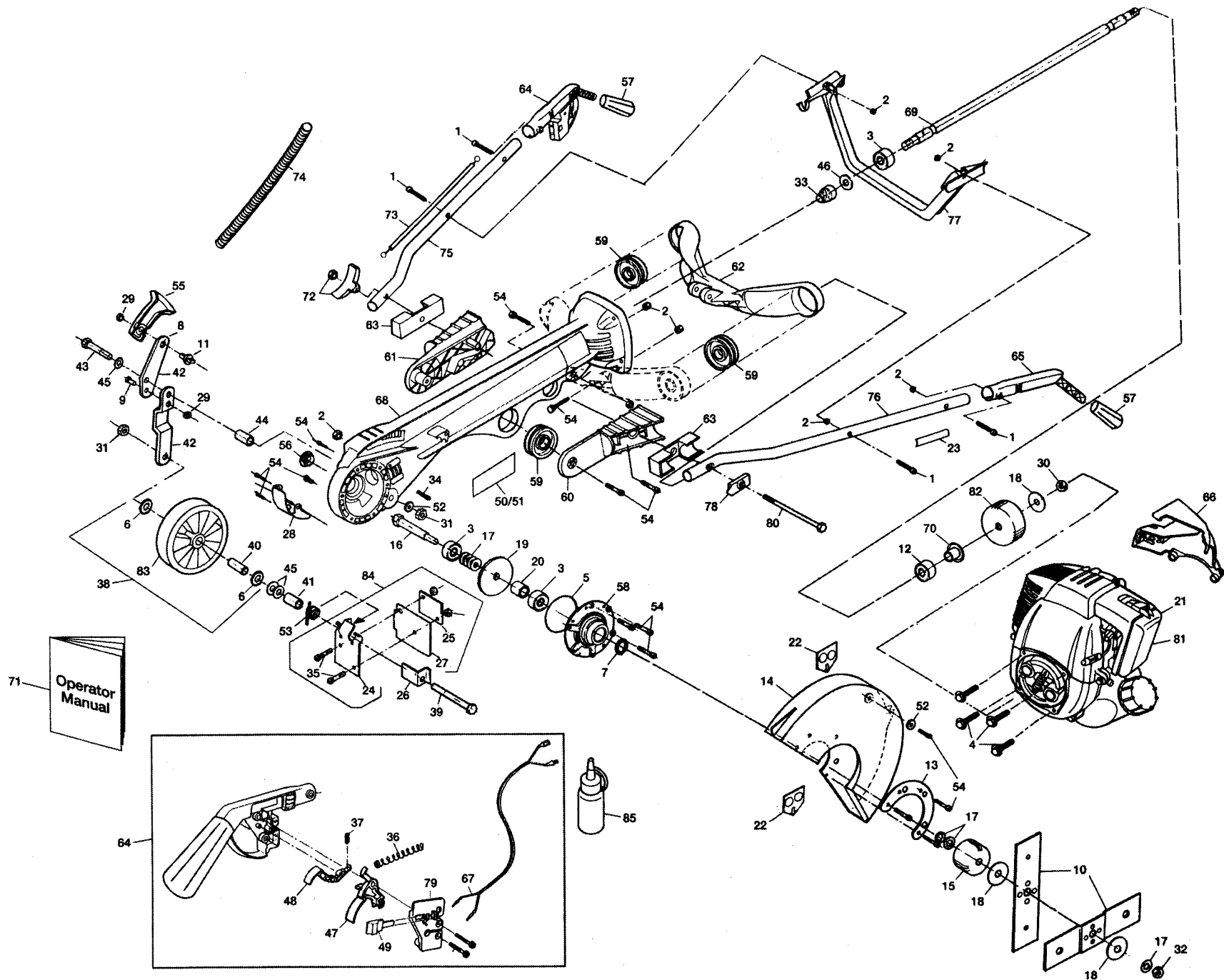
! NOTE

For Engine Troubleshooting see pages 18 and 19.

///ATOM MODEL 501 LAWN EDGER PARTS LIST

KEY #	PART #	DESCRIPTION
1	40650	Screw M5 x 36mm
2	40652	Nut Nyloc 5mm
3	40835	Ball Bearing 12x32x10
4	40838	Hex Screw 6mm x 19mm
5	40906	"O" Ring
6	42111	Seals nylon od27.2 x 12.60
7	42112	Felt Seal
8	43102	Adjusting arm spring
9	43104	Hex head set screw 5/16 X 5/8
10	43105	Cross blade set (formed & straight)
11	43106	Adjust arm bolt & pin
12	43108	Bearing with Seal 37x12x12
13	43109	Blade cover support
14	43110	Blade cover
15	43112	Blade drum
16	43114	Blade shaft drive
17	43115	Blade washer small
18	43116	Blade washer large
19	43122	Crown gear L/E
20	43125	Spacer 15.5mm
21	43124	Warning label hot motor
22	43128	Warning label blade cover
23	43133	Warning label handle
24	43136	Grass shield
25	43137	Grass shield cover
26	43138	Grass shield limiter
27	43139	Grass rubber flap
28	43155	Main body shield
29	43166	Nut nyloc 5/16"
30	43169	Flange nut 3/8 UNC
31	43172	Nut nyloc 3/8"
32	43173	Nut M12 x 1.75
33	43178	Pinion L.E.
34	43179	Bearing screw M5 x 39
35	43181	Screw M5 x 12MM
36	43198	Trigger comp. Spring
37	43199	Trigger Spring, Small
38	43204	Wheel complete(42111,43208)
39	43206	Wheel Axle bolt 3/8 x 4.1/2"
40	43208	Wheel axle tube 45mm
41	43209	Wheel shaft spacer 49mm Z/P
42	43210	Wheel support arm
43	43212	Wheel support axle bolt 3/8x2.1/4

KEY #	PART #	DESCRIPTION
44	43216	Height adj. Shaft spacer 35mm
45	43218	Washer 3/8 x 20mm
46	43229	Pinion washer 0.050
47	43288	Throttle trigger(hook)
48	43292	Throttle interlock
49	43294	Switch slide
50	43406	Label Professional
51	43412	Label Model no.501
52	43484	Washer 22.43 x 5.94
53	43719	Debris deflector spring
54	43790	Screw 5.5mm for plastic
55	43908	Height adjust
56	43910	Dust plug
57	43922	Handle grip
58	43941	Main body cover
59	43951	Round AV Rubber
60	43952	L.H. AV Mount
61	43953	R.H. AV Mount
62	43954	Main handle bracket
63	43955	Body AV Rubber
64	43959	Right handle (Honda)
65	43961	LH Handle
66	43964	Air deflector
67	43972	Switch wire
68	43975	Main Body 204/501
69	43978	Main Shaft Screwed ends
70	43980	Flange bush spacer
71	43987	Manual 501
72	44003	Handle knob w/nut(44006+44075)
73	44010	Throttle cable
74	44012	Corrugated loom
75	44060	Handle Tube RH
76	44061	Handle Tube LH
77	44062	Handle cross brace
78	44064	Handle bolt hex piece
79	44069	Handle housing small
80	44074	Handle bolt 1/4"x6" BSW
81	48000	Honda engine
82	50026	Clutch drum cup
83	50032	Wheel only
84	43135	Grass Flap Assembly
85	48100	Oil Bottle 100ml



///ATOM® MODEL 501 LAWN EDGER PARTS LIST

COMPLETE WORKSHOP MANUAL

! NOTE

This information is for persons with suitable servicing experience should this unit ever require workshop repair.

REMOVING AND REPLACING THROTTLE CABLE

1. Loosen 2 throttle trigger cover screws (A). Pull outer cable for-ward and lift inner cable and lug out of slot in cover (Figs 38 & 39).

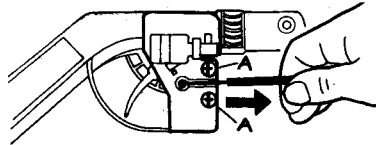


FIG 38

2. To replace throttle cable, reverse above procedure. Outer cable must be oushed fully in before screwing down cover screws (Fig 40)

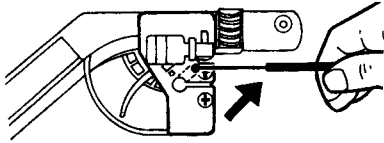


FIG 39

3. At engine end, unclip cable end ferrule from throttle cable holder (1) and pull cable through cable adjuster (2). To replace reverse procedure.

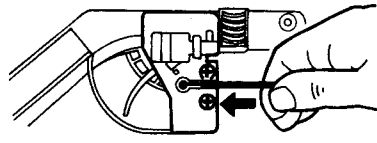


FIG 40

REMOVING AND REPLACING SWITCH WIRE

1. Remove throttle trigger cover by removing 2 screws (A) shown in Fig 38.

2. Cut or squeeze old terminals of old switch wire to extract same from slide and cover.

3. Fit bayonet terminals of new switch wire.

WARNING The right terminal pushed into the red switch slide **MUST** have it's "backside" facing left, towards the left terminal. The left terminal, when pushed into the black cover must lay on it's "back" (Fig 43).

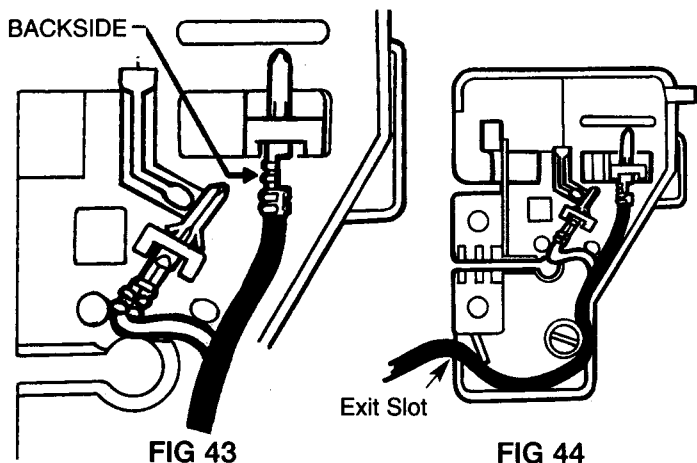


FIG 43

FIG 44

4. With right terminal wire above left terminal wire place twin wire around hollow post, allowing wire flexibility when slide is moved, and clip into exit slot as shown (Fig 44)

TO REPAIR THROTTLE TRIGGER ASSEMBLY

1. Remove 2 screws (A) as shown in Fig 38 and remove cover and all parts. Re-assemble as follows.

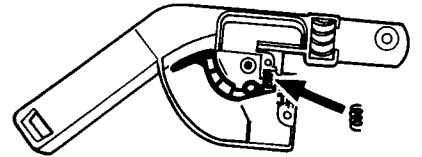


FIG 45

2. Fit throttle inter-lock and compression spring (Fig 45).

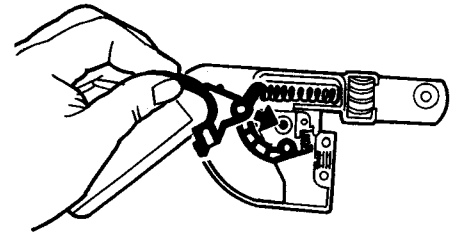


FIG 47

3. Fit throttle trigger with top hook #43288 and throttle trigger compression spring #43198, fit trigger then compression spring (Fig 47).

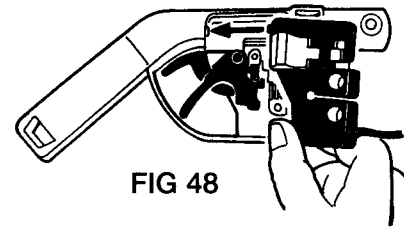


FIG 48

4. Hold trigger in place with finger until throttle cover #44069 is fitted (Fig 48). It is then ready for screwing tight (with 2 screws (A) as shown in Fig 38). Ensure throttle cover rear lug (arrowed Fig. 48) engages underside of handle wall.

TO REPLACE BLADE SHAFT

1. After removing blades (Refer Pg 10, Figs 25, 26 and 27) remove blade drum #43112, felt seal #42112 and spring bevel washers #43115. Inspect threaded end of shaft and file off any rough surfaces so shaft is round and smooth.

2. Hold unit as shown in Fig. 49 and tap shaft through using a 3/8 bolt or similar so that bolt replaces shaft and maintains alignment and contains washers, spacer and gear inside housing - DO NOT TURN HOUSING OVER.

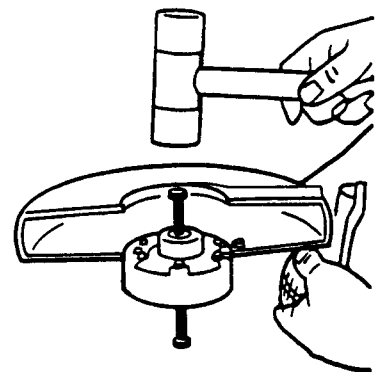


FIG 49

3. Carefully push new blade shaft #43114 up into bearing and tap through carefully so washers, crown gear and spacer remain in position and the 3/8 bolt is pushed out (Fig. 50).

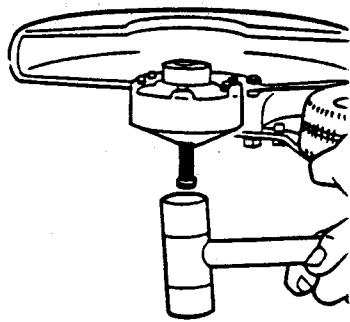


FIG 50

4. When blade shaft comes through, turn assembly over. Tap blade shaft so head of shaft is against bearing.

5. Re-assemble in reverse order all parts listed in 1. above. Refit blade (as per instructions on Pg 10, Figs 25, 26 and 27) and tighten up to 15-20 ft lbs (20-27Nm) or hand tight with 8" (200mm) or larger spanner. Head of blade shaft must pull up tight against bearing, otherwise blade will become loose during use.

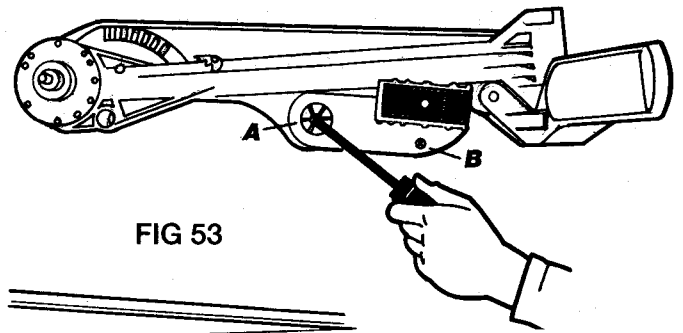


FIG 53

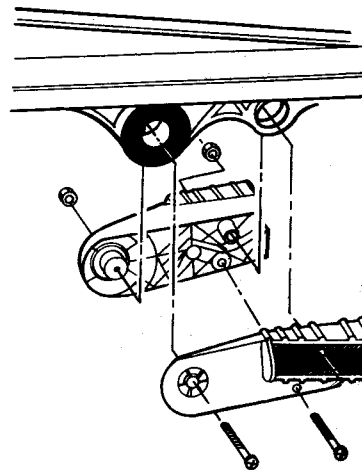


FIG 54

! NOTE If shaft is difficult to knock out, remove complete main body bearing cover housing (see p.22, Removing Gear Assembly Shaft).

TO REMOVE ENGINE

1. Remove throttle cable (Fig 40, page 16), unclip switch wire from motor.

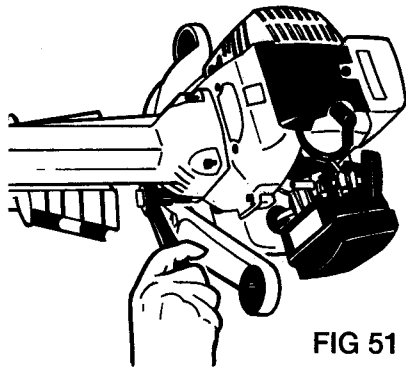


FIG 51

2. Unscrew with 8mm (5/16") socket spanner, 4 screws around clutch housing Fig 51.

TO REPLACE A.V. MOUNTS

1. Pull worn parts out and replace with new (Fig 52) on main handle mount.

2. To replace front A.V. mount rubber – Remove 2 screws A & B, split handle housing, replace rubber mount and reverse procedure to assemble Fig 54.

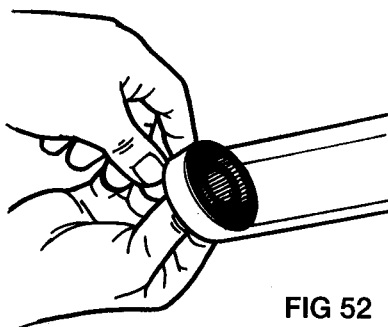


FIG 52

TO REMOVE CLUTCH DRUM

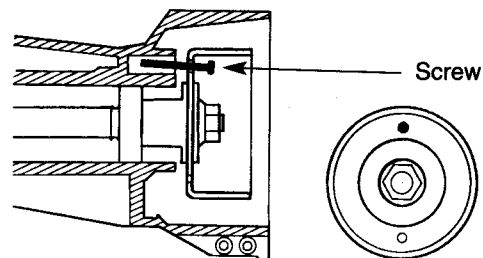


FIG 55

1. Slide long thin screw through hole in clutch drum and ribs in body casing. Unscrew flanged nut in anti-clockwise direction.

2. Replace clutch drum with new clutch drum kit if worn or out of round. Fit and retighten.

! NOTE Washer clearance under flange nut. If shaft end passes through this washer, flanged nut will not tighten clutch drum. See Fig 56 for correct installation. if end of shaft shoulder clearance does not allow clutch drum to tighten add another washer.

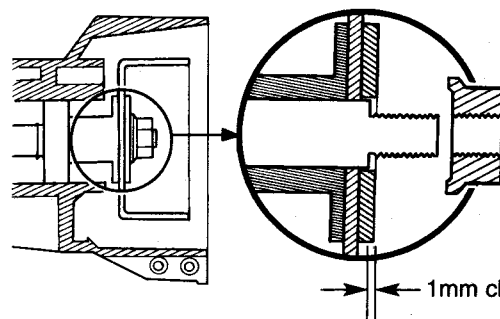


FIG 56

COMPLETE WORKSHOP MANUAL (CONTINUED)

TO REMOVE REAR ASSEMBLY AND MAIN DRIVE PINION SHAFT

1. Remove blade cover as shown in Fig 28, page 11.
2. Remove 6 screws holding main bearing housing (Fig 57) shown marked. Remove bearing holding screw A.

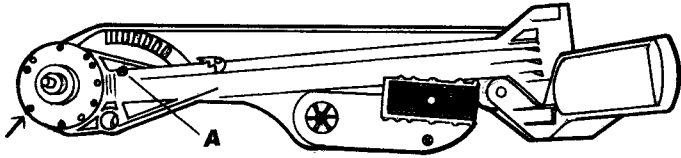


FIG 57

3. Turn edger over to remove dust cover (refer Fig 25, page 10).

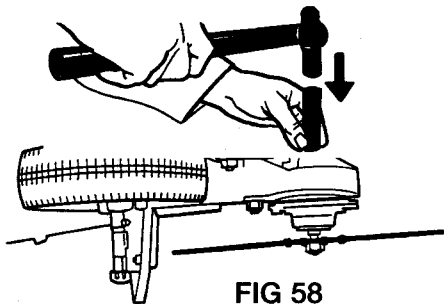


FIG 58

4. With a soft punch, tap hex end blade shaft as in Fig 58 until cover and gear assembly pops out of body housing.

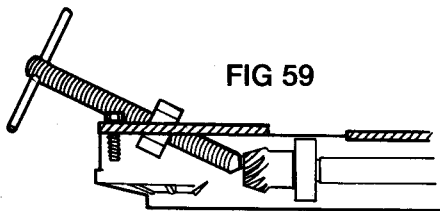


FIG 59

5. If service tool available, remove shaft after fixing to main casing with existing screws and screwing out.
6. If no service tool available, use a screwdriver to lever pinion back. Turn screwdriver on end to lever further. Fig 60-61.

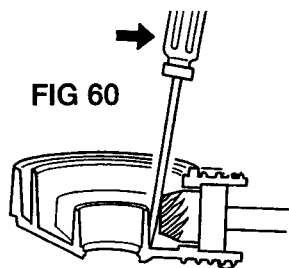


FIG 60

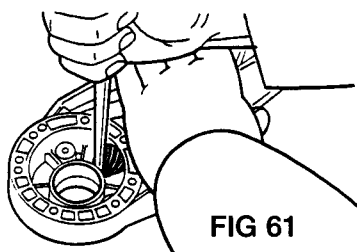


FIG 61

7. With a copper or brass punch (7/16" or 10mm in diameter) about 10" long, hold housing and tap pinion shaft out Fig 62.

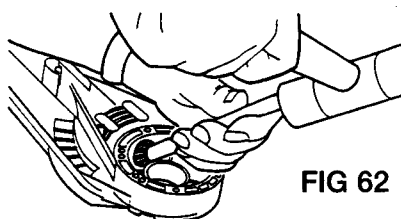


FIG 62

! NOTE DO NOT USE A STEEL DRIFT as a punch as you will damage the pinion teeth.

TO REMOVE PINION

1. Hold shaft in vice between two pieces of aluminum so as not to damage shaft.

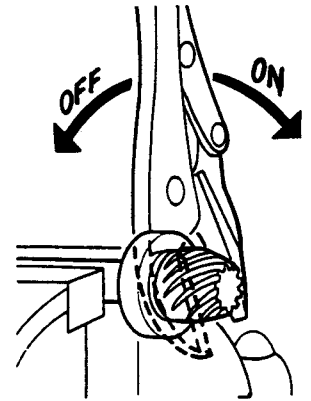


FIG 63

2. To remove pinion, grip shaft just behind bearing in jaws of vice (Fig. 63) and unscrew pinion counter (anti) clockwise (normal thread) with vice grips. If tight, heat to break loctite seal.

3. Fit new pinion with fresh loctite on thread, making sure it is tight up to spacer washer #43229, (Fig. 64) and washer does not move.

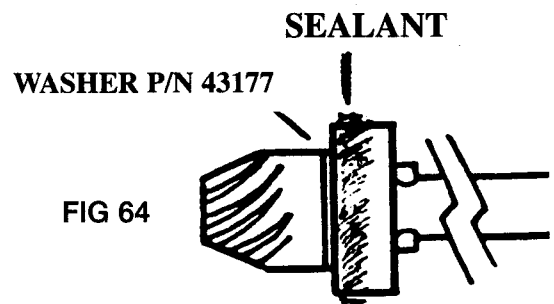


FIG 64

4. To remove clutch drum, grip shaft just behind bearing in aluminium vice jaws and impact off with 14mm (9/16") hex socket. See Page 21 for replacement of drum.

ASSEMBLING MAIN HOUSING

1. Clean and dry bearing. Place oil resistant gasket sealant (e.g. Fullerprene 303) around bearing as in Fig. 64.

2. Place and lock-up a 15mm diameter (approx.) brass drift vertically in a vice (Fig. 65).

3. Hold centre of clutch drum nut on top of drift and slide main body housing down over shaft (Fig. 65).

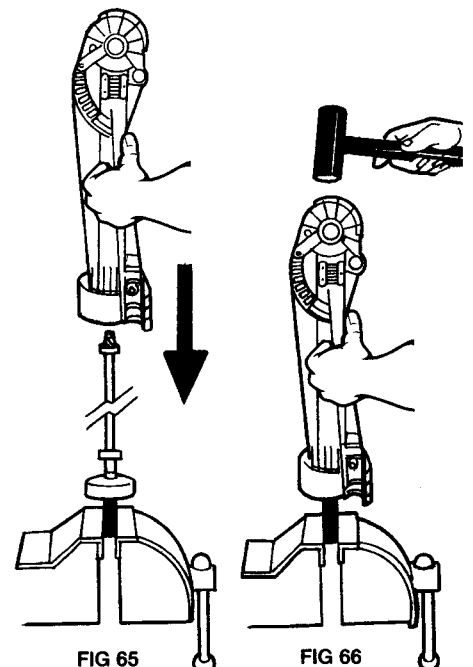


FIG 65

FIG 66

COMPLETE WORKSHOP MANUAL (CONTINUED)

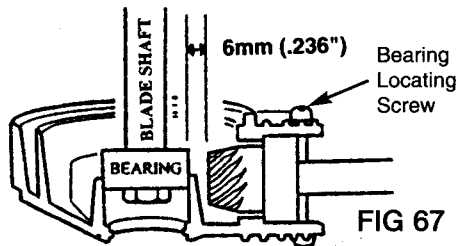
4. With a soft hammer, tap casing down until it bottoms on pinion bearing (Fig. 66).

5. Fit bearing location screw (See Fig. 59 marked A) and leave nut loose.

6. Using a screwdriver, lever pinion firmly back onto bearing locating screw and tighten nut (Fig. 60 & 61).

! NOTE Bearing must be forward to allow bearing locating screw to be fitted, then pinion and bearing forced back onto screw. If this is not done, pinion or crown gear could be tight. Correct distance is 6mm (.236") Fig. 67.

7. Replace crown gear if teeth are worn. See sequence of assembly (Fig. 68).



8. Check and renew O' ring #40906 if necessary. Fit assembly into housing. If bearing is loose in housing, smear loctite around bearing before assembling. Carefully drive down (making sure gears are meshing) by gently tapping around bearing area (Fig. 69) and turning clutch drum. Refit 6 screws around shaft.

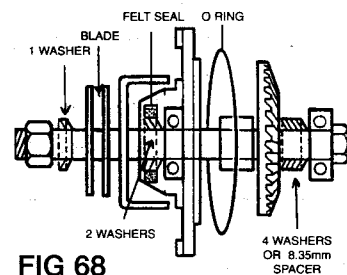


FIG 68

9. Fill or top up with gear lubricant. See Page 11 "LUBRICATION OF GEARS".

10. Fit blade (see page 10) and bearing cap and check rotation that gears are not binding. It should turn smoothly from clutch end. Backlash at end of blade about 2-4mm. Refit blade cover lid, engine, handles and test.

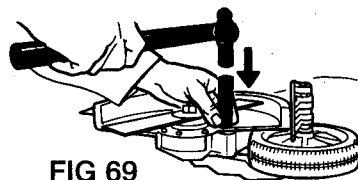


FIG 69

TO REPAIR CLUTCH

Replace these parts if the Clutch spring is broken, the Clutch fibre is worn or the Clutch bolt or shoe holes are worn.

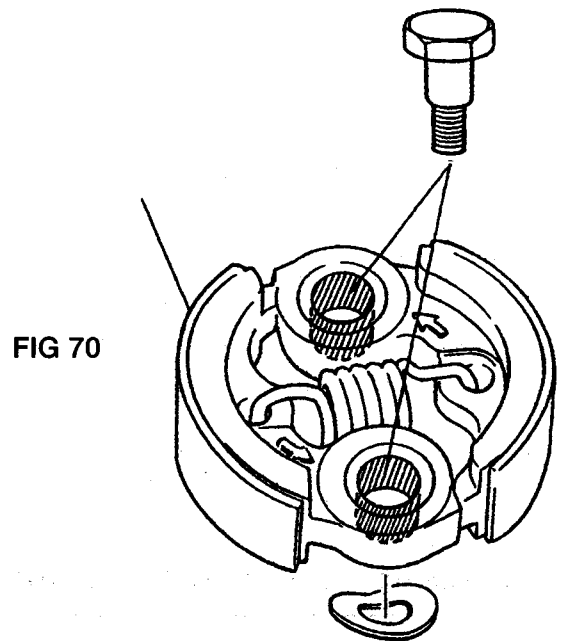


FIG 70

! NOTE Re-assemble with clutch shoe arrows pointing anti-clockwise in direction of rotation Fig 70.