

# /// **ATOM**®

**GOLD MEDAL AWARD WINNING**

## **Rotary Tiller / Cultivator**

- Operator / Owner Manual
- Gasoline Models
- Safety Precautions
- Assembly
- Operating Instructions
- Service

### **IMPORTANT MANUAL – DO NOT THROW AWAY**

Manual always to be available for reference or instructing new operators.



ACN 000 583 924

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

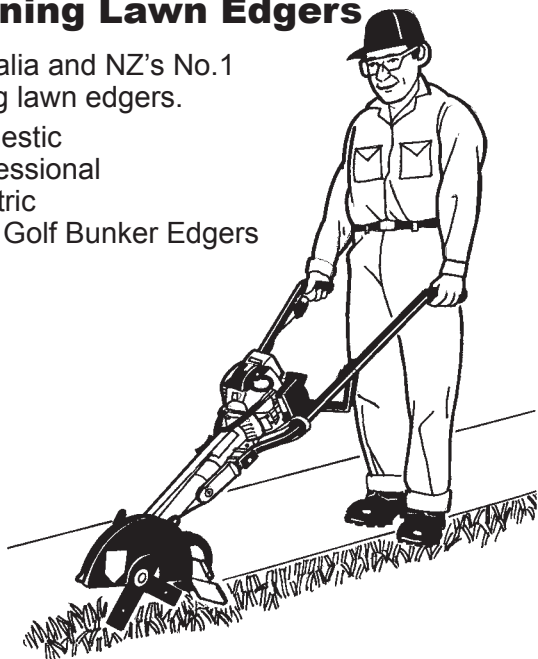
MAKE SURE THIS MANUAL IS READ AND CAREFULLY UNDERSTOOD  
BEFORE STARTING OR OPERATING THIS EQUIPMENT

## **Other Atom Quality Products**

### **///ATOM Gold Medal Award Winning Lawn Edgers**

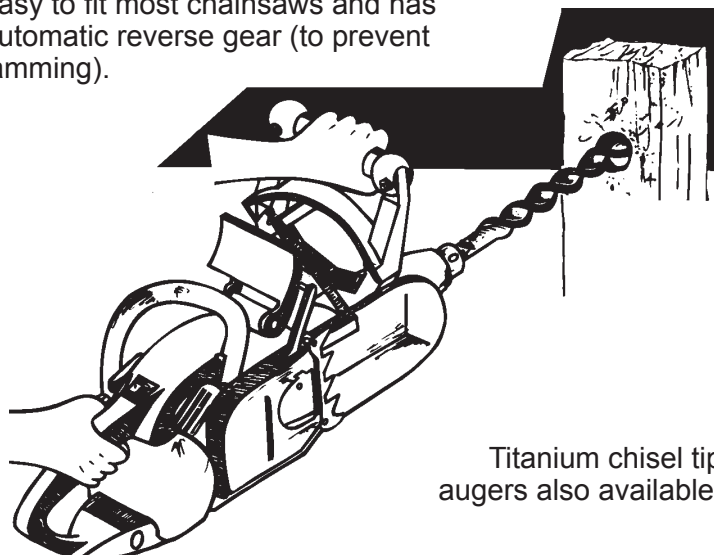
Australia and NZ's No.1  
selling lawn edgers.

- Domestic
- Professional
- Electric
- Also Golf Bunker Edgers



### **///ATOM Auger Stop Drill Attachments**

The award winning drill that is quick and  
easy to fit most chainsaws and has  
automatic reverse gear (to prevent  
jamming).



Titanium chisel tip  
augers also available.

## INTRODUCTION – GAS TILLER

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

Pay special attention to the safety precautions outlined on pages 3 to 4. Only persons who understand this Manual are to operate the Tiller.

To receive maximum performance and satisfaction from your Tiller, it is important that you read and understand the maintenance and safety precautions before using the unit. 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. Appearances may differ between models. This manual covers information required to operate, maintain and service our range of Garden Tillers as the principles of construction, use and service are similar.

## CONTENTS

Parts and Controls.....	2
Safety Precautions.....	3-4
Assembling the Tiller.....	5
Fuel Mix and Fuelling.....	5
Starting and Stopping Instructions.....	6
Using Your Tiller.....	6-7
Troubleshooting.....	8
Tines Maintenance, Removal & Tightening.....	8
Lubrication of Gears.....	9
Air and Fuel Filter Maintenance.....	9
Carburettor.....	9
Adjusting Idle Speed.....	9
Lubrication of Gears.....	9
Spark Plug.....	10
Remove Engine & Replace.....	10
Remove Wheel and Replace Arm.....	10
Repair Throttle Trigger.....	10
Remove and Replace Clutch Drum.....	10
Repair to Main Body.....	11
Tiller Parts Illustration.....	12
Tiller Parts List.....	13
Engine Parts.....	14
Engine Parts Illustration.....	14
Furrow Plow.....	15
Warranty.....	16

### SAFETY WARNING

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 TILLER 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 Tiller are held by both hands.
3. The throttle interlock which releases the **throttle trigger** which increases speed of engine for automatic safety clutch to engage and thus rotate tines.
4. **RUN/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. **Depth adjustment** for adjusting wheel to regulate tine depth.
8. **Tine cover** reduces the risk of flying debris and direct contact with the feet or hands.
9. **Handle to lift Tiller**.
10. **Tines** rotate when engine speed is increased above idle.
11. **Tine holdings nuts** RH (shown) & LH thread on each end of tine shaft.
12. **Wheel** for moving and guiding tiller.
13. **Cross Brace**, attaches downward on handle.
14. Left and right **Handle Tubes**.
15. **Fuel tank cap**, for sealing the fuel tank filler.
16. **Fuel Tank**.
17. **Filter housing** covers the air filter element.
18. **Muffler** reduces exhaust noises and drives gases away from operator.
19. **Spark Plug terminal cap** connects the spark plug to the ignition wire.

20. **Fuel pump primer** provides additional fuel for a cold start.
21. **Warning Label**.
22. Lift knob to remove cover.

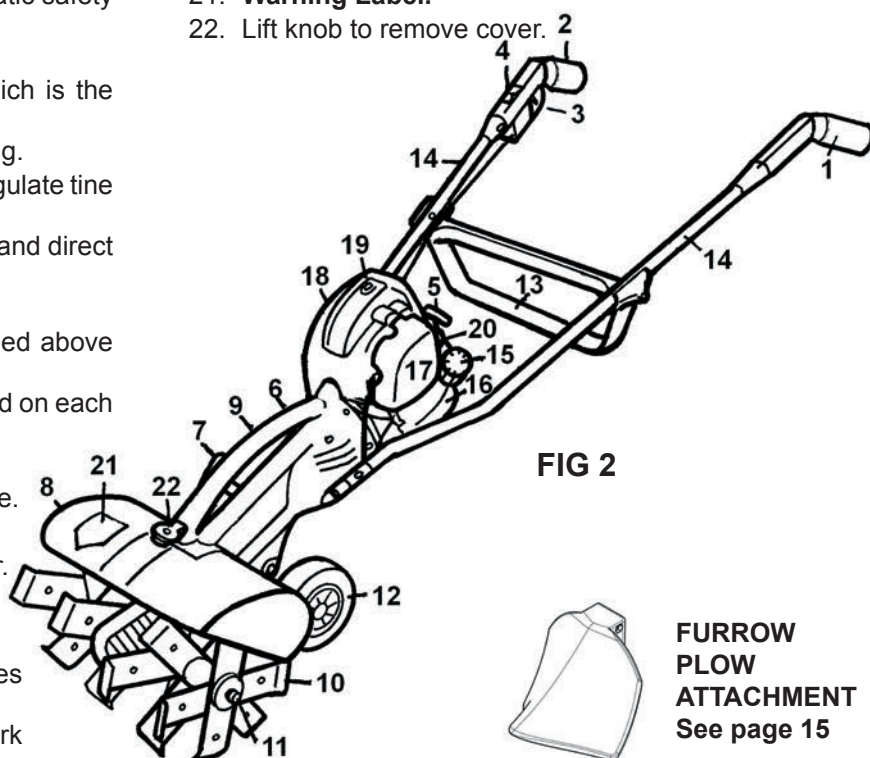


FIG 2

**FURROW  
PLOW  
ATTACHMENT**  
See page 15

# SAFETY PRECAUTIONS

## WARNING

As with any power tool, the use of any rotating tiller 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. Read and understand all labels attached to tiller.

## 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.

Safe use of an Atom Garden Tiller involves:

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

## 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 Tiller must not be operated by

minors. Bystanders, especially children and animals should not be allowed in this 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.

Do not operate the Tiller 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. Extensive hours of continuous use is not recommended.

## 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 Tiller 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 good brand of sunscreen cream is also recommended on exposed skin surfaces.

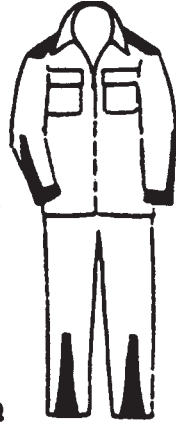


FIG 5

## WARNING

Proper eye protection is a must. The tine cover may not protect the operator

from all moving foreign objects, even though the discharge is directed away from the operator, as ricochets and bouncebacks may occur during cultivating operations. Never operate an Atom Tiller unless wearing goggles or properly fitting safety glasses with adequate front and side protection which comply with ANSI Z 87.1.

Replace immediately broken or cracked tine covers.

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. 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 Tiller and check for leakage. Always use a funnel to fill the tank.

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.



# SAFETY PRECAUTIONS (CONTINUED)

The Atom Tiller unit uses an oil-gasoline mixture for fuel (Refer "Fuel Mix and Fuelling") for the two stroke engine and unleaded gasoline only for the four stroke engine.

## 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.**

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



### WARNING

**The Atom Tiller 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. If approached, release throttle trigger to immediately de-accelerate the engine. Replace immediately any worn or broken blade cover.**

## 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 tines should not turn. Do not use the Atom Tiller with incorrect idle speed (refer to the speed setting instructions on page 9).

## 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 tines have stopped, before adjusting tine height, before doing any maintenance or repair work, or cleaning the unit or tines.**

Follow the maintenance instructions in the appropriate section of this manual. Any repairs should be carried out by a 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 tiller 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 Tiller 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 Tiller, always wrap your fingers tightly around each handle grip. Keep your hands in this position to have your machine under control at all times. NEVER attempt to operate the Atom Tiller 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, oil or grease. Use both hands, one on each handle, to operate and control the tiller. 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.**



### WARNING

**Do not lift tiller with engine running, always switch off.**

# ASSEMBLING THE //ATOM TILLER

**FIGURE 7A**

Insert 175mm(6 $\frac{1}{2}$ " ) bolt #2 thru the head retainer #3 (note arrow points forward) then thru handle tube #1 then thru AV Rubber #12 then thru Tiller body #4, thru AV Rubber #12 and handle #1.

Screw large wing nut #6 on protruding bolt and tighten.

Fit cross brace #7 to handles #1 & #5 with base down as illustrated. Use 2 screws #8 and lock nuts #9 provided in packet. Use straight bladed screwdriver (or torx 25 screwdriver) screw on firmly.

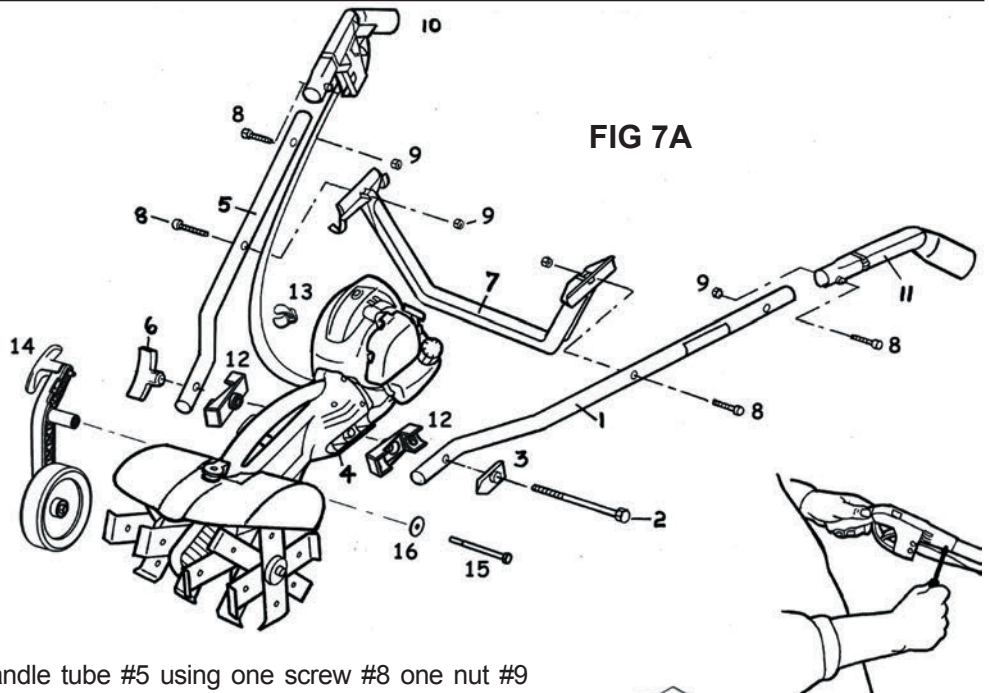
**NOTE:** Throttle cable and switch wire from engine must be fitted under engine and Tiller body and along side cross brace. Clip into place, back to throttle trigger.

Insert Trigger Handle #10 onto right handle tube #5 using one screw #8 one nut #9 Fig. 7B. Clip cable into place.

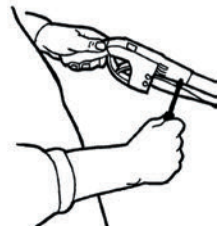
Insert left handle #11 into left handle tube using screw #8 and nut #9 screw on firmly.

Clip on cable clamp with throttle cable and switch wire as shown #13 Fig. 7A.

Attach wheel arm axle #14 through large hole in Tiller body. Use bolt #15 and washer #16 and screw into wheel arm axle and tighten.



**FIG 7A**



**FIG 7B**



**FURROW FLOW ATTACHMENT**  
Refer p.15.

## PLEASE READ SAFE FUELLING INSTRUCTIONS – Page 3

### FUEL MIX – 2 STROKE ENGINES

#### USE AN OIL AND GASOLINE MIXTURE

#### IMPORTANT

Two-cycle fuel separates and ages. Do not mix more than you will use in a month. Using old fuel can cause difficult starting or engine damage. Shake fuel container to thoroughly mix fuel before each use. Do not attempt to run your engine on gasoline only; this will cause engine failure and void engine warranty.

Do not use outboard engine motor oil. Only use specialised 2-stroke oils from lawn and garden equipment shops.

#### Remember ...

- Always mix two-cycle oil with gasoline before fueling your tiller. Never, ever run your tiller on gasoline alone. This will ruin your engine and void all warranties.
- Always use a clean gas can and always use unleaded gas.
- Never try to mix the oil and gasoline in the engine fuel tank.
- Always mix oil and gas in the proper proportions: 125ml of two-cycle engine oil to 4 litres of unleaded gasoline Fig. 9A.



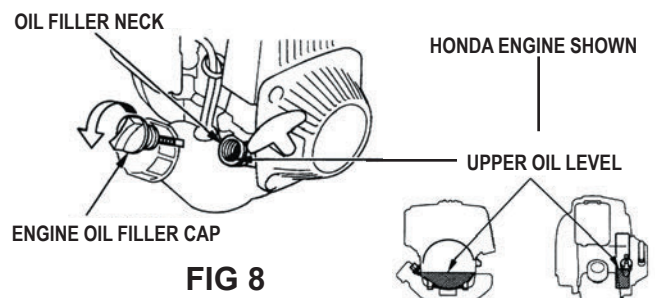
**FIG 9A**

### FUEL & OIL – 4 STROKE ENGINES

#### DO NOT USE OIL AND GASOLINE MIX ON 4 STROKE ENGINES

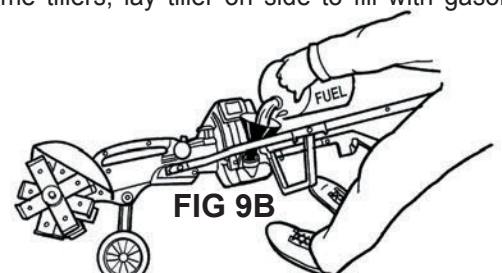
1. Use clean, fresh unleaded gasoline.
2. Use clean engine manufacturers recommended oil (see separate booklet supplied with 4 stroke engine supplied) or SAE 10-30W synthetic oil. Fill crankcase to correct level.

**WARNING** using non synthetic oil or 2 stroke oil will shorten engine life.



**FIG 8**

3. **ALWAYS** check your oil every second or third fill. Regular check of oil levels is essential. Change oil after first hour then every 6 hours. Lack of oil and infrequent change of oil will destroy engine.
4. With some tillers, lay tiller on side to fill with gasoline Fig.9B.



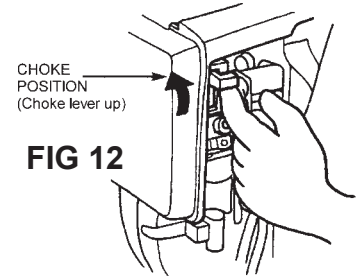
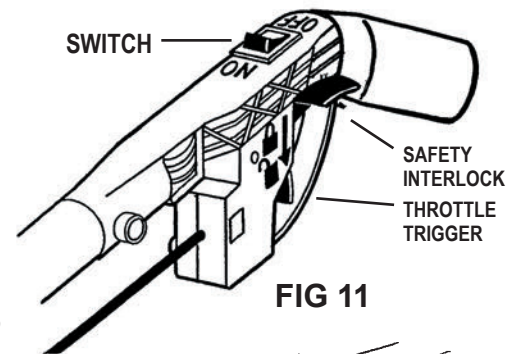
**FIG 9B**

# STARTING & STOPPING INSTRUCTIONS

Place Tiller on ground in horizontal position See Fig. 14 below.

## COLD START

1. Switch engine on (Fig 11).
2. Slide choke lever up to full choke position (Fig. 12).
3. Press and release the primer bulb 5-8 times (Fig. 13).
4. Make sure you have a firm footing. Hold down motor with left hand. Put one foot lightly on cross brace. With right hand pull the starter grip slowly until you feel it engage – and then give it a pull (Fig. 14).
5. When engine starts to run allow it to run on half choke for a few seconds to warm up, then push choke down to engine run position.
6. Throttle Trigger (engine accelerator control is operated by pushing down interlock with thumb and pulling on trigger (Fig. 11).

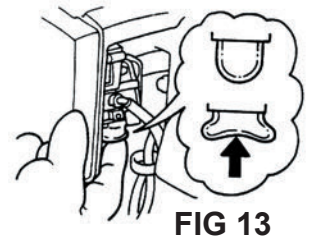
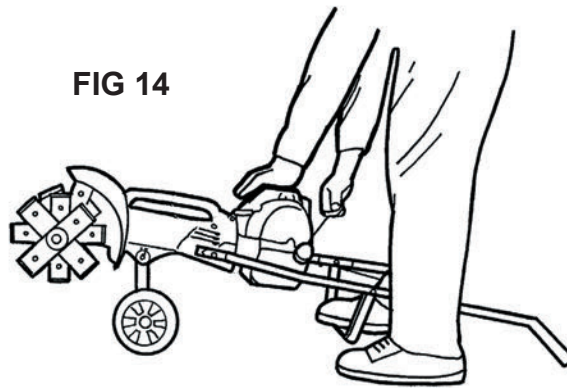


## HOT OR WARM START

7. Switch ignition on and follow instruction 3 & 4.

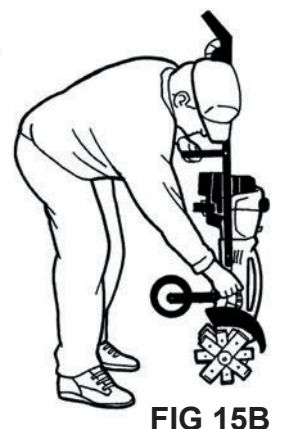
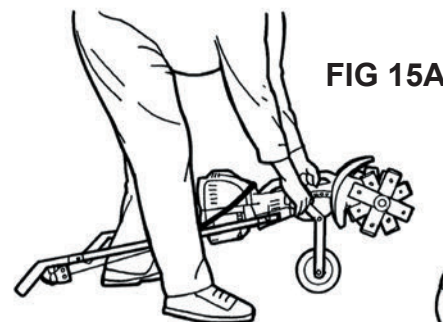
## FLOODED ENGINE

8. Ignition ON, choke lever in run position.
9. Pull starter rope up to 10 times to clear excess fuel.
10. If engine has excessive fuel that cannot be cleared, 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 terminal, and restart as above. Otherwise allow to stand for 30 minutes before restarting.



# COMBINATION CULTIVATING, TILLING, ROTARY HOEING

1. The Atom Tiller is very easy and simple to use. It only takes a few minutes to become an efficient user.
2. Thoroughly inspect the area where the tiller is to be used and remove all long grass, stones, sticks, wires and other foreign objects.
3. Adjust tine depth (Fig. 15(a)(b)). Try the third hole closest to operator.
4. Start motor.
5. With both arms fully extended downwards, (Fig. 15C), hold both handle grips firmly. With the engine running, pull the throttle trigger full on after depressing safety interlock. Engine must run at three quarter to full speed for best tilling results.
6. As tilling action begins, the tines dig and move the tiller forward.
7. **NOTE:** to reduce "Forward Pull" of tiller, adjust wheel arm for shallow depth.
8. Continue at a moderate pace until you are familiar with the controls and handling of the Atom Tiller.  
**NOTE:** after allowing the tiller to cultivate 500mm you can pull it back towards you and then allow the unit to move forward again. You can repeat this procedure over the area you are cultivating. Always have a firm footing.
9. Mulching. The tiller is ideal to mix, cut lawn clippings, leaves etc into your garden bed. This method accelerates mulching/composting process.
10. To go deeper adjust wheel arm adjustment forward or lift handles. To go shallower adjust wheel arm adjustment rearwards or push handles down.





# COMBINATION CULTIVATING, TILING, ROTARY HOEING (CONTINUED)

## **! WARNING**

Operate unit carefully. Be very careful walking backwards as you may trip, fall and injure yourself. Always have a firm footing.

## **! WARNING**

The tines will rotate when engine is idling fast, e.g. on starting or when engine is cold. TO STOP ENGINE press "STOP" down on switch.

## **! NOTE**

When cultivating efficiently, engine speed should be three quarters to full throttle under load. Operating at low engine speed will shorten clutch life.

If tines jam or stop (tines no longer rotates) **switch motor off and remove spark plug lead**. Place machine upright with handles on ground (Fig.16). Remove obstruction.

## **! WARNING**

Failure to switch off motor to clean tines could lead to very serious injury of hands. Always wear gloves to clean.

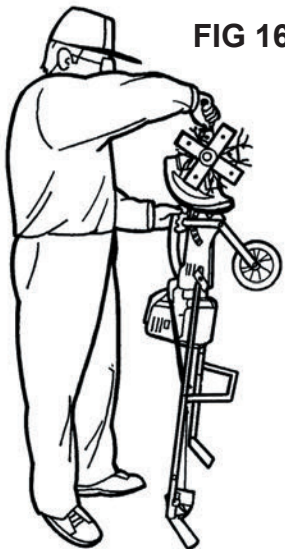


FIG 16

**Clutch:** The Atom Tiller is equipped with a centrifugal clutch.

**DO NOT** run tiller at low speeds (or, if jammed, at high engine speeds) as clutch shoes will prematurely wear and cause damage, Fig 17.

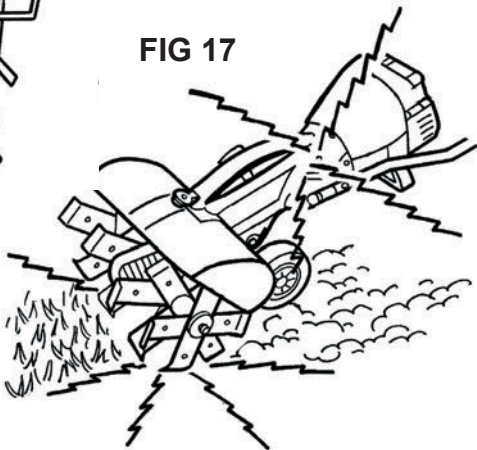


FIG 17

## **! NOTE**

Keep inside of tiller guard clean, especially in wet conditions. A clogged guard can slow down or stop tine rotation and may cause damage to automatic safety clutch.

Clean tines of grass, rocks and sticks, always using gloves as the tines are self sharpening and are very sharp. You could cut yourself. Remove tine cover as follows. Lift knob Fig. 18A and slide cover forward Fig 18B. If jammed cover can be tapped off with a soft hammer.

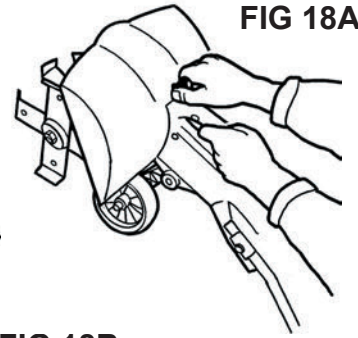


FIG 18A

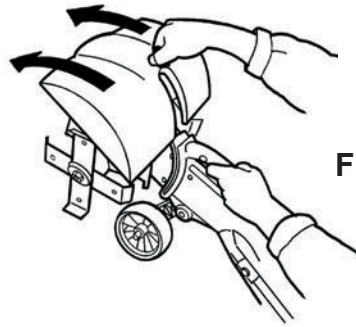


FIG 18B

**Leveling uneven ground:** The tiller if used carefully can level uneven ground for a good garden bed. Use your arms to work the tiller forwards and backwards on high points.

After leveling pre-work all surfaces to prepare the new flat bed. Use a rake to smooth out and tidy up.

The cultivator can be transported by pushing it on it's wheel.

**Very hard ground, clay or rocky conditions:** The Atom rotary tiller is NOT DESIGNED for very hard ground, hard or rocky conditions. These kinds of soil will not make a good garden bed.

## **! WARNING**

**TO AVOID PERSONAL INJURY, NEVER CARRY THE TILLER WHILE THE ENGINE IS RUNNING.**

Stop the engine prior to lifting or carrying Fig.20.



FIG 19

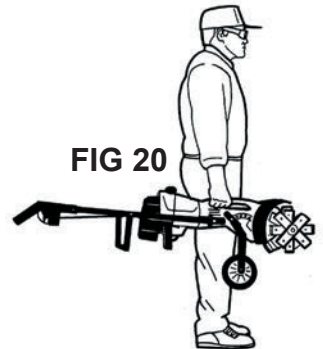


FIG 20

The Tiller can be easily moved as shown above.

## **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.

## **! WARNING**

**TO AVOID PERSONAL INJURY, NEVER CARRY THE TILLER WHILE THE ENGINE IS RUNNING.**

**Stay clear of the rotating tines. Stop the engine prior to making adjustments and cleaning.**

# MAINTENANCE INSTRUCTIONS

## TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Engine will not run or runs and stops.	<ol style="list-style-type: none"> <li>1. Ignition switch is OFF.</li> <li>2. Choke ON.</li> <li>3. Partially empty fuel tank.</li> <li>4. Primer bulb not pushed enough times.</li> <li>5. Engine is flooded.</li> <li>6. Dirty or blocked fuel or air filter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ignition switch to be in run position.</li> <li>2. Push choke off (down).</li> <li>3. Fill tank.</li> <li>4. Press primer bulb fully and slowly 5/10 times.</li> <li>5. Use correct start procedure.</li> <li>6. Clean or replace fuel or air filter.</li> </ol>
Cutting tines do not turn when operating.	<ol style="list-style-type: none"> <li>1. Tine and cover filled with dirt/ grass, sticks, rocks.</li> <li>2. Clutch slipping.</li> <li>3. Loose tine nut.</li> <li>4. Choke partly on.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean.</li> <li>2. Less depth. Check tines are rotating.</li> <li>3. Tighten tine nuts both sides.</li> <li>4. Slide choke off.</li> </ol>
Gear case leaking	<ol style="list-style-type: none"> <li>1. Loose screws.</li> <li>2. Broken O-ring.</li> <li>3. Grease too thin or oil used.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten.</li> <li>2. Replace O ring</li> <li>3. Refill with correct grade grease.</li> </ol>
Noisy gears	<ol style="list-style-type: none"> <li>1. No lubricant in gearcase.</li> <li>2. Loose tine nuts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refill.</li> <li>2. Reassemble parts correctly.</li> </ol>

## LOOSE TINES

Check that all tines are in correct position and are tight together, no gaps or foreign material between them. Tighten nut clockwise on LH side of unit Fig 21B and anti clockwise on RH side Fig 21A as shown on top of tine cover.

### ! NOTE

Tines are self tightening, excessive tension is not required.

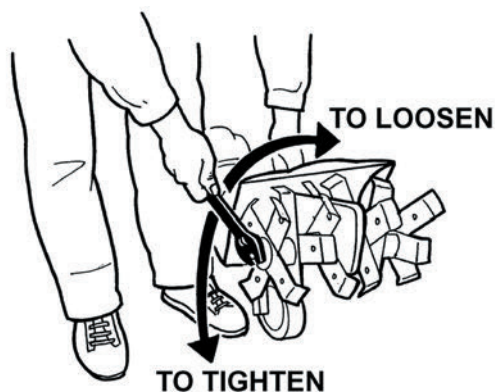


FIG 21A

RIGHT HAND SIDE  
(Standing behind tine cover)

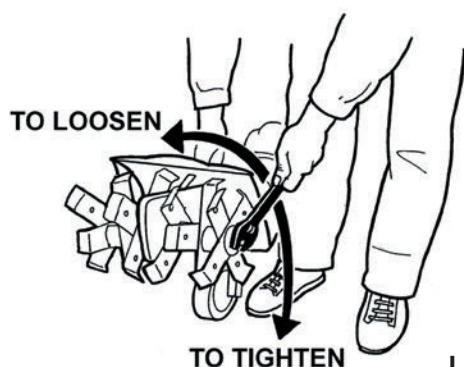


FIG 21B

LEFT HAND SIDE  
(Standing behind tine cover)

## TO REMOVE TINES

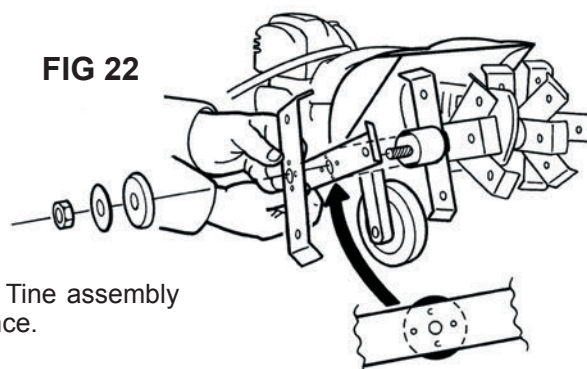
Undo nuts at end of blade shaft as shown. Remove all components. Check shaft for any dents etc. and smooth off with an abrasive paper.



### WARNING

USE ONLY ATOM PATENTED TILLER TINES. Other tines are not designed for this unit. Other tines can also break and cause injury.

FIG 22



### ! NOTE

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

**WARNING:** When using air tools remove nut but do not overtighten when refitting.

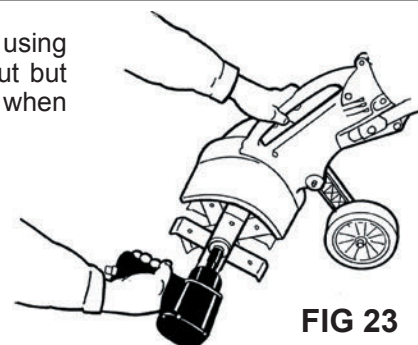


FIG 23



# MAINTENANCE INSTRUCTIONS (CONTINUED)

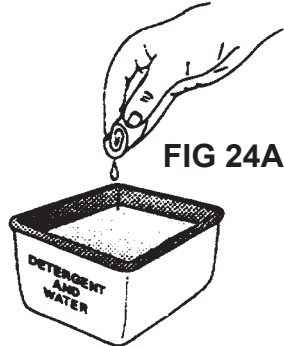
## AIR FILTER MAINTENANCE

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.

### ! NOTE

**CLEAN AND RE-OIL THE AIR FILTER EVERY 5 HOURS OF USE.**

1. If filter torn or very dirty replace.
2. Wash the filter in detergent and water (Fig 24A). Rinse the filter thoroughly and allow it to dry.
3. Apply enough clean engine oil to saturate the filter when squeezed. Squeeze the filter to spread the oil and to remove excess oil.



### ! NOTE

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

## FUEL FILTER MAINTENANCE

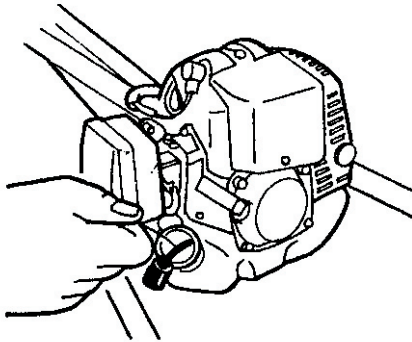


FIG 24B

A dirty or blocked fuel filter will stop fuel flow. To clear, use a piece of hooked wire to "fish" filter out of tank. Clear with compressed air or replace filter.

## 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 and fuel filter is important to the operation of the tiller. A dirty air filter will restrict the air flow, which upsets the fuel-air filter mixture in the carburettor and a dirty fuel filter will restrict flow of fuel resulting in symptoms indicating that carburettor may need cleaning. Therefore, check the condition of the air filter and fuel filter before adjusting 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, fuel filter and muffler then the carburettor should be dismantled and cleaned. Refer to parts breakdown page 14.

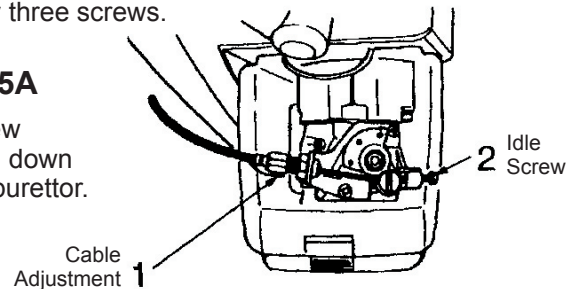
## ADJUSTING IDLE SPEED

1. The idling screw adjustment is accessible without removing the air filter cover. See Fig 25A. To increase engine idle speed, turn IDLE SCREW (2) clockwise. To decrease engine speed, turn IDLE SCREW counter clockwise (anti-clockwise). Throttle trigger to be in idle position.

**NOTE:** If the motor has been removed. On refitting it is to be pushed fully into the tiller casing and three screws "A" Fig28(p.10) are screwed up tight. Misalignment due to incorrect fitting can cause clutch to engage at idle. To correct, loosen screws re-straighten motor and re-screw up equally three screws.

FIG 25A

Top view looking down on carburettor.



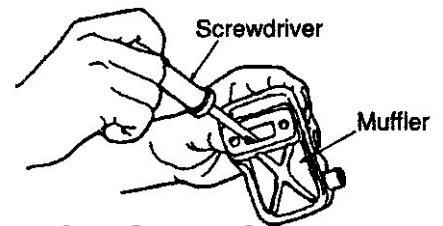
### ! NOTE

**Tiller tines NOT to rotate when engine is idling.**

## CLEANING THE MUFFLER

After a long period of use the exhaust can block and must be cleaned. Remove engine cover and muffler and clean out all passages, Fig 25B. Blow loose material out of muffler. Ensure no grit enters cylinder exhaust opening.

FIG 25B

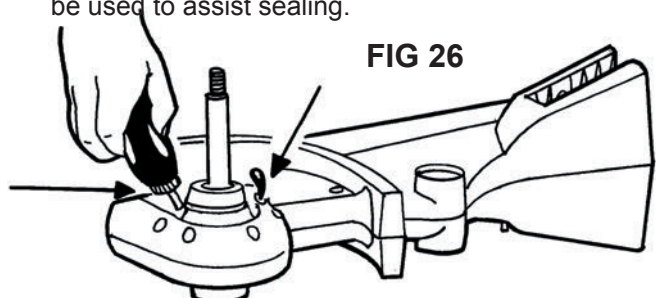


## LUBRICATION OF GEARS

There is usually sufficient lubricant to last at least 4 years or 100 hours of use before topping it up. The lubricant in the gear case should be added according to use. Remove tines on left side (only) and clean casing around fill and bleed screws. Remove two screws marked FILL and BLEED. Inject grease into FILL screw hole and allow lubricant to eject from BLEED hole indicating gear box is full (Fig 26). Refit and tighten BLEED screw and squeeze in 3 or 4 more lots of lubricant. Refit FILL screw and tighten.

**NOTE:** Special blended lubricants are used in the gear box. Only use Penrite brand semi fluid tiller grease, available in squeeze bottles P/N # 63220. Other grease or oils could lead to early gear failure or overheating of gears and casing. If gear case shows leakage, tighten all screws or dismantle and replace 'O' ring see page 11. A gasket sealant can also be used to assist sealing.

FIG 26



# WORKSHOP MANUAL

## ! NOTE

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

### CHECKING THE SPARK PLUG

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

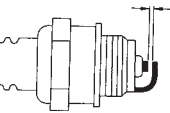
- Allow engine to cool down. Remove spark plug.
- Clean dirty spark plug or replace with new spark plug.
- Check electrode gap (see Fig 27).
- Rectify faults which have caused fouling of spark plug. Possible faults include:
  - Too much oil or wrong type of oil in fuel tank in two stroke engine.
  - Dirty air filter or fuel filter.
  - Unfavourable running conditions (e.g. operating at part load).
  - Wrong oil infrequent changes or oil usage in four stroke engine.

**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 50 operating hours or earlier if electrodes are badly eroded.

Recommended spark plug is a NGK 8PMR7A, or equivalent. Specified electrode gap is: .20", 15mm.

FIG 27



## ! 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.

### TO REMOVE ENGINE

1. Preferably use a No.25 torx Screwdriver, loosen and remove 3 screws (A) located as shown fig. 28.
2. Pull engine away from body (Fig 28). It is **NOT** necessary to remove handles.

### TO REPAIR THROTTLE TRIGGER ASSEMBLY

1. Remove 2 screws and remove cover and all parts. Re-assemble as follows.
2. Fit throttle inter-lock compression spring (Fig 30).
3. Fit throttle then compression spring, then switch and throttle cable (Fig 31/32). Note forward position of throttle spring fits over retainer post.
4. Hold trigger in place with finger until throttle cover is fitted (Fig 33). It is then ready for screwing tight (with 2 screws. Ensure throttle cover rear tabs (arrowed Fig 33) engages underside of handle wall.

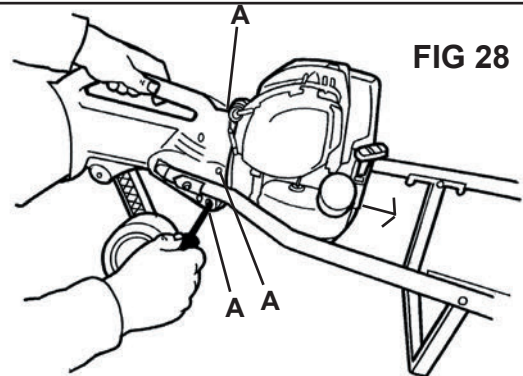


FIG 28

### TO REMOVE AND REPLACE CLUTCH DRUM

Remove motor, hold unit and spin off clutch nut anti clockwise with impact driver. Replace parts as required. Reverse procedure to re-install.

### TO REMOVE WHEEL ARM

Undo 1/4 hex bolt and pull wheel arm thru casing.

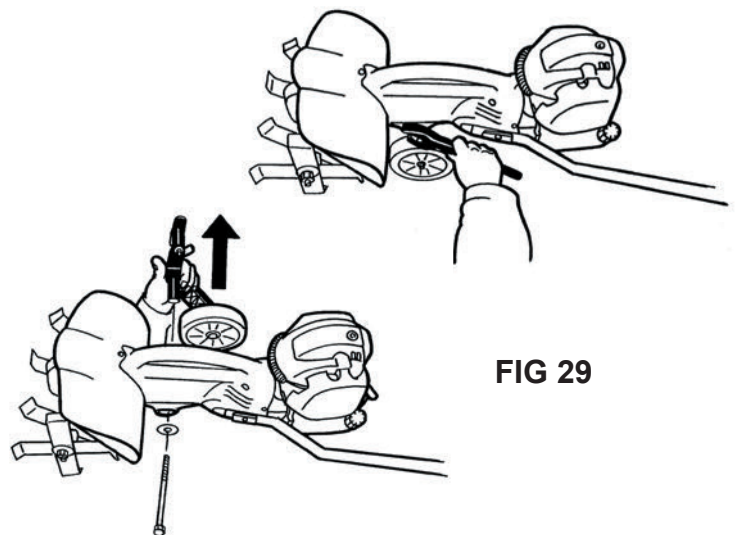


FIG 29

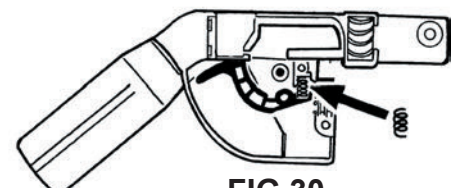


FIG 30

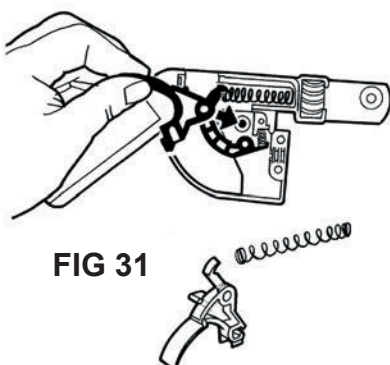


FIG 31

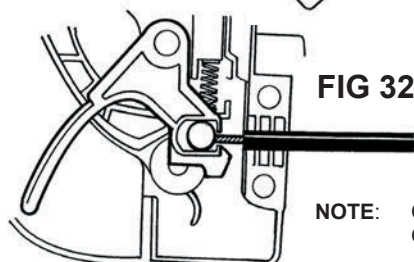


FIG 32B



FIG 32A

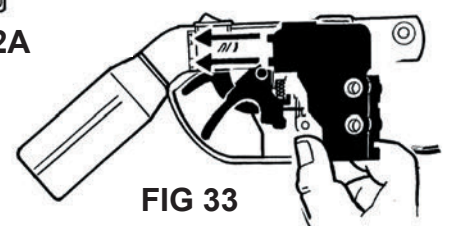


FIG 33

NOTE: CORRECT POSITION OF THROTTLE CABLE.

# WORKSHOP MANUAL (CONTINUED)

## DISMANTLING & RE-ASSEMBLING MAIN BODY

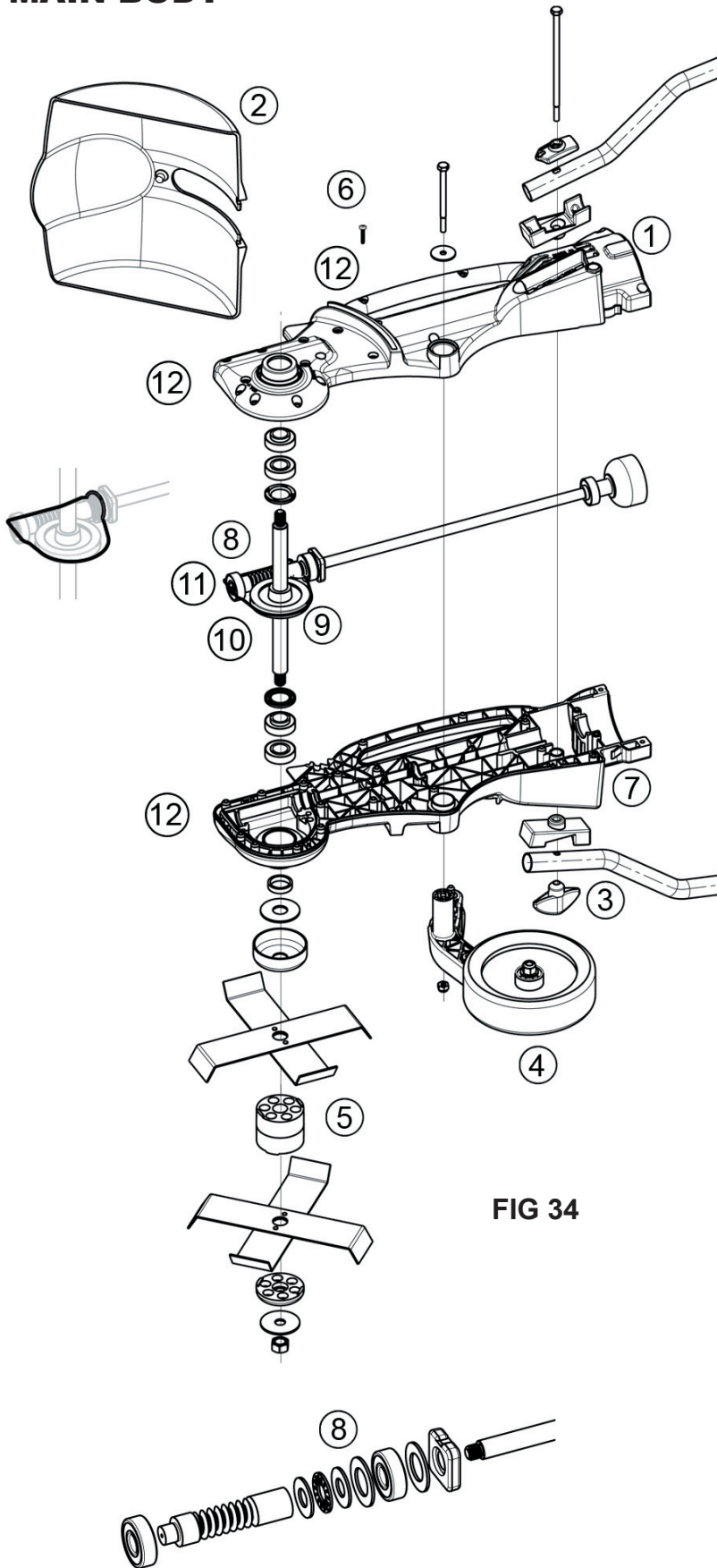


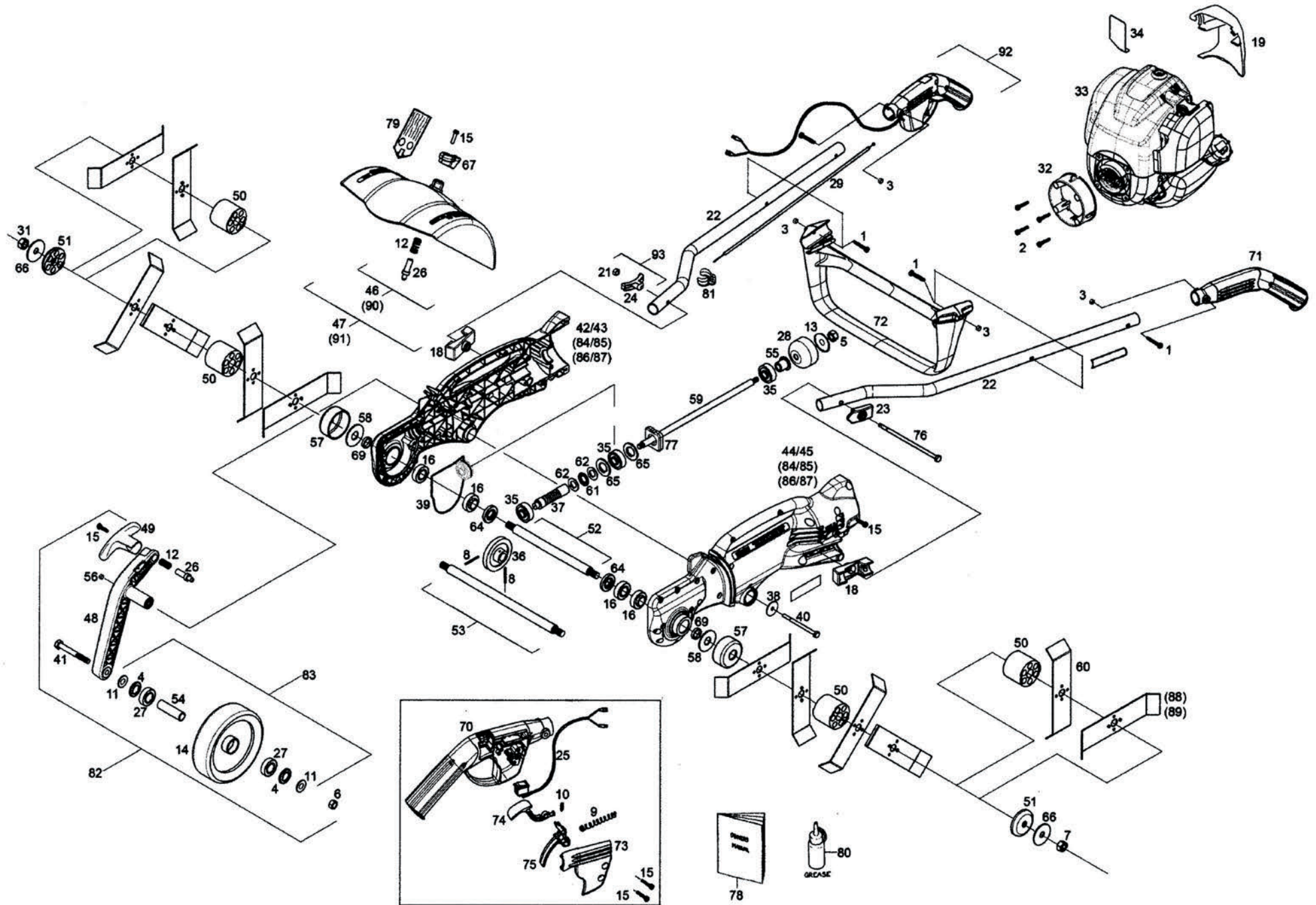
FIG 34

1. Remove engine (Fig 28).
2. Remove tine cover (Fig 18A/B).
3. Undo handle nut and remove handles Fig. 7.
4. Remove wheel arm bolt and wheel arm Fig. 29.
5. Remove tines both sides Fig. 21/22, clean shaft and remove all scratches, smooth with emery paper.
6. Remove all screws seen on LH case.
7. Carefully separate both casings. Tap end of shaft with copper or soft hammer to split casing. Slide casing off.
8. Thoroughly clean and inspect gears and drive pin bearings, seals. Replace any worn parts.
9. Renew sealing ring seal if necessary.  
Fit sealing ring around bearing as illustrated.
10. Slide tine shaft with gear partly thru bearing of right hand casing.  
  
NOTE: Pour Penrite semi fluid grease P/N 63220 and fill up casing 3/4 full.
11. Carefully fit sealing ring in place. Pre rolling the sealing ring will allow it to wrap around the sealing lip at the casing.  
  
A silicone gasket sealant will assist in sealing any worn casings and around the thrust block.
12. Slide casing over shaft and press down onto lower case.
13. Start screwing from position centre of gear case then evenly on each side. Turn clutch drum frequently to ensure gears turn.
14. To complete assembly of unit reverse above procedure (1) to (5). Replace tines if required.

## RECOMMENDATIONS

Factory built service assemblies (see Page 13) are a quality and cost effective method of repair.





## IATOM ROTARY TILLER

# IIIATOM Industries

## Parts List Gasoline Tillers Models Tiller Komatsu 26cc & Tiller Honda 25cc

KEY #	PART #	DESCRIPTION
1	40650	SCREW M5 x 36MM
2	40651	SCREW M6 x 16MM
3	40652	NYLOC NUT 5MM
4	42111	27.2 X 12.6 WHEEL SEAL
5	43169	FLANGE NUT 3/8 UNC
6	43172	NUT NYLOC 3/8 UNC
7	43173	M12 X 1.75RH NUT
8	43184	SPRING PIN 3/16 X 1.1/4
9	43198	TRIGGER COMP. SPRING
10	43199	SPRING, SMALL
11	43218	3/8 FLAT WASHER
12	43452	HT. ADJ ARM COMP SPRING
13	43485	CLUTCH WASHER 12.06 X 22 X 12
14	43765	WHEEL ONLY
15	43790	5.5MM SCREW FOR PLASTIC
16	43868	BEARING 6003-2HR 4MM SHOULDER
17	43935	CABLE ADJUSTER PIN *
18	43955	CASING AV RUBBER
19	43966	HONDA AIR DEFLECTOR(GX25)
20	44005	BRASS TERMINAL 6.3MM
21	44006	NUT 1/4 BSW
22	44060	UNIVERSAL HANDLE TUBE
23	44064B	HANDLE BOLT HEX PIECE
24	44075B	HANDLE KNOB
25	44168	SWITCH WIRE & SWITCH 1035MM
26	44302	HEIGHT ADJ ARM PIN
27	44305	WHEEL BRG 28X8X12.8MM
28	44318	CLUTCH DRUM CUP 54MM
29	44427	THROTTLE CABLE 945MM
30	44690	NUT M6 *
31	45112	NUT M12 X 1.75 LH
32	47009	ENGINE MOUNT GX25 KZ26
33	48004	HONDA GX-25 ENGINE
34	48016	EXHAUST GAS DEFLECTOR
35	50098	BEARING 32 X 10 X 12
36	62777	CROWN GEAR TILLER
37	62778	WORM GEAR TILLER

KEY #	PART #	DESCRIPTION
38	62795	WASHER 6.6 X 28.4 X 1/4
39	62833	GEAR SEAL TILLER
40	62843	HEX BOLT 3.5 X 1/4 BSW
41	62844	HEX BOLT 3 X 3/8 BSW
42	62845G	RH CASING TILLER
43	62845R	RH CASING TILLER
44	62846G	LH CASING TILLER
45	62846R	LH CASING TILLER
46	62847B	BLADE COVER 250MM
47	62848B	BLADE COVER 350MM
48	62849B	WHEEL ARM TILLER
49	62850B	HEIGHT ADJ HANDLE TILLER
50	62851B	TINE SPACER LARGE 45MM
51	62852B	TINE SPACER SMALL
52	62891	TINE SHAFT 250MM
53	62892	TINE SHAFT 350MM
54	62903	WHEEL SPACER SMALL 41.5MM
55	62912	FLANGE DRUM HUB
56	62919	NUT NYLOC 1/4 UNC
57	62921	TINE DRUM 17MM
58	62922	WASHER TINE 17MM
59	62925	DRIVE SHAFT UNIVERSAL
60	62948	TILLER TINE
61	62964	NEEDLE BEARING 12 X 26 X 2MM
62	62965	THRUST WASHER 12 X 26 X 1.5MM
63	62969G	KZ 26 EXHAUST PLUG *
64	62972	BEARING SEAL
65	62982	BEARING WASHER 32 X 18 X 1.6MM
66	62983	HARDENED WASHER
67	62986B	TILLER COVER KNOB
68	62993	KOMATSU ENGINE KZ26 *
69	62999	TILLER TINE SHAFT SEAL
70	63017B	RH HANDLE WITH RUBBER
71	63019B	LH HANDLE WITH RUBBER
72	63020B	CROSS BRACE
73	63021B	RH HANDLE COVER SWITCH
74	63022R	THROTTLE TRIGGER

KEY #	PART #	DESCRIPTION
74	63022R	THROTTLE TRIGGER
75	63023R	THROTTLE INTERLOCK
76	63049	HEX BOLT 6.5 X 1/4 BSW
77	63052	BEARING BLOCK
78	63064	MANUAL ALL GAS TILLERS
79	63065	WARNING LABEL TILLER GUARD
80	63220	TILLER SEMI-FLUID GREASE
81	63217	WIRE & CABLE CLIP
		<b>SERVICE ASSEMBLIES</b>
82	63192	WHEEL ARM & WHEEL ASSM
83	63194	WHEEL ASSEMBLY
(84)	63195G	MAIN CASING ASSM 250MM GREEN
(85)	63195R	MAIN CASING ASSM 250MM RED
(86)	63197G	MAIN CASING ASSM 350MM GREEN
(87)	63197R	MAIN CASING ASSM 350MM RED
(88)	63209	12 TILLER TINES PACK
(89)	63208	8 TILLER TINES PACK
90	63211B	BLADE COVER ASSM 250MM
91	63212B	BLADE COVER ASSM 350MM
92	63213	RH HANDLE ASSM
		<b>MAIN CASING ASSM INCLUDES</b>
		5, 15, 16, 28, 35, 36, 37, 39, 42, 44, 55,
		59, 61, 62, 64, 65, 69, 77, 80
		<b>OPTIONAL EQUIPMENT (not shown)</b>
	63183	FARROW ATTACHMENT
	63204	8 TINE COMBINATION AERATION
		& DE THATCHING BLADES
	63205	12 TINE COMBINATION AERATION
		& DE THATCHING BLADES

\* NOT ILLUSTRATED

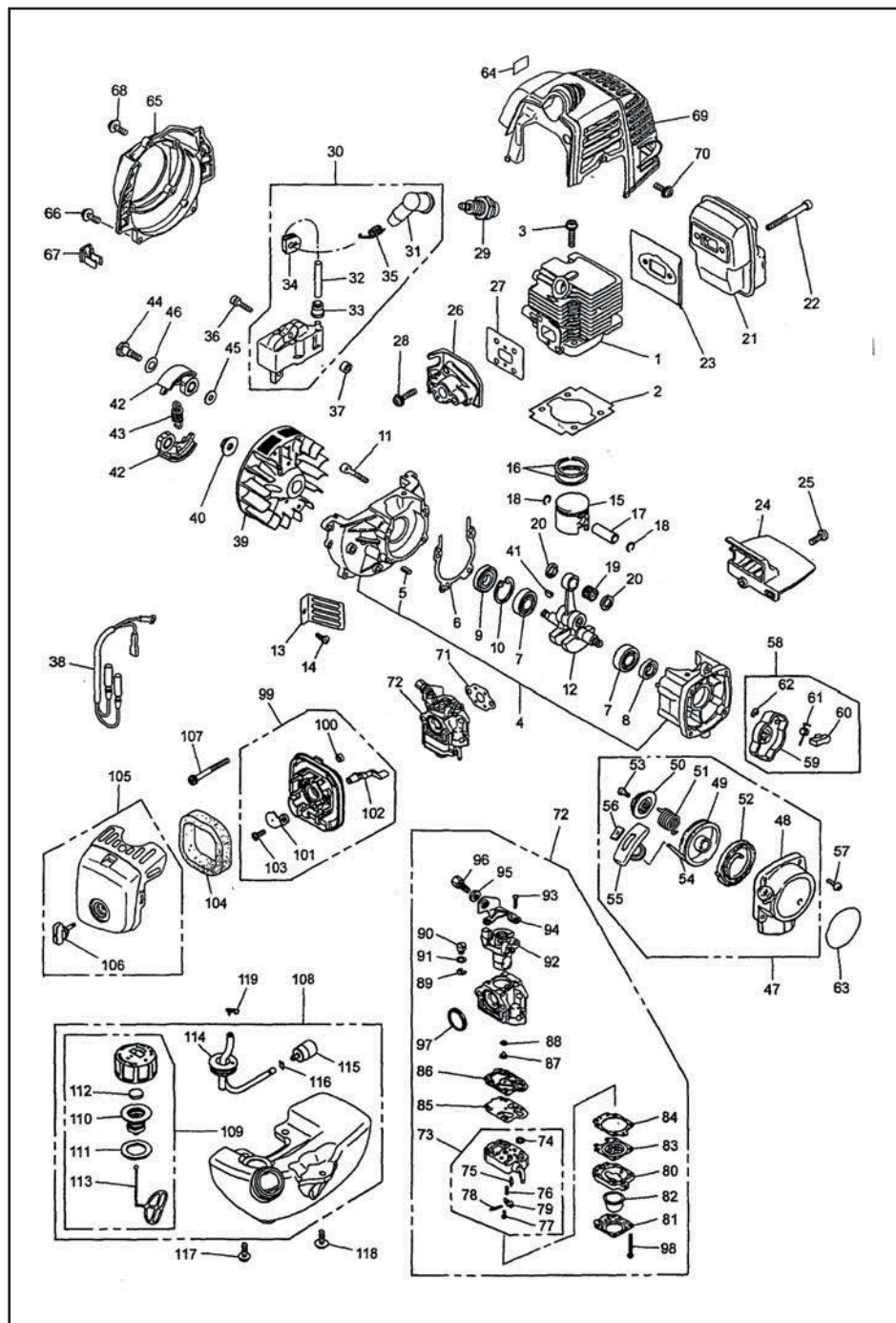
**COLOURS:**  
**B = Black**  
**G = Green**  
**R = Red**

### SERVICE ASSEMBLIES

We recommend using factory produced service assemblies for replacements as they are more economical and reduce labour costs and time to repair.



# IIIATOM 26cc KZ Engine Parts List



Key #	Atom Part #	KZ Part #	Description	Key #	Atom Part #	KZ Part #	Description
1	63085	T1800-12110	Cylinder	61	63132	848E4075SO	Spring, Return
2	63086	5500-12213	Gasket, Base	62	63133	848E4075TO	E-Ring
3	63087	1850-12130	Bolt, M5XL22	63	63143	T1807-75R10	Label, Recoil
4	63088	550-21100	Crankcase Comp.	64	63135	T1807-3110	Label
5	46604	2629-21130	Pin	65	63136	T1815-31110	Cover, Fan
6	63089	5500-21141	Gasket, Base	66	46114	0263-90520	Screw
7	63090	06030-06001	Bearing	67	63137	T1600-72210	Clamp
8	46124	2169-21210	Seal	68	63138	0263-90510	Screw
9	63091	1850-21220	Seal	69	63139	848EGE31AO	Cover, Engine
10	63092	04065-02812	Snap Ring	57&70	43128	T1700-32162	Screw, M4XL16
11	46130	01252-30530	Bolt, M5XL30	71	63140	5500-13131	Gasket, Carburetor
12	63093	5500-42001	Crankshaft Comp.	72	63141	848EGA8100	Carburetor Assy
13	63094	5500-22110	Guard	73	63142	1794-81450	Body Assy
14	63095	0263-90514	Screw, M5XL14	74	46670	3306-81380	Screen
15	63096	5910-41110	Piston	75	46671	3356-81310	Valve, Inlet
16	63097	5910-41210	Ring, Piston	76	63143	1794-81270	Spring, Lever
17	63098	1600-41310	Pin, Piston	77	46673	1850-81220	Screw
18	63099	1260-41320	Snap Ring	78	46674	3310-81250	Pin
19	63100	5500-41410	Bearing	79	46675	3310-81230	Lever
20	63101	1101-41340	Washer	80	46676	1850-81490	Body
21	63103	T1610-15110	Muffler	81	46677	1850-81520	Cover, Pump
22	63102	01252-30550	Bolt	82	46678	1751-81510	Pump, Priming
23	63104	T1600-15210	Gasket, Muffler	83	46679	3310-81260	Diaphragm, Meterin
24	63105	5500-15221	Plate, Muffler	84	46680	1850-81470	Gasket
25	63106	0263-90413	Screw	85	46681	1065-81420	Diaphragm, Pump
26	63107	T1700-13160	Insulator	86	46682	1065-81410	Gasket
27	63108	5500-13121	Gasket, Insulator	87	63144	T1800-81250	Jet
28	46114	0263-90520	Screw	88	46684	1751-81240	O-Ring
29	46647	5933-73110	Spark Plug 8PMR7A (NGK)	89	46685	1751-81130	Ring
30	63109	T1700-71201	Coil, Assy	90	46686	1881-81140	Swivel
31	63110	5500-72110	Cap, Plug	91	46694	5500-81160	Washer
32	63111	T1700-71220	Cord	92	63145	T1700-81150	Vale Assy
33	46174	2616-71320	Cap, Coil	93	46688	1752-81110	Screw
34	46176	5500-72130	Grommet	94	63146	5500-81120	Bracket
35	63112	5500-72120	Spring, Plug	95	46690	1751-81180	Nut, Adjust
36	63168	3310-72150	Bolt	96	63147	2730-81170	Screw, Adjust
37	63113	T1700-71260	Spacer	97	46692	1881-81130	Ring
38	63114	T1700-73200	Cord Comp	98	46693	1850-81530	Screw
39	63115	T1700-71110	Rotor	99	63148	T1700-82100	Body, Assy
40	46154	1650-43230	Nut, M8	100	63149	1970-82190	Sleeve
41	46156	1000-43240	Key	101	63150	T1700-82130	Plate, Choke
42	63116	848EA051DO	Shoe, Clutch	102	63151	T1700-82140	Lever, Choke
43	63117	T1700-51220	Spring	103	63152	2630-33610	Screw
44	63118	1140-51250	Screw, Clutch	104	63153	5500-82171	Element
45	63119	1140-51230	Washer	105	63154	T1701-82200	Cover Assy
46	63120	1970-51241	Washer Wave	106	63155	5500-82221	Knob
47	63121	848EAX7510	Recoil, Assy	107	63156	0263-90560	Screw
48	63122	848EAX7550	Case Comp	108	63157	T1800-85001	Tank Assy
49	63123	848E4075CO	Reel	109	63158	5607-85201	Cap Assy
50	63124	848E4075DO	Plate, Cam	110	63159	5601-85300	Holder Assy
51	63125	848E4075GO	Spring, Damper	111	63160	5500-85220	Packing
52	46655	1850-75130	Spring, Spiral	112	63161	5601-85260	Filter
53	63126	848E4075EO	Screw	113	63162	4820-85260	Stopper
54	63127	848E4075FO	Rope	114	46712	5500-85300	Pipe Comp
55	46228	1140-75320	Knob	115	63163	5500-85400	Filter Assy
56	46660	5500-75170	Plate, Stopper	116	63164	1260-85460	Clip
57	63128	T1700-32162	Screw, M4XL16	117	63165	5500-85510	Screw
58	63129	848EAX7520	Pulley Assy	118	63166	5910-85510	Screw
59	63130	848EAX75PO	Pulley, Starter	119	63167	1950-86120	Clip
60	63131	848E4075RO	Ratchet				

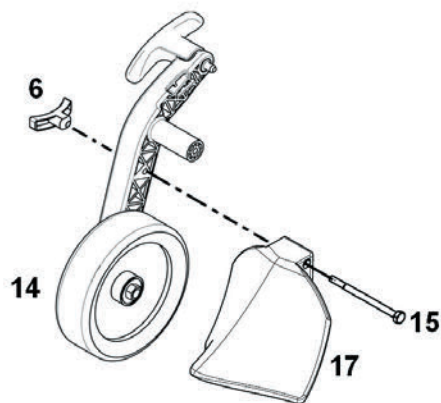


## FITTING FURROW PLOUGH ATTACHMENT

After tilling/cultivating is completed, fit furrow plow.

Line up hole in plough #17 with hole in wheel arm #14 and place bolt #15 through plough and wheel arm. Tighten with wing nut #6.

Set depth of wheel arm at about No.3 or 4 setting. This height may vary according to condition.



## NOTES

Atom warrants each new Atom Product Model for ONE YEAR for home owner use and 90 days for commercial use based on the following terms.

The warranty extends to the original retail purchaser only and commences on the date of the original retail purchase.

Any part of the Atom Product manufactured or supplied by Atom and found in the reasonable judgement of Atom to be defective in material or workmanship will be repaired or replaced by an authorized Atom service dealer without charge for parts and labour.

The Atom Product, including any defective part, must be returned to an authorized service dealer within the warranty period. The expense of delivering the Atom Product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid for by the owner. Atom's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancellation or rescission of the Contract of Sale of any Atom Product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work can be performed only after authorisation has been given to the service dealer.

This warranty is limited to NINETY (90) days from the date of original retail purchase for any Atom Product that is used for commercial purposes and ONE (1) month for rental purposes.

This warranty does not cover any Atom Product that has been subject to misuse, neglect, negligence or accident, or that has been operated in any way contrary to the operating instructions as specified in the Atom Operator's Manual. This warranty does not apply to any damage to the Atom Product that is the result of improper maintenance or to any Atom Product that has been altered or modified so as to adversely affect the product's operation, performance or durability or that has been altered or modified so as to change its intended use. The warranty does not extend to repairs made necessary by normal wear or by the use of parts or accessories which are either incompatible with the Atom Product or adversely affect its operation, performance or durability.

Only genuine Atom parts are to be used. Use of non-genuine Atom parts voids all warranties due to that part not being approved by Atom to Atom's specifications.

Atom reserves the right to change or improve the design of any Atom Product without assuming any obligation to modify any product previously manufactured.

ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE ONE YEAR WARRANTY PERIOD FOR HOME OWNER OR NINETY (90) DAYS FOR ANY COMMERCIAL PURPOSE AND ONE (1) MONTH FOR RENTAL PURPOSES. ACCORDINGLY, ANY SUCH IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AFTER THE EXPIRATION OF THE APPROPRIATE WARRANTY PERIOD. ATOM'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS AND ATOM DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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For warranty procedure for Honda engine please refer to separate engine warranty available from your nearest authorised Honda dealer who will also carry out any engine service required.

**IMPORTANT: Please keep your receipt as proof of purchase. Serial number and model number of unit located on underside of unit.**

Atom Products are manufactured in Australia and exported around the world.

Aust. Patent No. 678575.

US Patent No's 5, 826, 667 & 6,116, 350.

Other Australian and US Patents pending. Patent Pending in Europe, Japan and elsewhere.

Design registrations granted in Australia, USA, Japan and Great Britain.

Cross-Blade system patented.

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