

ASPERO®

GRASS TRIMMER / BRUSH CUTTER

2 - STROKE ☐

4 - STROKE ☐



WARNING

The engine exhaust from this product contains chemicals known to cause cancer, birth defects and/or other reproductive harm.



WARNING DANGER

The exhaust muffler and the muffler cover may become extremely hot. Always keep clear of exhaust and muffler area. Otherwise, serious personal injury may occur.

VER.1 05/2012 TG001

Congratulations on your purchase of a new trimmer, brush cutter(hereafter we call trimmer). We are certain you will be pleased with your purchase of the trimmer. It has been designed, engineered and manufactured to give you the best possible dependability and performance. We want to help you get the best results from your trimmer and to operate it safely. This manual contains the information on how to do exactly that. Please read and retain this manual carefully. The instructions will enable you to assemble and maintain your trimmer properly. Should you experience any problem you cannot easily remedy, please contact your nearest authorized service center. Always observe the "SAFETY INFORMATION" section. We reserve the right to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

SAFETY INFORMATION

- Read the Owner's Manual carefully. Be thoroughly familiar with the controls and the proper use of the trimmer. Know how to stop and disengage the controls quickly.
- **Never** allow children to operate the trimmer. **Never** allow adults to operate the trimmer without proper instructions.
- Keep the area of operation clear of all persons, particularly small children and pets.
- Of course, it is not possible or practical to warn you about all the hazards associated with operating or maintaining a trimmer. You must use your own good judgement.
- You will find important safety information in a variety of forms.
 - ◆ **Safety Labels** -on the product.
 - ◆ **Instructions** -how to use this trimmer correctly and safely.
 - ◆ **Safety Messages** -preceded by a safety alert  symbol and one of three safety words: DANGER, WARNING and CAUTION.

 **DANGER** You **WILL** be **KILLED** or **SERIOUSLY HURT** if you do not follow instructions.

 **WARNING** You **CAN** be **KILLED** or **SERIOUSLY HURT** if you do not follow instructions.

 **CAUTION** You **CAN** be **HURT** if you do not follow instructions.

Your trimmer or other property can be damaged if you do not follow instructions.

Each message tells you what the hazard is, what can and/or may happen, and what you can do to avoid and/or reduce injury.

Damage Prevention messages -You will also see other important messages that are preceded by the word NOTICE.

➤ Physical Condition

Your judgement and physical dexterity may not be good if:

- You are tired or sick
- You are taking medication
- You have taken alcohol or drugs

Operate this unit only if you are physically and mentally well.

➤ Eye Protection

Always wear eye protection that meets ANSI Z87.1 or CE requirements whenever you operate this unit.

➤ Hand Protection

Wear non-slip, heavy duty work gloves to improve your grip on the handles. Gloves also reduce transmission of machine vibration to your hands.

➤ Hearing Protection

We strongly recommend wearing hearing protection whenever this unit is used.

➤ Proper Clothing

Wear snug fitting, durable clothing

Pants should have long legs, shirts with long sleeves.

- DO NOT WEAR SHORTS
- DO NOT WEAR TIES, SCARFS, JEWELRY

Wear protective hair covering to contain long hair. Wear sturdy work shoes with non-skid soles.

- DO NOT WEAR OPEN TOED SHOES
- DO NOT OPERATE UNIT BAREFOOTED

Keep long hair away from engine and air intake. Retain hair with cap or net.

➤ Hot Humid Weather

Heavy protective clothing can increase operator fatigue which may lead to heat stroke.

Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.



WARNING

The ignition components of this machine generate an electromagnetic field during operation which may interfere with some pacemakers. To reduce the risk of serious or fatal injury, persons with pacemakers should consult with their physician and the pacemaker manufacturer before operating this machine. In the absence of such information, we do not recommend the use of this product by anyone who has a pacemaker.



DANGER

DO NOT operate this product indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

EQUIPMENT CHECK

- Check your trimmer for loose, missing nuts, bolts and screws. Tighten and/or replace as needed.
- Check that the cutting attachment is firmly attached and in safe operating condition.
- **Read this manual.** Provide all users of this equipment with the Owner's Manual for instructions on Safe Operation.
- **Clear the Work Area.** Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15m(50ft) while the machine is in use.
- **Keep a Firm Grip.** Hold the handles with both hands, with thumbs and fingers encircling the handles.
- **Keep a Solid Stance.** Maintain footing and balance at all times. DO NOT stand on slippery, uneven or unstable surfaces. DO NOT work on odd positions or on ladders. DO NOT over reach.
- **Avoid Hot Surfaces.** Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.

WARNING

Use only approved attachments. Serious injury may result from the use of non-approved attachments. We will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved. Read and comply with all safety instructions listed in this manual.

WARNING

Moving parts can and will amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all opening and moving parts.

- ALWAYS stop engine, disconnect spark plug and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris or servicing the unit.
- DO NOT start or operate the unit unless all guards and protective covers are properly assembled in the unit.
- NEVER reach into any opening while the engine is running. Moving parts may not be visible through openings.

WARNING

Check fuel system for leaks due to fuel tank damage, especially if the unit is dropped. If damage or leaks are found, DO NOT use the unit, otherwise serious injury or property damage may occur. Have the unit repaired by an authorized service center/dealer before use.

CONTENTS

The product you purchased has been partially assembled for your convenience. Due to packaging restrictions, installation of the plastic debris shield, wheels and positioning of the handle bar assembly are necessary.

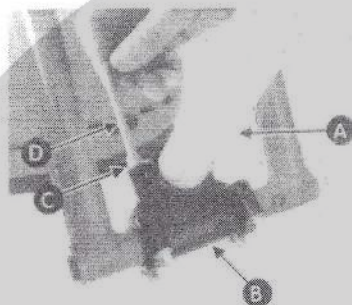
After opening the carton, check for damage. Immediately notify your retailer of damaged or missing parts. Use the contents list to check for missing parts.

* Some parts may be factory pre-assembled. The power head to body, blade cutting head (nylon trimmer head) are pre-assembled to the unit. Assembly tools are supplied with this unit. The handle bar cushions, throttle and stop switch are pre-assembled on the unit.

- Power Head
- Drive Shaft Assembly
- Owner's Manual
- Assembly Tools
- Wheels
- Wheel Shaft
- Plastic Shield
- Cut-Off Knife
- Nuts & Bolts
- Cutting Blade (If applicable)
- Cutting Blade Shield (If applicable)
- Nylon Trimmer Head (If applicable)

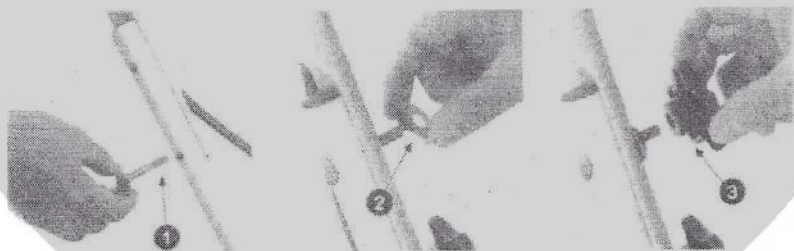
HANDLE BAR SUPPORT SHAFT

1. Insert support shaft (A) in to bottom support bracket (B)
2. Ensure the bottom of shaft and bracket is flush.
3. Tighten the two (2) 4mm Allen head screws (C) with tools supplied with unit (D)



HANDLE BAR

1. Attach the handle bar assembly from left side of unit. (refer to page 6 for reference)
2. Insert the two (2) bolts (1) in through the shaft and handle bar.
3. Insert two (2) washers (2)
4. Tighten the two (2) handlebar knobs (3) to secure the handle in the correct operating position



⚠ NOTICE

Be careful not to crimp or pinch the engine switch wires and throttle cable.

WHEEL ASSEMBLY

Parts Required: Wheels (2), Wheel axle, Fastening Hardware

1. Insert the wheel axle (A)
2. Make sure the wheel axle bolt hole and axle tube hole are aligned (B)
3. Insert 5mm bolt and tighten nut (C)
4. Be sure to install wheel with wheel tread facing forward.(Fig. 1)
5. Install both wheels and tighten with two(2)13mm nuts (D)



PLASTIC SHIELD INSTALLATION

Parts Required: Plastic Shield, Shield Plate and two (2) screws.

⚠ NOTICE

The plastic debris shield **MUST** always be used when either the blade or nylon system is used.

1. Place shield on the bottom of the drive shaft.
2. Position against the spring bracket
3. Place shield bracket on shield and align the 2 holes
4. Install the 2 bolts from the top through plate into the plastic shield
5. Hand tighten the 2 bolts



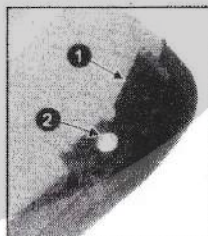
CUT-OFF KNIFE INSTALLATION

Parts Required: Cut Off Knife, Phillips Head Screwdriver

⚠ CAUTION

ALWAYS WEAR PROTECTIVE GLOVES WHEN HANDLING SHARP OBJECTS or INJURY MAY RESULT

1. Place Cut Off knife in position facing away from shield
2. Tighten the screw hand tight. DO NOT over tighten



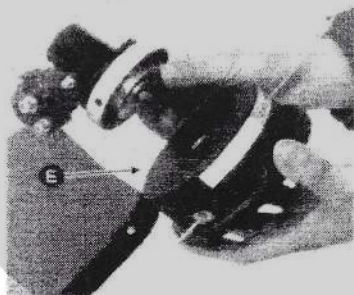
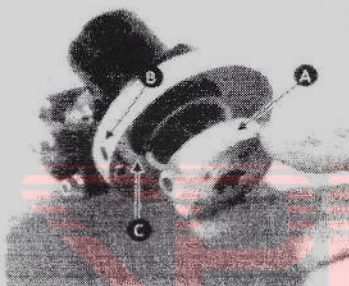
NYLON LINE HEAD INSTALLATION

Parts Required: Nylon Line Head, Adapter Plate, 5mm Allen Tool.

⚠ CAUTION

ALWAYS WEAR PROTECTIVE GLOVES WHEN HANDLING SHARP OBJECTS or INJURY MAY RESULT

1. Be sure adapter plate (A) remains on the gear case shaft
2. Align locking hole in upper plate (B) with notch on adapter plate (A) and notch on gear housing (C) and insert 5mm Allen tool (D)
3. Thread line head (E) onto gear case shaft by turning it clockwise until head is tight against adapter plate (A)
4. Remove 5mm Allen tool (D)



TO ADVANCE TRIMMER LINE

To advance trimmer line, tap trimmer head against the ground while the head is turning at normal operating speed.

REMOVING NYLON LINE HEAD

1. Align locking hole in upper plate with notch on adapter plate and notch on gear housing and insert 5mm Allen Tool. (See Page 12)
2. Remove the line head by turning it counter-clockwise until the head is completely off of shaft.
3. Remove locking tool.

⚠ WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit. Allow unit to cool before performing service. Wear gloves to protect your hands from sharp edges and hot surfaces.

⚠ WARNING

Engine exhaust IS HOT and contains Carbon Monoxide(CO), a poison gas. Breathing CO can cause unconsciousness, serious injury or death. Exhaust can cause serious burns. ALWAYS position unit so that exhaust is directed away from your face and body.

⚠ WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. This unit may require a spark arrestor. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

⚠ WARNING

The nylon line cutting system must be matched to the type and size of weeds or brush to be cut.

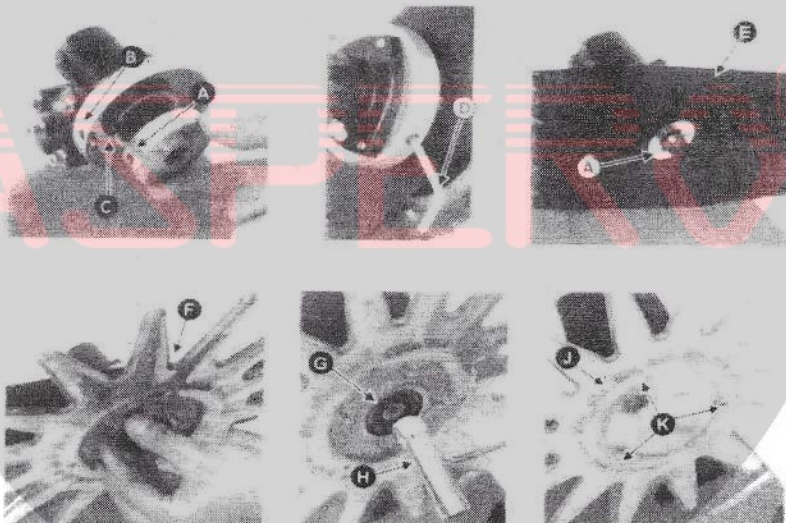
BLADE INSTALLATION

Parts Required: Cutting Blade, Blade Guard, Spark Plug Socket, Guard Spring Tensioner Kit.

WARNING

ALWAYS WEAR PROTECTIVE GLOVES WHEN HANDLING SHARP OBJECTS or INJURY MAY RESULT

1. Be sure adapter plate (A) remains on the gear case shaft.
2. Align locking hole in upper plate (B) with notch on adapter plate (A) and notch on gear housing (C) and insert 5mm Allen tool (D).
3. Insert and align blade (E) with adapter plate.
4. Insert blade guard (F) on to gear housing and install nut.
5. Tighten nylon lock nut (G) by turning it clockwise using the spark plug socket (H) until tight.
6. Install guard cover (J) and tighten the three (3) Phillips head screws (K).



BLADE INSTALLATION Cont.

1. Install guard spring tensioner bracket (L) on to drive shaft (M) and install the bolt (N) and wing nut (P).
2. Once the tensioner is installed, it must be in vertical position (Q) when looked at from the side of the unit as seen in picture below.



ASPERO®

OPERATION

FUEL

NOTICE Use of unmixed, improperly mixed, or fuel older than 90 days, (stale fuel), may cause hard starts, poor performance, or severe engine damage and void the product warranty. Read and follow all instructions in this manual.

FUEL REQUIREMENTS

Gasoline-Use 89 Octane or higher gasoline known to be good quality. Gasoline may contain up to 10% Ethanol or 15% MTBE. Gasoline containing methanol is **NOT** approved.

2-Stroke Oil

A 2-stroke engine oil meeting ISO-L-EGD and J.A.S.O. standards must be used. Universal 2-stroke oil meets these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD and J.A.S.O. certified oil, will void the 2-stroke engine warranty.

WARNING

Alternative fuels, such as E-15 (15% Ethanol), E-85 (85% Ethanol) or any fuels not meeting the requirements are **NOT** approved for use in 2-stroke gasoline engines. The use of alternative fuels may cause performance problems, loss of power, overheating, fuel vapor lock and unintended machine operation, including but not limited to, improper clutch engagement. Alternative fuels may also cause premature deterioration of fuel lines, gaskets, carburetors and other engine components.

MAINTENANCE

DANGER

Fuel is **VERY** flammable. Use extreme care when handling, storing or mixing or serious personal injury may result.

- Use an approved fuel container **ONLY**.
- **DO NOT** smoke near fuel.
- **DO NOT** allow flames or spark near fuel.
- **NEVER** refuel a unit when the engine is **HOT** or **RUNNING**.
- **DO NOT** fill fuel tanks indoors. **ALWAYS** fill fuel tanks outdoors over bare ground.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- **DO NOT** overfill fuel tank. Wipe up spills immediately.
- Securely tighten fuel tank cap and close fuel container after refueling.
- Inspect for fuel leakage. If fuel leakage is found, **DO NOT** start unit or operate until leakage is repaired.
- Move at least 10 ft. (3m) from refueling location before starting the engine.

OPERATION

FUEL

Mixing Instructions (2-STROKE ENGINE ONLY)

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of 2-stroke oil to the gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container and remix.
5. **NEVER MIX OIL IF YOU HAVE A 4-STROKE ENGINE. NO MIXING IS NECESSARY.**

Fuel & Oil Mix Ratio-25:1			
U. S		METRIC	
Gasoline	Oil	Gasoline	Oil
Gallons	fl.oz.	Liter	ml
1	5. 12	1	40
2	10. 24	2	80
5	25. 6	4	160

NOTICE

Spilled fuel is a leading cause of hydrocarbon emissions. Some states may require the use of automatic fuel shut-off containers to reduce fuel spillage.

After use

DO NOT store a unit with fuel in the tank. Leaks can occur. Return unused fuel to an approved fuel storage container.

Storage

Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, airtight container. Store in a well-ventilated, unoccupied building, away from sparks and flames.

NOTICE

Stored fuel ages. DO NOT mix more fuel than you expect to use in 30 (thirty) days, 90 (ninety) days when a fuel stabilizer is added.

NOTICE

Stored 2-stroke mixed fuel may separate. ALWAYS shake fuel container thoroughly before each use.

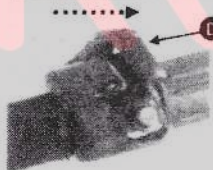
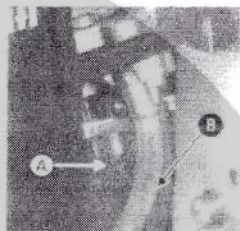
OPERATION

COLD ENGINE STARTING

WARNING

Grass trimmer/brush cutter blades are very sharp. Touching them may/will lead to severe personal injury. Avoid touching blades whenever possible, and always wear gloves to protect hands.

1. Pump the primer purge bulb (A) until fuel is visible and flows freely in the clear fuel tank return hose (B).
2. Move the choke lever (C) to the CLOSED  position.
3. Depress the throttle trigger (D) 3 to 5 times.
4. With one hand on the power head and the other gripping the pull start lever (E). Firmly grasp the start lever and rapidly pull the lever until the engine starts.
5. After the engine starts, or 4 to 6 pulls, move the choke lever (F) to the OPEN  position. Restart the engine if necessary and allow unit to warm up at idle for several minutes.
6. After the engine has warmed up, grip the throttle handle. Depress the throttle trigger gradually to increase engine RPM to operating speed.



WARNING

The blade or nylon line head must not move at idle speed, otherwise serious personal injury may/will occur. Periodic carburetor adjustments may be necessary to assure blade or nylon line head do not move at idle. If the blade or nylon line head move, adjust the carburetor according to "Carburetor Adjustment" instructions in the manual or see your nearest dealer or service center.

NOTICE

If engine does not start with choke in the OPEN position after 4 to 6 pulls, repeat steps 2 - 5.

OPERATION

WARM ENGINE STARTING

The starting procedure is the same as COLD ENGINE STARTING except DO NOT close the choke lever.

WARNING

The blade(s) or nylon line head must not move at idle speed, otherwise serious personal injury may/will occur. Periodic carburetor adjustments may be necessary to assure blade(s) or nylon line head do not move at idle. If the blade(s) or nylon line head move, adjust the carburetor according to "Carburetor Adjustment" instructions in the manual or see your nearest dealer or service center.

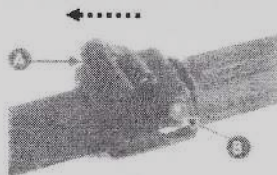
1. Depress throttle trigger 3 to 6 times.
2. Pump the primer purge bulb until fuel is visible and flows freely in the clear fuel tank return hose.
3. Lay the unit on a flat clean surface. Grip the support handle firmly with your right hand. Pull the recoil starter handle with your left hand until the engine starts.
(or 4 to 6 pulls).

NOTICE

If the engine does not start after 6 pulls, please refer back to "Cold Engine Starting" procedure.

STOPPING ENGINE

1. Release the throttle trigger (A) and allow engine to return to idle before shutting off the engine.
2. Press and hold the stop switch (B) until engine has completely stopped.



WARNING

If engine does not stop when stop switch is depressed, close the choke to stall the engine. Take your unit to your nearest dealer or service center to have the stop switch repaired before using the trimmer/cutter again.

⚠ WARNING

The trimmer/cutter blade(s) is very sharp. Touching them may/will lead to severe personal injury. Avoid touching blade(s) whenever possible, and always wear gloves to protect hands.

1. Always grip the support handle firmly with both right and left hands.
2. Hold the trimmer/cutter handle firmly and depress the throttle trigger slowly to accelerate the engine.

⚠ WARNING

NEVER remove your hands from the trimmer/cutter handle bar when unit is working.

⚠ WARNING

The engine continues running even when the blade(s) or nylon line head have stopped due to an obstruction. If this occurs, stop the engine and remove the obstruction before you continue.

ASPERO®

MAINTENANCE

WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit. Allow unit to cool before performing service. Wear gloves to protect your hands from sharp edges and hot surfaces.

Your trimmer/cutter is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your unit achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an authorized service center for maintenance. To help you decide whether you want to do it yourself or have an authorized service center do it, each maintenance task has been graded. If a certain task is not listed, please see your authorized service center for repairs.

SKILL LEVELS

Level 1-Easy to do, common tools may be required.

Level 2-Moderate difficulty, some specialized tools may be required.

MAINTENANCE INTERVALS

SYSTEM	SKILL LEVEL	DAILY or BEFORE USE	EVERY REFUEL	3 MONTHS or 90 HOURS	YEARLY or 600 HOURS
Air Filter	1	I / C *			
Fuel Filter	1			I *	I / R *
Fuel Cap Gasket	1			I *	R *
Fuel System	1	I (2) *	I (2) *		
Choke Shutter	1	I / C *			
Spark Plug	1			I / C / R *	
Cooling System	2	I / C			
Muffler	2			I / C / R *	
Cylinder Exhaust Port	2			I / C / D	
Gear Housing	2			I / G (1)	
Cutting Blades	1	I / C (3)			
Recoil Starter Rope	1	I / C *			
Screws, Nuts, Bolts	1	I / T / R *			

Letter Codes: I-Inspect / R-Replace / C-Clean / D-De-carbon / T-Tighten

NOTE: Time intervals shown above are maximum. Actual use and your experience will determine the frequency of required maintenance.

MAINTENANCE NOTES:

1. Apply good quality lithium base grease every 25 hours of use.
2. Low evaporative fuel tanks DO NOT require regular maintenance to maintain emission integrity.
3. Inspect blades, clean and sharpen as needed. Lubricate blades periodically during use.

* All recommendations to replace are based on finding of damage(d) or wear during inspection.

AIR FILTER

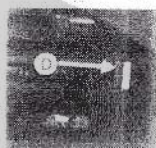
Level 1

Tools Required: 25 or 50mm Brush.

Parts Required: Air Filter Element

1. Push the choke lever to the closed position  to prevent any dirt or dust from entering the carburetor when air filter is removed.
2. Remove the air filter cover (A) by turning the wing bolt (B) counter-clockwise and brush away any dirt from inside over.
3. Remove the filter and lightly brush away debris from filter (C). Replace the filter if it is damaged, fuel soaked or very dirty.
4. If the filter can be reused, be certain it:
Fits tightly in the air filter cavity. It's not torn.
5. Install the air filter cover, making sure it's in the correct position (D).
6. 4-Stroke engine has only 1 round filter
2-Stroke engine has 2 square filters.

4-Stroke
Filter



2-Stroke
Filter



NOTICE

If the engine does not start after 6 pulls, please refer back to "Cold Engine Starting" procedure.

FUEL FILTER

Level 1

Tools Required: 200 or 250mm length of wire with one end bent into a hook, clean rag, funnel, and an approved fuel container.

Parts Required: Fuel Filter

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Use the bent wire to pull the fuel line (black) and filter (E) from the tank.
3. Remove the filter from the line and install the new filter.



DANGER

Fuel is VERY flammable. Use extreme care when mixing, storing or handling. NO SMOKING

MAINTENANCE

SPARK PLUG

Level 2

Tools Required: T-Wrench or Spark Plug Socket,
Feeler Gauge, Soft Metal Brush.

Parts Required: Spark Plug

1. Remove the spark plug boot (A) and spark plug (B) and check for fouling, worn, rounded center electrode.
2. Clean the plug or replace with a new one. DO NOT sand blast to clean, remaining sand will damage engine.
3. Adjust spark plug gap by bending outer electrode.
4. Tighten spark plug to 150-170 kgfcm • (130-150 in • lbf)



⚠ NOTICE

If the engine does not start after 6 pulls, please refer back to "Cold Engine Starting" procedure.

COOLING SYSTEM

Level 2

Tools Required: #3 and #4 Hex wrench, 25 or 50 mm Cleaning Brush

Parts Required: None, if you are careful.

Overheating and engine seizure can occur when:

- Air intake in the crankcase is blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build up in the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.

Removal of crankcase cooling passage blockages or cleaning of cooling fins is considered "Normal Maintenance". Any failure attributed to lack of maintenance is not warranted.

⚠ NOTICE

To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

COOLING SYSTEM

1. Remove spark plug boot.
2. Remove air cleaner cover.
3. Remove engine cover screws and engine cover.
4. Remove ignition wires from clip for cleaning.
5. Assemble components in reverse order.

NOTICE

DO NOT USE A METAL SCRAPER TO REMOVE DIRT FROM THE CYLINDER FINNS.

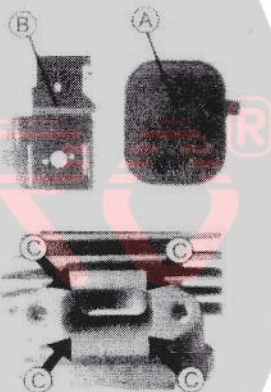
EXHAUST SYSTEM

Level 2

Tools Required : #4 mm Hex wrench, Cross Head Screwdriver,
Soft Metal Brush, Wood or Plastic Scraper.

Parts Required: Gaskets, Heat Shield.

1. Disconnect spark plug wire.
2. Remove muffler cover.
3. Place piston at TOP DEAD CENTER (TDC) to prevent carbon/dirt from entering cylinder.
4. Remove the 2 muffler screws, gasket (B) from muffler body (A).
5. Use a wood or plastic scraping tool to clean deposits from cylinder exhaust port (C).
6. Install muffler with new gasket if old gasket is damaged.
7. Tighten muffler mounting bolts (or nuts) to 80 -95 in • lbf (90-110 kgf • cm)
8. Install cover and attach spark plug lead.
9. Start engine and warm to operating temperature.
10. Stop engine, and re-tighten mounting bolts (or nuts) to specifications.



NOTICE

Never use a metal tool to scrape carbon deposits from exhaust port. DO NOT scratch the cylinder or piston when cleaning the exhaust port. DO NOT allow carbon particles to enter the cylinder.

MAINTENANCE

CARBURETOR ADJUSTMENT

Level 2

WARNING

The blades must not move at idle, otherwise serious personal injury may result. Periodic carburetor adjustment may be necessary to assure blades do not move at idle. If blades move, readjust carburetor according to these instructions or see your authorized dealer or service center.

Engine Break-In Period

New engines must be operated a minimum duration of two (2) full tanks of fuel break-in before carburetor adjustments can be made. During the break-in period, your engine performance will increase and exhaust emissions will stabilize. Idle speed can be adjusted as required.

High Altitude Operation

This engine has been adjusted from factory to maintain satisfactory starting, emission, and durability performance up to 1,100 feet above sea level. To maintain proper engine operation and emission compliance above 1,000 feet, the carburetor may/will need to be adjusted by an authorized dealer or service center.

NOTICE

If the carburetor is adjusted for operating above 1,100 feet, the carburetor must be re-adjusted when operating below 1,100 feet, otherwise severe engine damage may/will result.

Tools Required: Screwdriver, Tachometer

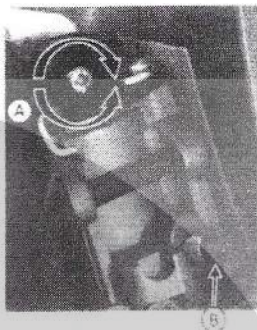
Parts Required: None

NOTICE

Every unit is started and run at the factory and carburetor adjusted and set in compliance with emission regulations. Carburetor adjustments, other than the idle speed, must be done by an authorized dealer or service center.

CARBURETOR ADJUSTMENT

- Before adjusting the carburetor, clean or replace the air filter.
- Start engine and run for several minutes to reach operating temperature.
- Check idle speed and adjust if necessary. If a tachometer is available, idle speed screw (A) should be set to the specification found on page 26 "Specifications" of this manual. Turn idle screw clockwise  to increase idle speed, counter-clockwise  to decrease idle speed.
- The air/fuel mixture screw (B) should ONLY be adjusted by your dealer or service center



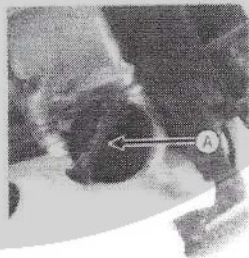
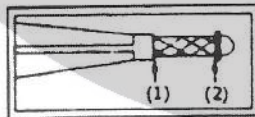
WARNING

When carburetor adjustment is completed, the cutting attachment should not move at idle, otherwise serious personal injury may/will result.

CHECKING & ADDING OIL (4-stroke only)

Check the oil level in the engine before every operation of the unit.

- Make sure the unit is in the upright position.
- Remove the oil filler cap (A), wipe it clean, and insert it back in. Place but DO NOT screw it back in.
- Check that the oil level is at or near the upper mark (1).
- If then oil level is at or near the lower mark (2) you need to add oil.
- Add the appropriate amount of oil until the upper mark (1) is reached. (DO NOT OVERFILL)
- Install the dipstick and check for leaks.



MAINTENANCE

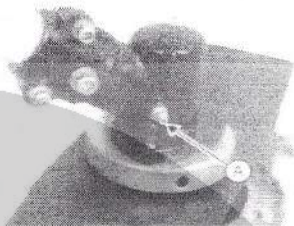
GEAR BOX LUBRICATION

Level 1

Tools Required: Clean Rag, Grease Gun

Parts Required: Lithium Based Grease

1. Clean dirt from grease fitting (A).
2. Apply 1-2 pumps of grease into the fitting. DO NOT over fill. Leave room for the grease to expand during operation.



BLADES HARPENING

Level 3

Tools Required: Flat Fine File, Pliers, Flat Screw driver

Parts Required: None

1. Disconnect spark plug wire.
2. Slide blades together with pliers to allow file clearance for sharpening.
3. File the original shape, and file each cutting edge carefully.
4. Maintain 6mm (.25 in) radius at the base of each blade.
5. Connect spark plug wire.



WARNING

The trimmer/cutter blades are very sharp. Touching them may lead to severe personal injury. Avoid touching blades whenever possible, and always wear gloves to protect hands.



NOTICE

If a power grinder is used, **DO NOT** allow blades to overheat.

MAINTENANCE

BALDE REPLACEMENT

Level 2

Tools Required: #4 mm Hex Wrench, 8 mm wrench or socket with extension.

Parts Required: New blade

1. Remove blade guard and replace blade and install blade guard. See page 14.



WARNING

The trimmer/cutter blades are very sharp. Touching them may lead to severe personal injury. Use a socket and extension when blade locknut in order to keep hands at a safe distance from sharp blades.



NOTICE

Blades should only be removed and reinstalled by authorized service center, otherwise premature wear or internal damage may occur.

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TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Will Not Start	1. Out of Fuel	1. Fill Fuel Tank
	2. Engine not CHOKED properly	2. See TO START ENGINE in Operation Section
	3. Engine flooded	3. Wait Several minutes before starting again
	4. Dirty air filter	4. Clean or replace air filter
	5. Water in fuel	5. Drain fuel tank and carburetor, fill with fresh fuel
	6. Clogged fuel tank, line	6. Remove fuel tank or filter and clean
	7. Loose spark plug wire	7. Make sure plug wire is seated properly on plug
	8. Bad spark plug or improper gap	8. Replace spark plug or adjust gap.
	9. Carburetor out of adjustment	9. Make necessary adjustments
Hard To Start	1. Throttle control not set properly	1. Place throttle control in "FAST" position
	2. Dirty air filter	2. Clean or replace air filter
	3. Bad spark plug or improper gap	3. Replace spark plug or adjust gap.
	4. Stale or dirty fuel	4. Drain fuel tank and carburetor, fill with fresh fuel
	5. Loose spark plug wire	5. Make sure plug wire is seated properly on plug
	6. Carburetor out of adjustment	6. Make necessary adjustments
Loss of Power	1. Engine is overloaded	1. Set depth stake or wheels for shallow tilling
	2. Dirty air filter	2. Clean or replace air filter
	3. Bad spark plug or improper gap	3. Replace spark plug or adjust gap.
	4. Stale or dirty fuel	4. Drain fuel tank and carburetor, fill with fresh fuel
	5. Water in fuel	5. Drain fuel tank and carburetor, fill with fresh fuel
	6. Clogged fuel tank, line	6. Remove fuel tank or filter and clean
	7. Loose spark plug wire	7. Make sure plug wire is seated properly on plug
	8. Dirty or clogged muffler	8. Clean or replace muffler
	9. Carburetor out of adjustment	9. Make necessary adjustments
	10. Poor compression	10. Contact an authorized service center
Engine Overheats	1. Dirty air filter	1. Clean or replace air filter
	2. Dirty engine	2. Clean cylinder fins, air filter, muffler
	3. Partially plugged muffler	3. Remove and clean muffler
	4. Improper carburetor adjustment	4. Adjust carburetor

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Excessive Bounce / Difficult Handling	1. Ground too dry and hard	1. Moisten ground or wait for more favorable soil conditions
	2. Wheels and depth stake incorrectly adjusted	2. Adjust wheels and depth stake
Soil Balls up or Clumps	1. Ground too wet	1. Wait for more favorable soil conditions
Engine Runs But Labors When Tilling	1. Tilling too deep	1. Set depth stake for shallower tilling
	2. Throttle control not properly adjusted	2. Check throttle control setting
	3. Carburetor out of adjustment	3. Make necessary adjustments

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