



Grass Trimmer/Brush Cutter

Operator's Manual

MODEL SRM - 251SB

WARNING  DANGER



The muffler or catalytic muffler and surrounding cover may become extremely hot.

Always keep clear of exhaust and muffler area, otherwise serious personal injury may occur.

 WARNING 

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



WARNING  DANGER

Read rules for safe operation and instructions carefully. ECHO provides an Operator's Manual and a Safety Manual. Both must be read and understood for proper and safe operation.

INTRODUCTION

Welcome to the ECHO family. This ECHO product was designed and manufactured to provide long life and on-the-job-dependability. Read and understand this manual and the SAFETY MANUAL you found in the same package. You will find both easy to use and full of helpful operating tips and SAFETY messages.

THE OPERATOR'S MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product.

THE SAFETY MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Explains possible hazards involved with the use of Grass Trimmers and Brush Cutters and what measures you should take to make their use safer.

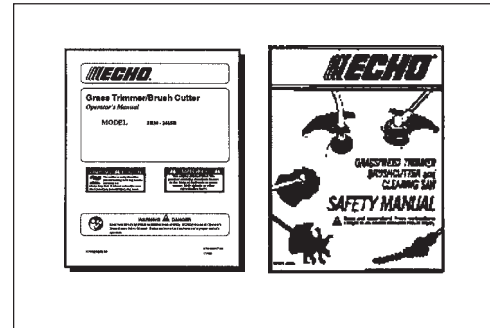


TABLE OF CONTENTS


Introduction	2	Maintenance	17
- The Operator's Manual	2	- Skill Levels	17
- The Safety manual	2	- Maintenance Intervals	17
Safety	3	- Air Filter	18
- Manual Safety Symbols and Important Information	3	- Fuel Filter	18
- International Symbols	3	- Spark Plug	19
- Personal Condition and Safety Equipment	4	- Cooling System	19
- Equipment Check	6	- Exhaust System	20
Emission Control	8	- Carburetor Adjustment	21
Description	7	- Lubrication	23
Contents	9	- Nylon Line Replacement	24
Assembly	9	- Sharpening Metal Blades	25
- Power Head Shaft / Lower Shaft Assembly	9	Troubleshooting	26
- Plastic Shield Installation	10	Storage	27
- Nylon Head Installation	10	Specifications	28
- Front Handle Installation	11	Servicing Information	32
Operation	12	- Parts/Serial Number	32
- Operation with Blades	12	- ECHO Consumer Product Support	32
- Fuel	14	- Service	32
- Starting Cold Engine	15	- Warranty Card	32
- Starting Warm Engine	16		
- Stopping Engine	16		


Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.

SAFETY

MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.

 This symbol accompanied by the words **WARNING** and **DANGER** calls attention to an act or condition that can lead to serious personal injury to operator and bystanders.









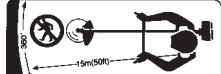
 The circle with the slash symbol means whatever is shown within the circle is prohibited.








 
IMPORTANT **NOTE**

IMPORTANT
The enclosed message provides information necessary for the protection of the unit.

NOTE
This enclosed message provides tips for use, care and maintenance of the unit.

INTERNATIONAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	"WARNING, SEE OPERATOR'S MANUAL"		Hot Surface
	Wear eye, ear and head protection		Finger Severing
	Wear hand and foot protection		DO NOT allow flames or sparks near fuel.
	Safety/Alert		DO NOT smoke near fuel.
			Keep bystanders and helpers away 15 m (50 ft.).

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Emergency Stop		Fuel and oil mixture
H	Carburetor Adjustment - High speed mixture		Primer Bulb
T	Carburetor Adjustment - Idle speed		Ignition ON/OFF
L	Carburetor Adjustment - Low speed mixture		Do not use blades. String line only
	Choke Control "Run" Position (Choke Open)		Choke Control "Cold Start" Position (Choke Closed)

PERSONAL CONDITION AND SAFETY EQUIPMENT

WARNING DANGER

Users of this product risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating unit.

Physical Condition

Your judgment and physical dexterity may not be good:

- if you are tired or sick,
- if you are taking medication,
- if you have taken alcohol or drugs.

Operate unit only if you are physically and mentally well.

Eye Protection

Wear eye protection that meets ANSI Z87.1 or CE requirements whenever you operate the unit.

Hand Protection

Wear no-slip, heavy-duty work gloves to improve your grip on the handle. Gloves also reduce the transmission of machine vibration to your hands.

Hearing Protection

ECHO recommends wearing hearing protection whenever unit is used.

Proper Clothing

Wear snug fitting, durable clothing;

- Pants should have long legs, shirts with long sleeves.
- DONOTWEARSHORTS,
- DONOTWEARTIES,SCARFS,JEWELRY.

Wear protective hair covering to contain long hair.

Wear sturdy work shoes with nonskid soles;

- DONOTWEAROPENTOEDSHOES,
- DONOTOPERATEUNITBAREFOOTED.

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.

Extended Operation/Extreme Conditions

It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.

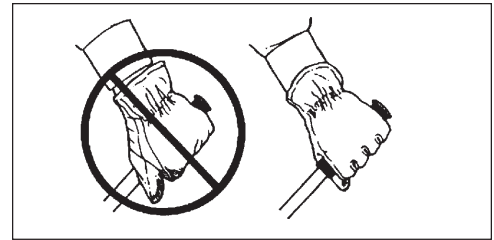


Repetitive Stress Injuries

It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:

- Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercise to strengthen the hand and arm muscles.
- Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.



WARNING **DANGER**

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

Read the Manuals

- Provide all users of this equipment with the Operator's Manual and Safety 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 15 m (50 ft.) while the unit is in use.

Keep a Firm Grip

- Hold the front and rear 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 in 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.



EQUIPMENT CHECK

WARNING DANGER

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

- Check unit for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.
- Inspect fuel lines, tank, and area around carburetor for fuel leaks. DO NOT operate unit if leaks are found.
- Inspect shield for damage and ensure that the cut-off knife is securely in place. Replace if either is damaged or missing.
- Check that the cutting attachment is firmly attached and in safe operating condition.
- Check that front loop handle and shoulder strap/ or shoulder/ waist harness are adjusted for safe, comfortable operation. See Assembly Section for proper adjustment.

EMISSION CONTROL

EPA Phase 2/California

The emission control system for this engine is EM/TWC (Engine Modification and Catalyst).

IMPORTANT ENGINE INFORMATION

ENGINE FAMILY: 5EHXS.0254KE DISPLACEMENT: 25.4 cc
EMISSION COMPLIANCE PERIOD: 300 Hours
THIS ENGINE MEETS U.S. EPA PH2 AND 2005 - 2006
CALIFORNIA EMISSION REGULATIONS FOR SORES.
REFER TO OWNER'S MANUAL FOR MAINTENANCE
SPECIFICATIONS AND ADJUSTMENTS.



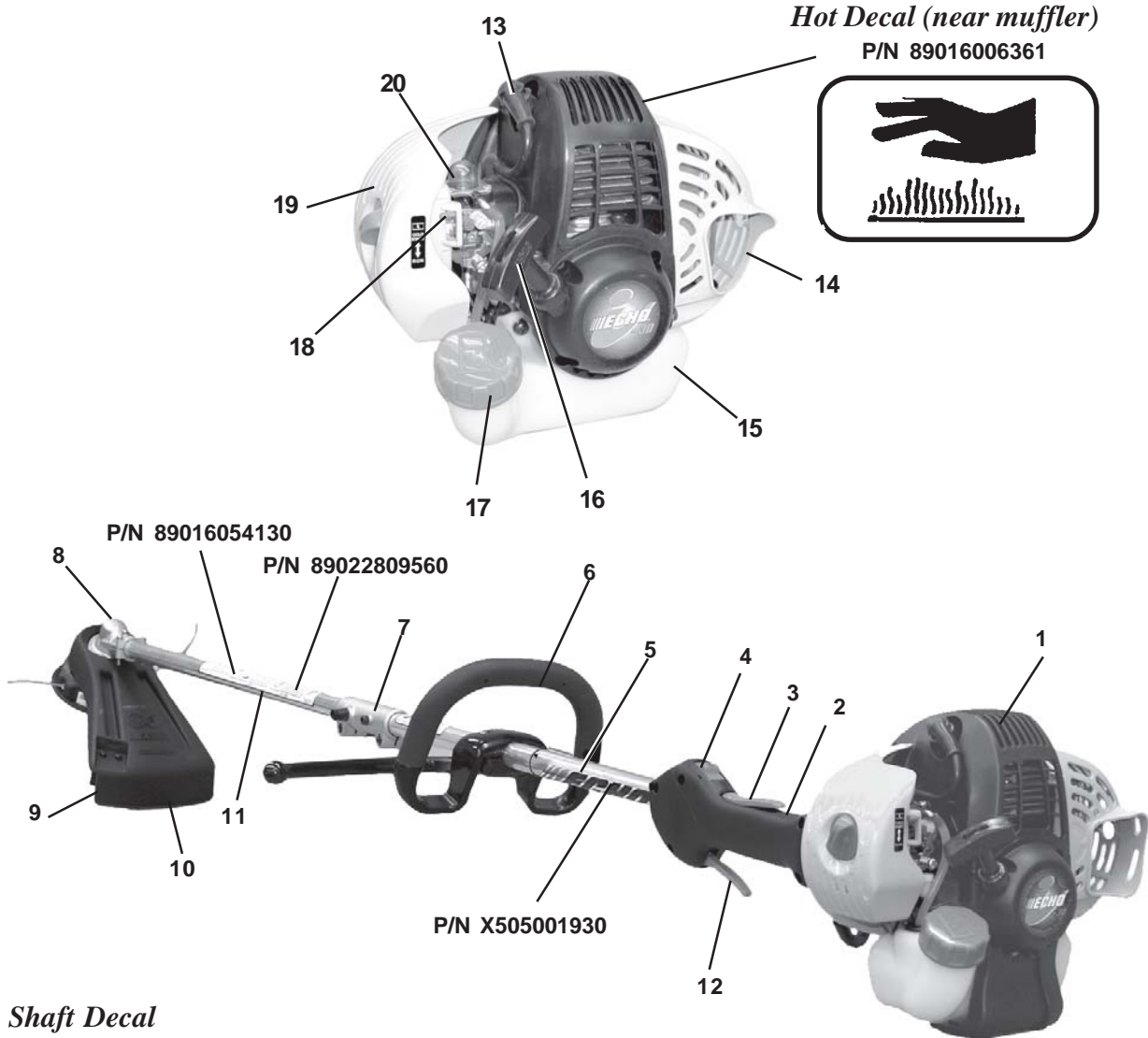
An Emission Control Label is located on the engine. (This is an EXAMPLE ONLY, information on label varies by engine FAMILY).

PRODUCT EMISSION DURABILITY

The 300 hour emission durability compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

DESCRIPTION

Locate these safety decals on your unit. Make sure the decals are legible and that you understand and follow the instructions on them. If a decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.



Shaft Decal

English Translation

P/N 89022809560

ADVERTENCIA PELIGRO
 Esta unidad puede ser peligrosa y producir lesiones personales graves si no se usa en forma adecuada. Para reducir el riesgo de lesionarse, los operadores, los ayudantes y los espectadores deben leer y comprender el Manual Del Operador y los Manuales De Seguridad que se entregan escritos en español.

89022809560

WARNING DANGER
 This unit can be dangerous and cause serious injury if improperly used. To reduce injury risk to operator, helpers and bystanders, read and understand the Operator's and Safety Manuals, which are provided in Spanish.

P/N X505001930





P/N 89016054130

WARNING DANGER
 This unit can be dangerous and cause serious injury if improperly used. To reduce injury risk to operator, helpers and bystanders, read and understand the Operator's and Safety Manuals.

'SRM' UNITS

- Prevent accidental contact with unit and any cutting attachment. Maintain a 50 ft. (15m) radius. DANGER ZONE surrounding the operator. ONLY the operator, dressed in proper protective clothing should be in the DANGER ZONE.
- Beware of KICKOUT (blade thru) when using blades. Special precautions are necessary for blade operation. See your Operator's and Safety Manuals. ONLY install ECHO approved blades on Brushcutters (SRM) models equipped with proper blade shield.
- Li handles, harness, blade collar, nut and cutter pin.
- Blade/Cutting attachment does not stop immediately after missing throttle. Keep hands and feet clear of blade/cutting attachment as returning.
- INSPECT BLADES BEFORE USE.
- DO NOT USE DAMAGED, CRACKED, BENT, DULL OR IMPROPERLY SHARPENED BLADES.
- Do not remove shields, modify the unit or install attachments or parts not approved by ECHO. Approved attachment information and replacement Operator's and Safety Manuals are available from your ECHO dealer or by writing ECHO, INCORPORATED, 400 Oakwood Park, Lake Zurich, IL 60047.

890160 54130

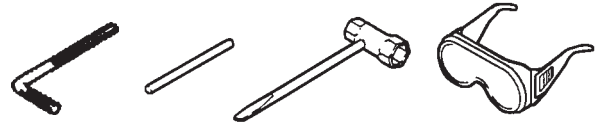
1. **POWER HEAD** - Includes the Engine, Clutch, Fuel System, Ignition System and Recoil Starter.
2. **GRIP** - Rear (right hand) handle.
3. **THROTTLE TRIGGER LOCKOUT** - This lever must be held during starting. Operation of the throttle trigger is prevented unless throttle trigger lockout lever is engaged.
4. **STOP SWITCH** - "SLIDE SWITCH" mounted on top of the Throttle Trigger Housing. Move switch FORWARD to RUN, BACK to STOP.
5. **UPPER DRIVE SHAFT ASSEMBLY** - Includes the Rear (Right Hand) Grip Assembly, Front (Left Hand) Handle Assembly, Upper Flexible Drive Cable, Drive Shaft Assembly Coupler and Power Head.
6. **FRONT HANDLE/BARRIER BAR** - The Front (loop) handle is loosely assembled to the Drive Shaft assembly and must be positioned for proper control and operator comfort. The Barrier Bar is used to restrict rearward movement of the unit.
7. **DRIVE SHAFT COUPLER** - Includes Locator Pin and Clamping Knob.
8. **NYLON CUTTING ATTACHMENT** - Contains replaceable nylon trimming line that advances when the trimmer head is tapped against the ground while the head is turning at normal operating speed.
9. **CUT-OFF KNIFE** - Automatically trims line to the correct length: 5" after head is tapped on the ground. If trimmer is operated without a cut-off knife the line will become too long, the engine will overheat and engine damage may occur.
10. **PLASTIC DEBRIS SHIELD ASSEMBLY** - Included in plastic bag (co-pack). **MUST** be installed on unit before use, see Assembly Instructions. Shield assembly includes the Cut-Off Knife and Safety Decal. Mounts on the Gear Housing Assembly just above the cutting attachment. Helps protect the operator by deflecting debris produced during the trimming operation. This shield must be replaced with the steel shield for blade use.
11. **LOWER DRIVE SHAFT ASSEMBLY** - Includes the Debris Shield Assembly, Gear Housing Assembly, Lower Flexible Drive Cable, Nylon Cutting Attachment and Safety Decal.
12. **THROTTLE TRIGGER** - Spring loaded to return to idle when released. During acceleration, press trigger gradually for best operating technique.
13. **SPARK PLUG** - Provides spark to ignite fuel mixture.
14. **SPARK ARRESTOR - CATALYTIC MUFFLER/MUFFLER** - The muffler or catalytic muffler controls exhaust noise and emission. The spark arrestor screen prevents hot, glowing particles of carbon from leaving the muffler. Keep exhaust area clear of flammable debris.
15. **FUEL TANK** - Contains fuel and fuel filter.
16. **RECOIL STARTER HANDLE** - Pull recoil starter handle slowly until starter engages, then quickly and firmly. When engine starts, return handle slowly. **DO NOT** let handle snap back or damage to unit will occur.
17. **FUEL TANK CAP** - Covers and seals fuel tank opening.
18. **CHOKE** - The choke control is located on the top of the air filter case. Move choke lever to "Cold Start" () to close choke for cold start. Move choke lever to "Run" () position to open choke.
19. **AIR CLEANER** - Contains replaceable filter element.
20. **PURGE BULB** - Pumping purge bulb before starting engine draws fresh fuel from the fuel tank priming the carburetor for starting. Pump purge bulb until fuel is visible and flows freely in the clear fuel tank return line. Pump purge bulb an additional 4 or 5 times.

CONTENTS

The ECHO product you purchased has been factory pre-assembled for your convenience. Due to packaging restrictions, shield installation and other assembly may be necessary.

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

- ___ 1 - Power Head w/Upper Drive Shaft Assembly
- ___ 1 - Lower Drive Shaft Assembly
- ___ 1 - Plastic Bag (co-pack)
- ___ - 1, Operator's Manual
- ___ - 1, Safety Manual
- ___ - 1, Warranty Registration Card
- ___ - 1, Limited Warranty Statement
- ___ - 1, Plastic shield
- ___ - 1, T-wrench
- ___ - 1, Locking tool
- ___ - 1, 4mm Hex wrench
- ___ - 1, Nylon Trimmer Head
- ___ - 1, Handle Bracket, Bottom
- ___ - 1, Safety Glasses
- ___ - 1, 2-Stroke Oil Sample
- ___ - 1, Shield plate
- ___ - 3, 5 x 16mm screws (shield mtg.)



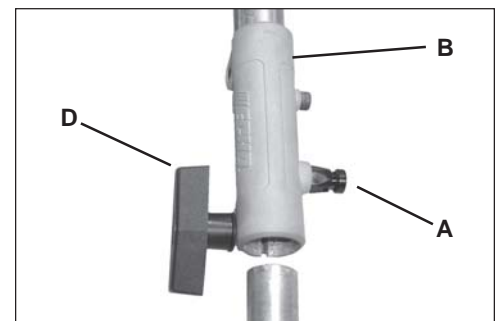
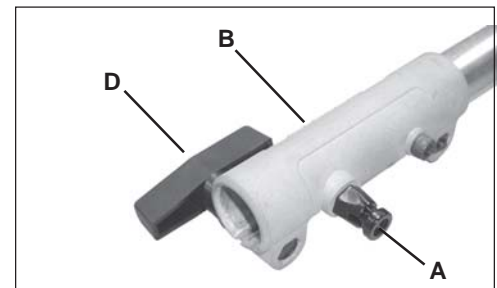
ASSEMBLY

POWER HEAD SHAFT / LOWER SHAFT ASSEMBLY

Tools Required: None

Parts Required: Power Head Shaft, Lower Shaft Assembly

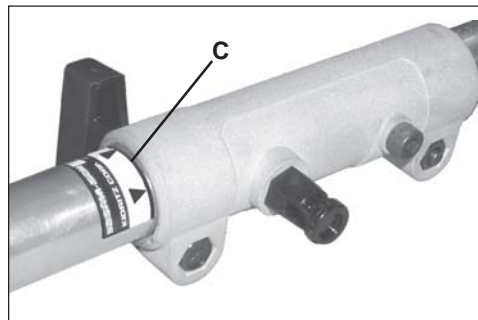
1. Set Power Head/Shaft Assembly on a level surface.
2. Pull locator pin (A) out, and turn counter-clockwise 1/4 turn to lock-out position.
3. Carefully fit attachment drive shaft assembly into coupler (B) to decal assembly line (C), making sure that the inner lower drive shaft engages into the square upper drive shaft socket.



NOTE

Lower bearing housing and head assembly must be in line with the engine.

4. Rotate locator pin (A) 1/4 turn clockwise to engage lower shaft hole. Insure locator pin is fully engaged by twisting lower drive shaft. Locator pin should snap flush in coupler. Full engagement will prevent further shaft rotation.
5. Secure lower shaft assembly to coupler by tightening clamping knob (D).



PLASTIC SHIELD INSTALLATION

(for Nylon Line Operation)

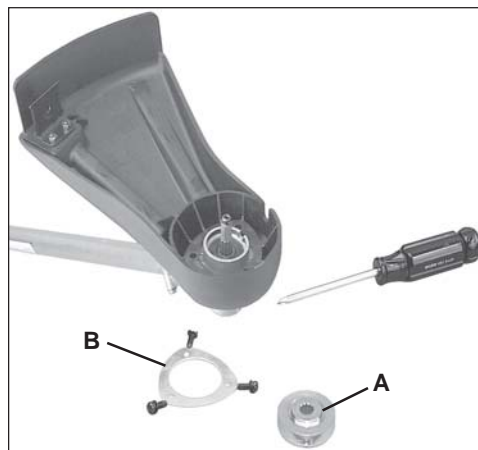
Tools Required: Screwdriver.

Parts Required: Plastic Shield, Shield Plate, three (3) 5mm x 16mm screws.

NOTE

The plastic shield is for use with the Nylon Line Head only. Install Metal Shield when using plastic or metal blades.

1. Remove plastic sleeve and upper plate (A) from PTO shaft.
2. Install the shield on the bottom of the bearing housing flange.
3. Place shield plate (B) on shield, align holes and install three (3) 5x16mm screws.
4. Install upper plate (A).



NYLON LINE HEAD INSTALLATION

Tools Required: Head Locking Tool,

Parts Required: Nylon Line Head.

1. Be sure upper adaptor plate remains on PTO shaft.
2. Align locking hole in upper plate with notch in edge of gear housing and insert head locking tool (C).
3. Thread line head onto shaft by turning it counter clockwise until head is tight against upper plate.
4. Remove head locking tool.



FRONT HANDLE/BARRIER BAR INSTALLATION

Tools Required: 4mm Hex Wrench

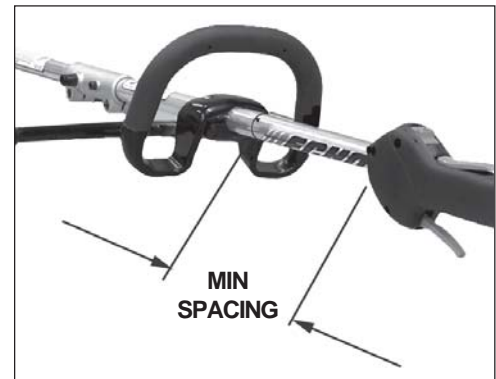
Parts Required: Front Handle Assembly

NOTE

Label shows minimum spacing for front handle location.

Front Handle with Barrier Bar:
(Not recommended when using Power Pruner™ or Hedge Clipper Attachments)

1. Position front handle assembly for comfortable operation, and tighten screws.
2. Retain bottom Handle Bracket for front handle use without barrier bar.



Front Handle without Barrier Bar:

NOTE

Label shows minimum spacing for front handle location.

1. Remove Barrier Bar, and replace with bottom handle bracket.
2. Position handle assembly for comfortable operation, and tighten screws.
3. Retain barrier bar.



OPERATION

OPERATION WITH BLADES

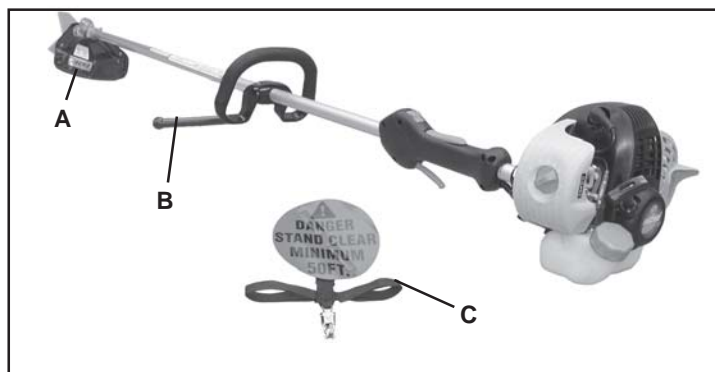
Preparing the Trimmer/Brush Cutter for Blade Use

WARNING DANGER

Blade use **DEMANDS** specific Brush Cutter configuration. Operation without specified shield, handle, and harness can result in serious personal injury. Follow installation instructions included in optional kits.

Grass/Weed Blades Require:

Install Blade Conversion Kit, Includes metal shield (A), barrier bar (B), and shoulder harness (C).

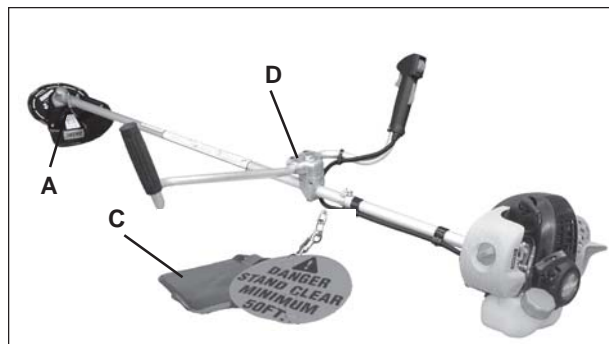


NOTE

The Barrier Bar is used to restrict rearward movement of the unit. For heavy-duty or extended use, U-handles should be used. See your Echo dealer or Trimmer/Brush Cutter Safety Manual for details regarding U-Handles. If you have additional questions, contact your Echo Service Dealer, or call Echo directly at 1-800-673-1558.

Brush/Clearing Blades Require:

Install U-Handle / Blade Conversion Kit, Includes metal shield (A), shoulder harness with hip pad (C), and U-Handles (D).



Choosing the Correct Blade

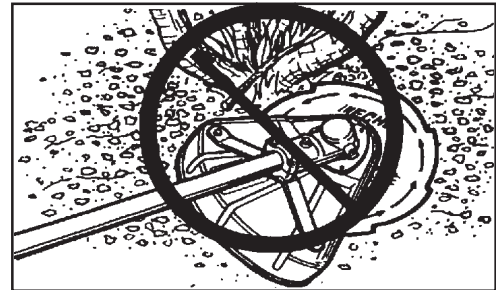
WARNING DANGER

The type of Blade used **MUST** be matched to the type and size of material cut. An improper or dull blade can cause serious personal injury. Blades **MUST** be sharp. Dull blades increase the chance of kick out and injury to yourself and bystanders.

Plastic/Nylon Blades may be used where ever the nylon line head is used. DO NOT use this blade for heavy weeds or brush!



8 Tooth Weed/Grass Blade P/N 69600120331 is designed for grass, garden debris and thick weeds. DO NOT use this blade for brush or heavy woody growth, 19 mm (3/4 in.) diameter or larger.



80 Tooth Brush Blade (P/N 69500120331) is designed for cutting brush and woody growth up to 64 mm (2-1/2 in.) diameter.



22 Tooth Clearing Blade (99944200130) is designed for dense thickets and saplings up to 64 mm (2-1/2 in.) diameter.

Use Shoulder/Waist Harness (P/N 99944200200) Use of the Shoulder/Waist Harness is recommended for **ALL** Trimmer/Brush Cutter use. The Shoulder/Waist Harness suspends the trimmer from the operator's shoulder and reduces operator fatigue.



The restrictive harness enhances operator safety by reducing the possibility of blade contact with the operator's hands and feet.

NOTE

In case of Emergency, pull up on the Quick Release Collar to disconnect the trimmer from the harness.



FUEL

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

Fuel Requirements

Gasoline - Use 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 15% MTBE (methyl tertiary-butyl ether). Gasohol containing methyl (wood) alcohol is **NOT** approved.

Two Stroke Oil - A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. **FC** Standards must be used. Echo brand premium Power Blend™ 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. **FC** certified oil, such as Echo premium Power Blend™, will void the two-stroke engine warranty. (Emission related parts only are covered for two years, regardless of two-stroke oil used, per the statement listed in the Emission Defect Warranty Explanation.)

IMPORTANT

Echo premium Power Blend™ Universal 2-Stroke Oil may be mixed at 50:1 ratio for application in all Echo engines sold in the past regardless of ratio specified in those manuals.

Handling Fuel

WARNING DANGER

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

- Use an approved fuel container.
- **DO NOT** smoke near fuel.
- **DO NOT** allow flames or sparks near fuel.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- **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.
- **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 or operate unit until leakage is repaired.
- Move at least 3m (10 ft.) from refueling location before starting the engine.

Fuel to Oil Mix - 50:1 Ratio

U.S.		METRIC	
GAS	OIL	GAS	OIL
Gallons	Fl. oz.	Liter	cc.
1	2.6	4	80
2	5.2	8	160
5	13	20	400

Mixing Instructions

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of 2-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

IMPORTANT

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 its 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.

IMPORTANT

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



IMPORTANT

Stored two-stroke fuel may separate. **ALWAYS** shake fuel container thoroughly before each use.

STARTING COLD ENGINE

WARNING DANGER

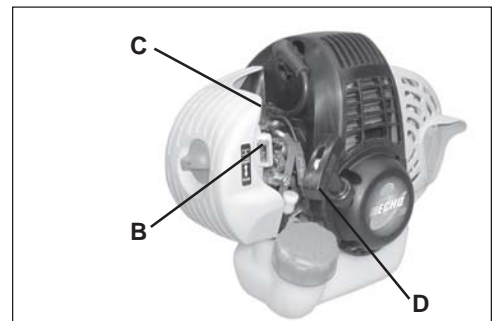
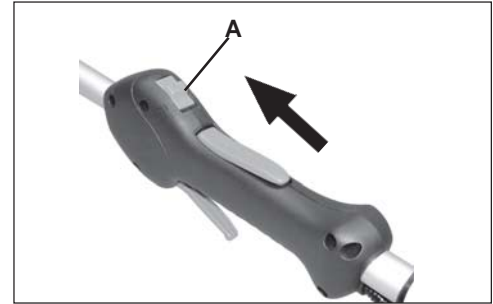
The attachment will operate immediately when the engine starts and could result in loss of control and possible serious injury. Keep movable parts of the attachment off the ground and away from objects that could become entangled or thrown.

1. *Stop Switch*
Move stop switch button (A) forward away from the STOP position.
2. *Choke*
Move choke lever (B) to Cold Start Position (.
3. *Purge Bulb*
Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 times.
4. *Recoil Starter*
Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Firmly grasp right hand grip and throttle trigger lockout with left hand and fully depress throttle trigger to wide open position. Rapidly pull recoil starter handle/rope (D) until engine fires (or maximum five [5] pulls).
5. *Choke*
After engine fires (or 5 pulls), move choke lever back to Run () position. Hold throttle trigger and throttle trigger lockout fully depressed, and pull recoil starter handle/rope until engine starts and runs. Allow engine to run at partial throttle for approximately 10 seconds. Release throttle trigger, and allow unit to warm up at idle for several minutes.

NOTE

If engine does not start with choke in "Run" position after 5 pulls, repeat instructions.

6. *Throttle Trigger*
After engine warm-up, gradually depress throttle trigger to increase engine RPM to operating speed.



STARTING WARM ENGINE

The starting procedure is the same as Cold Start except DO NOT close the choke, and do not depress throttle trigger to wide open position.

WARNING DANGER

The attachment should not move at idle, otherwise serious personal injury may result.

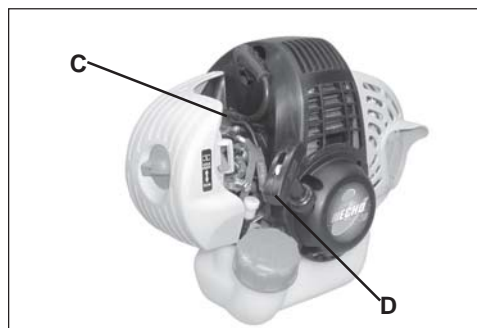
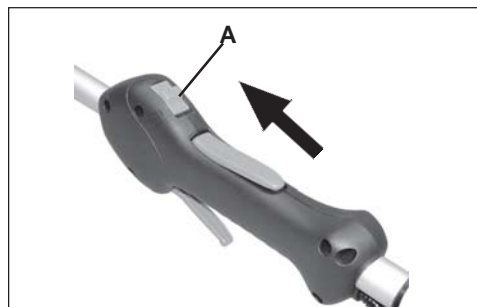
NOTE

If attachment moves, readjust carburetor according to “Carburetor Adjustment” instructions in this manual or see your ECHO Dealer.

1. *Stop Switch*
Move stop switch button (A) away from the STOP position.
2. *Purge Bulb*
Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 times.
3. *Recoil Starter*
Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Rapidly pull recoil starter handle/rope (D) until engine fires.

NOTE

If engine does not start after 5 pulls, use Cold Start Procedure.

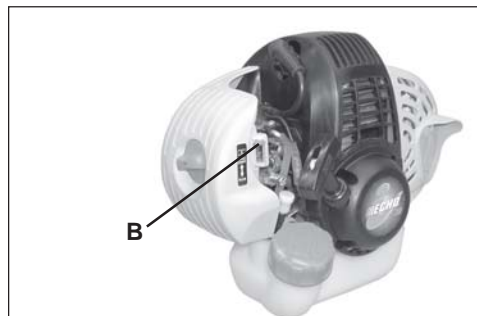
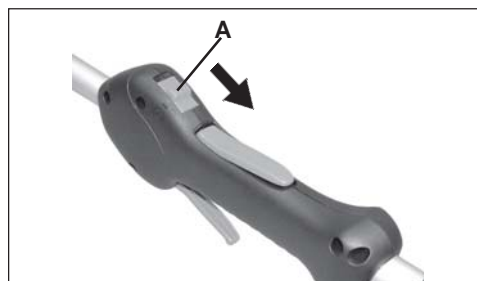


STOPPING ENGINE

1. *Throttle*
Release throttle and allow engine to return to idle before shutting off engine.
2. *Stop Switch*
Move stop switch button (A) backward to STOP position.

WARNING DANGER

If engine does not stop when stop switch is moved to STOP position, close choke - COLD START position - to stall engine. Have your ECHO dealer repair stop switch before using trimmer again.



MAINTENANCE

Your ECHO trimmer is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your trimmer achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance. To help you decide whether you want to DO-IT-YOURSELF or have the ECHO Dealer do it, each maintenance task has been graded. If the task is not listed, see your ECHO Dealer for repairs.

SKILL LEVELS

- Level 1** = Easy to do. Most required tools come with unit.
- Level 2** = Moderate difficulty. Some specialized tools may be required.
- Level 3** = Experience required. Specialized tools are required. ECHO recommends that the unit be returned to your ECHO dealer for servicing.

ECHO offers **REPOWER™** Maintenance Kits and Parts to make your maintenance job easier. Below each task heading are listed the various part numbers required for that task. See your ECHO dealer for these parts.

MAINTENANCE INTERVALS

COMPONENT/ SYSTEM	MAINTENANCE PROCEDURE	REQ'D SKILL LEVEL	DAILY OR BEFORE USE	EVERY REFUEL	3 MONTHS OR 90 HOURS	6 MONTHS OR 270 HOURS	YEARLY 600 HOURS
Recommended Echo Dealer Maintenance Procedures							
Cylinder Exhaust Port	Inspect/Clean/Decarbon	3			I / C		
Do-It-Yourself Maintenance Procedures							
Air Filter	Inspect/Clean/Replace	1	I / C		R*		
Choke	Inspect/Clean	2	I / C				
Fuel Filter	Inspect/Replace	1			I		I / R *
Fuel System, leaks	Inspect/Replace	1	I *	I	I		
Cooling System	Inspect/Clean	2	I / C				
Muffler Spark Arrestor	Inspect/Replace	2			I / R *		
Drive Shaft (Flex Cable Models)	Grease	2			I (1)		
Gear Housing	Grease	2			I (2)		
Recoil Starter Rope	Inspect/Clean	1	I / C *				
Spark Plug	Inspect/Clean	2			I / C	R *	
Screws/Nuts/Bolts	Inspect/Tighten/Replace	1	I / R *				

MAINTENANCE PROCEDURE LETTER CODES: I = INSPECT, R = REPLACE, C = CLEAN

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

MAINTENANCE PROCEDURE NOTES:

(1) Apply ECHO® LUBE™ every 25 hours of use.

(2) Apply ECHO® LUBE™ every 50 hours of use.

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

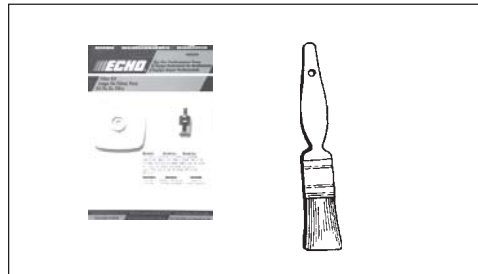
AIR FILTER

Level 1.

Tools Required: Cleaning brush 25 or 50 mm (1 or 2 in.)

Parts Required: 90008REPOWER™ AIR & FUEL FILTER KIT.

1. Close choke (Cold Start Position (☞)). This prevents dirt from entering the carburetor throat when the air filter is removed. Brush accumulated dirt from the air filter area.
2. Remove the air filter cover. Lightly brush debris from filter. If filter is fuel soaked, deformed, or very dirty, replace it.
3. If filter can be reused, be certain it:
 - fits tightly in the air filter cavity.
 - is installed with the original side out.



FUEL FILTER

Level 1.

Tools Required: 200-250 mm (8-10 in.) length of wire with one end bent into a hook, clean rag, funnel, and an approved fuel container.

Parts Required: 90008REPOWER™ AIR & FUEL FILTER KIT.

WARNING DANGER

Fuel is **VERY** flammable. Use extreme care when mixing, storing or handling.

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Use the “fuel line hook” to pull the fuel line and filter from the tank.
3. Remove the filter from the line and install the new filter.



SPARK PLUG

Level2.

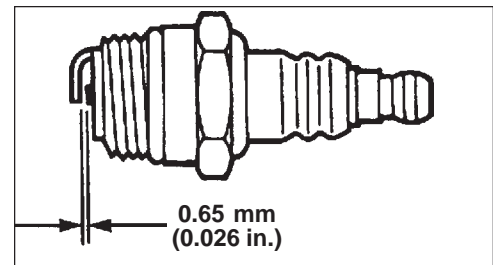
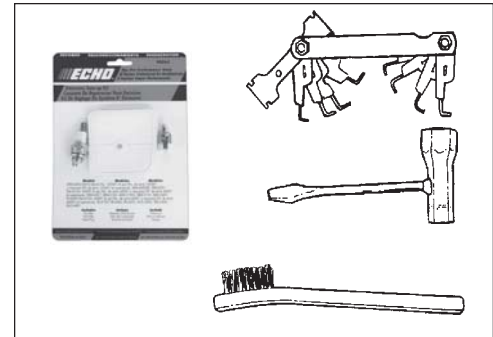
Tools Required: T-Wrench, feeler gauge, soft metal brush.

Parts Required: REPOWER™ Tune-Up Kit P/N 90074

IMPORTANT

Use only NGK BPM-8Y spark plug (BPMR-8Y in Canada) otherwise severe engine damage may occur.

1. Remove spark plug and check for fouling, worn and 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 kg/cm (130-150 in. lb.).



COOLING SYSTEM

Level2.

Tools Required: 3 & 4 mm Hex Wrench, cleaning brush, 25 or 50 mm (1 or 2 in.)

Parts Required: None if you are careful.

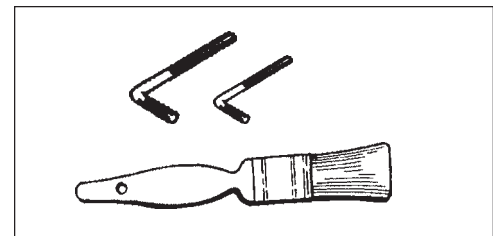
IMPORTANT

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.

Overheating and engine seizure can occur when:

- Air intakes are blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build up on the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.

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

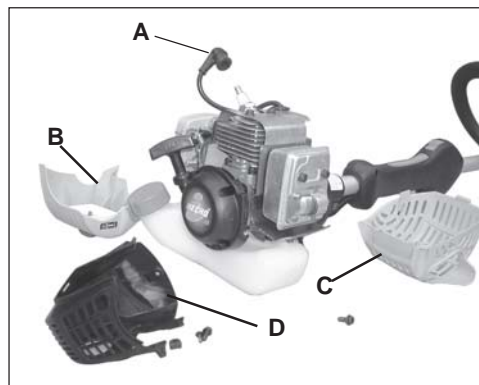


1. Remove spark plug lead (A).
2. Remove air filter cover (B).
3. Remove one (1) muffler cover screw and muffler cover (C).
4. Remove two (2) screws and engine cover (D).

IMPORTANT

DO NOT use a metal scraper to remove dirt from the cylinder fins.

5. Use brush to remove dirt from the cylinder fins.
6. Remove grass and leaves from the grid between the recoil starter and fuel tank.
7. Assemble components in reverse order.



EXHAUST SYSTEM

Spark Arrestor Screen

Level 2.

Tools Required: Cross Head Screwdriver, Soft Metal Brush, 4mm Hex Wrench

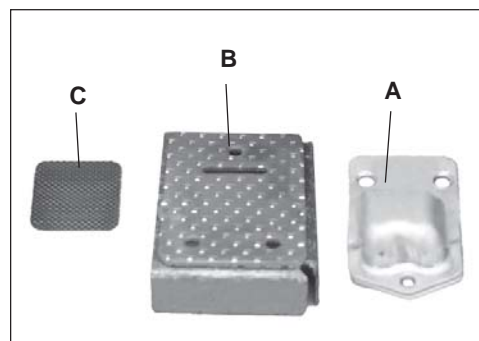
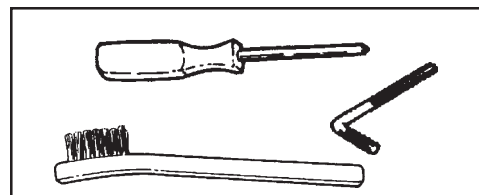
Parts Required: Spark Arrestor Screen, Gasket

1. Remove spark plug lead.
2. Remove one (1) muffler cover screw and muffler cover.
3. Place piston at Top Dead Center (TDC) to prevent carbon/dirt from entering cylinder.
4. Remove spark arrestor screen cover (A), gasket (B) and screen (C) from muffler body.
5. Clean carbon deposits from screen and muffler components.

NOTE

When cleaning carbon deposits, be careful not to damage the catalytic element inside muffler.

6. Replace screen if it is cracked, plugged or has holes burned through.
7. Assemble components in reverse order.



Cylinder Exhaust Port

Level 3.

IMPORTANT

The cylinder exhaust port must be inspected and cleaned of excess carbon every 3 months or 90 hours of operation in order to maintain this engine within the emissions durability period. ECHO strongly recommends that you return your unit to your ECHO dealer for this important maintenance service.

CARBURETOR ADJUSTMENT

Engine Break-In

New engines must be operated a minimum duration of two 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 Adjustment

High altitude adjustment is not required for proper operation of this engine.

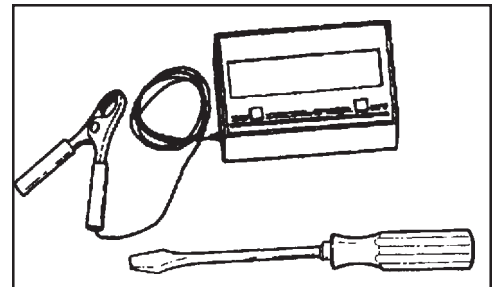
Level 2.

Tools required: Screwdriver, tachometer (Echo P/N 99051130017)

Parts required: None.

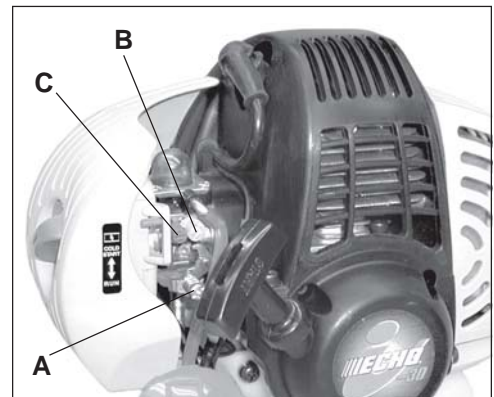
NOTE

Do not adjust carburetor unless necessary. If you have difficulty, see your ECHO dealer.



Adjustment Screws

- Idle Speed (A) Controls throttle opening at idle.
- Low (LO) Speed (B) Controls amount of fuel at low speed and supplementary fuel for smooth progression from idle to high speed.
- High (HI) Speed (C) Controls amount of fuel at full throttle



Before Adjustment

Check that:

- Air filter is clean and properly installed.
- Spark arrestor screen and muffler are free of carbon.
- Nylon line head with lines trimmed to 8 in. is installed.

Initial Adjustment

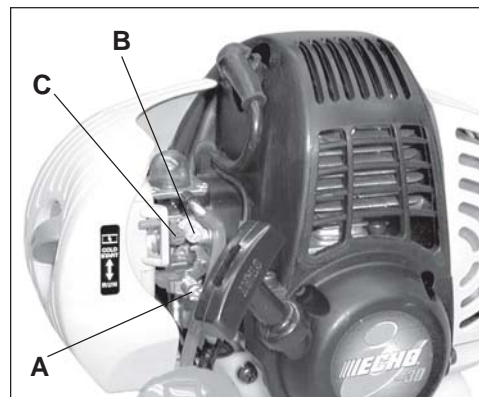
1. With engine off, turn HI speed screw (C) counterclockwise to stop.
2. Turn LO speed screw (B) midway between stops.
3. Turn idle screw (A) until tip of screw just touches throttle plate; then turn three (3) turns clockwise.

Final Adjustment

IMPORTANT

Limiter caps prevent exceeding emission limits and over rich adjustment, but **not** over lean adjustment, which can cause engine failure: Do not exceed recommended HI speed engine R.P.M. during operation, or for long periods during adjustment.

1. Start engine, run at idle for one minute.
2. Complete warm up by running at full throttle for 5 minutes, operating choke twice to clear air from carburetor chambers.
3. Run at idle and accelerate to check for smooth transition from idle to high speed; if engine hesitates, turn LO speed screw (B) counterclockwise 1/8th of a turn at a time until acceleration is smooth.
4. Use a tachometer to adjust idle speed to specifications found on page 28.

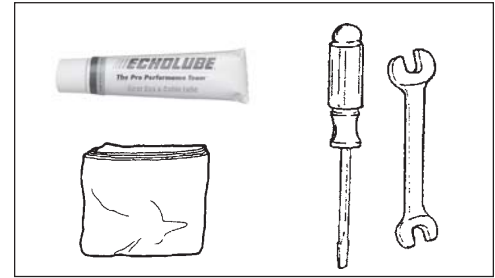


LUBRICATION

Level 1.

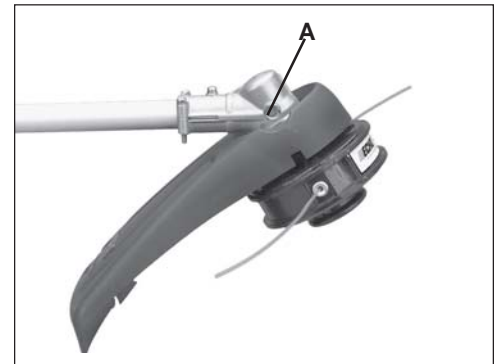
Tools Required: 8 & 13 mm Open End Wrenchs, Screwdriver, Clean Rag.

Parts Required: ECHO[®] LUBE™ 8 oz. (P/N91014) or Lithium Base Grease.



Gear Housing

1. Clean all loose debris from gear box.
2. Remove plug (A) and check level of grease.
3. Fill gearcase with grease.

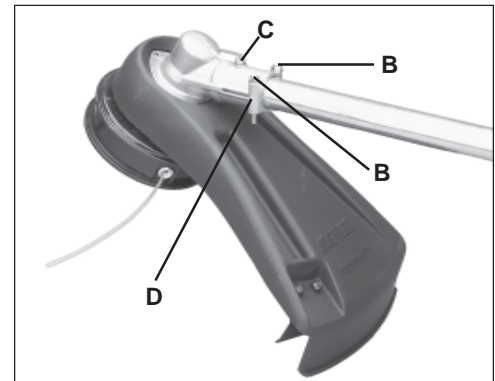


Drive Shaft (Lower)

IMPORTANT

Lower and upper drive shaft must be lubricated with high temperature automotive grease every 25 hours of operation, otherwise drive shaft assembly overheating and failure can result.

1. Loosen two (2) screws (B) and remove center locating screw (C). Pull gear box and shield from drive shaft housing.
2. Pull flexible cable from the drive shaft housing, wipe clean and re-coat with a thin coating [15 ml (1/2 oz.)] of ECHO[®] LUBE™.
3. Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.
4. Install the gear housing and shield assembly.

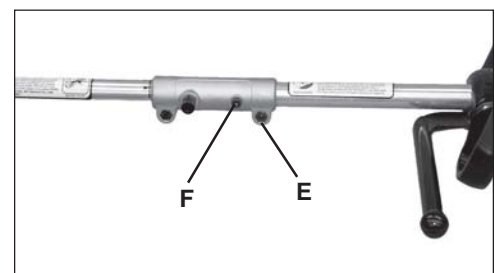


IMPORTANT

Flat edge of washers (D) must be against drive shaft.

Drive Shaft (Upper)

1. Remove coupler from upper drive shaft assembly by loosening clamping screw (E) and removing set screw (F).
2. Remove upper flex drive cable, wipe clean and apply a thin coating 15 ml (1/2 oz.) of ECHO[®] LUBE™.
3. Install flex drive cable. Make sure that the flex cable engages into the clutch mount and also into the coupler mount.
4. Install set screw (F) and tighten clamping screw (E).



NYLON LINE REPLACEMENT

Level 1.

Parts Required: ECHO 2.4mm (0.095 in.) Nylon Trimmer Line 12m (40 feet [two 20 ft. sections])

Echomatic Pro Trimmer Head

1. Do not push spool in. Hold drum and turn spool clockwise until peg clicks and disappears from hole. Pull spool out of drum.
2. Place ends of two 20 ft. x .095 in. Crossfire™ trimmer lines into holes in spool, one on each side of barrier.
3. Wind both lines tightly and evenly (one on each side of barrier) in the direction of arrow on bottom of spool.
4. Place ends of lines into notches in spool, leaving 6 in. protruding.
5. Feed ends of line outward through eyelets in drum.
6. Turn inner drive so that pegs in drive align with grooves in spool, and push spool into drum.
7. Hold spool and drum securely with one hand, and pull each line to disengage from notches.
8. Hold drum and twist spool counter clockwise until peg clicks into hole.
9. Trim lines to 8 in. length.



SHARPENING METAL BLADES

Three styles of metal blades are approved for use on the ECHO Brush Cutter. The 8-tooth blade can be sharpened during normal maintenance. The clearing blade and 80 tooth blade require professional service.

Before sharpening, CLOSELY inspect blade for cracks (look at the bottom of each tooth and the center mounting hole closely), missing teeth and bending. If ANY of these problems are discovered, replace the blade.

When sharpening a blade, always remove the same amount of materials from each tooth to maintain balance. A blade that is not balanced will cause unsafe handling due to vibration and can result in blade failure.

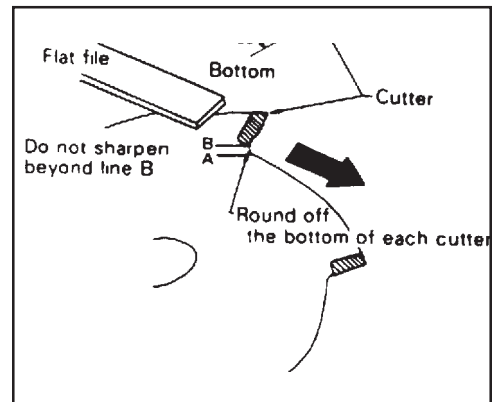
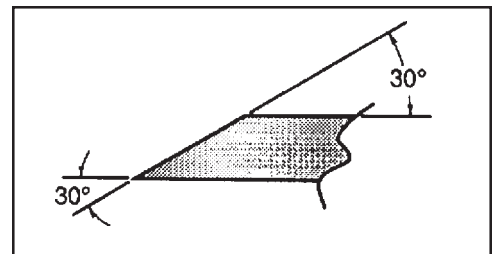
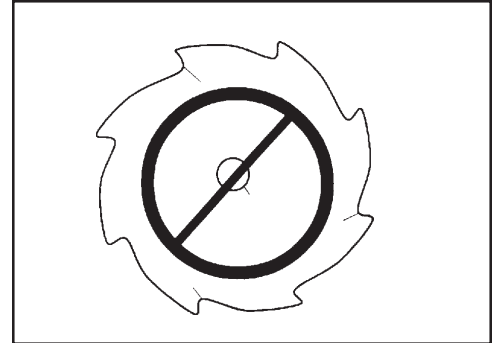
Tool required: Flat file (preferred). Electric grinder if special care is used. Round (rat tail) file for gullet (radius).

1. File each tooth at a 30 degree angle a specific number of times, eg. 4 strokes per tooth. Work your way around the blade until all teeth are sharp.
2. DO NOT file the 'gullet' (radius) of the tooth with the flat file. The radius must remain. A sharp corner will lead to a crack and blade failure.

IMPORTANT

If an electric grinder is used, use care not to overheat teeth, do not allow tips/tooth to glow red or turn blue. DO NOT place blade in cooling water. This will change the temper of the blade and could result in blade failure.

3. After sharpening teeth, check each tooth radius for evidence of a square (sharp) corner. Use the round (rat tail) file to renew the radius.



TROUBLESHOOTING

ENGINE PROBLEM TROUBLESHOOTING CHART

Problem	Check	Status	Cause	Remedy
Engine cranks - starts hard/ doesn't start	Fuel at carburetor	No fuel at carburetor	Fuel strainer clogged Fuel line clogged Carburetor	Clean or replace Clean or replace See your Echo dealer
	Fuel at cylinder	No fuel at cylinder	Carburetor	See your Echo dealer
		Muffler wet with fuel	Fuel Mixture too rich	Open choke Clean/replace air filter Adjust carburetor See your Echo dealer
	Spark at end of plug wire	No spark	Stop switch off Electrical problem Interlock switch	Turn switch to ON See your Echo dealer See your Echo dealer
	Spark at plug	No spark	Spark gap incorrect Covered with carbon Fouled with fuel Plug defective	Adjust to .65mm (0.026 in.) Clean or replace Clean or replace Replace plug
Engine runs, but dies or does not accelerate properly	Air filter	Air filter dirty	Normal wear	Clean or replace
	Fuel filter	Fuel filter dirty	Contaminants/residues in fuel	Replace
	Fuel vent	Fuel vent plugged	Contaminants/residues in fuel	Clean or replace
	Spark Plug	Plug dirty/worn	Normal wear	Clean and adjust or replace
	Carburetor	Improper adjustment	Vibration	Adjust
	Cooling System	Excessive dirt/debris	Extended operation in dirty/dusty locations	Clean
	Spark Arrestor Screen	Screen cracked, plugged, or perforated	Normal wear	Replace
Engine does not crank	N/A	N/A	Internal engine problem	See your Echo dealer

WARNING  DANGER

Fuel vapors are **extremely** flammable and may cause fire and/or explosion. **Never** test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.

STORAGE

Long Term Storage (over 30 days)

WARNING  **DANGER**

During operation the muffler or catalytic muffler and surrounding cover become hot. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

1. Store unit in a dry, dust free place, out of the reach of children.

WARNING  **DANGER**

Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

2. Place the stop switch in the "OFF" position.
3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. **Drain** the fuel tank **completely** and pull the recoil starter handle several times to remove fuel from the carburetor.
7. Remove the spark plug and pour 7 cc (1/4 oz.) of fresh, clean, two-stroke engine oil into the cylinder through the spark plug hole.
 - A. Place a clean cloth over the spark plug hole.
 - B. Pull the recoil starter handle 2-3 times to distribute the oil inside the engine.
 - C. Observe the piston location through the spark plug

SPECIFICATIONS

MODEL	SRM-251SB
Shaft Length	1828mm (72.0in.)
Unit Width	313mm (12.31 in.)
Unit Height	235mm (9.25 in.)
Weight (dry) w/cutting attachment	5.64kg (12.43lb.)
Engine Type	Air cooled, two-stroke, single cylinder gasoline engine
Bore	34.0mm (1.34 in.)
Stroke	28.0mm (1.10 in.)
Displacement	25.4 cc (1.55 cu. in.)
Exhaust System	Spark Arrestor Muffler w/catalyst
Carburetor	Zama w/purge
Ignition System	CDI (capacitor discharge ignition)
Spark Plug	NGK BPM-8Y Gap 0.65 mm (0.026 in.)
Fuel	Mixed (Gasoline and Two-stroke Oil)
Fuel/Oil Ratio	50:1 ECHO High Performance, two-stroke air cooled engine oil
Gasoline	89 Octane unleaded. DO NOT use fuel containing methyl alcohol, more than 10% ethyl alcohol or 15% MTBE.
Oil	50:1 ECHO High Performance, two-stroke air cooled engine oil
Fuel Tank Capacity	0.42 lit. (14.2 US fl. oz.)
Starter System	Automatic Recoil Starter
Clutch	Centrifugal Type
Drive Shaft (upper & Lower)	6.35 mm (1/4 inch) Flex Shaft
Rotating Direction	Counter clockwise viewed from top
Cutting Attachment	Nylon line head (2-line) with .095 in. Cross Fire™ line capacity 6m (20 ft.)
Handles*	Front - Loop, Rear - Grip, when operating with standard line head
Shoulder Harness	Optional
Idle Speed (RPM)	2,500-3,000
Wide Open Throttle Speed (W.O.T.) with Nylon Line Head	8,500- 10,500RPM
Wide Open Throttle Speed (W.O.T.) with Blade	10,000- 12,000RPM

* Install and use U-Handle when operating any model with blade.

ECHO APPROVED OPTIONAL ATTACHMENTS

WARNING **DANGER**

Use only ECHO approved attachments for these models. Serious injury may result from the use of non-approved attachment combinations. Read and comply with all safety instructions listed in this manual and attachment manual.

ECHO, INC. will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO for use with these units.

SRM Edger Attachment	#99944200470
SRM Hedge Clipper Attachment	#99944200480
SRM Cultivator Attachment	#99944200510
SRM Trimmer Attachment	#99944200540
SRM Power Pruner Attachment	#99944200530
ProSweep Attachment	#99944200550
ProThatch Attachment	#99944200560
Articulating Hedge Clipper Attachment	#99944200590
80 Tooth Blade Trimmer Attachment	#99944200600
Rapid Loader Trimmer Attachment	#99944200610
ProPaddle Attachment	#99944200620

NOTES

NOTES

SERVICING INFORMATION

PARTS/SERIAL NUMBER

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number and Serial Number of the unit with you. You can find these numbers on the engine housing. For future reference, write them in the space provided below.

Model No. _____ SN. _____

SERVICE

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

ECHO CONSUMER PRODUCT SUPPORT

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit to help your Consumer Product Support Representative.

WARRANTY REGISTRATION

You may register your Echo equipment using the warranty registration card or register on-line at www.echo-usa.com. Registering provides a direct link between you and ECHO if we find it necessary to contact you.

ADDITIONAL OR REPLACEMENT MANUALS

Safety Manuals in English/Spanish or English/French are available, free of charge, from your ECHO dealer or at www.echo-usa.com.

Operator's and Parts Manuals are available by:

- Downloading free from www.echo-usa.com
- Purchasing from your Echo Dealer.
- Manuals are available by sending a written request stating the model number and serial number of your Echo unit, part number of the manual, your name and address, and mail to the address below.

Safety Videos are available from your Echo dealer. A \$5.00 shipping charge will be required for each video.

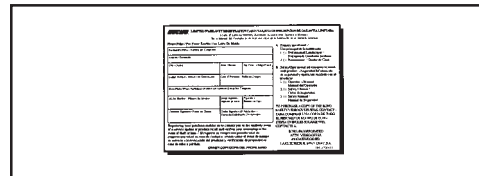


DEALER?

Call
1-800-432-ECHO
or
www.echo-usa.com

CONSUMER PRODUCT SUPPORT

1-800-673-1558
8:30 - 4:30 Mon - Fri C.S.T.



ECHO
ECHO, INCORPORATED

400 OAKWOOD ROAD
LAKE ZURICH, IL 60047-1564
www.echo-usa.com

09001001/09999999