



Trimmer Attachment *Operator's Manual*

MODEL 99944200540

FOR MODELS: **SRM-2100SB/2400SB**
 SRM-210SB/211SB
 SRM-260SB/261SB
 PAS-2100/2400
 PAS-210/211
 PAS-230/231
 PAS-260/261
 PAS-2601



WARNING **DANGER**

Read rules for safe operation and instructions carefully. ECHO provides an Operator's Manual and a Safety Manual for Pro Attachment Series power source or Split Boom Trimmer. Those manuals and this manual must be read and understood for proper and safe operation, otherwise serious personal injury may result.

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. It contains specifications and information for operation and maintenance specific to the attachment.

THE SAFETY MANUAL

Explains possible hazards and what measures you should take to insure safe operation.

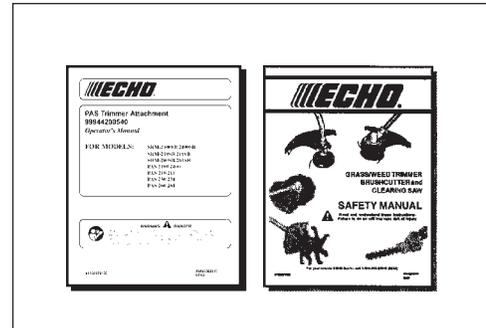


TABLE OF CONTENTS

Introduction	2	Assembly	9
- The Operator's Manual	2	- Power Head Shaft / Lower Shaft Assembly	9
- The Safety manual	2	- Plastic Shield Installation	10
Manual Safety Symbols & Important Information	3	- Nylon Head Installation	10
Safety	3	Operation	11
- Decals	3	Maintenance	11
- International Symbols	4	- Skill Levels	11
Safety Instructions	4	- Maintenance Intervals	11
- Personal Condition and Safety Equipment	4	- Lubrication	12
- Extended Operation/Extreme Conditions	5	- Nylon Line Replacement	13
- Equipment	6	Servicing Information	16
- Safe Operation	6	- Parts	16
Description	7	- Service	16
- Contents	7	- ECHO Consumer Product Support	16
Specifications	8	- Warranty Card	16
		- Additional or Replacement Manuals	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.

MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

Throughout this manual and on the product itself, you will find safety alerts and helpful, information 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.

SAFETY DECALS

Locate this safety decal on your unit. The complete unit illustration, found in the "DESCRIPTION" section, will help you locate it. Make sure the decal is legible and that you understand and follow the instructions on it. If the decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.

Shaft Decal

WARNING  **DANGER**

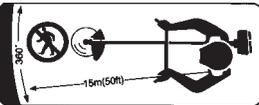
- This unit can be dangerous and cause serious injury if improperly used. To reduce injury risk to operator, helpers and bystanders, read and understand the Operator's and Safety manuals.
- Blindness can occur from objects that are thrown or ricocheted even with shield in place. Operators, helpers and bystanders must wear ANSI Z87.1 approved eye protection.
- Always wear hearing protection when operating unit.
- Prevent accidental contact with unit and any cutting attachment. Maintain a 15M (50 ft.) radius, **DANGER ZONE** surrounding the operator. **ONLY** the operator, dressed in proper protective clothing should be in the **DANGER ZONE**.
- Beware of **KICKOUT (blade thrust)** when using blades. Special precautions are necessary for blade operation, see your Operator's and Safety Manuals. **ONLY** install ECHO approved blades on Brush Cutters (SRM) models equipped with proper blade shield, U-handles, harness, blade collar, nut and cotter pin.
- Blade/Cutting attachment does not stop immediately after releasing throttle. Keep hands and feet clear of blade/cutting attachment unless engine is shut off and cutting attachment is not moving.
- **INSPECT BLADES BEFORE USE.**
- **DO NOT USE DAMAGED, CRACKED, BENT, DULL OR IMPROPERLY SHARPENED BLADES.**

P/N 89016054130



- 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 RD.,
LAKE ZURICH, IL 60047.**

INTERNATIONAL SYMBOLS

Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	"WARNING, SEE OPERATOR'S MANUAL"		Hot Surface
	Wear eyes, ears and head protection		Fuel and oil mixture
	Finger Severing		Emergency stop
	Wear hand and foot protection		WARNING
	Keep bystanders and helpers away 15 m (50 ft.).		

Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	Carburetor adjustment - High speed mixture		Primer Bulb
	Carburetor adjustment - Idle speed		Ignition ON/OFF
	Carburetor adjustment - Low speed mixture		Engine choke control.
	DO NOT USE BLADES - Line Head Only		Do not operate without guards and shields in place.
	Do not exceed 10,000 RPM.		BEWARE - Thrown, Ricochet objects

SAFETY INSTRUCTIONS

PERSONAL CONDITION AND SAFETY EQUIPMENT

WARNING DANGER

Trimmer/Brush Cutter users risk injury to themselves and others if the trimmer/brush cutter is used improperly or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a trimmer/brush cutter.

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 unit handles. 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.
- **DO NOT WEAR SHORTS,**
- **DO NOT WEAR TIES, SCARVES, JEWELRY.**

Wear sturdy work shoes with non-skid soles;

- **DO NOT WEAR OPENTOED SHOES,**
- **DO NOT OPERATE UNIT BAREFOOTED.**

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

Vibration and Cold

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 trimmer 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.

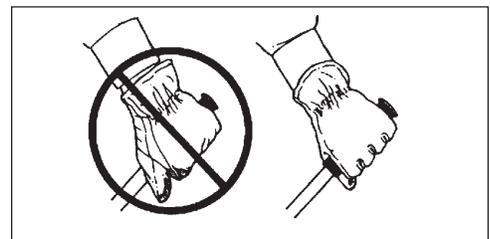


Repetitive Stress Injuries

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 exercises 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.



EQUIPMENT

- Check unit for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.
- 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.

NOTE

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

SAFE OPERATION

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

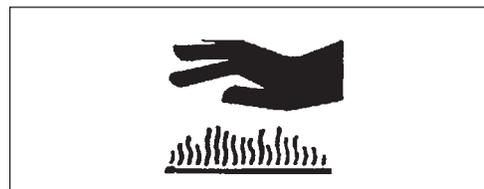
- Hold the front and rear handles with both hands, with thumbs and fingers tightly encircling the handles.

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.



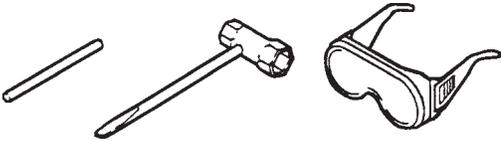
DESCRIPTION

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.

CONTENTS

- ___ 1 - PAS Trimmer Attachment
- ___ 1 - Operator's Manual
- ___ 1 - Warranty Registration Card
- ___ 1 - Locking Tool
- ___ 1 - T-Wrench
- ___ 1 - Plastic Debris Shield
- ___ 1 - Nylon Trimmer Head
- ___ 1 - Safety Goggle
- ___ 1 - Shield Plate
- ___ 3 - 5mm x 16mm Screws (shield mounting)
- ___ 1 - Storage Hook Assembly



1. **DRIVE SHAFT ASSEMBLY** - Contains a specially designed liner and the flexible drive shaft.
2. **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.
3. **CUT-OFF KNIFE** - Automatically trims line to the correct length: 5 in. 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.
4. **PLASTIC DEBRIS SHIELD ASSEMBLY** - Shield assembly includes the Cut-Off Knife and Safety Decal. Helps protect the operator by deflecting debris produced during the trimming operation. This shield must be replaced with the steel shield for blade use.
5. **SAFETY VIDEO** - (Not included with unit) P/N 99922202540 English version and P/N 99922203508 Spanish version are available at a cost of \$5.00 from ECHO, INC. or any authorized ECHO dealer. The video overviews safety precautions and proper operating techniques and is supplemental to the Safety Manual. Read and understand the Safety Manual for complete information on safe operation.

SPECIFICATIONS

MODEL ----- **PAS Trimmer Attachment**

Shaft Length ----- 870 mm (34.3 in.)

Attachment Width ----- 178 mm (7.0 in.)

Attachment Height ----- 255 mm (10.0 in.)

Weight (dry) w/line head ----- 1.43 kg (3.15 lb.)

Drive Shaft ----- 1/4" Flex Shaft

Direction of Rotation ----- Counter clockwise viewed from the top

Cutter Head ----- Nylon line head with .095 in. Cross Fire™ Line

Line Capacity ----- 6 m (20 ft.)

ASSEMBLY

POWER HEAD SHAFT/LOWER SHAFT ASSEMBLY

Tools Required: None

Parts Required: PAS or SRM-SB Power Head w/Shaft & Coupling.

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. Remove vinyl cap from attachment drive shaft.
4. 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.

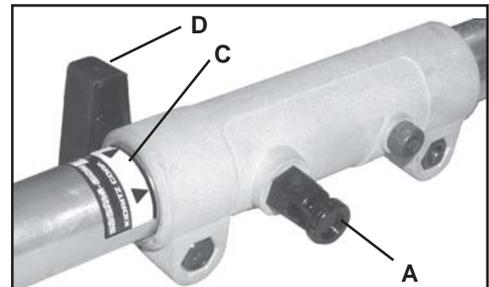
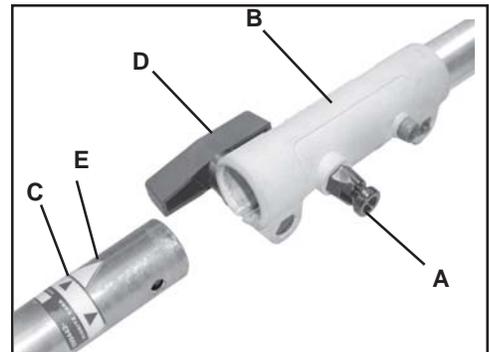
NOTE

Earlier model Power Heads may have shorter couplings. Short couplings fit flush to decal point (E). New couplings are 4-3/4 in. long, and fit flush to line (C).

NOTE

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

5. 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.
6. 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. Place plastic shield on bottom of bearing housing flange.
2. Place shield plate on plastic shield, align holes. Install three (3) screws from bottom through plate and shield into gear case.



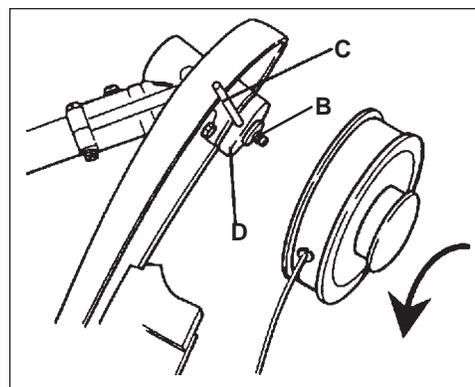
NYLON LINE HEAD INSTALLATION

(Use with Plastic Shield)

Tools Required: Head Locking Tool,

Parts Required: Nylon Line Head.

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



OPERATION

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.

NOTE

Refer to your Pro Attachment Series Operator's Manual for correct engine fueling, starting and stopping instructions.

NOTE

Refer to the Grass Trimmer / Brush Cutter Safety Manual for proper and safe trimming techniques.

WARNING  **DANGER**

Inspect starting area for hazards such as rocks, glass, debris etc. which could be contacted by the cutting attachment when starting. Keep helpers and bystanders at least 15 m (50 ft.) from starting area, otherwise serious personal injury may result.

MAINTENANCE

Your ECHO unit 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 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 a 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 service.

MAINTENANCE INTERVALS

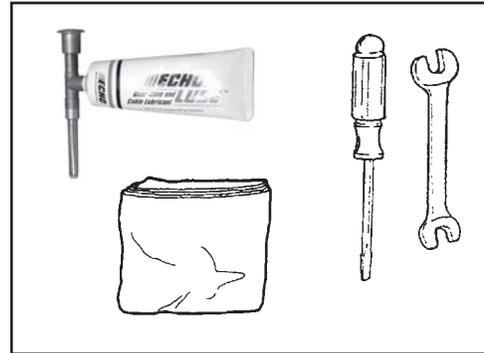
Component/System	Maintenance Procedure	Skill Level	Frequency
Drive Shaft	Grease	1	Every 25 hours of use
Gear Housing	Grease	1	Every 50 hours of use
Screws/Nuts/Bolts	Inspect/Tighten/Replace	1	Before each use

LUBRICATION

Level 1.

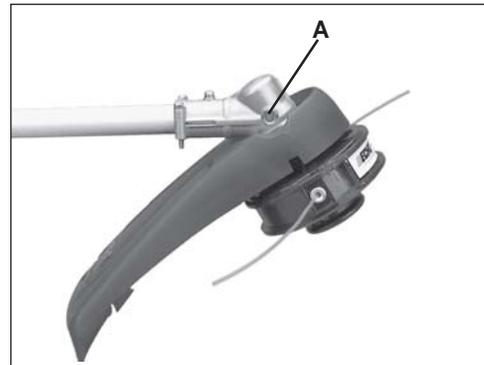
Tools Required: 13 mm Open End Wrench, Screwdriver, Clean Rag, Grease gun P/N 91016

Parts Required: ECHO[®] LUBE™ 8 oz. (P/N 91014) or Lithium Base Grease.



Gear Housing

1. Clean all loose debris from gear box.
2. Remove plug (A) and check level of grease.
3. Add grease if necessary, DO NOT over fill.

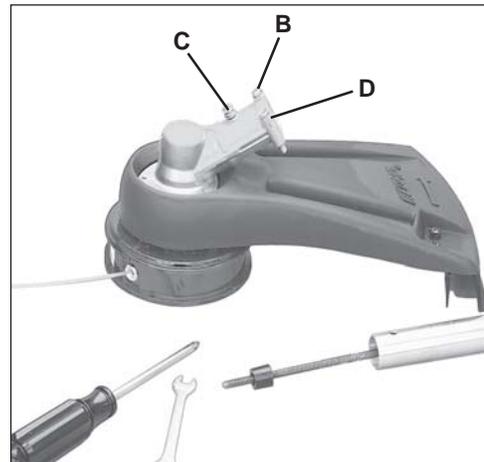


Drive Shaft (Lower)

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

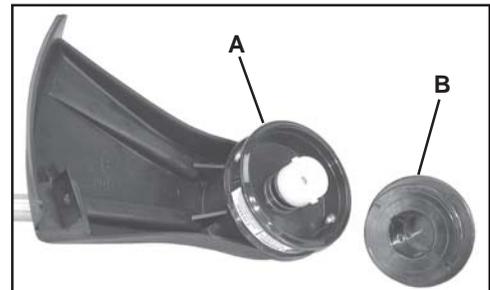
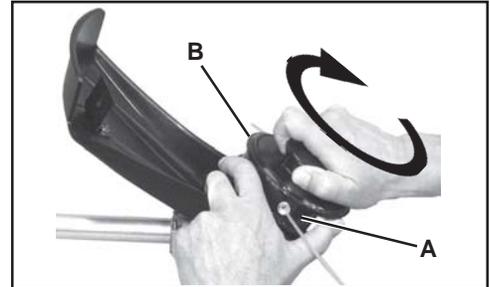
Flat edge of washers (D) must be against drive shaft.

NYLON LINE REPLACEMENT

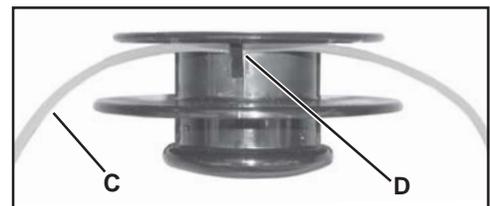
Level 1.

Parts Required: ECHO 0.095" Nylon Trimmer Line 6 m (20 ft.) long.

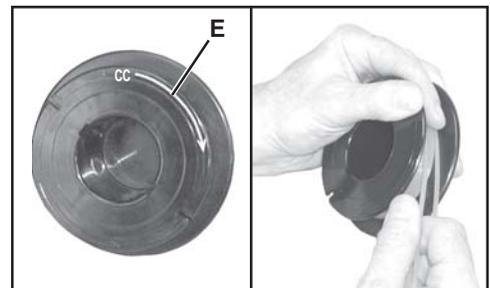
1. Shut engine off. Lay unit on the ground with head assembly up.
2. Hold drum (A) and turn spool (B) CW (clockwise) until it stops. Pull spool from drum. **DO NOT** push in on spool when turning.



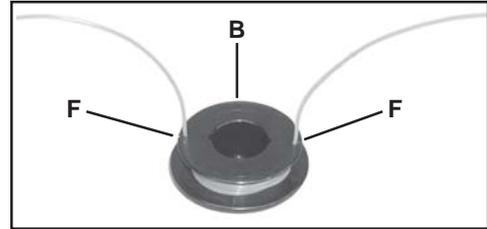
3. Use one piece of new nylon line (C) 6 m (20 ft.) long and thread through the molded loop (D) on the spool. Pull line tight and adjust so one end is 15 cm (6 in.) longer than the other.



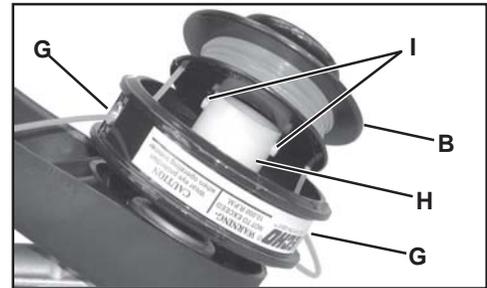
4. Hold the spool, opening toward you. Place index finger between the two strands and wind line, tightly and evenly, in direction of arrow (E) marked "CC".



5. Stop when approximately 15-20 cm (6-8 in.) line (C) remains and place ends of line in notches (F) in spool (B).

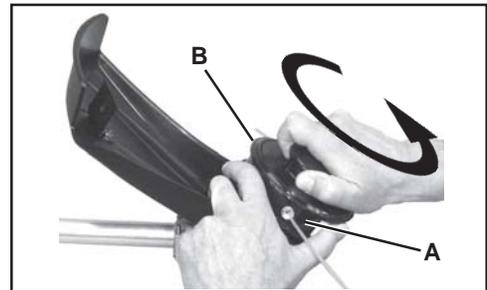


6. Feed ends of line through housing eyelets (G) and place spool (B) over drive (H). Align pegs (I) on drive with notches in spool, and push spool into drum.



7. Pull on both lines until they come free from notches (F) in spool.

8. Hold drum (A) firmly and turn spool (B) CCW (counterclockwise) until it stops. DO NOT push in on spool when turning.



9. Pull both lines out and trim to cut-off knife length.



NOTES

SERVICING INFORMATION

PARTS

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 attachment with you. You can find these numbers on the driveshaft model/serial number label. 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.



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