



PAS Articulating Hedge Clipper Attachment *Operator's Manual*

MODEL **99944200595**

FOR MODELS: **SRM-2100SB/2400SB**
 SRM-210SB/211SB
 SRM-225SB
 SRM-260SB/261SB
 PAS-2100/2400
 PAS-210/211
 PAS-230/231
 PAS-260/261
 PAS-2601
 PAS-265



WARNING

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 included with your attachment. You will find this manual easy to use and full of helpful operations 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.

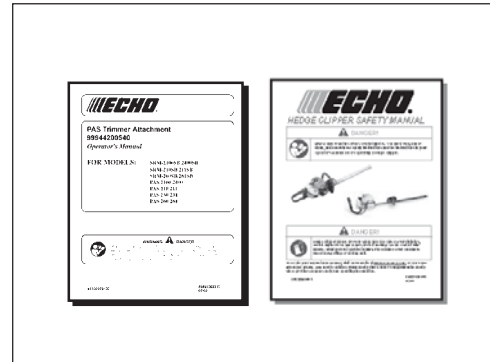


TABLE OF CONTENTS


Introduction	2	Maintenance	11
- The Operator's Manual	2	- Skill Levels	11
- The Safety Manual	2	- Maintenance Intervals	11
Safety	3	- Lubrication	11
- Manual Safety Symbols and Important Information ..	3	- Sharpening Blades	13
- International Symbols	3	- Blade Adjustment	14
- Personal Condition and Safety Equipment	4	Storage	15
- Equipment	6	Specifications	15
Description	6	Servicing Information	16
Contents	7	- Parts/Serial Number	16
Assembly	8	- Service	16
- Power Head Shaft/Lower Shaft Assembly	8	- ECHO Consumer Product Support	16
Operation	9	- Warranty Card	16
- Adjusting Cutting Angle	9	- Additional or Replacement Manuals	16
- Rotate Cutter Assembly	10		
- Hedge Trimming	10		

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.

 **DANGER**


The safety alert symbol accompanied by the word “DANGER” calls attention to an act or condition which **WILL** lead to serious personal injury or death if not avoided.

 **WARNING**

The safety alert symbol accompanied by the word “WARNING” calls attention to an act or condition which **CAN** lead to serious personal injury or death if not avoided.

 **CAUTION**

The safety alert symbol accompanied by the word “CAUTION” calls attention to an act or condition which may lead to minor or moderate personal injury if not avoided.

 **CIRCLE AND SLASH SYMBOL**

This symbol means the specific action shown is prohibited. Ignoring these prohibitions can result in serious or fatal injury.

NOTE











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

IMPORTANT

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

INTERNATIONAL SYMBOLS

Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	Read and understand Operator's Manual.		Fuel and oil mixture
	Wear eyes, ears and head protection		Finger Severing
	Hot Surface		Wear hand protection. Use two handed.
	Safety/Alert		DO NOT smoke near fuel.
	Avoid all power lines. This unit is not insulated against electrical current.		DONOT allow flames or sparks near fuel.
	Do not operate closer than 15 M (50 ft.) from electrical hazards.		Keep bystanders at least 15 meters (50feet) away.

Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	Emergency stop		Plan retreat path from falling objects.
	Choke Control "Cold Start" Position (Choke Closed)		Wear slip resistant foot wear.
	Choke Control "Run" Position (Choke Open)		Ignition ON/OFF
	Primer bulb		Carburetor adjustment - High speed mixture
	Carburetor adjustment - Low speed mixture		Carburetor adjustment - Idle speed

PERSONAL CONDITION AND SAFETY EQUIPMENT



WARNING

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.
- **DONOT WEAR SHORTS,**
- **DONOT WEAR TIES, SCARFS, JEWELRY.**

Wear protective hair covering to contain long hair.

Wear sturdy work shoes with nonskid soles;

- **DONOT WEAR OPENTOE SHOES,**
- **DONOT 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.

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.

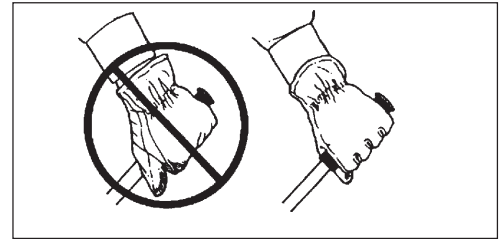


Repetitive Stress Injuries

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.



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

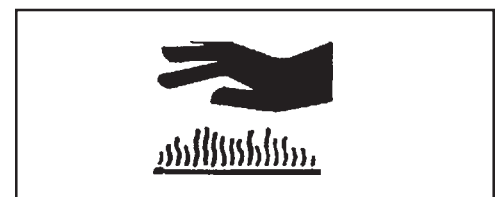
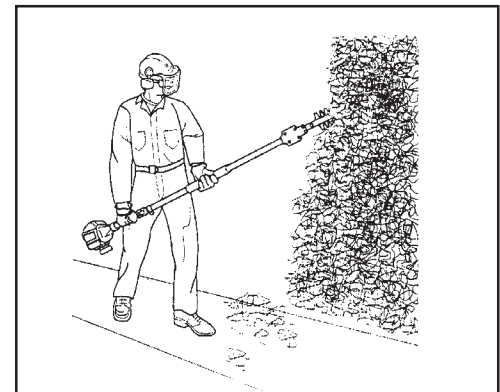
- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.

Cutting Angle Adjustments

- Only adjust cutting blade angle with unit flat on the ground, with the engine stop switch in the "STOP" position. Never adjust cutting angle with unit standing upright.

Avoid Hot Surfaces

- Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.



EQUIPMENT



WARNING

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

- Check unit for loose/missing nuts, bolts and screws. Tighten and/or replace as needed.
- Never adjust blades when the engine is operating.
- Inspect hand guard for damage. Replace if damaged or missing.
- Check that the blade assembly is firmly attached and in safe operating condition. Dull, loose or damaged blades should not be used.



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.
- **DO NOT** start or operate unit unless all guards and protective covers are properly assembled to unit.
- **NEVER** reach into any opening while the engine is running. Moving parts may not be visible through openings.

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

P/N X505000531



WARNING DANGER
Do not adjust blades with engine running.
ADVERTENCIA PELIGRO
El operador nunca debe tocar el cortador cuando el motor esta traba jando.
AVERTISSEMENT DANGER
N'ajustez le lames quand le moteur fonctionne.

P/N 89016012360



WARNING DANGER
This unit can be dangerous if used improperly. • Falling objects and/or blade contact can cause serious injury to operator, helpers and bystanders. • Keep helpers and bystanders at least 50 feet (15m) clear of operating area. • To reduce injury risk, READ AND UNDERSTAND the operator's Manual, replacement copies are available through your ECHO dealer. • Wear Protective clothing (head, hearing and eye protection meeting ANSI standards) specified in the Operator's Manual. • STOP engine before making repairs or blade adjustments. • ALWAYS use adjustment handle when adjusting blade angle. • Keep hand away from blade.

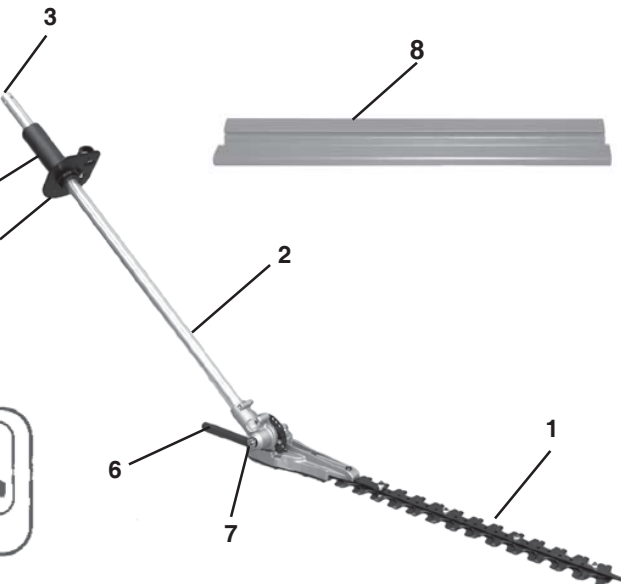
P/N 89016012360

P/N 89017854331



WARNING DANGER
This unit is not designed to insulate against hazards associated with the contact of wires carrying electrical current.
To avoid possible injury/death due to electrical shock or other hazards. DO NOT operate unit if any wires (power, telephone, cable, etc.) are closer than 15 feet (4/5 meters) minimum distance to any part of the unit or operator.

P/N 890178-54331



1. **CUTTING BLADES** - Double reciprocating blades mounted to a blade support bar. Double sided blades, are capable of cutting on either side of the blade.
2. **LOWER DRIVE SHAFT ASSEMBLY** - Includes the Gear Housing assembly, Flexible Drive Cable, Blade and Safety Decals.
3. **FLEXIBLE DRIVE CABLE** - Cable end fits into upper drive shaft coupler. Lubricate drive cable every 25 hours with ECHO[®] LUBE[™] grease.
4. **FRONT DRIVE SHAFT GRIP** - Cushioned hand grip for gripping drive shaft assembly.
5. **HAND GUARD/BLADE LOCK** - Locks blade in place for travel / storage. Always assure blade cover is installed when locking blade.
6. **BLADE ADJUSTMENT HANDLE** - Provides secure hand grip for adjusting cutting blade angle.
7. **BLADE INDEXING RING** - Pull ring out and turn 1/4 turn to lockout position when adjusting blade angle.
8. **BLADE COVER** - Used to cover blades during transport and storage. Remove blade cover before operating unit.

CONTENTS

The ECHO product you have purchased has been factory pre-assembled for your convenience.

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 - Articulating Hedge Clipper Attachment
- _____ 1 - Operator's Manual
- _____ 1 - Hedge Clipper Safety Manual
- _____ 1 - Warranty Registration Card
- _____ 1 - Blade Cover
- _____ 1 - Storage Hook Assembly



ASSEMBLY

POWER HEAD SHAFT/LOWER SHAFT ASSEMBLY

Tools Required: None

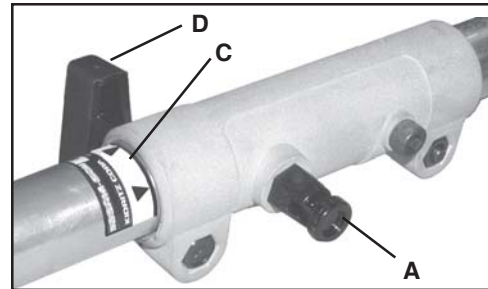
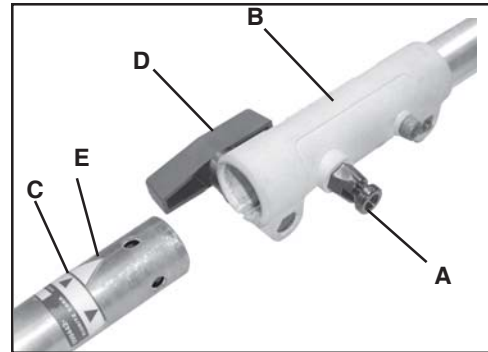
Parts Required: PAS or SRM-SB Power Head w/Shaft & Coupling.

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).

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).



OPERATION



WARNING

All over head electrical conductors and communications wires can have electricity flow with high voltages. Never touch wires directly or indirectly when pruning, otherwise serious injury or death may result.

ADJUSTING CUTTING ANGLE



WARNING

Never adjust cutting assembly with engine running.



WARNING

Hedge clipper blades are sharp. Always wear gloves when adjusting cutting assembly, otherwise serious injury may result.



WARNING

DO NOT stand hedge clipper on end when adjusting cutting angle, otherwise serious injury may result

1. Place unit on a flat clear area. Assure stop switch is in the "STOP" position.
2. Pull out indexing ring (A), and turn ¼ turn to lockout position.
3. Turn hedge clipper ¼ turn so that indexing ring faces downward.
4. Release hand-guard blade lock (B) with right hand, while holding blade-adjustment handle (C) with left hand.
5. Rotate blades to desired cutting position and hold in place.
6. Turn indexing ring ¼ turn to lock blade in place.

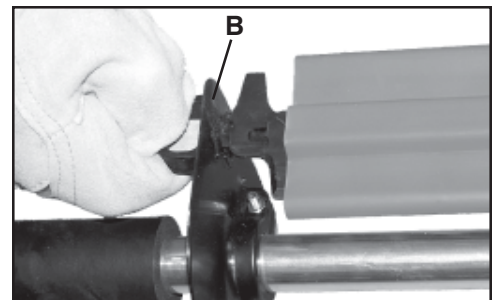
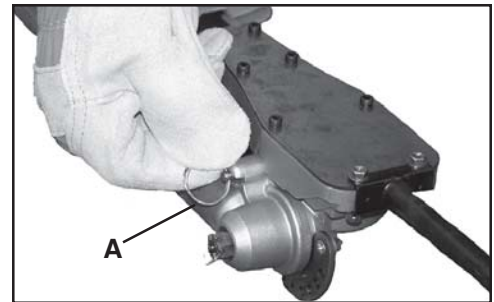


WARNING

Gear case assembly becomes HOT during use. Always grip assembly at blade-adjustment handle when making cutting angle adjustments, otherwise serious injury may result.

IMPORTANT

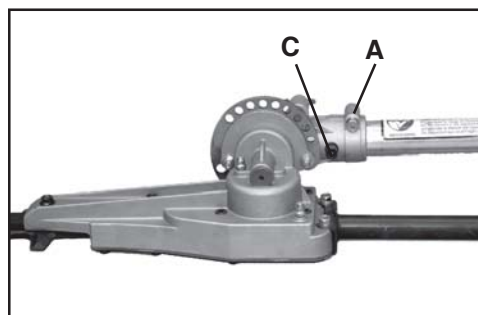
Always install blade cover, and return cutting assembly to folded/locked position for travel/storage.



ROTATE CUTTER ASSEMBLY

Always use the unit from the right-hand side of your body – NEVER from the left side. Rotate cutter assembly 180 degrees on driveshaft in order to avoid cutting directly above your head, and to avoid contact with hot muffler.

1. Loosen gearcase clamping screw (A), hand guard clamping screw (B), and remove gearcase locating screw (C).
2. Rotate cutter assembly 180-degrees on driveshaft until locating hole in driveshaft is visible through locating hole in gearcase.
3. Install gearcase locating screw (C), and securely tighten all hardware.



WARNING

During operation, the complete unit, especially the drive shaft housing and gearcase may become too hot to touch. Avoid contact when rotating cutter assembly.

HEDGE TRIMMING

1. Always grip throttle handle with right hand and support handle with left hand while trimming.
2. Hold trimmer firmly and squeeze throttle trigger to accelerate engine.
3. Tilt trimmer so cutting teeth are angled slightly toward the hedge or shrub and proceed to cut.



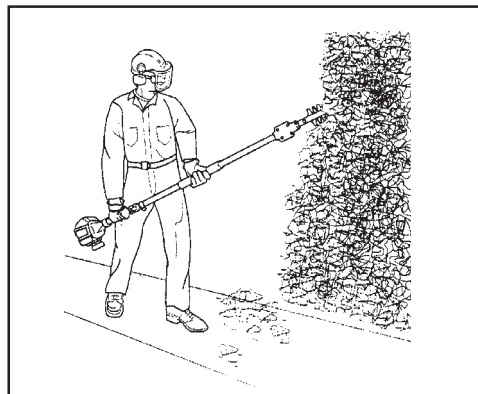
WARNING

Never remove hands from unit when blades are moving.



WARNING

The engine continues running even when the blades have stopped due to an obstruction. If this occurs, stop the engine, disconnect ignition cable and remove the obstruction.



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 hands from sharp edges and hot surfaces.

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-YOUR-SELF 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 LEVEL

- Level 1** = Easy to do. Common tools may be required.
- Level 2** = Moderate difficulty. Some specialized tools may be required.

MAINTENANCE INTERVALS

<u>Component/System</u>	<u>Maintenance Procedure</u>	<u>Skill Level</u>	<u>Frequency</u>
Cutting Blades	Oil/Clean	1	Before each use
Drive Shaft	Grease	1	Every 25 hours of use
Gear Housing	Grease	1	Every 15-25 hours of use
Screws/Nuts/Bolts	Inspect/Tighten/Replace	1	Before each use

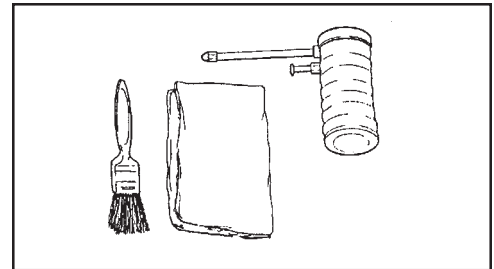
LUBRICATION

Blades

Level 1

Tools Required: Clean rag, brush, oil can

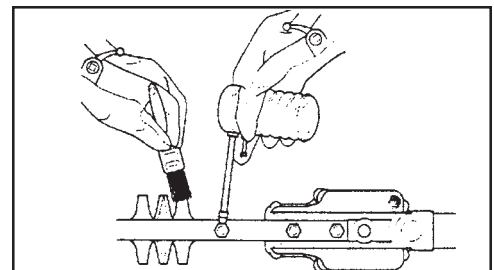
Parts Required: 20W Engine Oil (lubrication), 50-50 mixture of kerosene and 20W oil (cleaning).



WARNING

Blades are very sharp. Wear gloves to protect hands, otherwise serious personal injury may result.

1. Brush loose debris from blade and coat both sides of blade with the 50-50 cleaning mixture.
2. Allow cleaning mixture to soften the remaining gummy residue then wipe it from the blade.
3. Apply clean oil to the entire length of the blade. Be certain the blade bolts are lubricated.
4. Wipe excess oil from the blade before putting the unit back in service.



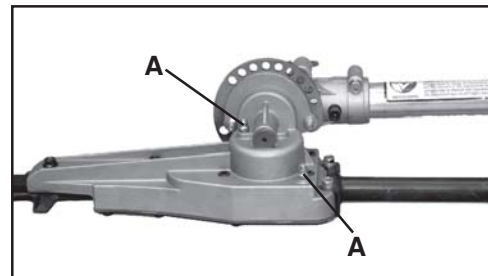
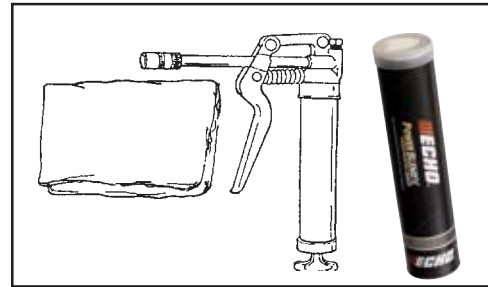
Gear Housing

Level 1.

Tools required: Grease Gun, Rag.

Parts required: POWER BLENDX™ 14 oz. Cartridge P/N 91015 Grease or Lithium-based Grease.

1. Clean dirt from grease fittings (A).
2. Carefully pump grease in each fitting. **DO NOT** force grease. Too much pressure will force grease past seals and cause damage. Apply 1-2 pumps of grease every 15-25 hours of operation.



Lower Drive Shaft Assembly

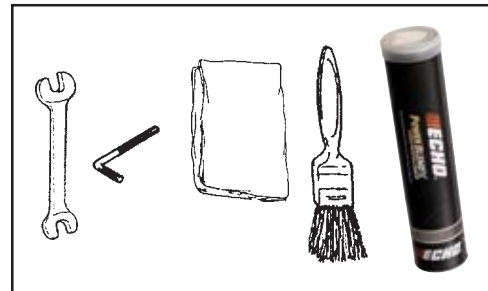
Level 1

NOTE

Drive shaft should be greased every 25 hours of operation.

Tools required: 4 mm hex wrench, 8mm open end wrench, clean rag, small brush.

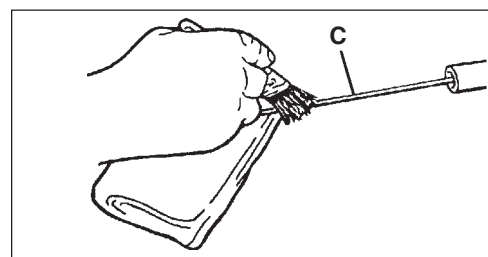
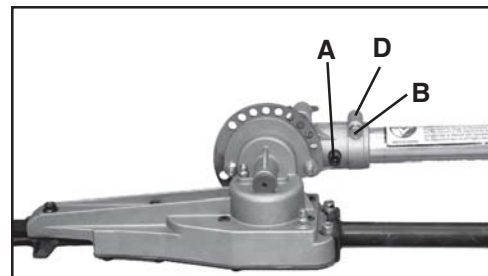
Parts required: POWER BLENDX™ 14 oz. cartridge P/N 91015 or Lithium-based Grease.



WARNING

Blades are very sharp. Wear gloves to protect hands, otherwise serious personal injury may result.

1. Carefully remove locating screw (A) and loosen clamping screw (B). Remove the flex drive shaft assembly from the gear housing.
2. Pull the drive shaft (C) from the drive shaft assembly, and wipe clean. Re-coat with a thin coating [1/2 oz. (15 ml)] of grease.
3. Slide the flex shaft back into the drive shaft assembly, being careful not to get dirt on the flex shaft.
4. Align the locating screw hole in gear case with the locating hole in drive shaft assembly, install and tighten locating screw (A), and tighten clamping screw (B).



IMPORTANT

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

SHARPENING BLADES

Level 3.

Tools required: Flat file, screwdriver

Parts required: None



WARNING

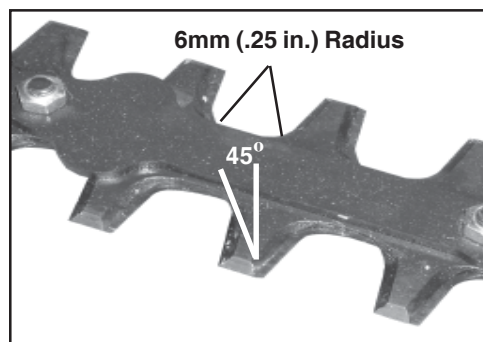
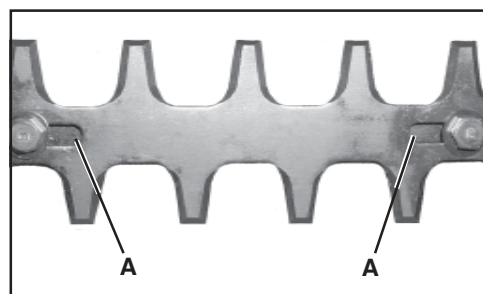
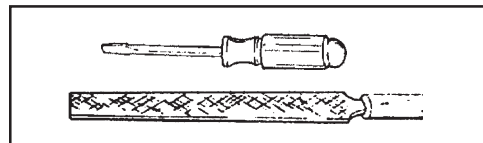
Hedge Clipper Blades are very sharp. Wear gloves to protect hands.

1. Disconnect spark plug wire from spark plug.
2. Slide blades to allow file clearance using slots (A) on bottom of blades. Do not pry against cutting edges.
3. Follow the original shape, and file each cutting edge carefully to avoid damage to adjacent teeth. Maintain 6 mm (.25 in.) radius at base of each tooth.

IMPORTANT

If a power grinder is used, **DO NOT** allow blade to over heat.

4. Lubricate blades. See "Lubrication."
5. Connect spark plug wire.



BLADE ADJUSTMENT

Level 2.

Tools required: (2) 10 mm Sockets & Extensions

Parts required: None



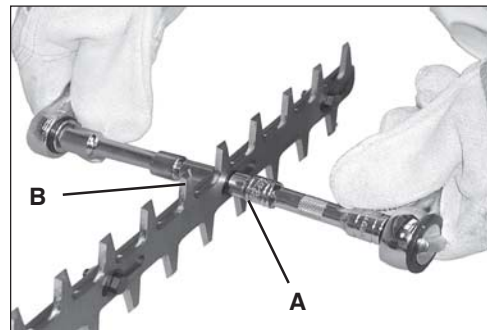
WARNING

Hedge clipper blades are very sharp. Touching them may lead to severe personal injury. Use a socket and extension when adjusting blade bolts or blade locknuts in order to keep hands at a safe distance from sharp blades.

1. Tighten blade bolts (A) until snug, then loosen blade bolts 1/2 turn.
2. Hold blade bolts (A) from turning using 10 mm socket & Extension, and tighten blade lock nuts (B) with other 10 mm Socket & Extension.

NOTE

Locking ability of Hedge Clipper blade lock nuts will diminish each time they are removed. Replace if turning resistance is not felt when installing locknuts.



STORAGE

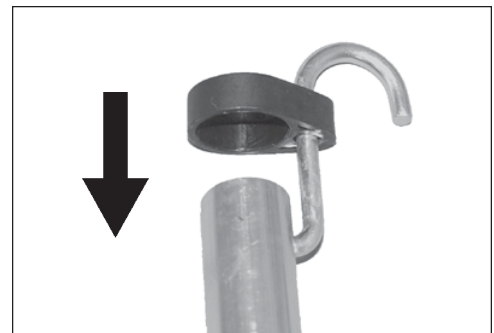
IMPORTANT

Always store and transport hedge clippers in a stable position. Support gear case and cutting blades to prevent excessive flexing which may cause damage to the cutting attachment. Always install blade cover when transporting or storing unit.

1. Clean and lubricate cutting blades and gear case.
2. Sharpen cutting blades as required.
3. Apply a light coating of clean 20W engine oil along entire length of blades and on blade bolts.
4. Install blade cover onto hedge clipper cutting blades.
5. Store hedge clipper attachment in a dry, dust free place out of the reach of children, using supplied storage hook.

Storage Hook Installation

1. Insert small end of hook into locating hole on attachment shaft.
2. Slide plastic cap onto end of attachment shaft.



SPECIFICATIONS

PAS Articulating Hedge Clipper Attachment

Length -----	1016mm(40.0in.)
Attachment Width -----	132 mm (5.2 in.)
Height -----	127 mm (5.0 in.)
Weight -----	2.76 kg. (6.08 lb.)
Gear Case Ratio -----	4.072: 1
Cutter -----	Double Reciprocating Blade - Double Edge
Effective Length -----	464mm (18.3 in.)
Pitch -----	35 mm (1.4 in.)
Maximum Diameter Cut	
Soft Material -----	25.4 mm (1 in.)
Woody Material -----	13 mm (1/2 in.)

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.



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