



Power Pruner™ Hedge Clipper Attachment

Operator's Manual

Model **99946400060**
Serial Number 001001 & Up

Models used on: **PPT-230/231**
PPT-260/261
PPT-2100
PPT-2400
PPFD-2400



WARNING DANGER

Read rules for safe operation and instructions carefully. ECHO provides an Operator's Manual and a Safety Manual, with your Hedge Clipper Attachment. These manuals must be read and understood for proper and safe operation, otherwise serious personal injury may result.

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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.

IMPORTANT

This attachment is designed for use with Echo's Power Pruners™. Use of this attachment with any other ECHO Product will cause premature gear case failure and void the warranty.

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, 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. It explains possible hazards involved with the use of Power Pruner™ and what measures you should take to make their use safer.

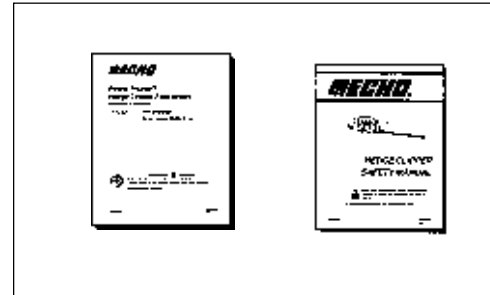


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Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include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

MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

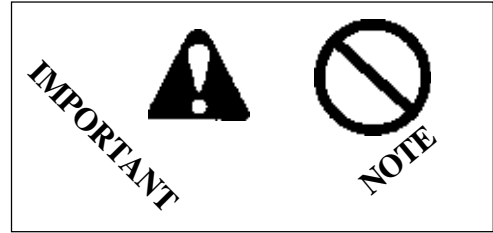
Throughout this manual and on the product itself, you will find safety alerts and helpful, information messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.



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

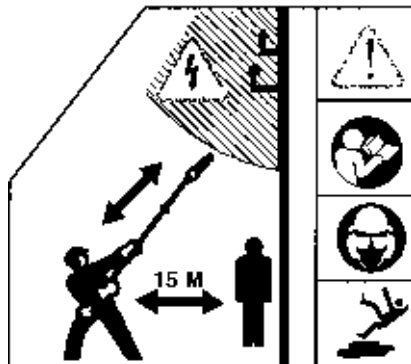
NOTE This enclosed message provides tips for use, care and maintenance of the unit.

SAFETY

DECALS

Locate these safety decals on your Power Pruner™ unit. The complete unit illustration found in the "DESCRIPTION" section of your Power Pruner™ Operator's Manual, will help you locate them. 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 Coupler



P/N 89016022660

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.		Do not operate closer than 15 M (50 ft.) from electrical hazards.
	Keep bystanders at least 15 meters (50 feet) away.		Plan retreat path from falling objects.

Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	DO NOT allow flames or sparks near fuel.		Wear slip resistant foot wear.
	Engine choke control.		Ignition ON/OFF
	Emergency stop		Primer bulb
	Chain lubrication	H	Carburetor adjustment - High speed mixture
L	Carburetor adjustment - Low speed mixture	T	Carburetor adjustment - Idle speed

SAFETY INSTRUCTIONS

PERSONAL CONDITION AND SAFETY EQUIPMENT

WARNING DANGER

Hedge Clipper users risk injury to themselves and others if the hedge clipper is used improperly and or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a hedge clipper.

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

Eye protection that meet ANSI Z87.1 or CE requirements must be worn whenever you operate the unit.

Hand Protection

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

Hearing Protection

Wear 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.

Wear no-slip, heavy duty work gloves.

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.

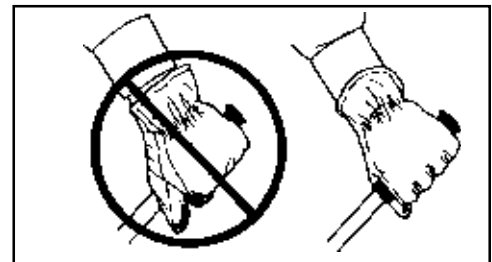
- Keep your body warm, especially the head, neck, feet, ankles, hands and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the trimmer or other 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.

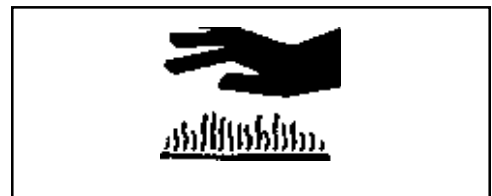


EQUIPMENT

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



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.

Provide Safety And Operating Instructions To All Operators

- Provide all users of this equipment with the Operator's Manual and Safety Manual for instructions on Safe Operation.

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.

Keep a Firm Grip

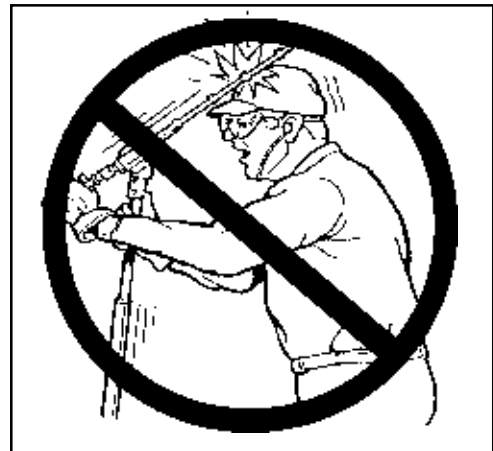
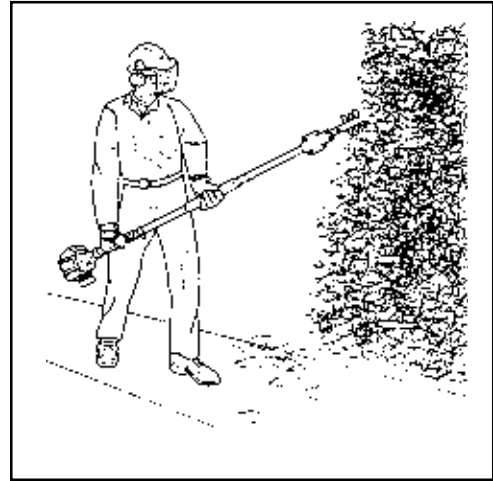
- Hold the front and rear handles with both hands, with thumbs and fingers tightly encircling the handles.

Only Make Cutting Angle Adjustments With Unit Off And On Flat Ground

- 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 Contact With Gear Box Assembly During Use

- Gear box assembly becomes hot during use. Avoid contact with gear box assembly when using unit or making cutting angle adjustments.



WARNING DANGER

Never remove hands from handles with engine running or serious injury may result.

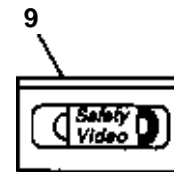
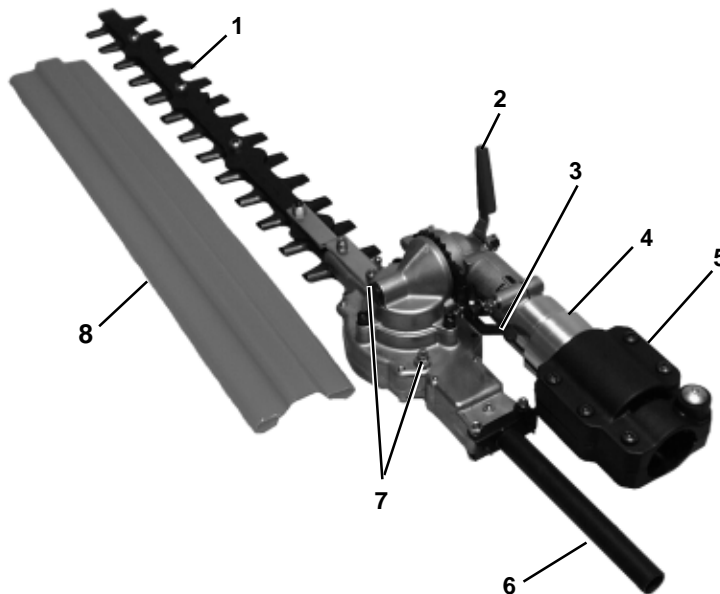
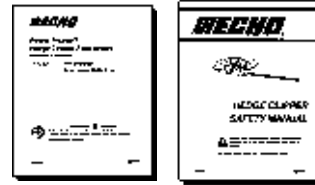
DESCRIPTION

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.

CONTENTS LIST

- _____ 1 - Shaft Hedge Clipper Attachment
- _____ 1 - Operators Manual
- _____ 1 - Hedge Clipper Safety Manual
- _____ 1 - Blade Cover
- _____ 1 - Safety Glasses
- _____ 1 - Warranty Registration Card



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. **GEAR TENSION RELEASE LEVER** - Moving lever up releases tension on gears to permit adjustment of blade cutting angle when indexing lever is pressed. The gear tension release lever MUST be placed in the down position to remove internal gear play before operating the hedge clipper. The gear tension lever DOES NOT secure gear box angle setting.
3. **INDEXING LEVER** - Spring loaded lever that engages with a notch every 15 degrees, from the straight (in line with shaft tube) position to right angle with the shaft tube.
4. **ADAPTER** - Allows Hedge Clipper Attachment to be rotated 360 degrees (in 90 degrees increments) on the Power Pruner™ shaft tube.
5. **CLAMP** - Provides secure attachment to Power Pruner™ shaft.
6. **ATTACHMENT HANDLE** - Provides secure handgrip for adjusting cutting blade angle.
7. **GREASE FITTINGS** - Grease gear case every 15-20 hours of operation or on a weekly schedule.
8. **BLADE COVER** - Used to cover blades during transport and storage. Remove blade cover before operating unit.
9. **SAFETY VIDEO** - (Not included with unit) P/N 99922202800 English version and P/N 99922203513 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	HEDGE CLIPPER ATTACHMENT
Length	775 mm (30.5 in.)
Width	121 mm (4.75 in.)
Weight	2.45 kg (5.4 lbs.)
Gear Case Ratio	3.5 : 1
Cutter	Double Reciprocating Blade - Double Edge
Cutter Length	450 mm (17.7 in.)
Cutter Pitch	28 mm (1.1 in.)
Maximum Diameter Cut	9.5 mm (3/8 in.)

Approved for use with the following Power Pruner™ models only.

PPT-230/231	PPT-260/261
PPT-2100/2400	PPFD-2400

ASSEMBLY

CUTTING ATTACHMENT TO SHAFT TUBE INSTALLATION

Tools Required: Screwdriver, Cross-Head Screwdriver

Parts Required: Power Pruner™, Hedge Clipper Attachment

WARNING DANGER

Hedge Clipper cutting blades are very sharp! Always wear gloves when handling assembly, otherwise serious personal injury may result.

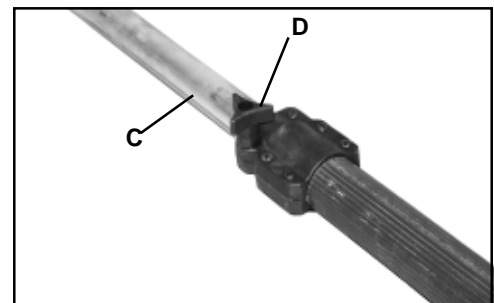
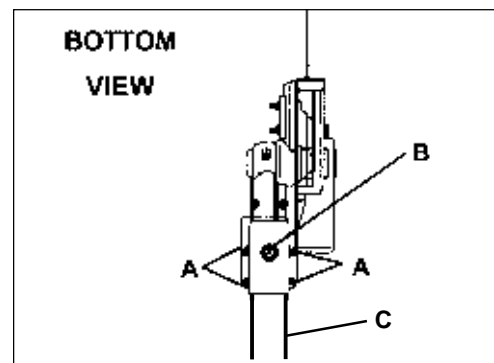
1. Loosen the four (4) screws (A) and locator screw (B) on Chain Saw Cutting Attachment, then slide attachment off upper shaft tube (C).

NOTE

Do not remove locator screw (B) completely from cutting attachment, otherwise inner lock nut will come off and be lost.

(Models: PPT Models Only)

2. Loosen center clamp knob (D).



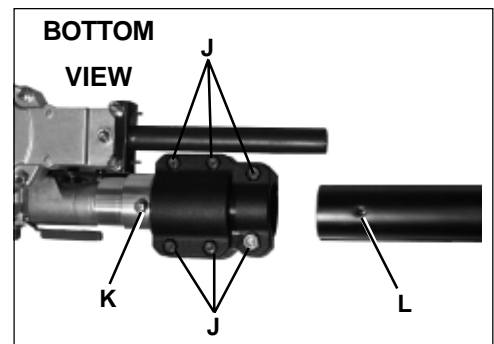
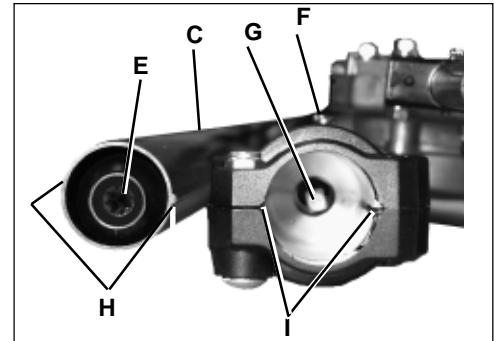
WARNING DANGER

Hedge Clipper cutting blades are very sharp! Always wear gloves when handling assembly, otherwise serious personal injury may result.

3. Pull upper shaft tube (C) out of fiberglass lower shaft tube 127-152 mm (5-6 in.), then slide (C) back into fiberglass lower shaft tube exposing inner drive shaft (E).

(All Models)

4. Remove locator screw (F) in bottom of attachment adapter clamp.
5. Align star shaped drive of inner drive shaft (E) with Hedge Clipper Attachment shaft (G).
6. Align ridges on upper shaft tube (H) with seams (I) in cutting attachment clamp and adapter.
7. Slide upper shaft tube into attachment, aligning hole for locator screw (K) in bottom of cutting attachment adapter with locating hole (L) in upper shaft tube.
8. Install and tighten locator screw (F). Tighten six (6) cutting attachment clamp screws (J).

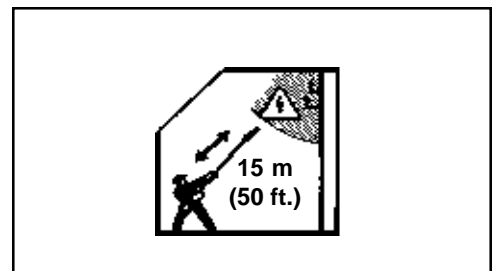


OPERATION

WARNING DANGER

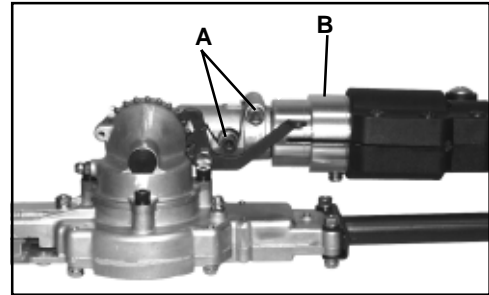
All over head electrical conductors and communications wires can have electricity flow with high voltages. Never touch wires directly or indirectly when pruning, otherwise serious injury or death may result.

- Provide all operators of this equipment with the Operator's Manual and instructions for safe operation.
- Review area to be trimmed. Look for hazards that could contribute to unsafe conditions. DO NOT operate unit if any wires (power, telephone, cable, etc.) are closer than 15 m (50 ft.) to any part of the operator or unit.
- Before starting the unit, equip yourself and any other person working within the 15 m (50 ft.) Safety Zone with the required protective equipment and clothing.
- Always evaluate the area being cut for overhead hazards, such as dead branches which may fall and strike the operator or helpers.



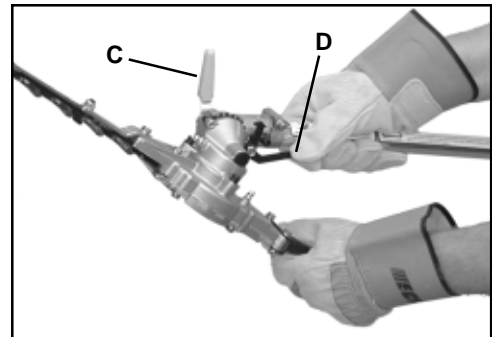
ADJUST ATTACHMENT POSITION

1. Hard to reach areas can be trimmed by rotating the attachment in 90° increments. Loosen (do not remove) bolts (A). Rotate attachment in adapter (B) until desired blade attachment position is achieved. Align holes and tighten bolts (A).



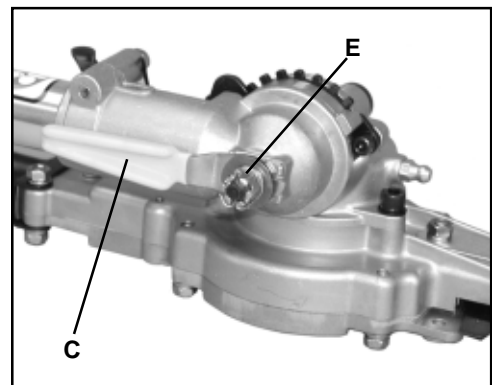
ADJUSTING CUTTING ANGLE OF BLADE

1. Place unit on a flat, clear area. Make sure stop switch is in the “STOP” position.
2. Move gear tension release lever (C) to “up” position.
3. Grip hedge clipper attachment at adapter (B).
4. Grip rear handle of cutter assembly, and hold securely.
5. Depress blade indexing lever (D) to release cutter assembly.
6. Adjust cutter assembly angle to desired position, and release indexing lever into notch.
7. Move gear tension release lever (C) to full “down” position.



IMPORTANT

DO NOT tighten gear tension release lever nut (E) to secure angle setting of gear box. Damage to gears will result. Adjust nut ONLY if gear tension release lever is too loose, or too tight. Tighten nut for snug 90° movement.



WARNING DANGER

Gear Case Assembly becomes HOT during use. Always grip assembly at black rear handle when making cutting angle adjustments, otherwise serious injury may result.

WARNING DANGER

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

MAINTENANCE

Your ECHO product is designed to provide many hours of trouble free service. Regular scheduled maintenance will help 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 LEVEL

- 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 the unit be returned to your ECHO dealer for service

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

MAINTENANCE INTERVALS

<u>Component/System</u>	<u>Maintenance Procedure</u>	<u>Skill Level</u>	<u>Frequency</u>
Cutting Blades	Inspect/Clean	1	Before and during use
Gear Housing	Grease	1	Every 15 - 20 hours of use
Screws/Nuts/Bolts	Inspect/Tighten/Replace	1	Before each use

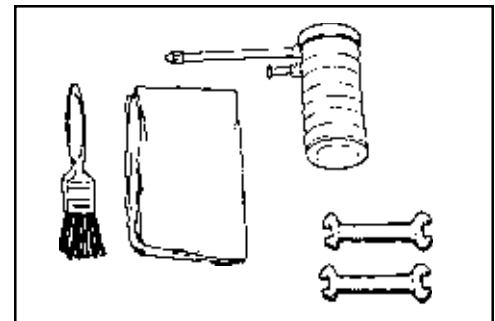
LUBRICATION

Cutting Blades

Level 1.

Tools Required: Clean Rag, Brush, Oil Can, (2) 10 mm Wrenches

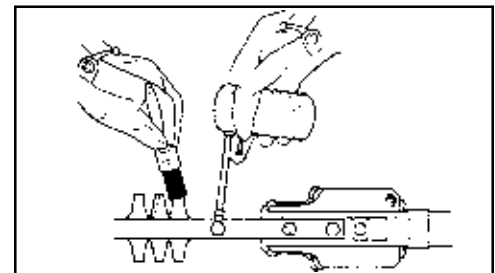
Parts Required: 20W Engine Oil (lubrication), 50-50 mixture of kerosene and 20W oil (cleaning).



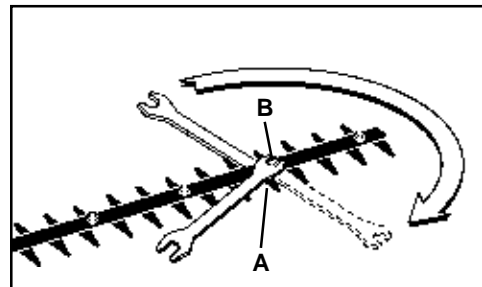
WARNING DANGER

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

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



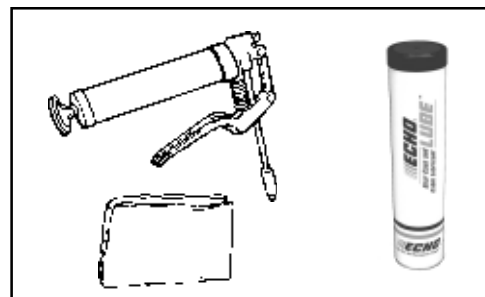
5. Check cutting blade tightness. Tighten blade bolts (A) until snug with 10 mm wrench. Loosen bolts 1/2 turn. Hold bolts (A) from turning and tighten locknuts (B) with other 10 mm wrench.



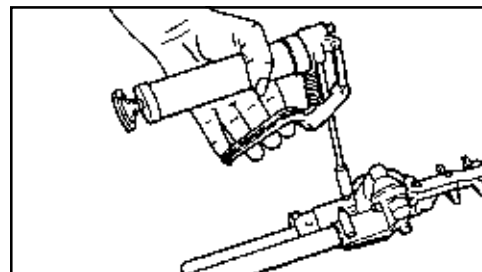
Gear Case

Tools Required: Grease Gun with ECHO[®] LUBE™ 14 oz. cartridge P/N91015 or Lithium Based Grease.

Parts required: ECHO[®] LUBE™ or Lithium Based Grease.



1. Clean dirt from grease fittings.
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 25 hours of operation.



SHARPENING BLADES

Level 1.

Tools Required: Flat File, Small Screwdriver.

Parts required: Gear box gasket, ECHO[®] LUBE[™] or Lithium Based Grease.

NOTE

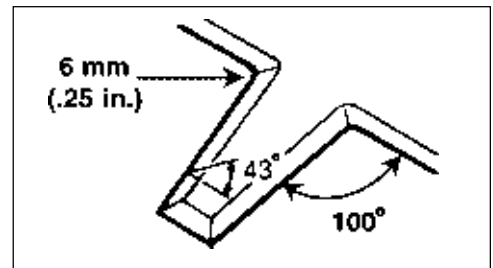
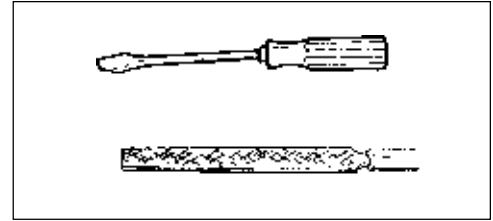
Blades are very sharp. Wear gloves to protect hands.

1. Use screwdriver to separate upper and lower cutters equal distance apart.
2. File each edge carefully. Follow the original shape of the blade.

IMPORTANT

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

3. Lubricate cutting blades. See "Blade Lubrication Instructions", page 13 this section.



STORAGE

IMPORTANT

Always store and transport shaft hedge clippers in a stable, horizontal 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. Install blade cover onto hedge clipper cutting blades.
4. Store hedge clipper attachment in a dry, dust free place in a horizontal position, out of the reach of children.

NOTES

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.

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.
- Sending a check or money order for \$2.00 per Parts Catalog or \$1.50 per Operator's Manual made payable to ECHO, INCORPORATED. State on a sheet of paper the model number and serial number of the ECHO unit you have, part number of the manual (if known), your name and address and mail to address below.

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

Available Parts Catalog

POWERPRUNER™

Shaft Hedge Clipper Attachment

99946400060

Serial Number 001001 & UP

Part Number 99922203038

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, INCORPORATED

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<http://www.luxmanual.com>

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