



Power Pruner™ Attachment

99944200530

Operator's Manual

Serial Number 001001 - 008665

ENGLISH

ESPAÑOL

FRANCAIS

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.

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.

THE OPERATOR'S MANUAL --

Contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product.

THE SAFETY MANUAL --

explains possible hazards involved with the use of Pole Pruners and what measures you should take to make their use safer.



TABLE OF CONTENTS

Introduction	2	Pre-Operation	13
- The Operator's Manual	2	- Lubricating the Guide Bar and Saw Chain	13
- The Safety Manual	2	- Adjusting Automatic Oiler	14
Manual Safety Symbols and Important Information	3	Operation	14
Safety	3	- Pruning Techniques	14
- General Description	3	Maintenance	15
- Decals	4	- Skill Levels	15
- International Symbols	4	- Maintenance Intervals	15
- Equipment	4	- Lubrication	16
- Fuel	5	- Guide Bar and Saw Chain Replacement	17
- Personal Condition and Safety Equipment	6	- Filing Saw Chain	18
- Safe Operation	7	Servicing Information	20
- Kickback	8	- Parts	20
- Extended Operation/Extreme Conditions	9	- Service	20
Description	10	- ECHO Consumer Product Support	20
- Contents	10	- Warranty Card	20
Specifications	11	- Additional or Replacement Manuals	20
Assembly	11	- Manual Ordering Instructions	20
- Power Head Shaft/Lower Shaft Assembly	11		
- Front Handle Removal	12		
- Saw Chain Tension Adjustment	13		

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

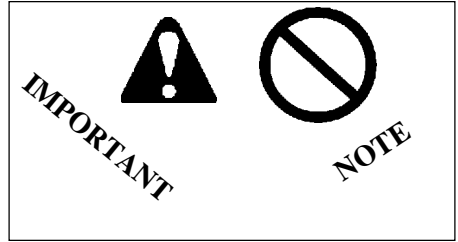
Throughout this manual and on the product itself, you will find safety alerts and helpful, information messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.



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.

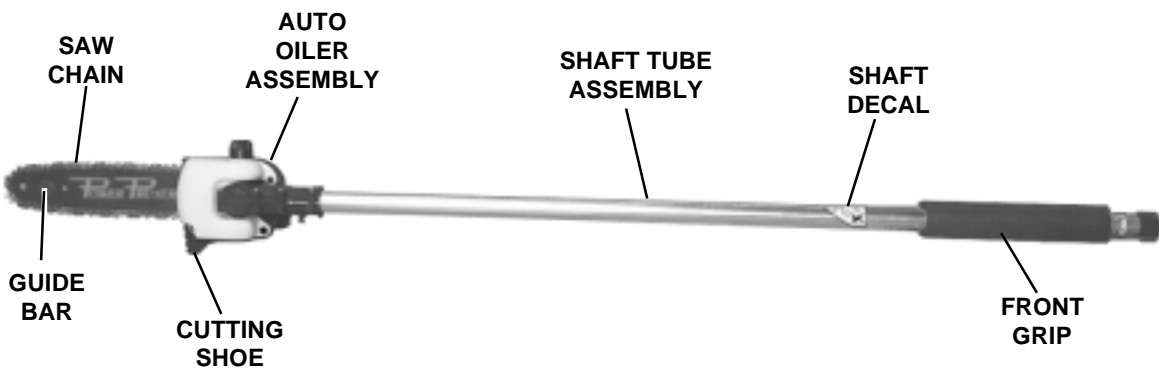
NOTE This enclosed message provides tips for use, care and maintenance of the unit.

SAFETY

GENERAL DESCRIPTION

IMPORTANT

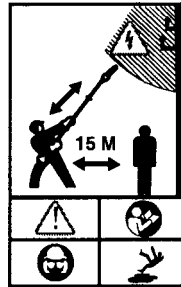
See "Description" and "Specification" section for full description of attachment features.



DECALS

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

Shaft Tube



INTERNATIONAL SYMBOLS

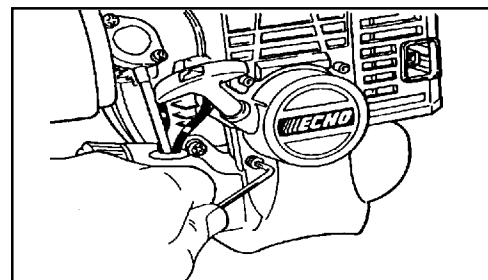
Symbol form/shape	Symbol description/application	Symbol form/shape	Symbol description/application
	Read and understand Operator's Manual.		Fuel and oil mixture
	Wear eyes, ears and head protection		Finger Severing
	Hot Surface		Wear hand protection. Use two handed.
	Safety/Alert		DO NOT smoke near fuel.
	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		Carburetor adjustment - High speed mixture
	Carburetor adjustment - Low speed mixture		Carburetor adjustment - Idle speed


EQUIPMENT

Before operation a complete check of the unit must be performed;

- 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 the guide bar or saw chain when the engine is operating.



Guide Bar and Saw Chain


WARNING  **DANGER**

- Serious injury may result from the use of non approved guide bar and saw chain combinations. Read and comply with all safety instructions listed in this 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 that the cutting attachment, guide bar and saw chain is firmly attached and in safe operating condition.
- Only use ECHO approved guide bar and saw chain.
- Do not hit rocks, stones, tree stumps and other foreign objects with the saw chain.
- Do not cut into the ground with the saw chain.
- If saw chain strikes an obstruction, stop engine immediately and inspect saw chain for damage.
- Do not operate with a dull, fractured or discolored saw chain.
- Remove all foreign objects from work area.
- Always cover the guide bar and saw chain with guide bar cover during transportation and in storage.

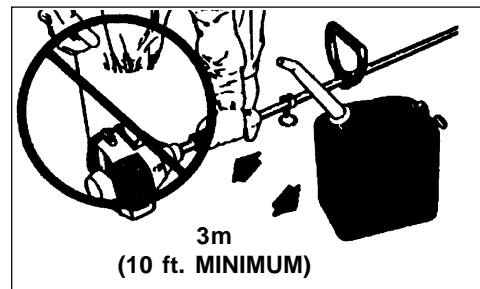


FUEL

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!
- NEVER refuel a unit with the engine running.
- DO NOT fill fuel tanks indoors. ALWAYS fill fuel tanks outdoors over bare ground.
- Securely tighten fuel cap after refueling.
- Inspect for fuel leakage. If fuel leakage is found, do not start or operate unit until leakage is repaired.



After Refueling:

- Wipe any spilled fuel from the unit.
- Move at least 3 M (10 ft.) from refueling location before starting.

After use:

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

PERSONAL CONDITION AND SAFETY EQUIPMENT

WARNING DANGER

Power Pruner™ Attachment users risk injury to themselves and others if the Power Pruner™ Attachment is used improperly and or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a Power Pruner™.

Physical Condition --

Your judgment and physical dexterity may not be good:

- if you are 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 Power Pruner™.

Face & Head Protection --

When trimming overhead, always wear head protection meeting ANSI Z89.1 or CE requirements with a full face shield. Head protection with full face shield will help protect you from falling branches and debris.

Hand Protection --

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

Hearing Protection --

ECHO recommends wearing hearing protection whenever unit is used.

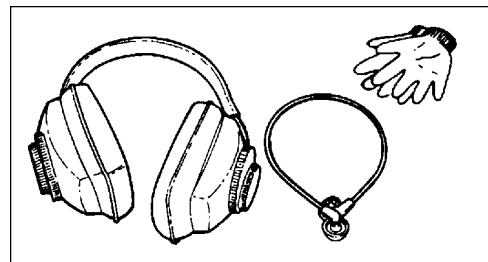
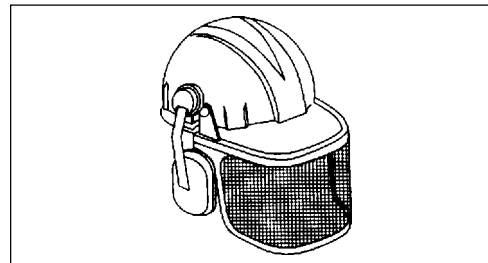
Proper Clothing --

Wear snug fitting, protective, durable clothing; (chainsaw safety pants or chaps are recommended)

- Pants should have long legs, shirts with long sleeves.
- DO NOT WEAR SHORTS,
- DO NOT WEAR TIES, SCARVES, JEWELRY.

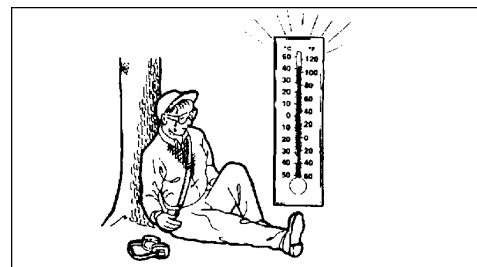
Wear sturdy protective, safety shoes or boots with non-skid soles;

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



Hot Humid Weather

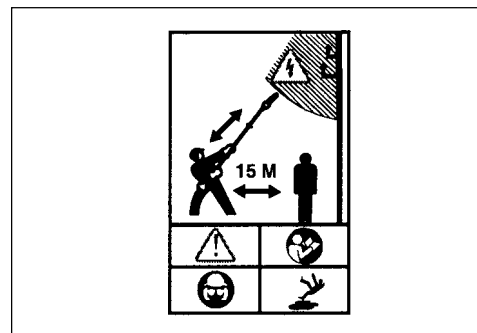
Heavy protective clothing can increase operator fatigue which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.



SAFE OPERATION

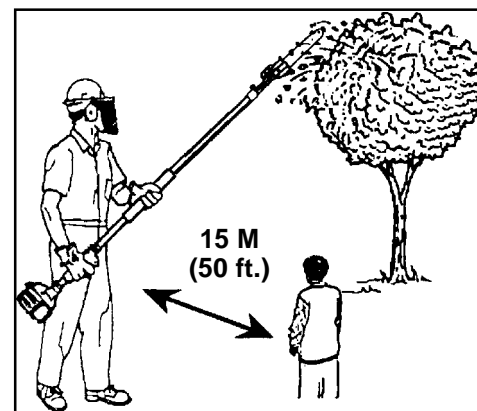
WARNING  DANGER

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.



Determine Operation Area

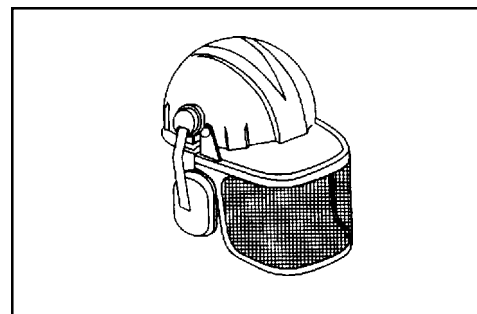
- Provide all operators of this equipment with the Operator's Manual and instructions for safe operation.
- Do not operate this product indoors or in inadequately ventilated areas.
- Review the area to be trimmed. Look for hazards that could contribute to unsafe conditions. **DO NOT** operate unit if any wires (power, telephone, cable, etc.) are closer than 15 M (50 ft.) to any part of the operator or unit.
- Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 M (50 ft.) while the Power Pruner™ is in use.
- Avoid all power lines. This unit is not insulated against electrical current.



Operation

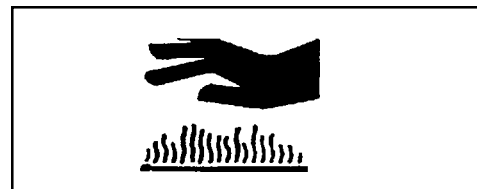
Use Proper Clothing & Equipment

- 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 wear head protection with full face shield to help protect against falling branches and debris.



Avoid Hot Surfaces

- During operation, the complete unit, especially the power head, muffler area and cutting head may become very hot, too hot to touch. Avoid contact during and immediately after operation.

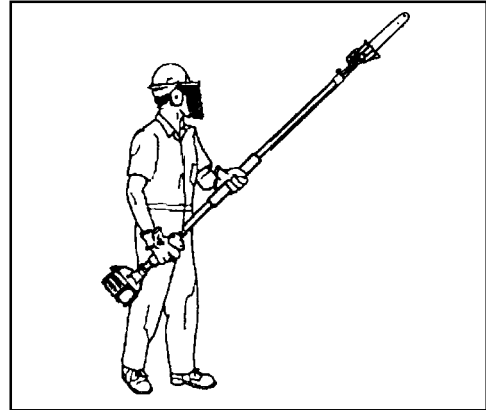


Keep A Firm Grip

- Grip unit with both hands with thumbs and fingers encircling the handle, and drive shaft housing.

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 overreach.
- Operate the unit only from the ground or out of an approved bucket lift.
- Always evaluate the branches to be pruned for hazards such as loose dead branches which may fall and strike the operator or helpers. Remove hazards before pruning.
- Plan retreat path from falling objects.
- Cut branches bounce when striking ground.
- Turn engine off when moving from tree to tree.
- Avoid any contact with saw chain.



KICKBACK

WARNING DANGER

Kickback can lead to dangerous loss of control of the Power Pruner™ and result in serious injury to the operator or any one standing close by. Hold the Power Pruner™ firmly with both hands with thumbs and fingers encircling the front and rear handles. Be aware of the down and outward path the pruner will take after the cut is made.

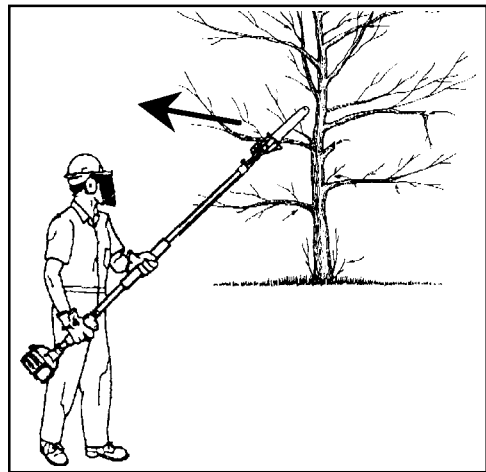
Kickback may occur when the moving saw chain at the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. In some cases this may cause a lightning-fast reverse action, kicking the guide bar and saw chain up and back or down and back towards the operator. Either of these reactions may cause the operator to lose control of the Power Pruner™ which could result in serious personal injury.

With a basic understanding of kickback, you can reduce or eliminate the element of surprise which contributes to accidents.

Avoid contact of the guide bar tip with any object while the saw chain is moving.

Cut only wood. Avoid striking concrete, metal, wire, or other obstructions which could cause kickback or damage to the saw chain.

If the saw chain does strike a foreign object, immediately stop the engine, inspect and repair the Power Pruner™ if necessary.

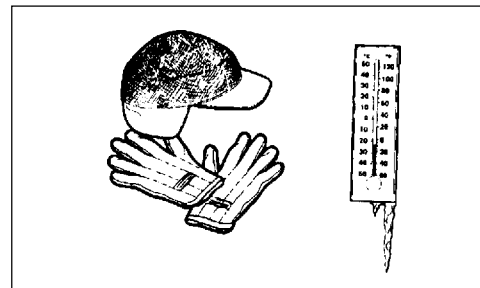


EXTENDED OPERATION/EXTREME CONDITIONS

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.

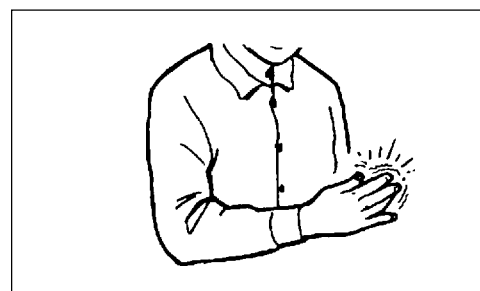
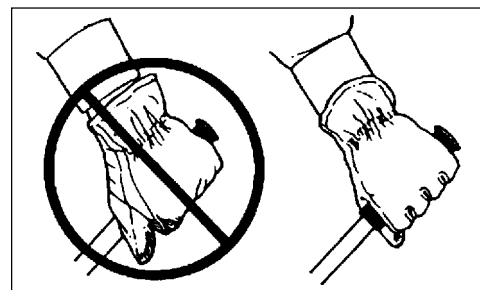


Repetitive Stress Injuries --

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.

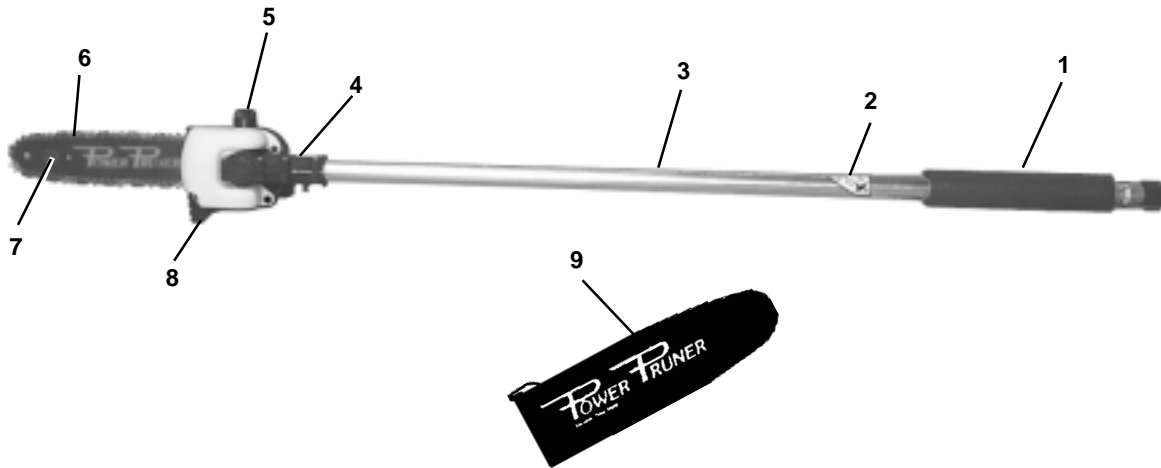
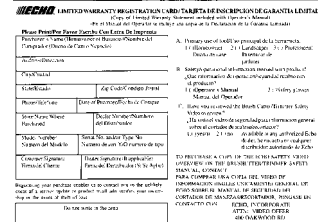
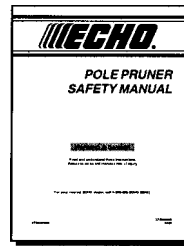
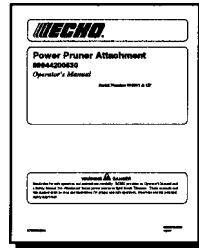


DESCRIPTION

The ECHO product you 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

- 1 - Power Pruner™ Attachment
- Plastic Bag (co-pack)
- Operator's Manual
- Safety Manual
- Warranty Registration Card
- Guide Bar Cover
- Safety Glasses



1. **GRIP, FRONT** - Cushioned grip for left hand.
2. **SHAFT DECAL** - (See Page 4)
3. **LOWER DRIVE SHAFT ASSEMBLY** - Contains a specially designed liner and the flexible drive shaft.
4. **CUTTING ATTACHMENT** - Sealed, gear ratio is 1.5:1 reduction.
5. **AUTOMATIC OILER ASSEMBLY** - Self oiling. Use high quality, low viscosity, non detergent bar and chain oil.
6. **SAW CHAIN** - 91 VS 9.53mm (3/8 inch) low profile Oregon® saw chain. Runs approximately 609.6 m/min. (2000 ft/min) at full throttle.
7. **GUIDE BAR** - 254 mm (10 inch) Bar
8. **CUTTING SHOE** - Used to capture and stabilize branch while cutting. Place cutting shoe against branch, accelerate and lower saw chain into branch.
9. **GUIDE BAR COVER** - Used to cover guide bar and saw chain during transport and storage. Remove guide bar cover before using unit.

SPECIFICATIONS

MODEL	POWER PRUNER™ ATTACHMENT
Length	145.5 cm (57.25 in.)
Width	7.0 cm (2.75 in.)
Height	1.27 cm (5.0 in.)
Weight	2.0 kg (4.45 lbs.)
Sprocket Type	6 tooth spur, 9.53 (3/8 in.) pitch
Drive Shaft	1/4 in. Flex Cable
Gear Reduction Ratio	1.5:1
Oiling System	Automatic
Handle	Left foam grip
Guide Bar and Saw Chain	254 mm (10 in.), 9.53 mm (3/8 in.) pitch

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.

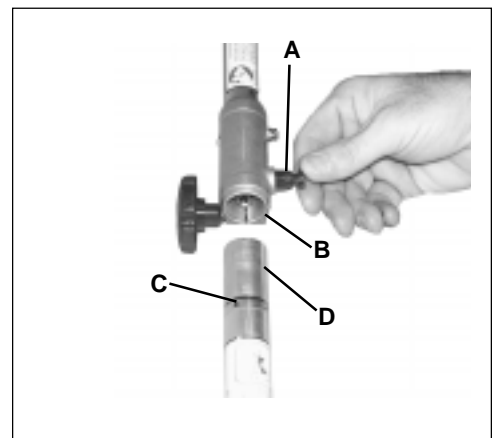
ASSEMBLY

POWER HEAD SHAFT/LOWER SHAFT ASSEMBLY

Tools Required: None

Parts Required: Power Head Shaft, Pruner Lower Shaft Assembly

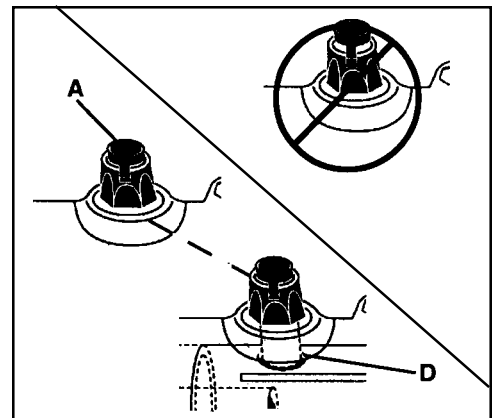
1. Set Power Head/Pruner Shaft Assembly on a level surface.
2. Pull locator pin (A) and rotate counter clockwise 1/4 turn to lock out position.
3. Carefully fit lower drive shaft assembly into coupler (B) to decal assembly line (C), making sure that the inner lower flex cable engages into the upper drive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



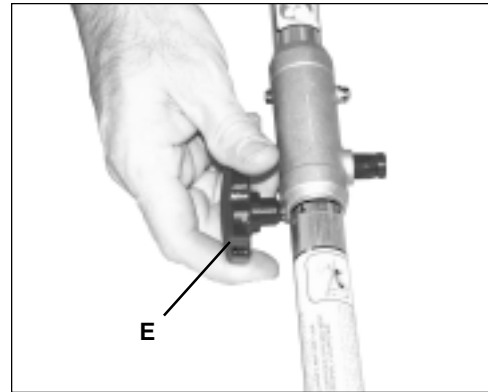
NOTE

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 (D). Insure locator pin is fully engaged by gently twisting lower drive shaft assembly.
5. Locator pin (A) should snap flush in coupler. Full engagement will prevent further shaft rotation.



- Secure lower drive shaft assembly to coupler by tightening clamping knob (E).



FRONT HANDLE REMOVAL

Tools Required: Screwdriver.

Parts Required: None

- Remove four (4) screws, nuts and handle halves from pruner.
- Loosely attach handle halves together and store handle assembly for later use.



SAW CHAIN TENSION ADJUSTMENT

Tools Required: 10 mm (13/32 in.) Wrench, Screwdriver

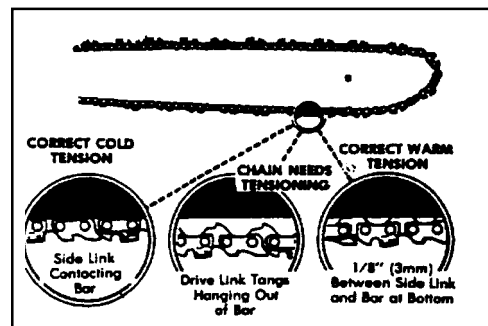
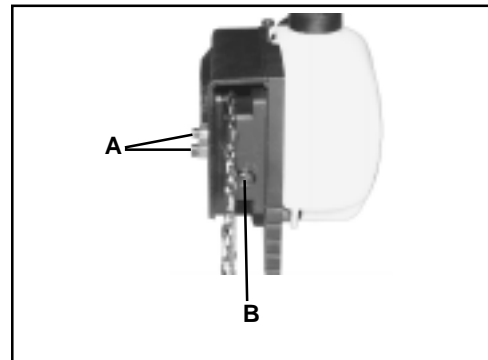
WARNING DANGER

Always wear gloves when handling saw chain, otherwise serious personal injury may result.

To Adjust Saw Chain Tension.

- Loosen two (2) 10 mm (13/32 in.) guide bar nuts (A) located on cutting attachment.
- Turn saw chain tensioner screw (B) (located next to guide bar in sprocket cover) clockwise to tighten saw chain on guide bar. Turning screw counter clockwise will loosen saw chain on guide bar.
- Tighten guide bar nuts firmly. Move saw chain backwards on guide bar by hand. Saw chain should move freely on guide bar if it is in proper mesh with sprocket.

Keep the saw chain lubricated and properly adjusted and the guide bar nuts tightened firmly at all times. If saw chain is difficult to rotate or binds on guide bar, it is too tight.



PRE-OPERATION

LUBRICATING THE GUIDE BAR AND SAW CHAIN

Automatic Oiling System

1. Wipe debris from around oil fill cap.
2. Remove oil fill cap and fill reservoir with a quality, low viscosity guide bar and saw chain oil.

NOTE

The discharge volume of the automatic oiler is preset to deliver 3 to 4 cc/min. at normal operating RPM. During heavy or dry cutting conditions the oil discharge volume may be adjusted to assure adequate lubrication. Refill the oil reservoir with each tank of fuel.

IMPORTANT

To prevent plastic deterioration, do not use synthetic or silicone based oil.



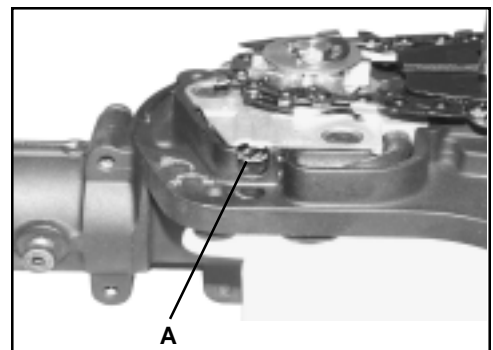
ADJUSTING AUTOMATIC OILER

Tools required: 10 mm (13/32 in.) Wrench, Screwdriver

1. Remove two (2) 10 mm guide bar retaining nuts and sprocket cover.
2. From bottom of gear case, turn adjustment screw (A) clockwise to decrease oil volume - counter clockwise to increase oil volume.

NOTE

Very little visible oil on the saw chain will provide sufficient lubrication.



OPERATION

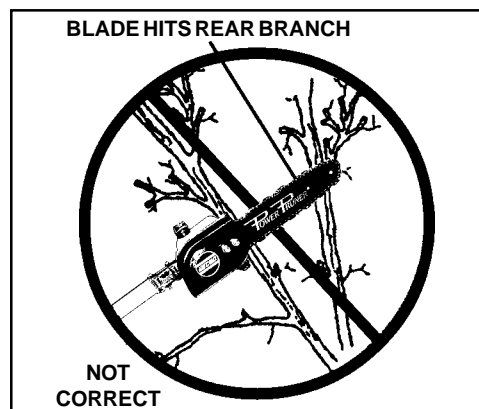
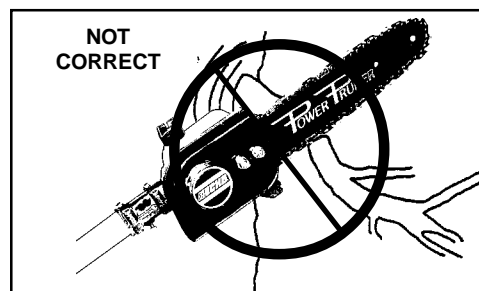
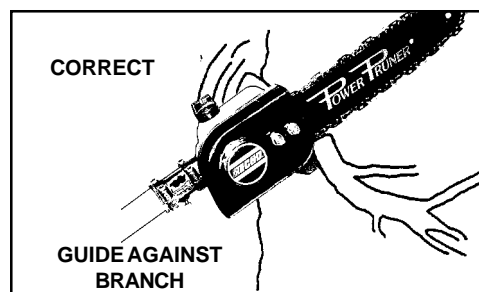
NOTE

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

PRUNING TECHNIQUES

The Power Pruner™ Attachment is designed for light to medium trimming of limbs and branches up to 203 mm (8 in.) in diameter. Follow these tips for successful operation.

- Plan cut carefully. Check direction branch will fall.
- Long branches should be removed in several pieces.
- Do not stand directly beneath branch being cut.
- When ready to cut:
 - Hold "cutting shoe" against branch. This will prevent whipping of the branch. **DO NOT** use back and forth sawing action.
- Look out for branches immediately behind the branch being cut. If saw chain hits rear branch damage to the saw chain may occur.
- Accelerate to full throttle.
- Apply cutting pressure.
- Ease cutting pressure when nearing end of cut to maintain control.
- When pruning a limb 102 mm (4 in.) diameter or larger cut as follows:
 1. Under cut 1/4 limb diameter near tree trunk.
 2. Finish top cut slightly farther out on limb.
 3. Flush cut stub at trunk.
- **DO NOT** use for felling or bucking.



MAINTENANCE

Your ECHO Pruner attachment is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your Pruner attachment 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.

MAINTENANCE INTERVALS

Components/ System	Maintenance Procedure	Before Use	Every Refuel	Daily or Every 4 Hours	Weekly or 25 Hours	30 Hours	Date Maintenance Performed
Drive Shaft	Grease				I		
Guide Bar	Inspect/ Replace/ Lubricate	I	I				
Saw Chain	Inspect/ Sharpen/ Replace/ Lubricate	I	I				
Screws/Nuts/Bolts	Inspect/ Tighten/ Replace	I					

I = INSPECT, R = REPLACE

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

LUBRICATION

Drive Shaft (Lower)

Level 1

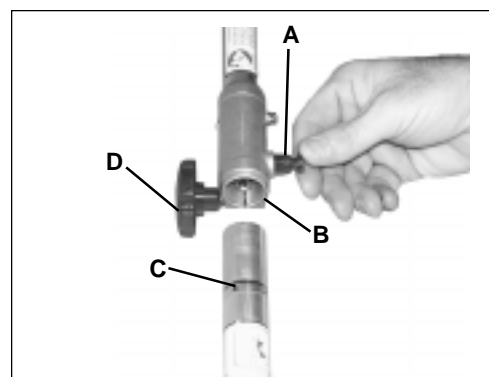
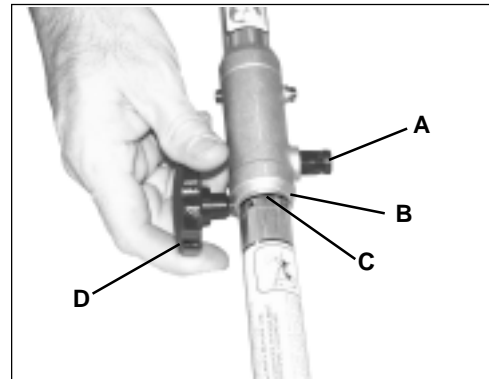
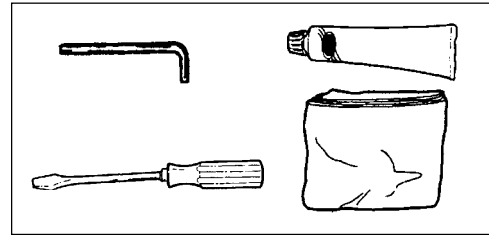
Tools Required: 8 mm Wrench, Screwdriver

Parts Required: High Temperature automotive grease, Clean rag

IMPORTANT

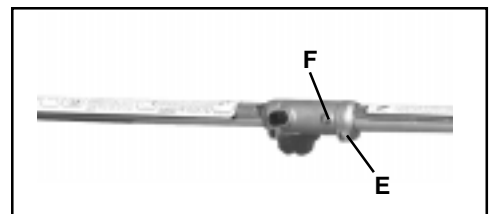
Lower and upper drive shaft **must** be lubricated with high temperature automotive grease every 25 hours of operation, otherwise drive shaft assembly overheating and failure can result.

1. Loosen clamping knob (D).
2. Pull locator pin (A) and rotate 1/4 turn counter clockwise to lockout position.
3. Remove lower drive shaft assembly.
4. Remove lower flex cable, wipe clean and apply a thin coat (1/2 oz. (15ml)) of high temperature automotive grease.
5. Install lower flex cable. Carefully fit lower drive shaft assembly into coupler (B) to decal assembly line (C) making sure inner lower flex cable engages into the upper drive shaft mount.



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 cable, wipe clean and apply a thin coat (1/2 oz. (15ml)) of high temperature automotive grease.
3. Install upper flex 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).



GUIDE BAR AND SAW CHAIN REPLACEMENT

WARNING DANGER

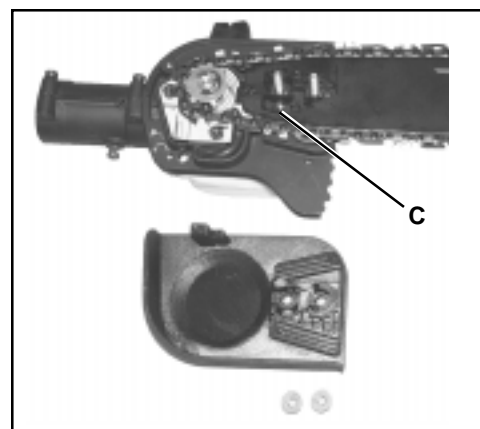
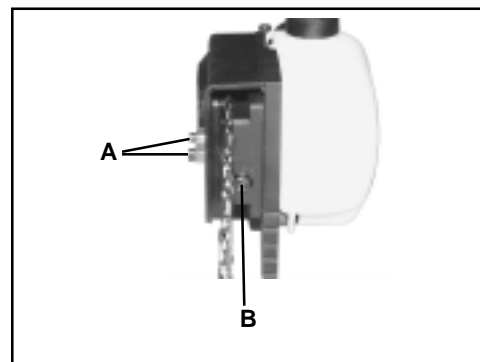
Never try to replace or adjust guide bar and saw chain with engine running. This saw chain is VERY sharp, wear heavy gloves to protect your hands when handling it. Wear eye protection meeting CE or ANSI specification Z87.1.

Guide Bar Replacement / Installation

Level 3

Tools Required: 10 mm (13/32 in.) Wrench, Screwdriver

- Remove two (2) 10 mm (13/32 in.) guide bar nuts (A) and relieve saw chain tension turning screw (B) counter clockwise.
- Remove sprocket cover.
- Free saw chain from sprocket and remove from guide bar. If guide bar is okay proceed to saw chain installation.
- Slide guide bar forward and remove from cutting attachment. Install new guide bar sliding it onto the cutting attachment as far as possible.
- Turn saw chain adjustment screw until adjusting pin (C) fits into round hole in guide bar.



Saw Chain Installation

Level 3

- Install new saw chain onto guide bar. Make sure cutting links are faced towards the nose of the guide bar.
- Engage saw chain with sprocket.
- Secure sprocket cover with (2) two guide bar nuts.
- Follow instruction for adjusting saw chain tension page 12.

FILING SAW CHAIN

Level 3.

Tools Required: 4.5 mm round File P/N 89751001130;
 Flat File P/N 89751100230;
 Depth Gauge P/N 89751400232

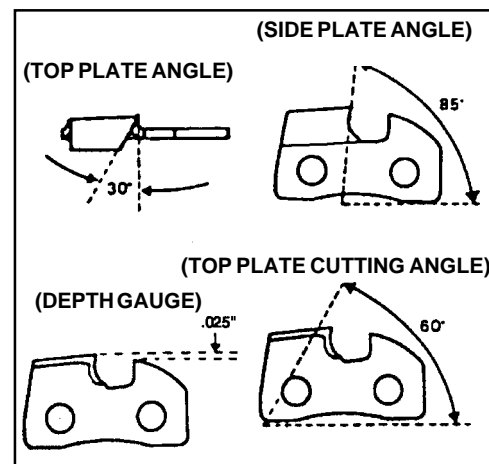
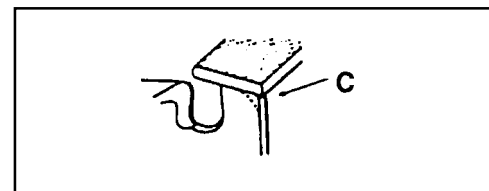
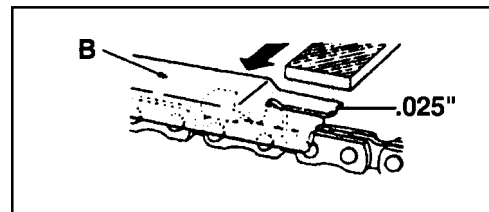
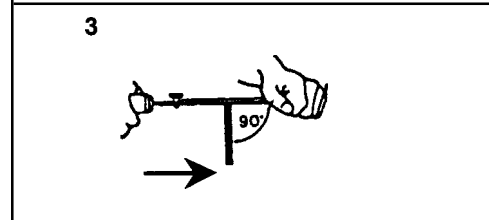
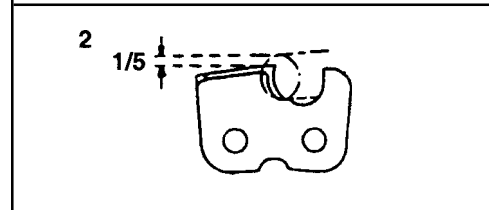
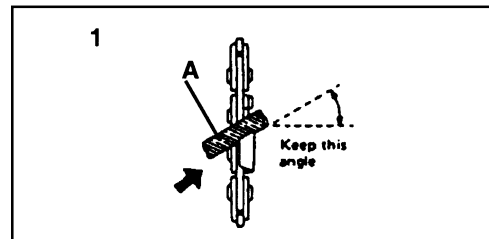
IMPORTANT

Dull or damaged cutters will result in poor cutting performance, increased vibration and premature chain failure.

WARNING DANGER

Always stop engine and wear gloves when filing saw chain, otherwise serious personal injury may result.

1. Set round file (A) in cutter at 30° angle. One fifth (1/5) of the file should be exposed above top cutter edge.
2. Keep file horizontal in cutter and file in one direction.
3. File until cutter top and side bevel edges are sharp without nicks.
4. Place depth gauge tool (B) firmly on top of cutter with .025" slot and end against front cutter raker. File cutter raker with flat file until flush with top of depth gauge.
5. Finish cutter sharpening by rounding front raker edge (C) with flat file.
6. Properly filed cutter is as shown.
7. Apply clean oil and rotate saw chain slowly to wash away filings.
8. If saw chain is coated or clogged with resin, clean in kerosene then soak in oil.



NOTES



