



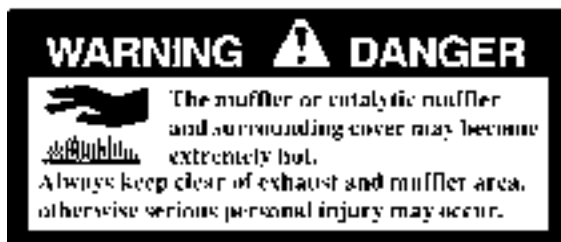
# Power Pruner™

## *Operator's Manual*

**MODEL**

**PP600**

**Serial Number 001001 & Up**



### **WARNING** **DANGER**

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

## CONGRATULATIONS -

on your purchase of the **MODEL PP600 POWER PRUNER™**. It has been engineered, designed and manufactured to provide you with years of dependability and performance. Manufactured by Technic Tool Corporation, this product is a lightweight, high performance unit to be used for tree pruning, sawing and limbing. The PP600 is designed for occasional to medium consumer use.

This **Model PP600 Owners Manual** provides information necessary for assembly, safe operation and maintenance. Carefully read and retain this manual. Please familiarize yourself with the entire contents of your Owners Manual **BEFORE** you attempt to assemble or operate your **POWER PRUNER™**.



### WARNING DANGER

Carefully read Owners Manual for proper operation. Follow all rules for safe operation and operation instructions.

**TECHNIC TOOL CORPORATION CARES ABOUT YOUR SAFETY!**

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



This is the international symbol which identifies important safety precautions and procedures. They are written for your protection. Follow the safety message to avoid severe personal injury.



### DANGER

- Avoid all power lines. This unit is not insulated against electrical current.



### WARNING

- Do not operate closer than 10 feet (3 meters) from electrical hazards.



### WARNING

- Keep bystanders at least 30 feet (10 meters) away.



- Read and understand owners manual.



- Wear head, eye, hearing, and hand protection. Use two handed.



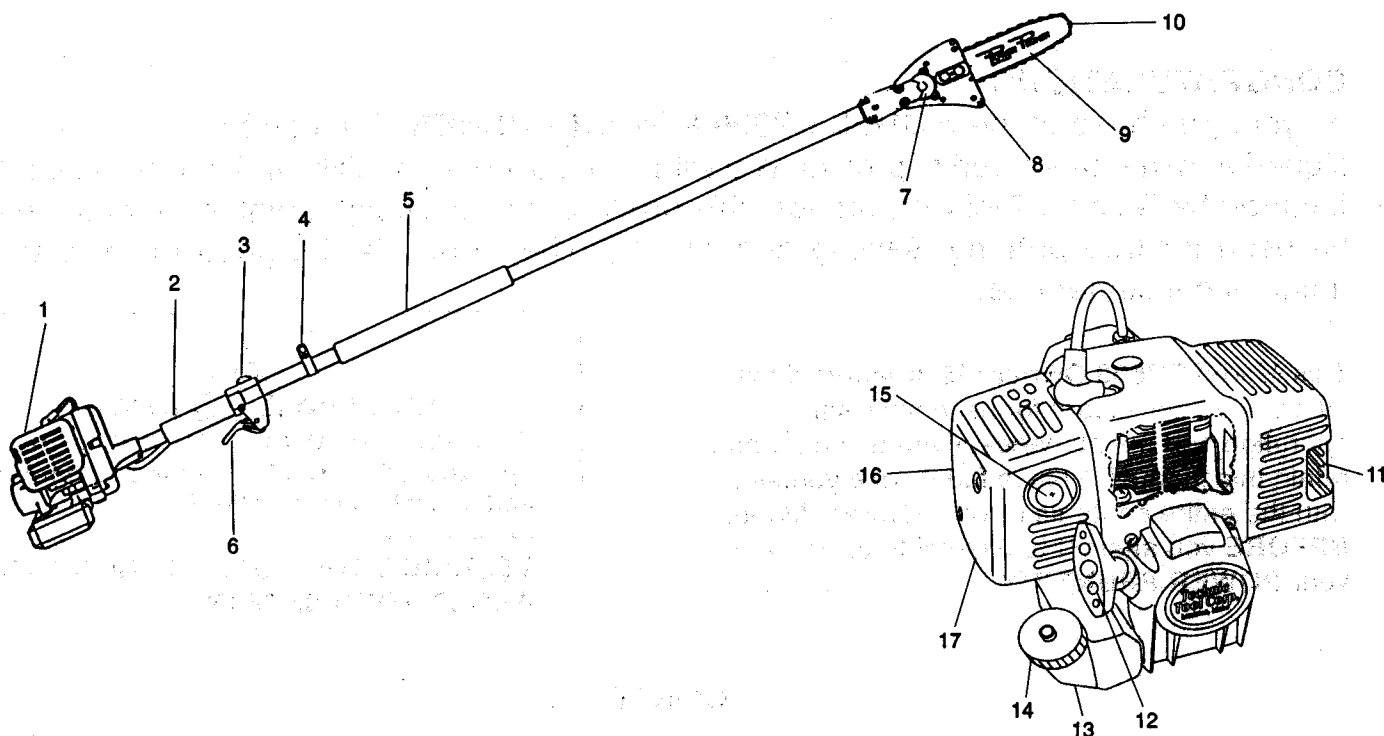
- Plan retreat path from falling objects.

**WE CARE ABOUT YOUR SAFETY!**

**TECHNIC TOOL CORP.**

**1-800-243-9592**

# MODEL PP600 DESCRIPTION



1. **ENGINE** - McCulloch Titan 21.2cc, two-stroke gasoline powered engine. Operation range: Clutch engagement 3000 - 3200 rpm. Wide open throttle 8500 - 9000 rpm. Consult with your **POWER PRUNER™** dealer for proper engine adjustment dependant upon your cutting conditions, location and altitude. Use only McCulloch branded (or an approved substitute) two-stroke motor oil in a **40:1 ratio**. Use branded 89 octane (R+M/2) unleaded gasoline or gasohol (maximum 10% ethyl alcohol, no methyl alcohol).
2. **RIGHT HAND GRIP** - Foam cushioned grip for right hand placement.
3. **IGNITION SWITCH** - Mounted on top of Throttle Trigger Housing. Push switch button forward to run. Pull back on switch button to stop.
4. **STRAP HOOK** - Used to secure unit to shoulder strap.
5. **LEFT HAND GRIP** - Foam cushioned grip for left hand placement.
6. **THROTTLE TRIGGER** - Spring loaded to return to idle when released. When accelerating press gradually for best operating technique.
7. **CUTTING HEAD GEAR BOX** - Sealed, gear ratio is 1-1/2: 1 step down.
8. **CUTTING SHOE** - Used to capture and stabilize branch while cutting. Place cutting shoe against branch, accelerate and lower cutting chain into branch.
9. **CHAIN BAR** - 8 inch Oregon Bar.
10. **CUTTING CHAIN** - 91 VS (anti-vibration) 3/8" low

profile Oregon cutting chain. 32 links per loop. Runs approximately 2125 ft/min at full throttle. See Filing Cutting Chain pg. 8 for sharpening instructions.

11. **MUFFLER, SPARK ARRESTER** - The spark arrester must be serviced periodically. (See Service Maintenance Guide pg. 11)
12. **STARTER HANDLE** - Pull handle slowly until starter engages, then pull quickly and firmly with short strokes. When engine starts return handle slowly. **DO NOT** let handle snap back into place or damage may occur to the unit.
13. **FUEL TANK** - Holds 14.0 oz. fuel. Fuel mixture should be **40:1** ratio using only branded McCulloch (or an approved substitute) two stroke engine oil. Fuel filter is on end of fuel line inside tank.
14. **FUEL TANK CAP** - Covers and seals fuel tank.
15. **PURGE BULB** - Pumping purge bulb before starting engine draws new fuel from the fuel tank priming the carburetor for starting. Pump the bulb repeatedly (normally 3 or 4 times) until fuel is visible in clear fuel return line.
16. **AIR CLEANER ASSEMBLY** - Contains heavy duty felt air filter. This filter needs to be checked and cleaned before each use. Always replace damaged or worn out filter. (See Service Maintenance Guide pg. 11).
17. **CHOKE LEVER** - Located below air cleaner housing. Controls operation of choke. Move lever forward to close choke (starting position) and backward to open (run position).



## OPERATOR SAFETY

READ THIS **POWER PRUNER™** Owners Manual carefully. Be sure you understand how to operate this unit properly before you use it.

Use of the **POWER PRUNER™** should be restricted to mature, properly instructed individuals. **NEVER** allow a person to use this unit unless instructions are read and understood. Clear the work area of bystanders, animals and any hazardous obstacles. Keep people and animals out of danger zone. This is a circle **33 feet (11 Meters)** in radius (about 11 paces) around the unit and operator. Post Warning, Danger or Men Working signs in areas where bystanders could be present.



## DANGER

All overhead electrical conductors and communications wires and cables should be considered to be energized with potentially fatal voltages and should never be touched either directly or indirectly. **DO NOT** operate the **POWER PRUNER™** if any wires are closer than **10 feet (3 meters)** minimum distance to any part of the unit or operator.

Avoid all electrical power lines. Pruning near electrical hazards should be restricted to only qualified line clearance tree trimmers and minimum clearances shall be maintained.

Survey work area to identify possible hazards and keep area free from obstructions. A safe working procedure is your first defense towards preventing accidents.

The operator should wear and properly adjust the shoulder strap. The shoulder strap will assist in directional use, safety, tool weight and fatigue.

Use caution when handling fuel. Put the gas caps back tightly on both the gas can and the **POWER PRUNER™** fuel tank. Move at least 10 feet from the refueling point and be sure there is no leakage of fuel from the gas cap or the fuel system before starting the engine.

Operate this gasoline powered unit in a well ventilated area only.

Before starting the engine, make sure the chain bar is not in contact with anything. Start the engine while on the ground or in a stable, secure location.

**DO NOT** operate in an awkward position or while standing on any unstable surface. Use a firm two-handed grip and secure balanced footing.

Turn the **POWER PRUNER™** off when you are moving from tree to tree on the ground or in a bucket truck. Fully release throttle trigger at all times when not cutting. You should carry the **POWER PRUNER™** with the engine stopped and the hot muffler away from your body while also preventing any contact with the cutting chain.

Operate the **POWER PRUNER™** only from the ground or out of an approved bucket lift. **DO NOT** stand on unstable platforms or in positions which might endanger your balance and cause loss of positive pruner control. **DO NOT** operate the **POWER PRUNER™** from ladders or out of trees.



## OPERATOR SAFETY (continued)

**DO NOT** operate the **POWER PRUNER™** when you are fatigued. Periodic rest stops will assure a high production rate, safe operation and better quality workmanship.

**DO NOT** operate when under the influence of alcohol, medications or substances which can affect your vision, dexterity or judgment. You must be in good physical and mental health in order to operate the **POWER PRUNER™** safely.

Always carry a first aid kit when working with or around power equipment.

When pruning, plan a retreat path before cutting a branch. Never stand directly under the branch being pruned and wear a hard hat and eye protection at all times.

When cutting a limb that is under tension, be alert for limb springback.

**DO NOT** alter the tool in any way. Only **POWER PRUNER™** replacement parts should be used.

The **POWER PRUNER™** should only be used in cutting wood, brush and trimming trees.

Keep the chain lubricated and maintain proper tension.

On limbs greater than 4 inches in diameter always make a small undercut to avoid pinching the chain bar.

Plan cutting to avoid situations which might cause the chain bar to become pinched in a cut. If it does become pinched, stop the engine before removing. Avoid prying the bar loose, which may cause damage to the cutting head and or drive shaft.

Always obtain full throttle speed before cutting or resuming previous cut.

### WARNING DANGER

Always stop the engine if the bar and chain become pinched or jammed during a cut. **DO NOT** attempt to remove the cutting head from the pinch or jam while the engine is running. Physical injury can occur if during removal the cutting head suddenly kicks back.

- Do not allow other persons or pets in the area when starting or operating the **POWER PRUNER™**.
- Keep a firm grip on the **POWER PRUNER™** with both hands, the right hand on the throttle grip and the left hand on the front foam grip. Use a firm grip with thumbs and fingers encircling the throttle handle and pole. A firm grip will help you keep control of the **POWER PRUNER™**. **NEVER OPERATE** the **POWER PRUNER™** with only one hand.
- Do all cutting at full throttle speed. Cutting at less than full speed can cause damage to the clutch by allowing it to slip.
- Always carry the **POWER PRUNER™** with the engine stopped and the **HOT** muffler away from your body.



## KICKBACK

Kickback can lead to dangerous loss of control of the **POWER PRUNER™** and result in serious injury to the operator or anyone standing close by.

Kickback may occur when the moving chain at the nose or tip of the chain bar touches an object, or when the wood closes in and pinches the saw in the cut. In some cases this may cause a lightning-fast reverse action, kicking the chain bar 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.

Hold the **POWER PRUNER™** firmly with both hands. Be aware of the down and outward path the pruner will take after the cut is made.

Avoid contact of the chain bar tip with any object while the 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 chain does strike a foreign object, immediately stop the engine, inspect and repair the **POWER PRUNER™** if necessary.

**WARNING**



**DANGER**

**POWER PRUNER™** users risk injury to themselves and others if the pruner is used improperly, and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a **POWER PRUNER™**.



## PROTECTIVE EQUIPMENT

- Always wear eye protection goggles that meet ANSI Z87.1 requirements (Z87 should be stamped on the goggles).
- Always wear a HARD HAT meeting ANSI Z89.1 requirements.
- The hard hat will help protect you from falling branches, etc. . .
- Wear hearing protection. If hearing protection is not used, hearing loss may occur. The Occupational Health and Safety Act of 1970 requires the wearing of hearing protection if you use the unit more than two hours per day. Technic Tool Corporation recommends hearing protection be worn at all times to protect against temporary or cumulative hearing loss.
- Wear snug fitting, durable clothing. Avoid wearing loose clothing that could become entangled when contact is made with the **POWER PRUNER™**.
- Wear shoes with nonskid soles to ensure proper footing.
- Wear nonslip heavy-duty work gloves to improve your grip on the **POWER PRUNER™**. The gloves will also help reduce the transmission of vibration to your hands.

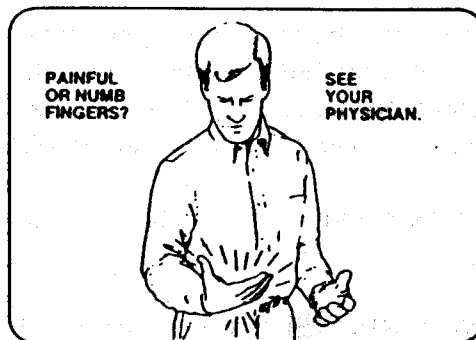


**WARNING DANGER**  
**PRECAUTION AGAINST VIBRATION AND COLD**



Some operators may develop a condition known as Raynaud's Syndrome affecting the hands or arms. It is believed that the condition, brought about by exposure to cold and/or vibration, may result in tingling and burning and then by loss of color and numbness in the victim's fingers.

Even though your **POWER PRUNER™** has been equipped with anti-vibration devices, we recommend that you take the following precautions:



- Keep your body warm, especially the head and neck, feet and ankles, hands and wrists.
- Avoid awkward, unnatural, stressful grips on the unit without losing control. Avoid hard, stiff "death grips" while the unit is vibrating.
- Maintain good blood circulation. Avoid smoking. Exercise vigorously during frequent work breaks. Also limit the amount of time you spend using this or any other hand held vibrating tool.
- If you experience discomfort, redness and swelling of the fingers, followed by whitening and loss of feeling, consult your physician before exposing yourself to vibration and cold.

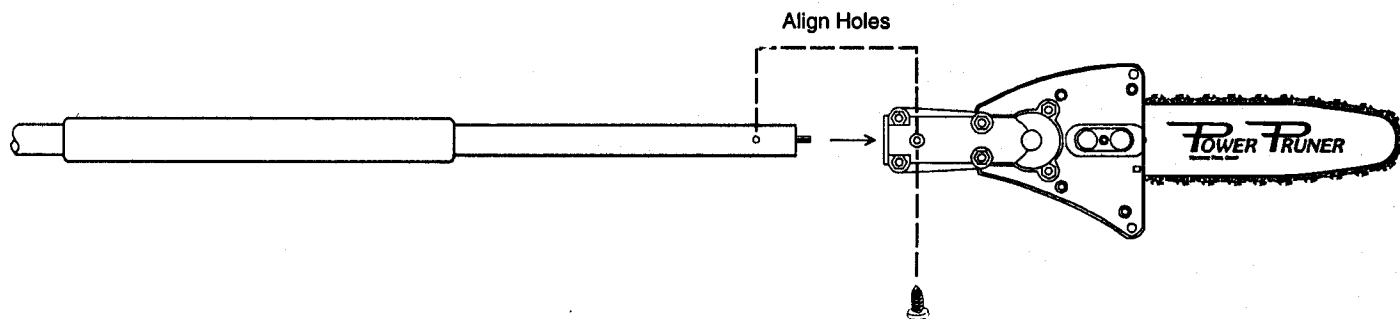
# ASSEMBLY INSTRUCTIONS

Tools required for assembly: Phillips Head Screwdriver. (provided)

**FOR YOUR CONVENIENCE AND PROPER FIT THE PP600 HAS BEEN SHIPPED WITH THE POWER HEAD ATTACHED AND THROTTLE CABLE ASSEMBLED. WE RECOMMEND THE POWER HEAD REMAIN ATTACHED TO THE DRIVE SHAFT AND HOUSING AT ALL TIMES.**

## CUTTING HEAD TO DRIVE SHAFT AND HOUSING INSTALLATION.

1. Loosen the two lower screws on the cutting head.
2. Slide the cutting head onto the housing until the hole in the neck of the cutting head is aligned with the hole in the housing. (It may be necessary to rotate the chain slightly to align the pinion to the drive shaft.)
3. Insert the #8 - 3/8" self-tapping screw into the hole and tighten to snug.
4. Re-tighten the two lower screws, clamping the cutting head onto the housing.



## SAW CHAIN TENSION ADJUSTMENT



**Always wear work gloves when handling saw chain.**

**NEVER ATTEMPT TO ADJUST CHAIN TENSION WITH ENGINE RUNNING! SERIOUS PHYSICAL INJURY COULD OCCUR. TURN ENGINE OFF AND DISCONNECT SPARK PLUG WIRE FROM SPARK PLUG BEFORE INSPECTING OR ADJUSTING CHAIN TENSION.**

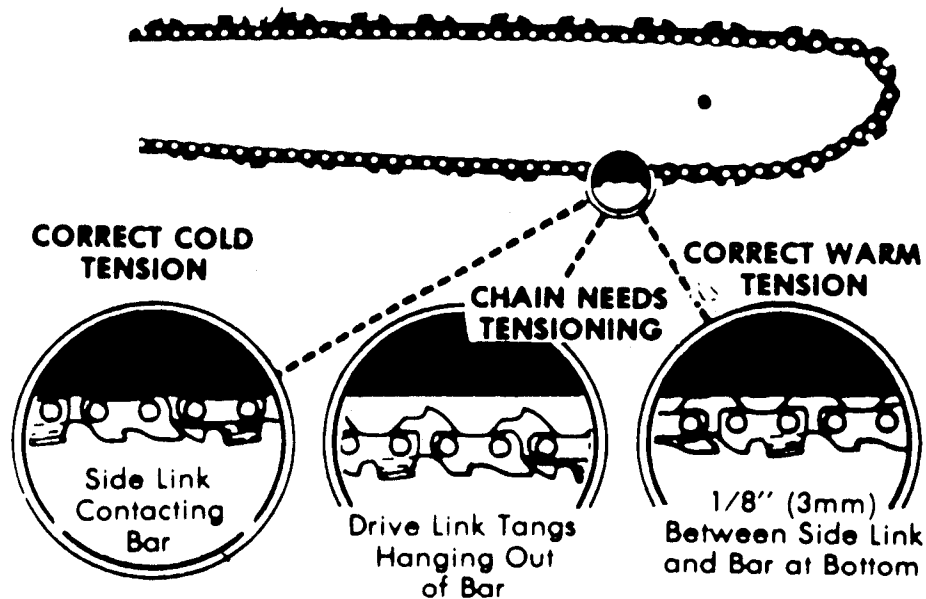
### To Adjust Chain Tension

1. Loosen the two 1/4" bar bolts located on the cutting head using the adjustment wrench provided.
2. Turn chain tightener screw (located next to chain bar in sprocket cover) **CLOCKWISE** to **TIGHTEN** chain on chain bar. Turning screw **COUNTER-CLOCKWISE** will **LOOSEN** chain on chain bar.
3. When proper tension is achieved, tighten bar bolts firmly. Move saw chain backwards on chain bar by hand. Chain should move freely on bar if it is in its proper mesh with the sprocket.

Keep the chain lubricated and properly adjusted and the bar bolt tightened firmly at all times.

If chain is difficult to rotate or binds on guide bar it is too tight.





## LUBRICATING THE BAR AND CHAIN

The cutting chain should be lubricated every 10 to 15 minutes. Lubrication should be more frequent for dry or heavy cutting. Apply the oil to the cutting chain, around the edge of the bar, and to the nose sprocket (hole in bar near tip). Any high quality bar oil or synthetic sprays may be used.

## FILING CUTTING CHAIN

### Low Profile 3/8"

Use a 5/32" chain file for sharpening.

**90 Series**

**SEMI CHISEL**

7

*End View*

CHAIN TYPE	GAUGE	# LINKS
91 VS	.050"	32

**USER APPLICATIONS**

*Professional*

**NOT a Low-kickback Chain**  
No bumper tie straps

① DEPTH-GAUGE SETTING:

.025"

② TOP-PLATE CUTTING ANGLE:

60°

③ SIDE-PLATE ANGLE:

85°

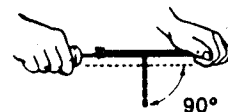
④ TOP-PLATE FILING ANGLE:

30°

## TOOLS FOR FILING

PART NO.	DESCRIPTION
80513	5/32" Round File
37534	5/32" Assembled File Guide
22290	.025" Depth-gauge Tool
12211	Depth-gauge File (flat)

### ⑤ FILE-GUIDE ANGLE:



## FUEL AND LUBRICATION

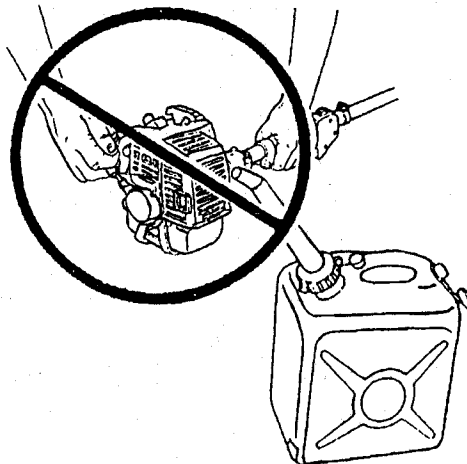


Mix fuel in an area with adequate ventilation and away from heat or flame. Keep handles dry and clean of oil or fuel mixture.

### HANDLING FUEL

#### WARNING DANGER

Handle fuel carefully. Fuel is extremely flammable. Follow all rules listed below to help prevent fire or explosion which may result in severe injury or death.



- Comply with all fire prevention regulations. Take appropriate fire fighting equipment with you when operating pruner in dry areas.
- Carry fuel in approved containers and store away from heat, open flame and keep out of reach of children.
- Stop the engine and slowly loosen fuel tank cap to release any pressure build-up in the tank before refueling your pruner. **NEVER** refuel while the engine is running or hot.
- Refuel only outdoors in a safe, clear area away from ignition sources such as open flame. To avoid carbon monoxide poisoning from gas exhaust **NEVER** start or run engine indoors or in a poorly ventilated area.
- Wipe pruner clean of any spilled fuel or oil and move at least **10 feet** (3 meters) from fueling area before starting engine.
- **NEVER** smoke while refueling or operating your pruner.
- Keep hands and tool dry, clean and free of fuel mixture.
- **DO NOT** set hot engine down where flammable material is present. **NEVER** run the engine without the muffler or muffler screen.
- **NEVER** store or transport the **POWER PRUNER™** with the fuel in the tank. A fuel leak could result in fire.
- **NEVER** use your engine fuel for starting fires.



### MIXING FUEL

The engine uses two-stroke fuel, a mixture of gasoline and specially blended two-stroke oil. A McCULLOCH 40:1 ratio two-stroke engine oil (or approved substitute) must be used.

**ALWAYS FOLLOW THE MIXING INSTRUCTIONS ON THE CONTAINER OF THE TWO-CYCLE OIL BEING USED.**

Use branded 89 octane (R+M/2) unleaded gasoline or gasohol (maximum 10% ethyl alcohol, no methyl alcohol).

Mix and store fuel only in a clean, safe, approved container. Check and follow local ordinances on type and required location of storage containers.


**IMPORTANT: Two stroke fuel may separate. Shake fuel container thoroughly before each use. Stored fuel ages. DO NOT mix more fuel than you expect to use in one month.**

# STARTING AND OPERATING INSTRUCTIONS

## SAFE STARTING TECHNIQUES

- Check unit for loose nuts, bolts and screws before starting.
- Always clear work area of debris before starting operation.
- Start unit on the ground with throttle set at idle.
- **DO NOT** start if chain is obstructed by the ground or any other object.
- When pulling starter rope, use short pulls (1/2 to 2/3 of rope length).
- **DO NOT** allow the starter handle to snap back against the housing.
- Always hold the unit firmly.

**WARNING**



**DANGER**

When engine starts, the chain may move even with trigger in low-speed position.

1. Slide ignition switch to **START/RUN** position.
2. Push purge bulb 3 to 4 times or until constant flow of fuel is visible in the fuel return line.
3. Start the engine at idle.
4. Close the choke and pull starter rope until engine fires.
5. Open the choke.
6. Restart engine and allow to warm up at idle speed.

## STARTING WARM ENGINE


1. If fuel tank was emptied during previous operation, refill tank and push purge bulb 3 to 4 times or until constant flow of fuel is visible in the fuel return line.
2. Slide the ignition switch to the **START/RUN** position.
3. Make sure choke is open.
4. Start the engine at idle.
5. Pull starter handle.

IF THE ENGINE DOES NOT START AFTER 4 PULLS, FOLLOW THE COLD STARTING PROCEDURE.

## STOPPING THE ENGINE

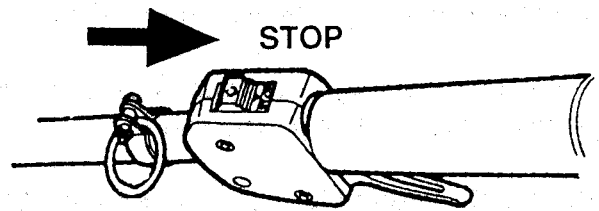
1. Release throttle trigger and allow engine to return to idle.
2. Slide ignition switch to the **STOP** position.

**WARNING**



**DANGER**

If engine does not stop, close choke to stall engine. Take your **POWER PRUNER™** to the nearest dealer for inspection and repair.



# SERVICE MAINTENANCE GUIDE

AREA	MAINTENANCE	PAGE	BEFORE USE	MONTHLY	YEARLY
AIR FILTER	CLEAN/REPLACE*	11	●		
FUEL FILTER	INSPECT/REPLACE*	12		●	
SPARK PLUG	INSPECT/CLEAN/ADJUST/REPLACE*	12		●	
CARBURETOR	ADJUST (AS NEEDED)	12			●
COOLING SYSTEM	INSPECT/CLEAN	14	●		
MUFFLER (SPARK ARRESTOR)	INSPECT/CLEAN	14		●	
STARTER ROPE	INSPECT/REPLACE*			●	
BAR	INSPECT/REPLACE*/LUBRICATE	15	●		
CHAIN	INSPECT/SHARPEN/REPLACE*/LUBRICATE	8 & 15	●		
FUEL LINE	INSPECT/REPLACE*			●	
FUEL LEAKS	INSPECT/REPAIR		●		
SCREWS, BOLTS & NUTS	INSPECT/TIGHTEN/REPLACE*		●		

\* ALL RECOMMENDATIONS TO REPLACE ARE BASED ON THE FINDING OF DAMAGE OR WEAR DURING INSPECTION.

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

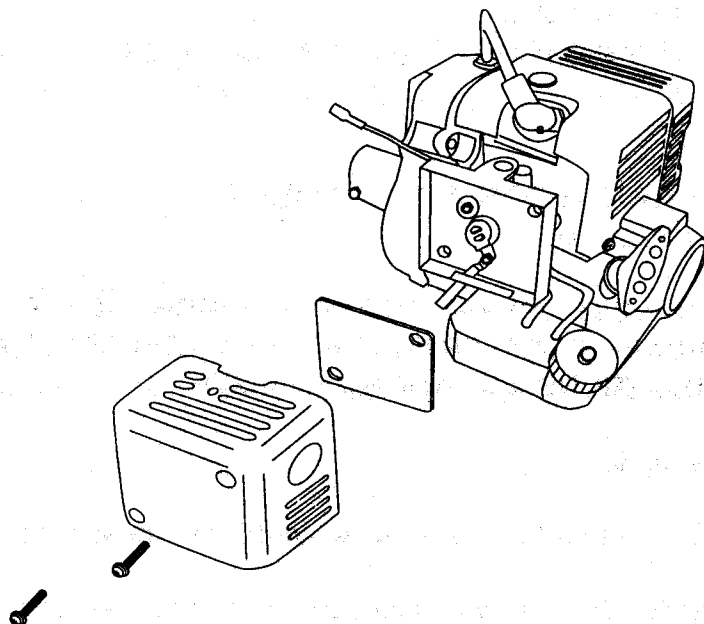
## MAINTENANCE INSTRUCTIONS

### CLEANING AIR FILTER (Before each use)

1. Push choke lever forward to the START (closed) position.
2. Remove the air cleaner cover by loosening and removing the two screws fastening the cover to the engine.
3. Remove air filter (air filter is located inside air filter cover).
4. Brush dirt from filter or clean by blowing with compressed air.

**NOTE:** If air filter is excessively dirty, damaged or no longer fits properly replace it with a new filter to prevent damage to internal engine parts.

5. Reinstall filter into air cleaner cover.
6. Reinstall air cleaner cover and tighten both screws.



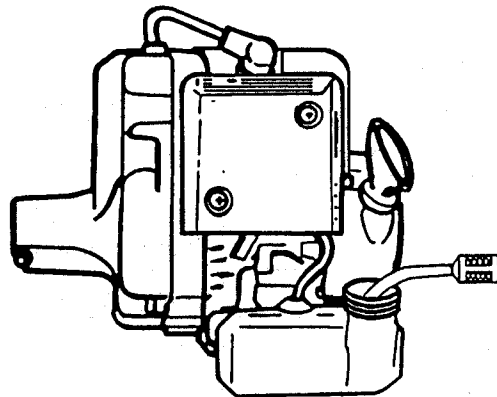
## FUEL SYSTEM INSPECTION

Poor quality fuel, e.g. high alcohol content, can cause rapid deterioration of plastic and rubber components. Due to unknown fuel quality, it is important to check internal and external fuel lines, fuel cap gaskets, carburetor diaphragms and other plastic and rubber fuel system components a minimum of twice yearly. Replace any part that is defective or questionable.

## REPLACING FUEL FILTER

(Check Monthly)

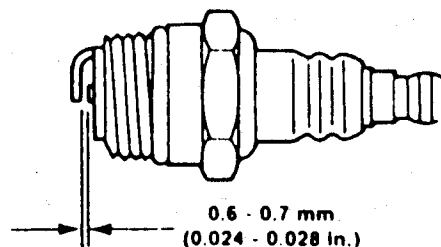
1. Remove fuel cap. Loosen slowly to relieve any pressure that might be present in fuel tank.
2. Using a wire hook, pull fuel filter through fuel tank opening.
3. Pull old fuel filter from fuel line.
4. Install new filter on fuel line and push back into fuel tank.



## CHECK SPARK PLUG

(Check Monthly)

1. Remove spark plug, using wrench provided, by loosening in a counter-clockwise direction.
2. Check plug gap. Correct gap is 0.6-0.7mm (0.024 - 0.028").
3. Inspect electrode for wear.
4. Inspect insulator for oil or other deposits.
5. Replace plug if needed.
6. Reinstall plug and tighten to 145-155kg-cm (125-135 in. lb.).



## CARBURETOR ADJUSTMENT

(As Needed)

**FOR BEST OPERATION AND PERFORMANCE IT IS RECOMMENDED YOU CONSULT YOUR POWER PRUNER™ DEALER FOR PROPER CARBURETOR ADJUSTMENT DEPENDANT UPON YOUR CUTTING CONDITIONS, LOCATION AND ALTITUDE.**

### General

If the carburetor needs adjustment follow these procedures.

**NOTE:** The diaphragm carburetor has three external adjustments. Each adjustment affects the others.

The idle speed adjustment screw controls the volume of fuel/oil mixture at low engine speed. It also controls the supplementary fuel required to obtain smooth progression from idling to high speed.

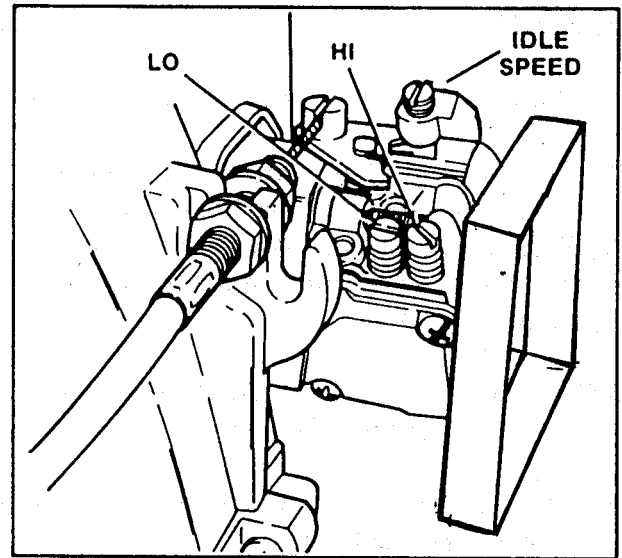
## CARBURETOR ADJUSTMENT - (continued)

The high (HI) speed adjustment screw controls the volume of fuel/oil mixture at full throttle.

### Initial Adjustment

**NOTE:** The needle screws have a sharp point. To avoid carburetor damage, do not use excessive force when seating needle in body.

1. Turn HI and LO adjustment screws clockwise until seated lightly in carburetor body.
2. Turn LO adjustment screw counter-clockwise 1 1/8 turn.
3. Start engine and allow it to run at high idle until warm (approximately 2-3 minutes).



**NOTE:** Idle speed screw may need to be readjusted to keep engine from stalling. If engine does stall at idle, turn Idle speed screw 1/2 turn clockwise and restart. Chain on cutting head should not rotate at idle. If chain rotates turn idle screw counter-clockwise until chain stops rotating.

### Low Speed Adjustment

1. Slowly turn the LO adjustment screw clockwise and note the position when engine speed drops.
2. Turn the LO adjustment screw counter-clockwise and note the position when engine speed drops.
3. Set the screw midway between these two points.
4. Turn the idle speed screw clockwise until cutting chain just begins to rotate.
5. Turn idle speed screw counter-clockwise one-half turn to stop cutting chain from rotating.

### High Speed Adjustment

1. This engine's carburetor is equipped with a new fine-thread adjustment needle. Turn the HI adjustment screw counter-clockwise 4 1/2 turns.

**IMPORTANT:** Do not run the engine on full throttle longer than 5-6 seconds to avoid damage to engine.

2. While running the engine at full throttle, turn the HI adjustment screw slowly clockwise until the engine runs smoothly.
3. Turn the screw counter-clockwise 1/2 turn to obtain optimum fuel mixture for full power under load conditions.

**NOTE:** It may be necessary to reset idle speed as outlined in steps 4 and 5 of "Low Speed Adjustment" section.

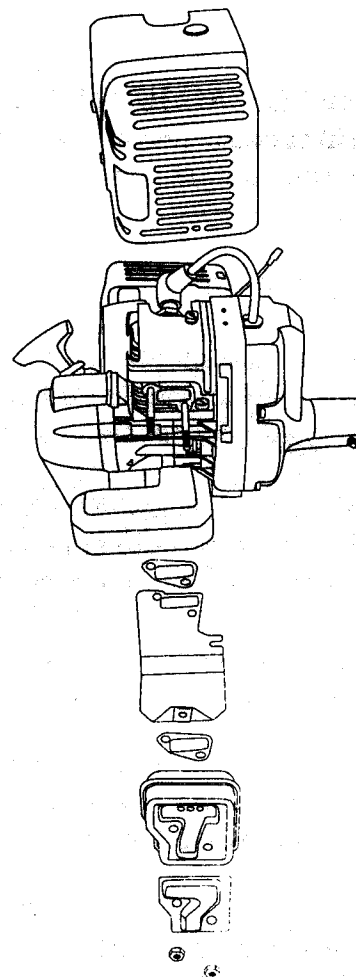
## CLEANING MUFFLER AND EXHAUST PORT

(Check Monthly)

1. Remove the 5 screws which secure engine cover.
2. Remove the engine cover.
3. Remove the spark arrestor. Replace screen if it is plugged, cracked or has holes burned through it.
4. Remove the two nuts securing the muffler to the engine and remove the muffler exhaust port, muffler and heat shield.

**NOTE:** Be careful not to scratch the cylinder or piston when cleaning the cylinder exhaust port.

5. Clean deposits from muffler, muffler exhaust port and cylinder exhaust port.
6. Inspect gaskets and replace if necessary.
7. Install heat shield and muffler. Install muffler exhaust port and secure.
8. Install engine cover.



## COOLING SYSTEM MAINTENANCE

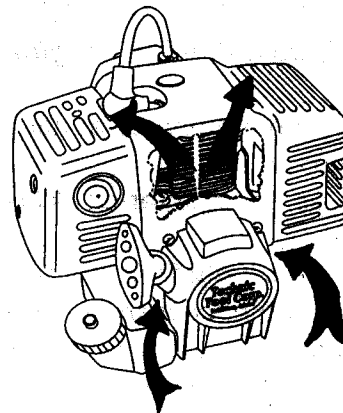
### IMPORTANT

To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:

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

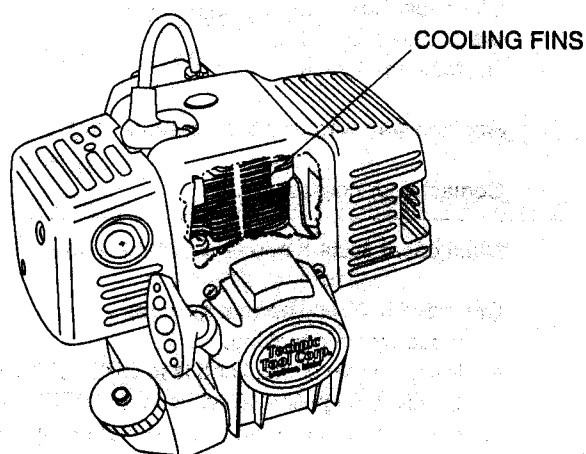
Removal of cooling passage blockages or cleaning of cylinder fins is considered "Normal Maintenance". Any resultant failure attributed to lack of maintenance is not warranted. The cooling system relies on cooling air entering the engine through the grille located between the fuel tank and starter. The cooling fan pushes this air through the cylinder area and out the opening in the engine cover.



AIR FLOW

## CLEANING CYLINDER FINS

(Check before each use)



1. Remove dust and dirt from between cooling fins.
2. If greater access is needed to thoroughly clean fins, remove the engine cover as outlined in steps 1 & 2 in "Cleaning Muffler and Exhaust Port".

## CUTTING BAR AND CHAIN REPLACEMENT

(As Needed)

1. Remove sprocket cover.
2. Loosen both bar bolts and relieve tension of cutting chain.
3. Free chain from sprocket and remove chain from bar. If chain bar is okay proceed to step 5.
4. Slide bar forward and remove from cutting head. Install new bar sliding it onto the cutting head as far as possible.
5. Install new cutting chain onto bar. Make sure cutting links are faced in the proper direction.
  - A. Engage cutting chain with sprocket.
  - B. Follow instructions on adjusting cutting chain tension (pg. 7) to finish process.
6. Replace sprocket cover.



# TROUBLESHOOTING

TROUBLE	CAUSE	REMEDY
1. Engine fails to start.	No fuel in tank. Strainer clogged. Fuel line clogged. Spark plug shorted or fouled. Spark plug broken (cracked porcelain or electrodes broken). Ignition lead wire shorted, broken or disconnected from spark plug. Ignition lead wire shorted.	Fill tank. Clean strainer. Clean fuel line. Install new spark plug. Replace spark plug.  Replace lead wire or attach to spark plug.  Contact your nearest dealer.
2. Engine hard to start.	Water in gasoline or stale fuel mixture. Too much oil in fuel mixture. Engine over or under choked.     Gasket leaks (carburetor or cyl. base gasket). Carburetor out of adjustment. Weak spark at spark plug.	Drain entire system and refill with fresh fuel.  Drain and refill with correct mixture. If flooded by over choking: a. Make certain choke knob is in OPEN POSITION. b. Check that ignition switch is in START/RUN position. c. Hold throttle full open and pull starter rope until engine fires. d. If engine fails to start after 10-15 tries, refer to Trouble 1. If under choked, move choke knob to CLOSED position and crank two or three times. Replace gaskets.  Contact your nearest dealer. Contact your nearest dealer.
3. Engine misses.	Dirt in fuel line or carburetor.  Spark plug fouled, broken or incorrect gap setting. Weak or intermittent spark at spark plug. Carburetor improperly adjusted.	Remove and clean. Clean or replace spark plug - set gap to 0.6-0.7mm (0.024-0.028 in).  Contact your nearest dealer. Contact your nearest dealer.
4. Engine lacks power.	Air cleaner clogged. Muffler clogged. Clogged exhaust ports.   Carburetor out of adjustment. Poor compression.	Clean air cleaner. Clean carbon from muffler. Remove muffler, rotate engine until the piston is at top of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out loose carbon with compressed air. Install muffler and gasket. Contact your nearest dealer. Contact your nearest dealer.
5. Engine overheats.	Insufficient oil in fuel mixture. Air flow obstructed.	Mix fuel as shown in starting instructions. Clean flywheel and cylinder fins and screen.
6. Engine noisy or knocking.	Loose flywheel. Spark plugs incorrect heat range. Worn bearings, piston rings or cylinder wall.	Tighten flywheel nut. Replace with plugs specified for engine. Contact your nearest dealer.
7. Engine "stalls" under load.	Engine overheats. Carburetor main adjustment too "lean".	See "Cleaning Cylinder Fins" in service section. Contact your nearest dealer.

## STORAGE

### LONG TERM STORAGE (Over 60 Days)

**DO NOT** store your **POWER PRUNER™** for a prolonged period of time (60 days or longer) without performing protective storage maintenance which includes the following:

1. Store the unit in a dry, dust free place out of the reach of children.
2. Place the ignition in the "OFF" position.
3. Remove any accumulation of grease, oil, dirt and debris from the exterior of the unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all screws, nuts and bolts.
6. **Drain the fuel tank completely** and pull the starter handle several times to remove fuel from the carburetor.
7. Remove the spark plug and pour 1/4 oz. (1/2 tablespoon) of fresh, clean, two-stroke engine oil through the spark plug hole.
  - A. Place a clean dry cloth over the spark plug hole.
  - B. Pull the starter handle 2-3 times to distribute the oil inside the engine.
  - C. Observe the piston location through the spark plug hole. Pull the starter handle slowly until the piston reaches the top of its travel and leave it there.
8. Install the spark plug but **DO NOT** connect the ignition cable.



**DO NOT STORE IN ENCLOSURE WHERE FUEL FUMES MAY ACCUMULATE OR REACH AN OPEN FLAME OR SPARK.**

## OWNER INFORMATION

DATE OF PURCHASE: \_\_\_\_\_

MODEL NUMBER: \_\_\_\_\_

ENGINE SERIAL NUMBER: \_\_\_\_\_

NAME AND LOCATION OF DEALER: \_\_\_\_\_

PHONE # \_\_\_\_\_

NOTES \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## SERVICING INFORMATION

### PARTS

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number, Type 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. \_\_\_\_\_ Type \_\_\_\_\_ 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](http://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](http://www.echo-usa.com).

**Operator's and Parts Manuals** are available by:

- Downloading free from [www.echo-usa.com](http://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.

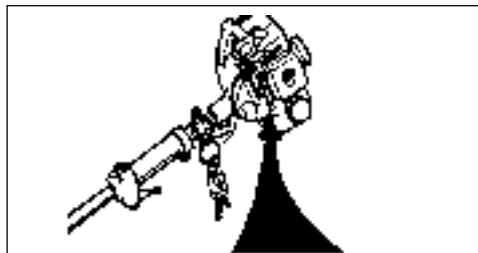
**Safety Videos** are available from your Echo dealer. A \$5.00 shipping charge will be required for each video.

#### Available Parts Catalog

PP600 S/N 001001 - 001738  
PP600 S/N 001801 & UP

Part Number 89861422060  
Part Number 99922203191

**ECHO**  
ECHO, INCORPORATED  
400 OAKWOOD ROAD  
LAKE ZURICH, IL 60047-1564  
[www.echo-usa.com](http://www.echo-usa.com)



### DEALER?

Call  
**1-800-432-ECHO**  
or  
[www.echo-usa.com](http://www.echo-usa.com)

### CONSUMER PRODUCT SUPPORT

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

