

Poulan

4400/4900/5400 Counter Vibe



CAUTION:

Read Rules for Safe
Operation Carefully.
Note Special
Instructions for
Bow Saw Users.

chain saw operator's manual

Record in the space provided below the model
number and serial number of your saw.

Model No. _____ Serial No. _____

Retain these numbers for future reference.

BEAIRD-POULAN/WEED EATER

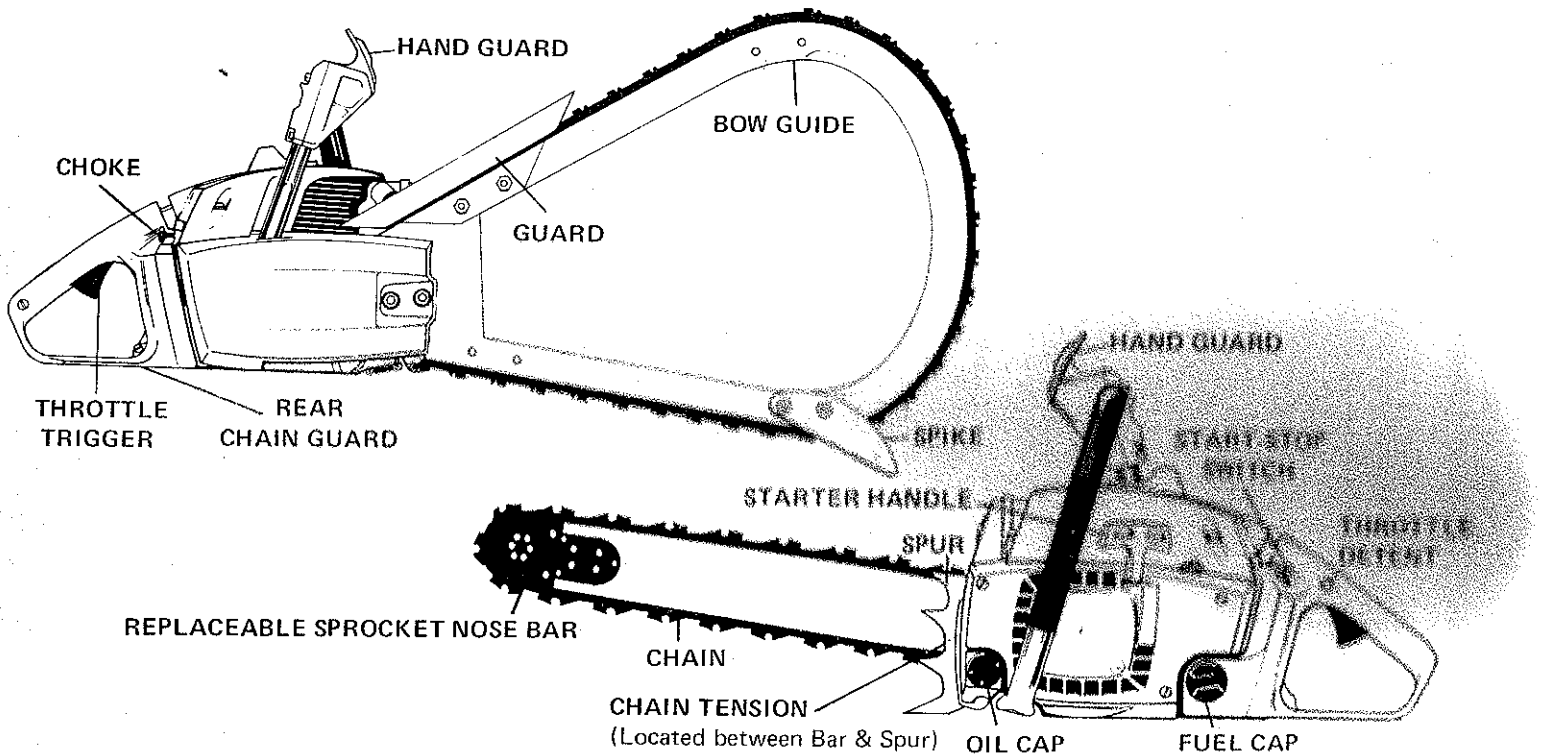
Division Emerson Electric Co.
5020 Flournoy-Lucas Road
Shreveport, Louisiana 71109

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SPECIFICATIONS

MODEL	4400	4900	5400
CU. IN. DISPLACEMENT	4.2 in ³ /69 cm ³	4.7 in ³ /77cm ³	5.2in ³ /85cm ³
SPARK PLUG	Champion CJ-8	Champion CJ-8	Champion CJ-4
SPARK PLUG GAP	.023 to .027"		
IGNITION	Solid State		
MODULE AIR GAP	.008 to .014"		
OILER	Adjustable Automatic		
GUIDE BAR	16", 20", 24", 27", 30", 32", & 36" RSN 17", 21", 25" HT		
CHAIN	3/8" Pitch - Semi Chisel Chain		
BOW GUIDE	13", 14"		
FUEL MIX	½ pt. (16:1) oil/1 gal. reg. gasoline	½ pt. (32:1) oil to 2 gal. reg. gas.	
MUFFLER	Spark Arresting		



NOTICE CALIFORNIA ONLY

It is prohibited to operate this chain saw on forest brush, or grass covered land without a properly maintained SPARK ARRESTOR (code 4442), or to operate a chain saw without a TEMPERATURE LIMITING MUFFLER (code 4443). THIS ENGINE IS NOT EQUIPPED from the factory with such a muffler. A kit is available from your dealer.

You must maintain the approved muffler to operate this chain saw in California. Failure to do so will subject you to a liability for a fine.

SAFETY FEATURES

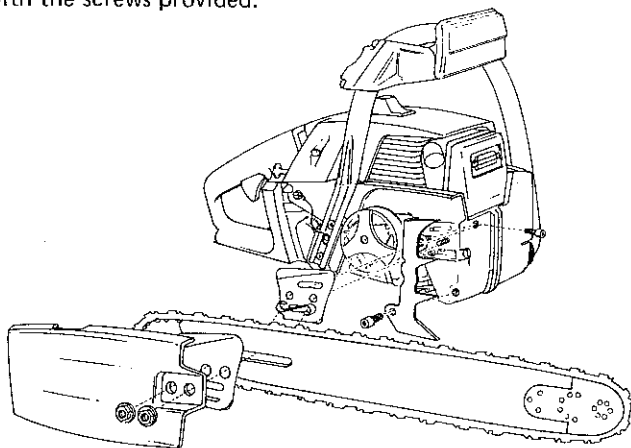
Your new chain saw is equipped with guard link safety chain to reduce kickback.

A hand guard is provided to protect your hand from coming in contact with the cutting chain in the event your hand slips off the front handlebar or you lose control of the saw. Hand guards do not eliminate the possibility of injury as a result of kickback or loss of control.

THIS SAW INTENDED FOR PROFESSIONAL USE ONLY.

SPUR MOUNTING

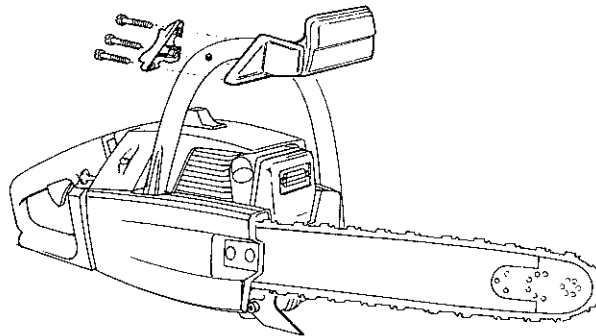
Position the Spur as shown over the holes and attach securely with the screws provided.



HAND GUARD MOUNTING INSTRUCTIONS

1. Assemble the hand guard to the bend in the handlebar as shown. Be sure alignment pin on guard is inserted in hole in handlebar. Do not tighten the screws.
2. Make sure the hand guard is parallel to the handlebar. Alternately tighten each hand guard mounting screw maintaining an even gap between the hand guard and mounting cap.
3. Tighten the mounting screws until the hand guard and mounting cap are pulled together.

Caution: Screws must be tightened evenly to prevent breakage.



INSTALLING THE GUIDE BAR AND SAFETY CHAIN

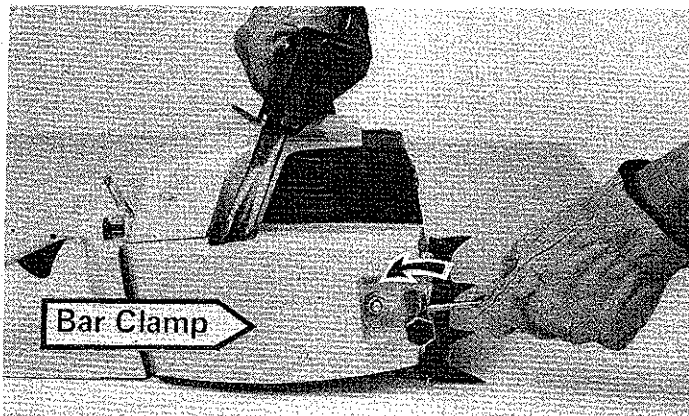


Figure 1

1. Remove the bar mounting nuts. Using the screwdriver packed with your saw, loosen the nuts by turning counterclockwise. FIGURE 1.
2. Remove the bar clamp and outer guide bar plate. (Note position of the guide plates.) FIGURE 2.
3. Place "S" clip over the mounting studs and flush to the inner bar plate. Now mount the slotted end of the guide bar over the bar mounting studs and "S" clip and behind the clutch drum. Be sure to position the bar adjusting pin into the hole in the guide bar. FIGURE 3.

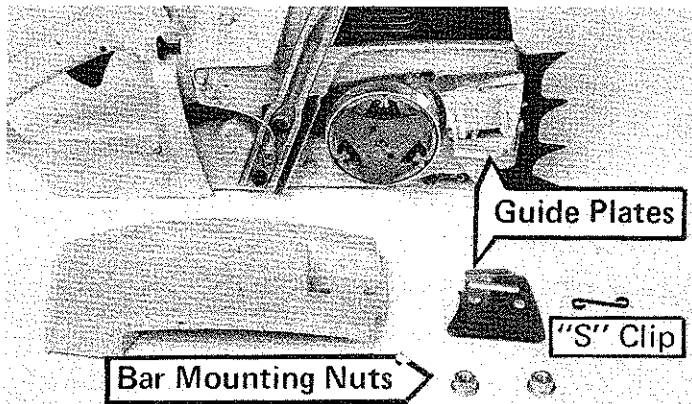


Figure 2

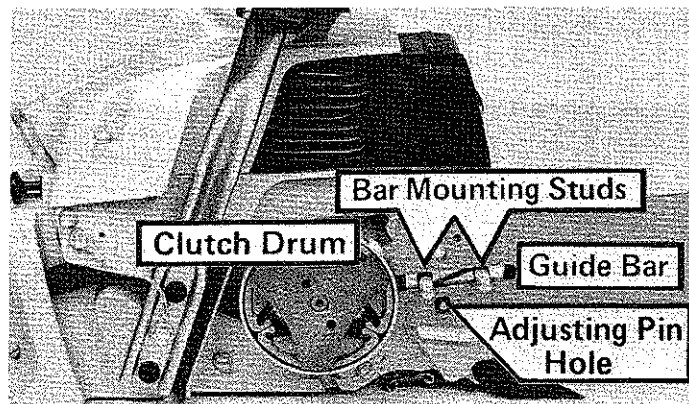


Figure 3

INSTALLING THE GUIDE BAR AND SAFETY CHAIN (con't)

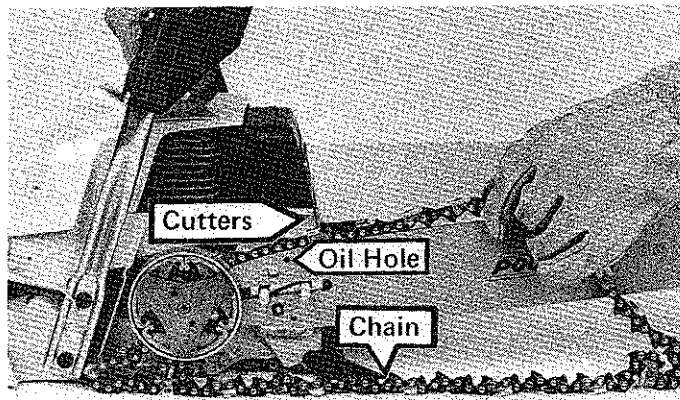


Figure 4

4. Place the chain over the sprocket and engage the drive link tangs between the sprocket teeth. (Note the direction of the chain teeth.) Starting at the top of the bar, gradually work the chain into the groove of the bar until all the drive links are engaged in the bar groove. FIGURE 4.
5. Replace the outer guide bar plate and bar clamp. Replace the bar mounting nuts and tighten finger tight.
6. Holding the tip of the bar up, adjust the chain tension by turning the bar adjusting screw clockwise. FIGURE 5.
7. When the chain is properly tensioned it will move freely but not sag below the bar. Now tighten the bar mounting nuts completely.

CHAIN STRETCHES WHEN USED. CHECK THE TENSION OFTEN!

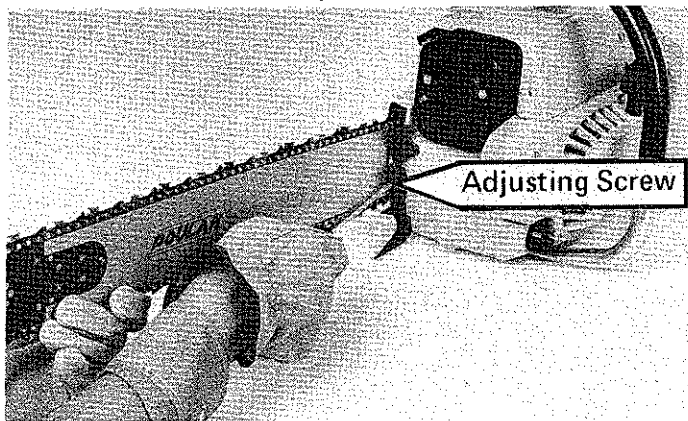
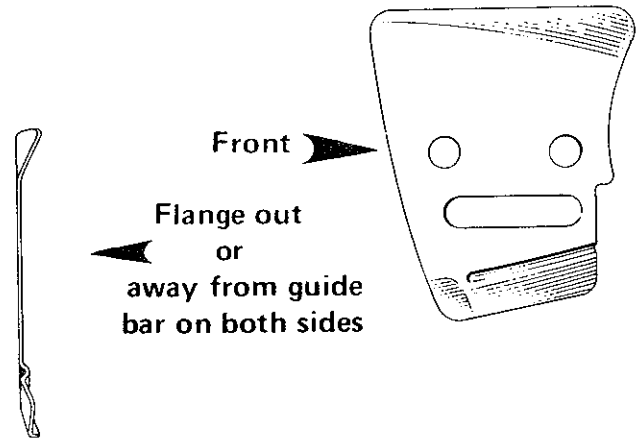


Figure 5



OPERATING INSTRUCTIONS

Before Starting

- Check the chain tension. Is the chain sharp?
- Are the handles clean of gas and oil?
- Did you fill the fuel AND oil tanks?

FUEL and OIL

Fuel Mix: 16 parts gasoline to 1 part oil (8 oz. Poulan 16:1 oil to one gallon gasoline). (Or use Poulan 32:1 oil—2 gallons gasoline to 8 oz. oil).

CAUTION:

When preparing fuel mixture, mix only the amount needed for the job you are to do. **Do not** use fuel mixture that has been stored longer than **two (2) months**. Fuel mixture stored longer than this will cause hard starting and poor performance of your saw. If fuel mix has been stored in your saw longer than this time it should also be removed and filled with a fresh mixture before using.





BAR AND CHAIN OIL: Use straight bar and chain lube above 30° Fahrenheit. If bar and chain lube is not available use a good grade SAE 30 oil. Between 30° F and 0° F use a mixture of 95% bar and chain lube and 5% either kerosene or # 1 diesel fuel. For below 0° F operation increase the kerosene or diesel fuel to 10%.

A WORD ABOUT CHAIN OILING

1. Fill the oil tank each time you fill the fuel tank. Lack of oil on the chain will quickly ruin the bar and chain.
 2. You will use at least 1/2 tank of oil for each tank of gas. If you use less, check for a plugged oil hole in the guide bar.
- Use clean oil. Do not let sawdust or dirt into the oil tank.

Clean the oil cap and the area around it before removing.

Oil on the bar and chain will drip off after use. Let the saw stand and cool off. Wipe the bottom clean before storing.

AUTOMATIC OILER: Your Poulan Chain Saw is equipped with an automatic oiler which delivers a constant flow of oil to the bar and chain whenever the engine is running. The automatic oiler has an adjustment screw, to regulate the flow of oil, located at the bottom of the bar clamp for easy access. Turn this screw counterclockwise  to increase the flow, clockwise  to decrease the flow. (See Figure 6) It is possible to run out of chain oil before running out of fuel when operating the saw at high RPM for a long period of time, such as when pruning and debranching. The automatic oiler may deliver more oil than required for this type of cutting. If there is no chain oil in the oil tank when the saw runs out of fuel, make the following adjustment: Turn the adjustment screw clockwise  until it stops. Then turn the screw counterclockwise  1/4 turn. **REMINDER — RE-ADJUST FLOW RATE WHEN RETURNING TO CUTTING THAT REQUIRES MORE CHAIN LUBRICATION, SUCH AS FELLING AND BUCKING.**

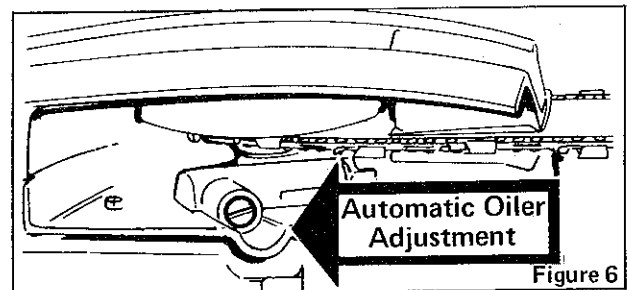


Figure 6

OPERATING INSTRUCTIONS (cont'd)

STARTING

Move bystanders and obstructions well out of reach!

WARNING: Chain will be moving when engine starts. Make sure chain is not touching anything before starting.

1. Pull Choke Knob out.
 2. Move START-STOP Switch to START position.
 3. Squeeze the throttle trigger, then press the throttle detent located on the left side of the handle.
 4. Release Trigger but keep Throttle Detent depressed completely. This will open throttle slightly for easier starting.
 5. Set saw on ground and place right foot in lower part of control handle.
 6. Kneel on left knee, grasp Handlebar with left hand and Starter Handle with right hand. (See Figure 7).
 7. Holding saw firmly, pull briskly on Starter Rope Handle until engine fires. (A single "pop" is sufficient).
 8. After engine fires, push Choke Knob in and engine should run on next few pulls.
 9. After engine starts and runs a few seconds, give Throttle Trigger a light squeeze and Throttle Detent will release automatically, allowing engine to idle.
- Note:** Overchoking engine will cause it to flood. Should engine flood, repeat starting instructions with Choke Knob pushed in until engine starts.
10. To stop engine move START-STOP Switch to STOP position.

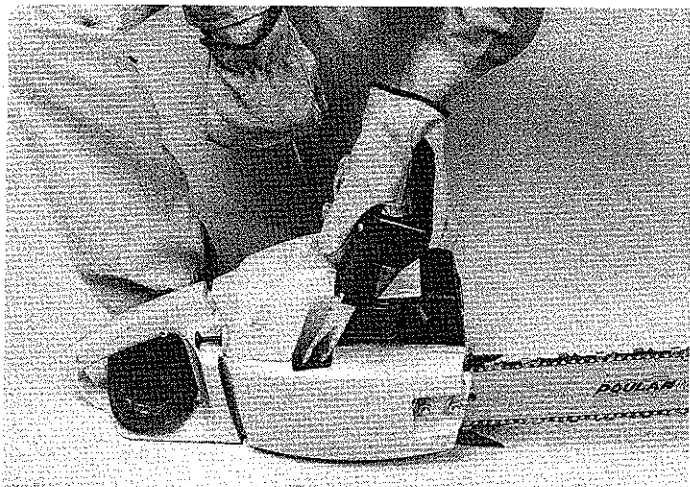


Figure 7

CUTTING TIPS

▼ Read the safety center spread frequently. Always keep your chain sharp.

Plan Ahead

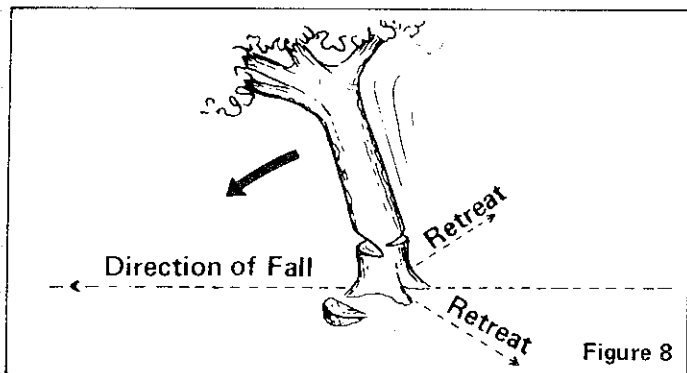


Figure 8

Check The Wind — If it is strong enough to move the top of the tree, DON'T CUT! Come back another day!

Check The Lean — Tie a weight to a piece of string about 3 feet long. Hang the weight in your line of sight. The string is a good vertical line to help you judge the lean of the tree. The tree will try to fall the way it is leaning. (See Figure 8)

Check The Weight Distribution — A tree is heavier on the side with the most limbs. It will try to fall on its heavy side.

Clear The Work Area — You need a clean area all around the tree for good footing. Get everything out of the area where the tree will fall. People, pets, cars, etc.

Find a Retreat Path — Know which way you are going when the tree starts to fall. Make sure it is clear.

FELLING (Cutting down a tree)

A Small Trees — Less than 8" across

1. If there is doubt about the direction of fall, use "notch" method described in B.
2. Make a single felling cut on the side away from the direction of fall. Don't cut all the way through!
3. When the tree starts to fall, stop the saw, put the saw down and GET AWAY QUICKLY!

B Large Trees — 8" or larger across

1. The notch is very important. The tree will try to fall "into" the notch. (See Figure 9)
2. Make the bottom notch cut first, about 1/3 to 1/2 way into the tree.
3. Complete the notch with the slant cut. Remove the wedge of wood before going on.
4. The felling cut is next. Make it on the side opposite the notch.
5. It is made 2" higher than the bottom of the notch.
6. DO NOT try to cut through to the notch.
7. As the tree starts to fall, stop the saw, put the saw down and GET AWAY QUICKLY!

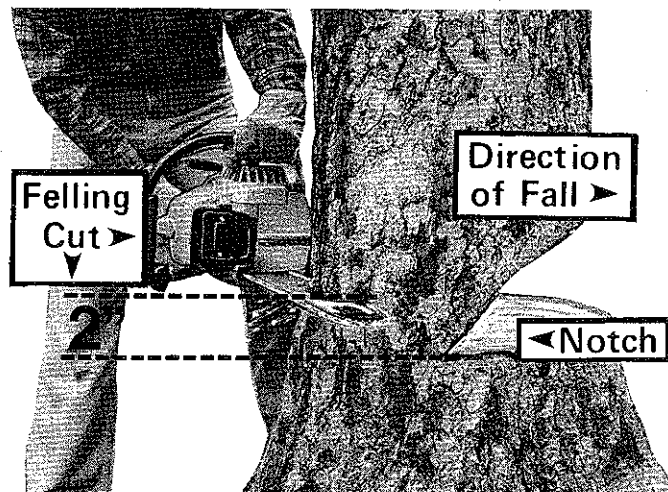


Figure 9

BUCKING

Bucking is the sawing of a log or fallen tree into smaller pieces. (See Figure 10)

- Use Both Hands – grip the saw firmly. (See Figure 11.)
- Stand Uphill – a log that is cut loose will roll downhill.
- Keep The Chain Out Of The Dirt – dirt will dull the chain. A dull chain is unsafe.
- Stand to the left of the saw.

How To

- A In area "A", come up from the bottom 1/3 of the way. Finish by coming down from the top. Figure 10
- B In area "B", come down from the top 1/3 of the way. Finish by coming up from the bottom. Figure 10

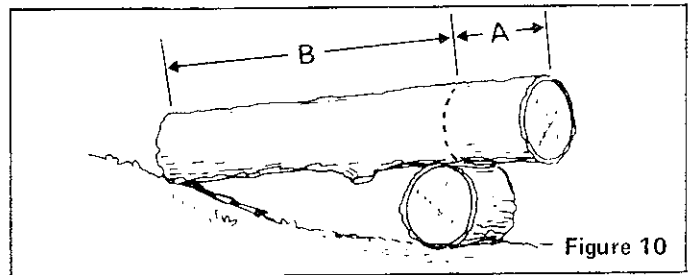


Figure 10

PRUNING AND DEBRANCHING

1 Be Careful

- Use Both Hands – keep a firm grip. (See Figure 11)
- Look Out For Kickback – don't let the tip of the bar touch anything while the engine is running.
- Don't Cut Overhead – keep the saw below chest high. The chain is too close to your face in this position.

2 Pruning (Cutting limbs from standing tree)

- If you must cut in a tree, do not carry a running saw while climbing.
- Keep Both Hands On The Saw – keep a firm grip. Figure 11
- Be Sure Of Your Support – don't cut off balance.
- Cut Up From The Bottom, Finish Down From The Top.

3 Debranching (Cutting the limbs from a fallen tree)

- Cut On The Opposite Side Of The Tree – keep the tree between you and the chain. (See Figure 12)
- Be Sure Of Your Footing – work slowly and deliberately.
- Look Out For Springpoles – limbs bent under pressure will snap up at you when cut.



Figure 11

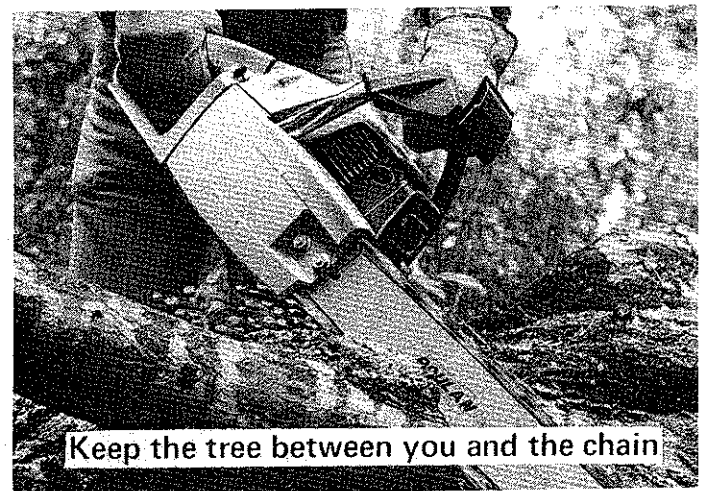
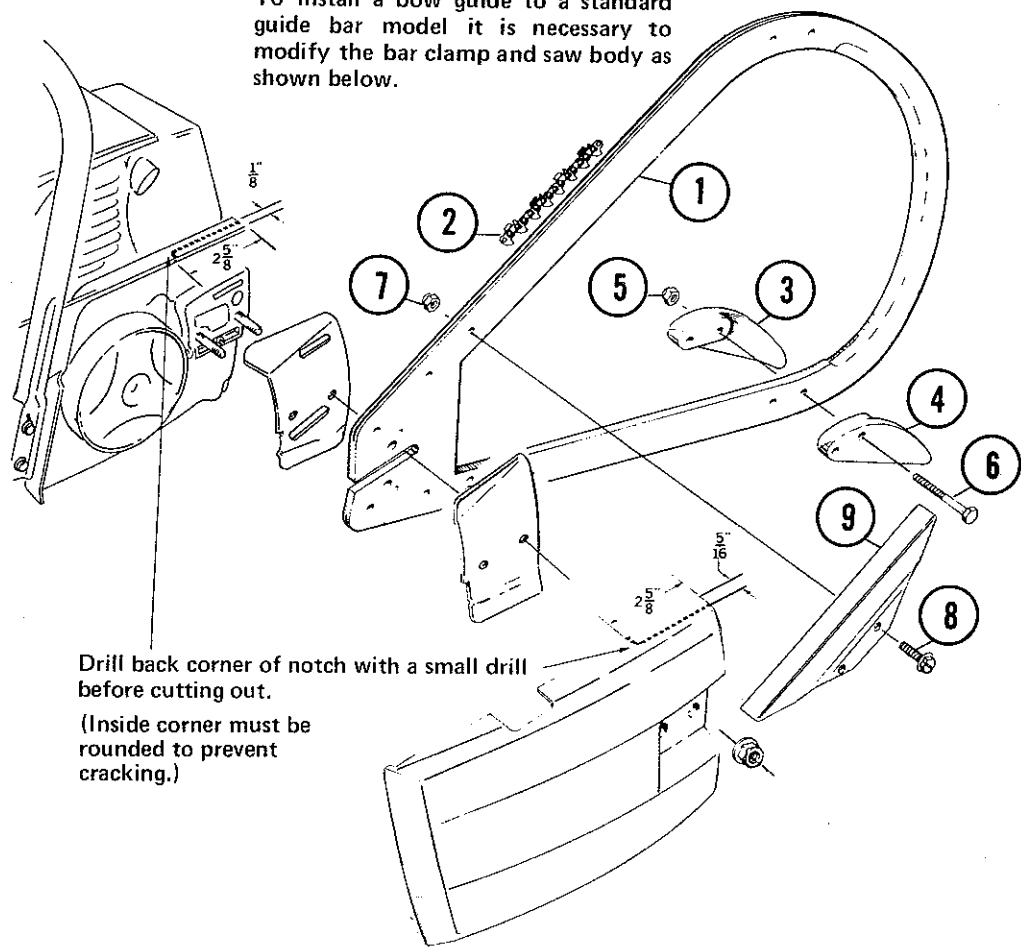


Figure 12

BOW INSTALLATION

To install a bow guide to a standard guide bar model it is necessary to modify the bar clamp and saw body as shown below.



Drill back corner of notch with a small drill before cutting out.
(Inside corner must be rounded to prevent cracking.)

Ref. No.	Part No.	Qty. Req.	Description
1	4484	1	13" Bow Guide (3/8 Pitch)
	44126	1	14" Bow Guide (3/8 Pitch)
	*44127	1	14" Bow Guide (.404 Pitch)
2	51053	1	P720-80 Chain (13" Bow 3/8 Pitch)
	51132	1	P720-87 Chain (14" Bow 3/8 Pitch)
	*51133	1	P27-79 Chain (14" Bow .404 Pitch)
3	1325	1	Spike - Left
4	1326	1	Spike - Right
5	1615	2	Locknut - 1/4 - 20
6	625567	2	Screw - 1/4-20 x 1 1/2 Hex Head
7	1725	2	Locknut - 12-24
8	1709	2	Screw - 12-24 x 5/8 Hex Head
9	11276	1	Guard (13" Bow)
	22162	1	Guard (14" Bow)

*NOTE:

To use 14" bow guide and chain with .404 pitch, .062 gauge, it is necessary to install a .404 pitch sprocket which is included with the bow kit.

BOW ASSEMBLY INSTRUCTIONS

1. Attach 1325 and 1326 spikes to bow guide with two (2) 625567 screws and two (2) 1615 locknuts.
2. Attach guard to bow guide with open side away from engine, using two (2) 1709 screws and two (2) 1725 locknuts.
3. Mount inner guide bar plate, bow guide, outer guide bar plate, chain, and bar clamp on saw making sure adjusting pin enters hole on bow guide.
4. Install mounting nuts finger tight, adjust chain tension, and tighten nuts.

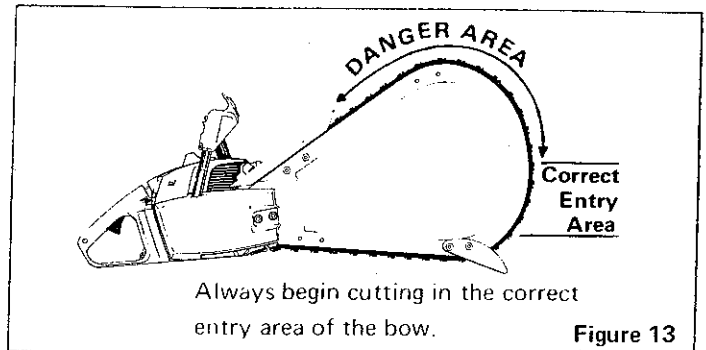


Figure 13

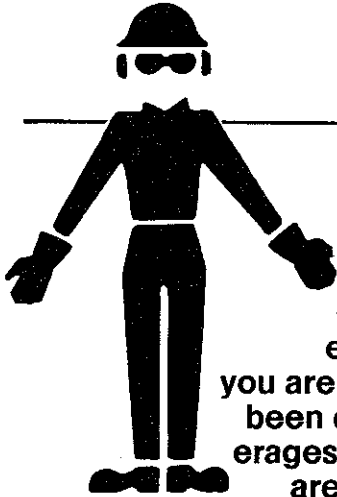
LOOK OUT FOR KICKBACK

1. When the bow contacts an object in the danger area, (See Fig. 13) the bow is thrown upward with considerable force. **THIS IS KICKBACK!**
2. Hold the saw firmly with both hands.
3. Don't overreach.
4. Cut only at high engine speeds.
5. **DO NOT REACH ABOVE WAIST HIGH. THE BOW IS TOO CLOSE TO YOUR FACE IN THIS POSITION.**
6. Keep your chain sharp. A dull chain kicks back harder than a sharp chain.

BE CAREFUL

1. **DO NOT OPERATE WITHOUT THE SPIKES, GUARD, AND HAND GUARD PROPERLY ATTACHED.**
2. Be sure the spikes are in place against the log before beginning the cut. (See Fig. 13)
3. Do not cut small limbs or brush with a bow.
4. Do not under buck with a bow.
5. Keep the chain tight and sharp.

SPECIAL SAFETY



Your Planning and Preparation

- Do not handle or operate a chain saw when you are fatigued or tired, have been drinking alcoholic beverages, are on medication, or are upset. You must be in good physical condition and mentally alert.
- Always wear personal protective gear. Wear safety footwear, protective gloves, snug-fitting clothing, and eye, hearing and head protection devices.
- Use caution when handling fuel. No smoking when fueling or operating the saw. Handle fuel only in open, well-ventilated areas. Wipe up spills.
- Keep the handles dry, clean and free of oil or fuel mixture.
- Do not operate a chain saw that is damaged, is improperly adjusted, or is not completely and securely assembled. Keep all screws and fasteners tight.
- Move the chain saw at least 10 feet (3m) from the fueling point, before starting the engine.
- Make sure chain is sharp and at proper tension.
- Carry the chain saw with the engine stopped, the guide bar and chain covered and to the rear, and the muffler away from your body.

All chain saw service other than the items listed in the operator's manual maintenance instructions, should be performed by competent chain saw service personnel.

Conditions in Your Work Area

- Do not attempt to cut if the weather is bad — strong wind, rain, snowing, or other adverse weather conditions. You need good visibility, so don't cut at night.
- Operate the chain saw only in well-ventilated areas. Don't operate it in an enclosed, confined area because you need room to perform the cutting and good ventilation.
- Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree (if you are cutting down trees).
- Do not allow other persons to be near the chain saw when starting or cutting with the chain saw. Keep bystanders and animals out of the work area.
- Operate the chain saw on level, solid ground.
- Do not operate the chain saw in a tree unless you have been specifically trained to do so.
- Never carry your saw while climbing. You need both hands for safe climbing.

CENTER SPREAD

OPERATING YOUR CHAIN SAW

- Wear your protective gear.
- Before you start the engine, make sure the saw chain is not contacting anything.
- Keep all parts of your body away from the saw chain when the engine is running.
- Hold the chain saw firmly with both hands when the engine is running. Use a firm grip with thumbs and fingers encircling the chain saw handles.
- Do not let the nose of the guide bar contact a log, branch, the ground, or any other obstruction, to help prevent kickback.
- Guard against kickback. Kickback is the upward motion of the guide bar which occurs when the saw chain at the nose of the guide bar contacts an object. Kickback can lead to dangerous loss of control of the chain saw.
- Do not overreach. You might lose your balance.
- Do not cut above shoulder height. Don't cut overhead, since you would have poor control of the saw and the saw would be too close to your face and body.
- Use extreme caution when cutting small size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- When cutting a limb that is under tension be alert for springback, so that you will not be struck by the limb when the tension in the wood fibers is released.
- Be sure that the saw chain stops moving when the throttle control trigger is released.
- After cutting, shut off the engine before setting the saw down.
- Let the saw cool in a non-combustible area, not on dry leaves or paper.
- Wipe off oil before storing the chain saw. Do not store your chain saw in any room with any type open flame heater or stove. Store the saw in a locked area or in an area away from children.
- Follow manufacturer's sharpening and maintenance instructions for the saw chain.
- Always do your cutting at high engine speed.

CONTROLLING KICKBACK *by Lloyd Tuggle*

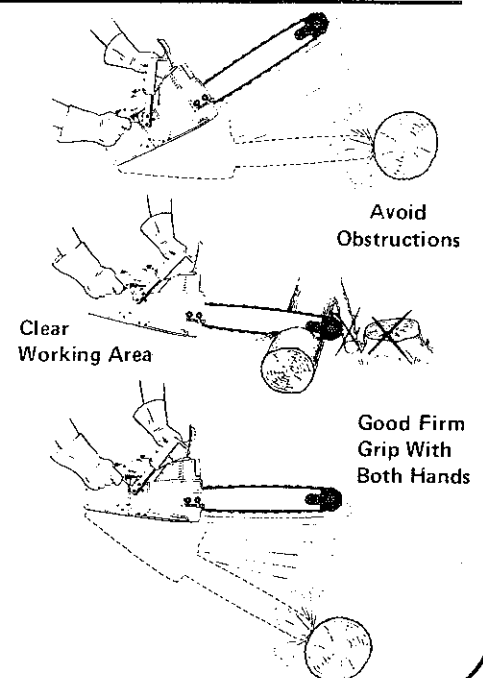
KICKBACK may happen when the nose or tip of the moving chain touches an object while the saw is operating. This contact may abruptly STOP the cutting action and in some cases may cause a lightning fast reverse REACTION, kicking the saw tip up and back. KICKBACK has caused some operators to lose control of the saw. The cutting chain can then cause injury if it comes in contact with any part of the body.

As a chain saw user you can take several steps to keep your cutting free from accident or injury due to kickback.

1. By simply UNDERSTANDING and knowing about kickback you take out the element of SURPRISE. It's the SURPRISE that really contributes to accidents.
2. Make sure your HAND GUARD is securely fastened to the handlebar AT ALL TIMES.
3. Make sure the area in which you are cutting is FREE FROM OBSTRUCTIONS such as other trees, branches, rocks, fences, stumps, etc. Eliminate or avoid any obstructions that your saw chain could hit while you are cutting through a particular log or branch.
4. Keep a good firm grip on the saw with BOTH hands. (Left hand completely around the front handlebar with thumb under and the right hand completely around the rear handle.) A FIRM GRIP can neutralize kickback and help you maintain COMPLETE CONTROL of the saw. DON'T LET GO.

Your Poulan chain saw is a reliable and powerful cutting tool. Please use it safely and carefully so that each cutting job is SUCCESSFUL AND SAFE. Controlling kickback is really a partnership between you and Poulan. GOOD CUTTING.

Lloyd Tuggle, Senior Vice President, Engineering, Beard-Poulan



REPLACING DRUM AND SPROCKET

WARNING!—Do not start engine without guide bar, chain, and bar clamp completely assembled. The clutch can come off without the guide bar and chain completely assembled and serious injury could result.

1. Remove the cylinder cover and the high tension lead from the spark plug to prevent accidental starting of the saw. Figure 14.
2. Remove the bar clamp and the bar and chain. Figure 15.
3. Remove the clutch by using a hammer and punch. Position the punch as shown in Figure 16 and tap lightly with the hammer. The threads are LEFT HAND so a clockwise rotation is necessary to remove.
4. Remove the clutch drum and sprocket and inspect for wear. Replace if necessary. Inspect the clutch shoes and springs. Replace any that are broken or worn. Figure 17. Replace the clutch in a counterclockwise direction. Replace high tension lead and cylinder cover. Inspect the chain sprocket regularly for wear; a worn sprocket will make the chain run erratically and will shorten the life of the bar and chain. Figure 18.

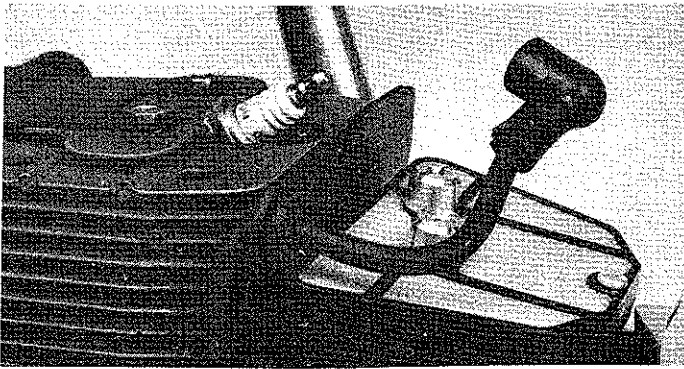


Figure 14

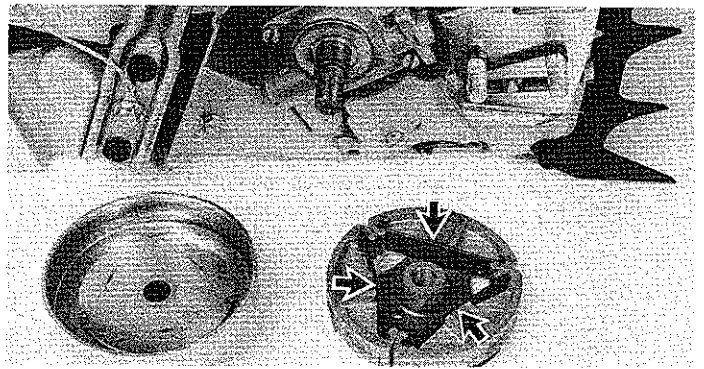


Figure 17

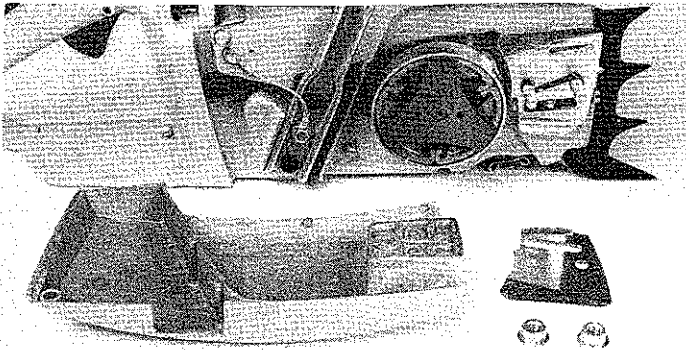


Figure 15

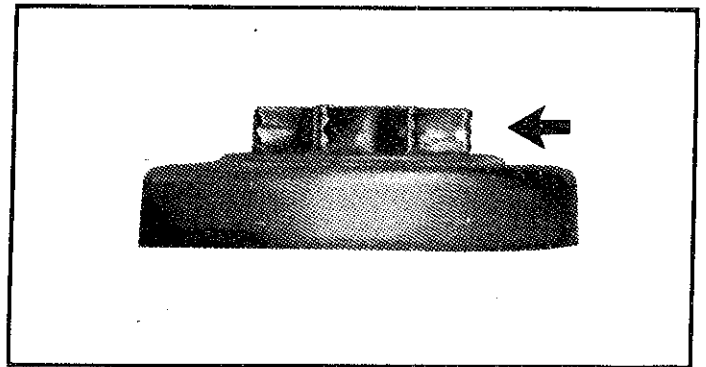


Figure 18

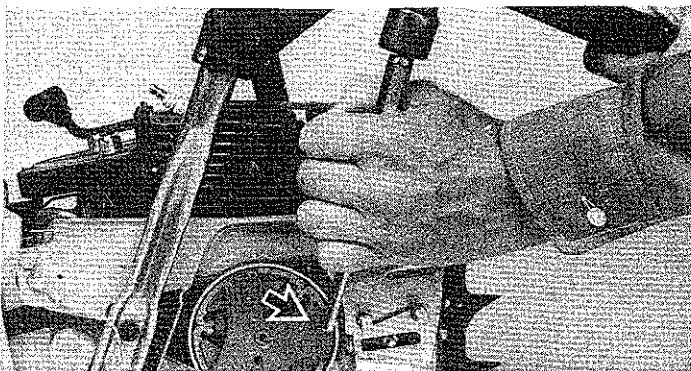









Figure 16

CARBURETOR ADJUSTMENT (Model 4400/4900/5400)


STOP THE ENGINE — Make sure you are using clean, fresh fuel mixture at the correct gasoline/oil ratio. THE AIR FILTER MUST BE CLEAN AND FASTENED SECURELY. The cylinder shield should be in place and fastened securely.

1. Turn the high speed and low speed mixture screws clockwise  until they stop. DO NOT TIGHTEN OR FORCE THE SCREWS ANY FARTHER! YOU MAY DAMAGE THE NEEDLE SEATS. Turn the high speed and low speed mixture screws 1 full turn counterclockwise.  Figure 19.

CAUTION! THE CHAIN WILL BE MOVING DURING THE FOLLOWING PROCEDURE.

2. Start the engine and run for a few minutes to bring it to operating temperature.
3. Squeeze the throttle trigger and run the engine at full RPM for approximately 3 SECONDS, then allow it to return to idle speed.
4. If the engine will not idle after it is warm, or it idles too fast causing the chain to move, adjust the idle speed screw. Turn the screw clockwise  to increase idle speed, counterclockwise  to decrease idle speed. The idle speed should be set as fast as possible, without causing the chain to move.
5. Turn the low speed mixture screw clockwise  until the engine RPM increases and then starts to decrease. Note this setting point. Now turn the screw counterclockwise  until the RPM starts to decrease again. Set the low speed mixture screw midway between these two points.
6. Squeeze the throttle trigger quickly. If the engine dies or hesitates, turn the low speed mixture screw 1/16 turn counterclockwise . Repeat this procedure until the engine will accelerate without hesitation.

CAUTION! THE HIGH SPEED MIXTURE SCREW MUST NEVER BE SET AT LESS THAN 7/8 TURN OPEN. A LEAN MIXTURE WILL CAUSE THE ENGINE TO RUN HOT AND DAMAGE IT.

7. With the high speed mixture screw 1 full turn open, make a test cut with the saw. If the engine fails to have power and run smoothly during the test cut, allow the engine to return to idle speed, and turn the high speed mixture screw 1/16 turn clockwise . Make another test cut. Continue this procedure until the engine runs smoothly and with power in the test cut. REMINDER—NEVER SET THE HIGH SPEED MIXTURE SCREW LESS THAN 7/8 TURN OPEN.
8. After the low speed and high speed mixture settings are made, it may be necessary to re-adjust the engine idle speed. Refer to step 4.

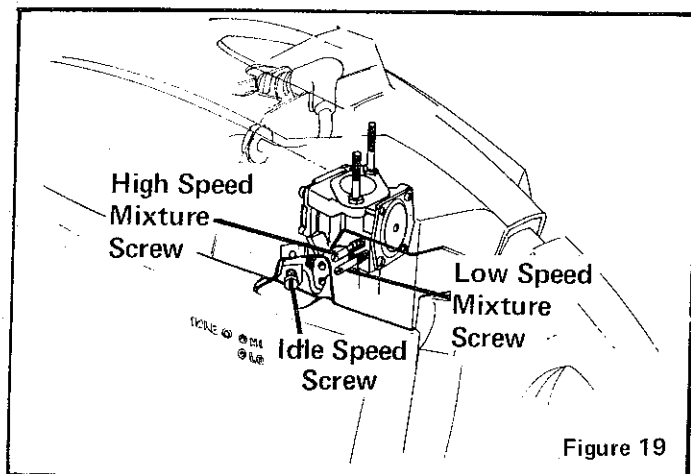


Figure 19

AIR FILTER

Clean the air filter after every 10 tanks of gas or every 5 hours of operation.

TO CLEAN:

1. Close choke to prevent dirt from entering carburetor.
2. Remove the cylinder cover, then remove air filter. Fig. 20.
3. Separate the two air filter halves.
4. Using a soft bristled brush such as a small paint brush, brush away all dust or other debris from the filter.
5. Clean by soaking in a non-oily, non-flammable solvent.
6. Allow to dry.
7. Before replacing filter clean away chips, saw dust, and other debris on surfaces filter is to be placed on.

WARNING:

Do not operate your saw without the air filter in place. Dirt and dust in the air can be drawn in carburetor causing damage to the engine.

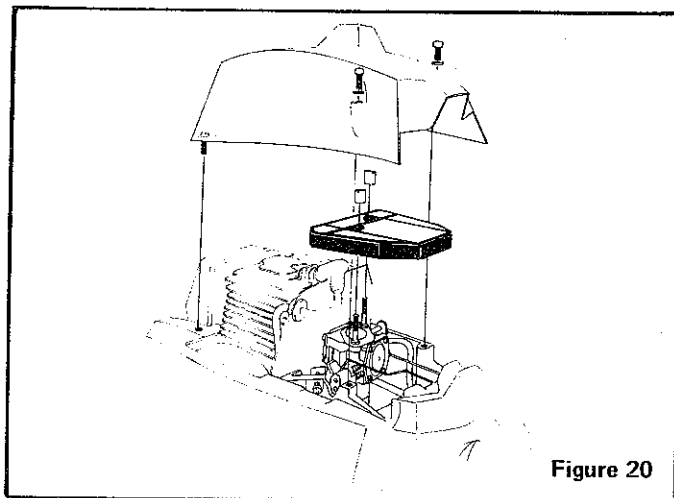


Figure 20

MOUNTS:

Your saw is equipped with a counter-vibe system which consists of 6 isolator mounts Fig. 21. Just as the shock absorbers on a car protect you from jolts and bumps the isolators protect the user from engine, bar and chain vibration. Mounts should be checked daily when saw is in operation and should be replaced when vibration appears excessive or when mounts develop an out of round or swollen shape. This is usually caused from being exposed to gasoline and oil for long periods of time. IT IS NECESSARY TO REPLACE ALL MOUNTS WHEN A MOUNT FAILURE OCCURS.

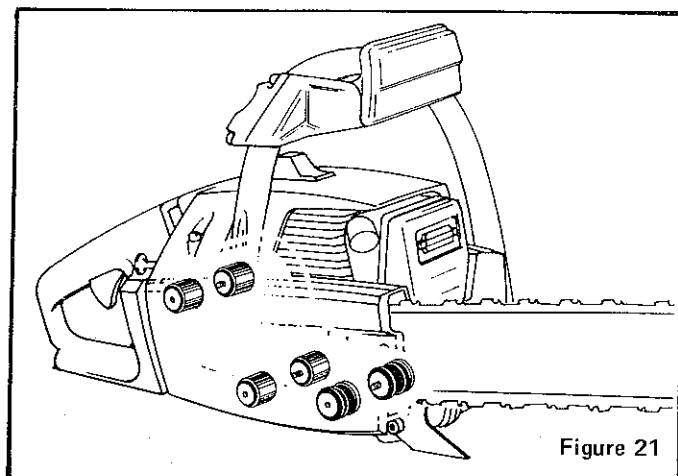




Figure 21

STARTER ROPE

If your starter rope breaks near the pulley, it can be repaired by the following method, otherwise replace the rope:

1. Remove the fan housing.
2. Remove screw using a 3/16 allen wrench. Figure 22.
3. Lift out pulley.
4. Tie a knot in one end of the rope. Heat and flatten the knot end to prevent knot from slipping. Heat opposite end of rope and form a point. Feed pointed end of rope through the pulley and under the pulley bridge. Pull the rope through until the knot is tight against the pulley. Figure 22.
5. Pass the pointed end of the rope through the hole in the fan housing and then the starter handle. Tie a double knot and insert knot end of rope back into the handle. Pull the slack out of the rope and wrap the rope on the pulley in a clockwise  direction.
6. Apply light grade silicone lubricant to the pulley bore and place pulley back in the fan housing. Place the pulley washer in position and secure with the pulley screw.
7. To retension the starter spring pull a loop of rope from the pulley approximately 12 in. long. Secure the rope in the notch in the pulley and using the rope turn the pulley **THREE TURNS** counterclockwise . Release the rope from the notch and allow to rewind slowly on pulley. Figure 23.
8. Replace the fan housing.

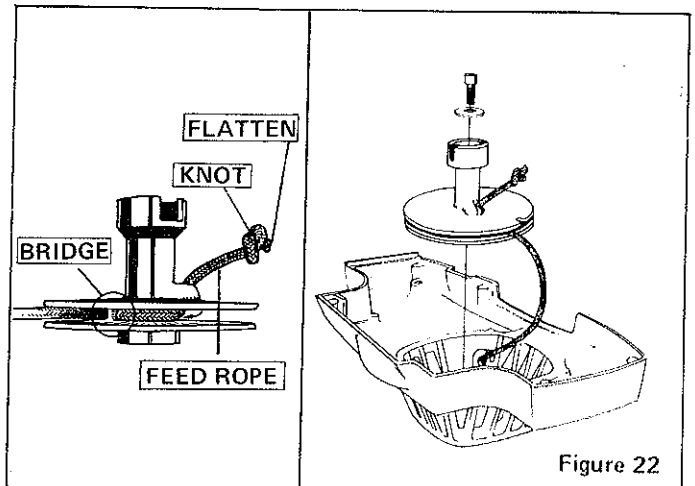


Figure 22

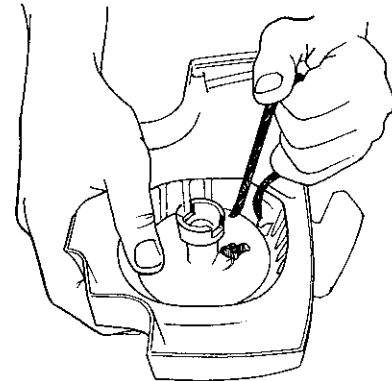


Figure 23

GUIDE BAR MAINTENANCE

Check the condition of the guide bar often. A worn bar will damage the chain and make cutting harder.

1. Figure 24 shows a cross-section of the guide bar. Keep the edges square as in (1) with a flat file.
2. Rollover is shown in (2). This will cause you to press extra hard when cutting.
3. Worn rails are shown in (3). This occurs most often at the guide bar nose.
4. Uneven rails are shown in (4). This will cause the saw to cut on an angle.
5. Keep the rails flat and square as shown in (1).
6. Grease S/N Bar before use and at least 3 times per day for heavy use.

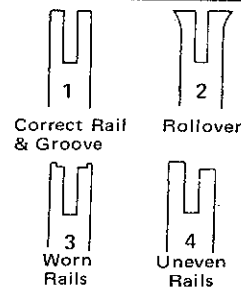


Figure 24

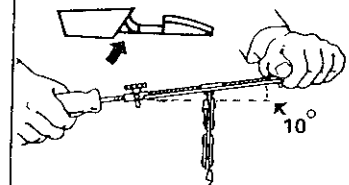


Figure 25

CHAIN SHARPENING

Keep Your Chain Sharp

Dirt will dull a chain instantly. Keep the chain out of the dirt.

If the chain cuts to one side, it is dull.

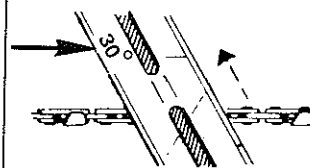
Extra rough cutting is a sign of a dull chain.

Powder-like wood chips mean a dull chain.

Cutting is much easier and safer with a sharp chain.

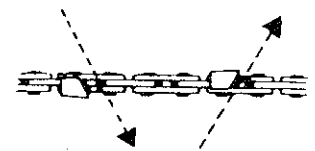
To Sharpen

1. Set the chain tension tight. You must still be able to move the chain around the bar.
2. Clamp the guide bar in a vise. Don't clamp the chain! Clamp in the center of the bar.
3. Use only a 7/32" round file.
4. Sharpen all the cutters away from you first. Then turn the saw around and sharpen the cutters on the other side.
5. Position file holder at 10° angle (Figure 25) and align the 30° file holder marks with the bar as shown in Figure 26.
6. File in ONE direction only! Figure 27.
7. Press hard! Two or three strokes should do it.
8. Always check the depth gauge with the depth gauge filing guide after filing. If the depth gauge sticks out, file it off with a flat file, Figure 28.



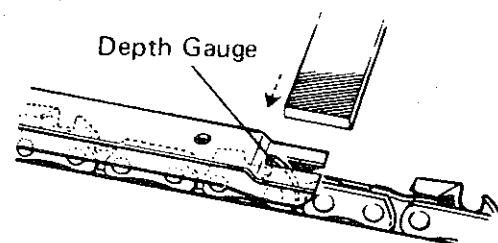
Align The File Holder

Figure 26



File In One Direction Only

Figure 27



Always Check Depth Gauges

Figure 28

TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
ENGINE WON'T START	<ol style="list-style-type: none"> 1. Switch off. 2. Empty fuel tank. 3. Spark plug not firing. 4. Fuel not getting to carburetor. 5. Flooded engine. 6. Low compression. 	<ol style="list-style-type: none"> 1. Move switch to "START" position. 2. Fill tank with correct mixture 3. Replace with new plug. 4. Remove air filter and be sure choke lever is working. Check for dirty fuel filter in tank. Check for kinked or split fuel line. 5. Push choke knob in completely. Remove and dry spark plug. Pull starter until engine starts and clears itself. 6. Return saw to dealer for internal problems.
ENGINE DIES	<ol style="list-style-type: none"> 1. Out of gas. 2. Dirty air filter. 3. Fouled spark plug. 4. Improper carburetor adjustment. 5. Inlet needle stuck or worn. 	<ol style="list-style-type: none"> 1. Fill with correct mixture. 2. Clean air filter. 3. Clean plug. 4. See carburetor adjustment page 11. 5. Replace or return to dealer for service.
ENGINE SMOKES EXCESSIVELY	<ol style="list-style-type: none"> 1. Hi speed needle needs adjustment. 2. Dirty air filter. 3. Oil rich fuel mixture. 4. Inlet needle stuck or worn. 5. Crankcase sealant leaking. 	<ol style="list-style-type: none"> 1. Adjust Hi speed mixture. See page 11. 2. Clean air filter. 3. Refill with correct mixture. 4. Replace or return to dealer for service. 5. Return to dealer for service.
ENGINE WON'T IDLE PROPERLY	<ol style="list-style-type: none"> 1. Engine idling speed set too low. 2. Lo speed needle out of adjustment. 3. Engine idles too fast. 4. Crankshaft seal defective. 	<ol style="list-style-type: none"> 1. Adjust idle speed screw clockwise to increase speed. 2. Adjust Lo speed needle - page 11. 3. Adjust idle speed screw counterclockwise to reduce speed. 4. Return to dealer for service.
ENGINE RUNS HOT	<ol style="list-style-type: none"> 1. Wrong fuel mixture. 2. Wrong type plug. 3. Clogged air cooling passages. 4. Saw runs lean. 5. Spark arrestor or exhaust ports plugged with carbon. 	<ol style="list-style-type: none"> 1. Mix fuel thoroughly using recommended oil and gas. 2. Replace with correct plug. 3. Clean out dirt and trash from around flywheel and cylinder. 4. Check for air leaks, return to dealer. 5. Clean and replace.
SAW CUTS POORLY	<ol style="list-style-type: none"> 1. Dull chain. 2. Chain not sharpened properly. 3. Chain improperly adjusted. 4. Worn or damaged guide bar. 5. Chain on backwards. 6. Engine low on power. 	<ol style="list-style-type: none"> 1. Sharpen chain. See Page 12. 2. See correct procedure for filing chain - page 12. 3. See adjustment of chain - page 3 & 4. 4. Replace with new bar. 5. See installation of chain - page 3 & 4. 6. Return to dealer for service.
OILER NOT WORKING OR NOT ENOUGH OIL TO CHAIN.	<ol style="list-style-type: none"> 1. Out of oil. 2. Dirty oil filter. 3. Guide bar oil hole blocked. 	<ol style="list-style-type: none"> 1. Fill tank. 2. Clean and replace. 3. Remove bar and clean.
CHAIN CLATTERS OR CUTS ROUGH	<ol style="list-style-type: none"> 1. Chain too loose. 2. Depth gauges too low. 3. Worn sprocket. 4. Incorrect filing angles. 	<ol style="list-style-type: none"> 1. See instructions - page 3 & 4. 2. See instructions - page 12. 3. Replace with new one. 4. See instructions - page 12.
CHAIN CUTS AT ANGLE	<ol style="list-style-type: none"> 1. Damaged cutters on one side or chain dull one side. 2. Bar rails worn. 	<ol style="list-style-type: none"> 1. Resharpener making sure all cutters are filed alike. 2. Reshape or replace. See page 12.