



PIONEER

CHAIN SAWS

operator's manual

model **3270SC**



PART NO. 430691

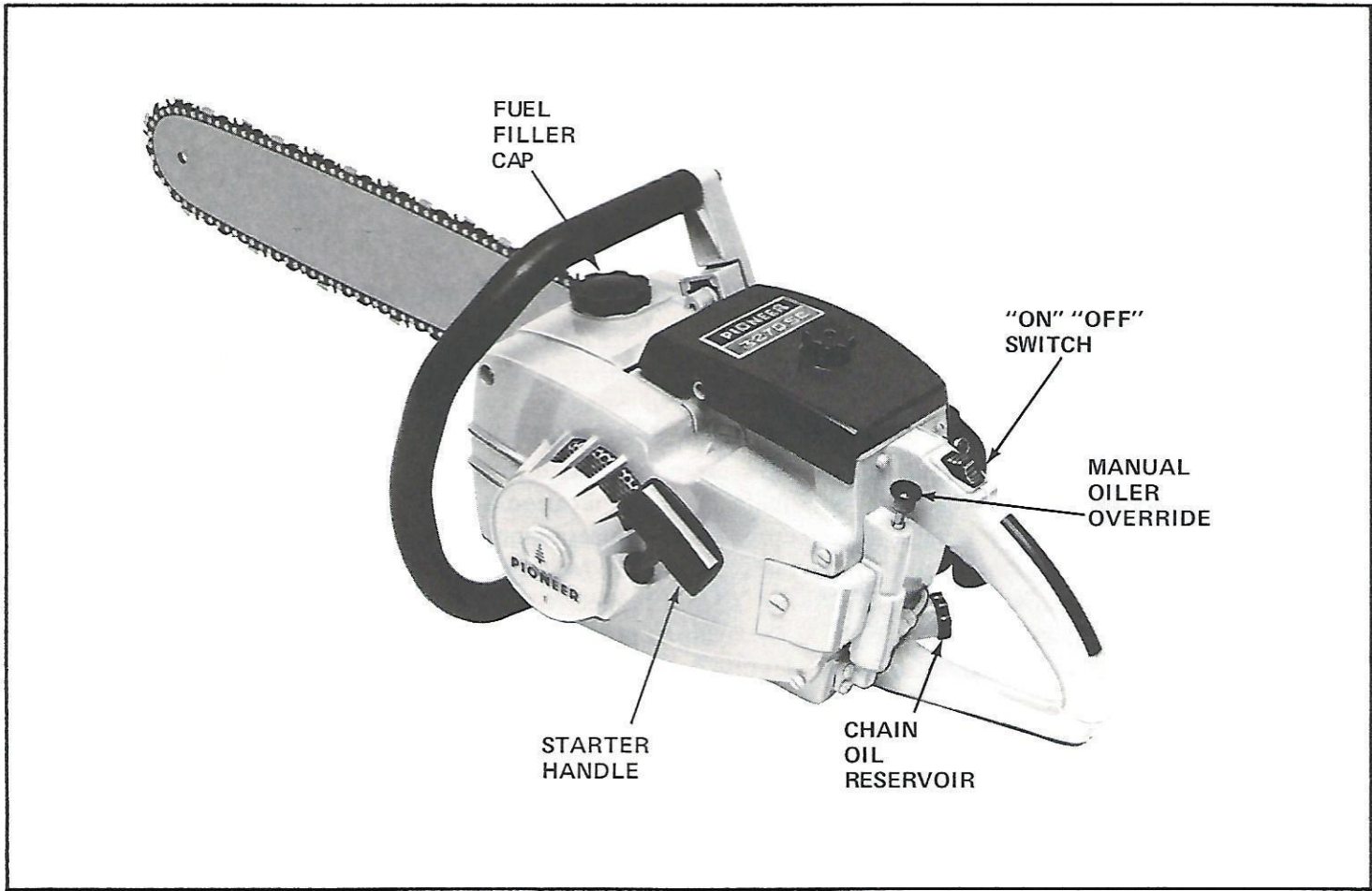
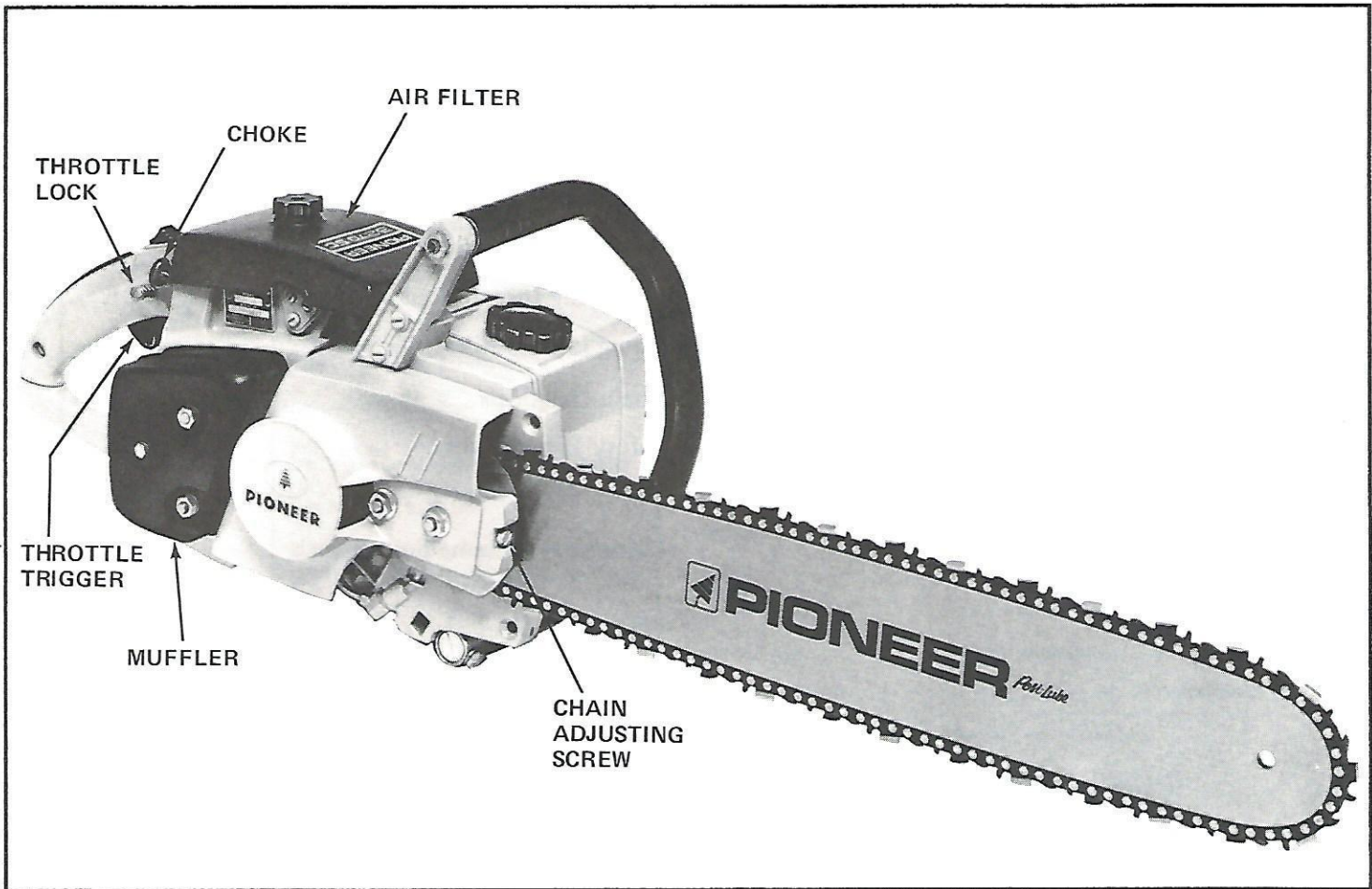


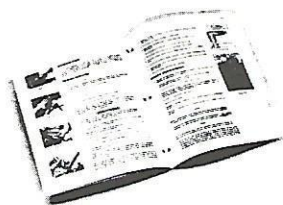
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GENERAL INFORMATION

If you are a new owner, some of the terms applied to Power Chain saws may need explanation; therefore, we suggest you study the detailed instructions on the care and maintenance of your chain saw which appear in the following pages. Following these instructions will give you better performance, more efficient operation and lower maintenance costs.

Your power saw has received a factory run-in, but the operator should treat his saw as any new equipment for a 10-day break in period. Always let your motor idle to warm up before operating at full capacity. Take time to clean and retension all nuts and screws. **KEEP YOUR EQUIPMENT CLEAN.** The operator's initial care will most assuredly result in longer life for his chain saw.



SERVICING PROCEDURES MANUAL

A servicing procedures manual is written primarily for the service technician with prior chain saw training and one who is equipped with the proper tools. Although limited in use to the average individual, this publication is available for purchase. If you wish to purchase a procedures manual, please send cheque or money order for \$1.00 to Outboard Marine Corporation, 739 Monaghan Road, Peterborough, Ontario, Canada. In the U.S.A. order from Pioneer Chain Saws, P.O. Box 82409, Lincoln, Nebraska. Sorry, NO C.O.D. shipments will be made. To assure receiving the correct manual, state full model number and quote part no. 430726. All repairs should be carried out by your authorized Pioneer Dealer during your warranty period.

SPECIFICATIONS

DRY WEIGHT (LESS ATTACH'S.)	17 lb.	BORE & STROKE	Bore 2" (50.5mm), Stroke 1.5 (38.1mm)
TYPE OF DRIVE	Direct	DISPLACEMENT	4.7 cu. in. (77cc)
FRONT HANDLE	Semi-Vibration Isolated	COMPRESSION RATIO	6.75:1
CHAIN OIL PUMP	Automatic & Manual	COMPRESSION PRESSURE	.45 PSIG (10.54 kg/sq. cm)
CHOKE	Manual	CRANKSHAFT	Forged Alloy Steel
MUFFLER	Quiet, Large Volume with Spark Arresting Screen	CRANKSHAFT MAIN BEARINGS	Ball Bearings
THROTTLE LOCK	Standard Equipment	CRANKSHAFT SEALS	Closure Type
GUIDE BAR	16" (40.64cm), 20" (50.8cm), 24" (60.96cm). See Your Local Dealer	CONNECTING ROD	Forged Alloy Steel
CHAIN	3/8 Pitch (9.53 mm)	WRIST PIN BRG.	Needle Roller
SPROCKET	7 Tooth Self Aligning Rim	CRANKPIN BRG.	Needle Roller
SPARK PLUG	Champion CJ8	PISTON	Aluminum Alloy
SPARK PLUG GAP	.030" (.762 mm)	PISTON RINGS	2 Cast Iron Compression Rings, Pegged
POINT GAP	.015 (.381 mm)	CRANKCASE	Die Cast Magnesium
FUEL CAPACITY	1.67 U.S. Pints (.79 Litres) 1.39 Imperial Pints	CYLINDER TYPE	Die Cast Aluminum - Chrome Plated Bore
OIL CAPACITY	.69 U.S. Pints (.325 Litres) .57 Imperial Pints	STARTER	Manual - Auto. Rewind
ENGINE LUBRICATION	SAE 30-40 or OMC 2 Cycle Motor Oil (Canada) Pioneer Chain Saw Engine Oil (U.S.A.)	CLUTCH	3 Shoe Molded Friction Matl.
FUEL/OIL MIX RATIO	16:1 - SAE 30 - 40 24:1 - OMC Oil	IGNITION	Wico - Magneto
CHAIN OIL	Pioneer Summer or Winter Grade or SAE 10 to 30 WT. (Seasonal)	CARBURETOR	Tillotson HS - All Position Diaphragm
ENGINE TYPE	Single Cylinder - Air Cooled	AIR FILTER	Double Flock Screen
		FUEL FILTER	Pick-up Head with Replaceable Felt Element
		CYLINDER ANGLE	Horizontal
		R.P.M. @ MAX. H.P.	7500
		CHAIN SPEED @ MAXHP	3500 ft./min. (1,070 metres/min.)

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WARNING SYMBOLS

The purpose of safety symbols is to attract your attention to possible danger. The symbols, and the explanations with them, deserve your careful attention and understanding. Safety warnings do not by themselves, eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL



NOTE:

MEANING

ADVISES YOU OF INFORMATION OR INSTRUCTIONS VITAL TO THE OPERATION OR MAINTENANCE OF YOUR EQUIPMENT.

SYMBOL



SAFETY WARNING

MEANING

FAILURE TO OBEY A SAFETY WARNING MAY RESULT IN INJURY TO YOU OR TO OTHERS.

SYMBOL



PROHIBITED:

MEANING

WARNS YOU AGAINST AN ACTIVITY WHICH IS, OR MAY BE, ILLEGAL IN YOUR AREA.

FOR BEST RESULTS USE PIONEER[®]DURAGUARD[®]OR[®]DURASPEED[®]SAW CHAIN

PREPARING YOUR SAW FOR USE:

As this is a new saw it will be necessary to assemble your guide bar and chain to the engine unit and properly adjust the chain tension. Follow these steps for correct assembly.

1. Remove the strut assembly (sprocket cover) and outer guide plate from the engine unit.
2. Install the guide bar by placing it over the two studs located on the side of the crankcase. You will note the adjusting slots which permit the forward and backward movement of the guide bar during chain tensioning. See Figure No. 1.



NOTE: When using a Posi Lube* bar, keep bar pad, guide bar face and guide bar oil slot clean. Turn your bar over periodically to keep wear even.

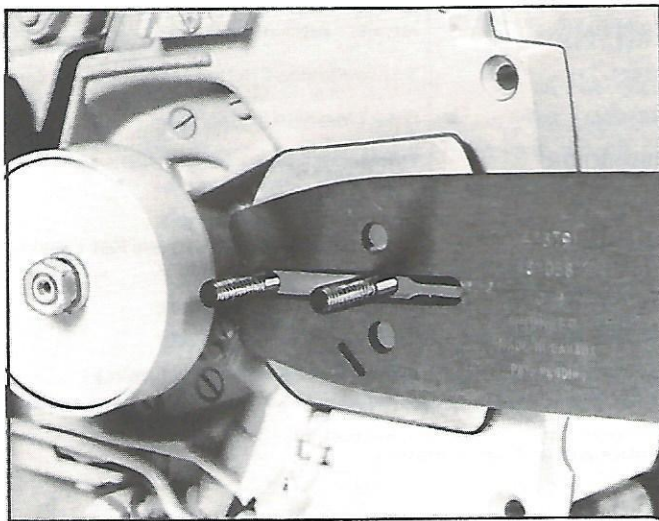


FIG. 1

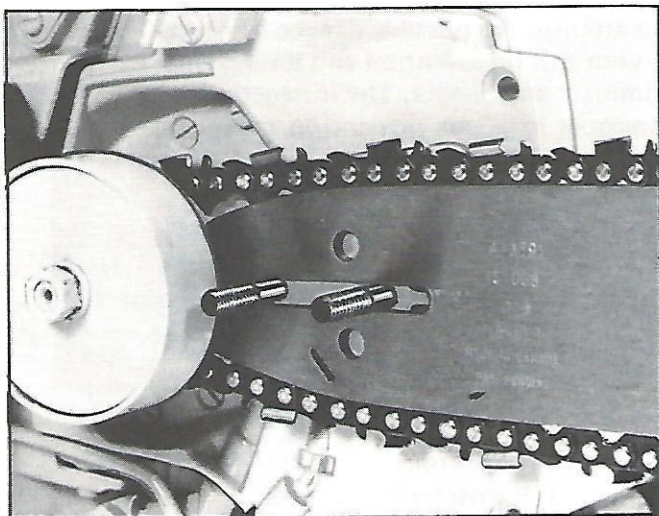


FIG. 2

3. Install your chain starting first at the sprocket end and bear in mind that the sharp cutting edge of the chain moves forward from the engine around the nose of the bar. See Figure No. 2.
4. Replace the outer guide plate and strut assembly (sprocket cover). Be sure the chain adjusting pin is located in the outer guide plate and the guide bar.
5. Replace the two strut (sprocket cover) nuts but do not fully tighten.
6. Using the adjusting screw as shown in Figure No. 3, tighten the chain to its proper tension with the bar nose in raised position and secure the strut (sprocket cover) nuts. **PROPER CHAIN TENSION IS ACHIEVED WHEN THE SIDE LINKS AND CUTTERS ARE TOUCHING THE BOTTOM OF THE BAR RAILS AND YOU CAN EASILY PULL THE CHAIN AROUND THE BAR BY HAND.**

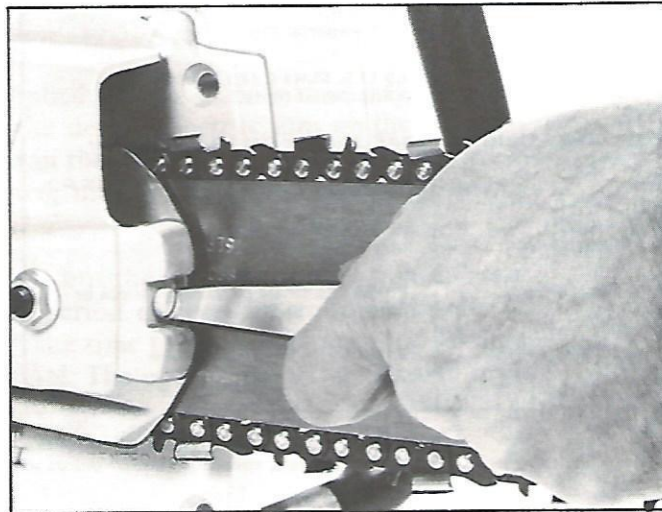


FIG. 3



Safety Warning PROTECT YOUR HANDS FROM THE SHARP CHAIN CUTTERS.

FUEL AND LUBRICATION:



Safety Warning Gasoline is extremely flammable and highly explosive under certain conditions. Always stop engine, and do not smoke or allow an open flame or spark near the saw when refueling or servicing the fuel system. Always mix in well vented area.

THE INTERNAL MOVING PARTS OF YOUR CHAIN SAW ENGINE ARE LUBRICATED SOLELY BY THE LUBRICANT WHICH IS ADDED TO THE GASOLINE.

ALWAYS USE GENUINE PIONEER PARTS AND ACCESSORIES

GASOLINE: Use regular gasoline. Premium or high octane gasoline is not required.

LUBRICATION: The proportion of oil to gasoline is 1 part OMC 2 Cycle Motor Oil (Pioneer 2 Cycle Motor Oil in the USA) to 24 parts gasoline (1/3 pint (.04) litres of oil to 1 gallon (1.0 litres of gasoline) or 1 part of a reputable brand of 2 cycle engine oil to 16 parts gasoline (1/2 pint (.065 litres) of oil to 1 gallon (1.1litre) of gasoline).



NOTE:

FUEL MIXTURE: Keep your fuel thoroughly mixed and clean at all times. DO NOT MIX DIRECTLY IN YOUR CHAIN SAW FUEL TANK.

CHAIN LUBRICATION: Fill the oil tank with PIONEER CHAIN LUBRICANT or equivalent according to the following chart.

<u>TEMPERATURE</u>	<u>LUBRICANT</u>
BELOW 0° F (-17.8° C)	LIGHT CHAIN LUBRICANT (SAE 10)
0° - 50° F (-17.8 - 10° C)	MEDIUM CHAIN LUBRICANT (SAE 20)
ABOVE 50° F (10° C)	HEAVY CHAIN LUBRICANT (SAE 30)

AUTOMATIC OIL PUMP

Pioneer Model Super 3270SC is equipped with a simple, yet efficient, automatic oiler for chain lubrication.

The oiler body forms part of the bearing carrier casting, with only five service parts, making up the entire pump assembly.

OPERATION CHECK

1. The operator should check the automatic oiler by holding the nose of the bar about three inches from a stump, or other object. Rev the engine up for a few seconds and note if there is a mist forming on the stump.
2. If the bar and chain appear to be lacking oil, check the following:-
 - (a) Check the oil tank - it may be empty.
 - (b) Check oil lines and fittings for breaks or leaks.
 - (c) Check oil cap for air lock - clear cotterpin vent hole.
 - (d) Remove bar and chain - check oil holes.
 - (e) With the attachments off, operate motor to see that oil is being pumped from the hole in the bar pad which feeds oil to the guide bar from the automatic system.

MANUAL OVERRIDE

The Pioneer Model Super 3270SG is also fitted with a manual override oil pump. Under normal cutting conditions it is not necessary to use the manual oiler. However, as a safety feature and for areas of extreme cutting conditions, this feature is incorporated in your saw. Excessive use of manual pump will deplete oil supply before fuel is used up.

STARTING INSTRUCTIONS:



Safety Warning Before using the saw, refer to safety precautions shown on page 10.

1. Fill fuel tank with properly mixed fuel as previously explained.
2. Fill your chain oil reservoir with the recommended oil.
3. To start the engine, place the chain saw in a convenient position where it will sit firmly when you pull the starter handle.
4. Ensure that the ignition switch is in the "ON" position.
5. Pull the choke knob out.
6. Set throttle lock.
7. Hold front handle firmly and place your foot in the rear handle loop.
8. Grip the starter handle. Pull handle slightly until you feel the starter engage, then give a sharp, firm pull. Repeat until engine starts.
9. When the engine starts, allow the starter handle to recoil to its original position. Do not allow handle to snap back.
10. Once engine is started and requires no further choking, release the throttle lock to ensure a slow idle.



Safety Warning With throttle lock set, the clutch is engaged and the chain is moving around the bar and could be a potential hazard.

11. A hot engine should restart without choking. Hold the throttle fully open or reset throttle lock and give the starter sharp, firm pulls.
12. Should a hot engine fail to restart, a single choking may aid starting.
13. Avoid flooding. Do not choke a hot engine without first trying to start with only the throttle open. A flooded engine may take 6 to 8 pulls to clear itself and restart.

ASK FOR AND INSIST ON GENUINE PIONEER PARTS

STOPPING INSTRUCTIONS:



Safety Warning Always shut off the engine before setting down the saw.

To stop the saw, place ignition switch to "OFF" position by moving the slide switch toward the rear of the saw.

CARBURETOR ADJUSTMENTS

IDLE SPEED ADJUSTMENT:

1. This model has an "IDLE SPEED ADJUSTMENT" system which is controlled by an external screw located on the airbox directly above the oiler button.
2. This screw, as it is turned into the airbox is so located that the tip of it engages the throttle control wire and the adjustment of idling speed is as simple as our present carburetor needle adjustments.
3. The low speed adjustment needle, marked "L", and the high speed adjustment needle, marked "H", are both on the right hand side of the motor.
4. The carburetor on this model has a fixed HI speed jet in the form of a new check valve with a metered orifice. This check valve regulates the flow of fuel and controls the RPM up to 10,400. This provides high speed cutting without affecting power or efficiency. The high speed needle should be closed or just cracked open not more than 1/8 of a turn. For heavier cutting or when a richer mixture is required, the high speed adjustment needle may be opened up to 3/8 of a turn according to the individual saw and operation.
5. Before running a new saw, set both high and low speed needles by turning in until they stop. Do not damage the needle seat. Then open the high speed needle from zero to 1/8 of a turn. The hi speed needle may be opened up to a maximum of 3/8 of a turn according to the individual saw and operation. The low speed needle setting is 1 1/4 turns open.



NOTE: When adjusting carburetor, avoid jamming the adjustment screws into their respective seats within the carburetor body. To do so will damage the carburetor beyond repair.

DISASSEMBLY PROCEDURE - automatic oiler



NOTE: To clean or examine the Automatic Oil Pump System, the bearing carrier assembly must be removed in the following manner.

1. Remove retaining screw No. 307191.

2. Remove retaining clip No. 428406.
3. Remove retaining pin No. 428405.
4. Remove engine seal No. 428128.
5. Through the recess provided, using a suitable small tip tool, slide the No. 473339 plunger gear back to disengage it from the crankshaft worm gear.
6. Remove the front handlebar and bracket assembly.
7. Remove all 10 x 24 screws securing the bearing carrier to the crankcase, fuel tank and oil tank.
8. Disconnect the oil lines from the fittings on the bearing carrier.
9. Using service puller No. 471141, remove the bearing carrier assembly.
10. Remove the No. 428261 end cap and allow the pump plunger to slide free for examination and cleaning of the system.



NOTE: Oil plunger is threaded on the outer end. Use 8-32 UNC screw as a service removal tool.

While disassembled, clean and check the gear teeth on the plunger, helix slot and drive pin, then reassemble.

ASSEMBLY PROCEDURE - automatic oiler

1. Insert the pre-lubricated plunger gear in pump bore.



NOTE: DO NOT push the plunger too far down the bore as it will foul the crankshaft during further assembly.

2. Install the No. 428261 end cap.
3. Assemble the bearing carrier to crankcase and secure all screws.
4. With a small tip tool, slide the plunger gear forward to engage it with the crankshaft worm gear and position it for the No. 428405 locating pin.
5. Install the No. 428405 pin in the plunger groove and secure it with the No. 428406 clip and No. 307191 screw.
6. Install a new engine seal.

ROUTINE MAINTENANCE

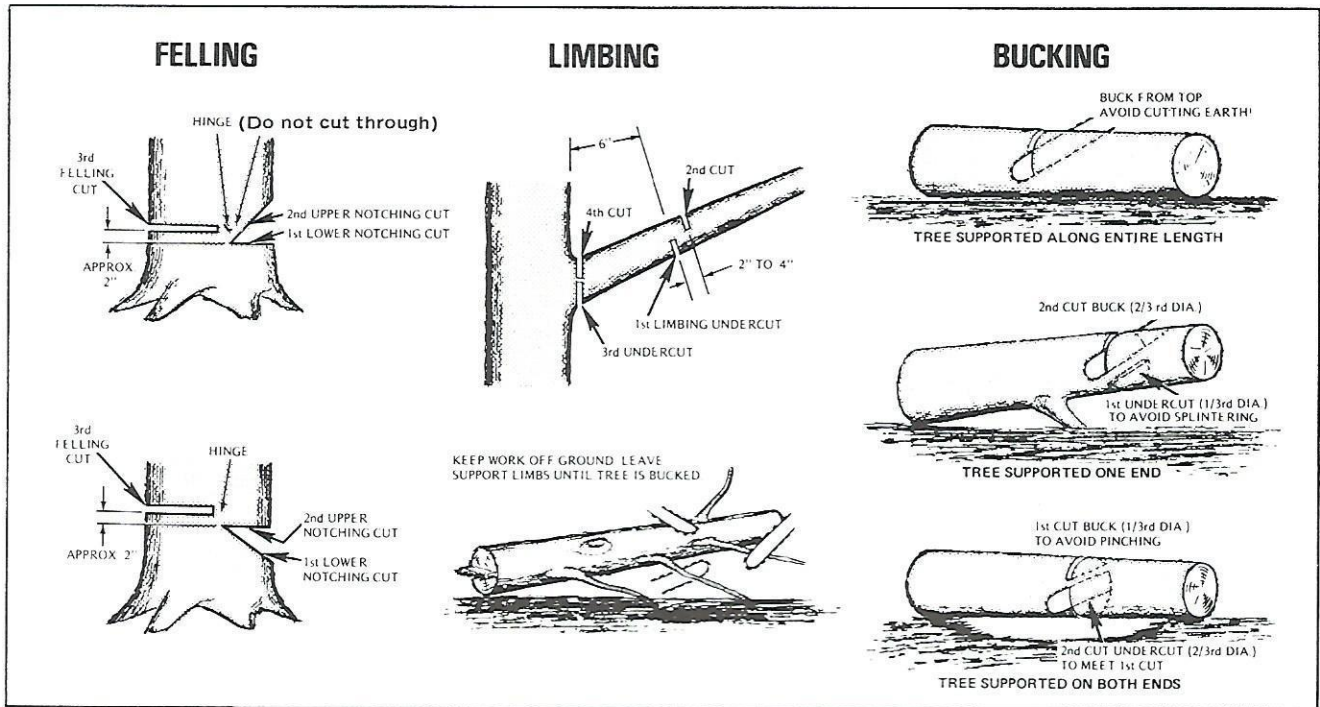
1. The oil tank must be filled each time the fuel tank is filled.
2. When installing the guide bar, care must be taken to see that all mating parts (bar mounting faces, guide plates, strut and guide bar) are free from dirt.
3. Cleanliness is stressed to prevent oil loss from the automatic system.
Example: When the strut nuts are loosened to readjust the chain tension, unless these parts are clean, dirt can lodge between the bar pad guide plates, or guide bar, causing oil to leak past the oil hole in the guide bar.

FOR BEST RESULTS USE PIONEER`DURAGUARD`OR`DURASPEED`SAW CHAIN

OPERATING INSTRUCTIONS:

If you haven't previously operated a chain saw, cut a few lengths from a small log to get the feel of a chain saw in action. When starting a cut, don't race the engine and jam the saw into the wood. Slowly increase the throttle to engage the chain as you start a cut. Always maintain full throttle while in a cut. Your chain saw is a direct drive type, and, because of its high speed cutting action, you should not exert pressure to force it through the wood. A light but firm touch

will get more wood cut with less effort on your part. When coming to the end of the cut, be prepared to release the throttle immediately. Study the following illustrated cutting techniques. Avoid dangerous practices for your safety and longer chain saw and attachment life. Remember, a chain saw like any power cutting tool, if used without proper precautions, can cause serious injury. A periodic check and re-tightening of all external nuts, bolts and screws will help to ensure a more reliable and safer saw.



FILING INSTRUCTIONS:

SAW CHAIN FILE DIMENSIONS:

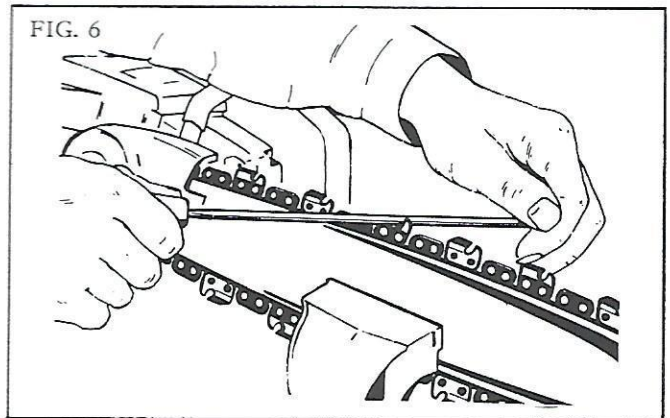
For .325 pitch chains use 3/16" dia.

For 3/8, .404 pitch chains use 7/32" dia.



NOTE: Use the next smaller file when cutters are filed back beyond half the cutters length.

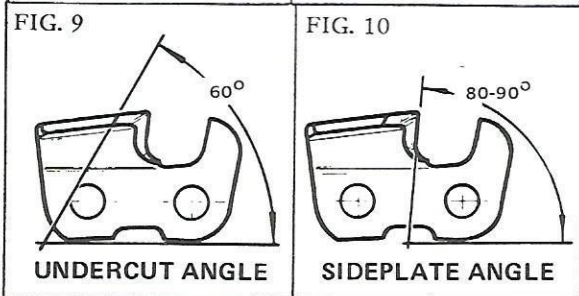
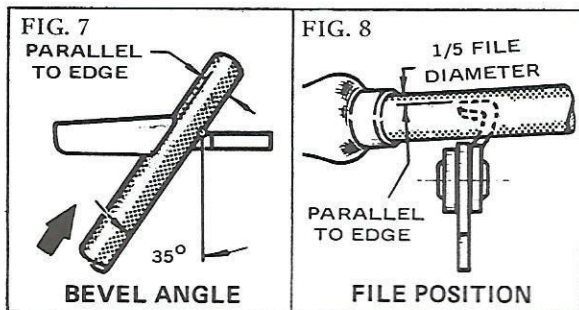
The condition of the chain governs the performance and life of the cutting attachments. These instructions are for your benefit; study and follow them carefully.



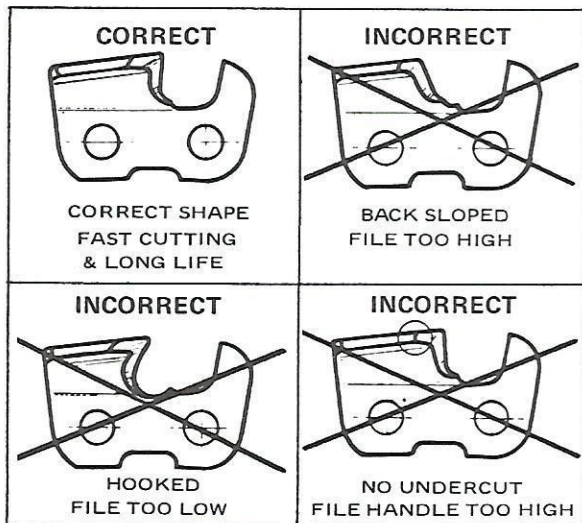
ASK FOR AND INSIST ON GENUINE PIONEER PARTS

SHARPENING CUTTERS:

- Support the cutting attachments and tension chain.
- Place the file into a cutter opposite your side. Hold the file **PARALLEL TO THE CUTTING EDGE** at the recommended 35° bevel angle with $1/5$ of the file diameter protruding above the cutter, (Fig. 6, 7 & 8).
- Keep the file snug to the top edge and apply two or three steady file strokes to obtain the correct shape as illustrated in Fig. 9 & 10. Completely sharpen one side of the chain, filing from the inside of the cutter.
- Move to the other side of the chain and repeat steps "B" and "C", filing **ALL CUTTERS UNIFORMLY** and to the **SAME** length.

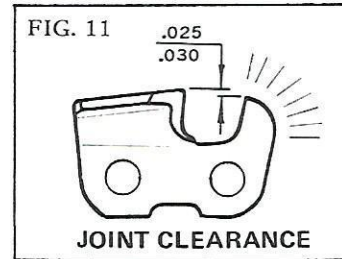


COMPARE YOUR FILING RESULTS WITH THE ILLUSTRATIONS BELOW.



DEPTH GAUGE:

Do not increase the clearance beyond the recommended setting. Keep all depth gauges uniform in height. A depth (jointing) gauge must be used. Maintain the round corner. Do not attempt to correct a poor cutting chain by **INCREASING** the depth clearance. Always check cutter sharpness first. See Fig. No. 11.



EXCESSIVE DEPTH GAUGE:

Lack of care in setting the depth gauge may result in excessive or uneven clearance. This will cause the cutters to bite in, chain will grab, resulting in overloading of attachments, poor performance and damage to both chain and bar. Fig. 12.

INSUFFICIENT DEPTH GAUGE:

Cutters cannot bite into the wood, chain will not cut efficiently or to capacity. This will require extra pressure on your part resulting in excessive wear to the bottom of the cutters and links plus rapid wear to the guide bar rails. Fig. 12.

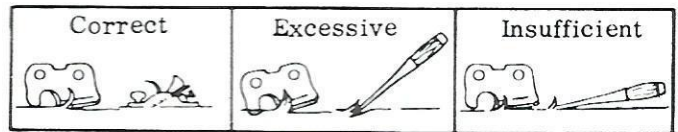


FIG. 12

common problems found with BAR and SPROCKET			
	FAILURE	CAUSE	REMEDY
	Worn Sprocket Teeth	Excessive Chain Tension — Insufficient Lubrication. Dull Cutters.	Sprocket Must Be Replaced. File Cutters.
	Scored Drum.	Overloaded Clutch Through Poor Filing, Chain Pinch, Etc.	Refer to Filing Instr. Release Throttle if Chain Pinched.
	Excessive Wear on One Bar Rail.	Poor Filing or Jointing. Check for Variations, Both Sides.	Refer to Filing Instr. Replace Bar If Required.
	Bar Peened at Chain Entry.	Chain Run Slack — Crowds at This Point.	Increase Tension Slightly.
	Worn and Burr Tip or Chipped Rail.	Excessive Tension — Insufficient Lubrication — Abnormal Abuse.	Bar Must be Replaced if Rail Chipped, or Stellite Worn Away.

SAFETY PRECAUTIONS



Safety Warning

1. Never operate a chain saw when you are fatigued.
2. Use safety footwear, snug-fitting clothing, and eye, hearing and head protection devices.
3. Always use caution when handling fuel. Move the chain saw at least 10 feet (3 m) from the fueling point before starting the engine.
4. 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.
5. Never start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.
6. Always 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. See Figure 4.

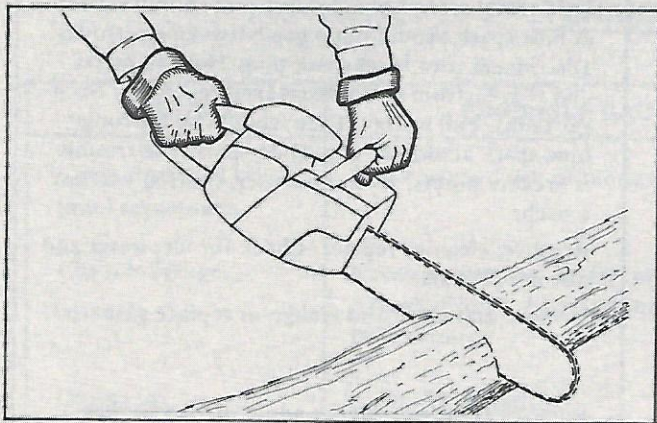


FIG. 4

7. Keep all parts of your body away from the saw chain with the engine is running.
8. Before you start the engine, make sure the saw chain is not contacting anything.
9. Always carry the chain saw with the engine stopped, the guide bar and saw chain to the rear, and the muffler away from your body.
10. Never operate a chain saw that is damaged, improperly adjusted, or is not completely and securely assembled. Be sure that the saw chain stops moving when the throttle control trigger is released.
11. Always shut off the engine before setting it down.
12. 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.
13. When cutting a limb that is under tension be alert for spring back so that you will not be struck when the tension in the wood fibres is released.
14. Keep the handles dry, clean and free of oil or fuel mixture.
15. Operate the chain saw only in well ventilated areas.
16. Do not operate a chain saw in a tree.
17. All chain saw service, other than the items listed in the Owner's Manual maintenance instructions, should be performed by competent chain saw service personnel.

(e.g., if improper tools are used to remove the flywheel, or if an improper tool is used to hold the flywheel in order to remove the clutch, structural damage to the flywheel could occur which could subsequently cause the flywheel to burst).

18. 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.

TO AVOID KICKBACK:

Hold the chain saw firmly with both hands. Don't over reach. Don't let the nose of the guide bar contact a log, branch, ground or any other obstruction. Cut at high engine speeds. Don't cut above shoulder height. Follow manufacturer's sharpening and maintenance instructions for the saw chain.

19. When bucking a log, it is important to make sure footing is firm and weight is evenly distributed on both feet. If possible, the log should be raised and supported by use of limbs, logs or chocks.

When bucking on a slope, always stand on the uphill side of the log, as illustrated in Figure 5. When "cutting through", release the cutting pressure near the end of the cut. This will maintain complete control without relaxing your grip on the chain saw handles and will avoid allowing the saw chain to contact the ground. Upon completion of a cut, ensure the saw chain is stopped before moving the chain saw.




FIG. 5

20. As the felling cut gets close to the hinge the tree should begin to fall. If there is any chance that the tree might not fall in the desired direction, or may rock back and bind the saw chain, stop cutting before the felling back cut is completed and use wedges made of wood, plastic or aluminum to open the cut and drop the tree along the desired line of fall.

When the tree begins to fall, remove the chain saw from the cut, stop the engine, put the chain saw down, then use the retreat path planned. Be alert for overhead limbs falling and watch your footing.

ALWAYS USE GENUINE PIONEER PARTS AND ACCESSORIES

SERVICE DIAGNOSIS

TROUBLE	PROBABLE CAUSE	REMEDY
<p>Engine fails to start.</p>	<p>Fuel tank empty. Engine not choked. Carburetor adjustments. Over-choking. Flooded engine.</p> <p>Spark Plug.</p> <p>Magneto.</p> <p>*Plugged or frost covered pickup in fuel tank. * Plugged impulse hole in carburetor, misaligned carburetor gasket or reed valve gasket. * Frozen gas line or ice in carburetor filter.</p>	<p>Fill with correct fuel mixture. Choke engine. See starting instructions. Open throttle and pull starter until engine fires. If engine is continually flooding, check for plugged air filter.</p> <div style="background-color: #e0e0e0; padding: 5px;">  <p>Safety Warning When performing this test ensure the absence of fuel in the test area. Gasoline is extremely flammable and highly explosive under certain conditions.</p> </div> <p>Remove plug, clean and adjust. Reattach wire and hold metal seat of plug against motor. Pull starter. A blue spark should jump gap between electrodes. Disconnect wire from spark plug. Hold so metal end is 1/4" from clean metal surface. (Away from gas tank). Pull starter. There should be a strong blue spark across the gap. If no spark, the trouble is breaker points, coil, condenser, shorted wire, or switch.</p> <p>Remove, clean or replace. Check for ice, water and dirt in fuel tank.</p> <p>Remove and clean and realign or replace gasket(s).</p> <p style="text-align: center;">+</p> <p>Remove and clean. De-ice additive used in prescribed proportion will counteract this. (One teaspoonful to a full tank of fuel). + (OMC 2 + 4 Fuel Conditioner)</p>
<p>Engine cuts out, leans out, or misfires.</p>	<p>Short circuit in ignition system. Fouled, wet or damaged spark plug. Magneto: Faulty breaker points, coil, condenser, ignition wire or connection. Partial blockage in fuel system. Carburetor malfunctions. Dirt in fuel lines. Puncture in fuel lines.</p>	<p>Check all wires and connections. Clean and adjust, or replace. Check.</p> <p>Clean out carefully and check carburetor. See your Authorized Pioneer Dealer. Check and clean. Replace.</p>
<p>Engine lacks power.</p>	<p>Incorrect fuel mixture. Carburetor out of adjustment. Exhaust ports or muffler screen clogged. Air intake filter clogged. Poor compression.</p>	<p>Drain tank, refill with correct mixture. Adjust carburetor. Clean. Clean or replace. See your Authorized Pioneer Dealer</p>
<p>Engine overheats.</p>	<p>Cylinder fins or air system clogged. Incorrect fuel mixture. Carburetor lean. Leaking cylinder base or crankcase gaskets. Leaking crankcase seals.</p>	<p>Clean. Drain tank, refill with correct mixture. Adjust. See your Authorized Pioneer Dealer. See your Authorized Pioneer Dealer.</p>

ALWAYS USE GENUINE PIONEER PARTS AND ACCESSORIES

SERVICE DIAGNOSIS



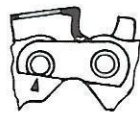



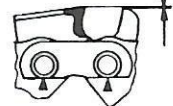

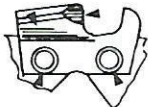

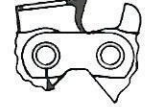







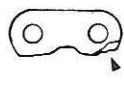

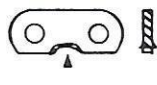

TROUBLE	PROBABLE CAUSE	REMEDY
Insufficient chain lubrication.	Oil tank empty. Dirt in pump assembly or discharge vent. Plugged oil tank vent. Bar oiler hole plugged. Oiler pickup head screen plugged.	Fill tank. Remove and clean pump and feed line. Fill with clean recommended oil. Clean vent. Clean oiler hole. Remove pump and clean pickup head.
* Conditions which may be experienced during cold weather operation.		

FOR MAJOR ENGINE REPAIRS SEE YOUR AUTHORIZED PIONEER DEALER.

CHAIN DIAGNOSIS

TROUBLE	PROBABLE CAUSE	REMEDY
Chain stretched beyond adjustment.	Dull cutters. Lack of lubrication.	Remove a side and drive link. File Chain. Increase lubrication.
Chain breakage.	Excessive pressure by Operator. Excessive joint. Lack of lubrication. Dull cutters.	Replace damaged parts. Check balance of oil. Increase lubrication. Rejoint chain. File chain.
Chain stiff. AND/OR Hard to tension.	Lack of lubrication. Loose chain. Poor maintenance.	Clean chain in solvent. Oil bath over-night. Correct tension. Check oil pump and vent holes.
Chain stalls in cut and/or scored, clutch drum.	Clutch slipping. Excessive pressure by operator. Clutch spring not releasing.	Check clutch shoes for wear. Check spring for tension. Apply less pressure; correctly filed chain will self-feed.
Chain cuts rough or digs in.	Cutter angles incorrectly filed. Too much or uneven joint.	Check your filing instructions. Refile to correct angles. Check joint. Rejoint your chain.
Chain jumps bar.	Incorrect chain tension. Damaged cutter bar. Damaged drive links. Worn or damaged sprocket.	Correct chain tension. Check bar for damage, repair or replace. Check drive links for damage. Replace links or entire chain.
Chain cuts on an angle.	Cutter angles and/or length not the same on both sides. Uneven joint. Cutter bar rails uneven.	Refile cutters to same angle. Check rails. If worn, have bar serviced or replaced. Rejoint. Increase lubrication.
Worn drive sprockets.	Incorrect chain tension. Lack of lubrication. Dull cutters.	Replace sprocket. Correct chain tension. Increase lubrication. File cutters and joint chain.
Excessive wear on drive links and/or side straps.	Lack of lubrication. Excessive tension. Dull chain. Worn sprocket.	Increase lubrication. Check oil pump. Extensive damage can be occasioned in a few hours. Check tension. File chain. Check sprocket.

common problems found with CUTTERS and LINKS

	FAILURE	CAUSE	REMEDY		FAILURE	CAUSE	REMEDY
	Concave side link and cutter bottoms.	Chain run too tight. Insufficient lubrication. Cutters dull.	Decrease chain tension. Check oiler, file cutters.		Side wear.	Abrasive cutting condition.	Check for grit in timber being cut. Lubricate well.
	Heel wear on cutters and side links.	Chain run too loose. Too much joint. Cutters dull.	Increase chain tension. Maintain basic .025" joint. File cutters.		Back nicked.	Chain run too loose.	Increase tension.
	Slight heel wear cutters and side links.	Back slope on cutters—chain slightly tight. Cutters dull.	Remove back slope. Decrease chain tension. File cutters.		Back rounded to bottom.	Worn sprocket. Chain run too loose.	Increase tension. Renew sprocket.
	Excessive bottom wear on cutters and side links.	Insufficient joint—chain run tight, filing blunt—no undercut, cutters dull.	Increase joint to .025". Decrease tension—refer to filing instr. File cutters.		Back and front of link peened.	Worn or wrong pitch sprocket.	Renew sprocket. Increase tension.
	Severe side wear and abrasive damage.	Caused by striking stone or nails, etc. Cutters dull.	All visible abrasion must be removed by filing cutters back. File cutters.		Back peened.	Worn sprocket. Dull cutters.	Renew sprocket. File cutters.
	Crack under rear rivet.	Cutters dull or hooked.	Refer to filing instructions.		Bottom peened and worn.	Link riding on bottom of bar groove. Bar rails worn. Dull cutters.	Renew bar. File cutters.
	Crack under front rivet.	Insufficient joint.	Increase joint to basic .025".		Bottom point rolled up.	Link bottoming in worn sprocket. Dull cutters.	Renew sprocket. File cutters.
	Cracks under both rivets.	Chain run dull and tight—insufficient joint.	Refer to filing instr. Increase joint to basic .025".		Bottom rough and broken off.	Chain run too tight causes stretch and climbs up on sprocket teeth.	Renew worn chain or sprocket. Run chain with less tension.
	Bottom peened and burred.	Hooked cutters—dull—no undercut causes chain to pound on rails.	Eliminate hook. Refer to filing instructions.		Drive lugs worn on sides.	Excessive face angle of cutters causes side thrust.	Refer to filing instructions.
	Front peened.	Chain run too slack—crowds at bar entry.	Increase tension.		Drive lugs worn on one side.	Excessive face angle of cutters on one side.	Cutters must have equal face angles.
	Clearance notch peened.	Sprocket teeth worn.	Renew sprocket.		Chain jumps out of bar groove.	Uneven filing. Chain run too loose.	Increase chain tension. Refer to filing instructions.

CHAIN SAW WARRANTY

We warrant, to the original retail purchaser in U.S.A. or Canada each new Pioneer chain saw engine of our manufacture to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty being limited to repairing or replacing at the factory, any part or parts thereof which shall be returned to us within ninety (90) days after the original purchase by an authorized Pioneer dealer or distributor, with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective. Pioneer bars and sprockets are warranted separately under these same conditions except that the period of warranty shall extend for thirty (30) days from date of original purchase.

This warranty shall not apply to any engine, bar or sprocket which shall have been repaired or altered outside the factory in any way so as to affect their stability, nor which have been subject to misuse, negligence or accident or operated in any other way than in accordance with our operating or maintenance instructions. Nor does the warranty extend to repairs made necessary by normal wear, by the use of inferior parts or accessories or by the use of types of accessories not recommended by Pioneer Saws.

We make no warranty in respect to trade accessories not of our manufacture, inasmuch as they are usually warranted separately by their respective manufacturers.

This warranty being expressly in lieu of all other warranties and representations expressed or implied and of all other liabilities in connection with the sale of any Pioneer saw in U.S.A. or Canada.

To make a claim under this warranty contact the authorized Pioneer Dealer from whom the saw was originally purchased, or the nearest authorized Pioneer Dealer. Engines or parts and accessories thereof shipped to the factory for inspection must be shipped transportation charges prepaid and be accompanied with the model and serial number of the saw.

SAW CHAIN WARRANTY

All Pioneer saw chain carries an unconditional guarantee against faulty workmanship and materials. Warranty is not applicable for any damage caused by misuse or if filing and maintenance instructions are not followed.

This warranty is extended in the U.S.A. by Pioneer Saws, Lincoln, Nebraska and in Canada by Pioneer Saws, Peterborough, Ontario.

Warranty on Pioneer saw products sold in other countries of the world is extended by Outboard Marine International Inc., Miami, Florida; Outboard Marine Belgium S.A., Bruges, Belgium; Outboard Marine Australia Pty. Limited, Bankstown, N.S.W., Australia; or Outboard Marine International S.A.; Hong Kong, in accordance with the terms and conditions of their respective warranty policies as issued from time to time within their sales territories.



To assure you of your warranty, fill out the Warranty Cards and immediately forward them as directed.

When a service problem arises do not hesitate to consult your local Pioneer Chain Saw Dealer. Your dealer was appointed after careful consideration of his ability in providing prompt and efficient service. Only he can offer the complete technical knowledge and skill to maintain your chain saw in tip-top condition.

Your dealer also stocks a complete line of genuine factory replacement parts. Therefore, when you require replacement parts, order them from your local dealer: DO NOT RETURN ENGINE TO FACTORY.

When ordering, specify:

1. Model and Serial Number of your chain saw.
2. Quantity, part number and description of part in full.
3. Complete shipping instructions.

REGISTER YOUR MODEL AND SERIAL NUMBER IN THE SPACES PROVIDED BELOW.

Model Number

Serial Number

CHAIN

U.S. PATENT 3, 329, 183
CANADA PATENT 772, 453
AND FOREIGN PATENTS.

