JAN 67.

POWERLITE

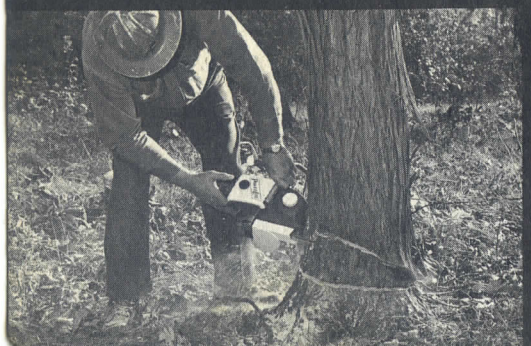
4

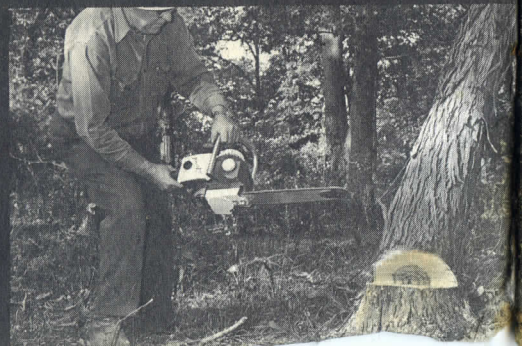
OPERATING INSTRUCTIONS

REMINGTON ARMS COMPANY, INC.
POWER TOOLS DEPARTMENT
PARK FOREST . . . . . ILLINOIS

Thank you

for your purchase of a Remington Chain Saw. You will get greater satisfaction from your investment and continue to get the benefit of high performance built into this saw if you will take a few moments to become familiar with its care, operation and maintenance as outlined in this manual. Keep it for ready reference.





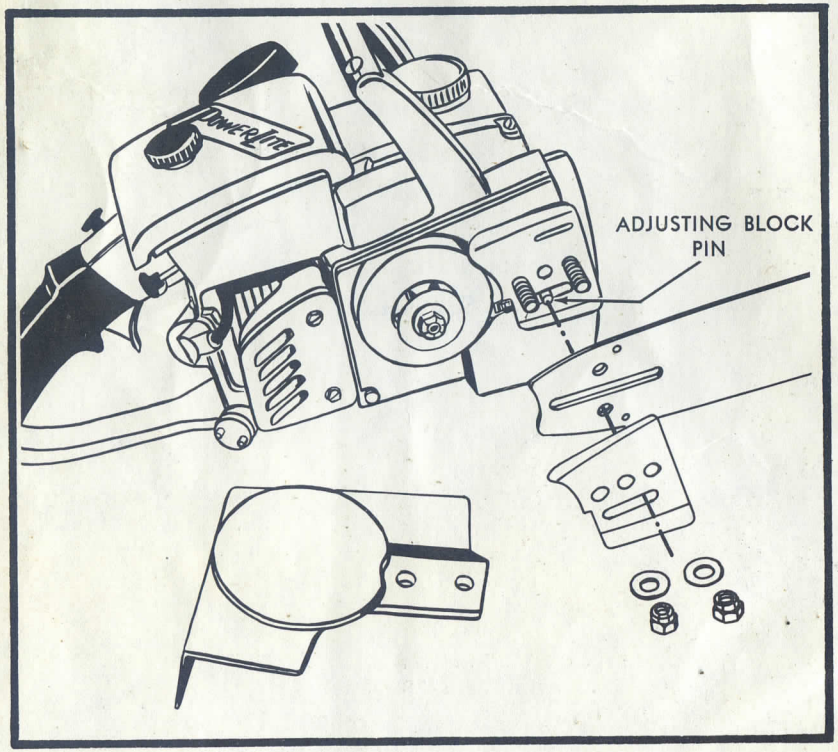
C O N T E N T S

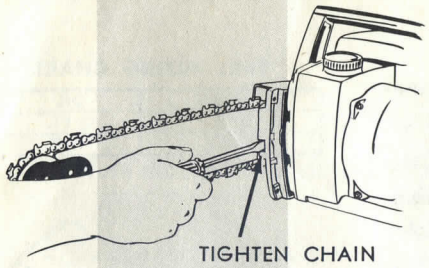
ASSEMBLE GUIDE BAR AND CHAIN ON SAW

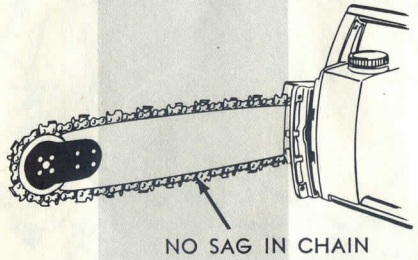
Remove the guide bar nuts, washers, sprocket cover and outside guide bar plate. Mount guide bar over guide bar bolts and install the chain over the sprocket and guide bar. Replace outside guide bar plate. The cutting edges of the chain on top of guide bar must face forward toward the roller nose.

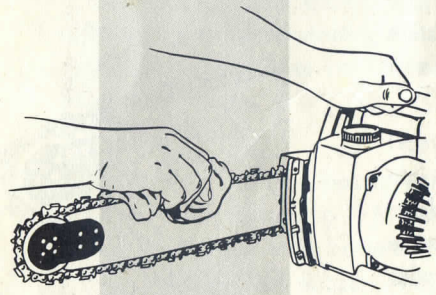
Be sure that all the drive link tangs are in the guide bar groove and down between the sprocket teeth. Place the sprocket cover over the guide bar bolts. Pull the chain around the guide bar to seat the chain. Be sure the adjusting block pin is in the guide bar hole and the sprocket cover is in place. Replace washers and nuts. Tighten nuts, then loosen one full turn.

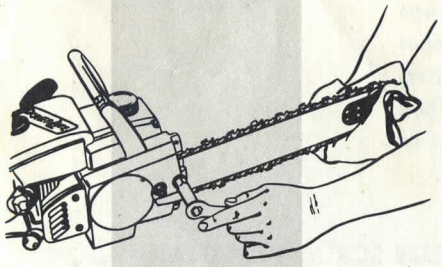
THE GUIDE BAR MUST BE FREE TO MOVE WHILE TIGHTENING THE CHAIN








PULL CHAIN FORWARD ON GUIDE


TIGHTEN SPROCKET COVER NUTS WHILE LIFTING NOSE OF GUIDE BAR

CHAIN TENSION

Tighten the chain with the adjusting screw until the chain shows no sag at the bottom of the guide bar. Pull the chain forward on the guide. Use gloves or a cloth to avoid cuts. A properly adjusted chain can be moved with little effort. If too tight, it will be hard to move. Tighten sprocket cover nuts while lifting nose of guide bar.

Important:

The chain can be run tighter on a Remington roller nose guide bar than on other types since the roller nose pulley does away with the friction usually found in solid nose bars.

After the first few cuts, readjust the chain tension and check frequently during the first few hours of chain operation.

PREPARATION FOR RUNNING

IMPORTANT:

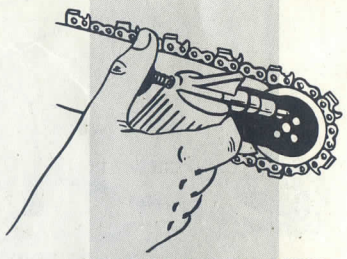
This is a high output precision engine, therefore, it requires a break-in period.

FUEL MIXING CHART

GASOLINE	OIL
1 GAL.	½ PT.
2 GAL.	1 PT.

1. **BREAK-IN RECOMMENDATIONS:** Mix well in a clean container ¾ pint Remington #48411 Oil to each gallon of regular gasoline for the first five gallons used. From then on, use a mix of ½ pint Remington #48411 Oil per gallon of regular gasoline. Keep chain sharp and well oiled.
2. **CHAIN OILER:** Turn the saw on the left side so that it rests on the handle and the guide bar tip. Remove the oil cap and fill the oil tank with a mixture of ½ S.A.E. #30 oil and ½ kerosene.

   In cold weather kerosene makes the oil flow freely and in all other seasons it keeps the chain clean and free of pitch and sap. Use of this mixture for chain lubrication will help give trouble-free performance of chain and guide bar the year round.
3. **ROLLER NOSE:** Grease the roller at least twice daily. Insert the grease gun tip into the hole of the roller nose guide plate. Push the grease gun handle until grease appears at the side plates of the roller nose. Use Remington #18347 — No. 1 Lithium Lubricant.
4. **CARBURETOR:** The carburetor has been factory adjusted. Only a minor adjustment may be necessary for normal cutting operation during the break-in period. When further adjustments are necessary, refer to Service Section of the manual.



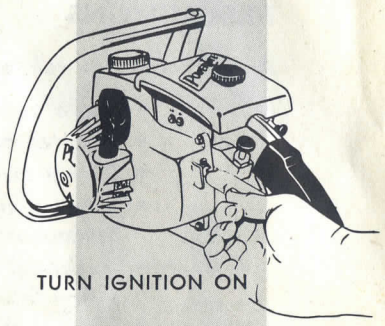
GREASE ROLLER NOSE AT LEAST TWICE DAILY

WARNING

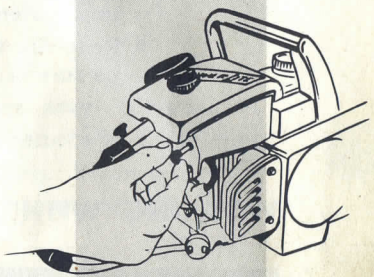
NEVER ADJUST THE HIGH SPEED MIXTURE SCREW LESS THAN ONE (1) TURN OPEN. TOO LEAN A MIXTURE MAY DAMAGE THE ENGINE DUE TO LACK OF PROPER LUBRICATION.

TO START THE ENGINE

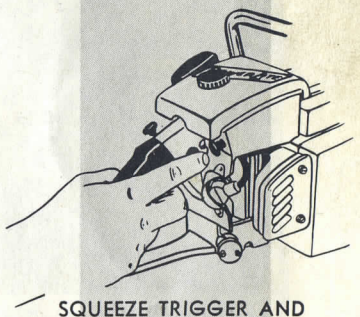
1. Turn the ignition switch to "ON" position.
2. Close the choke by pulling out the button on the right side of the handle. The choke is needed only when starting a cold engine.
3. Squeeze trigger to open throttle and push in the trigger lock to hold the trigger half open.
4. Pull the starter handle with a short, sharp pull. Repeat until engine fires. If engine fails to fire after three or four pulls, push the choke in and continue to pull the starter. Repeat procedure starting at the second step if engine does not start after four additional pulls.
5. After engine starts, release the throttle and return choke button to "IN" position. In cold weather, it may be necessary to use the choke a little longer than in warm weather. To stop the engine, simply flip the ignition switch to "OFF" position.



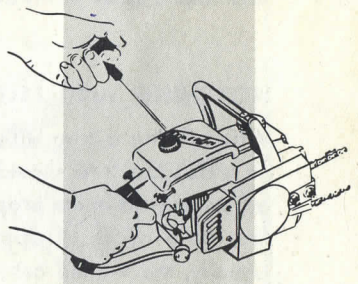
TURN IGNITION ON



PULL OUT CHOKE BUTTON



SQUEEZE TRIGGER AND PUSH IN TRIGGER LOCK



PULL STARTER HANDLE

Safety

PRECAUTIONS

At this point, it is well to consider a few safety suggestions.

- Never operate your chain saw in an unventilated room.
- Keep all parts of the body away from moving chain.
- Do not touch chain at any time with the engine running.
- When mixing fuel, or refueling the engine, observe fire precautions. Refuel in a cleared area.
- Avoid spilling fuel by over-filling tank. Use a gas can with a flexible spout.
- Remove the saw at least fifteen feet from the refueling area before starting the engine.
- Keep fire extinguisher within easy reach, and at all times be careful with your smoking habits.

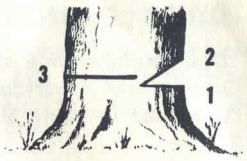
WORKING WITH THE CHAIN SAW

This saw is capable of cutting down and bucking large trees. Because of its light weight, it is also ideal for limbing and orchard work.

After selecting the tree to be felled, take a little time to size up the lean of the tree, making note of the larger branches as well as the wind direction. Be certain, too, that you have a clear area in which to work around the tree and a clear pathway from the tree when it starts to fall.

NOTCHING AND FELLING

When felling a tree with a chain saw, place the chain saw on the side on which the tree should fall to make the first notch cut. The notches are numbered in the proper order of cutting. Notches 1 and 2 are made first, to a depth of approximately one-third the diameter of the tree. Usually, the second cut is made at a 45 degree angle to meet the first cut. The next cut is the back cut and should be at least two inches higher than the bottom notch cut. The back-cut should be kept parallel with the bottom notch cut. On the back-cut, be sure **not** to cut through to meet the notch inasmuch as the wood left will act as a hinge, preventing the tree from falling in the wrong direction. As you cut further through the wood, the tree will begin to fall.



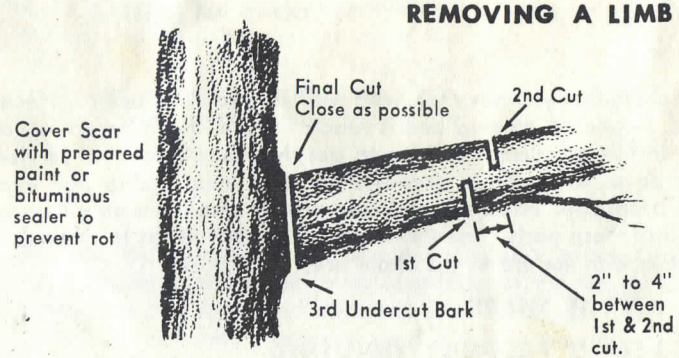
While cutting, keep the guide bar in the middle of the cut so that the cutters returning in the upper groove do not cut the side of the cut. Do not twist the saw in the groove. Feed the saw into the tree—do not force it. The rate of feed will depend on the type and size of the timber. When making a felling cut, spread the cut with a wedge to prevent pinching the guide bar and chain. Wedges should be made of wood or magnesium alloy—not steel. A steel wedge will damage the chain if it comes in contact with it. Wedges and a single bit axe are almost a must when felling. When you begin to notice the tree falling, remove the saw from the cut and move back to a safe place.

TRIMMING AND LIMBING

Never carry the saw while climbing a tree or a ladder. Hoist it up with a rope. See the illustration for the correct way to remove a limb.

This is important in orchard work to prevent the bark of the tree from ripping and causing damage. It will insure a clean cut allowing the tree to heal and be less vulnerable to disease.

REMOVING A LIMB

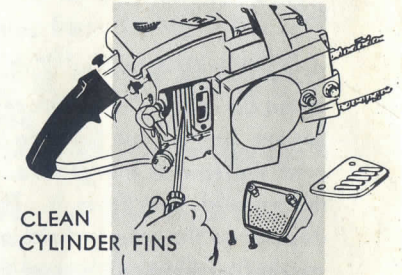


DAILY MAINTENANCE

Daily maintenance of your chain saw before or after each day's operation is most important, and will pay a good dividend in better performance and in longer life of your engine, chain and guide bar.

ENGINE

Keep your saw clean. A dirty saw does not "breathe" and creates excessive heat. Clean the cylinder fins, check and clean cylinder ports whenever the muffler is removed for cleaning.

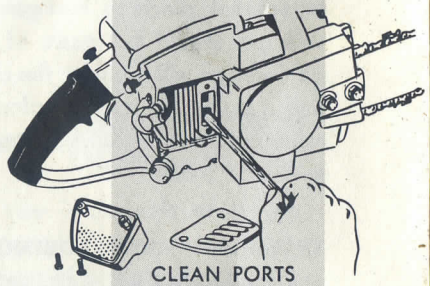


CLEAN CYLINDER FINS

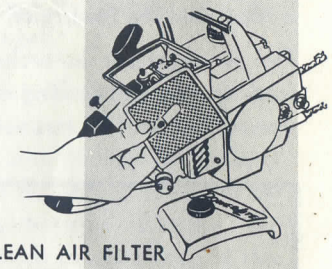
FILTER

Remove the carburetor cover and filter. Clean the filter with clear gasoline—not fuel mixture. If possible, use compressed air to blow filter clean. If filter becomes very dirty or clogged with sawdust, it should be replaced.

Never run the saw without the filter or muffler. Be sure no chips or dirt remain in the carburetor chamber before replacing the filter cover. Tighten the knob.



CLEAN PORTS



CLEAN AIR FILTER

CHAIN

While the chain that you have received with your saw has been perfectly sharpened, inspected, treated and is ready for use, it will be up to you to keep it in this excellent condition to get the longest possible service. Failure to do so will result in excessive sprocket wear, guide bar wear and chain breakage. Failure to maintain proper chain tension will cause rapid wear to these parts. The three most important things to remember in connection with the use of the chain are:

1. **KEEP IT SHARP.**
2. **KEEP IT PROPERLY TIGHTENED.**
3. **KEEP IT WELL OILED.**

Saw Sharp 7/32 Round File

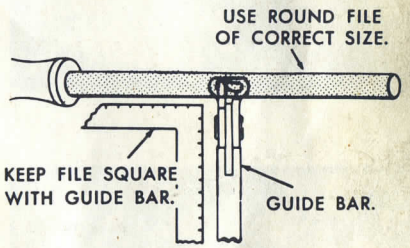
It is better to sharpen the chain frequently than to wait until it becomes very dull and then remove a great deal of metal through filing. Sharpen frequently when in hard use . . . chain sharpening can be done right on the guide bar with the use of a round file NO. 35219, a flat file NO. 13688 for the gages, and gage set NO. 48535.

Sharpening the Remington chain has been simplified and can be done even by a beginner. Three main things should be kept in mind:

A. **HOLD THE FILE LEVEL.**
B. **KEEP THE CORRECT FILING ANGLE.**
C. **FILE TO THE CORRECT DEPTH.**

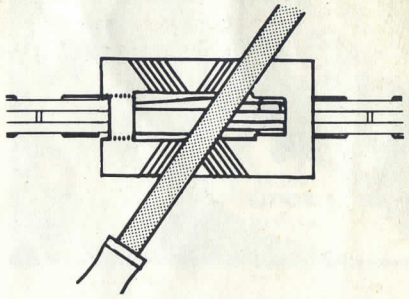
Filing of the chain has been further simplified through the use of a Remington file guide, NO. 61319, which gives positive control on these three important points.

A. HOLDING THE FILE LEVEL or square with the sides of the guide bar is made easy through the use of the file guide inasmuch as it has a broad deck and four legs which straddle the chain. This enables you to hold the file perfectly square to the bar and chain.



B. THE FILING ANGLE of 35 degrees can be easily maintained through the visual control lines inscribed on the deck.

C. FILING THE CUTTER TO THE CORRECT DEPTH is also made easy through the use of the file guide inasmuch as its deck slope matches the flat top of the cutter. This controls filing to the proper depth and prevents a back slope (from not filing deep enough) and a hook (from filing too deep).

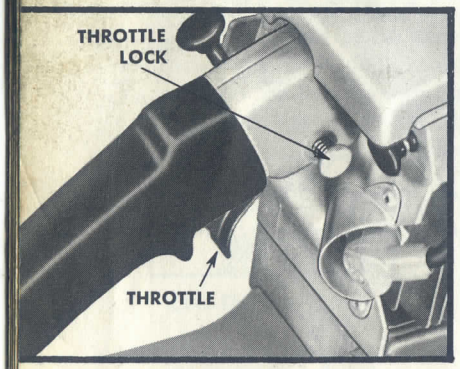


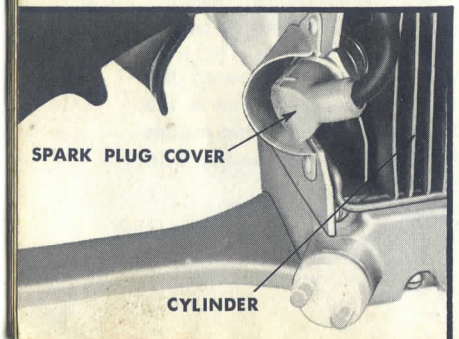
The flat top cutters are so designed that the cutting surface of the tooth exactly matches the lower four-fifths of the file, if the file is the proper size and when held level and at a 35 degree angle. This means that with each forward stroke of the file held in this position, the top and side cutting edges are sharpened at the same time.

Cont. on page 12

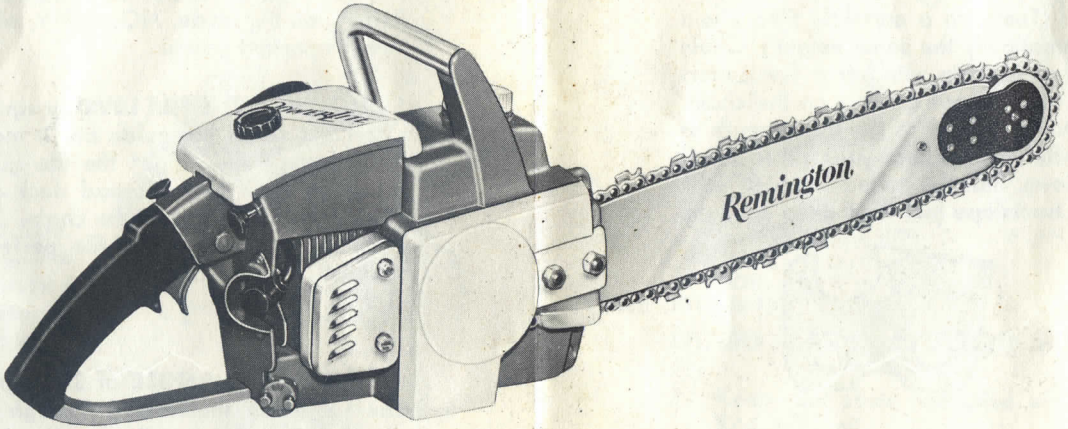

OILER BUTTON
CHOKE BUTTON

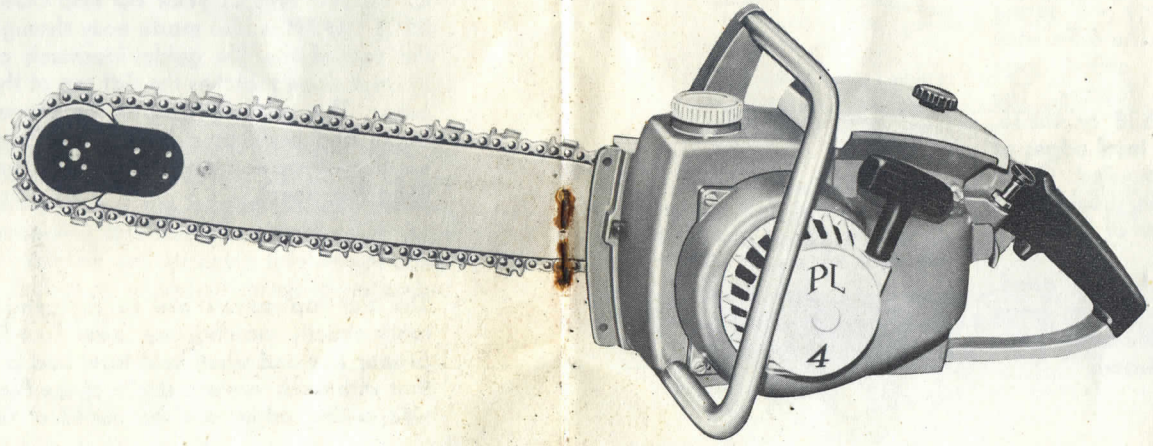

STARTER HANDLE
CARBURETOR COVER
COVER LOCK
PowerLite


THROTTLE LOCK
THROTTLE


SPARK PLUG COVER
CYLINDER

PowerLite


Remington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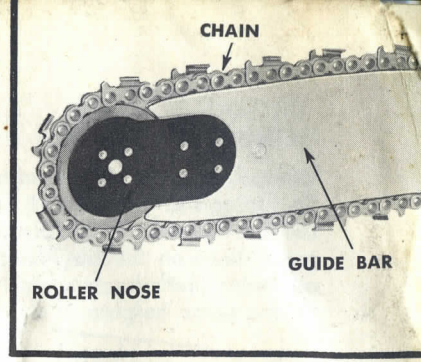
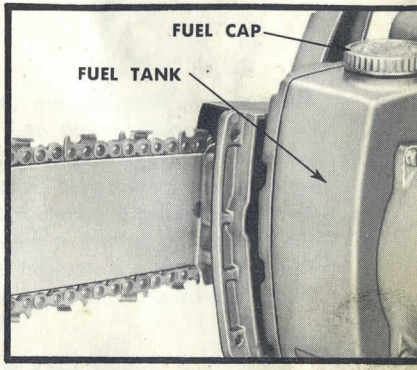
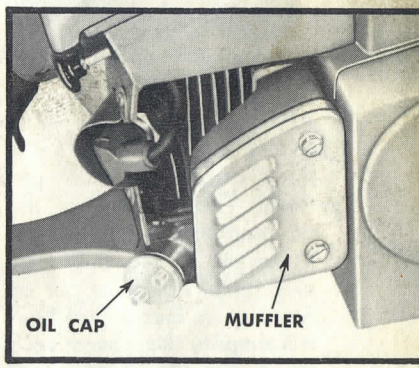
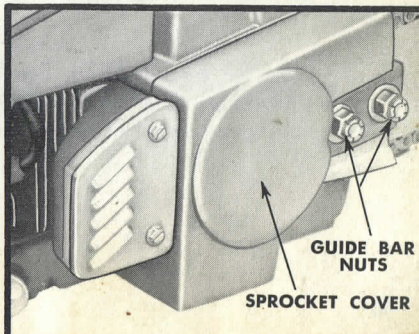

CHAIN
GUIDE BAR
ROLLER NOSE

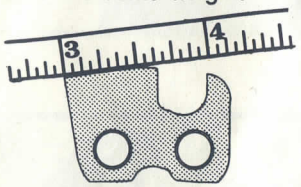

FUEL CAP
FUEL TANK

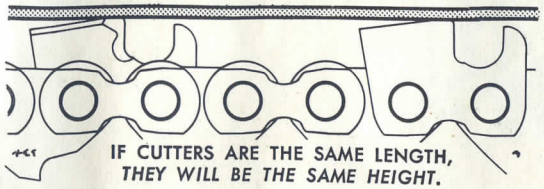

OIL CAP
MUFFLER


GUIDE BAR NUTS
SPROCKET COVER

FILING DEPTH Cont.

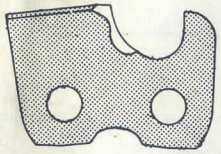
When filing for the depth of a cutter without the use of a file guide, place the file against the cutter face with about 1/5 of the file diameter above the cutter tooth. Exert pressure back against the cutter face. Do not press down on the file, exert pressure only on the forward stroke. File all cutter teeth back to the same length. They will then automatically be the same height.



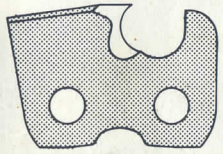


IF CUTTERS ARE THE SAME LENGTH, *THEY WILL BE THE SAME HEIGHT.*

This uniform filing is very important. (Teeth on a correctly filed chain are all the same length and are automatically the same height.) Chain with just a few cutters long (or high) or a chain with just a few cutters short (or low) will cause poor cutting and will put a strain on the chain. When replacing a cutter, make sure to file it back to the same length as the rest of the cutters in the chain. After filing, check your job to see if the cutting edge is straight up and down, that the cutters have no hook (filed too deep), and that there is no backslope (not filed deep enough).



BACK SLOPE — NOT FILED DEEP ENOUGH.

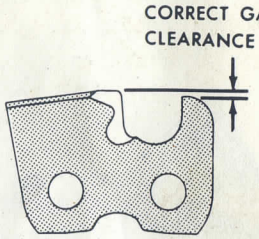


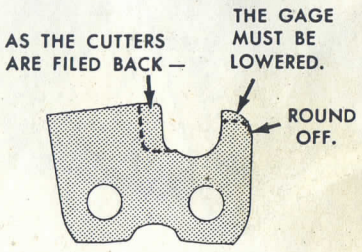
HOOK — FILED TOO DEEP.

FILING GAGES

After each sharpening of the chain, the gages should be filed with a flat file and should match the shorter and lower profile of the cutter teeth. This lowering of the gage will permit the teeth to bite into the wood. The difference in height of the depth gages, called gage clearance, has been set at the factory. The Remington Gage Set, NO. 48535 or 48536, will simplify this operation. The lead edges of the gages should be slightly rounded. Gage clearance for a .404 pitch chain should be a minimum of .025 and a maximum of .030.

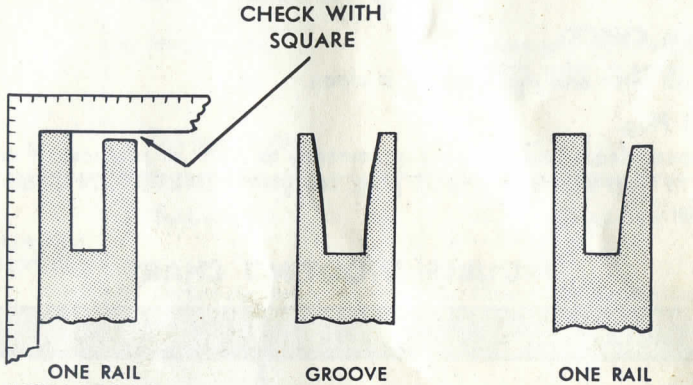
When cutting in dead, hard, or frozen wood, use a minimum gage clearance. Use more gage clearance when cutting green, unfrozen or soft wood.





GUIDE BAR

Grease roller nose at least twice daily. Keep guide bar oil holes free and clear of foreign material. Reverse your guide bar top for bottom every week; you will receive longer guide bar life just as you receive longer tire life on your car by rotating tires. Watch for uneven wear, where the guide bar rails are uneven or the groove worn to either one side or too wide. All of these defects will result in crooked cutting.



GOOD CARE = GOOD PERFORMANCE

1. Keep your chain well oiled with a mixture of 1/2 Kerosene and 1/2 **SAE #30** oil.

2. In cold weather kerosene makes the oil flow freely and in all other seasons it keeps the chain clean and free of pitch and sap. Use of this mixture for chain lubrication will give trouble-free performance of chain and guide bar the year round.

3. Check your chain often for chipped or damaged parts and replace them as necessary. Replacement parts are packed with your "Remington" chain.

4. A new chain should never be installed on a worn sprocket. Replace the sprocket to prevent drive link damage and possible chain breakage.

5. If chain becomes pinched in the cut, do not try to pry it loose by using the guide as a lever as this may cause chain stretch or breakage and possibly result in a bent or broken crankshaft.

TROUBLE SHOOTING DATA

WHAT TO DO IF ENGINE FAILS TO START . . . . .

Did you

- Turn the switch on?
- Use the choke?
- Use the correct fuel mix—16 to 1?

IF SO: CHECK:

The air filter and make sure it is clean.

Spark Plug.

Remove, clean, and set the gap correctly to .025" or replace. If engine fails to start with a new spark plug, see your REMINGTON Chain Saw Dealer.

TROUBLE SHOOTING CHART

TROUBLE	POSSIBLE CAUSE	REMEDY
IGNITION	1. Spark plug dirty.	1. Clean, reset to .025" opening or replace.
	2. Spark plug or switch wire shorted.	2. Find bare spot on wire or break in wire—repair or replace.
	3. Switch, high tension lead, condenser, coil magneto rotor, points, engine timing.	3. See your Remington Chain Saw Dealer for complete ignition check.
FUEL SYSTEM:	1. Carburetor not getting gas.	1. Check for leaky or clogged fuel pick-up or loose gas line. Replace line if leaking.
	2. Incorrect carburetion.	2. Sticky needle valve—readjust low and high speed adjusting screw. Clean dirty air filter. Set adjusting screws and start.
	3. Engine flooding.	3. Remove spark plug and pull starter several times with adjusting screws closed.
	4. Carburetor not getting air.	4. Remove and clean air filter.
	If after this is done, the engine will not start, see your REMINGTON Chain Saw Dealer.	

TROUBLE	POSSIBLE CAUSE	REMEDY
CHAIN CUTS OUT OF LINE	1. Dull chain.	1. Keep chain sharp.
	2. Chain not sharpened correctly.	2. Sharpen all cutters the same.
	3. Cutter gage depth not correct.	3. Correct gage clearance.
	4. Worn guide.	4. Rotate your guide regularly. Have guide reworked or replaced.
	5. Damaged guide.	5. Replace guide.
CHAIN NOT RECEIVING OIL	1. Tank empty.	1. Fill oil tank and pump oiler until oil appears.
	2. Oil line clogged.	2. Clear guide bar oil holes of foreign material.

CAUTION

WHEN REPLACING ANY FASTENERS THAT HAVE BEEN REMOVED, BE SURE TO TIGHTEN THEM SECURELY

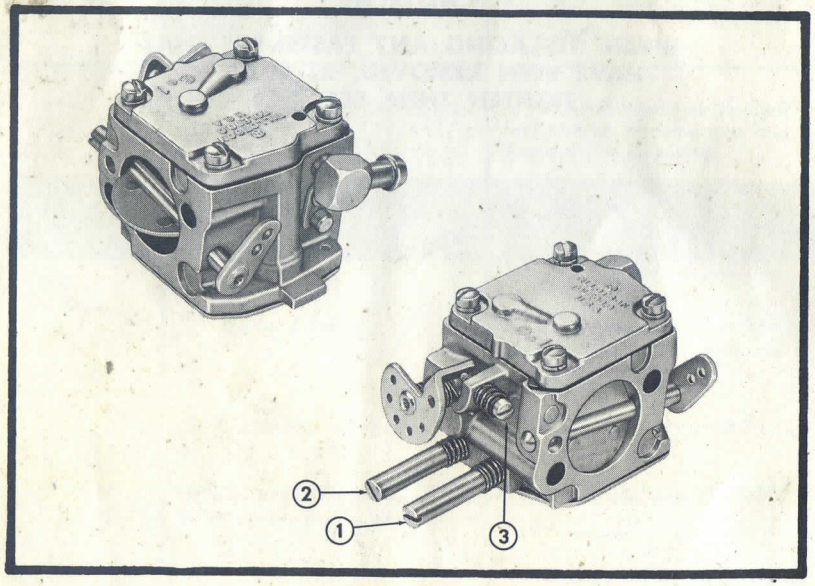
SERVICE SECTION

CARBURETOR

When attempting to adjust the carburetor, be sure that the air filter is clean and properly installed over the carburetor. The proper setting for the carburetor at free speed is obtained with the guide bar and chain assembled.

INITIAL ADJUSTMENT

1. Seat or carefully close but do not jam the high speed adjusting screw (1) and the low speed adjusting screw (2).
2. Back out or open the high speed needle (1) one full turn.
3. Open the idle speed adjusting screw (2) one full turn.
4. Pull out button to choke position.
5. Open throttle and start engine.
6. Maneuver choke until engine runs steadily in one position.
7. Adjust the throttle control screw (3) until chain stops moving.
8. Allow engine to warm up for two or three minutes.



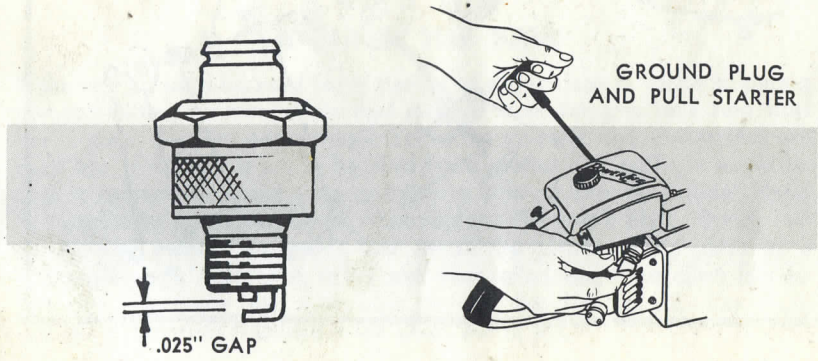
FINAL ADJUSTMENT

1. Adjust the low speed screw (2) for maximum consistent idling speed.
2. If necessary, back off throttle adjusting screw (3) until the chain stops moving.
3. Run engine full speed to burn excess fuel in crankcase approximately five to ten seconds.
4. With engine running at full throttle, slowly very slowly, turn high speed needle to the right or left until the engine alternates between a low four cycle sound and a high two cycle sound. This is an interrupted two cycle-four cycle effect commonly called "breaktone."
5. Open the high speed needle (1) until the high two cycle sound just disappears.
6. Release the throttle and let the engine idle for approximately ten seconds.
7. Squeeze the throttle quickly to full throttle. If engine accelerates to full speed without hesitation, the carburetor is properly adjusted. If engine dies or hesitates when throttle is quickly squeezed, open the high speed needle a little more. Back out the idle adjusting screw (3) only enough to give proper acceleration, normally 1/16 of a turn.
8. The carburetor is now adjusted.

Carburetor adjustment may be required especially on a new engine after ten or fifteen hours, during the break-in period. When readjusting, repeat all the previously outlined steps.

IGNITION

To further determine whether failure to start is due to faulty ignition system, remove the spark plug, clean it and set the gap correctly at .025". Ground the plug, which has been cleaned and correctly set, to the saw frame. Do this by placing the hex portion of the spark plug against the bare metal of the saw, with spark plug wire on the plug. Keep fingers away from the bare wire to avoid shock. Pull the starter rope. The spark plug should put out a blue hot spark. If no spark is seen, the trouble is in the ignition system. A faulty magneto is indicated and the best remedy is to have it checked by your Remington Chain Saw Dealer.



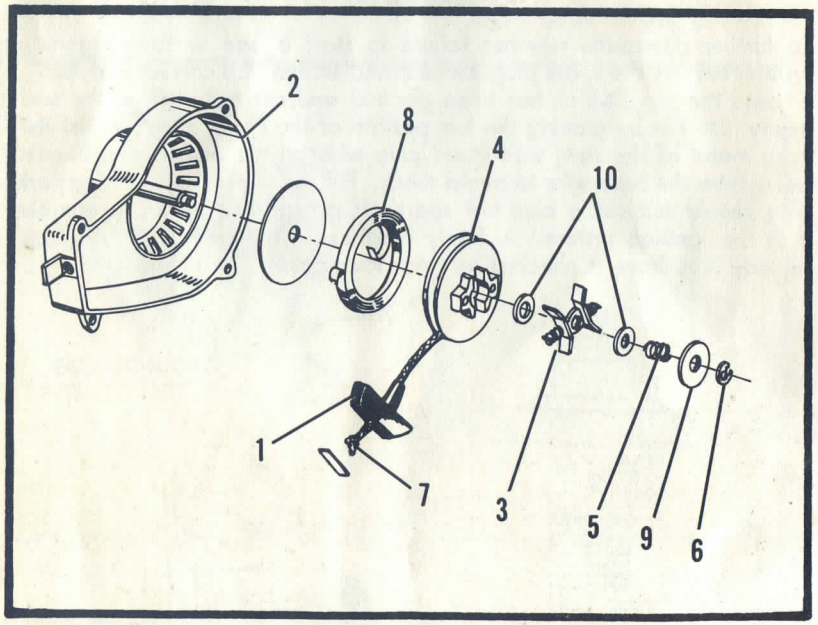
STARTER

STARTER DISASSEMBLY

Should it become necessary to service the starter, remove the four screws holding the housing to the frame.

1. Remove retainer ring (6). Brake retainer washer (9). Brake spring (5) and fiber washer (10).
2. Remove friction shoe assembly (3). Note direction in which this assembly is installed. It must be reinstalled in the same manner upon reassembly.
3. Remove fiber washer (10). Untie knot in cord (7) and remove cord retainer and handle (1).
4. Release rewind tension by turning pulley (4) in counterclockwise direction.
5. Lift pulley (4) from housing. When lifting pulley (4) from housing, be sure rewind spring (8) is disengaged from pulley.
6. Grip rewind spring (8) with pliers and remove.
7. If spring is to be re-used clamp spring in a vise, or, tape or wire the spring to prevent unwinding, or, install in new housing as instructed in starter assembly Step 2.

   Hold onto broken spring with pliers and release spring in scrap barrel. (Beware of spring expansion).



STARTER ASSEMBLY

1. Lay rewind assembly on bench and remove outer steel spring holder from new spring while holding spring with pliers.
2. Replace rewind spring (8) in starter housing (2) with outside loop over pin and loop of spring facing clockwise.
3. Adjust inner loop of spring, bending if necessary, to within 1/16" of center post.
4. To install rewind cord, tie a single knot (if cord does not have clip on end a single knot is necessary; if cord does have a clip on end, no knot is necessary) and thread through hole provided in pulley (4) with knot facing upward.
5. Wind cord on pulley in a clockwise direction four and three-quarter (4¾) turns. Place the remaining cord about ten inches which is now around pulley, in the recess slot of pulley on the notch outside diameter of pulley and coil around the post of the pulley. Place pulley (4) over center pin, being sure inner coil of spring is engaged in slot of pulley.
6. To place tension on spring, turn pulley (4) 3½ to 4 turns in clockwise direction and thread cord through eyelet in starter housing (2), the starter handle and cord retainer. Tie double knot.
7. Install fiber washer (10). Note: Always use new fiber washers when reassembling.
8. Install friction shoe assembly with the leading edge marked with a line, facing outward and protruding or camming out with the first few inches of pull on the starter rope.
9. Install fiber washer (10), brake spring (5), brake retaining washer (9) and retainer ring (6).
10. Replace the starter housing, align the two locating lugs with the holes in the starter housing.

STORING THE SAW

If the saw is not to be used for a period of a few days or more or during the non-cutting months, drain fuel mixture from the gas tank and start the engine. Run the engine until fuel in the gas line and carburetor are used up. If the saw is not to be used for a matter of months, it would be wise to remove the spark plug and pour a little oil into the engine. Shake the engine to distribute the oil, then replace the spark plug. During the non-cutting months the guide bar should be protected by cleaning it thoroughly with detergent, dried and then oiled and kept oiled for the duration to prevent rust. Also coat the sprocket with the oil. The chain will not deteriorate if stored in oil when not in use.

Notes

PL-4

SPECIFICATIONS

Bore and Stroke	1.81" x 1.38"
Chain, Free Speed	4500 FPM
Chain Pitch	.404" Super Silver
Compression Ratio	10:1
Displacement	3.6 Cu. In.
Engine Free Speed	9500 RPM
Engine Weight	12½ Lbs.
Fuel Tank Capacity	1.3 Pts.
Guide Bar Capacities	15", 19", 23"
Magneto Timing (B.T.D.C.)	30°
Oil Tank Capacity	0.4 Pts.
Spark Plug Gap	.025"
Spark Plug	Remington No. 62278
Breaker Point Setting	.015"

Remington

DUPONT

No. 64412
REVISED 12/64