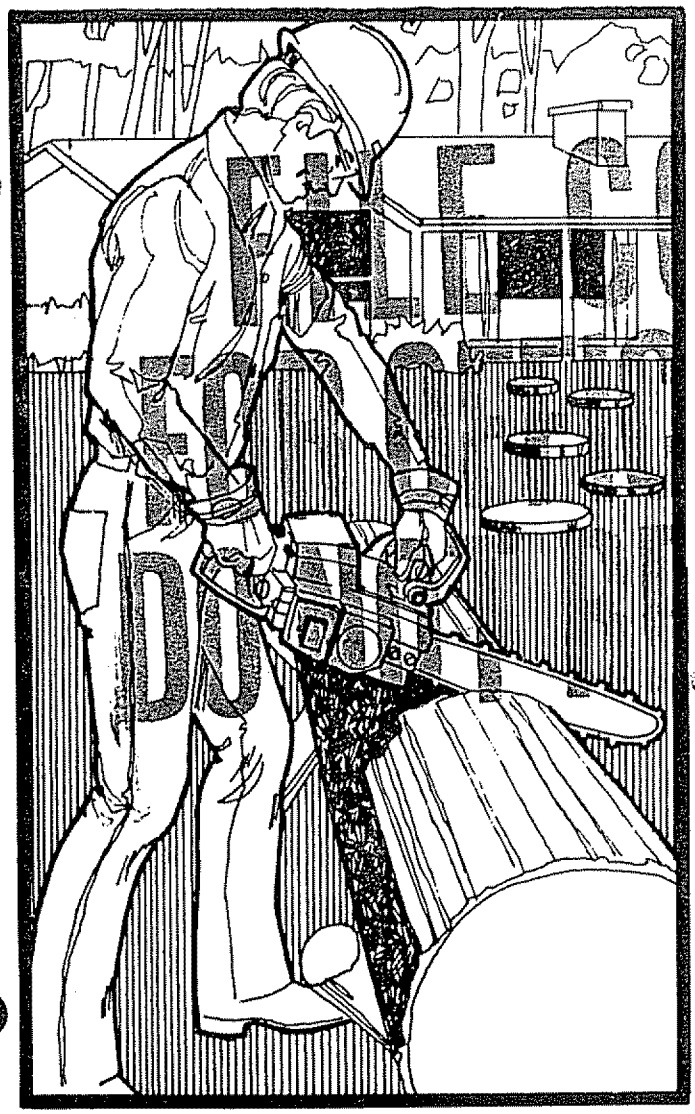


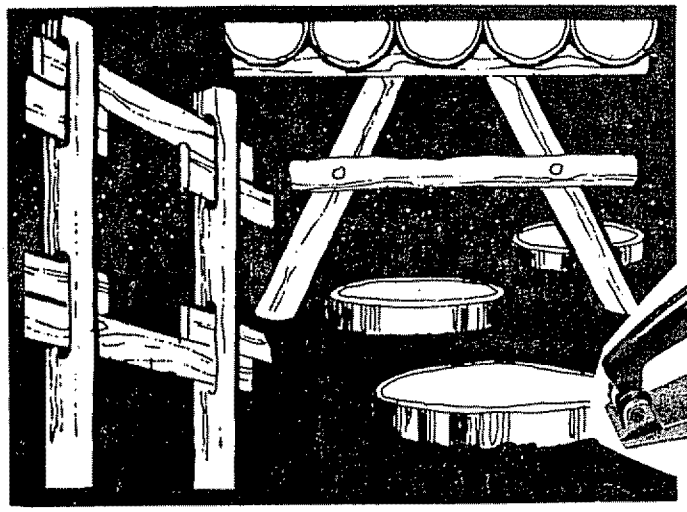
Sears

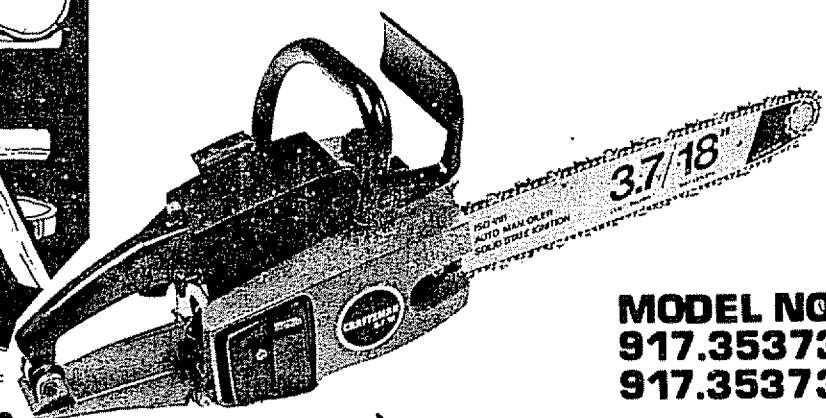
- Assembly
- Operation
- Maintenance
- Repair Parts

OWNER'S MANUAL

CRAFTSMAN®

3.7 CHAIN SAW OR 3.7PS CHAIN SAW





MODEL NOS.
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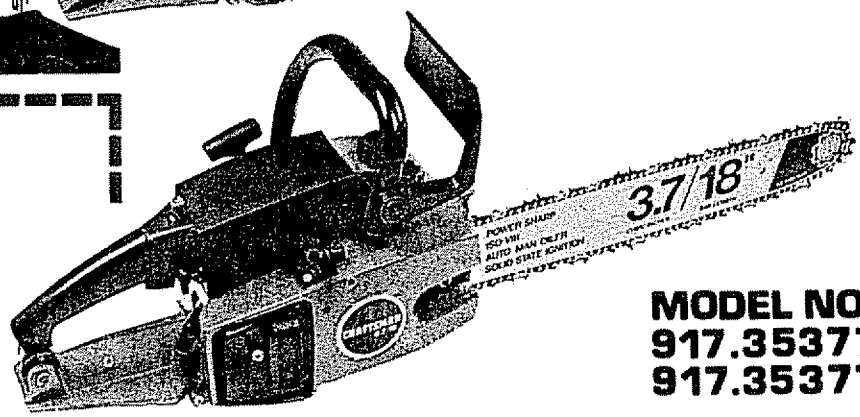

MODEL NOS.
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917.353771

IMPORTANT:
READ RULES FOR SAFE OPERATION AND INSTRUCTIONS CAREFULLY

Sears, Roebuck and Co., Chicago, Ill. 60684, U.S.A.

MODEL NUMBER_____
SERIAL NUMBER_____
THE MODEL AND SERIAL NUMBERS WILL BE FOUND ON THE MODEL PLATE LOCATED BELOW "ON-OFF" SWITCH.

YOU SHOULD RECORD BOTH MODEL AND SERIAL NUMBERS AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

CONGRATULATIONS...

on your purchase of a Craftsman 3.7 Chain Saw. It has been designed, engineered and manufactured to give you dependability and performance. Should you experience any problem you cannot easily remedy, please contact your nearest Sears, Roebuck and Co. store. They have competent, well-trained technicians and the proper tools and parts to service or repair this unit.

Please read and retain this manual. Following the "Rules for Safe Operation", "Assembly", "Operation", and "Maintenance" instructions will help you achieve a long, safe, service life for your Chain Saw.

ENJOY USING YOUR NEW CRAFTSMAN 3.7 CHAIN SAW TO MAKE...

LOG DISCS...

for paths, patios, steps. Simplest of all Chain Saw projects. Cut 4" thick slices from a log at least 10" in diameter. Treat with wood preservative and place on a firm bed of crushed rock.

FIRE WOOD...

Your National Forest Ranger may permit removal of dead or downed timber for a modest fee -- a clean forest is less susceptible to fires and disease. Quick burning evergreens will split easily to kindle slower burning hardwoods. Measure your fireplace before you start -- logs don't bend.

FENCES...

make good neighbors, especially the rustic split rails so suggestive of the "good old days". Use cedar or redwood, or any good splitting wood. Split rails with an ax and wedges, notch and fit so your fence is self supporting.

TABLES AND BENCHES...

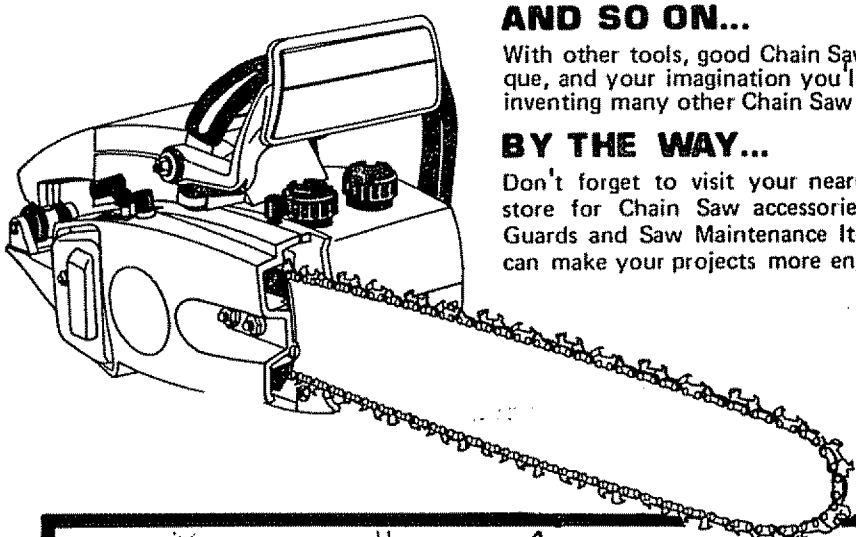
from half logs, slices or planks drilled and pegged. Legs of smaller diameter logs are whittled, fitted and wedged into drilled tops.

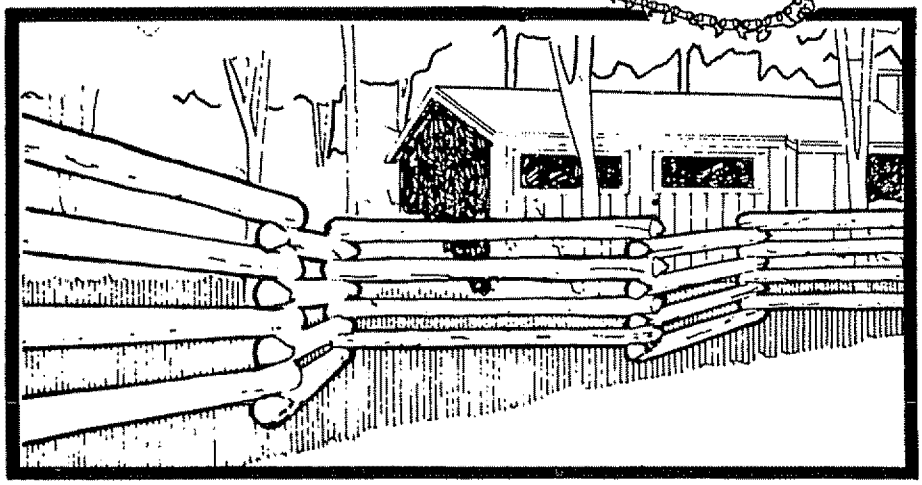
AND SO ON...

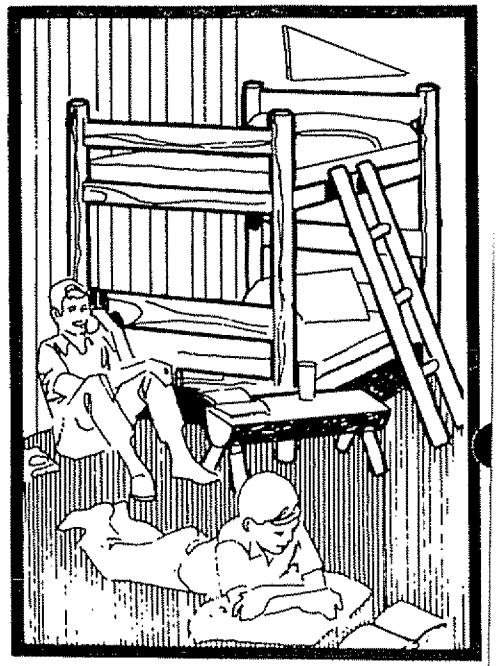
With other tools, good Chain Saw technique, and your imagination you'll soon be inventing many other Chain Saw projects.

BY THE WAY...

Don't forget to visit your nearby Sears store for Chain Saw accessories, Chain Guards and Saw Maintenance Items that can make your projects more enjoyable.







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LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS — ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

FULL 90-DAY WARRANTY

For 90 days from the date of purchase, Sears will repair any defect in material or workmanship in this gasoline chain saw at no charge.

If the chain saw is used for commercial or rental purposes, the warranty applies for only thirty days from the date of purchase.

Warranty service is available by contacting the nearest Sears store or Service Center throughout the United States.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co.
Sears Tower
BSC 41-3
Chicago, Ill. 60684

SPECIAL NOTE

In some states, such as California, laws covering chain saws (having internal combustion engines), when used in areas covered by forests, brush or grass (excluding residential lawns and landscaped areas), necessitate fitting the saw's muffler with an additional heat shield to reduce muffler surface temperatures. Sears offers such a shield as an optional accessory kit. Muffler Heat Shield Kit Catalog No. 32-36178 can be purchased at your Sears Service Center. Check with your state conservation or forestry department about their regulations before operating this Sears Chain Saw on any forest-covered, brush-covered or grass-covered areas. Oregon and Washington have similar requirements with respect to forest-covered lands.

RULES FOR SAFE OPERATION

1. **KNOW YOUR SAW.**
   Use your Owner's Manual to become familiar with your Saw and proper cutting methods before you begin cutting.
2. **LIMIT YOUR SAW'S USE TO TRAINED ADULTS.**
   Never allow children to operate your Saw or adults lacking proper instruction.
3. **PLAN AHEAD.**
   Keep onlookers and pets a safe distance away when starting or operating your Saw.

   USE EYE, EAR, HEAD, HAND, AND FOOT PROTECTION and never wear loose clothing or jewerly.

   Take time to carefully study your sawing operation, planning cuts required and clearing retreat paths. Be alert to conditions which might alter your plans as you are cutting.
4. **TAKE PRECAUTIONS AGAINST FIRE.**
   Take fire fighting equipment with you when operating the Saw in dry areas.

   Handle fuel with care:
   a. Use approved gasoline and oil containers and store them away from heat or open flame, out of the reach of children.
   b. Turn the engine off and let your Saw cool before removing the fuel tank cap and refueling your Saw.
   d. Do not smoke while operating or refueling your Saw.
   d. Refuel your Saw outdoors in a clear area.
   e. Wipe your Saw clean of any spilled oil or fuel and move away from the fueling area before starting your Saw.

   Never run the Saw without the muffler or muffler screen.
5. **RESPECT YOUR SAW.**
   Do not start or run Saw indoors to avoid Carbon Monoxide poisoning from exhaust gases.

   When starting Saw, pick an area clear of loose gravel or flammable debris, hold Saw firmly to the ground without letting the Guide Bar touch anything, and start your Saw without assistance.

   Take a position uphill of expected fall or roll of logs, then practice cutting on fallen logs before felling trees. Take special care when cutting wood that is under stress.

   Don't operate your Saw when you're tired. Fight carelessness and avoid distractions.

   Cut wood only.

   When sawing, maintain a firm grip with both hands, thumbs opposing fingers and a secure footing. Do not saw on ladders, platforms or in any other position which might endanger your balance and thus cause loss of positive Saw control.

   Keep hands, body and clothing away from the moving chain.

   Stop Saw Engine and wear heavy gloves when handling Saw Muffler area or Chain.
6. **LOOK OUT FOR KICKBACK.** When the moving chain or the tip of the guide bar is stubbed or pinched in a cut, the bar and chain can be thrown up and back or down and back with considerable force. THIS IS KICKBACK!

   Avoid touching limbs or other objects with the tip of the Guide Bar while the chain is moving.

   Stand slightly to the side rather than directly behind Guide Bar.

   Do not reach above shoulder height or outward beyond your point of positive Saw control as you cut.

   Avoid striking cement or metal, etc. buried in the wood.

   Obtain full chain speed before cutting or resuming previous cut. Start cutting with front of Saw Frame against log or tree. Never use your Saw for boring.

   Plan cutting to avoid situations which might cause Guide Bar to be pinched in a cut. If, however, your Saw does become pinched in a cut, STOP THE ENGINE BEFORE REMOVING IT.
7. **MAINTAIN SAW IN GOOD WORKING ORDER.**
   Keep your entire Saw clean of sawdust, chaff, oil or fuel and keep handles clean and dry.

   Keep oil and fuel caps, bolts and screws tight.

   Make all adjustments (except carburetor) with engine stopped and spark plug disconnected.

   Adjust carburetor so that chain stops when throttle trigger is released.

   Keep chain sharp and properly tensioned.

   Stop your Saw, inspect and repair if necessary after chain strikes a foreign object.

   All service other than that included in this Manual should be performed by a competent technician.
8. **TRANSPORT AND STORE SAFELY.**
   Stop your Saw engine before setting it down or carrying it to another location.

   Carry stopped Saw with Guide Bar behind (preferably covered) and muffler away from your body.

   Cool your Saw completely and cover Guide Bar before transporting in any vehicle.

   Drain oil and fuel tank and run Saw engine to use remaining fuel, then cool completely before storing in any enclosure.

NOTE: MODEL 917.353770 IS ILLUSTRATED THROUGHOUT THIS MANUAL WHERE INSTRUCTIONS APPLY TO ALL MODELS.

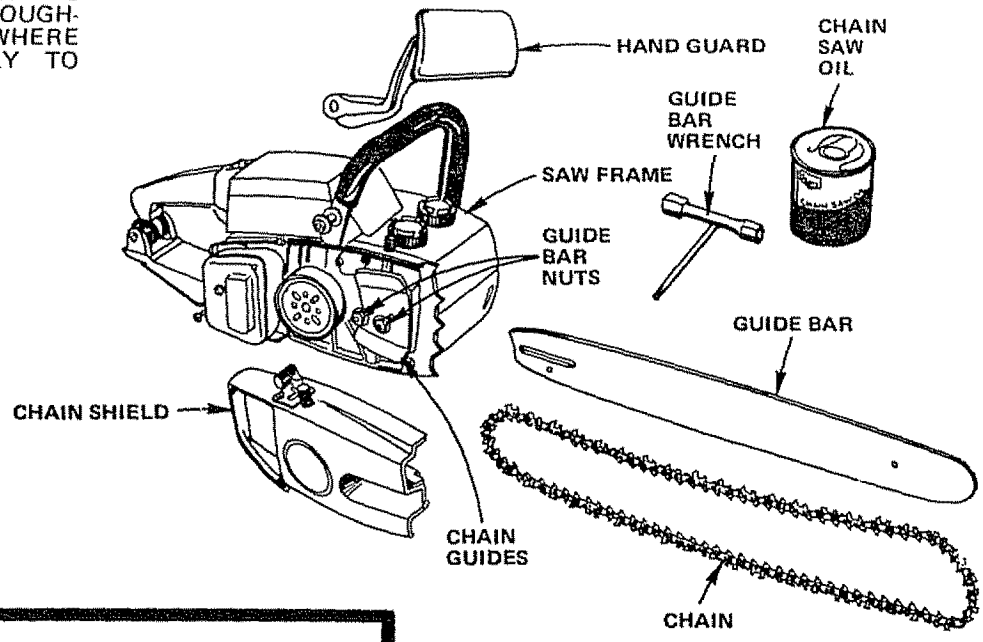


FIGURE 1

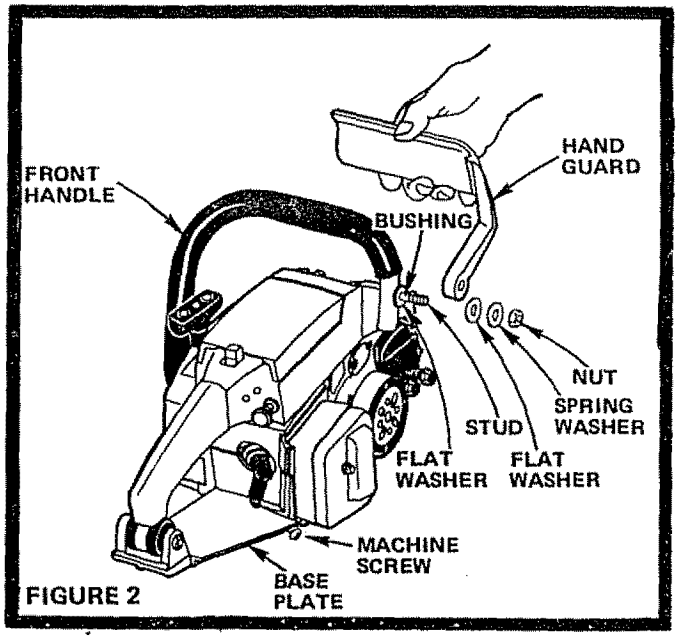


FIGURE 2

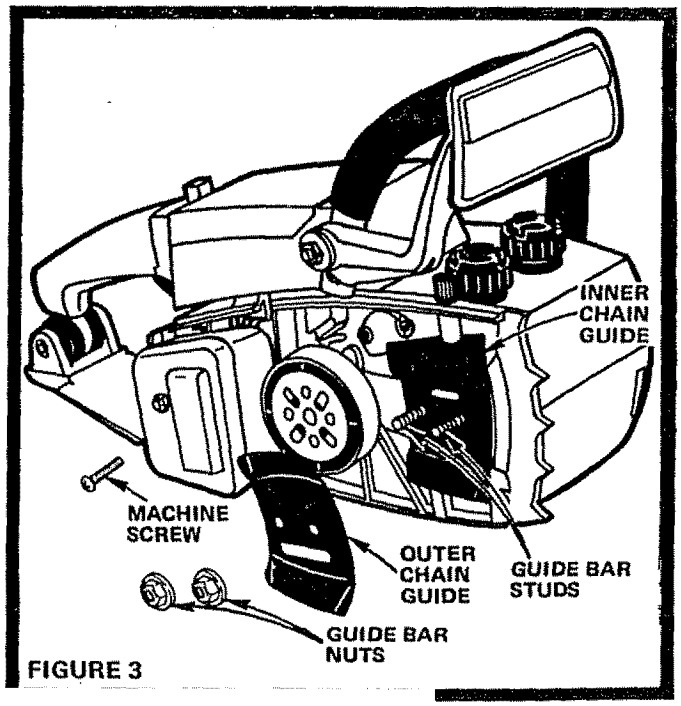


FIGURE 3

ASSEMBLY

YOU SHOULD HEAR A RATTLE INSIDE THE SAW FRAME; FUEL AND OIL FILTERS ARE ON FLEXIBLE HOSES.

WEAR HEAVY GLOVES WHEN HANDLING SAW CHAIN.

1. Identify the Saw parts (Fig. 1) as you remove them from the shipping carton. NOTE: THE GUIDE BAR WRENCH (FURNISHED WITH YOUR SAW) AND A 7/16"WRENCH ARE THE ONLY TOOLS YOU WILL NEED TO ASSEMBLE AND ADJUST YOUR SAW.
2. Soak Chain in light oil for a few minutes before assembly.

INSTALLATION OF HAND GUARD

1. Remove Nut, Spring Washer and Flat Washer from Stud in Front Handle (Fig. 2).
2. Assemble Hand Guard over Bushing and against Flat Washer. Next, assemble remaining Flat Washer and Spring Washer. NOTE: CONCAVE SURFACE OF SPRING WASHER MUST FACE FLAT WASHER. Secure with Nut. Tighten Nut until Hand Guard is secure to handle. DO NOT OVERTIGHTEN. Hand Guard must move easily to fill fuel and oil tanks.

INSTALLATION OF BAR AND CHAIN

1. Using the Guide Bar Wrench, remove the two Guide Bar Nuts and Outer Chain Guide from Guide Bar Studs (Fig. 3).
2. Remove Machine Screw from Base Plate (Fig. 2).
3. Be sure upper and lower edges of Inner Chain Guide are bent TOWARD the Saw Frame (Fig. 3).

4. Place Guide Bar over Guide Bar Studs. NOTE:BAR GOES ON ONLY ONE WAY--NOTE CONTOUR OF BAR (FIG. 4). ALSO, THE SMALL ROUND HOLE COMPLETELY THRU THE BAR IS BELOW BAR SLOT.

5. Hold Guide Bar slightly away from the Saw Frame. Push Bar as far TOWARD the Chain Sprocket as it will go. Place Chain Drive Links around Chain Sprocket and in Guide Bar groove (Fig. 5). SHARP EDGES OF CUTTERS MOVE AWAY FROM THE SAW FRAME ON TOP OF THE GUIDE BAR (FIG. 5 - INSET).

6. Place Outer Chain Guide on Guide Bar Studs with upper and lower edges bent AWAY from the Saw Frame (Fig. 6-A).

7. (Fig. 6). Push Guide Bar against Saw Frame. (Fig. 6-A). Hole in Guide Bar should be centered in slot of Outer Chain Guide. It may be necessary to pull Bar forward.

8. (Fig. 6-B). Center Chain Tightener Block Pin in Slot of Chain Shield. To do this, turn Chain Tension Adjusting Screw.

9. (Fig. 6). Place Chain Shield onto Guide Bar Studs. Holding Chain Shield to Frame, turn Saw on its side (Fig. 6-C). Chain Tightener Block Pin must be in Hole of Guide Bar, in order to tension Chain (Page 4).

10. Set Saw upright (Fig. 7). Assemble Chain Shield to Saw Frame with Guide Bar Nuts. Assemble Machine Screw in rear corner of Chain Shield. NOTE: Tighten Machine Screw securely. Tighten Guide Bar Nuts FINGER TIGHT ONLY.

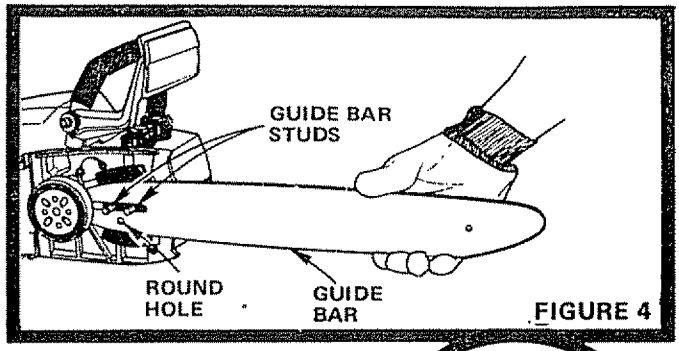


FIGURE 4

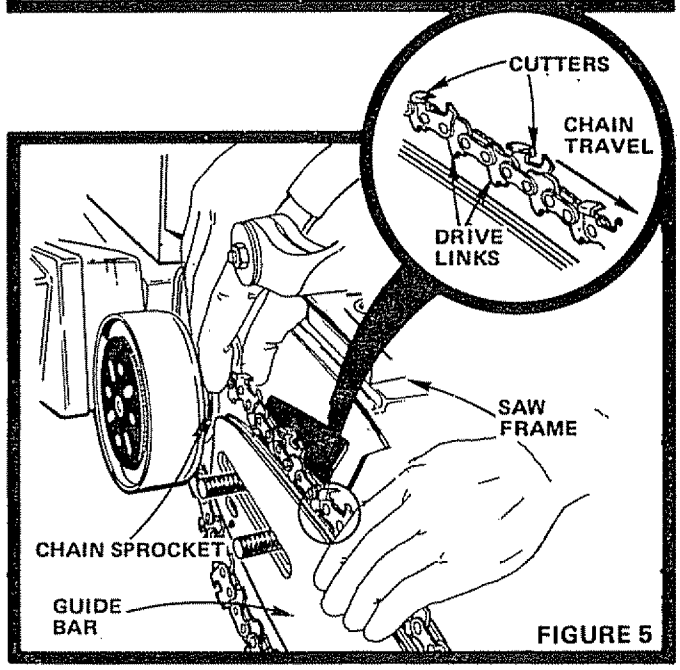


FIGURE 5

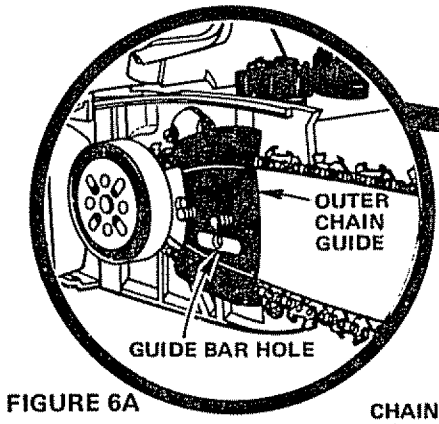


FIGURE 6A

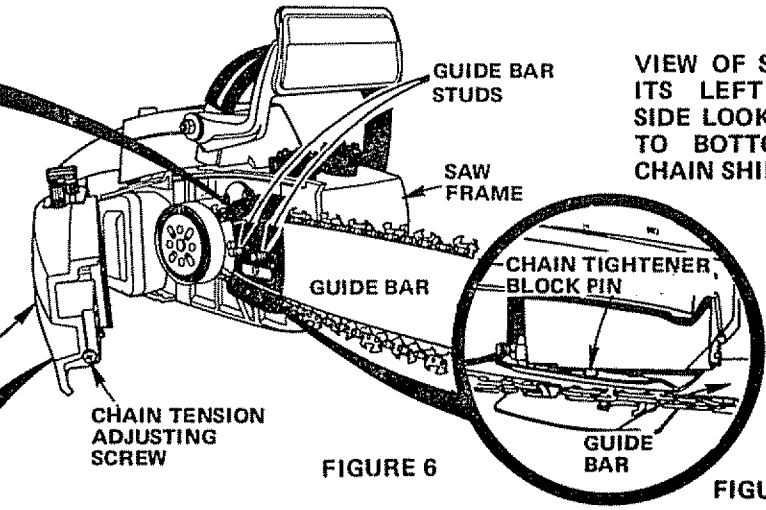


FIGURE 6

VIEW OF SAW ON ITS LEFT HAND SIDE LOOKING UP TO BOTTOM OF CHAIN SHIELD.

FIGURE 6C

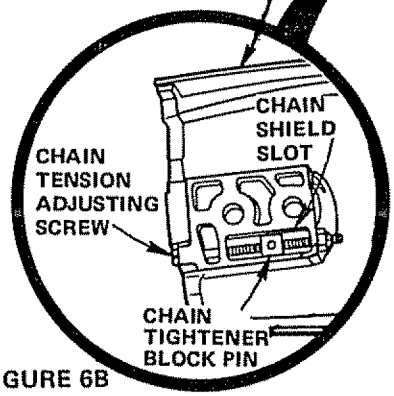
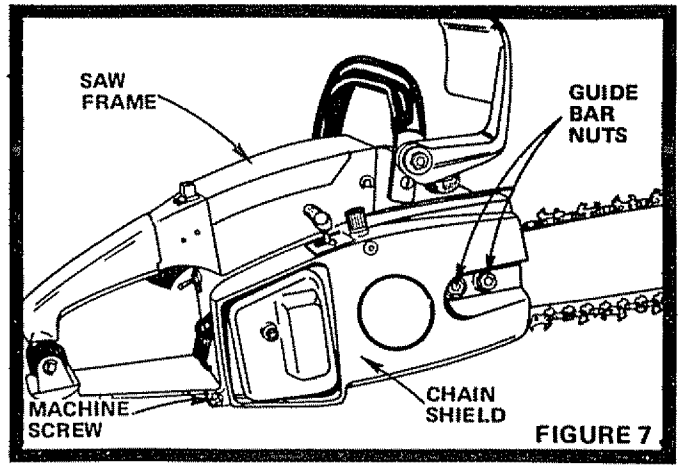


FIGURE 6B



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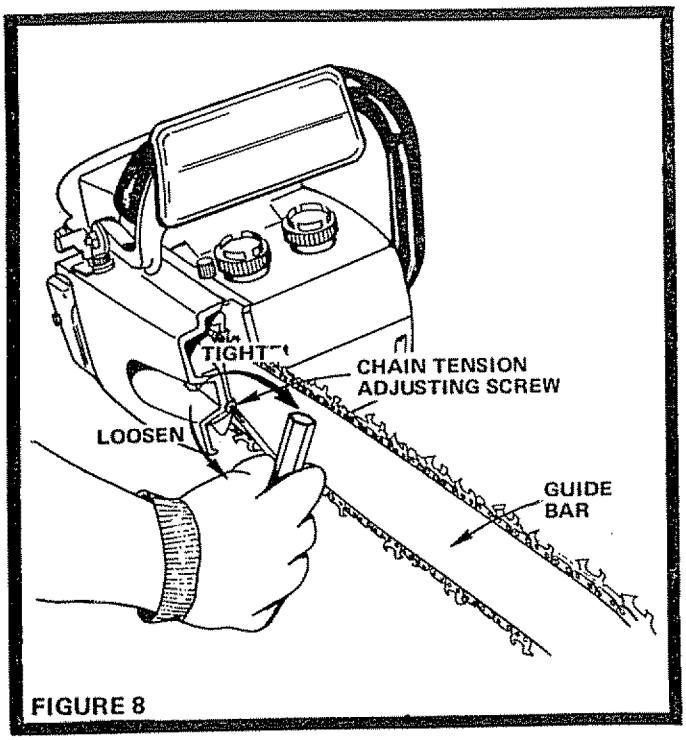

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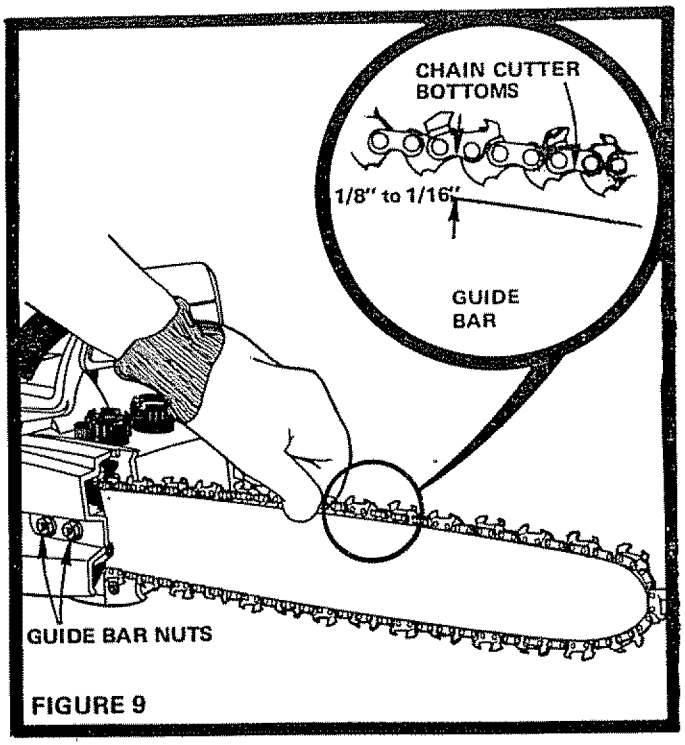


FIGURE 9

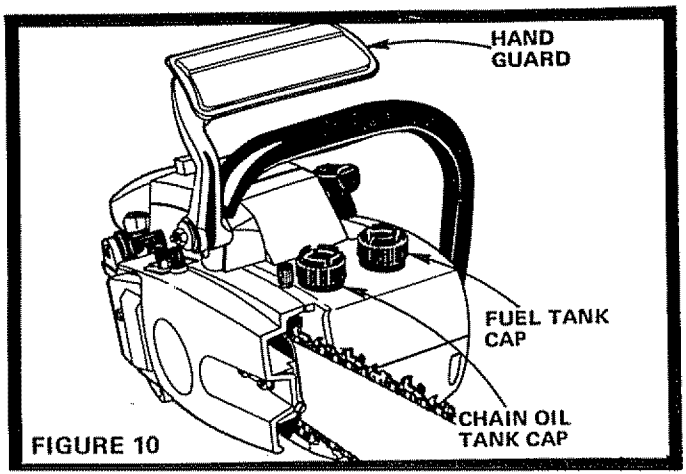


FIGURE 10

TENSION CHAIN

1. Hold end of Guide Bar up. Leave Guide Bar Nuts FINGER TIGHT ONLY. Turn Chain Tension Adjusting Screw clockwise until there is no droop or sag in the Chain (Fig. 8).
2. Still holding end of Guide Bar up, tighten Guide Bar Nuts securely (Fig. 9).
3. Test Chain tension by lifting Chain at the center of the Guide Bar. Bottoms of Cutters should raise approximately 1/8 inch above the Guide Bar (Fig. 9).
   a. If Bottoms of Chain Cutters can be lifted more than 1/8 inch above Guide Bar, LOOSEN GUIDE BAR NUTS. Turn Chain Tension Adjusting Screw clockwise to tighten tension, TIGHTEN GUIDE BAR NUTS and test again.
   b. If Bottoms of Chain Cutters cannot be lifted 1/16 inch above the Guide Bar, or if the Chain cannot be pulled easily around the Bar by hand, LOOSEN GUIDE BAR NUTS. Turn Chain Tension Adjusting Screw counter-clockwise to loosen tension, TIGHTEN GUIDE BAR NUTS and test again.

FILL CHAIN OIL TANK

1. Push Hand Guard to the rear for easier filling of Fuel and Oil Tanks (Fig. 10).
2. Fill Chain Oil Tank (Fig. 10) with Sears Bar and Chain Lubricant--suitable for use in any temperature. You may also use any good multi-grade automotive type oil. If used in temperatures below $0^{O}F$, thin oil with a small amount of kerosene (approximately 6 ounces per quart of oil). Tighten Cap securely. NOTE: THIS TANK IS FOR BAR AND CHAIN LUBRICATION ONLY.

MIX FUEL AND FILL FUEL TANK

MIX SAW FUEL IN AN AREA WITH ADEQUATE VENTILATION AND AWAY FROM HEAT OR FLAME.

1. Mix fuel. Prepare only enough to last for one or two days cutting.
   a. Use fresh Regular Grade Gasoline leaded or unleaded, however, DO NOT SWITCH TO LEAD-FREE GASOLINE IF INITIAL OPERATION USED LEADED GASOLINE. Do not use Premium Grade or White Gasoline. Mix in a ratio of 16 to 1 with Sears Chain Saw Engine Oil or SAE 30 non-detergent oil for 2 cycle air cooled engine fuel mixing.

Gasoline	Oil
1 gallon	8 ounces (1/2 pint)
2 gallons	16 ounces (1 pint)
2 - 1/2 gallons	20 ounces (1 - 1/4 pints)
5 gallons	40 ounces (1 quart + 1/2 pint)

   b. Pour half of the gasoline into a clean container. Add all of the oil and shake or stir vigorously. Add remainder of the gasoline and shake or stir again. When preparing fuel mixture in low temperatures, thin the oil with some of the gasoline before adding it to the gasoline. NOTE: NEVER MIX FUEL IN THE CHAIN SAW FUEL TANK.
2. Fill Fuel Tank (Fig. 10). NOTE: DO NOT OVERFILL. ALLOW 3/4 INCH FOR EXPANSION. Tighten Cap securely.

KEEP THE HANDLES DRY, CLEAN OF OIL OR FUEL MIXTURE.

OPERATION

STARTING

MOVE CHAIN SAW AT LEAST 10 FEET AWAY FROM FUELING POINT.

Make sure your Saw is fueled and Chain Oil Tank filled properly (Page 4).

Set the Automatic Oiler Metering Knob at 1 - 1/2 turns open (counterclockwise). Press Manual Oiler Pump Button several times to force oil lubrication onto Bar and Chain (Fig. 11).

Move "ON-OFF" Switch to "ON" position (Fig. 11).

Squeeze Throttle Lever and push in on Throttle Detent (Fig's. 11 and 12).

Push Compression Release Button down and back to latch in this position (Fig. 12).

Pull Choke out completely (Fig. 11).

TAKE PROPER STARTING POSITION WITH SAW ON THE GROUND (IN A DEBRIS-FREE AREA) RIGHT FOOT IN REAR HANDLE AND LEFT HAND ON FRONT HANDLE (FIG. 13).

Pull Starter Handle slowly until a slight resistance is felt (between 2 and 4 inches) then finish the pull sharply. Repeat as necessary, holding Starter Handle as starter recoils avoiding a free "snap" rewind. NOTE: DO NOT PULL STARTER HANDLE MORE THAN 2 - 1/2 FEET TO AVOID CORD DAMAGE.

When Saw fires, push Choke half way in to prevent Engine "flooding".

When engine starts, squeeze Throttle Lever fully to release Throttle Detent and Compression Release Button. The Saw is now at IDLE--THE CHAIN SHOULD NOT BE MOVING.

IF CHAIN DOES MOVE WITH SAW AT IDLE, THE CARBURETOR MUST BE ADJUSTED (PAGE 12).

Push Choke in as engine warms or as engine begins to labor from overrich mixture.

THE MUFFLER AND IMMEDIATE AREA BECOME HOT WHEN OPERATING YOUR SAW ENGINE.

WARM ENGINE STARTING

nce the engine is warm, choking is usually not necessary to start. Choking a warm engine or over-choking a cold engine ill cause flooding.

HOT FUEL STARTING

VAPOR LOCK CONDITIONS)

hot weather (above 90°F.) if engine is difficult to restart ter refueling, or shortly after being shut-off, it may be the sult of vapor lock. This condition will be minimized by ing gasoline for the fuel mixture that has been correctly ended for the season.

this VAPOR LOCK CONDITION should occur the follow- g procedures will minimize engine restart problems.

. Move "ON-OFF" Switch to "ON" position (Fig. 11).

. Squeeze Throttle Lever and push in on Throttle Detent (Fig's. 11 and 12).

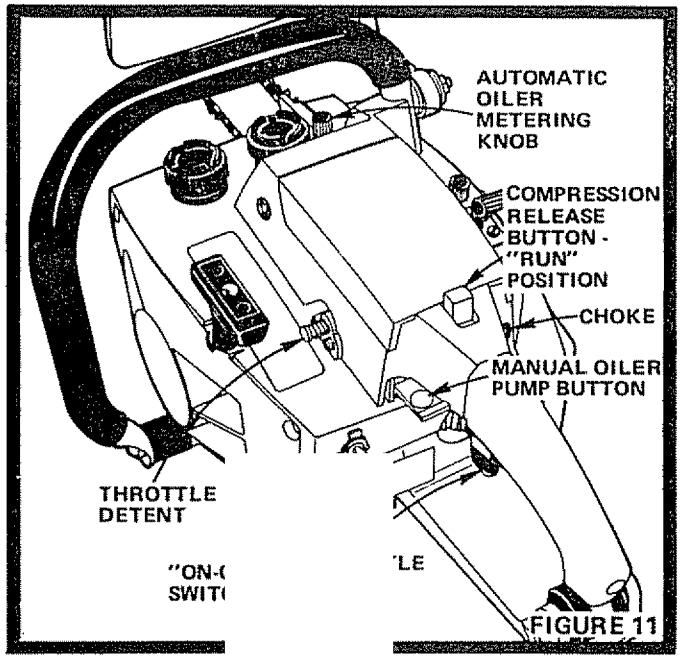


FIGURE 11

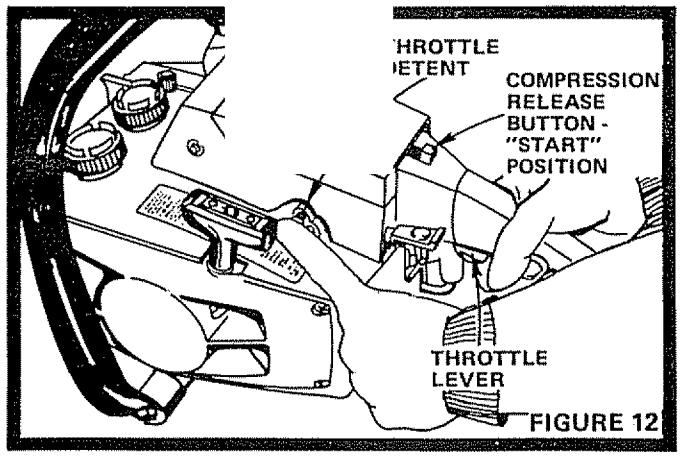


FIGURE 12

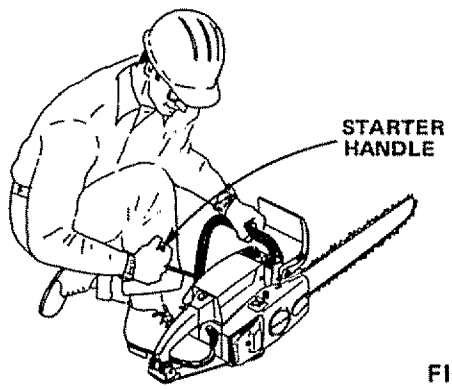


FIGURE 13

3. Push Compression Release Button down and back (Fig. 12).

4. Pull Choke out as far as it will go (Fig. 11).

5. Pull Starter with short, rapid movements until Engine fires. Push Choke halfway "IN" and continue starting procedure until engine runs.

6. Hold at full Throttle and gradually push Choke fully in. A SHORT PERIOD OF ENGINE OPERATION AT "HALF CHOKE" MAY BE REQUIRED TO CLEAR VAPOR FROM SYSTEM.

STOPPING

Flip "ON-OFF" Switch to "OFF" position (Fig. 11).

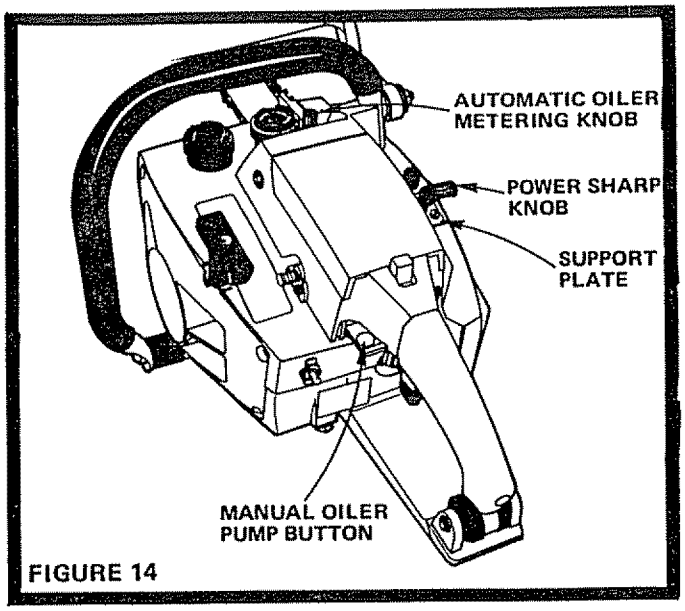


FIGURE 14

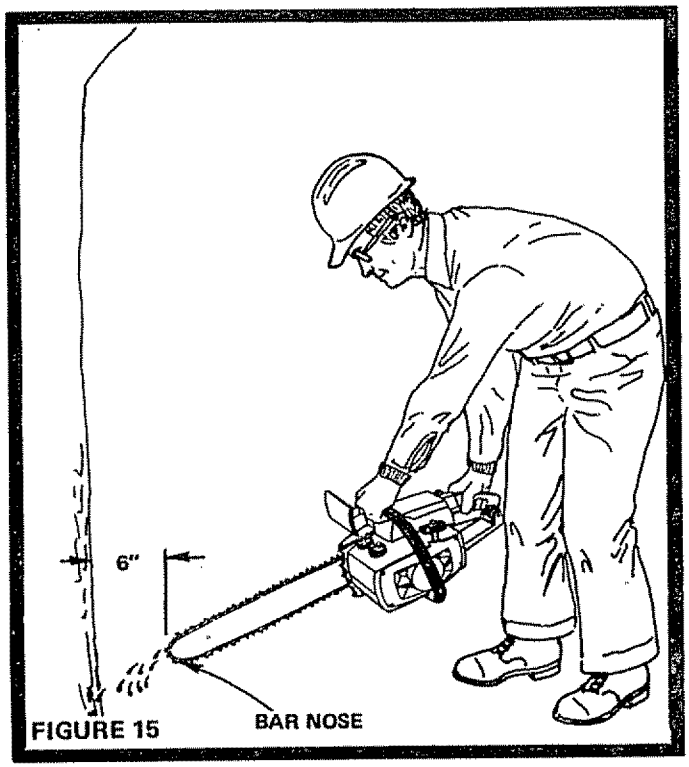


FIGURE 15

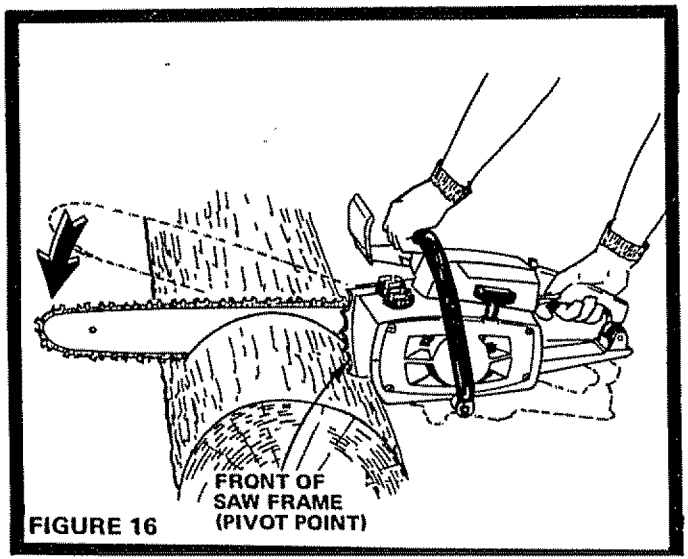


FIGURE 16

USING YOUR CHAIN OILING SYSTEM

1. Press the Manual Oiler Pump Button often during the first few minutes of operation even if you are not cutting wood (Fig. 14).

2. The Automatic Oiler Metering Knob setting at 1 - 1/2 turns open is for green wood; if seasoned hard wood is being cut, more oil will be required -- turn Knob counterclockwise to increase oil flow (Fig. 14).

3. As you cut wood, especially if Saw and oil are cold, use the Manual Oiler Button to temporarily increase the amount of oil delivered to the chain. Check oil level as you cut by pressing Manual Oiler Button. Less resistance indicates Chain Oil Tank needs refilling.

4. Keep Chain Oil Tank full. YOU CAN EXPECT TO USE ALMOST ONE TANK OF CHAIN OIL FOR EACH TANK OF FUEL USED.

CHECK BEFORE YOU CUT

✓ IS THE CHAIN TENSIONED PROPERLY? A chain can hammer itself to pieces if too loose -- and burn up if too tight! (See page 4).

✓ IS THE POWER SHARP KNOB IN STORAGE POSITION? Knob should be in the far right hand position in Support Plate (Fig. 14).

✓ ARE THE CHAIN AND BAR GETTING ENOUGH OIL? Throttle up to cutting speed for a few seconds holding Bar Nose approximately six inches from test surface. Enough oil should be thrown from chain to mark test surface (Fig. 15). Open Automatic Oiler Metering Knob farther if necessary.

⚠ **DO NOT ALLOW BAR NOSE TO TOUCH TEST SURFACE.**

✓ ARE "ALL SYSTEMS GO"? If your Saw isn't performing properly please check our handy "Trouble Shooting" section on pages 16 and 17.

USING GOOD SAWING TECHNIQUE

Practice cutting a few limbs or small logs to get the "feel" of your Saw using Good Sawing Technique.

⚠ **USE A FIRM GRIP (THUMBS OPPOSING FINGERS) WITH LEFT HAND ON FRONT HANDLE AND RIGHT HAND ON REAR HANDLE. KEEP A SECURE BALANCED FOOTING TO THE LEFT OF THE SAW AND DON'T OVERREACH (FIG. 16).**

1. Squeeze Throttle Lever fully before starting the chain into wood. The chain will cut more efficiently with engine at top speed.

2. Start cutting with the front of Saw Frame against the log or tree and pivot as you cut so that the Bar Nose enters the cut last (Fig. 16).

3. Allow the Chain to cut for you and hold Saw so that the Chain runs free in the opening cut. You need not rock the Saw back and forth in the cut or use great force. If you do use excessive force to cut, damage to the bar, chain, or engine may result.

4. Keep Saw chain at cutting speed until Bar is completely free of cut, then release Throttle Lever to idle engine while planning next cut.

USING GOOD TREE FELLING TECHNIQUE

A SAFE WORKING PROCEDURE IS YOUR FIRST LINE OF DEFENSE TOWARD PREVENTING ACCIDENTS.

1. SIZE UP THE TREE.
   a. Determine natural felling direction . . .
      - toward the direction of natural lean.
      - toward the side with more or heavier branches.
      - (if heavily leaved) with the direction of the wind.
   b. Avoid felling a tree . . .
      - if it shows signs of rot which may make felling unpredictable.
      - if it's natural felling direction must be changed to avoid obstacles.
      - if hanging dead limbs ("widow makers") cannot be removed before felling.
      - if wind is strong or gusty.

2. **PLAN YOUR ESCAPE ROUTE.** Choose a route back and to one side of the direction of tree fall (Fig. 17). You should plan a route that will place you at least twenty feet from the stump at the time the tree hits the ground.

3. **CLEAR THE BRUSH AND DEBRIS** from around the tree and along your escape route. Examine tree in cutting area and remove dirt or foreign material which might dull or break the chain as you cut.

4. FELL THE TREE.
   a. Undercut ("notch") the tree on the side of natural fall (Fig. 18).
      - Make the first cut horizontally 1/3 the tree diameter at a comfortable working height.
      - Finish the undercut with sloping cut to meet but not cross the first.
      - Clean out the undercut wood.
   b. Backcut ("felling cut") the tree opposite the notch (Fig. 18).
      - Make the horizontal felling cut opposite the side of natural fall, at least 2 inches above the horizontal undercut.
      - For trees larger than bar length make two felling cuts pivoting bar nose in last, in on one side, then pivoting in from the other to complete the cut (Fig. 19).
      - Some trees may need to be pushed into the undercut. Drive wedges into the backcut, stopping often to drive wedges tight but taking care not to place them where they will interfere with cutting or direction of fall. Use plastic or wood wedges so that they cannot dull saw chain if accidentally hit.
      - DO NOT CUT COMPLETELY THROUGH TO THE UNDERCUT. Leave at least a 2 inch hinge to hold and guide the tree down in the direction you planned and keep the tree from snapping off the stump. Make sure to keep the hinge a uniform thickness to prevent the tree from pivoting on the stump.

5. **ESCAPE.** As your backcut nears the undercut, watch the treetop and the cut for signs of movement. Be alert -- as soon as the tree starts to move, pull your saw from the tree, turn it off, put it down, and move away quickly on your escape route. If your saw is pinched in the backcut -- don't wait until the falling tree frees it. Shut if off and leave it!

BE ALERT TO CONDITIONS WHICH MIGHT ALTER YOUR PLANNED ESCAPE ROUTE AND WATCH WHERE YOU ARE GOING!

6. **STUDY THE STUMP.** Improve your felling technique by analyzing your work (Fig. 20).
   a. Did the undercuts meet without crossing?
   b. Was the backcut horizontal, parallel to the undercut and at least 2 inches above it?
   c. Was the hinge at least 2 inches thick and of uniform thickness?

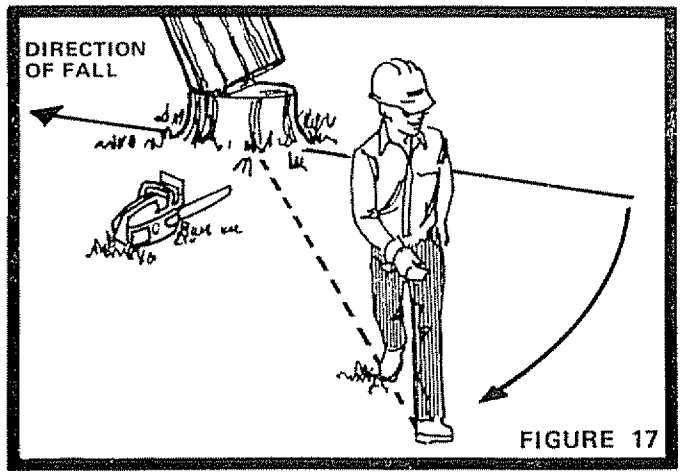


FIGURE 17

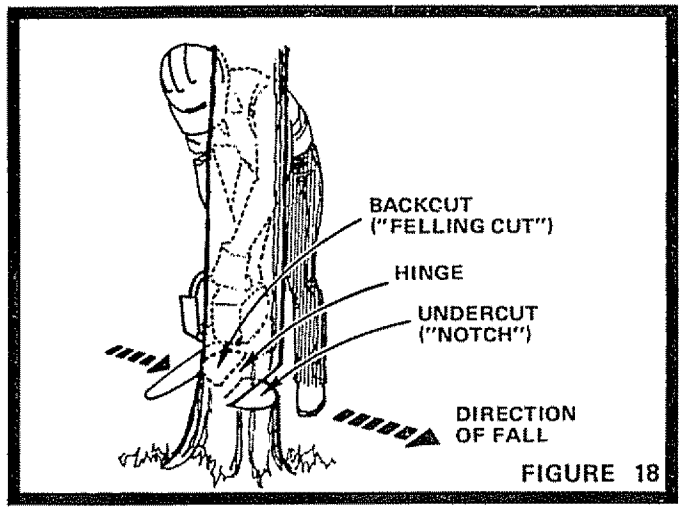


FIGURE 18

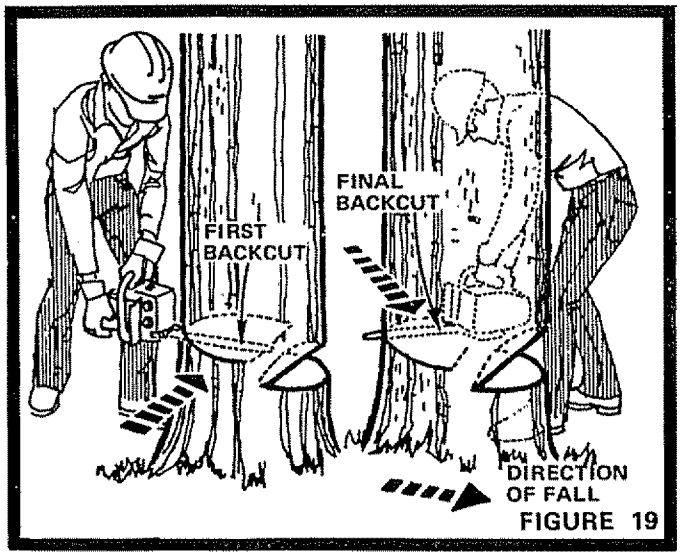


FIGURE 19

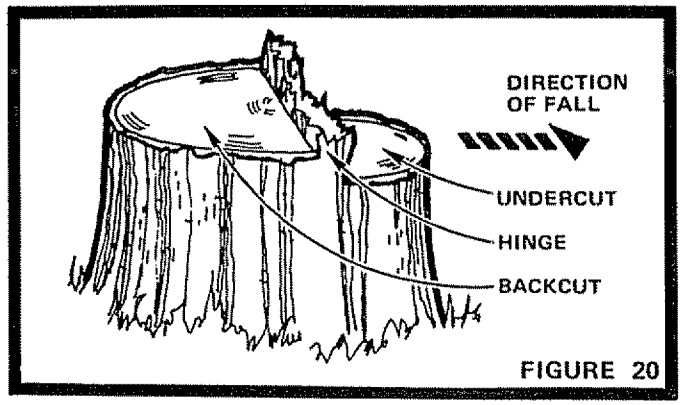


FIGURE 20

PREVENT KICKBACK. NEVER LET THE MOVING CHAIN AT THE BAR NOSE CATCH OR STUB ITSELF OR THE BAR WILL RECOIL BACK AND UP OR DOWN DEPENDING ON WHERE IT HAS BEEN STUBBED (FIG. 21).

ALWAYS STOP THE ENGINE BEFORE MOVING FROM TREE TO TREE.

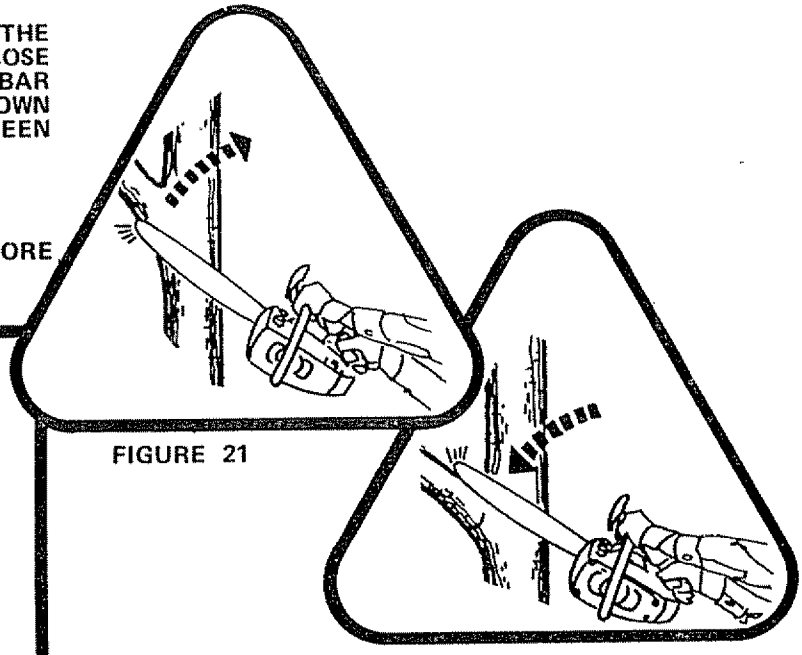


FIGURE 21

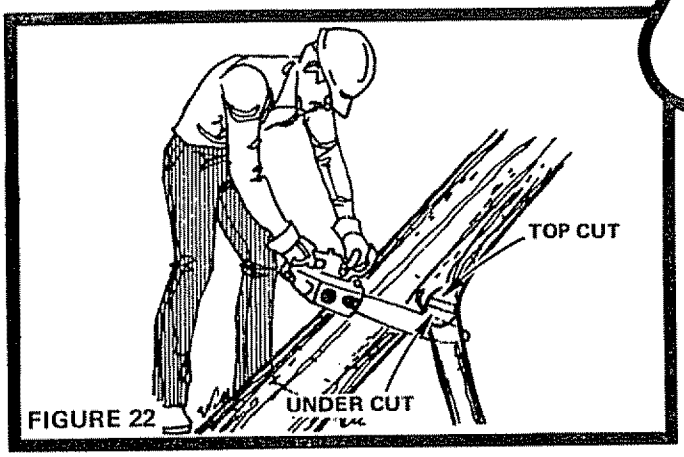


FIGURE 22

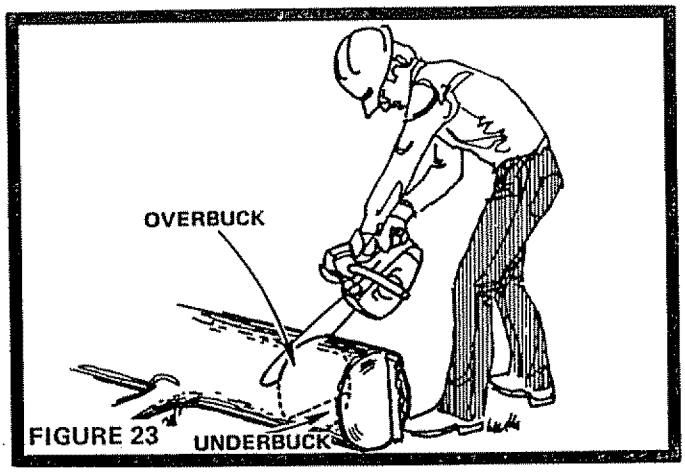


FIGURE 23

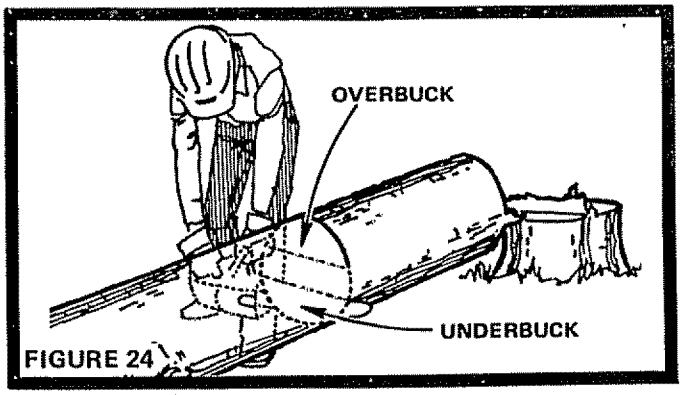


FIGURE 24

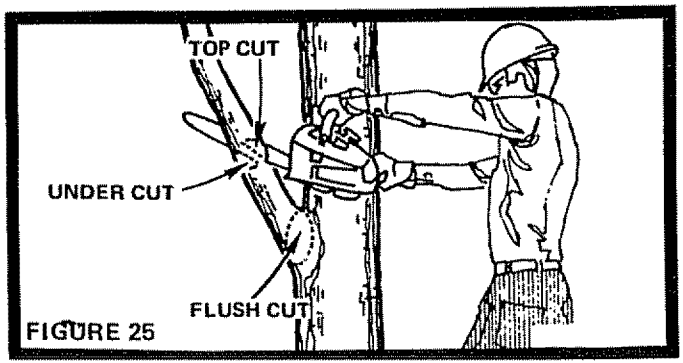


FIGURE 25

IF YOUR SAW SHOULD BECOME PINCHED IN A CUT, STOP THE ENGINE BEFORE REMOVING IT.

LIMBING

1. Cut branches and limbs from the felled tree starting at the base, working towards the top. Leave the larger lower limbs to support the tree as you work.

EXTREME CARE SHOULD BE TAKEN CUTTING LIMBS WHICH MAY SPRING OUT IN ANY DIRECTION.

2. Large lower branches which support the felled tree's weight should first be top cut. Then, undercut them so the cut opens away from the saw. In that way, your saw won't be closed on or pinched (Fig. 22).

BUCKING (CUTTING LOGS)

STAND TO SIDE OF THE SAW, NOT BEHIND IT AND TAKE A POSITION UPHILL OF POSSIBLE LOG ROLL.

1. Logs resting on the ground for their entire length can be bucked from the top ("overbuck"). Stop cutting before passing through the log; it takes only a few seconds of cutting dirt to ruin a chain. Roll log over to finish cut.

2. Logs that are only supported on one end can be cut from below, 1/3 log diameter ("underbuck") then finished from the top (Fig. 23).

3. Logs that are supported on both ends can be overbucked 1/3 log diameter then finished from the bottom (Fig. 24).

4. Use wedges if necessary to prevent log from pinching saw bar in the cut.

5. Smaller, lighter logs may need to be blocked to prevent them from rolling off their supports.

PRUNING
(CUTTING LIMBS FROM STANDING TREES)

DO NOT SAW ON LADDERS, PLATFORMS, IN TREES OR IN ANY OTHER POSITION WHICH MIGHT ENDANGER YOUR BALANCE AND THUS CAUSE LOSS OF POSITIVE SAW CONTROL.

When removing a limb from a growing tree, make an undercut 1/4 limb diameter near the trunk and finish with a top cut a little farther out from the trunk. After removing the limb, flush cut the stub near the trunk (Fig. 25).

MAINTENANCE

GENERAL

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.

WITH THE EXCEPTION OF POWER SHARPENING AND CARBURETOR ADJUSTING, DISCONNECT SPARK PLUG WIRE AND LET SAW COOL BEFORE MAKING ADJUSTMENTS OR REPAIR.

A good maintenance program of regular inspection and care will increase the life and maintain the performance of your Saw.

Each working day, check Nuts, Screws and Wires, tightening any that are loose and replacing those that are worn or damaged.

NOTE: WHEN REPLACING FASTENERS USE A THREAD ADHESIVE, SUCH AS "THREAD LOCK", "LOCTITE SEALANT", ETC. AVAILABLE AT YOUR SEARS SERVICE CENTER.

GUIDE BAR AND CHAIN

Service life of your Bar and Chain will be greatly increased by proper Saw use--correct Chain Tension (page 4), Lubrication (page 6) and regular maintenance--Sharpening, Bar Deburring, etc.

CHAIN SHARPENING

If wood chips are becoming increasingly smaller as you cut, from normal wear or accidental running Chain in dirt or sand, your Chain may need sharpening. Check Chain for sharpness or damage after every refueling and sharpen perhaps every third or fourth refueling; more often when cutting seasoned hard wood or frozen wood.

CUTTER TOP PLATE POWER SHARPENING (MODEL 917.353770 & 917.353771 ONLY)

MAKE SURE INSIDE CHAIN SHIELD AND POWER SHARP PARTS ARE FREE OF PACKED SAWDUST AND WOOD CHIPS.

1. Tension Chain slightly tighter than normal cutting tension but still able to be pulled easily around the Guide Bar (page 4).

2. Place Power Sharp Knob in Sharpening position (Fig. 26). NOTE: To make operation smoother and easier, lift Power Sharp Knob slightly.

3. Set Stone Adjusting Knob (Fig. 26).
   a. Move Sharpening Stone away from chain by turning Stone Adjusting Knob clockwise as far in as possible.
   b. Move Stone closer to chain by turning Stone Adjusting Knob 1 click at a time counterclockwise.
   c. Test proper Stone position by pulling chain around bar with gloved hand. Leave Stone Adjusting Knob at the setting reached when chain first touches Sharpening Stone (Fig. 26 - Inset).

4. Start Saw and throttle up to cutting speed.

KEEP A FIRM GRIP AND AVOID GUIDE BAR AND CHAIN AREA.

5. Leave Saw on ground in the debris free starting area. Move Power Sharp Knob up and back (full range-Fig. 26) rapidly several times. This will sharpen Cutters on both sides of Chain and maintain a flat surface on the Sharpening Stone. SPARKS WILL FLY AS CUTTERS ARE SHARPENED.

6. NORMAL CHAIN SHARPENING TAKES ONLY A FEW SECONDS. Stop Saw Engine to inspect Chain visually. Edges of Cutter Top Plate will look clean and sharp and, sighting down the Chain, Cutter Tops will be flat, parallel with each other and perpendicular to the Guide Bar.

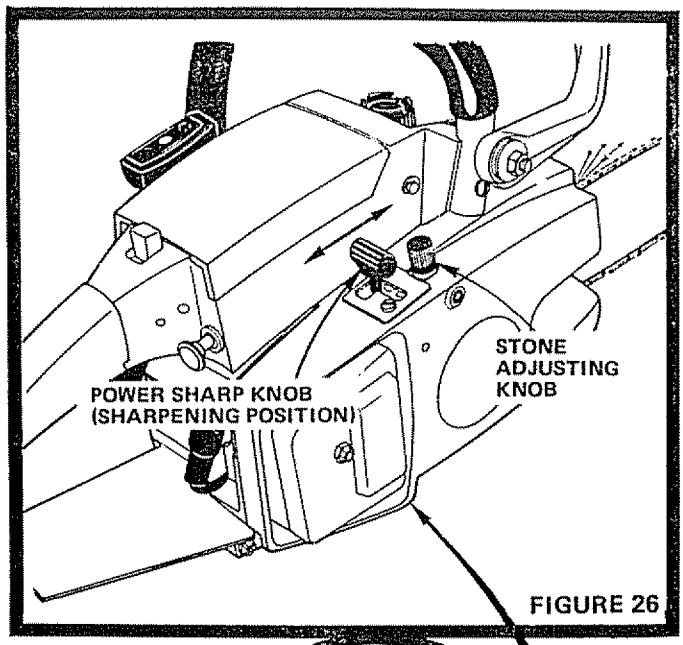
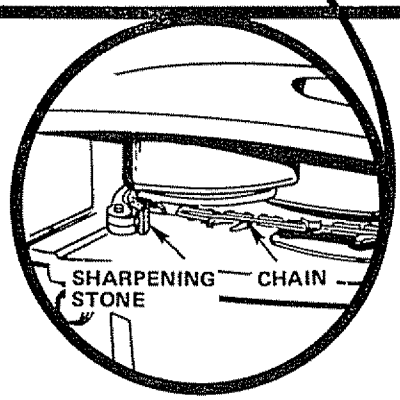


FIGURE 26



VIEW FROM BOTTOM OF SAW ON ITS LEFT HAND SIDE

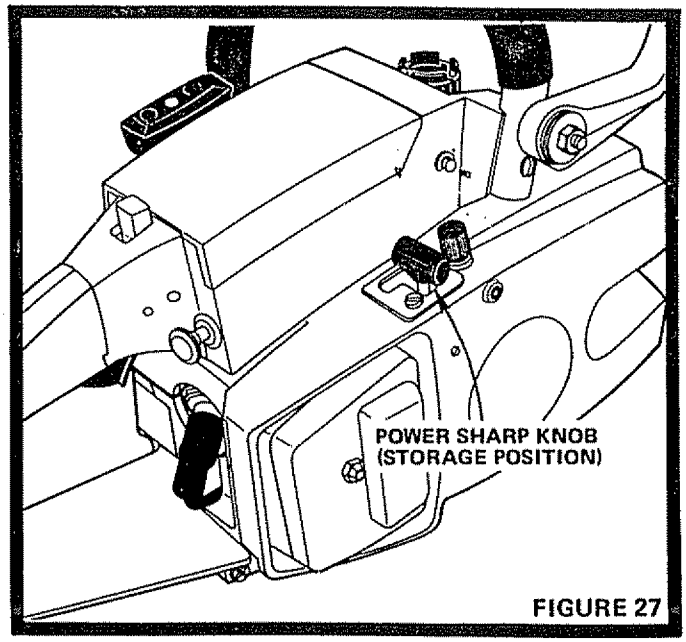


FIGURE 27

   a. If Cutter abrasion is not completely removed, turn Stone Adjusting Knob counterclockwise one click at a time and resharpen.
   b. If Cutter Tops are not flat and perpendicular to the Bar rotate or replace Sharpening Stone (page 11).

7. Place Power Sharp Knob in storage position (Fig. 27). Retension Chain for cutting (page 4).

8. Stone Adjusting Knob may need to be readjusted (counterclockwise 1 click) for succeeding sharpenings.

CUTTER SIDE PLATE FILING (MODEL 917.353770 & 917.353771 ONLY)

File Cutter Side Plates (Fig. 28) after every third to fifth Top Plate sharpening.

Tension Chain so it is snug, won't wobble on the bar. Use a chain filing vise if one is available.

1. Place 5/32 File and Holder on Cutter Top Plate and Depth Gauge. Line up Guide Mark Parallel to Guide Bar (Fig. 29). Keep File Holder firmly level (perpendicular to Guide Bar) (Fig. 30).
2. Make a light pressure file stroke from inside toward outside of Cutters. Take care not to nick Cutters on return stroke. Use a few file strokes for each Cutter on one side of Chain then move to the other side of the Guide Bar to file opposing Cutters. Rotate the File in its Holder occasionally to even File wear.

   Measure Side Plate projection it should be 1/32 inch (Fig. 31).

CUTTER DEPTH GAUGE FILING (MODEL 917.353770 & 917.353771 ONLY)

Depth Gauges are lowered as Cutter Top Plates are power sharpened. Use a Flat File to round off the front corner, maintaining original shape (Fig. 32).

Re-tension Chain for cutting (page 4).

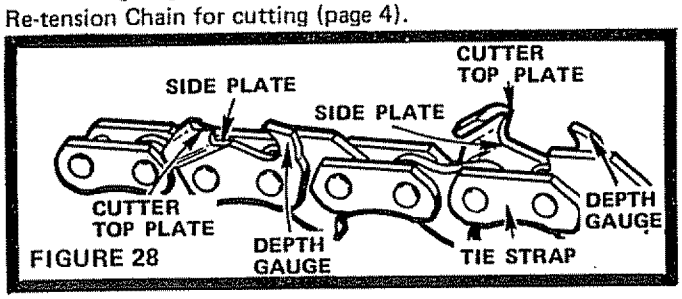


FIGURE 28

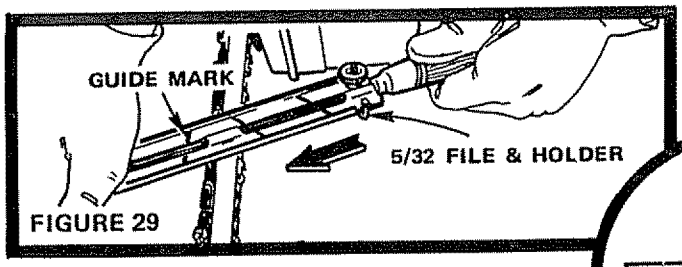


FIGURE 29

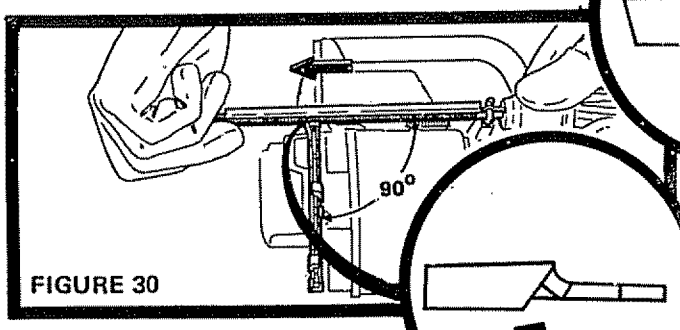


FIGURE 30

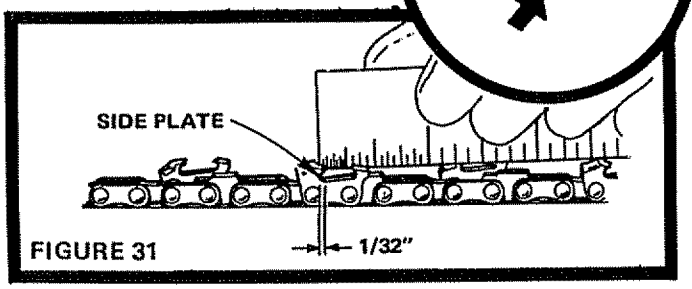


FIGURE 31

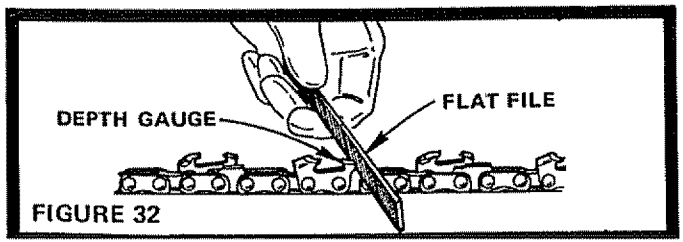


FIGURE 32

CUTTER TOP & SIDE PLATE FILING (MODEL 917.353730 & 917.353731 ONLY)

Tension Chain so it is snug, won't wobble on the bar. Use a chain filing vise if one is available.

1. Place 3/16 inch File and Holder on Cutter Top Plate and Depth Gauge (Fig. 33). Line up Guide Mark parallel to Guide Bar (Fig. 34). Keep File Holder Handle firmly angled down 10° from Guide Bar perpendicular (Fig. 35).
2. Make a light pressure file stroke from inside toward outside of Cutters. Take care not to nick Cutters on return stroke. Use a few file strokes for each Cutter on one side of Chain then move to the other side of the Guide Bar to file opposing Cutters. Rotate the File in its Holder occasionally to even File wear.

CUTTER DEPTH GAUGE FILING (MODEL 917.353730 & 917.353731 ONLY)

File Cutter Depth Gauges after every third or fourth Top and Side Plate sharpening.

1. Place Jointer on Chain. If Depth Gauge projects above Jointer, file it level with Flat File (Fig. 36).
2. Round off front corner to maintain original shape (Fig. 37).

Re-tension Chain for cutting (page 4).

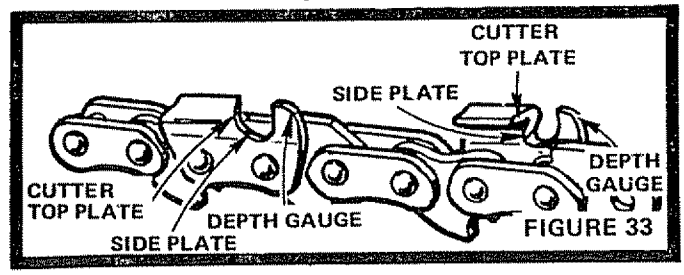


FIGURE 33

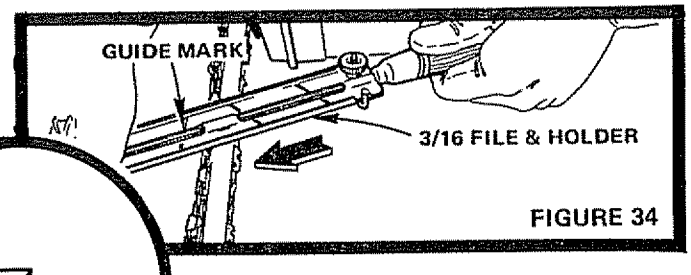


FIGURE 34

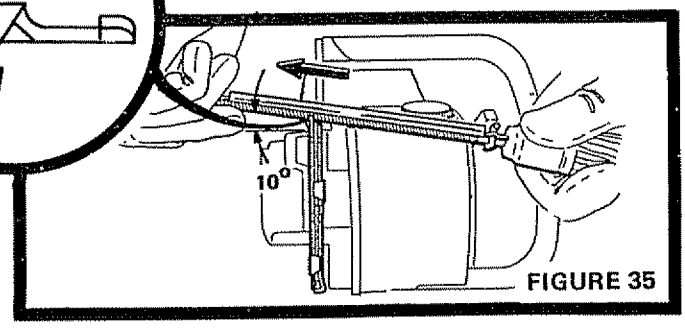


FIGURE 35

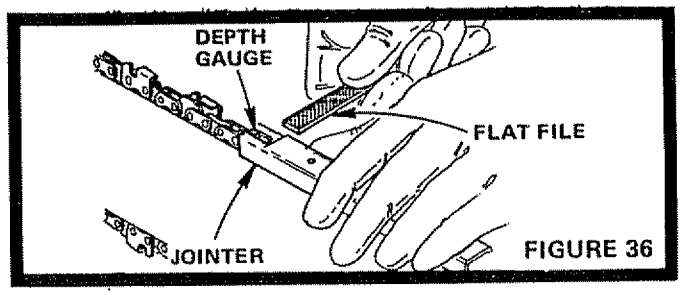


FIGURE 36

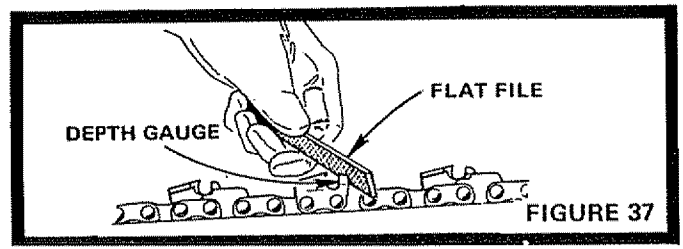


FIGURE 37

POWER SHARP STONE ROTATION (MODEL 917.353770 & 917.353771 ONLY)

Reverse the Power Sharp Stone to even Stone wear, perhaps every third or fourth sharpening, as needed. An unevenly worn Power Sharp Stone may sharpen Chain on an angle. Cutter Tops will not look flat when sighted down the Guide Bar, Chain will stumble through wood when cutting or cut slanted.

1. Remove Guide Bar Nuts and Screw in rear of Chain Shield (Fig. 7). Remove Chain Shield.
2. Loosen Stone Retaining Screw to slide Power Sharp Stone from Arctuating Arm (Fig. 38).
3. Turn Stone end for end, slide it on Arctuating Arm, reposition and tighten Retaining Screw.
4. Reassemble Saw and re-tension Chain (pages 3 and 4).

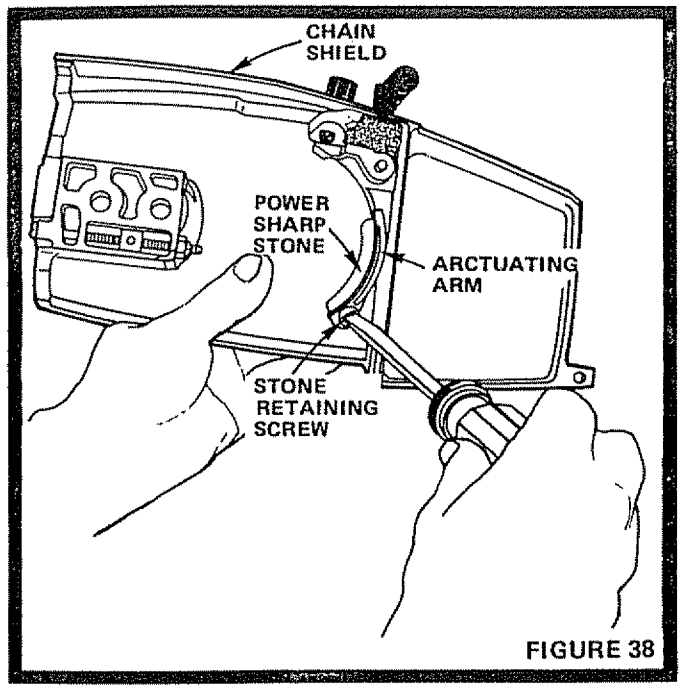


FIGURE 38

GUIDE BAR REPAIR

1. Chain Cutter and Link bottoms riding on Guide Bar Rails will normally roll some Bar Material to the outside of the Rails especially in actual cutting area of Guide Bar. These "burrs" should be removed as they form or they will chip away during use taking more Bar material with them. Check Bar for burrs at each Chain sharpening (Fig. 39).
   a. Remove Guide Bar Nuts, Screw in rear of Chain Shield, Chain Shield and Outer Chain Guide. Loosen Chain Tension, remove Chain and Guide Bar.
   b. Move your gloved hand across the flat of the Guide Bar to feel burrs and remove them with a Flat File. Rounding outside Rail edges will retard further burr formation (Fig. 40).
   c. Reassemble Saw and re-tension Chain (pages 3 and 4).

   NOTE: YOUR GUIDE BAR IS SPECIAL "LO-KICK" TYPE AND CAN ONLY BE ASSEMBLED IN ONE POSITION.

2. When new or newly sharpened Chain makes slanted cuts, sometimes badly enough to prevent completion of cuts through large diameter logs, check for Guide Bar wear or damage.
   a. File uneven Rail top wear flat, perpendicular to Guide Bar (Fig. 39).
   b. Hammer worn, open Rails closer together to restore correct Chain Groove--between .052 and .060 inch (Fig. 39). NOTE: MAKE SURE CHAIN RUNS EASILY IN CORRECTED CHAIN GROOVE BEFORE REASSEMBLY.
   c. A badly bent Guide Bar or Rails worn low enough to allow Chain Drive Links to ride on the Chain Groove bottom must be professionally serviced or replaced.

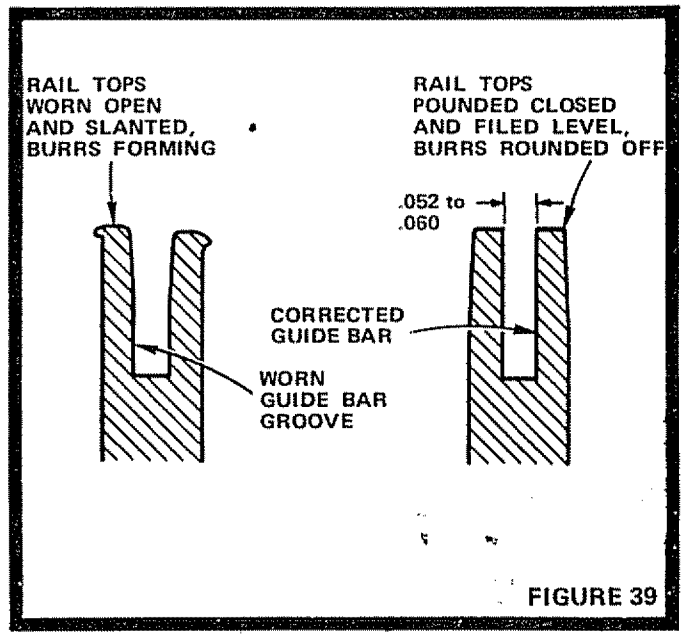


FIGURE 39

CHAIN REPLACEMENT

Normal Chain sharpening will eventually remove enough material to weaken Cutters and cause damage during use. Individual Cutters can be replaced and sharpened to match Chain in a Sears Service Center, however, repeated Cutter or Link breakage indicates Chain replacement is required.

NOTE: A damaged Cutter on Top Sharp Chain (MODEL 917.353770 & 917.353771), should not be replaced by another Cutter due to the difficulty in sharpening it to match other worn Cutters. Use of a Tie Strap (Fig. 28) to replace an individual damaged Cutter will not noticeably affect the cutting ability of your chain.

POWER SHARP STONE REPLACEMENT (MODEL 917.353770 & 917.353771 ONLY)

Replace Power Sharp Stone when installing new Chain (Fig. 38).

CHAIN SPROCKET REPLACEMENT

Replace worn Chain Sprocket when installing new Chain. Clutch Drum removal (page 14) is required.

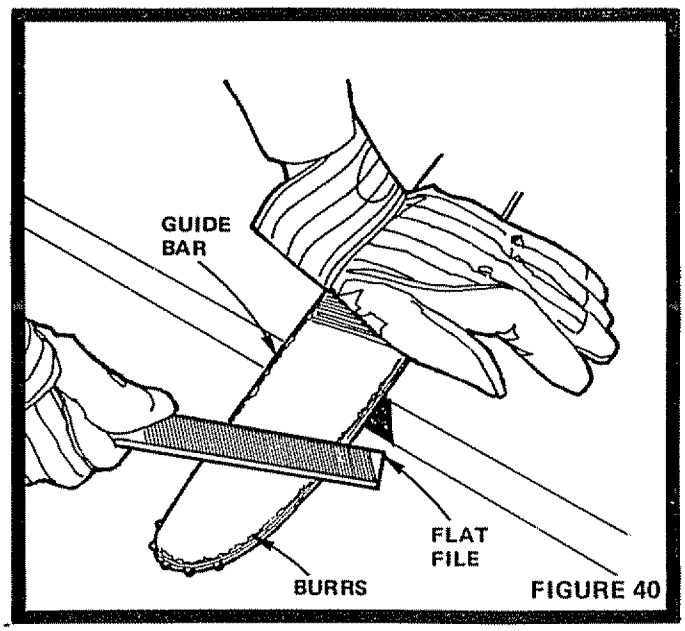


FIGURE 40

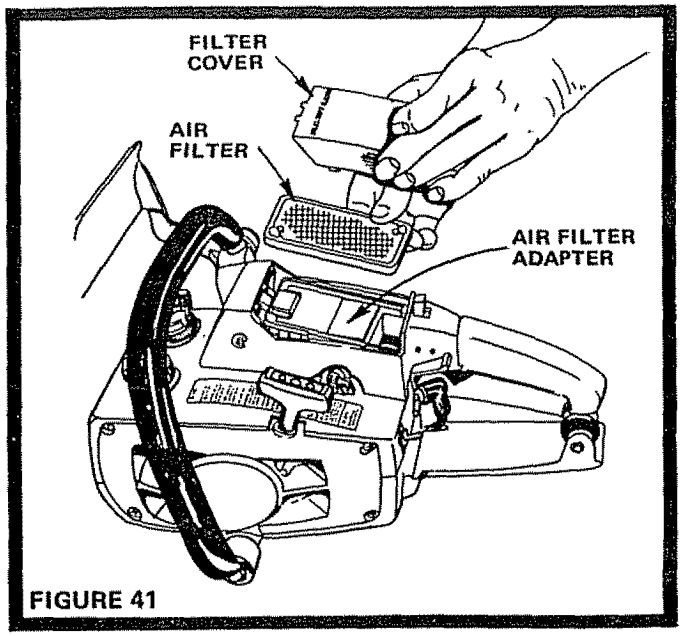


FIGURE 41

AIR FILTER CLEANING

An accumulation of dirt and dust on your Air Filter will considerably reduce your Saw's cutting power. Clean it at least once each day, more often if sawing in extremely dusty conditions. NOTE: NEVER OPERATE SAW WITHOUT AIR FILTER.

1. To remove Filter Cover, squeez lower 1/3 portion of Cover and raise up as shown (Fig. 41).
2. Remove and clean Air Filter with compressed air or a brush. Wipe Air Filter Adapter clean (Fig. 41).
3. Reposition Air Filter as shown in Fig. 42.
4. Reassemble Filter Cover.
   a. Insert Cover Tabs between Rear Handle Tabs (Fig. 42).
   b. Squeeze lower 1/3 portion of Cover and press down into place.

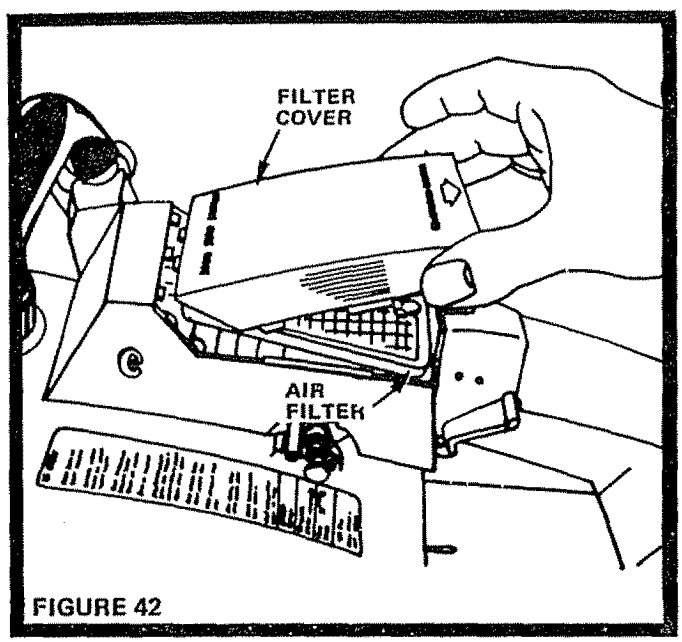


FIGURE 42

CARBURETOR ADJUSTMENT

Your Carburetor has been adjusted at the factory for the best fuel/air mix to provide maximum Saw performance. Your Carburetor may need resetting, however, if you notice any of these conditions:

a. Chain moves with Saw engine idle.
b. Loss of cutting power which is not corrected by Air Filter or Muffler Screen cleaning.
c. Saw engine dies or hesitates on acceleration.

NOTE: CARELESS ADJUSTMENTS CAN SERIOUSLY DAMAGE YOUR SAW ENGINE.

1. Make initial setting with Engine stopped:
   a. Turn Idle Speed Regulating Screw out (counterclockwise); then in until Carburetor Throttle Lever just begins to move, continue moving 2 more turns.
   b. Turn Low Speed Mixture Screw in (clockwise) until LIGHTLY seated, then turn counterclockwise 1 - 1/8 turns.
2. Start and warm up Engine by making one or two cuts.

RETURN SAW TO DEBRIS FREE STARTING AREA FOR CARBURETOR ADJUSTMENTS. KEEP A FIRM GRIP AND AVOID GUIDE BAR AND CHAIN AREA.

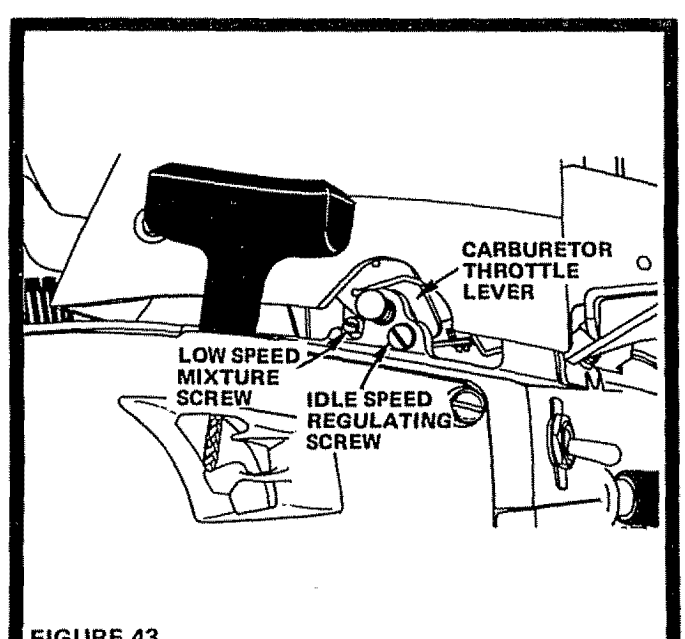


FIGURE 43

3. Release Throttle Lever to let Engine idle. If Engine stops, turn Idle Speed Regulating Screw clockwise 1/8 turn at a time as required until Engine maintains idle.
4. Adjust idle speed and Low Speed Mixture to achieve smoothest engine idle without chain movement but allowing rapid acceleration.
   a. Adjust Idle Speed Regulating Screw until Engine maintains idle speed just slower than the point at which the chain moves.
   b. Adjust Low Speed Fuel Mixture Screw for fastest idle; then turn counterclockwise 1/4 turn.
   c. Squeeze Throttle Lever. If Engine falters or hesitates on acceleration turn Low Speed Fuel Mixture Screw counterclockwise 1/16 turn at a time just enough to achieve rapid acceleration.
   d. Chain should not rotate around bar unless throttle is squeezed. If chain does move repeat Step "A".

STARTER REPAIR
ROPE REPLACEMENT

TO CARRY OUT THE FOLLOWING STEPS, YOU WILL NEED A SCREWDRIVER.

1. Remove 4 screws and remove Starter Housing (Fig. 44) from Saw.

2. Remove broken Rope from Starter Handle and Starter Pulley. To replace a frayed Rope:
   a. Pull Starter Handle until several inches of Rope are exposed (Fig. 44).
   b. Lock Starter Pulley in place with a screwdriver.
   c. Slide Starter Handle down on Rope. Untie knot in Rope and remove Washer and Handle.
   d. Hold Thumb on Starter Pulley and remove screwdriver to SLOWLY release Spring Tension.
   e. Remove Rope from Pulley.

3. Thread new Rope into hole of Starter Handle. Place Washer on Rope and tie a secure knot in end of Rope. Position knot and Washer inside Handle.

4. (Fig. 45). Turn Starter Pulley clockwise 9 full turns to wind Starter Spring. Align hole in Pulley with Starter Housing Rope Channel. Lock Pulley in place with a screwdriver.

5. Use a lighted match to melt pulley end of Rope. Pull it thru a rag to mold an easily threaded point.

6. Place Rope in Housing Channel and insert into Pulley hole. Tie a secure knot in Rope, and tap with wood block into Rope Knot Cavity.

7. Remove screwdriver and allow Rope to slip SLOWLY thru your fingers to rewind.

8. Reassemble Starter Housing to Saw.

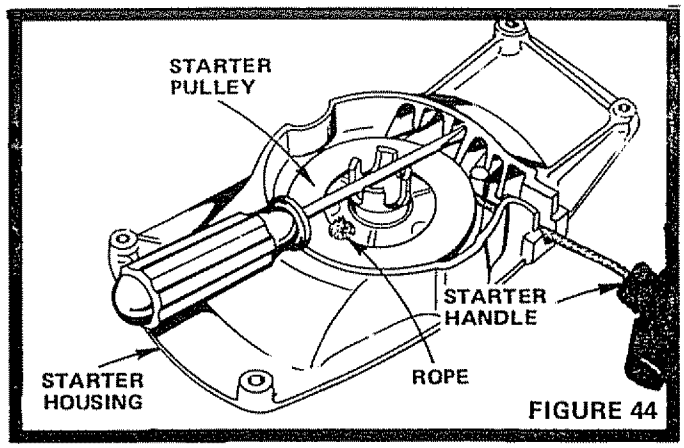


FIGURE 44

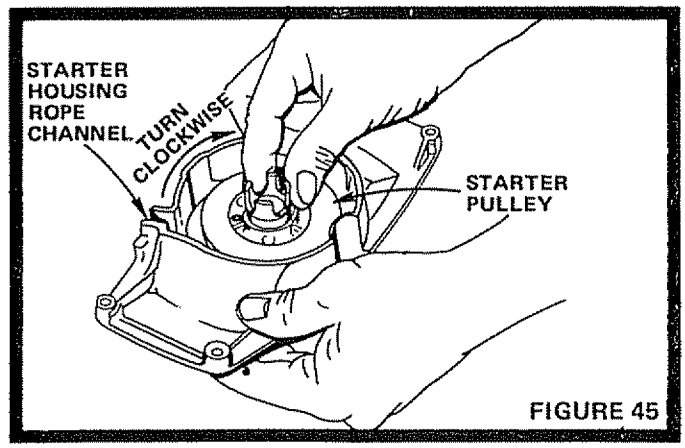


FIGURE 45

STARTER SPRING REPLACEMENT

TO REPLACE SPRING, YOU WILL NEED A SCREWDRIVER AND A SMALL AMOUNT OF GRAPHITE.

1. Remove 4 screws and remove Starter Housing from Saw.

2. Untie Starter Rope knot at Starter Pulley (Fig. 44) and remove Rope.

3. Remove E-Ring and Washer from Starter Center Post (Fig. 46).

4. Lift out Starter Pulley and old Spring.

WEAR EYE AND HAND PROTECTION WHEN REPLACING WORN OR BROKEN SPRING IN CASE IT SHOULD UNCOIL AS YOU HANDLE IT. ALLOW SPRING TENSION TO BE COMPLETELY RELIEVED AND MAKE SURE PULLEY DISENGAGES FROM SPRING BEFORE CAREFULLY LIFTING PULLEY AND OLD SPRING FROM HOUSING.

5. Install new Spring (Fig. 46) with loop in end of Spring over Outer Starter Post. The Spring will wind clockwise toward the center.

6. Apply graphite to Starter Center Post, reassemble Pulley, Washer and E-Ring.

7. Prewind Starter Pulley. Refer to Step 4 of "Starter Rope Replacement".

8. Reassemble Starter as in steps 6, 7 and 8 of "Starter Rope Replacement".

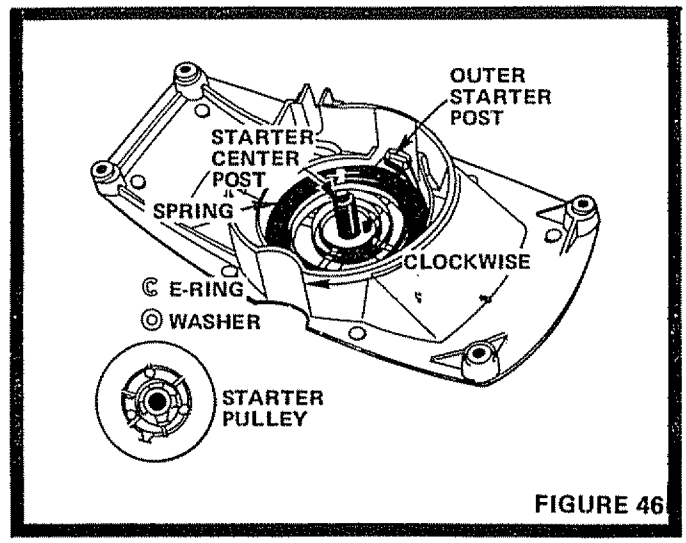


FIGURE 46

PAWL SPRING REPLACEMENT

1. Remove 4 screws and remove Starter Housing from Saw.

2. Unhook Pawl Springs and slip over Pawls.

3. Slip new Springs over Pawls and hook as shown in Fig. 47.

4. Reassemble Starter Housing to Saw.

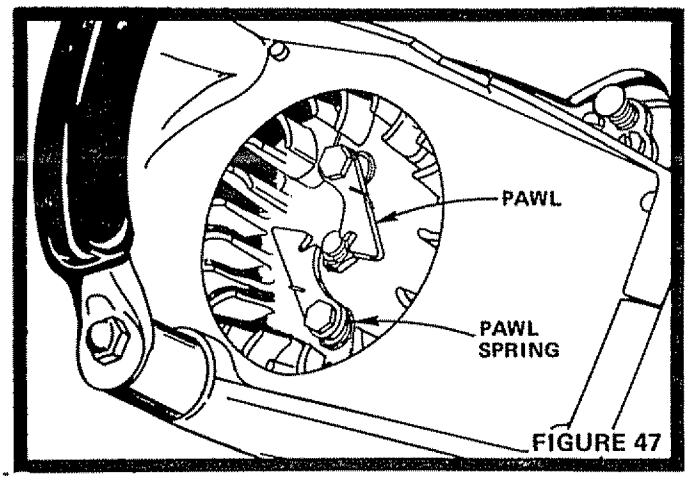


FIGURE 47

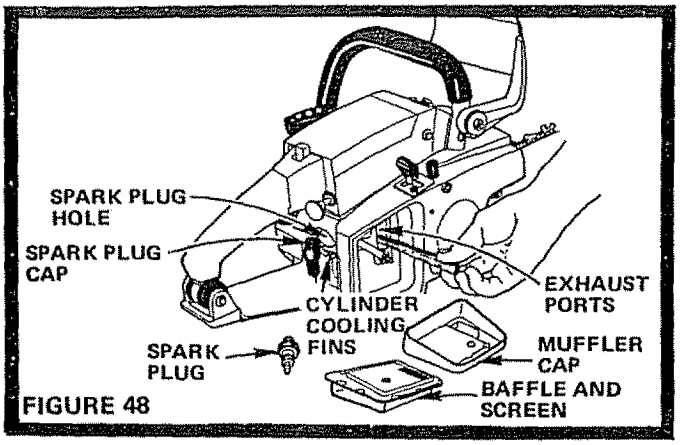


FIGURE 48

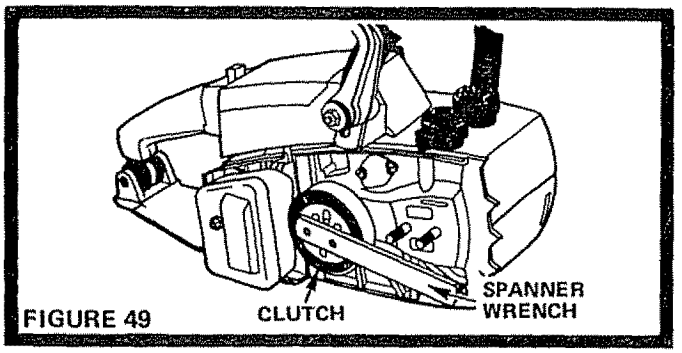


FIGURE 49

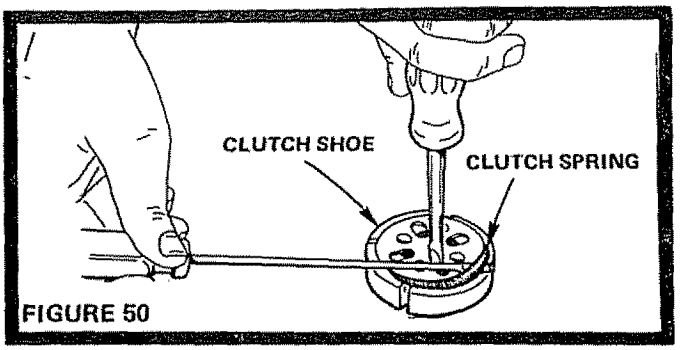


FIGURE 50

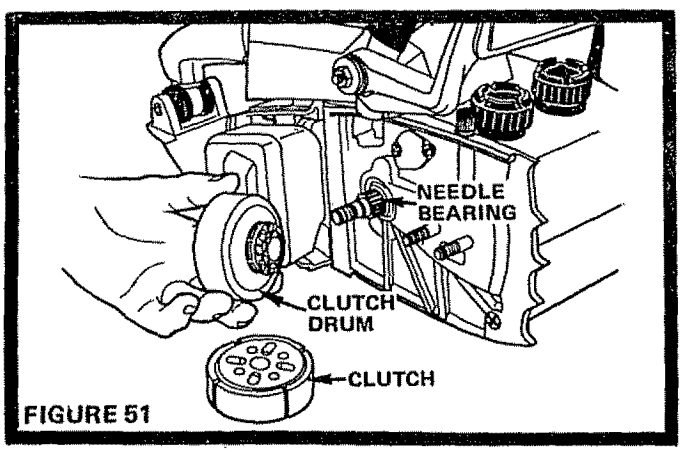


FIGURE 51

SPARK PLUG CLEANING OR REPLACEMENT

TO CLEAN SPARK PLUG YOU WILL NEED A WIRE BRUSH OR POCKET KNIFE.

Use a wire brush or a pocket knife to clean deposits from the electrodes. Use care not to scratch or chip the ceramic section of the Spark Plug. Be careful when removing, cleaning, gapping and replacing the Spark Plug. If it is damaged it will not work properly and must be replaced. The proper gap between the Spark Plug electrodes is .025". Should it be necessary to replace the plug, use Champion CJ-6. Replace the Spark Plug each season or when suspected of being faulty. Reattach the Spark Plug Cap to Spark Plug.

COOLING FIN CLEANING

A 3/8" WRENCH IS REQUIRED TO REMOVE MUFFLER.

Check air flow over the engine cylinder. If restricted by debris, remove Muffler and clean engine and Cylinder Cooling Fins (Fig. 48). Compressed air can be used. Replace Muffler.

EXHAUST PORT & MUFFLER SCREEN CLEANING

Remove carbon deposits from cylinder, exhaust ports and Muffler Screen each season or as required.

TO CARRY OUT THE FOLLOWING STEPS YOU WILL NEED: A WIRE BRUSH, 3/8" WRENCH AND A HARDWOOD STICK.

1. Remove Muffler Cap, Baffle and Screen. Lift Spark Plug Cap and remove Spark Plug (Fig. 48).
2. Pull Starter Rope to position piston below exhaust holes. Use a HARDWOOD STICK to scrape carbon deposits from exhaust ports and surrounding exhaust chamber.
3. Blow out loosened carbon by pulling Starter Rope several times.
4. Use wire brush to clean Muffler Screen. Replace whenever breaks in Screen are noted.
5. Reassemble Spark Plug and Spark Plug Cap, Baffle and Screen and Muffler Cap.

WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPMENT MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA.
The California law effective January 1, 1974 prohibits the use of any devices or equipment on any forest covered, brush covered, or grass covered land without providing or maintaining in effective order, a Spark Arrestor attached to the exhaust system. The equipment which you purchased DOES include such a Spark Arrestor. It is a violation of law, however, to use it unless it is maintained in effective working order.

CLUTCH SHOE & SPRING REPLACEMENT

YOU WILL NEED A SPANNER WRENCH (FIG. 49) FOR CLUTCH REMOVAL. ORDER PART NUMBER 632A9A FROM YOUR NEAREST SEARS SERVICE CENTER.

Your Chain Saw has a centrifugal Clutch. It is designed to engage chain as engine speed increases. Slip or disengage chain as engine speed decreases in a heavy cutting situation or with Throttle Lever released. If Clutch slippage is excessive so that full engine power cannot be utilized, replace Clutch Shoes. If Clutch does not disengage chain movement, when Throttle Lever is released, replace Clutch Springs.

1. Remove Chain Shield, Outer Chain Guide, Bar and Chain and Inner Chain Guide from Saw.
2. Remove Spark Plug Cap and Spark Plug (Fig. 48). Tie a knot in a nylon cord (such as a Starter Rope). Drop knotted end of rope into cylinder so engine will not go past top dead center.
3. Place Spanner Wrench in Clutch and turn clockwise to unscrew Clutch from Engine Shaft (Fig. 49).
4. Remove Clutch from Drum. Use small screwdrivers to pry Clutch Shoes out to remove Clutch Springs (Fig. 50).
5. Replace worn Clutch Shoes and Springs. We suggest Clutch Shoes and Springs be replaced at the same time.
6. Apply a THIN coat of lithium grease to Clutch Drum Needle Bearing (Fig. 51). NOTE: AVOID USING TOO MUCH GREASE ON NEEDLE BEARING; GREASY CLUTCH SHOES WILL CAUSE CLUTCH SLIPPAGE.
7. Reassemble Saw.

STORAGE

Never store your Chain Saw for over 30 days without performing the following procedures:

1. Drain oil and fuel tanks in a safe area.
2. Start Saw and run at idle speed until the engine stops. This will remove most of the fuel from the fuel system.
3. Remove the Spark Plug and pour a teaspoonful of oil through the spark plug hole into the combustion chamber (Fig. 52). Pull the starter rope slowly several times to distribute the oil throughout the engine. Replace the Spark Plug tightly and pull rope until resistance is felt, closing intake and exhaust ports.
4. Remove and clean the Bar and Chain (use gloves when handling chain).
5. Store the Chain in a container with oil covering chain.
6. Apply a heavy film of oil over the entire Bar including the groove for the chain. Wrap bar in heavy paper, cloth or plastic.
7. Clean the outside surfaces of the saw.
8. Cover the saw with a protective cloth or plastic and store the saw and bar in a dry place. Always store away from possible source of ignition such as furnaces heaters, etc.

Sears, Roebuck and Co. reserves the right to make any changes in design or improvements without imposing any obligation to install the same upon its items heretofore manufactured.

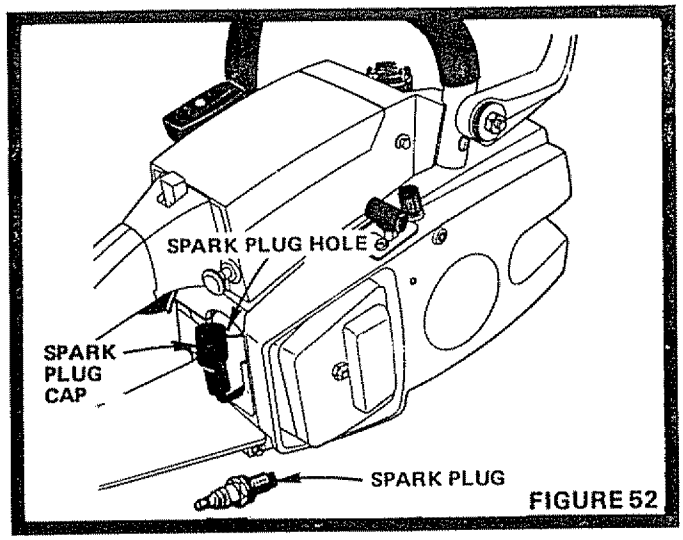


FIGURE 52

TROUBLE SHOOTING

POSSIBLE CAUSE AND CHECK	POSSIBLE REMEDY
STARTER ROPE WILL NOT REWIND	
Broken Starter Spring/Not enough Preload (9 turns)	Replace, page 13
STARTER DOES NOT ENGAGE FLYWHEEL	
Broken Pawl Spring	Replace, page 13
Broken Pawls or Pins	Replace
ENGINE DIFFICULT OR WILL NOT START	
Fuel Tank empty	Fill Fuel Tank, page 4
Compression Release Button not in Starting Position	Follow Starting Procedure, page 5
Throttle Detent not holding Throttle open. CHECK: Carburetor linkage with Detent in Starting Position, Carburetor Throttle should be 1/4 to 1/2 open	Repair or replace Detent
Solid State weak. CHECK: Remove Spark Plug, reattach Plug Wire, hold Plug against engine and pull starter rope (a strong white spark should jump across plug points - weak Solid State produces a short red spark)	Contact your nearest Sears Service Center.
Solid State grounded. CHECK: Wire from Solid State to "ON-OFF" Switch for bare spots.	Wrap Wire with electrical tape or replace
Carburetor misadjusted	Follow Carburetor Adjusting Procedure, page 12
Engine flooded.	Follow Starting Procedure, page 5 WITHOUT USING CHOKE
Engine is mildly vapor locked, operating in hot weather	Follow Starting Instructions, page 5, then after starting WITH CHOKE OUT RUN SAW AT FULL THROTTLE FOR A FEW SECONDS BEFORE PUSHING CHOKE IN AND ALLOWING SAW TO IDLE
Engine is severely vapor locked	ALLOW SAW TO COOL COMPLETELY, then follow Starting Instructions, page 5
Broken Reed Valve	Contact your nearest Sears Service Center
CARBURETOR FLOODS	
Carburetor misadjusted	Follow Carburetor Adjusting Procedure, page 12
Damaged Carburetor Diaphragm	Replace
Leaking Gasket	Replace
Leaking Inlet Needle Seat	Replace
ENGINE WILL NOT IDLE	
Carburetor misadjusted	Follow Carburetor Adjusting Procedure, page 12
Carburetor Diaphragm leaking	Replace Diaphragm
Carburetor Inlet Seat Gasket leaking	Contact your nearest Sears Service Center
Crankshaft seals leaking	Replace seals
Cylinder scored or compression low	Contact your nearest Sears Service Center
Reeds leaking or broken	Contact your nearest Sears Service Center
ENGINE WILL NOT ACCELERATE	
Carburetor misadjusted	Follow Carburetor Adjusting Procedure, page 12
Dirty Air Filter	Clean Air Filter or replace, page 12
Spark Plug fouled or Solid State weak	Clean Spark Plug and regap or replace, page 14
Carbon build-up	Clean Exhaust Port and Muffler Screen, page 14
Carburetor Diaphragm Cover loose or Diaphragm Gasket leaking	Tighten cover or replace Diaphragm
Broken Reed Valve	Contact your nearest Sears Service Center
ENGINE LACKS POWER OR DIES IN THE CUT	
Dirty Air Filter	Clean Air Filter or replace, page 12
Carbon build-up	Clean Exhaust Port and Muffler Screen, page 14
Low compression. CHECK: Compression pressure tests below 80PSI or lessened engine resistance to pulling starter rope	Contact your nearest Sears Service Department
ENGINE KNOCKS	
Worn Connecting Rod or Bearings. CHECK: Remove Starter, rotate Flywheel quickly back and forth. (Slight play is normal, however, worn Rod or Bearings allow considerable play and audible click)	Contact your nearest Sears Service Department

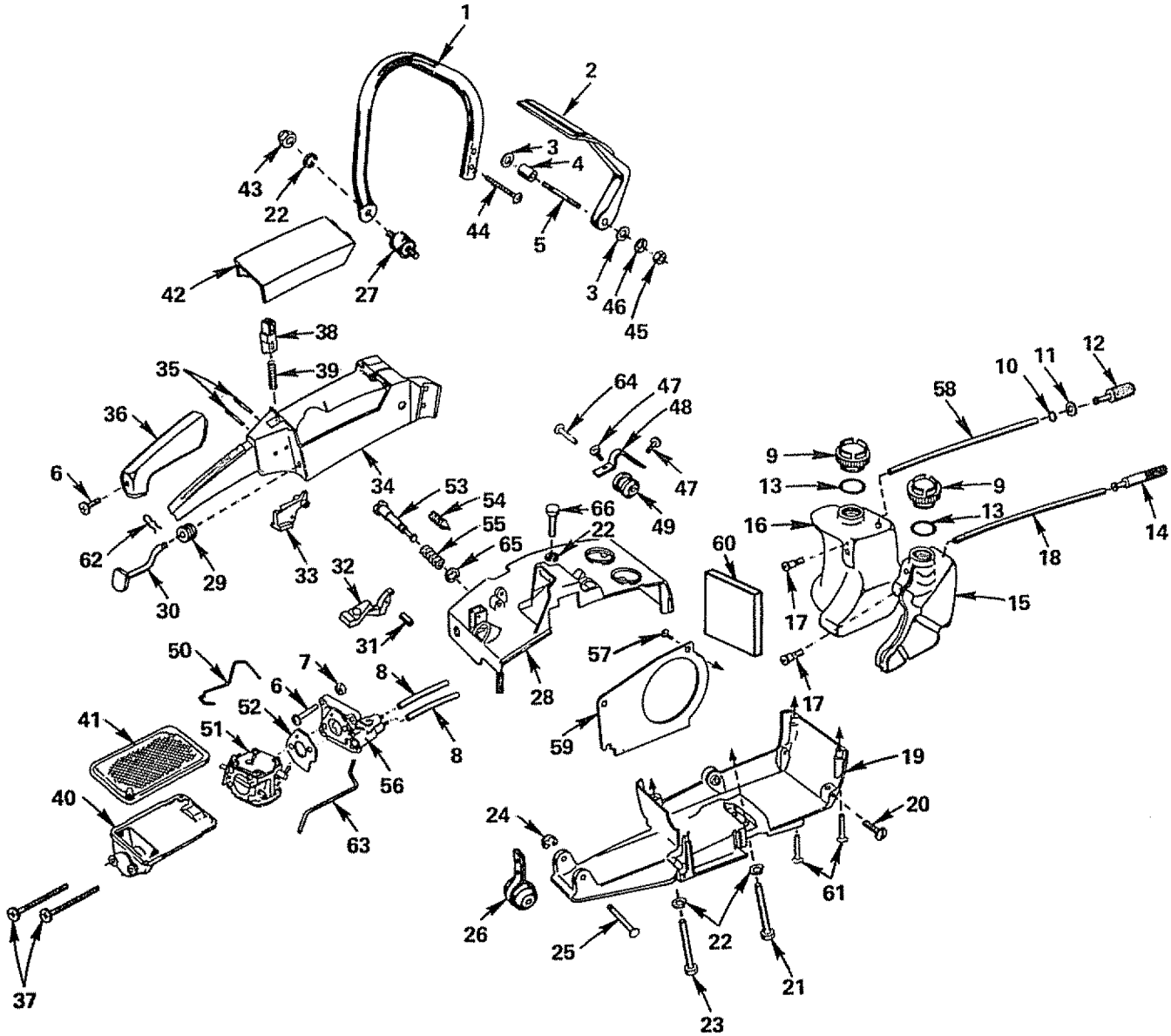
TROUBLE SHOOTING CONTINUED

POSSIBLE CAUSE AND CHECK	POSSIBLE REMEDY
ENGINE BACKFIRES OR MISFIRES	
Fuel Mix improper or contaminated	Drain tank and refill with freshly mixed fuel, page 4
Spark Plug fouled	Clean Spark Plug and regap or replace, page 14
Solid State intermittently shorting. CHECK: loose or bare wires or loose assemblies	Tighten assemblies, wrap wires
Defective Pyramid Reed Assembly	Replace
CHAIN TURNS WHEN ENGINE IS IDLING	
Carburetor misadjusted	Follow Carburetor Adjustment Instructions, page 12
Clutch Springs broken or weak	Replace Clutch Springs, page 14
Clutch Bearing seized or dry	Lubricate or replace
CHAIN WILL NOT TURN WHEN THROTTLE LEVER IS SQUEEZED	
Chain tensioned too tight	Follow Chain Tensioning Instructions, page 4
Guide Bar Rails pinched	Repair Guide Bar or replace, page 11
Clutch slipping	Replace Clutch Shoes, page 14
Carburetor misadjusted	Follow Carburetor Adjustment Instructions, page 12
Sprocket Nose Bearing seized	Replace Guide Bar
CHAIN STOPS WITHIN A CUT	
Chain cutter tops not filed flat	File Chain correctly or rotate or replace sharpening stone (917.353770 & 917.353771 ONLY) pages 9 - 11
Guide Bar burred or bent or rails uneven	Repair Guide Bar or replace, page 11
Clutch slipping excessively	Replace Clutch Shoes, page 14
CHAIN CUTS UNSATISFACTORILY OR PULLS QUICKLY	
Cutters dull, improperly sharpened, Depth Gauges too high	Follow Chain Sharpening Instructions, pages 9 - 11
Chain tension too tight or loose	Follow Chain Tensioning Instructions, page 4
Chain contact with dirt, sand, or frozen wood	Resharpen chain, pages 9 - 11
CHAIN OPERATES ROUGHLY, CHATTERS OR GRABS	
Chain tension too loose	Follow Chain Tensioning Instructions, page 4
Cutters not properly sharpened	Follow Chain Sharpening Instructions, pages 9 - 11
Worn Chain Sprocket	Replace, page 11
Chain rivet bearing wear due to use in dirt or sand or inadequate chain oiling	Replace Chain
Several cutters damaged through striking buried foreign material	Contact your nearest Sears Center for Cutter replacement
CUT TENDS TO SLANT	
Improper use	Hold and guide Saw properly, page 6
Bent, worn or burred Guide Bar	Repair or replace, page 11
Improper Chain sharpening, depth gauge lowering or stone rotation (917.353770 & 917.353771 ONLY)	Follow Chain Sharpening and Power Sharp Maintenance, pages 9 - 11
CHAIN BREAKAGE	
Maintain proper Chain tension	Follow Chain Tensioning Instructions, page 4
Guide Bar Rails pinched	Repair Guide Bar or replace, page 11
Cutting frozen wood	Keep Chain very sharp, pages 9 - 11
CHAIN JUMPS OFF	
Chain tension too loose	Follow Chain Tensioning Instructions, page 4
Worn Guide Bar	Replace
Broken Chain Side Link	Contact your nearest Sears Service Center for Chain repair
Worn Chain Sprocket	Replace, page 11
GUIDE BAR CHIPPED ON EDGES	
Applying excessive pressure to cut	Keep chain sharp, pages 9 - 11
Improper Guide Bar Maintenance	Remove burrs as they form, page 11
Improper Chain Lubrication. CHECK: page 6	Keep oil tank full, oil lines open and Manual Oiler operational, page 4
MANUAL OIL PUMP DOES NOT PUMP OIL	
Clogged Oil Pump	Replace
Clogged Oil Line	Blow out with compressed air
Clogged Oil Filter	Replace

REPAIR PARTS

SEARS 3.7 CHAIN SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

MAIN FRAME



REPAIR PARTS

SEARS 3.7 CHAIN SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

MAIN FRAME

KEY NO.	PART NO.	DESCRIPTION
1	9957R	Front Handle
2	771J	Hand Guard
3	1608P	Washer 3/8 x 7/8 x 14 Ga. Black Oxide
4	772J	Bushing
5	1487J	Stud
6	3375P	Machine Screw, Pan Hd. Phillips No. 10 - 24 x 3/4 Gr. 5
7	STD541410	*Hex Nut No. 10
8	4735R	Hose
9	9972R	Cap
10	9283H	"O" Ring
11	STD551012	*Washer 1/4 x 9/16 x 16 Ga.
12	9057H	Fuel Filter
13	6167H	"O" Ring
14	9991R	Oil Filter
15	676A5	Oil Tank Assembly (Inc. Key No's. 14, 17 and 18)
16	643A55	Fuel Tank Assembly (Inc. Key No's. 10, 12, 17 and 58)
17	9078H	Check Valve
18	5254R	Hose
19	676A19	Base Plate Assembly (Inc. Key No's. 23 and 24)
20	3317P	Machine Screw, Pan Flex Hd. Slotted 1/4 - 20 x 3/4 Gr. 5
21	STD522508	*Bolt, Hex Hd. 1/4 - 20 x 7/8 Gr. 5
22	STD551125	*Lockwasher 1/4
23	3374P	Bolt, Hex Hd. 1/4 - 20 x 2 - 5/8 Gr. 5
24	9052H	"E" Ring
25	876J	Pin
26	676A20	Rear Mount Assembly
27	9567R	Rubber Mount
28	643A54	Top Cover Assembly
29	9099H	Grommet
30	6J	Choke Control
31	507H	Roll Pin
32	1555J	Oil Pump Lever
33	9881R	Throttle Lever
34	676A21	Rear Handle Assembly (Inc. Key No's. 29, 33, 35, 38 and 39)
35	765J	Pin
36	9889R	Rear Handle Grip

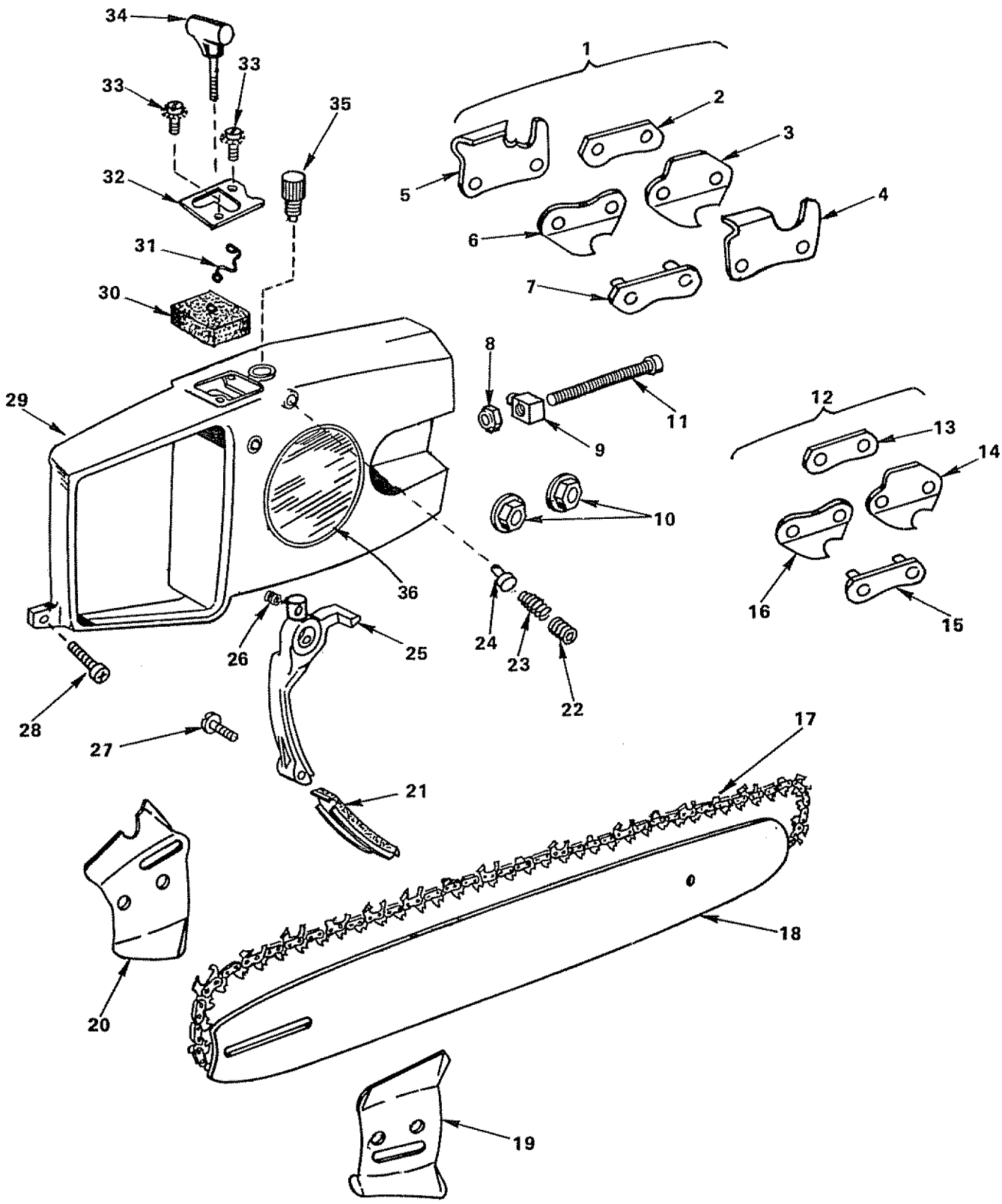
KEY NO.	PART NO.	DESCRIPTION
37	3376P	Machine Screw, Pan Hd. Phillips No. 10 - 24 x 3 Gr. 5
38	832J	Compression Release Button
39	2022J	Spring
40	9917R	Air Filter Adapter
41	9918R	Air Filter
42	9919R	Air Filter Cover
43	564P	High Crown Acorn Nut 1/4 - 20
44	3315P	Screw, Phillips Oval Hd. Machine No. 10 - 24 x 1 - 1/8 Gr. 5
45	584P	Hex Locknut 1/4 - 20
46	773J	Spring Washer
47	5564P	Screw, Pan Hd. Phillips No. 10 - 24 x 1/2 Type T
48	2J	Hold Down Clip
49	6806R	Rubber Mount
50	5J	Throttle Link
51		Carburetor
	12J	(917.353730 and 917.353770 ONLY)
	829J	(917.353731 and 917.353771 ONLY)
52	9094H	Gasket
53	9999R	Throttle Detent Pin
54	8J	Idle Adjustment Screw
55	1J	Spring
56	676A3	Carburetor Adapter and Oil Pump Assembly
57	5532P	Screw, Pan Hd. Slotted No. 6 - 32 x 5/16 Type 23
58	5255R	Hose
59	16J	Baffle Plate-Air Flow
60	5200R	Heat Barrier
61	5609P	Screw, Fil. Hd. Cross Recess No. 8 - 18 x 1 Type BT
62	1392J	Cotter External Hair Pin
63	4J	Oil Pump Rod
64	877J	Pin
65	5019P	"E" Ring
66	STD522507	*Bolt, Hex Hd. 1/4 - 20 x 3/4 Gr. 5
---	9557R	Warranty Label
---	776J	Instruction Decal
---	779J	Owners Manual

*STANDARD HARDWARE--PURCHASE LOCALLY

REPAIR PARTS

SEARS 3.7 CHAIN SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

CUTTING AND SHARPENING



REPAIR PARTS

SEARS 3.7 CHAIN SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

CUTTING AND SHARPENING

KEY NO.	PART NO.	DESCRIPTION
1	24065	Chain Repair Kit (917.353730 and 917.353731 ONLY) contains:
2		Plain Tie Strap (Two)
3		Guard Drive Link (One)
4		Cutter - R.H. (One)
5		Cutter - L.H. (One)
6		Drive Link (One)
7		Preset Tie Strap (Two)
8	4058R	Huglock Nut
9	9091H	Chain Tightener Block
10	6935H	Guide Bar Nut (Flange Nut 5/16 - 24 UNF)
11	3376P	Chain Tension Adjusting Screw (Machine Screw, Pan Hd. Phillips No. 10 - 24 x 3 Gr. 5 Full Thd.)
12	23935	Chain Repair Kit (917.353770 and 917.353771 ONLY) contains:
13		Plain Tie Strap (Two)
14		Guard Drive Link (One)
15		Preset Tie Strap (Two)
16		Drive Link (One)
17		Chain
	1154J	(917.353730 and 917.353731 ONLY) Sears Catalog No. 3633
	1155J	+(917.353770 and 917.353771 ONLY) Sears Catalog No. 3636
18	774J	Guide Bar - 18" Sears Catalog No.
19	9J	Chain Guide - Outer
20	10J	Chain Guide - Inner
21	632A146	Stone Assembly (917.353770 & 917.353771 ONLY)
22	STD502502	*Set Screw, Allen Hd. Cup Point 1/4 - 20 x 1/4 (917.353770 & 917.353771 ONLY)
23	8526H1	Spring (917.353770 & 917.353771 ONLY)
24	690J	Detent Pin (917.353770 & 917.353771 ONLY) Detent Pin
25	692J	Arctuate Arm (917.353770 and 917.353771 ONLY)
26	4541P	Set Screw, Allen Hd. Cup Point No. 6 - 32 x 1/4
27	3243P	Stone Retaining Screw (Machine Screw, Truss Hd. Slotted with Nylok No. 8 - 32 x 7/16)
28	3375P	Machine Screw, Pan Hd. Phillips No. 10 - 24 x 3/4 Gr. 5
29		Chain Shield
	9871R	(917.353730 and 917.353731 ONLY)
	643A53	(917.353770 and 917.353771 ONLY)
30	687J	Foam Filler (917.353770 and 917.353771 ONLY)
31	689J	Spring Clip (917.353770 and 917.353771 ONLY)
32	688J	Support Plate (917.353770 and 917.353771 ONLY)
33	6037P	Machine Screw, Pan Hd. Slotted - Sems No. 8 - 32 x 3/8 (917.353770 and 917.353771 ONLY)
34	676A17	Sharpener Knob Assembly (917.353770 and 917.353771 ONLY)
35	1008J	Adjustment Screw (917.353770 and 917.353771 ONLY)
36	1085J	Decal - 3.7/18"

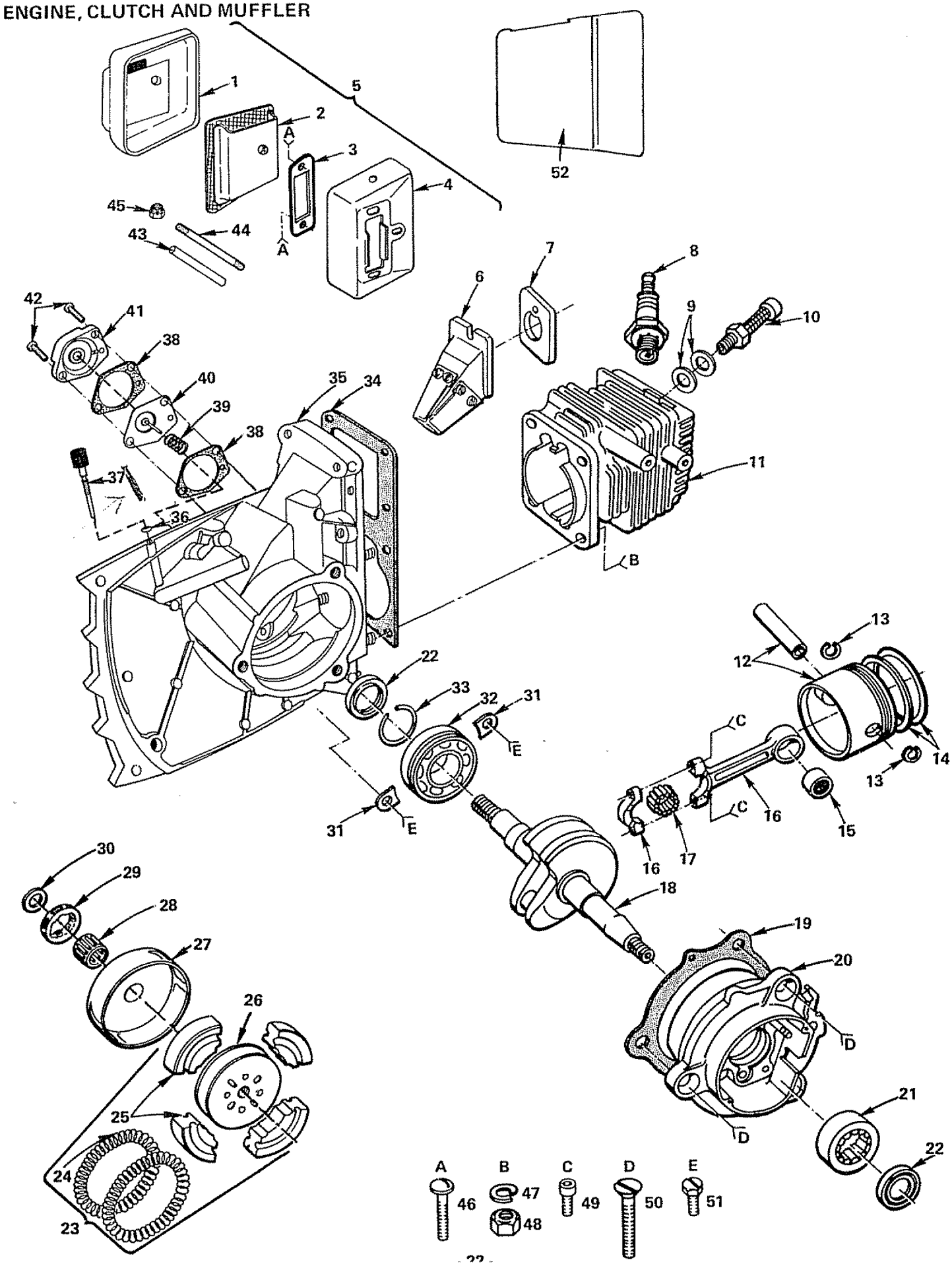
+A new Stone Assembly (Key No. 21) is shipped with each chain

*STANDARD HARDWARE--PURCHASE LOCALLY

REPAIR PARTS

SEARS 3.7 SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

ENGINE, CLUTCH AND MUFFLER



REPAIR PARTS

SEARS 3.7 SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

ENGINE, CLUTCH AND MUFFLER

KEY NO.	PART NO.	DESCRIPTION
---	643A56	Short Block Assembly - Complete Engine Not Furnished (Inc. Key No's. 11, 12, 14, 16 thru 20, 31, 32, 33, 35, 37 thru 42, 47, 48, 50 and 51)
1	676A8	Muffler Cap Assembly
2	676A16	Baffle and Screen Assembly
3	6317R	Muffler Support
4	9992R	Muffler Base
5	676A27	Muffler Parts (Inc. Key No's. 1, 2 & 4)
6	643A5	Reed Plate Assembly
7	9095H	Cork Gasket
8	9409H	Spark Plug
9	1844R	Washer
10	831J	Decompression Valve
11	9579R	Cylinder
12	643A12	Piston and Pin (Inc. Key No. 13)
13	9063H	Retaining Ring
14	643A18	Piston Rings (Set of 2)
15	2593R	Needle Bearing - Connecting Rod
16	643A1	Connecting Rod Assembly (Inc. Key No's. 15 and C)
17	9084H	Strip of Connecting Rod Needles (Set of 31)
18	9973R	Crankshaft
19	79J	Gasket
20	643A48	Bearing Carrier Assembly (Inc. Key No's. 21 and 22)
21	8999H	Keystone Bearing
22	8998H	Oil Seal
23	632A137	Centrifugal Clutch (Inc. Key No's. 24, 25 and 26)
24	8473H1	Clutch Spring
25	632A183	Clutch Shoes (Set of 4)
26	632A133	Clutch Hub and Washer Assembly
27	642A35	Clutch Drum and Bearing (Inc. Key No. 28)
28	9089H	Needle Bearing
29	9137H	Rimmed Sprocket
30	9110H	Clutch Spacer
31	9081H	Retainer Washer
32	9062H	Ball Bearing
33	9065H	Round Section - Retainer Ring
34	9963R	Gasket
35	643A49	Crankcase Assembly (Inc. Key No. 22)
36	9213H	"O" Ring
37	643A50	Metering Stem Assembly (Inc. Key No. 36)
38	9962R	Diaphragm Gasket
39	9974R	Diaphragm Spring
40	643A43	Diaphragm Assembly
41	1735J	Oil Pump Cover
42	3387P	Machine Screw, Fil. Hd. Cr. Recess No. 8 - 32 x 1/2 Gr. 5
43	9997R	Bushing
44	9998R	Muffler Stud
45	4058R	Huglock Nut
46	3178P	Machine Screw, Slotted Pan Flex Hd. 1/4 - 20 x 5/8 Gr. 5
47	STD551125	*Lockwasher 1/4
48	STD541125	*Hex Nut 1/4 - 28 UNF
49	1136R	Cap Screw Socket Hd. - Special
50	3250P	Machine Screw, Slotted Flat Hd. 1/4 - 20 x 11/16 Gr. 8
51	9086H1	Machine Screw, Slotted Hd. - Special
52	676A28	Muffler Cap Assembly (See Note Below)

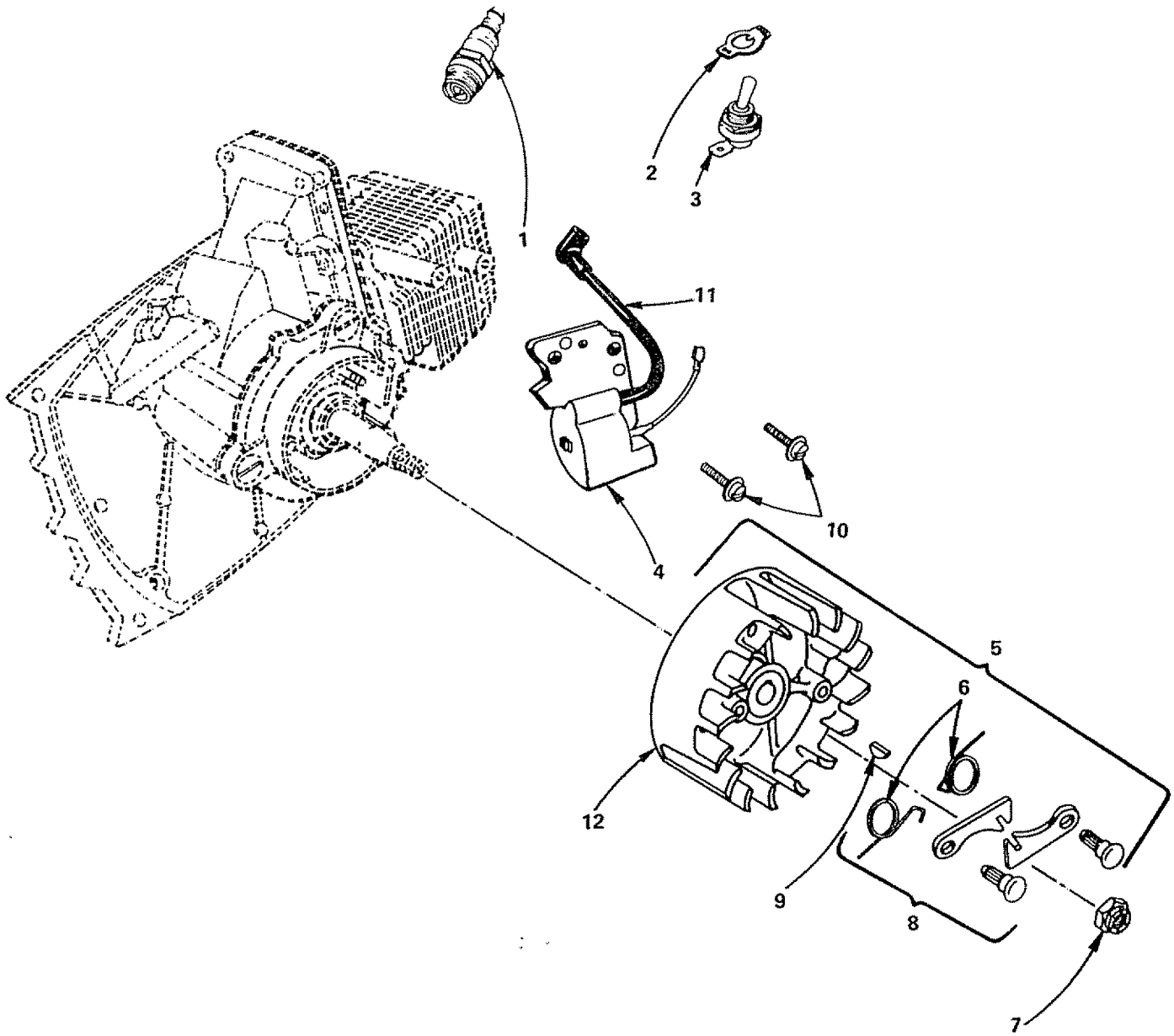
*STANDARD HARDWARE--PURCHASE LOCALLY

NOTE: A SPECIAL MUFFLER CAP ASSEMBLY MAY BE REQUIRED BY LOCAL LAW FOR USE IN FORESTS OR BRUSH AREAS. CHECK WITH YOUR STATE CONSERVATION OR FORESTRY DEPARTMENT.

REPAIR PARTS

SEARS 3.7 SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

SOLID STATE

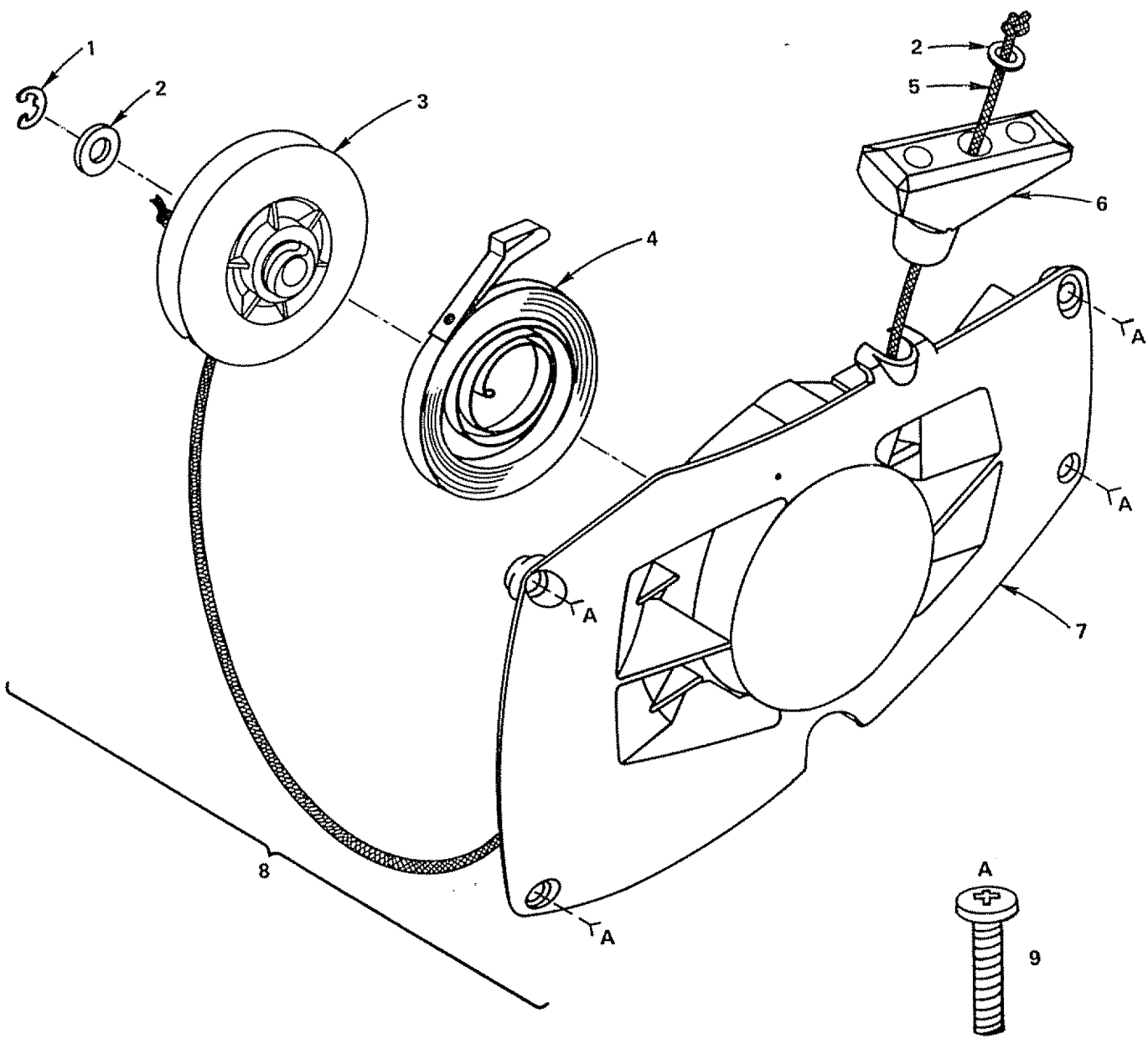


KEY NO.	PART NO.	DESCRIPTION
1	9409H	Spark Plug (Champion CJ-6)
2	7682R	Switch Plate
3	833J	Ignition Switch
4	808J	Solid State Ignition Group (Inc. Key No. 11)
5	643A4	Flywheel Assembly (Inc. Key No's. 8 and 12)
6	9072H	Torsion Spring
7	9070H	Huglock Nut
8	643A14	Starter Pawls and Posts with Springs (Inc. Key No. 6)
9	9087H	Woodruff Key
10	8989H	Slotted Fil. Hd. Machine Screw No. 8 - 32 x 3/4
11	9262H	High Tension Lead
12	9404H	Flywheel

REPAIR PARTS

SEARS 3.7 SAWS--MODEL NUMBERS 917.353730, 917.353731, 917.353770 AND 917.353771

RECOIL STARTER



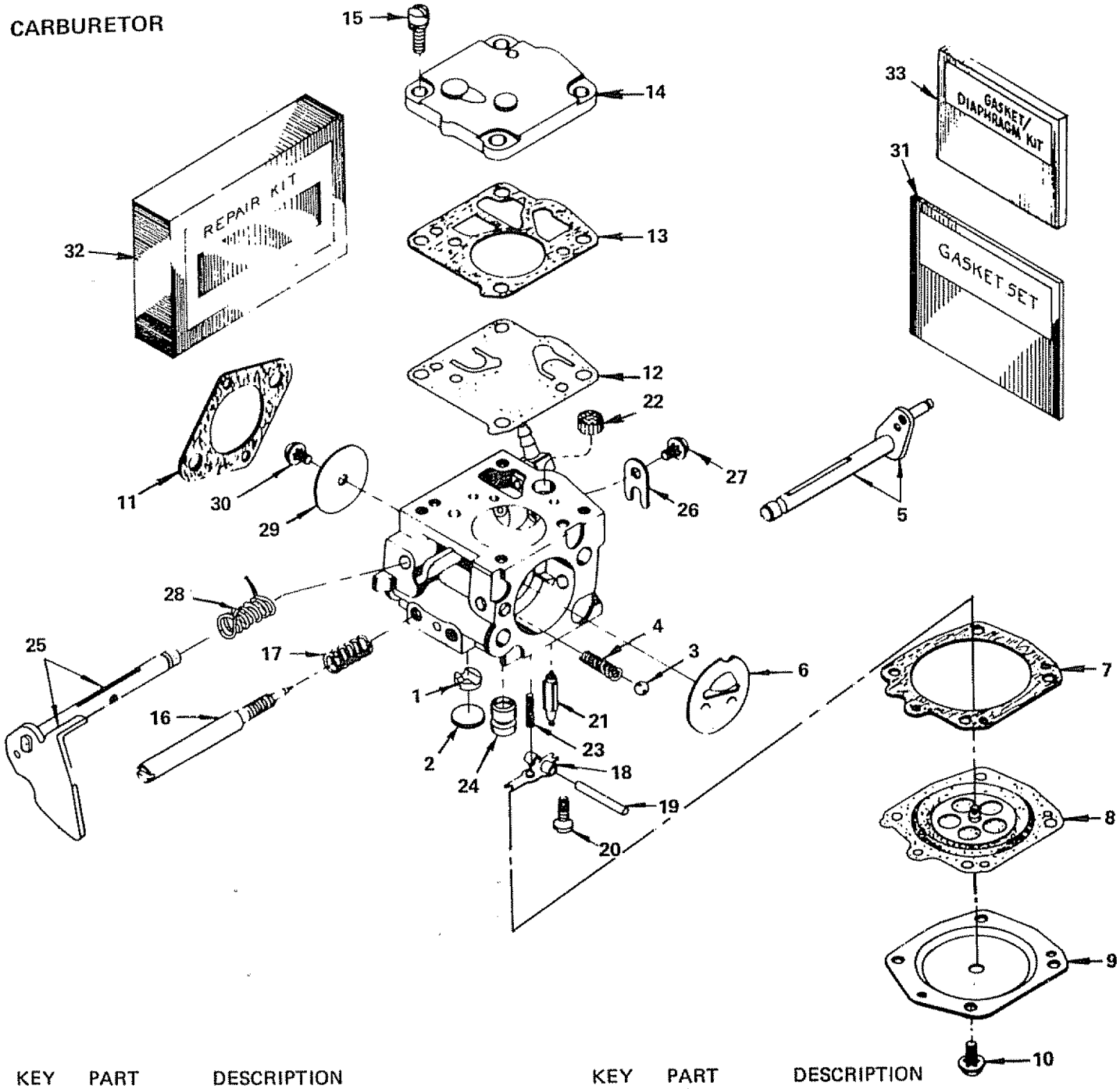
KEY NO.	PART NO.	DESCRIPTION
1	9052H	E-Ring
2	STD551012	*Washer 1/4 x 9/16 x 16 Ga.
3	1219J	Pulley, Starter
4	9117H	Spring, Starter
5	9143H	Rope, Starter (.156 Diameter x 42" Long)
6	9826R	Handle, Starter
7	9862R	Starter Housing
8	676A2	Starter Assembly (Inc. Key No's. 1 thru 7)
9	3375P	Machine Screw, Pan Hd. Phillips No. 10 - 24 x 3/4 Gr. 5

*STANDARD HARDWARE--PURCHASE LOCALLY

REPAIR PARTS

SEARS 3.7 CHAIN SAWS--MODEL NUMBERS 917.353730 AND 917.353770 ONLY

CARBURETOR



KEY NO.	PART NO.	DESCRIPTION
1	014125	*Body Channel Reducer
2	012809	*Body Channel Welch Plug (Large)
3	004784	Choke Friction Ball
4	008805	Choke Friction Spring
5	017994	Choke Shaft & Lever
6	013263	Choke Shutter
7	013215	†Diaphragm Gasket
8	013278	+Diaphragm
9	013216	Diaphragm Cover
10	008942	Diaphragm Cover Screw & Lockwasher (4)
11	9094H	†Gasket
12	013652	+Fuel Pump Diaphragm
13	013218	†Fuel Pump Gasket
14	013167	Fuel Pump Cover
15	011441	Fuel Pump Cover Ret. Screw & Lockwasher (4)
16	013621	Idle Mixture Screw
17	008793	*Idle Mixture Screw Spring
18	013395	*Inlet Control Lever
19	013210	*Inlet Fulcrum Pin
20	013269	*Inlet Fulcrum Pin Ret. Screw
21	013396	Inlet Needle
22	012727	*Inlet Screen
23	011503	*Inlet Tension Spring
24	016806	Main Nozzle and Jet (.028)
25	017995	Throttle Shaft & Lever
26	013219	Throttle Shaft Clip
27	010280	*Throttle Shaft Clip Ret. Screw
28	013518	*Throttle Shaft Return Spring
29	004119	Throttle Shutter
30	010280	*Throttle Shutter Screw & Lockwasher
31	GS-1HS	+Gasket Set (Inc. Parts Marked †)
32	RK-3HS	Repair Parts Kit (Inc. Parts Marked *)
33	DG-1HS	*Diaphragm & Gasket Set (Inc. Parts Marked +)

REPAIR PARTS

CHAIN SAW--MODEL NUMBER 917.353731 & 917.353771 ONLY

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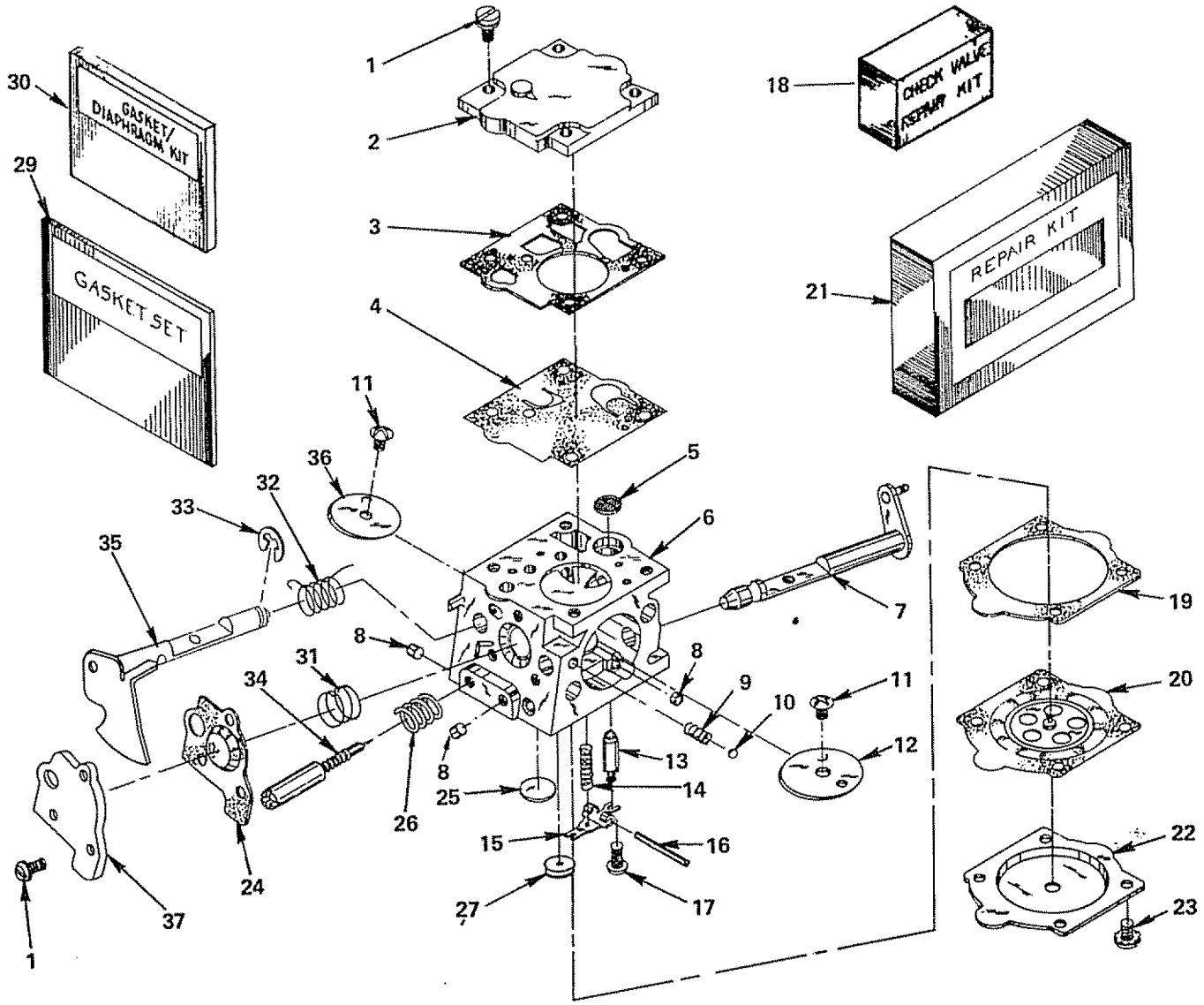


KEY NO.	PART NO.	DESCRIPTION
1	96-517	Screw - Cover
2	21-88	Cover - Fuel Pump
3	92-93	Gasket - Fuel Pump
4	95-21	Diaphragm - Fuel Pump
5	140-33	Screen - Fuel Inlet
6	5-1656	Body Assembly - Carburetor
7	40-631	Choke - Shaft & Lever Assembly
8	88-14	Plug - Cup
9	98-162	Spring - Choke Friction
10	89-13	Ball - Choke Friction
11	96-526	Screw - Valve
12	62-42	Valve - Choke
13	82-26	Valve - Inlet Needle
14	98-182	Spring - Metering Lever
15	166-35	Lever - Metering
16	144-60	Pin - Metering Lever
17	96-156	Screw - Metering Lever Pin
18	300-944	*Kit - Check Valve Repair (Main Nozzle)
19	92-94	Gasket - Metering Diaphragm
20	95-515	Diaphragm - Assembly Metering
21	325-500	Kit - Kwik (Inc. Key No's. 5, 9 - 11, 13 - 17, 24 - 26, 30 - 32 & 34)
22	21-112	Cover - Metering Diaphragm
23	96-543	Screw - Fuel Pump Cover
24	95-44	Diaphragm - Acc. Pump
25	88-23	Plug - Welch, Idle, 3/8
26	98-160	Spring - Needle
27	112-165	Jet, Main
28	96-265	Screw - Idle Adjustment
29	92-524	Gasket - Service Set (Inc. Key No's. 3 & 19)
30	350-500	Kit - Gasket/Diaphragm (Inc. Key No's. 3, 4, 19 & 20)
31	98-261	Spring - Acc. Pump
32	98-163	Spring - Throttle Return
33	16-33	Ring - Throttle Shaft Retainer
34	102-56	Needle - Idle
35	30-808	Throttle - Shaft & Lever Assembly
36	34-44	Valve - Throttle
37	21-116	Cover - Accelerator Pump

*INCLUDES VALVE DISC CHECK AND SEAT ASSEMBLY CHECK VALVE (NOT ILLUSTRATED)

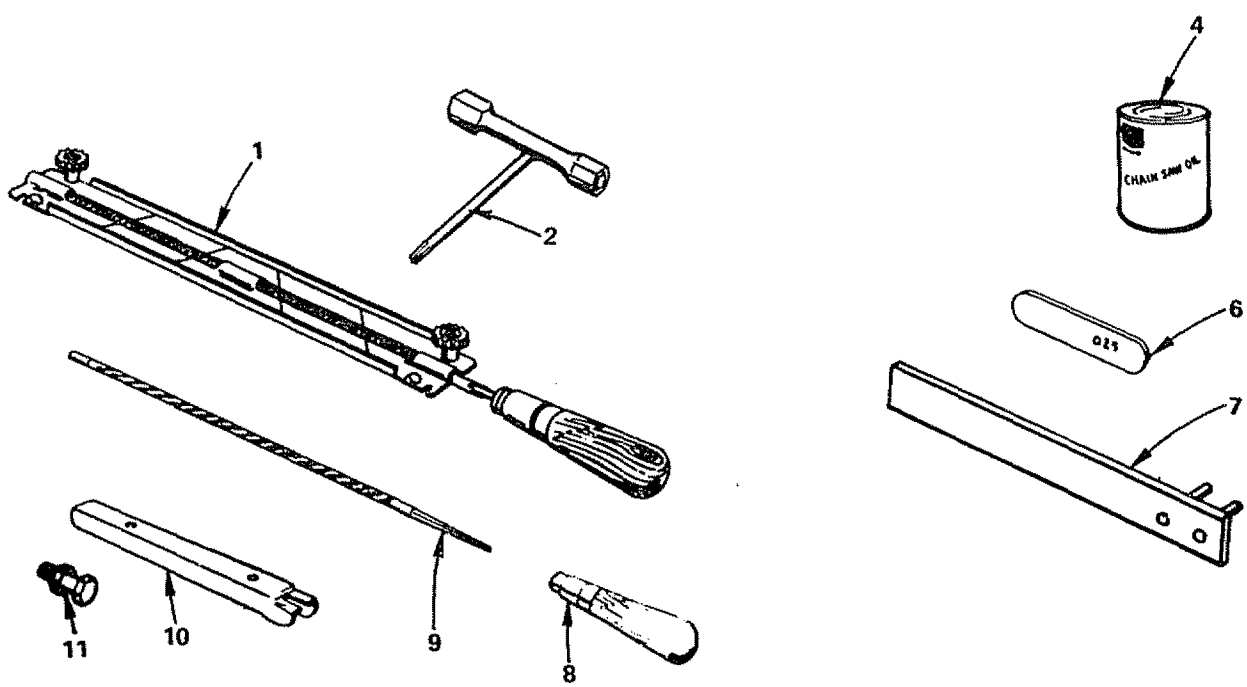
ACCESSORIES AND REPAIR PARTS

AVAILABLE THROUGH YOUR NEAREST SEARS SERVICE OR CATALOG OUTLET.

CATALOG NO.	DESCRIPTION
	Chain
3633	(917.353730 & 917.353731)
3636	(917.353770 & 917.353771)
36367	Guide Bar 18"
	Chain File and Guide
36501	3/16" Diameter (917.353730 & 917.353731 ONLY)
36516	5/32" Diameter (917.353770 & 917.353771 ONLY)
36178	Muffler Heat Shield Kit

CATALOG NO.	DESCRIPTION
	Chain File
36525	3/16" Diameter (917.353730 & 917.353731 ONLY)
36524	5/32" Diameter (917.353770 & 917.353771 ONLY)
36609	Chain Saw Case
36512	Snap - On Chain Guard
36555	Craftsman Chain Saw Oil
36554	Chain/Bar Lubricant

MAINTENANCE KIT (NOT INCLUDED WITH CHAIN SAW)



AVAILABLE THROUGH YOUR NEAREST SEARS SERVICE CENTER.

KEY NO.	PART NO.	DESCRIPTION
1		File Holder and File
	2155R	3/16" Diameter (917.353730 & 917.353731 ONLY)
	2160R	5/32" Diameter (917.353770 & 917.353771 ONLY)
2	780J	+Wrench
4	4001R	+Oil, Chain Saw
6	1338R	Gap Gauge .025 (For Spark Plug)

KEY NO.	PART NO.	DESCRIPTION
7	632A9A	Wrench, Clutch Spanner
8	6299H	Handle, File
9		File
	36548	3/16" Diameter (917.353730 & 917.353731 ONLY)
	4302R	5/32" Diameter (917.353770 & 917.353771 ONLY)
10	5674H	Depth Gauge (917.353730 & 917.353731 ONLY)
11	648A34	Flywheel Driver

+INCLUDED WITH CHAIN SAW

SERVICE NOTES

Printed in U.S.A.

Sears

MODEL NOS.
917.353730
917.353731
917.353770
917.353771

HOW TO ORDER REPAIR PARTS

MODEL NUMBER

The Model Number will be found on the Model Plate located below "ON-OFF" Switch. Always mention the Model Number when requesting service or repair parts for your Chain Saw.

REPAIR PARTS

All parts listed herein may be ordered from any SEARS, ROEBUCK AND CO. retail or catalog store.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- THE PART NUMBER
- THE PART DESCRIPTION
- THE MODEL NUMBER
- THE NAME OF MERCHANDISE

If the parts you need are not stocked locally, your order will be electronically transmitted to a Sears Repair Parts Distribution Center for "expedited handling".

SEARS SERVICE

Your Sears merchandise takes on added value when you discover that Sears has over 2,000 Service Units throughout the country. Each is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

Sears, Roebuck and Co., Chicago, Ill. 60684, U.S.A.