

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

FULL ONE YEAR WARRANTY ON GASOLINE CHAIN SAW (Excluding Bar, Chain, Spark Plug, Air Filter and Starter Rope) For one year from date of purchase, when you maintain, lubricate, and tune up this chain saw according to the operating and maintenance instructions in the owner's manual. Sears will repair defects in material or workmanship in this gasoline

and maintenance instructions in the owner's manual, Sears will repair defects in material or workmanship in this gasoline chain saw at no charge.

This warranty excludes the bar, chain, spark plug, air filter, and starter rope which are expendable parts and become worn during normal use.

If this chain saw is used for commercial or rental purposes, this warranty applies for only 30 days from date of purchase. WARRANTY SERVICE IS AVAILABLE BY RETURNING THE CHAIN SAW TO THE NEAREST SEARS SERVICE CENTER IN 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, Dept. 698/731A, Chicago, IL 60684

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SPECIFICATIONS

MODEL	358.356081 (3.0 18")
CU. IN. DISPLACEMENT	3.0 cu. in. 49 cu. cm.
GUIDE BAR-LO-KICK*	18" Sprocket Nose
CHAIN - OREGON*	3/8 Extended Pitch
Xtra GUARD*	Chrome Cutters-66 Drive Links
SPARK PLUG	Champion CJ-8Y
SPARK PLUG GAP	.023 to .027
IGNITION	Solid State
MODULE AIR GAP	.008 to .014
FUEL MIX	Gasoline/Oil Mixture 16:1
MUFFLER	Spark Arresting Temperature Limiting
OILER SYSTEM	Automatic Manual
FUEL TANK CAPACITY	19 oz. 562 cu.s cm.
OIL TANK CAPACITY	12 oz. 355 cu. cm.



SPECIAL SAFETY SECTION

GUARD AGAINST KICKBACK

Kickback is a dangerous reaction that can lead to serious personal injury. *Do not rely only on the safety devices provided with your saw.* As a chain saw user, you *must* take special safety precautions to help keep your cutting jobs free from accident or injury.

. Ì∖ KICKBACK WARNING

Kickback can occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of saw control which can result in serious personal injury.





Figure 3

REDUCE THE CHANCE OF KICKBACK

- 1. Recognize that kickback can happen. With a basic understanding of kickback, you can reduce the element of surprise which contributes to accidents.
- 2. Never let the moving chain contact any object at the tip of the guide bar. Figure 1.
- 3. Keep the working area free from obstructions such as other trees, branches, rocks, fences, stumps, etc. Figure 2. Eliminate or avoid any obstruction that your saw chain could hit while you are cutting through a particular log or branch.
- 4. Keep your saw chain sharp and properly tensioned. Follow manufacturer's chain sharpening and maintenance instructions. Check tension at regular intervals with the engine stopped, never with the engine running. Make sure the bar clamp nuts are securely tightened after tensioning the chain. A loose or dull chain can increase the chance of kickback to occur.
- 5. Begin and continue cutting at full throttle. If the chain is moving at a slower speed, there is greater chance for kickback to occur.
- 6. Cut one log at a time.
- 7. Use extreme caution when re-entering a previous cut.
- 8. Do not attempt plunge cuts.
- 9. Watch for shifting logs or other forces that could close a cut and pinch or fall into the chain.
- 10. Use the Reduced-Kickback Guide Bar and Low-Kickback Chain specified for your saw.

MAINTAIN CONTROL

- 1. Keep a good firm grip on the saw with both hands when the engine is running and don't let go. Figure 3. A firm grip can neutralize kickback and help you maintain control of the saw. Keep the fingers of your left hand encircling and your left thumb under the front handlebar. Keep your right hand completely around the rear handle whether you are right handed or left handed. Keep your left arm straight with the elbow locked.
- 2. Position your left hand on the front handlebar so it is in a straight line with your right hand on the rear handle when making bucking cuts. Figure 3. Never reverse right and left hand positions.
- 3. Stand with your weight evenly balanced on both feet.
- 4. Stand slightly to the left side of the saw, to keep your body from being in a direct line with the cutting chain. Figure 3.
- 5. Do not overreach. You could be drawn or thrown off balance and lose control of the saw.
- 6. Do not cut above shoulder height. It is difficult to maintain control of the saw above shoulder height.

SPECIAL SAFETY SECTION (continued)

🗥 WARNING

Because a chain saw is a high-speed wood-cutting tool, special safety precautions must be observed to reduce the risk of personal accidents. Careless or improper use can cause serious personal injury.



KNOW YOUR SAW

- 1. Read your Operator's Manual carefully until you completely understand and can follow all safety rules and operating instructions before attempting to operate the unit.
- 2. Restrict the use of your saw to adult users who understand and follow the safety rules, precautions, and operating instructions found in this manual.

PLAN AHEAD

- 1. Wear personal protective gear. Figure 4. Always use steel-toed safety footwear with non-slip soles; snug-fitting clothing; heavy-duty non-slip gloves; eye protection such as non-fogging, vented goggles or face screen; an approved safety hard hat, and sound barriers ear plugs or mufflers to protect your hearing. Regular users should have hearing checked regularly as chain saw noise can damage hearing.
- 2. Keep children, bystanders, and pets out of the work area — a minimum of 30 feet (10 meters). Do not allow other people or animals to be near the chain saw when starting or operating the chain saw.
- 3. Do not handle or operate a chain saw when you are fatigued, ill, or upset; or if you have taken alcohol, drugs or medication. You must be in good physical condition and mentally alert. Chain saw work is strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating a chain saw.

- 4. Do not attempt to use your chain saw during ba weather conditions such as strong wind, rain, snot etc., or at night.
- 5. Plan your sawing operation carefully in advance. C not start cutting until you have a clear work area, secur footing, and if you are felling trees, a planned retreat pat

AVOID REACTIVE FORCES

Pinch-Kickback and Pull-in occur when the chain i suddenly stopped by being pinched, caught, or b contacting a foreign object in the wood. This results in reversal of the chain force used to cut wood and causes the sat to move in the opposite direction of chain rotation. Pinch Kickback drives the saw straight back toward the operato. Pull-in pulls the saw away from the operator. Either reaction can result in loss of control and possible serious personal injun

To avoid Pinch-Kickback:

- 1. Be extremely aware of situations or obstruction: that can cause material to pinch the top of or other wise stop the chain.
- 2. Do not cut more than one log at a time.
- 3. Do not twist the saw as the bar is withdrawn from ar under-cut when bucking.

To avoid Pull-in:

- Always begin cutting with the engine at full throttle and the spur against the wood.
- 2. Use wedges made of plastic or wood, (never of metal) to hold the cut open.

HANDLE FUEL WITH CAUTION

- 1. Eliminate all sources of sparks or flame in the areas where fuel is mixed, poured, or stored. There should be no smoking, open flames, or work that could cause sparks.
- 2. Mix and pour fuel in an outdoor area, on bare ground store fuel in a cool, dry, well-ventilated place; and use an approved, marked container for all fuel purposes
- 3. Wipe up all spilled fuel before starting your saw
- Move at least 10 feet (3 meters) away from fuel and fueling site before starting the engine.
- 5. Do not smoke while handling fuel or while operating the saw.
- 6. Turn the engine off and let your saw cool before removing the fuel tank cap and refueling the unit
- 7. Let the saw cool in a non-combustible area, not or dry leaves, straw, paper, etc.

OPERATE YOUR SAW SAFELY

- 1. Do not operate a chain saw that is damaged, improperly adjusted, or not completely and securely assembled.
- 2. Operate the chain saw only in outdoor areas.
- 3. Do not operate the saw from a ladder or in a tree.
- 4. Position all parts of your body to the left of cut and away from the saw chain when the engine is running.
- Cut wood only. Do not use your saw to pry or shove away limbs, roots or other objects.
- 6 Make sure the chain will not make contact with any object while starting the engine. Never try to start the saw when the guide bar is in a cut or kerf.
- Use extreme caution when cutting small size brush and saplings. Slender material can catch the saw chain and be whipped toward you or pull you off balance.
- 8. Be alert for springback when cutting a limb that is under tension so you will not be struck by the limb or saw when the tension in the wood fibers is released.
- 9. Do not put pressure on the saw at the end of a cut. This can cause you to lose control when the cut is completed.
- 10. Stop the engine before setting the saw down.

MAINTAIN YOUR SAW IN GOOD WORKING ORDER

- 1. Have all chain saw service performed by a qualified service dealer with the exception of the items listed in the maintenance section of this manual. For example, if improper tools are used to remove or hold the flywheel when servicing the clutch, structural damage to the flywheel can occur and cause the flywheel to burst.
- Keep fuel and oil caps, screws and fasteners securely tightened.
- 3. Keep the handles dry, clean, and free of oil or fuel mixture.
- 4. Make certain the saw chain stops moving when the throttle trigger is released. For correction, refer to page 20 for carburetor idle adjustment instructions.
- 5. Stop the saw if the chain strikes a foreign object. Inspect the unit and repair or replace parts as necessary.
- 6. Disconnect the spark plug before performing any maintenance except for carburetor adjustments.
- Never modify your saw in any way. Use only attachments supplied or specifically recommended by the manufacturer.
- 8. Always replace the handguard immediately if it becomes damaged, or broken or is otherwise removed.

CARRY AND STORE YOUR SAW SAFELY

- 1. Hand carry the unit with the engine stopped, the muffler away from your body, and the guide bar and chain to the rear covered preferably with a scabbard.
- 2. Before transporting in any vehicle or storing in any enclosure, allow your saw to cool completely, cover the bar and chain and properly secure to avoid turnover, fuel spillage or damage.
- 3. Drain oil and fuel tank before storing for more than 30 days.
- 4. Store in a dry area out of reach of children and away from where fuel vapors can reach sparks or an open flame from hot water heaters, furnaces, etc.
- NOTE: Exposure to vibrations through prolonged use of chain saws may produce Whitefinger disease (Raynaud's phenomenon). This phenomenon reduces the hand's ability to feel and regulate temperature, produces numbness and burning sensations and can cause nerve and circulation damage and tissue necrosis.

An anti-vibration system designed to reduce engine vibration is recommended for those using chain saws on a regular or sustained basis. An antivibration system does not guarantee the avoidance of Whitefinger disease. Continual and regular users must monitor closely their use of chain saws and physical condition.

Notice: Refer to the Code of Federal Regulations, Section 1910.266(5); 2.5.1 of American National Standard Safety Requirements for Pulpwood Logging, ANSI 03.1-1978; and relevant state safety codes when using a chain saw for logging purposes.

SAVE THESE INSTRUCTIONS

KNOW YOUR CHAIN SAW

A. INTRODUCTION

- Your saw has been designed with safety in mind and includes the following features as standard equipment:
 - Reduced-Kickback Guide Bar (Lo-Kick®)
 - Low-Kickback Chain (Xtra GUARD*)
 - Spark Arrestor
 - Temperature Limiting Muffler
 - Handguards
 - Counter-Vibe® Anti-Vibration System

The following features are included on your saw to help reduce the hazard of kickback, however, such features will not totally eliminate this dangerous reaction. As a chain saw user, do not rely only on safety devices. You must follow all safety precautions, instructions and maintenance in this manual to help avoid kickback and other forces which can result in serious personal injury.

B. KICKBACK SAFETY FEATURES

- Reduced-Kickback Guide Bar, designed with a small radius tip which reduces the size of the kickback danger zone on the bar tip. Figure 5. A Reduced Kickback Guide Bar is one which has been demonstrated to significantly reduce the number and seriousness of kickbacks when tested in accordance with the safety requirements for gasoline powered chain saws as set by the American National Standards Institute, Inc., Standard B175.1 - 1985.
- Low-Kickback Chain, designed with a contoured depth gauge and guard link which deflect the kickback force and allow wood to gradually ride into the cutter. Figure 5. Low Kickback Saw Chain is chain which has met the kickback performance requirements of ANSI B175.1 (Safety Requirements for Gasoline -Powered Chain Saws) when tested on a representative sample of chain saws below 3.8 cubic inch displacement specified in ANSI B175.1. (American National Standards Institute, Inc., Standard B175.1 - 1985).
- Handguard, designed to reduce the chance of your left hand contacting the chain if your hand slips off the front handlebar.
- Position of front and rear handlebars, designed with distance between handles and "in line" with each other. The spread and "in line" position of the hands provided by this design work together to give balance and resistance in controlling the pivot of the saw back toward the operator if kickback occurs.

WARNING

Do not operate the chain saw unless the safety devices or their specified replacements are properly installed and maintained according to the instructions in this manual. Do not use any other guide bar and chain combination that is not equivalent to the original equipment or not certified to comply with ANSI B175.1. Failure to follow these instructions can result in serious personal injury.



Figure 5

C. STATE AND LOCAL REQUIREMENTS Your saw is equipped with a temperature limiting

Your saw is equipped with a temperature limiting muffler and spark arresting screen which meets the requirements of California Codes 4442 and 4443. All U.S. forest land and the states of California, Maine, Washington and Oregon require many internal combustion engines to be equipped with a spark arrestor screen by law.

If you operate a chain saw in a state or locale where such regulations exist, you are legally responsible for maintaining the operating condition of these parts. Failure to do so could subject you to liability or to a fine. Muffler and spark arrestor maintenance is found on page 17.

D. CARTON CONTENTS

After you unpack the carton:

- 1. Check the contents against the list below.
- 2. Examine the items for damage.
- 3. Notify your Sears store immediately if a part is missing or damaged.

NOTE: A rattle-like noise in a powerhead with an empty fuel or oil tank is a normal condition, caused by a filter moving against the wall of an empty tank.



A. GETTING READY

1. READ YOUR OPERATOR'S MANUAL CAREFULLY.

Your Operator's Manual has been developed to help you prepare your saw for use and to understand its safe operation. It is important that you read your manual completely to become familiar with the unit *before* you begin assembly.

2. HAVE THE FOLLOWING AVAILABLE:

- a. Protective gloves
- b. Approved, marked fuel container
- c. One gallon regular gasoline.
- d. 8 oz. (1/2 pt.), 2-cycle, air-cooled engine oil - provided with your unit.
- e. Scrench provided with your unit. The long end of the tool can be used as a slotted screwdriver. The small pipe end can be used as a socket wrench. The larger pipe end can be used to remove the spark plug.
- f. Phillips Screwdriver

WARNING

Do not use the saw without the handguard in place. Always replace the handguard immediately if it becomes damaged, broken or is otherwise removed.

- Lift and carry the chain saw by the handlebar, not by the handguard.
- Keep the handguard securely fastened at all times. Check the handguard screws each time the saw is used.

To install:

- 1. Align the Handguard and Handguard Cap around the handlebar as shown in Figure 6.
- 2. Fit the mounting pin on the Handguard into the hole in the handlebar. Figure 1.
- Insert the 3 mounting screws into the 3 holes on the Handguard Cap.
- Turn each screw with a Phillips screwdriver a little at a time clockwise, until the Handguard Cap and Handguard meet and there is no gap between the two parts.



Figure 7

B. ATTACHING THE HANDGUARD

The Handguard is a protective device designed to reduce the chance of your left hand contacting the chain if your hand slips off the front handlebar.



Figure 6

C. ATTACHING THE SPUR

The spur is a special piece of equipment designed to assist the cutting operation. When assembled to the saw, the spur will dig into the tree or log and:

- relieve contact pressure adding ease to the sawing operation.
- allow the saw to be more easily rotated or pivoted into the cut.

To install:

- 1. Remove Bar Clamp Nuts, Bar Clamp Housing and Guide Bar Plates.
- Align the spur over the two holes on the bar clamp side of the saw. Figure 2.
- Insert the two screws and tighten evenly and securely.

D. ATTACHING THE BAR AND CHAIN

CAUTION: Wear protective gloves when handling or operating your saw. The chain is sharp and can cut you even when it is not moving!

- Your saw is equipped with a Reduced-Kickback Guide Bar and a Low-Kickback Chain designed to help reduce kickback.
- Always use the Reduced-Kickback Guide Bar and the Low-Kickback Chain specified for your chain saw model, when replacing these parts.

🗥 WARNING

Do not start engine without guide bar and chain completely assembled. Otherwise, the clutch can come off and serious personal injury can result.

1. Install the Inner Guide Plate over the bar mounting studs. Figure 8.

NOTE: Be sure the Inner Guide Plate curves or flanges toward the saw frame away from the Guide Bar. Figure 9.

2. Mount the Guide Bar with the slotted end over the bar mounting studs. Figure 10.

NOTE: Be sure the Guide Bar is positioned with the round hole below the large slot.

- 3. Hold chain with cutters facing as shown ir Figure 11.
- 4. Place chain over and behind the clutch drum onto the sprocket.
- 5. Slide Guide Bar to the rear of the saw as fai as possible.
- 6. Fit the bottom of the drive links between the teeth in the sprocket.
- 7. Start at the top of the bar and fit the chain drive links into the groove around the Guide Bar. Figure 11.
- 8. Pull the Guide Bar forward until the chain is snug in the guide bar groove. Figure 12.
- 9. Install the outer guide plate. Figure 9.
- 10. Slide the Bar Clamp Housing over the mounting studs and fit the bar adjusting pin (Figure 13) into the adjusting pin hole in the Guide Bar. Figure 12.
- 11. Replace the Bar Mounting Nuts and tighten finger tight only.

NOTE: The Bar Clamp nuts must be slightly loose to tension the chain correctly.

Chain

12. Follow "Chain Tension" instructions on page 9.



Figure 10





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E. CHAIN TENSION

- Correct chain tension is very important:
 - -a loose chain will wear the bar and itself.
 - -a loose chain can jump off the bar while you are cutting.
 - a tight chain can damage the saw and/or break.
- Chain tension is correct when the chain:
 -- can be lifted about 1/8" from the Guide Bar at a point near the middle of the bar, and
 -- will move freely around the bar.
- The chain stretches during use, especially when new. Check tension:
 — each time the saw is used
 - more frequently when the chain is new
- The Bar Clamp Nuts must be slightly loose to tension the chain correctly.
- 1. Hold the tip of the Guide Bar up and turn the Adjusting Screw just until the chain does not sag beneath the Guide Bar. Figure 14.

NOTE: Turn screw clockwise to tighten tension. Turn screw counterclockwise to loosen tension.

2. Check the tension by lifting the chain from the Guide Bar at the center of the bar. Figure 15.

F. ENGINE FUEL MIXTURE

- Your chain saw is powered by a two-cycle engine which requires a fuel mixture of regular, unleaded gasoline and a high quality engine oil specially made for 2-cycle, air-cooled engines. The internal design of the 2-cycle engine requires lubrication of moving parts. Lubrication is provided when you use the recommended mixture of gasoline and oil.
- Gasoline must be clean and not over two months old. After a short period of time, gasoline begins to chemically break down and will form compounds that can cause hard starting and damage in 2-cycle engines.
- The correct measure of gasoline to oil is very important.
 - Too much oil in the mixture will foul the spark plug.
 - -Too little oil will cause the engine to overheat resulting in damage.
- Mix the fuel thoroughly in a container since gasoline and oil do not readily combine. Do not try to mix fuel directly in the fuel tank.

- 3. Continue turning the Adjusting Screw until the tension is correct.
- 4. Hold the tip of the Guide Bar up and tighten the Bar Clamp Nuts with the Scrench.
- 5. Recheck tension.





1. USE THE FOLLOWING FUEL MIXTURES:



- 2. DO NOT USE:
 - BIA Oil (Boating Institute of America)

 Does not have proper additives for aircooled, 2-cycle engines and could cause damage.
 - AUTOMOTIVE OIL --
 - Does not have proper additives for 2-cycle engines and could cause damage.
 - GASOLINE CONTAINING ALCOHOL (High Test, Premium or Gasohol)

 - Increases vaporlock (causes hard starting).
 - Attracts water causing corrosion damage.

3. HOW TO MIX FUEL

- a. Pour one-half of the gasoline into an approved, marked container. Do not try to mix oil and gasoline directly in the fuel tank.
- b. Add entire measure of 2-cycle Engine Oil.
- c. Mix.
- d. Add remainder of gasoline.
- e. Mix thoroughly for one minute.





G. BAR AND CHAIN OIL

- The guide bar and cutting chain require continuous lubrication in order to remain in operating condition. Lubrication is provided by the automatic oiler system when the oil tank is kept filled.
 - -Lack of oil will quickly ruin the bar and chain.
 - —Too little oil will cause overheating shown by smoke coming from the chain and/or discoloration of the guide bar rails.
- Use Sears Bar and Chain Lubricant #71-36554
- or clean SAE 30W oil.
- In freezing weather oil will thicken, making it necessary to thin bar and chain oil with a small amount of Diesel Fuel #1 or Kerosene. Bar and chain oil must be free flowing for the oil system to pump enough oil for adequate lubrication.



Figure 17

4. IMPORTANT POINTS

- a. Use only recommended fuel mixtures.
- b. Eliminate all sources of sparks or flame in the areas where fuel is mixed, poured, or stored. There should be no smoking, open flames or work that could cause sparks.
- c. Use an approved, marked container for all fuel purposes.
- d. Mix and pour fuel in an outdoor area on bare ground. Store fuel in a cool, dry, wellventilated place. Gasoline vapors are harmful to your health and are a serious fire hazard. Use a funnel or spout when pouring fuel.
- e. Avoid over filling the fuel tank. Allow 3/4 inch for expansion. Tighten Fuel Cap securely. Figure 16.
- f. Wipe up all fuel spills. Wipe off any fuel spilled on the saw. Completely dry the saw before using.
- g. Move at least 10 feet (3 meters) away from fuel and fueling site before starting the engine.

1. USE THE FOLLOWING:

- 30°F or above Lubricant undiluted.
 - 30°F 0°F 95% lubricant to 5% Diesel Fuel #1 or Kerosene.
 - Below 0°F —

90% lubricant to 10% Diesel Fuel #1 or Kerosene.

2. HOW TO FILL THE OIL TANK

- a. Stop the engine.
- b. Turn saw on its side with oil cap up. Figure 17.
- c. Loosen cap slowly and wait for pressure in the tank to be released before removing the cap.
- d. Fill the oil tank.
- e. Replace the oil cap securely.

3. IMPORTANT POINTS TO REMEMBER

- a. Fill the oil tank each time you refill the fuel tank to ensure there will be sufficient oil for the chain whenever you start and run the saw.
- b. The saw will use about 1/2 tank of chain oil for each tank of fuel mixture. If less oil is used, check for a plugged oil hole in the guide bar.
- c. It is normal for a small amount of oil to appear under the saw after the engine stops. This is due to oil draining from the bar and chain when not in use.

A. CONTROL DEVICES

Understanding the control devices on your saw is an important part of learning how to properly and safely operate the unit. Figure 18.

- 1. The **Ignition Switch** is a toggle switch which is moved up for the "Start" position and moved down for the "Stop" position.
- 2. The two-position Choke helps to start the saw by controlling the air flow to the fuel system.
- 3. The **Trigger** accelerates and controls the speed of the engine and is designed to be used with the Throttle Lock.
- 4. The **Throttle Lock** is a control feature which prevents the Trigger from becoming accidently engaged. The Throttle Lock must be pressed before the Trigger can be activated.
- 5. The **Throttle Detent Button** holds the Throttle Lock and Trigger in position while the engine is being started. Release the Throttle Detent Button after the engine is started by lightly squeezing the trigger.

B. STARTING INSTRUCTIONS

1. BASIC PROCEDURE

- a. Set saw on flat ground making certain the saw chain free to turn without contacting any object. Figure 19.
- b. Move ignition switch to the "Start" position.
- c. Push down on the throttle lockout, squeeze the trigger, press and hold down the throttle detent button, then slowly release the trigger.
- d. Adjust choke according to "Starting Procedure for Varying Conditions" below.
- e. Hold the front handlebar with your left hand and place right foot through the rear handle to stabilize saw. Figure 19.
- f. Pull starter rope quickly, using no more than 15-18 inches of rope per pull. Using the full length of the starter rope may cause it to break. Do not let the starter rope snap back. Hold the handle and let the rope rewind slowly.
- g. Release the throttle detent button after engine starts, allowing the engine to idle. The chain must not move when the engine runs at idle speed. If correction is required, refer to "Carburetor Adjustments," page 20.



Figure 18

- 6. The **Manual Oiler** is placed to be operated by your right thumb. Use the manual oiler to supplement the automatic oiler:
 - -during a long felling cut
 - -when cutting into a log or tree which is greater in diameter than the length of the guide bar.
 - anytime an additional supply of oil is desired.
 - h. Stop engine by moving the ignition switch to the "STOP" position (Figure 18).



Figure 19

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Avoid bodily contact with the muffler when starting a warm engine to avoid serious burns.

2. STARTING PROCEDURE FOR VARYING CONDITIONS

•	Conditions	Move ignition switch to start	Pull choke knob to full choke	Press throttle lock and source trigger	Press throttle detent butten release tripper	Pull starter rope until engine fires	Push choke knob in	Pull starter rope until engine runs	Squeeze trigger to release throttle detent
a.	Cold Engine	х	x	X	X	3-5 times	х	x	х
b.	Warm Engine	x	choke off	х	х			1-2 times	x
c.	Refueled Engine after running out of gas	g x	x	x	x	3-5 times	X	×	x
d.	Flooded Engine	· x	choke off	x	х			x	х
e.	Cold Weather starting	x ·	×	x	х	3-5 times	half choke* (out of cut)	х	x

* Allow engine to warm-up thoroughly on half choke 1-2 min.; then move choke to "Off" position. Do not cut with the choke at the "On" or "Half" position. Figure 18.

TYPES OF CUTTING

A. BASIC CUTTING TECHNIQUE

1. IMPORTANT POINTS.

- a. Cut wood only. Do not cut metal, plastics, masonry, non-wood, building materials; etc.
- b. Stop the saw if the chain strikes a foreign object. Inspect the unit and repair or replace parts as necessary.
- c. Keep the chain out of dirt and sand. Even a small amount of dirt will quickly dull a chain and thus, increase the possibility of kickback.

A KICKBACK WARNING

Kickback can occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of saw control which can result in serious personal injury.

2. UNDERSTAND REACTIVE FORCES

Pinch-Kickback and Pull-In occur when the chain is suddenly stopped by being pinched, caught, or by contacting a foreign object in the wood. This results in a reversal of the chain force used to cut wood and causes the saw to move in the opposite direction of chain rotation. Either reaction can result in loss of control and possible serious personal injury.

- Pinch-Kickback
- —occurs when the chain, on top of the bar is suddenly stopped when the top of the bar is used for cutting.
- rapidly drives the saw straight back toward the operator.
- Pull-In ---
- can occur when the chain on the bottom of the bar is suddenly stopped.
- ---pulls the saw rapidly forward.

B. TREE FELLING TECHNIQUES

- 1. PLAN YOUR SAWING OPERATION CARE-FULLY IN ADVANCE
 - Clear the work area. You need a clear area all around the tree where you can have secure footing.
 - b. Study the natural conditions that can cause the tree to fall in a particular direction:
 - 1.) The WIND direction and speed
 - 2.) The LEAN of the tree
 - 3.) WEIGHTED with BRANCHES on one side
 - 4.) Surrounding TREES and OBSTACLES
 - c. Look for decay and rot. If the trunk is rotted, it could snap and fall toward the operator.

3. PROCEDURE

Practice cutting a few small logs using the following technique to get the "feel" of using your saw before you begin a major sawing operation.

- a. Accelerate the engine to full throttle just before entering the cut by squeezing the throttle trigger.
- b. Begin cutting with the spur against the log. Figure 20.
- c. Keep the engine at full throttle the entire time you are cutting.
- d. Allow the chain to cut for you; exert only light downward pressure. If you force the cut, damage to the bar, chain, or engine can result.
- e. Release the throttle trigger as soon as the cut is completed, allowing the engine to idle. If you run the saw at full throttle without a cutting load, unnecessary wear can occur to the chain, bar, and engine.
- f. Do not put pressure on the saw at the end of the cut to avoid losing control when the cut is complete.
- g. Stop the engine before setting the saw down after cutting.



Figure 20

- d. Check for broken or dead branches which could fall on you while cutting.
- e. Make sure there is enough room for the tree to fall. Maintaining a distance of 2½ tree lengths from the nearest person or other objects. Engine noise may drown out warning call.
- f. Remove dirt, stones, loose bark, nails, staples, and wire from the tree where cuts are to be made.
- g. Plan to stand on the up-hill side when cutting on a slope.
- h. Plan a clear retreat path to the rear and diagonal to the line of fall. Figure 21.

2. FELLING SMALL TREES - LESS THAN **6" IN DIAMETER**

- a. If you know the direction of fall:
 - 1.) Make a single felling cut on the side away from the direction of fall.
 - 2.) Cut all the way through.
 - 3.) Stop the saw, put it down, and get away quickly on your planned retreat path.
- b. If you are not sure which way the tree will fall, use the notch method described for felling large trees.

DO NOT CUT:

- near electrical wires or buildings.
- ---- if you do not know the direction of tree fall.
- at night since you will not be able to see well. during bad weather --- strong wind, snow, rain,
 - etc.

3. FELLING LARGE TREES --- 6" DIAMETER **OR MORE**

The notch method is used to cut large trees. A notch is cut on the side of the tree in the desired direction of fall. After a felling cut is made on the opposite side of the tree, the tree will tend to fall into the notch.

NOTE: If the tree has large buttress roots, remove before making the notch. Cut into the buttresses vertically, then horizontally. Figure 22.

- a. Make the notch cut. Figure 23.
 - 1.) Cut the bottom of the notch first, through 1/3 of the diameter of the tree.
 - 2.) Complete the notch by making the slant cut.
 - 3.) Remove the notch of wood.
- b. Make the felling cut on the opposite side of the notch about 2" higher than the bottom of the notch.
- c. Leave enough uncut wood between the felling cut and the notch to form a hinge. Figure 24.
- NOTE: The hinge helps to keep the tree from twisting and falling in the wrong direction.
- d. Use a wedge if there is any chance that the tree will not fall in the desired direction.



WARNING

Stay on the uphill side of the terrain to avoid the tree rolling or sliding downhill after it is felled.

> NOTE: Before the felling cut is complete, drive wedges to open up the cut when necessary to control the direction of fall. Use wood or plastic wedges but never metal, to avoid kickback and chain damage.

- e. Be alert for signs that the tree is ready to fall:
 - 1.) cracking sounds
 - 2.) widening of the felling cut
 - 3.) movement in the upper branches.
- f. As the tree starts to fall, stop the saw; put it down, and get away quickly on your planned retreat path.
- g. Be extremely cautious with partially fallen trees that may be poorly supported. When a tree doesn't fall completely, set the saw aside and pull down the tree with a cable winch, block and tackle or tractor. Do not cut it down with your saw to avoid injury.





Check the lean Don't cut on lean side.



DON'T PUT YOURSELF IN THESE POSITIONS

C. BUCKING

Bucking is the term used for cutting a fallen tree to the desired log size.

1. IMPORTANT POINTS

- a. Cut only one log at a time.
- b. Cut shattered wood very carefully. Sharp pieces of wood could be flung toward the operator.
- c. Use a sawhorse to cut small logs. Never allow another person to hold the log while cutting and never hold the log with your leg or foot.
- d. Give special attention to logs under strain to prevent the saw from pinching. Make the first cut on the pressure side to relieve the stress on the log. (Figure 25)
- e. Do not cut in an area where logs, limbs and roots are tangled such as in a blown down area. Drag the logs into a clear area before cutting by pulling out exposed and cleared logs first.
- f. Make the first bucking cut 1/3 of the way through the log and finish with a 2/3 cut on the opposite side. As the log is being cut, it will tend to bend. The saw can become pinched or hung in the log if you make the first cut deeper than 1/3 of the diameter of the log.

2. TYPES OF CUTTING USED Figure 26.

- Overcutting begin on the top side of the log with the spur against the log: exert light pressure downward.
- Undercutting begin on the under side of the log with the top of the saw against the log; exert light pressure upward. During undercutting, the saw will tend to push back at you. Be prepared for this reaction and hold the saw firmly to maintain control.

Never turn the saw upside down to undercut. The saw cannot be controlled in this position.

If saw becomes pinched or hung in a log, don't try to force it out. You can lose control of the saw resulting in personal injury and/or damage to the saw. Stop the saw, drive a wedge of plastic or wood into the cut until the saw can be removed easily. Figure 27. Restart the saw and carefully reenter the cut. Do not use a metal wedge to avoid kickback and chain damage.

3. BUCKING --- WITHOUT A SUPPORT

- a. Overcut with a 1/3 diameter cut.
- b. Roll log over and finish with an overcut.



4. BUCKING — USING ANOTHER LOG AS A SUPPORT (Figure 28):

AWARNING

Do not stand on the log being cut. The cut portion will roll down hill.

- a. In area A:
 - 1.) Undercut 1/3 of the way through the log.
 - 2.) Finish with an overcut.
- b. In area B:
 - 1.) Overcut, 1/3 of the way through the log.
 - 2.) Finish with an undercut.

5. BUCKING --- USING A STAND (Figure 29):

- a. In area A:
 - 1.) Undercut 1/3 of the way through the log.
 - 2.) Finish with an overcut.

D. DEBRANCHING AND PRUNING

- Work slowly, keeping both hands on the saw with a firm grip. Maintain secure footing and balance.
- Watch out for springpoles. Use extreme caution when cutting small size limbs. Slender material may catch the saw chain and be whipped toward you or pull you off balance.
- Be alert for springback. Watch out for branches that are bent or under pressure as you are cutting to avoid being struck by the branch or the saw when the tension in the wood fibers is released.
- Keep a clear work area. Frequently clear branches out of the way to avoid tripping over them.

Never climb into a tree to debranch or prune. Do not stand on ladders, platforms, a log or in any position which can cause you to lose your balance or control of the saw.

1. DEBRANCHING

- a. Always debranch a tree after it is cut down. Only then can debranching be done safely and properly.
- b. Leave the larger lower limbs to support the tree as you work.
- c. Start at the base of the felled tree and work towards the top, cutting branches and limbs. Remove small limbs with one cut. Figure 30.
- d. Keep the tree between you and the chain. Cut from the side of the tree opposite the branch you are cutting.
- e. Remove larger, supporting branches with the 1/3, 2/3 cutting techniques described in the bucking section.
 - 1.) Start with an overcut
 - 2.) Finish with an overcut
- f. Always use an overcut to cut small and freely hanging limbs. Undercutting could cause limbs to fall and pinch the saw.

b. In area B:

- 1.). Overcut 1/3 of the way through the log.
- 2.) Finish with an undercut.



2. PRUNING

- Limit pruning to limbs shoulder height or below. Do not cut if branches are higher than your shoulder. Get a professional to do the job.
- b. Refer to Figure 31 for the pruning technique.
 - 1.) Undercut 1/3 of the way through the limb near the trunk of the tree.
 - Finish with an overcut farther out from the trunk.
 - 3.) Keep out of the way of the falling limb.
 - 4.) Cut the stump flush near the trunk of the tree.

WARNING

Be alert for and guard against kickback. Do not allow the moving chain to contact any other branches or objects at the nose of the guide bar when debranching or pruning. Allowing such contact can result in serious personal injury.



Figure 30



MAINTENANCE

A good maintenance program of regular inspection and care will increase the service life and help to maintain the safety and performance of your saw.

- Make all adjustments or repairs (except carburetor adjustments) with:
 - spark plug wire disconnected
 - engine cool as opposed to a unit that has just been run.

A. GUIDE BAR AND CHAIN

Increase the service life of your Guide Bar and Chain by:

- -Using the saw properly and as recommended in this manual.
- --- Maintaining correct Chain Tension, page 9.
- --- Proper lubrication, page 10.
- Regular maintenance as described in this section.

1. CHAIN MAINTENANCE

- Sharpen the chain when:
 - wood chips are small and powdery. Wood chips made by the saw chain should be about the size of the teeth of the chain.
 saw has to be forced through the cut.
 - saw has to be forced through
 - -saw cuts to one side.

CAUTION: Always wear gloves when handling the chain. The chain is sharp enough to cut you even though it is too dull to cut wood.

a. SHARPENING INSTRUCTIONS

Items required:

Gloves Medium Flat File 7/32" dia. file Depth Gauge Tool 6" file holder Vise

- 1.) Stop engine and disconnect spark plug.
- 2.) Adjust the chain for proper tension, page 9.
- 3.) Work at the midpoint of the bar, moving the chain forward by hand as each cutter is filed.
- 4.) Sharpen cutters.
 - a.) Position flat side of file holder (with 7/32" round file) on cutter top plate and depth gauge. Figure 32
 - b.) Hold the file holder level with the 30° guide mark parallel to the center of the chain. Figure 33.
 - c.) File from inside toward outside of cutter, straight across, on forward stroke only. Use 2 or 3 strokes per cutting edge. Figure 33
 - d.) Keep all cutters the same length. Figure 34.
 - e.) File enough to remove any damage to cutting edge(side & top plate) of cutter. Figure 34
 - f.) File 72SG chain to meet specifications shown in Figure 35.

• Check the saw for loose bolts, screws, nuts, and fittings on a regular basis. Loose fasteners can cause an unsafe condition as well as damage to your saw.

Have all chain saw service (other than the items listed in the maintenance section of this manual) performed by a qualified service dealer.



WARNING

Maintain the proper hook angle according to the manufacturer's specification for the chain you are using. Too much hook angle will increase the chance of kickback which can result in serious personal injury. Figure 35&37.

5.) Correct Depth Gauges

- a.) Place depth gauge tool (Catalog No. 71-36557) over each cutter depth gauge.Figure 36.
- b. File level with the flat file if depth gauge is higher than the depth gauge tool.
- c. Maintain rounded front corner of depth gauge with a flat file. Figure 37.

NOTE: The very top of the depth gauge should be flat with the front half rounded off with a flat file.

Depth gauge tool is required to insure proper depth gauge. Filling the depth gauge too deep will increase the chance of kickback which can result in serious personal injury.

b. CHAIN REPLACEMENT

- 1.) Replace the chain when cutters or links break.
- 2.) See your Sears Service Center to replace and sharpen individual cutters to match your chain.
- 3.) Always replace a worn sprocket when installing a new chain to avoid excessive wear to the chain.



B. IGNITION, COOLING AND EXHAUST SYSTEMS

- Carbon deposits will build up on exhaust ports, spark arrestor, muffler, and spark plug as the saw is used. All of these parts should be cleaned at the same time to prevent engine damage, overheating, loss of power, and hard starting.
- Clean parts:
 - -as required
 - -at least once for each 25-30 hours of operation
- **1. COOLING AND EXHAUST SYSTEM**
 - Carbon build-up on the cooling and exhaust system can cause the engine to loose power in a cut.
 - Keep the spark arrestor clean at all times.
 - Replace the spark arrestor when breaks in the screen are found.



2. GUIDE BAR MAINTENANCE

- Conditions which can require guide bar maintenance:
 - -saw cuts to one side
 - -saw has to be forced through a cut
 - -inadequate supply of oil to bar and chain.
- Check the condition of the guide bar each time the chain is sharpened. A worn guide bar will damage the chain and make cutting more difficult.
- Replace the guide bar when:
 - --- the inside groove of the guide bar rails is worn.
 - -the guide bar is bent or cracked.
 - a. Remove the guide bar to service.
 - b. Clean oil holes at least once for each five hours of operation.
 - c. Remove sawdust from the guide bar groove periodically with a putty knife or a wire. Figure 38.
 - d. Remove burrs by filing the side edges of the guide bar grooves square with a flat file. Figure 39.
 - e. Restore square edges to an uneven rail top by filing with a flat file. Figure 39.



Items required:

- -wire brush
- —3/8" wrench
- -hardwood stick
- a. Disconnect the spark plug.
- b. Remove the muffler, baffles, and screen. Figure 40
- c. Pull the starter rope until the piston moves far enough to close the exhaust ports.
- d. Scrape the carbon deposits from the exhaust ports and surrounding exhaust chamber using a hardwood stick. Figure 41.

CAUTION: Do not use a metallic scraping tool to avoid damage to the piston.



Figure 41

- e. Blow out loosened carbon with compressed air.
- f. Clean the spark arrestor screen with a wire brush or replace if breaks in the screen are found.
- g. Reassemble muffler parts.

2. SPARK PLUG

- Maintenance is indicated when the engine is hard to start.
- Keep the spark plug: —clean
 - -properly gapped (.025")



Figure 42

C. STARTER ROPE REPAIR AND REPLACEMENT

- A starter rope that breaks next to the pulley can be repaired.
- Replace the starter rope if the rope breaks more than 2-3 inches away from the pulley as the rope will be too short to repair properly.



Always wear eye protection when servicing the starter rope. The recoil spring beneath the pulley is under tension. If the spring pops out serious personal injury can result.

NOTE: The recoil spring, located beneath the pulley, is under tension. If spring pops out, it will require considerable time and effort to reinstall. For this reason, you may want to let your Sears Service Center handle this repair. If you do try to repair the starter rope and the recoil spring pops out, take the unit to your Sears Service Center.

1. Remove the four screws on the side of the fan housing. Figure 43.

NOTE: Notice the different lengths of the screws and their proper locations while removing the screws.

- 2. Remove the fan housing.
- 3. If the starter rope is not broken, release the spring tension by pulling about 12 inches of rope from the pulley and catch the rope in the notch as shown. Figure 44.

NOTE: The tension on the starter spring will be released if the rope has broken.

4. Turn the pulley counterclockwise **4** until the spring tension is released. Figure 44.

items Required: Small brush, such as a tooth brush, or a pocket knife.

- a. Remove the carburetor cover.
- b. Pull the rubber connector from the spark plug and remove the spark plug from the cylinder.
- c. Clean deposits from the electrodes of the spark plug with a small brush or a pocket knife.

NOTE: Be careful when removing, cleaning, gapping and replacing the spark plug. If it is damaged, it will not work properly and must be replaced.

- d. Set the gap between the electrodes to .025 " using a wire or flat gauge. Figure 42.
- e. Replace the spark plug in the cylinder and attach the rubber connector.
- f. Replace carburetor cover and knob.



- 5. Remove the pulley screw in the center of the pulley. Figure 45.
- 6. Lift the pulley *carefully* while gently twisting it counterclockwise , and remove the old rope.
- 7. Move away from the fuel tank and burn the end of the new rope to go into the pulley.
- 8. Pull the burnt end while hot through a rag to smooth it.
- 9. Feed the rope through the fan housing and the round starter hole. Figure 45.
- 10. Snake rope inside pulley, then through the topside pulley hole by pushing the rope from the underside hole with a small round object such as a Phillips screwdriver. See insert, Figure 45.
- Wrap rope counterclockwise A around pulley ratchet end and tuck loose end back under rope leaving a 3/8-1/2 inch tail. Pull tightly around ratchet. Figure 45.
- 12. Rewind all the rope onto the pulley, turning counterclockwise
- 13. Set the pulley into the housing; push it down and engage the spring.

D. CLUTCH, DRUM AND SPROCKET

Do not start engine without Guide Bar, Chain, and Bar Clamp Housing completely assembled. The clutch can come off without the guide bar and chain completely assembled and serious injury can result. Do not loosen and spin the clutch off the crankshaft with a power tool. The clutch shoes and drum can separate causing the clutch to violently fly apart and serious personal injury can result.

- Take the saw to your nearest Sears Service Center for full clutch inspection and service after each 100 hours of operation. It is recommended that you do not try to service the clutch or drum/sprocket yourself unless you are a competent small engine mechanic and have the proper clutch service tools. Proper disassembly and repair of the clutch is extremely important to the life of the engine and the safety of the operator.
- Clutch maintenance is required when:
 - -the chain continues to turn while engine idles after the idle speed screw has been adjusted to its capacity.
 - -slippage occurs during a cut.
 - -a chattering noise occurs during cutting.
- Clean the clutch, drum/sprocket and surrounding area daily during heavy use of the saw. Check to see that the clutch drum turns freely and smoothly.
- Inspect the drum/sprocket regularly for wear. A worn sprocket will make the chain run erratically and will shorten the life of the bar and chain. Figure 47.

- 14. Replace and tighten the pulley screw.
- 15. Pull out 12 inches of rope and catch the rope in the notch in the pulley. Figure 46
- 16. Turn the pulley 3 complete turns clockwise,
 winding up the spring.
- 17. Hold the pulley and pull the starter rope to the full extent of length and let the rope rewind slowly.
- 18. Replace fan housing with the four screws in their proper location.



- Replace the drum/sprocket whenever a new chain is installed in order to gain the full life expectancy of the chain. Use the following procedure:
 - Items Required: Scrench

9/16" Socket Wrench 3/4" Socket Wrench

- 1. Remove the carburetor cover and pull the spark plug away from the rubber connector.
- 2. Remove the bar clamp housing, outer guide plate, guide bar, and chain. Figure 48.



- 3. Remove the fan housing.
- 4. Use a 9/16" socket wrench on the flywheel nut to keep the crankshaft from moving. Figure 49.

NOTE: Place the socket handle forward as shown in Figure 49.

5. Remove the clutch with a 3/4" socket or end wrench in a *clockwise* direction. Figure 50.



Figure 49

E. CARBURETOR ADJUSTMENTS

- The carburetor has been adjusted at the factory for sea level conditions. Adjustment may become necessary if the unit is used at significantly higher altitudes or if you notice any of the following conditions:
 - -Chain moves with the engine at idle speed.
 - Loss of cutting power which is not corrected by air filter or muffler screen cleaning.
 - -Engine dies or hesitates when it should accelerate.
- Permanent damage will occur to the engine if incorrect carburetor adjustments are made. To make the adjustment, follow the procedure below very carefully.

WARNING

The chain may be moving during this procedure. Wear your protective gear and observe all of the safety precautions.

1. PREPARATION

- a. Stop engine.
- b. Use a fresh fuel mixture with proper gasoline/oil ratio.
- c. Place the saw on a solid, flat surface and make sure the chain will not contact any object.
- d. Locate the three (3) carburetor adjusting screws located on the fan housing side of the saw. Figure 51.
- e. Turn the Low Speed Mixture Screw and the High Speed Mixture Screw clockwise just until they stop. Do not turn the screws until they are tight as you may damage the needle seats.

CAUTION: Do not remove the clutch with a punch or a power tool to avoid damage or breakage to the clutch.

- 6. Remove worn sprocket and replace.
- 7. Install clutch in a *counterclockwise* direction. Figure 50
- 8. Hold flywheel by hand and tighten clutch with a 3/4 socket wrench.
- NOTE: Do not hold a wrench on the flywheel nut when replacing the clutch. This could loosen the flywheel nut.
- 9. Reinstall fan housing, bar, chain and bar clamp housing.



f. Turn the Low Speed Mixture Screw and the High Speed Mixture Screw one full turn counterclockwise



Figure 51

2. IDLE SPEED ADJUSTMENT-I

a. Start the engine and allow to idle.

Adjust if the engine dies or stops by turning the Idle Speed Screw 1/2 turn clockwise

NOTE: To increase idle speed, turn the Idle Speed Screw clockwise \longrightarrow To decrease idle speed, turn the Idle Speed Screw counterclockwise

- c. Run the engine for a few minutes to bring it up to operating temperature.
- **NOTE:** The engine must be at operating temperature for proper adjustments to be made.

3. LOW SPEED MIXTURE ADJUSTMENT

- a. Turn the Low Speed Mixture Screw slowly clockwise until the RPM starts to drop. Note the position.
- b. Turn the Low Speed Mixture Screw counterclockwise until the RPM speeds up and starts to drop again. Note the position.
- c. Set the Low Speed Mixture Screw at the mid-point between the two positions.

4. IDLE SPEED ADJUSTMENT-II

- a. Allow engine to idle.
- b. Adjust if the chain is turning by turning the Idle Speed Screw counterclockwise
- c. Squeeze the throttle trigger; The saw should accelerate without hesitating. **NOTE:** It may be necessary to recheck the low speed mixture setting after the idle speed has been reduced by repeating "Low Speed Mixture Adjustment" as in step 3 above.

5. HIGH SPEED MIXTURE ADJUSTMENT

- a. Make a test cut.
- b. Adjust if the saw smokes or seems to have low power in the test cut by turning the **High Speed Mixture Screw** 1/16th of a turn clockwise
- c. Repeat test cut.
- d. Repeat adjustment until the saw runs smoothly.

F. AIR FILTER

- A dirty air filter: — reduces cutting power — increases fuel consumption
- Clean the Air Filter: —frequently, especially under very dusty conditions.
 - -always after 10 tanks of fuel mixture or 5 hours of operation whichever is less.



Figure 52

CAUTION: Never set the High Speed Mixture Screw less than 7/8 turn open. This is too lean a setting and will ruin your engine.

6. IDLE SPEED ADJUSTMENT-III

Recheck for proper idle mixture setting.

NOTE: It may be necessary to repeat Idle Speed Adjustment-I and Low Speed Mixture Adjustment.

7. CHECK ACCELERATION

Adjust if there is a slight hesitation, by turning the Low Speed Mixture Screw 1/16 of a turn at a time counterclockwise until you have smooth acceleration.

NOTE: Check to be sure the chain is not turning when engine is idling. If chain moves at idle speed, repeat Idle Speed Adjustment-II.

CAUTION: Never operate the unit without the air filter in place to avoid engine damage.

Items Required: soft bristled brush, such as a paint brush.

- 1. Clean off the carburetor cover and the area around it.
- 2. Close choke to prevent dirt from entering the carburetor.
- 3. Remove the carburetor cover. Figure 52 .
- 4. Remove the air filter carefully.
- 5. Soak the filter in soap and water.

CAUTION: Do not use gasoline or other flammable liquid to clean the filter to avoid creating a fire hazard.

- 6. Brush away all dust and debris from the filter.
- 7. Allow filter to dry.
- 8. Brush away all debris from surfaces which were covered by the carburetor cover.
- 9. Replace filter and carburetor cover.

G. COUNTER-VIBE® ANTI-VIBRATION SYSTEM

This saw is equipped with a counter vibration system consisting of 5 isolator mounts. Figure 53. The Isolator Mounts protect the user from engine, bar, and chain vibration similar to the way shock absorbers on a car protect from jolts and bumps in the road.

- 1. Check isolators each time the saw is used.
- 2. Replace isolators when:
 - --- vibration increases
 - ----mounts develop an out of round or swollen shape usually caused from exposure to gasoline and oil for long periods of time.
- 3. Replace all five isolators when a failure to one occurs.



Figure 53

H. STORAGE

When your saw is to be stored for over 30 days always:

- 1. Drain fuel tank in a safe manner (see "Important Points," page 10).
- 2. Start Engine and allow to run at idlespeed until the engine stops.

NOTE: This will remove most of the fuel from the fuel system.

CAUTION: Wear protective gloves when handling the chain. The chain is sharp and can cut you even when it is not moving.

I. MAINTENANCE ACCESSORIES

- 3. Drain oil tank.
- 4. Remove, clean, and dry the bar and chain.
- 5. Store the chain in a container filled with oil to prevent rust.
- 6. Apply a coating of oil to the entire surface of the bar and wrap it in heavy paper, cloth or plastic.
- 7. Clean the outside surfaces of the engine.
- 8. Store the saw in a dry place, out of the reach of children and away from where fuel vapors can reach open flames from hot water heaters, furnaces, etc.

Available through your nearest Sears Store, Catalog Sales Office, or Service Center, but may not be furnished with your saw.



Key No.	Part No.	Catalog No.	Description
1.	55046	71-36565	File Guide
2	·	71-36526	File (7/32" Dia.) Twin Pack
		71-36523	File (7/32" Dia.) - 12 pack
3		71-36557	Depth Gauge Tool
4	51259	71-3642	Xtra GUARD® Chain (72SG-66) - (requires 7/32" dia. file)
	Part No.	Catalog No.	Description
	30073	71-3640	Spark Plug-Champion CJ-8Y
		71-36711	Replacement Recoil Cord
	—	71-36627	Carrying Case
		71-36555	2-Cycle Engine Oil
	<u> </u>	71-36554	Bar and Chain Lubricant (gallon size)
		71-36556	Bar and Chain Lubricant (quart size)
	· 44209	71-36370	Guide Bar - 18" - Lo-Kick®

J. TROUBLE SHOOTING CHART								
TROUBLE	CAUSE	REMEDY						
ENGINE WILL NOT START	 Ignition Switch off. Fuel tank empty. Spark Plug not firing. Fuel not reaching carburetor. Engine flooded. Compression low. 	 Move switch to "Start". Fill tank with correct fuel mixture, page 9. Install new plug, page 18. Check for dirty fuel filter; clean. Check for kinked or split fuel line; repair or replace. See Starting Instructions, page 9 Contact Sears Service Center. 						
ENGINE WILL NOT IDLE PROPERLY	 Idling speed set too low. Idle speed set too high. Low speed screw requires adjustment. Crankshaft seals worn. Compression low. 	 Adjust idle speed screw clockwise to in- increase speed, page 20. Adjust idle speed screw counterclockwise to reduce speed, page 20. See Carburetor Adjustments, page 20. Replace seals or contact Sears Service Center. Contact Sears Service Center. 						
ENGINE WILL NOT ACCELERATE, LACKS POWER OR DIES IN THE CUT	 Carburetor requires adjustment. Air filter dirty. Spark Plug fouled. Carbon build-up. Low Compression. 	 See Carburetor Adjustments, page 20. Clean or replace air filter, page 21. Clean or replace Spark Plug and regap, page 18. Clean exhaust system including spark arrestor, page 17. Contact Sears Service Center. 						
ENGINE SMOKES EXCESSIVELY	 Choke partially on. High speed needle requires adjustment. Air filter dirty. Oil rich fuel mixture. Crankcase leak. 	 Push Choke in. See Carburetor Adjustments, page 20. Clean or replace air filter, page 21. Empty fuel tank and refill with correct fuel mixture, page 9. Contact Sears Service Center. 						
ENGINE RUNS HOT	 Fuel Mixture Incorrect. Spark Plug Incorrect. Carbon build-up. High Speed Mixture set too low. 	 See Engine Fuel Mixture, page 9. Replace with correct plug, page 18. Clean exhaust systems including spark arrestor, page 17. See Carburetor Adjustments, page 20. 						
OIL INADEQUATE FOR BAR AND CHAIN LUBRICATION	 Oil tank empty. Oil pump or oil filter clogged. Guide bar oil hole blocked. 	 Fill oil tank, page 10. Contact Sears Service Center. Remove bar and clean. 						
CHAIN MOVES AT IDLE SPEED	 Carburetor requires adjustment. Clutch requires repair. 	 See Carburetor Adjustments, page 20. Contact Sears Service Center. 						
CHAIN DOES NOT MOVE WHEN ENGINE IS ACCELERATED	 Chain tension too tight. Carburetor requires adjustment. Guide bar rails pinched. Clutch slipping. 	 See Chain Tension, page 9. See Carburetor Adjustments, page 20. Repair or replace, page 8&17. Contact Sears Service Center. 						
CHAIN CLATTERS OR CUTS ROUGHLY	 Chain tension incorrect. Cutters dull, improperly sharpened; depth gauges too high. Sprocket worn. Chain wear due to contact with dirt, sand or frozen wood. Cutters damaged after striking foreign material. 	 See Chain Tension, page 9. See Chain Sharpening Instructions, page page 16. Replace. Resharpen or replace Chain, page 16. Contact Sears Service Center. Sharpen all cutters evenly and uniformly or replace chain. See chain sharpening instructions, page 16. 						
CHAIN STOPS WITHIN THE CUT	 Chain cutter tops not filed flat. Guide bar burred or bent; rails uneven. Clutch slipping. 	 See Chain Sharpening instructions, page 16. Repair or replace guide bar, page 8 & 17. Contact Sears Service Center. 						
CHAIN CUTS AT AN ANGLE	 Cutters damaged on one side. Chain dull on one side. Guide bar bent, or worn. 	 Resharpen until all cutters have equal angles and lengths, page 16. Resharpen until all cutters have equal angles and lengths, page 16. Replace guide bar, page 8 & 17. 						



Figure 1

Figure 1

Kev No.	Part No.	Qtv.	Description K	ey No.	Part No.	Qty.	Description
1	39095	1	Flywheel Assembly	38	15365	1	Screw - Fan Housing
•	00000	•	(incl.2)				(Lower Front)
2	23817	2	Spring - Starter Dog	39	30073	1	Spark Plug (CJ-8Y)
3	STD522525	2	Screw - Muffler Cover	40	15195	.1	Clip - High Tension
Å	15434	2	Screw - Spur				Lead Cylinder
5	24476	1	Sour	41	24332	2	Piston Ríng
6	1626	i	Washer - Flywheel	42	24492	1	Crankshaft and
7	1722	1	Flywheel Nut				Rod Assembly
8	15468	1	Screw - Starter Pulley	43	1624	4	Screw - Cylinder
ă	15123	i	Washer - Starter Pulley	44	39096	1	High Tension Lead
3	10120	•	Betainer	45	10314	1	Piston Assembly
10	STD600603	2	Screw Disc Mounting				(incl. 41)
11	30054	1	Sealant Crankcase 3 oz.	4 6	STD580008	1	Key - Flywheel
11	00004	·	(optional)	47	15366	2	Screw - Fan Housing (Rear)
12	42066	1	Disc - Elywheel (Inner)	48	39097	1	Boot - Spark Plug
12	2/320	-	Bushing - Recoil Spring	49	39071	1	Connector - Spark Plug
1.0	42051	4	Spring - Starter Recoil	50	39102	1	High Tension
16	42051	1	Disc - Starter		00102		Lead Assembly
16	1526/	-	Screw - Fan Housing				(Incl. 44, 48, & 49)
10	10004	•	(Top Front)	52	10444	1	Oil Cap Assembly
17	10720	4	Ean Housing Assembly	JE		•	(Incl. O-Rina)
10	24202	4	Shield Muffler	53	24334	1	Clamp - High Tension Lead
10	24092.	1	Muffler Cover	00	2,001	•	(Crankcase)
19 '20	24091 CTD522505	2	Screw - Muffler	54	39093	1	Ignition Module (incl.
20	310322000	2	Body/Cylinder	34	00000	•	50 & 60)
01	24285	. 1	Screen - Spark Arrestor	55	15425	2	Screw - Module Mounting
21	24303	2	Diffuser - Muffler	56	23661	2	Clamp - Lead
22	10007	2	*Sool - Crankshaft	57	STD600603	2	Screw - Lead Clamp
20	STDENGENS	2	Screw - Air - Baffle	59	STD511007	9	Screw - Crankcase
24	21000003	4	Baffle Air	50	23732	Ť	Switch - Togale
20	24232	1.	Dulley - Starter	60	20102	. 1	Switch Lead
20	20407		Pook Dinto Mufflor	61 -	22575	1	Ignition Switch Nut
21	24300		Muffler Redy	01	20070	1	Plate - Start/Stop
20	24307	2	Rearings Crankshaft	02	24000	1	Scrench
29	32031	2	Thrust Machara Crankahaft	03	60100	1	Kit Gasket - optional-
⊴3U 21	15354	2	With Der Chud Deplessment	04	09190		(contents indicated by *)
31	30039	2	Kit-Bar Stud Replacement			· .	Operator's Manual (not shown)
32	42056		Handle - Starter Rope	65	66647	1	Operator simanual (not shown)
33	42052	1	Hope - Starter	Decal			Devel Car Heusing
- 34	12066	1	Cylinder	101	26468	1	Decai Fan Housing
35	19129	1'	Gasket - Cylinder				
36	10696	1	Crankcase Assembly				
			Hight & Left Half				
			(Incl. 23, 29, 31 & 51 on Fig. 1;				
			also includes from Fig. 3, 22,				
			30, 43 & one of 37.)				

Key Numbers Excluded: #37 & 51 *Indicates contents of Gasket Kit, Key No. 64.



Figure 2

Key No.	Part No.	Qty	v. Description	Key No.	Part No.	Qty.	Description
1	25919	1	Choke Rod	26	32053	1	Bushing Throttle Lock
2	STD511003	1	Screw - Choke Bracket	27	25469	1	Spring - Trigger
3	10347	1	Bracket & Bushing Ass'y	28	15245	2	Screw - Carburetor/Adaptor
4	19107	1	*Seal - Carburetor Adaptor	29	19104	11	Seal Adaptor
5	24229	1	Adaptor -	31	32059	1	Bushing - Trigger
			Carburetor/Cylinder	32	24699	1	Throttle Link
6	19101	1	*Gasket - Adaptor/Cylinder	33	15168	3	Screw - Cylinder Shield
7	15194	-2	Screw - Brace to				to Crankcase
			Rear Handle	35	10331	1	Fuel Cap Assembly
8	11965	1	Brace - Handle				(Incl. O-Ring)
9	24383	1	Wire - Choke	37	26013	.1	Trigger - Throttle
10	35094	1	Carburetor Assembly	38	15369	1	Screw - Throttle Trigger
11	19099	1	*Gasket - Carburetor	39	24482	1	Knob
			to Adaptor	40	24976	1	Cover - Carburetor Ass'y.
12	15462	-2	Shoulder - Screw - Isolator	41	24378	1	Spring - Throttle Lock
13	24373	2	Isolator - Powerhead	42	11826	1	Rear Handle - Left
			to Rear Handle	43	15403	2	Screw - Rear Handle
14	24376	2	Cup-Isolator	44	15393	1	Screw - Rear Handle
15	25258	1	Spacer - Isolator (Center)				(Throttle Lock)
16	24349	1	Bracket - Carburetor Seal	45	15608	1	Screw - Rear Handle (Lower)
17	15414	2	Screw - Adaptor/Cylinder	46	24877	1	Retaining Ring - Carb.
18	21028	1	Fuel Line				Cover Knob
20	91878	1	Fuel Pick-Up Ass'y	.47	24548	1	Air Filter
22	19122	· 1	*Seal - Fuel Tank Neck	48	19123	1	*Gasket - Air Filter
23	10286	1	Fuel Tank Assembly	49	25895	1	Cylinder Shield
		÷	(Incl. 18, 20 & 35)	Decal			
24	12023	1	Rear Handle - Right	101	26870	1	Decal - Starting Instructions
25	24357	1	Throttle Lock	1			

Key Numbers Excluded: #19, 21, 30, 34 & 36

*Indicates contents of Gasket Kit, Key No. 64, p. 25.

CARBURETOR ASSEMBLY PART NO. 35094

Key No.	Part No.	Qty.	Description	Key No.	Part No.	Qty.	 Description
1	35102	1	Valve-Throttle	19	35022	1	Spring - Choke Friction
2	35015	3	Screw - Valve	20	35124	1	Screen - Check Valve
3	35123	1	Fitting - Inlet (Elbow)	21	35096	1	Ring - Screen Retaining
4	35119	1	Spring - Throttle Ret	22	35126	1	Plate Ass'y - Circuit
5	35101	1	Shaft Ass'y - Throttle	23	35116	2	Screw - Circuit Plate
6	35115	1	Screw - Pump Cover	24	35108	1	Gasket - Mtrg. Diaphragm
7	35099	1	Cover - Fuel Pump	25	35114	1	Diaph. Ass'y - Mtrg.
8	35109	1	Gasket - Fuel Pump	26	35098	1	Cover - Mtrg./Diaphragm
9	35113	1	Diaphragm - Fuel	27	35021	4	Screw Ass'y - Mtra. Cover
10	35069	1	Screen - Inlet	28	35104	1	Valve - Choke
11	35111	1	Gasket - Circuit	30	35103	1	Shaft Ass'y - Choke
12	35106	1	Valve - Inlet Needle	31	35121	1	Spring - Idle Screw
13	35118	1	Spring - Mtrg. Lever	32	35117	1	Screw - Idle - Adj.
15	35097	1 -	Lever - Throttle (Outer)	33	35122	2	Needle - Hi & Lo
16	35125	1	Bushing - Throttle Lv.	34	35023	2	Spring - Needle's
17	35105	1	Stop - Throttle	35	35095	ī	Body Ass'y-Carburetor
18	35107	1	Ball - Choke Friction				• •

Key Numbers Excluded: #14 & 29.

Figure 3



Figure 3

Key No.	Part No.	Qty	Description	Key No.	Part No.	Qty.	Description
1	STD511003	1	Screw - Bracket to Crankcase	34	10289	1	Oil Line Pick-Up Assembly (Incl. 29, 35, and 36)
2	24351	1	Bracket - Lever to Crankcas	e 35	24676	1	Weight - Oil Pick-Un Line
3	24348	1	Lever - Manual Oiler	- 36	21031	1	Oil Line
5	15357	1	Thrust Washer	37	2464	2	Sleeve - 1/8 Tubing
6	32049	1	Bearing - Clutch	38	24691	1	Filter - Oil Pump Vent
7	48069	1	Drum & Sprocket Assembly	30	24345	1	*Diaphragm - Oil Pump
8	24465	1	Plate - Clutch	40	19102	1	*Gasket - Cover to Body
ĝ	24353	1	Spring - Clutch	40	25987	i	Cover - Pump
10	10291	Ť.	Clutch Assembly	42	15297	1	Screw - Oil Pump Cover
		•	(Incl. 9, 11 and 12)	43	15422	1	Tubing Nut - Crankcase
11	24352	3	Shoe Clutch	40	25925	-	Guide Bar Plate - Inner
12	26246	1	Spider - Clutch	46	STD510810	2	Screw - Pump to Crankcase
13	23373	ì	*Boot - Oiler Bod	40	24200	3	Cover Plate - Oiler
14	24347	1	Bod - Manual Oiler	47	24399		Bar Clamp Housing Assembly
15	24225	1	Isolator - Crankcase Side	40	10727	1	
16	15406	1	Screw - Side Isolator/	٨٩	25024	1	Guido Bar Plate Outor
10	10400	•	Crankcase	50	STD600603	1	Screw Oiler Cover Plate
17	23356	1	Cap - Oil Pump	50 50	24466		Handquard
18	STD583037	1	Betainer Bing - Oil Pump	52	24400	4	Handyuaro
19	23357	1	Plunger - Oil Pump	54		1	Handlebar Assembly
20	24467	1	Can - Handquard	55	S1D522510	2	Screw - Handlebar/
21	15500	2	Screw/Handquard	F.C.	54050		Hear Handle
22	69185	1	Kit-Oil Vent Bonlacomont	50	51259	1	Chain Der 19/CN
22	10103	1	*Gasket - Body	57	44209	1	Bar - 18 Sin
20	10100		to Crankcase	58	15362	2	Isolator Mount Spacer
24	2615	1	Tubing Nut Oilor	50	04070	~	Front Handlebar
25	2010	1	Spring Oil Pump	59	24373	2	Isolator · Front Handlebar
20	16419	4	Weeber Oller	60	24376	4	Isolator Cups - Front
20	10020	1	Quad Ring Oil Rump	~	05044		Handlebar
21	60062	. i 1	Vit Oil Pump Canving (Incl. 17	61	25044	1	Pin - Bar Adj.
20	09002	'	18 10 04 05 00 07 00 00 00	62	15445	2	Flange Nut - Bar Mounting
ż			10, 19, 24, 20, 20, 27, 30, 32, 33, 24, 29, 20, 40, 41, 40, 8 and of	63	15361	1	Spacer - Isolator
			34, 30, 39, 40, 41, 42, & 0110 01	64	25414	1	U-Clip - Bar Clamp Housing
20	04677	4	Series Oil Line Protector	65	STD581018	1	E Ring - Adj. Screw
29	24077	4	Spring - Oil Line Protector	66	15385	1	Screw - Bar Adj.
30	21038	4	Discharge Oil Line	67	52084		Chain Hepair Kit (Optional)
32	23699	1.	Spring - Diaphragm		-		(Incl. 1 Drive Link, 2 Preset
33	22197	1	Button and Pintle Assembly				tie straps, 2 Plain tie straps, 1 Guard drive link)
				68	15391	1	Screw - Isolator Mount to Handlebar
				Decals			
				101	26468	1	Decal Strip - Bar Clamp Housing
				102	26849	i	Decal - Handguard
					26550	1	Decal-Chain Tensioning
KovNum	nhers Evolude	d. #/	1 91 51 8 59		£00 00	•	Not Shown

Key Numbers Excluded: #4, 31, 51 & 53 *Indicates contents of Gasket Kit, Key No. 64, p. 25.

MAINTENANCE CHART

	· · · · · · · · · · · · · · · · · · ·	before starting work	after finishing work or daily	, after each refueling stop	weekly	monthly	if faulty	if damaged	as required	see page:
Complete methics	Visual inspection (condition, leaks)	x		x						
Complete machine	Clean	1	x							
Throttle trigger, safety throttle lock, stop switch	Check operation	x		×						11
Filter in fuel tank	Clean Felt					x				
	Replace felt							×		
Fueltank	Clean					x				
Chain oil tank	Clean					x				
Chain lubrication	Check	x		×						10
Saw chain	Inspect, also check sharpness	x		x						
Odyy Gridini	Check chain tension	x		×						9
·	Sharpen								x	16
	Inspect (wear, damage)	x		· ·						17
	Clean				x		x			17
Guide bar	Lubricate sprocket nose		×							
	Deburr				×					17
	Replace							x	×	8&17
Chain sprocket	Check				x	[19
Airfilter	Clean	x					x			_ 21
	Replace							x		21
Exhaust ports	Clean								×	17
Cylinder fins	Clean					x				17
Carburetor	Check idle adjustment – chain must not turn	x		x						20
	Readjustidle								×	20
Spark plug	Readjust electrode gap						x			18
All accessible screws and nuts (not adjusting screws)	Retighten	x	•							
Vibration mounts	inspect				x					21
	To be replaced by a qualified Service Dealer							×		
Spork arrestor ecroop	Inspect	×								17
opain aresidi sueen	Clean or replace							x		17

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QUICK REFERENCE PAGE

Read and follow all Safety Rules, Precautions and Operating Instructions. Failure to do so can result in serious personal injury.

SP	ECIAL SAFETY SECTION	page
PR	FPARATION	384
1.	Wear personal protective gear — gloves; safety footwear; snug fitting clothing; and eye, hearing and head protection.	
2. 3. 4. 5 <i>.</i>	Check for worn, loose, or damaged parts and repair or replace as necessary. Check the chain for sharpness and tension. Keep children, bystanders and pets a minimum of 30 feet (10 meters) away from work area. Plan your sawing operation carefully in advance.	
FU	IEL AND OIL	9 & 10
1. 2. 3. 4. 5.	Eliminate all sources of sparks or flame where fuel is mixed, poured, or stored. Use 1 part air-cooled, 2-cycle engine oil to 16 parts regular, unleaded gasoline. Use gasoline not over 2 months old. Mix and pour fuel in an approved, marked container and in an outdoor area. Move a minimum of 10 feet (3 meters) away from fuel and fueling site before starting engine. Fill the oil tank each time the fuel tank is refueled.	
ST.	ARTING THE ENGINE	11
1. 2. 3. 4. 5.	Hold saw firmly with the saw chain free to turn without making contact with any object. Push saw away from you with your right hand while pulling the starter rope with your left hand. Use no more than 15-18 inches of rope per pull. Pull rope no more than 5-6 times. Release the trigger after engine starts allowing engine to idle.	
OP	PERATING THE UNIT	12
1. 2. 3. 4. 5. 6.;	Cut wood only. Accelerate the engine to full throttle before entering the cut. Begin cutting with the saw frame up against the log. Cut only at full throttle. Release the trigger as soon as the cut is completed. Stop the engine before setting the saw down after cutting.	•
MA	AINTENANCE	•• 16
1. 2. 3. 4. 5. 6.	Adjust or have the carburetor adjusted if the chain moves when the engine idles. Disconnect spark plug before performing maintenance except for carburetor adjustment. Check the guide bar for wear each time the chain is sharpened. Clean the air filter frequently and always after 10 tanks of fuel mixture or 5 hours of operation, whichever is less. Clean igniton, cooling and exhaust systems at least once for each 25-30 hours of operation. Take the saw to your Sears Service Center for full clutch inspection after each 100 hours of operation.	
7.	Drain fuel tank in a safe manner before storing the unit for 30 or more days.	

8. Store saw in a dry place out of the reach of children.











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