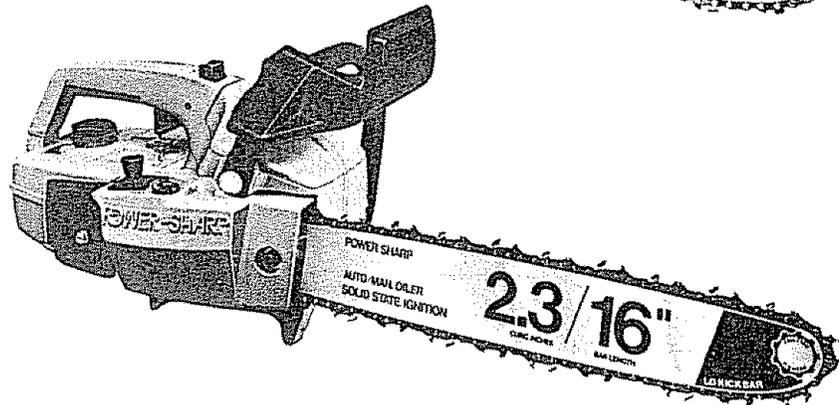
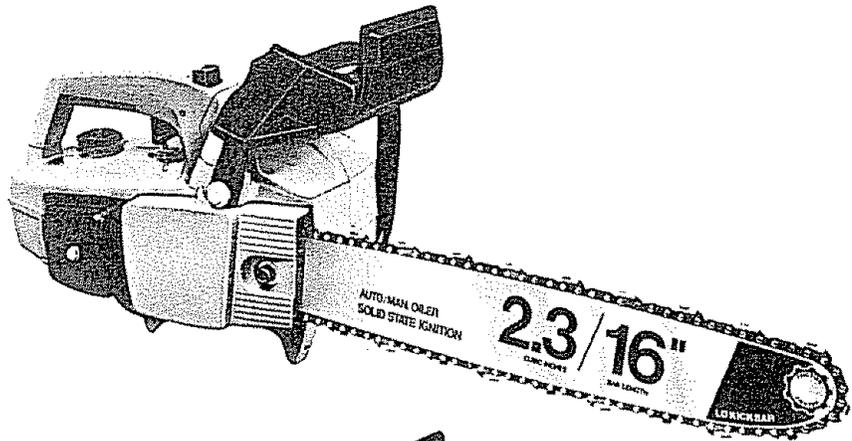


**Sears**  
owner's  
manual

MODEL NO.  
358.352320  
358.352350



# CRAFTSMAN

2.3A 2.3PS

- Assembly
- Maintenance
- Operation
- Repair Parts

**CAUTION:**  
Read Rules for  
Safe Operation  
and Instructions  
Carefully

Record in the space provided below the Model No. and Serial No. of your saw. These numbers are located on the starting instructions decal.

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Retain these numbers for future reference.

Sears, Roebuck and Co., Chicago, Ill. 60684 U.S.A.  
Simpsons-Sears Ltd., Toronto, Canada

# SAFETY FIRST

## ▼ DON'T

- Don't use the saw when you are tired
- Don't start cutting until you have a clear work area, secure footing, and a planned retreat from a falling tree
- Don't use a saw that is damaged or poorly adjusted
- Don't touch a moving chain
- Don't use the saw in an enclosed area

## ▼ DO

- Wear safe footwear, snug-fitting clothing, and eye, hearing, and head protection
- Be careful handling fuel
- Hold the saw firmly with both hands
- Carry the saw with the engine stopped, the bar and chain to the rear, and the muffler away from you
- Shut off the engine before setting it down
- Keep the handles free of oil and fuel

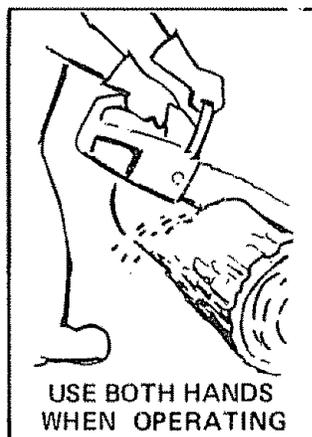
- Keep others out of the work area when the saw is running

## ▼ BE CAREFUL

- Don't climb in a tree with a saw — it is very dangerous. Get professional help.
- Be careful cutting small branches and bushes — small limbs may catch the chain and be whipped toward you

## ■ LOOK OUT FOR KICKBACK

- When the moving chain at the nose of the bar touches an object, the bar and chain can be thrown upward with considerable force. This is **KICKBACK!**
- Hold the saw firmly with both hands
- Don't overreach
- Don't let the nose of the bar contact a log, branch, etc.
- Cut only at high engine speeds
- Don't reach above shoulder height to cut — the chain is too close to your face in this position
- Keep your chain sharp



## GENERAL TIPS

### Safety First

Dress Safely — Loose clothing may get caught in moving parts.  
It's A One Man Job — Keep others out of the work area when the engine is running.

LOOK OUT FOR KICKBACK — Don't let the tip of the bar touch anything while the engine is running.

### Take care of your saw

Keep the Chain Out of the Dirt — Even a small amount of dirt on the log will dull the chain quickly.

Keep the Chain Sharp — A dull chain is unsafe and will cause excessive wear to other parts.

Don't Force the Saw Out of a Jam — Use a wedge, an axe, a crowbar, or another saw, but don't force it out.

### What is good performance?

Wood Chips Tell You A Lot — The chips should be about the size of the chain teeth. If they are small and powder-like, your chain is dull. Get it Sharpened!

Don't Press Hard — Light pressure is enough. Heavy pressure can cause unsafe conditions. Check for a dull chain or worn bar. (See Guide Bar Maintenance and Chain Sharpening).

Cut Only At High Speeds — Keep the throttle wide open when cutting. Don't run the engine at high speed when not cutting!

It Should Cut Smoothly — If the engine stalls or bogs with light pressure, check the carburetor setting and the air filter.

Performance and Safety — Keep your saw running well and your work will be easier and safer.

## FULL 90 DAY WARRANTY

For 90 days from 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 30 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., BSC 41-3 Sears Tower, Chicago, ILL 60684

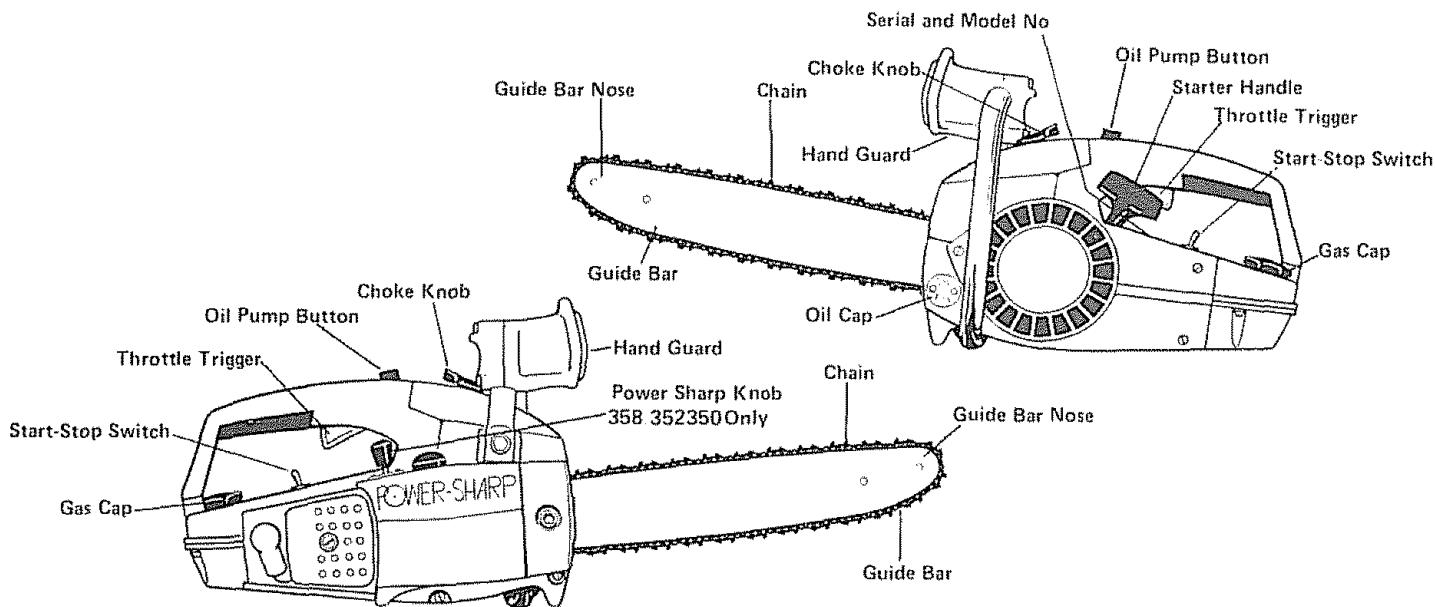
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\* See important notice on page 19 regarding states requiring temperature limiting muffler cover.

## SPECIFICATIONS

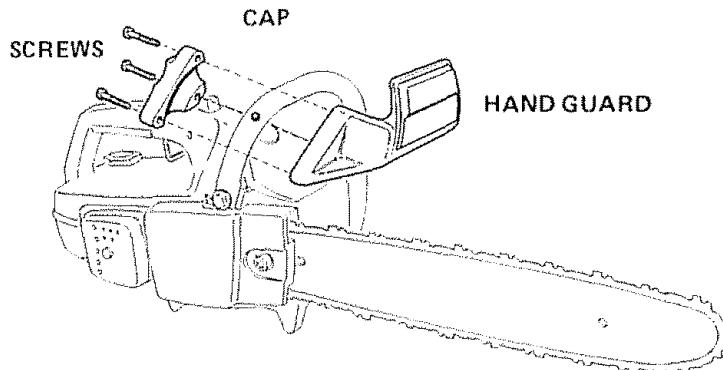
	358.352320 (Craftsman 2.3 A)	358.352350 (Craftsman 2.3 PS)
SPARK PLUG	Champion CJ8	Champion CJ8
SPARK PLUG GAP	.023 to .027"	.023 to .027"
MODULE AIR GAP	.008 to .012"	.008 to .012"
IGNITION	Solid State	Solid State
FUEL MIX	(16:1) ½ Pt. Oil to 1 Gal. Reg. Gasoline	(16:1) ½ Pt. Oil to 1 Gal. Reg. Gasoline
GUIDE BAR	16" Low Kick SN	16" Low Kick SN
CHAIN	Low Profile 3/8 Pitch Chrome Cutters	Low Profile Barracuda 3/8 Pitch Chrome Cutters
MUFFLER	Spark Arresting	Spark Arresting



## HAND GUARD MOUNTING INSTRUCTIONS

HAND GUARDS DO NOT ELIMINATE THE POSSIBILITY OF INJURY AS A RESULT OF KICKBACK OR LOSS OF CONTROL OF THE CHAIN SAW. READ OPERATING INSTRUCTIONS CAREFULLY.

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



## INSTALLING THE BAR AND CHAIN

Always wear gloves when handling the chain!  
It is sharp!

1. Remove the bar mounting screw, washer, and bar clamp with the bar wrench supplied with your saw. Remove one (1) of the two guide plates (Figure 1).
2. Setting the adjusting pin all the way to the rear (Figure 5), place the guide bar slot over the guide bar studs and slide it to the rear (Figure 2)
3. Fit the chain over the clutch and onto the guide bar. Be sure the cutters face the way shown in Figure 3 and that the drive link tangs engage the sprocket teeth. On Craftsman 2 3PS engage chain drive links in groove of rim sprocket teeth.
4. With the adjusting pin fitted into the bar (Figure 3), replace guide plate, bar clamp, washer, and tighten the bar mounting screw FINGER TIGHT.
5. Holding the tip of the bar up (Figure 5) turn the adjusting screw clockwise until the chain is snug on the bar.
6. Lift the chain near the middle of the bar (Figure 6). When tensioned right, the chain will lift about 1/8" from the bar. Figure 6 shows the correct tension. Adjust your chain until it looks like this.
7. Holding the bar tip up, tighten the bar clamp screw firmly. The chain should move freely around the bar but not sag below it.

CHAIN STRETCHES WHEN USED, CHECK THE TENSION OFTEN!

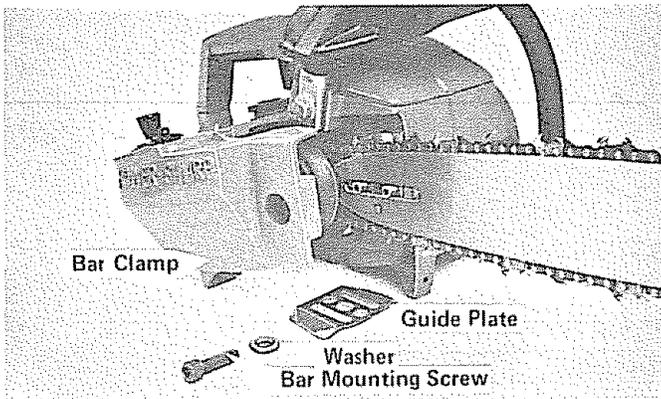


Figure 1

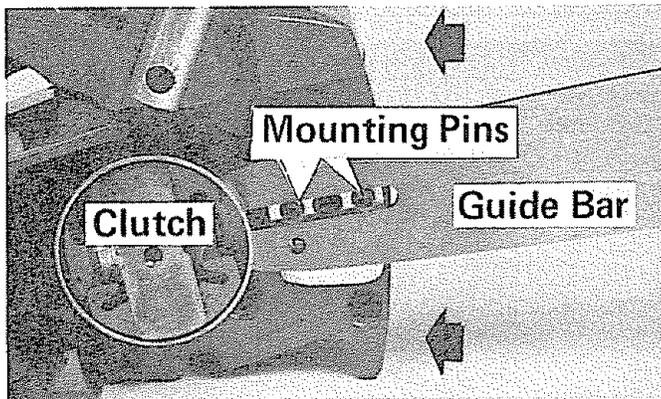


Figure 2

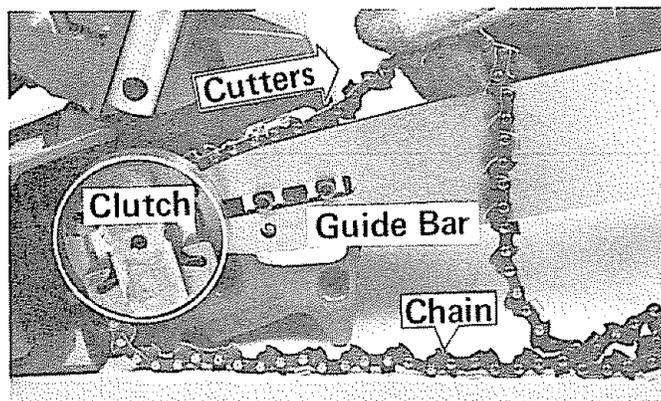


Figure 3

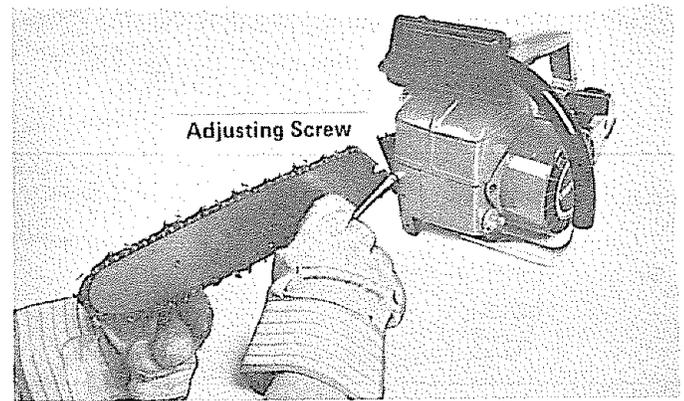


Figure 5

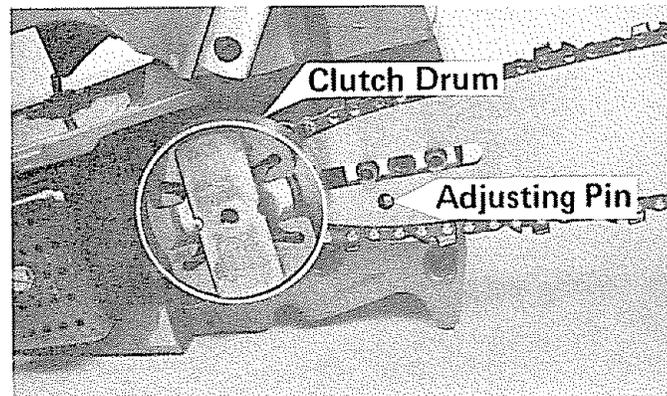


Figure 4

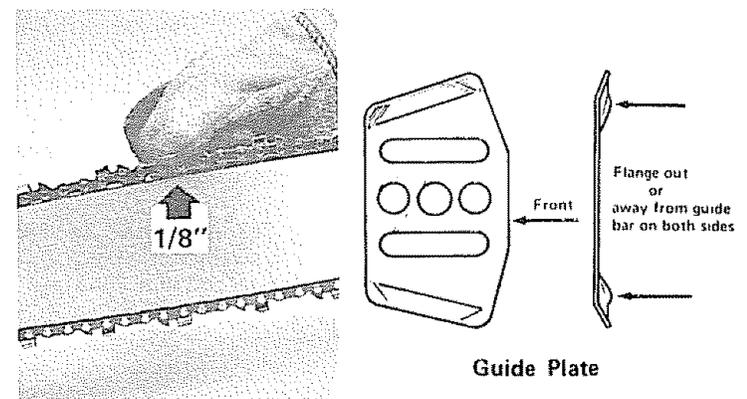


Figure 6

## OPERATING INSTRUCTIONS

### Before Starting

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

### FUEL and OIL

**Fuel Mix:** 16 parts gasoline to 1 part oil (1/2 pint oil to one gallon gasoline). Use air cooled two cycle engine oil for fuel mix.

#### CAUTION:

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

**Chain Oil:** For cold weather operation, above 30° F, use straight Craftsman Bar and Chain Lubricant. 30° F to 0° F, use 5% diesel fuel #1 or kerosene and 95% Lubricant; below 0° F, use 10% diesel fuel #1 or kerosene and 90% Lubricant. If Bar and Chain Lubricant is not diluted adequately, the oil system of the chain saw will not pump enough oil for adequate lubrication of Bar and Chain.

### A WORD ABOUT CHAIN OILING

1. Fill the oil tank each time you fill the fuel tank. Lack of oil on the chain will quickly ruin the bar and chain.
2. You will use at least 1/3 tank of oil for each tank of gas. If you use less, check for a plugged oil hole in the guide bar.

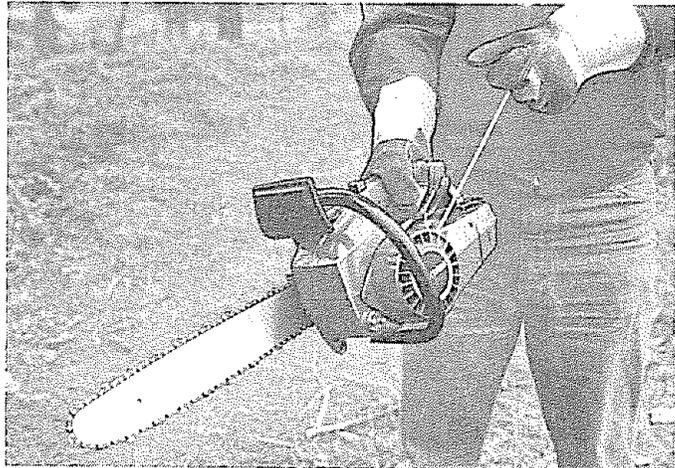
Use clean oil. Do not let sawdust or dirt into the oil tank. Clean the oil cap and the area around it before removing. **A little oil will pump out after the engine stops. Oil on the bar and chain will drip off after use.** Let the saw stand and cool off. Wipe the bottom clean before storing.

### STARTING

Move bystanders and obstructions well out of reach! Release the trigger after the engine starts.

1. Move ignition switch forward to "start"
2. Push choke lever "on" (to right).
3. Hold the rear handle in your right hand and squeeze the trigger.

4. Hold the starter handle in your left hand.
5. Push the saw away from you while pulling the starter quickly.  
HOLD THE SAW FIRMLY. Do not let the starter snap back. Hold the handle and let the rope rewind slowly.
6. After a few pulls, the engine will fire.
7. Return the choke to its original position.
8. Pull until the engine starts. Allow 8 to 10 pulls for a new unit or one which has been stored for time.  
**The chain must not move when the engine idles. See maintenance section.**
9. If engine does not fire after 5 to 6 pulls, it may be flooded. Push choke off (clockwise) and pull starter several times while holding trigger at wide open throttle. If saw has run out of fuel, 8 to 10 pulls with choke on may be required to restart engine. When restarting a hot engine, or one which has just been refueled, you may have to choke the engine for one or two pulls.
10. To stop engine, move switch back to "stop" position. The engine may also be stopped by pushing the choke lever to the right (counter-clockwise).



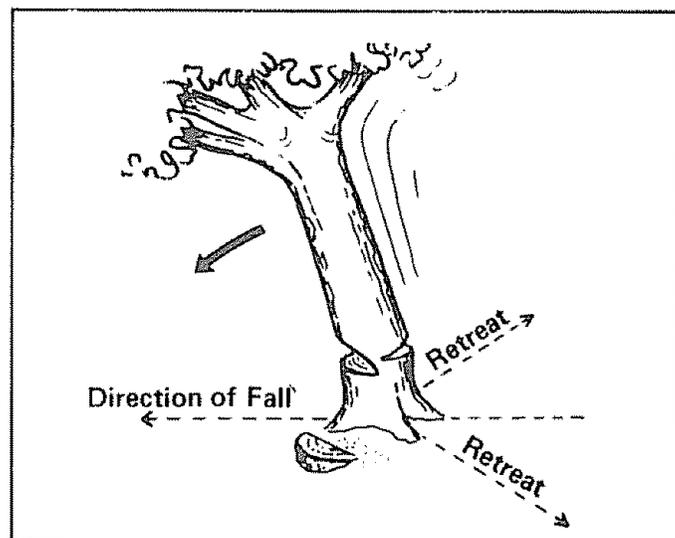
Push the saw away from you while pulling the starter quickly.

### CUTTING TIPS

- ▼ Read the safety tips in the front of this manual. Always keep your chain sharp.

#### Plan Ahead

- Check The Wind – If it is strong enough to move the top of the tree, DON'T CUT! Come back another day!
- Check The Lean – Tie a weight to a piece of string about 3 feet long. Hang the weight in your line of sight. The string is a good vertical line to help you judge the lean of the tree. The tree will try to fall the way it is leaning.
- Check The Weight Distribution – A tree is heavier on the side with the most limbs. It will try to fall on its heavy side. Trim a few limbs to "balance" the tree.
- Clear The Work Area – You need a clean area all around the tree for good footing. Get everything out of the area where the tree will fall. People, pets, cars, etc.
- Find a Retreat Path – Know which way you are going when the tree starts to fall. Make sure it is clear.



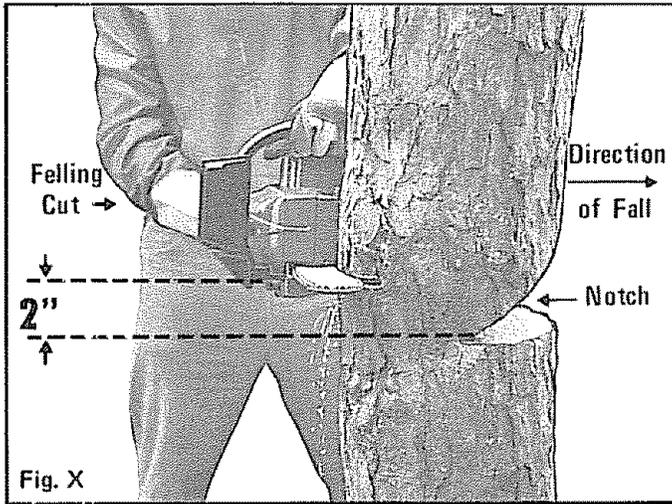


Fig. X

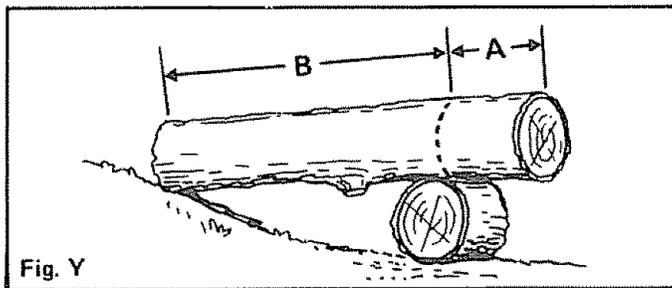
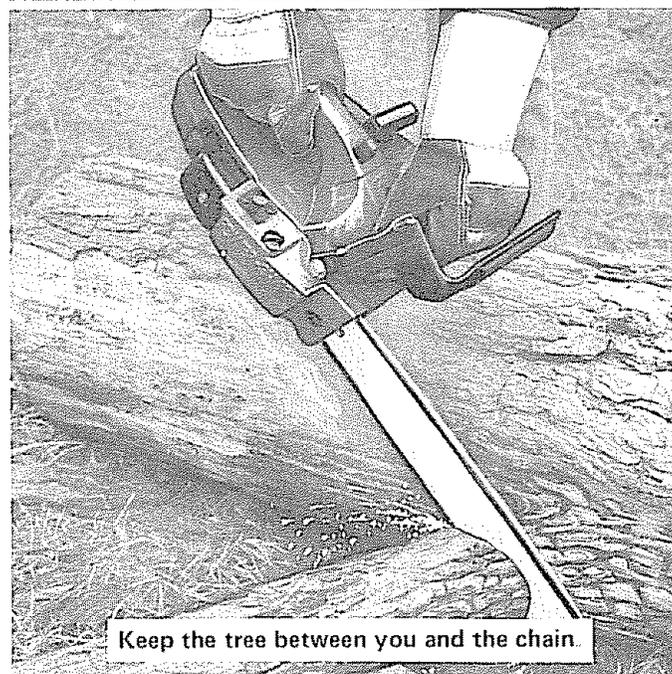


Fig. Y



Use both hands



Keep the tree between you and the chain.

## FELLING (Cutting down a tree)

### A Small Trees – Less than 8" across

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

### B Large Trees – 8" or larger across (Fig. X)

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

## BUCKING

Bucking is the sawing of a log or fallen tree into smaller pieces.

- Use Both Hands – grip the saw firmly with the thumb and forefinger wrapped around the handle.
- Stand Uphill – a log that is cut loose will roll downhill.
- Keep The Chain Out Of The Dirt – dirt will dull the chain. A dull chain is unsafe.
- Stand to the left of the saw.

### How To (Fig. Y)

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

## PRUNING AND DEBRANCHING

### 1 Be Careful

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

### 2 Pruning (Cutting limbs from standing tree)

- Don't Use The Saw In A Tree – It is very dangerous. Get professional help.
- Keep Both Hands On The Saw – keep a firm grip
- Be Sure Of Your Support – don't cut off balance.
- Cut Up From The Bottom, Finish Down From The Top.

### 3 Debranching (Cutting the limbs from a fallen tree)

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

## MAINTENANCE

### Carburetor Adjustment

▼ **BE CAREFUL!** The chain will be moving during this procedure.

- 1 Stop the engine
- 2 Remove the carburetor cover (Figure 7) Turn the high speed (Figure 8) and low speed mixture screws clockwise (Figure 8) until they stop. Don't tighten them, you may damage the needle seats!
- 3 Turn the high speed and low speed mixture screws one full turn counterclockwise (Figure 8)
- 4 Start the engine. If it stops, increase the idle speed (Figure 8) by turning the idle speed screw clockwise (Figure 8). Keep dirt and sawdust away from the carburetor while the cover is removed.
- 5 Run the engine for a few minutes to bring it up to operating temperature
- 6 Set the idle speed as fast as possible without the chain moving. Turn the idle speed screw clockwise (Figure 8) for faster idle, counterclockwise (Figure 8) for slower idle
- 7 Squeeze the trigger quickly. If the engine stops, restart it. The engine should accelerate without hesitating when the trigger is squeezed. If it does not, turn the low speed mixture screw counterclockwise (Figure 8) 1/16 of a turn and check the acceleration again. If the idle speed slows while adjusting the low speed mixture, reset the idle speed as in step 6. Continue step 7 until acceleration is smooth.
- 8 Make a test cut with the saw (keep sawdust out of the carburetor!)
- 9 If the engine seems to smoke excessively in the cut, turn the high speed mixture screw clockwise (Figure 8) 1/16 of a turn. Repeat step 8 and 9, if necessary. **WARNING:** The high speed needle must never be less than 7/8 turn open. Too lean of a setting will quickly ruin the engine.
- 10 If the engine seems to weaken or lose power in the cut, turn the high speed mixture screw counterclockwise (Figure 8) 1/16 of a turn at a time until the saw cuts smoothly. The high speed mixture screw should not be open more than 1 1/4 turns (counterclockwise (Figure 8) ) from the stopped position in step 2
- 11 Reset the idle speed (see step 6).

### Replacing carburetor cover

▼ **Incorrect placement of the cover will prevent the choke from working**

- 1 Move the choke knob all the way in the choke direction.
- 2 Move the choke shutter to the choke closed position (See Figure 8).
- 3 Place the cover on the saw and tighten the screws
- 4 Check the operation of the choke. If the knob sticks or won't move, remove the cover and repeat the procedure above.

### Air Filter

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

- 1 Remove the carburetor cover and pull out the filter (Figure 9).
- 2 **DO NOT** clean your filter in gasoline or other flammable solvent. Blow the dirt off with compressed air or wash filter in soap and water
- 3 Replace the filter and carburetor cover.

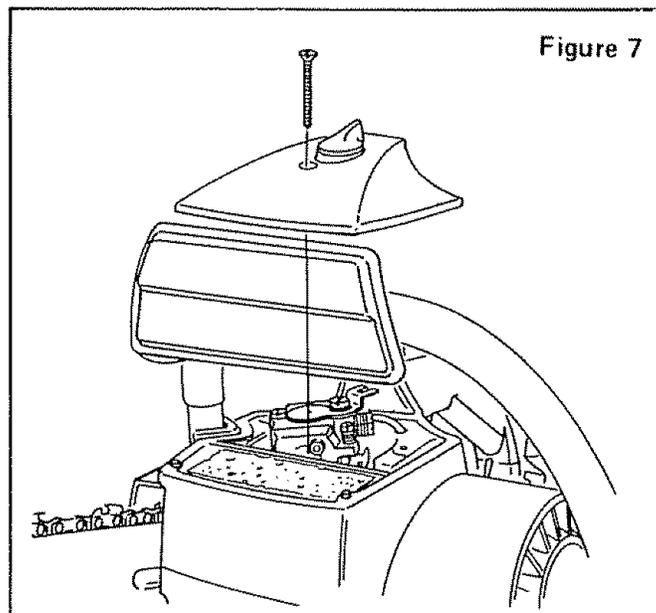


Figure 7

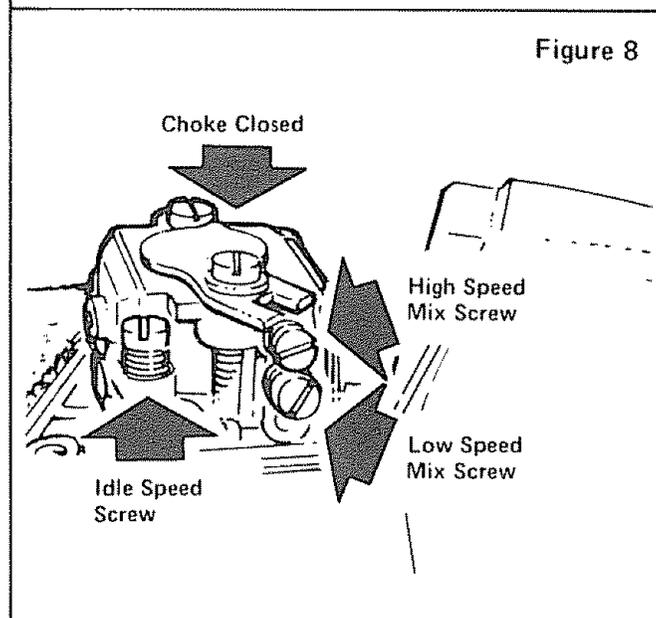


Figure 8

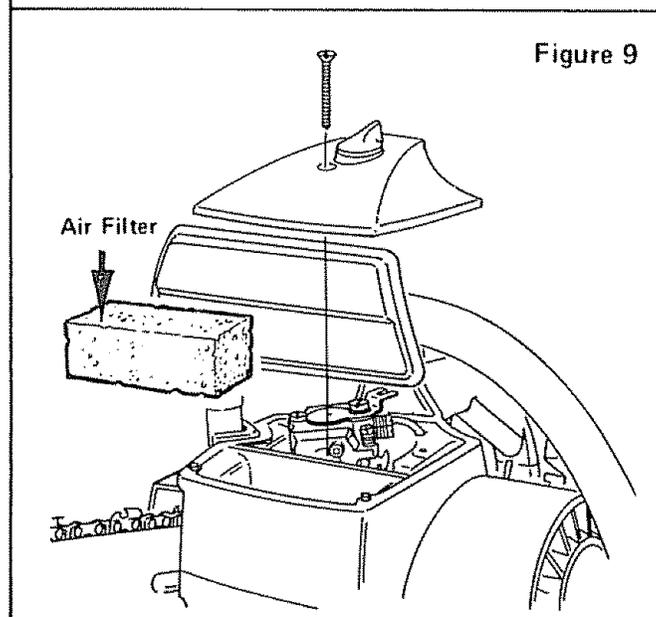


Figure 9

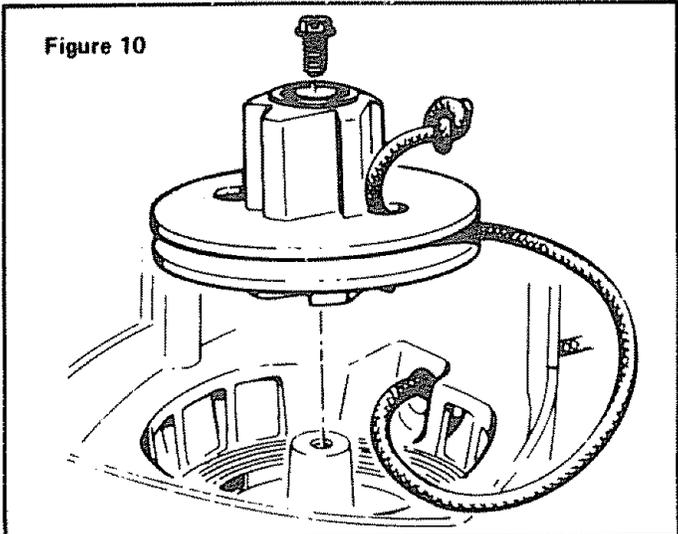


Figure 10

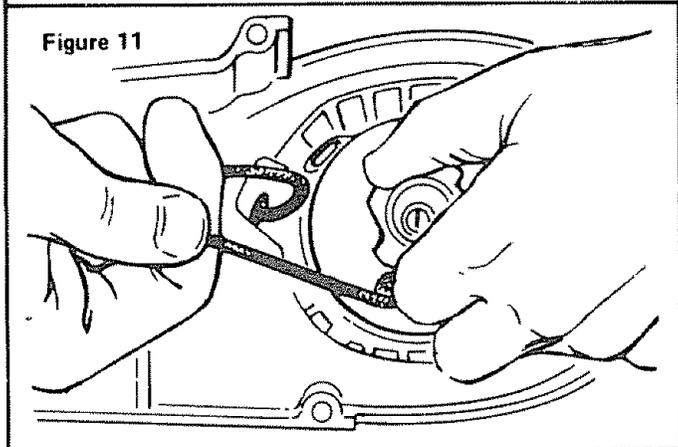


Figure 11

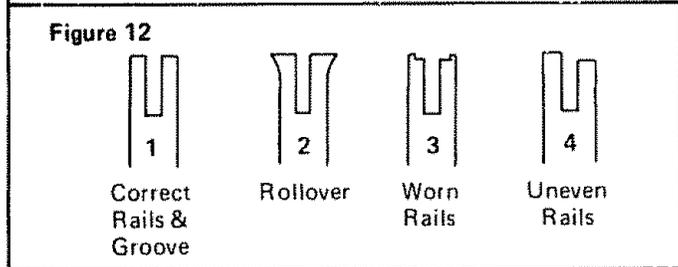


Figure 12

1 Correct Rails & Groove  
 2 Rollover  
 3 Worn Rails  
 4 Uneven Rails

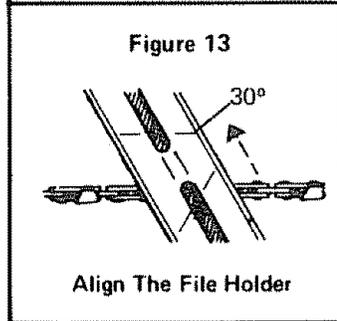


Figure 13

Align The File Holder

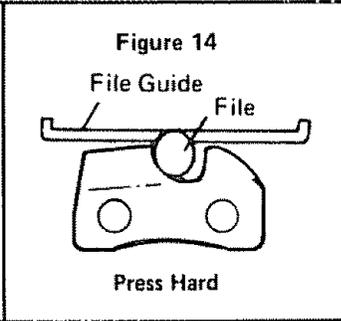


Figure 14

Press Hard

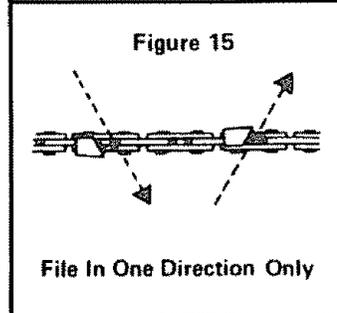


Figure 15

File In One Direction Only

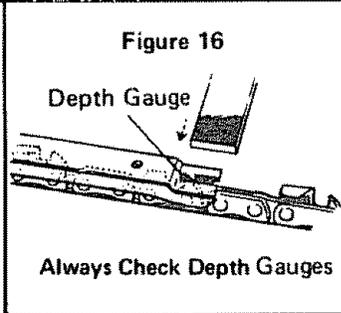


Figure 16

Always Check Depth Gauges

## Starter Rope

If your rope breaks near the pulley, it can be repaired by this method. Otherwise, replace the rope.

1. Remove the pulley screw and pulley very carefully. The recoil spring lies beneath the pulley. Twist the pulley gently as you pull up to release the spring. The spring must stay in the housing, flat against the bottom.
2. Burn the rope end and run it through a rag before it cools. An enlarged end will keep the rope from fitting onto the pulley. **Don't touch the burned end. It is hot!**
3. Feed the rope through the housing, into the pulley, and up through the pulley hole as in Figure 10. A sharp object or stiff wire will help you get the rope through the hole.
4. Tie a knot in the end of the rope. Pull it very tight against the pulley.
5. Replace the pulley in the housing. Be sure the pulley is all the way down and the spring is engaged. Replace and tighten the pulley screw.
6. Rewind all the rope onto the pulley by turning counterclockwise.
7. Pull about 6 inches out as shown in Figure 11 and set the rope in the pulley slot.
8. Make three complete turns of the pulley clockwise. Pull the starter handle to the full extent of the rope and let the rope rewind slowly.

## GUIDE BAR MAINTENANCE

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

1. Figure 12 shows a cross-section of the guide bar. Keep the edges square as in 1 with a flat file.
2. Rollover is shown in 2. This will cause you to press extra hard when cutting.
3. Worn rails are shown in 3. This occurs most often at the guide bar nose.
4. Uneven rails are shown in 4. This will cause the saw to cut on an angle.
5. Keep the rails flat and square as shown in 1.

## CHAIN SHARPENING (Refer to page 10 for tools)

### ○ Keep Your Chain Sharp

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

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

Extra rough cutting is a sign of a dull chain.

Powder-like wood chips mean a dull chain.

Cutting is much easier and safer with a sharp chain.

### ○ To Sharpen 358.352320 (Craftsman 2.3 A Only)

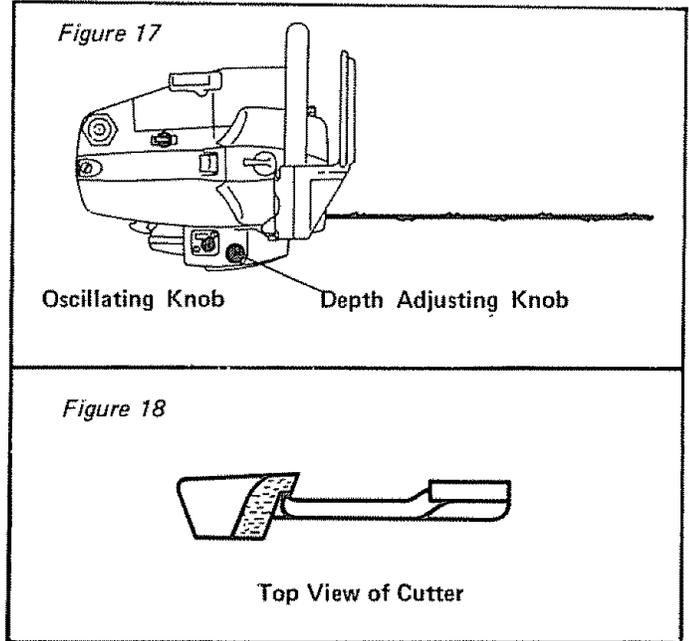
1. Set the chain tension right. You must still be able to move the chain around the bar.
2. Clamp the guide bar in a vise. Don't clamp the chain! Clamp in the center of the bar.
3. Use 5/32" file only.
4. Sharpen all the cutters away from you first. Then turn the saw around and sharpen the cutters on the other side.
5. Align the file holder marks with the bar as shown in Figure 13. Using 30° mark on file holder.

6. Hold the file level, perpendicular to the bar, Figure 14.
7. File in ONE direction only! Figure 15.
8. Press hard! Two or three strokes should do it.

9. Always check the depth gauge with the depth gauge filing guide after filing. If the depth gauge sticks out, file it off with a flat file, Figure 16.

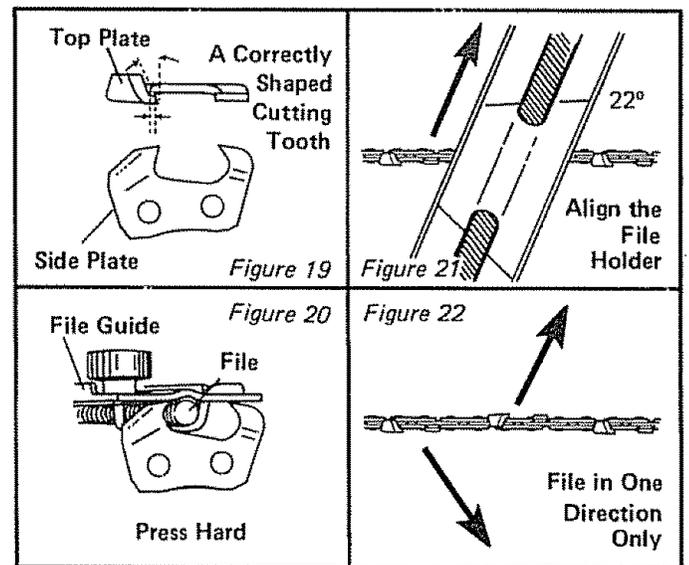
### SHARPENING 358.352350 (Craftsman 2.3PS Only)

1. With engine "OFF", adjust the chain to fit snug on bar (Figure 6, page 4).
2. Rotate depth adjustment knob counterclockwise (opposite direction of arrow on knob) until tight (Figure 17).
3. Start engine, allow it to warm up, then with engine at HALF throttle, push oscillating knob (Figure 17) to the extreme left out of locking slot and pull back on knob. If sparks do not appear coming from top of guide bar in front of bar clamp release knob and turn depth adjusting knob one click in direction of arrow. Pull back on oscillating knob again. Repeat above procedure until a small shower of sparks can be seen.
4. When sparks appear, move the oscillating knob rapidly from side to side. It should take about 5 to 10 seconds to sharpen a dull chain. DO NOT oversharpen. A properly sharpened chain cutter is illustrated in Figure 18.
5. About every 4th or 5th power sharpening, the cutter side plates should be filed.



### FILING (358.352350 Craftsman 2.3PS Only)

1. Set the chain to proper tension. You must still be able to move the chain around the bar.
2. Clamp the guide bar in a vise. Don't clamp the chain! Clamp in the center of the bar.
3. Use 5/32" file only.
4. Align the file holder marks with the bar as shown in Figure 21, using 22° mark on file holder
5. Hold the file level, perpendicular to the bar, Figure 21.
6. File in ONE direction only! Figure 22.
7. Sharpen all the cutters away from you first. Then turn the saw around and sharpen the cutters on the other side. Press hard! Two or three strokes should do it.



### STORING YOUR CHAIN SAW

Once you have finished using the saw and it is to be idle for several months, follow these steps before storing the saw

1. Drain fuel from the tank
2. Start Engine and allow to run at idle speed until all fuel is used.
3. Drain oil from oil tank.
4. Coat guide bar and chain with oil to prevent rust.
5. Store in a dry area and cover to protect from dust.

