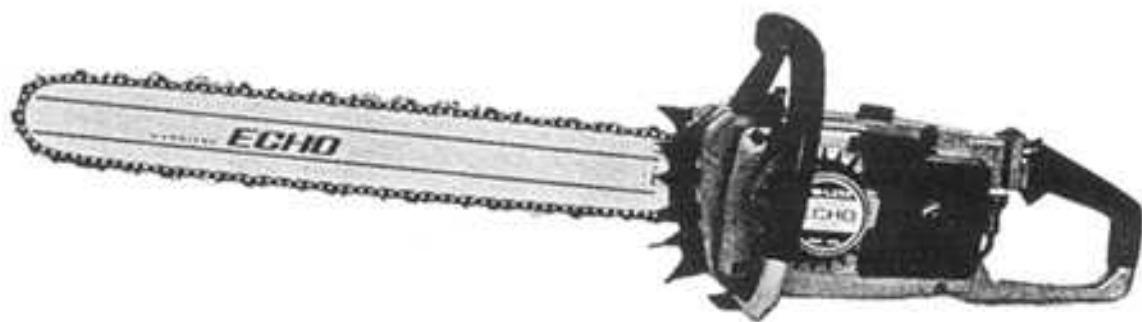


KIORITZ ECHO CHAINSAW

INSTRUCTION MANUAL

● MODEL CS-701S VL



KIORITZ CORPORATION

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1. SPECIFICATIONS

● Engine

Type:	Air-cooled, 2-cycle, single-cylinder engine
Piston displacement: (bore x stroke)	70.7 cc (50 x 36 mm) (4.3 cu.in) (1.97" x 1.42")
Direction of revolution:	Counterclockwise when viewed from the magneto side
Magneto:	Flywheel magnet type
Ignition plug:	NGK BM-6A
Carburetor:	Tillotson diaphragm type HS-54BB
Fuel:	Gasoline-oil (Kioritz Echo Oil) mixture (Mixing ratio: 20:1)
Cooling system:	Forced air cooling
Starting system:	Recoil starter
Lubricating system:	Manual or automatic oiler
Chain oil:	Kioritz Chain Oil
Transmitting system:	Automatic centrifugal clutch

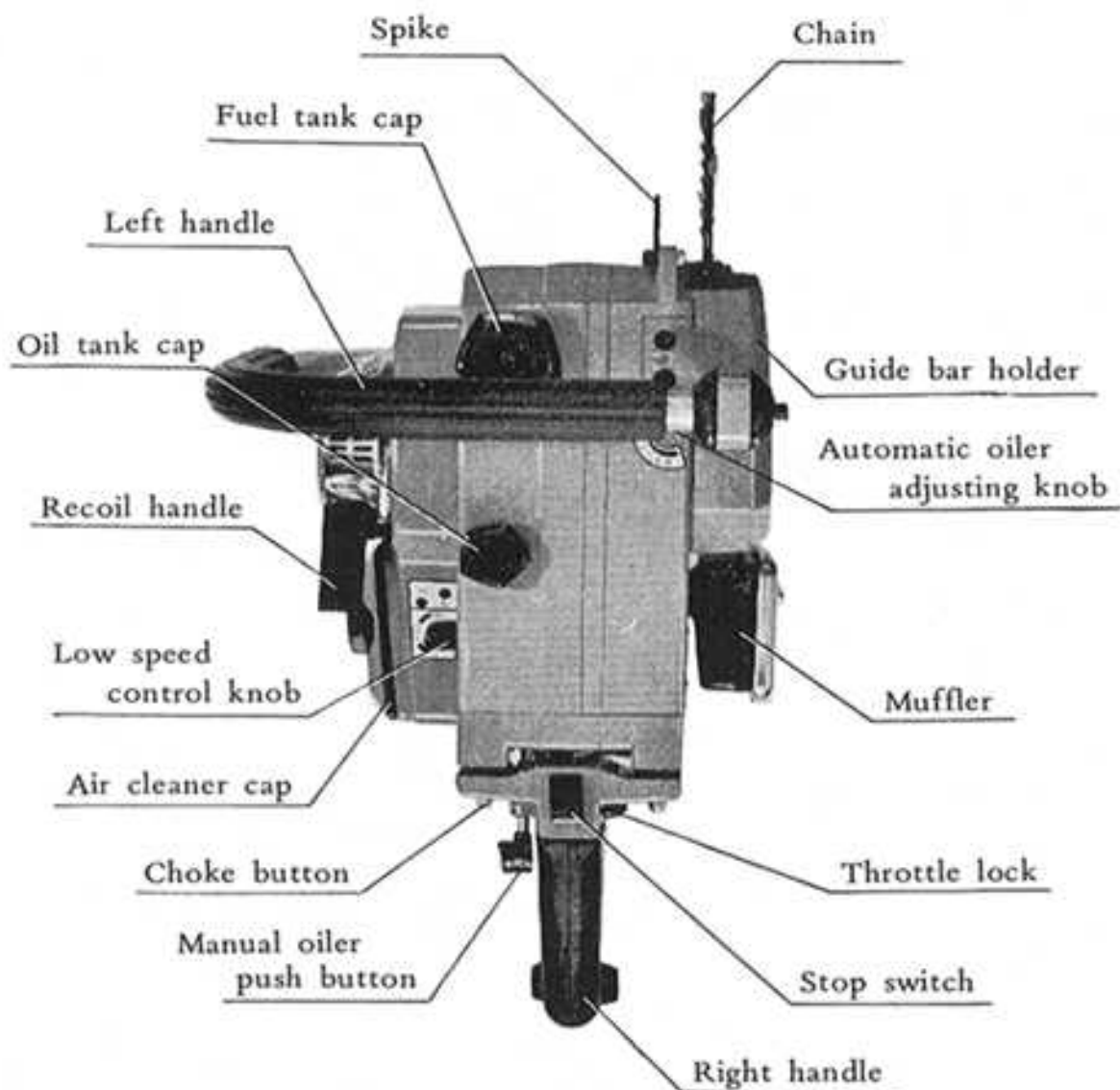
● Tank capacity

Fuel tank:	0.8 liter (1.69 U.S. pt)
Oil tank:	0.4 liter (0.85 U.S. pt)

● Saw

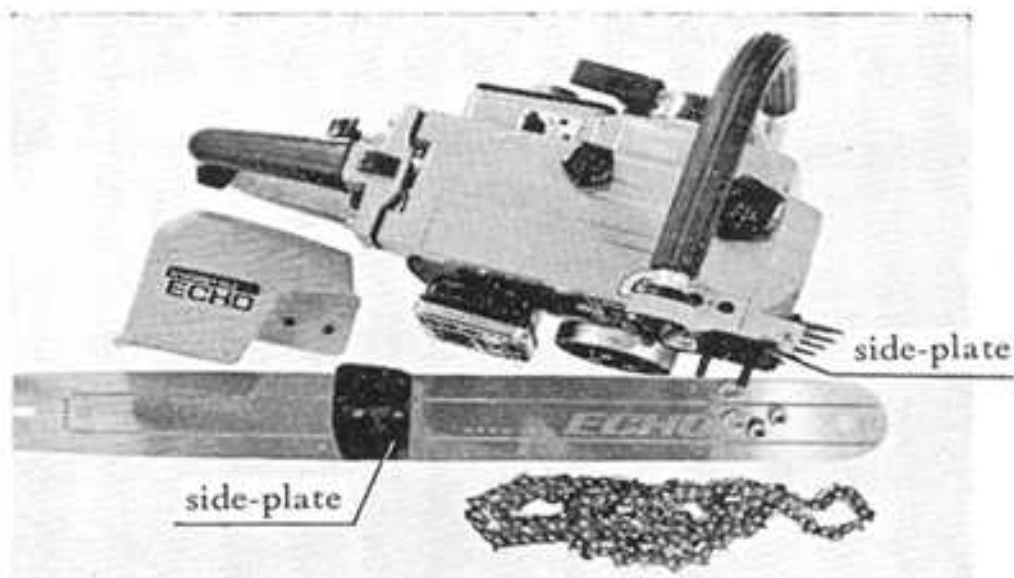
Chain:	Chain pitch 3/8"; Chain gage 0.050"; Number of drive links 81
Bar:	Gage 0.050"; Length 24" (24K50)
Weight:	7.1 kg (dry)(chain and bar excluded) 15.66 lb

2. PARTS DESIGNATION

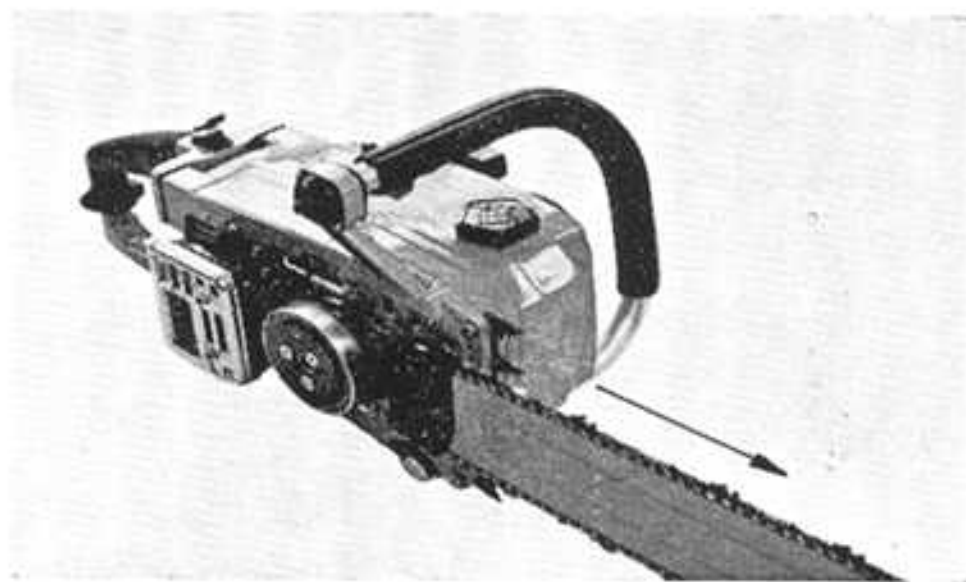


3. HOW TO FIT THE BAR AND CHAIN

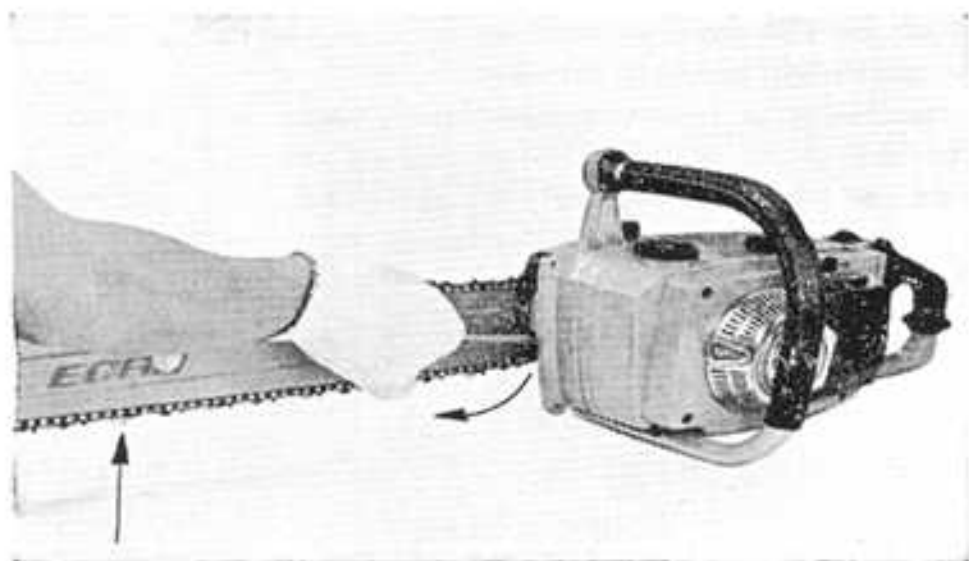
- * Remove the guide bar holder, a guide bar side-plate and a wood-piece from the assembly.
- * Leave the other side-plate in place.



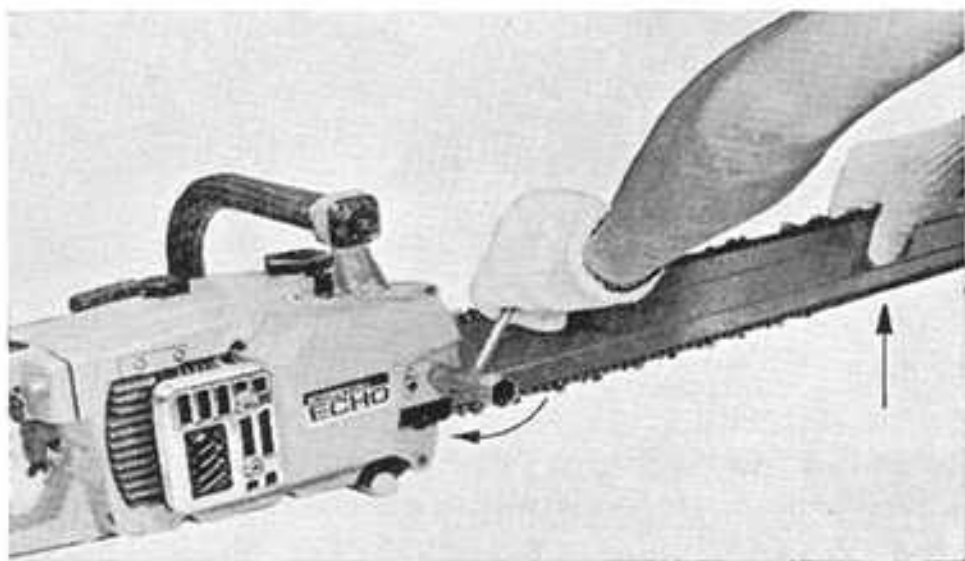
- * Insert the chain tensioning lug into the bar hole to set the bar.
- * Mount a part of the chain on the sprocket first, then its other end on the bar end.
- * Do not mount the chain in the wrong direction.
- * Mount the guide bar side-plate and the guide bar holder.
- * Put on the washers, and tighten the nuts lightly.



- * Tension the chain: hold up the bar end by the hand, and turn the adjusting screw clockwise.
- * It is important to tension the chain properly. Mesh the chain with the bar at the bar bottom and turn the adjusting screw out about 1/8 turn.



- * Lift the bar end, and tighten the two nuts firmly with a wrench.



Caution

The optimum chain tension is one of the most important factors in achieving a maximum performance.

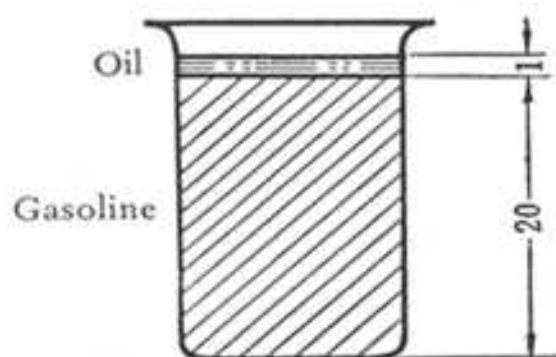
Note that:

- * A tight chain will cause premature wear of the bar and the chain.
- * A loose chain will get out of place.
- * When the chain is properly tensioned, there is no noticeable clearance between the chain and the lower end of the bar and the chain can be slid on the bar very smoothly by the hand.

When you turn the chain by the hand, be careful not to have the hand injured.

4. FUEL AND LUBRICANT

Fuel



- * The fuel used for operating the Echo 701S VL is a mixture of gasoline and Kioritz Echo Oil.
- * The gasoline-oil ratio is 20 to 1.

Notes:

- * Make sure that the mixing ratio is 20 to 1. Any other ratio will cause engine troubles.
- * Kioritz Echo Oil is not obtainable, use motor oil for 2-cycle engines.
- * Do not use any oil other than Kioritz Echo Oil or motor oil for 2-cycle engines.

Table for preparing Gasoline-Oil Mixture

Gasoline (ℓ)	Oil (ℓ)	:	Gasoline (ℓ)	Oil (ℓ)
1.0	0.05	:	6.0	0.30
2.0	0.10	:	7.0	0.35
3.0	0.15	:	8.0	0.40
4.0	0.20	:	9.0	0.45
5.0	0.25	:	10.0	0.50

Lubricant

Appropriate lubrication to the chain in operation will minimize the friction between the chain and bar, and will assure a longer service life. Use Kioritz chain oil.

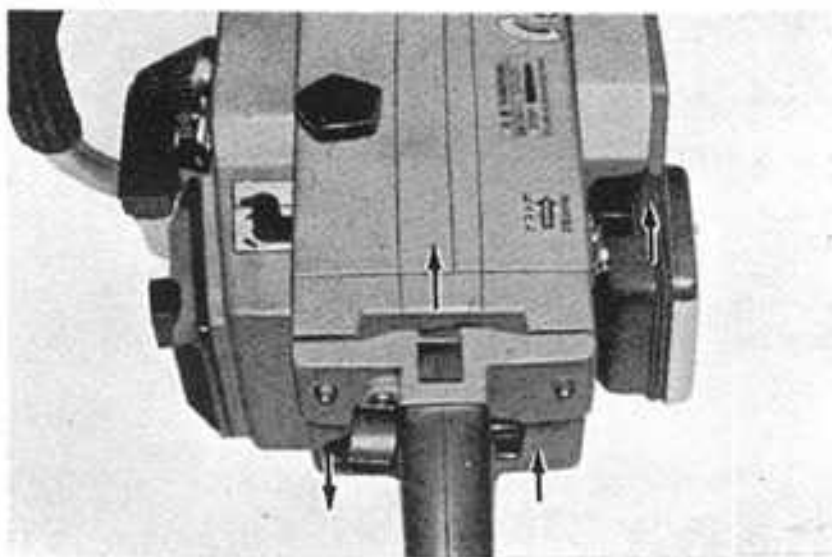
Notes:

- * Do not use waste or reclaimed oil to avoid various troubles.
- * If Kioritz chain oil is unavailable at your nearby store, use motor oil of the following grade:
 - SAE # 30 in summer
 - SAE # 10 in winter (or when cutting resinous trees)

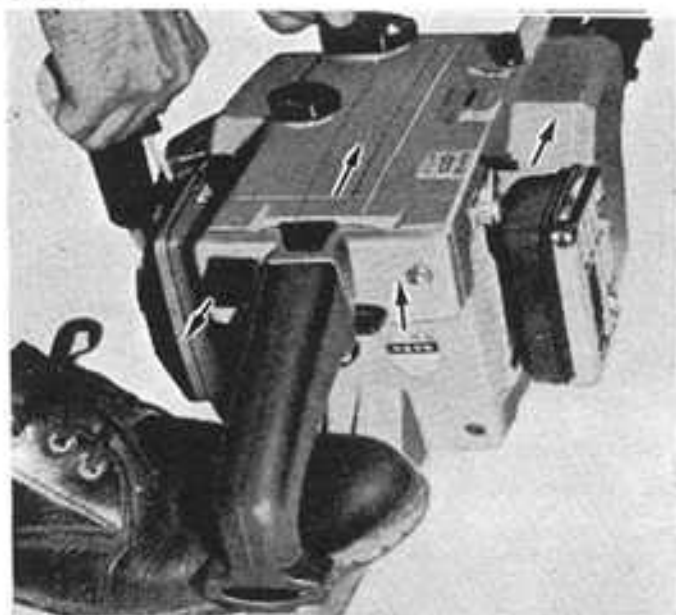
5. STARTING THE ENGINE

When the engine is cool

- * Fill the tanks with mixed fuel and lubricating oil, respectively.
- * Push the stop switch in the direction of the arrow, as shown in the right-hand figure.
- * Pull the choke button in the direction of the arrow.
- * Move the throttle lock knob up to lock the throttle trigger.
- * Move the decompression lever in the direction of the arrow.



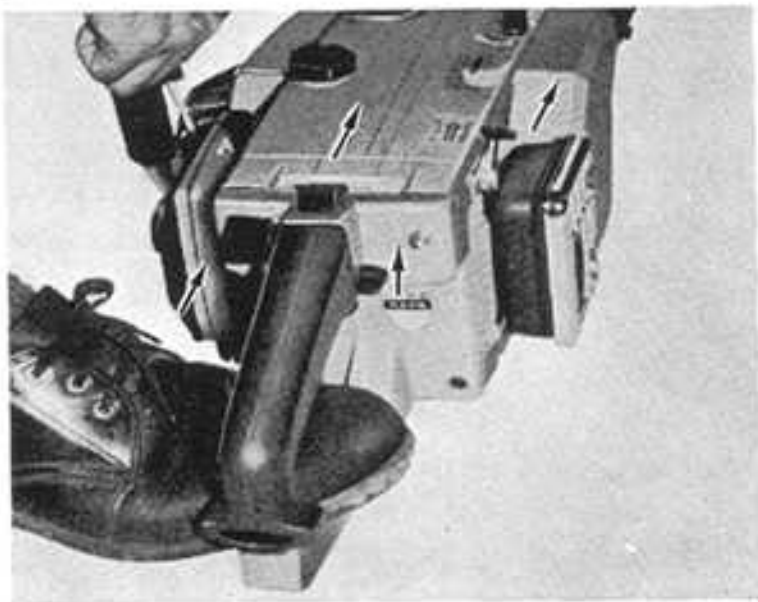
- * When you pull the recoil starter rope, hold the chain-saw firmly on the ground by the foot.



- * Pull the rope 5 or 6 times, and the engine will emit the first firing sound. Next, push the choke button back to the original position. Then pull the rope, and the engine will start.
- * Be careful of the chain because it will rotate when the engine starts. After the engine has started, pull the throttle a little and release it so that it is unlocked and the engine runs at a low speed. Then, return the decompression lever at the original position.

When the engine is warm

Lock the throttle trigger, move the decompression lever in the direction of the arrow, and pull the starter rope to start the engine. If the engine will not start, pull the rope in the same procedure as in the case where the engine is cool.

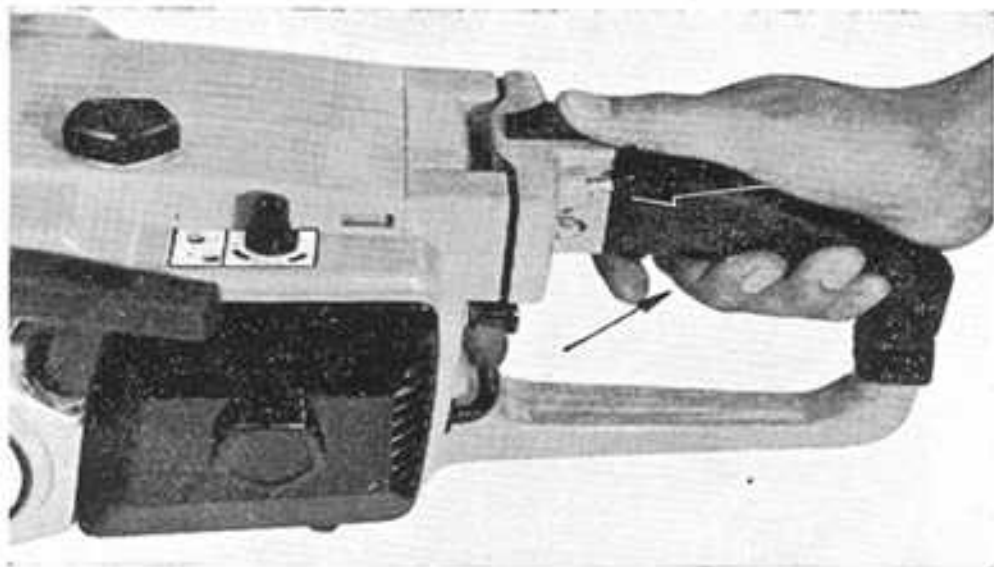


Notes:

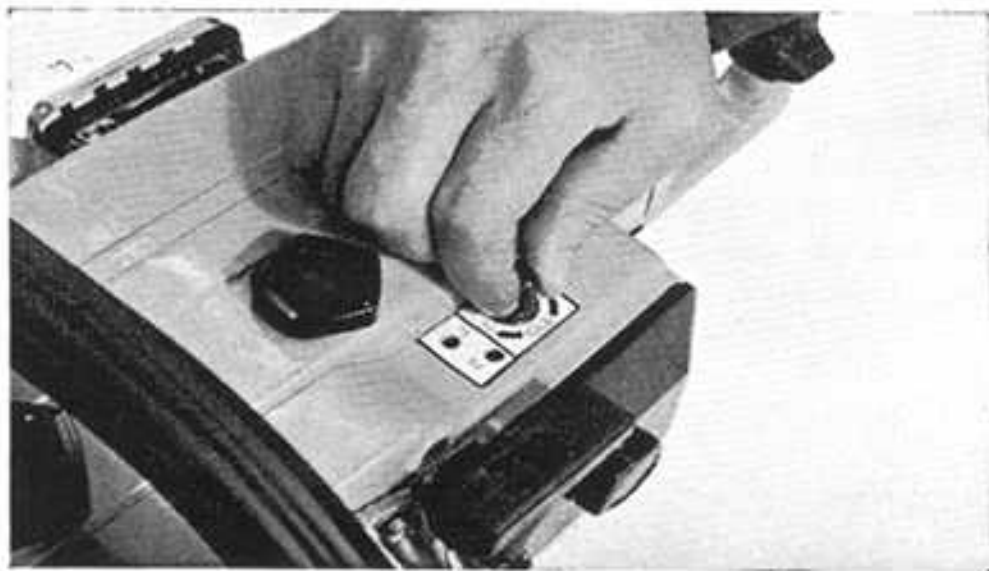
- * When the engine is warm, you can start it without using the throttle and the choke. Push the spot switch, move the decompression lever, and pull the rope.
- * When you start the engine with the choke pulled, always put the choke in the original position as soon as you hear the first firing sound.

6. RUNNING AND STOPPING THE ENGINE

- * When the engine starts, keep it running at a low speed for 5 or 6 minutes.
- * After idling the engine, pull the throttle gradually to run it faster.
- * The chain starts turning when the engine speed reaches about 3,000 r.p.m.
- * When the chain starts turning, press the manual oiler push button two or three times for lubrication.



- * When idling the engine, adjust the engine speed by turning a knob located on the air cleaner. Turn it to clockwise to make the engine run fast, or to counterclockwise to make it run slow.



- * To stop the engine, release the throttle and pull the switch to "OFF" side.

7. FELLING AND LUMBERING

- * Familiarize yourself with your chainsaw before you start actual cutting.
- * To this end, it is a good idea to practice by cutting a felled tree several times.
- * To cut a tree, open the throttle fully and place the spike against the tree, and the chain saw will cut into the tree. You need not press the chainsaw firmly against the tree.

Felling

- * Decide on the direction to knock down a tree.
- * Remove all obstacles around the tree to operate the chainsaw easily and safely.
- * For your safety, find a shelter nearby.
- * Make a cut in the tree on the side to which the tree is to be brought down.
- * Then make another cut in the opposite side at a level a little higher than the one previously made.



Lumbering

- * Before lumbering, stabilize the felled tree: the tree on a slope may roll down as you cut off the branches.
- * Keep the tree off the ground by a support so that the chain or bar is not caught in the cut.



8. TIPS FOR YOUR SAFETY

Keep in mind the following because feeling and lumbering will often involve dangers:

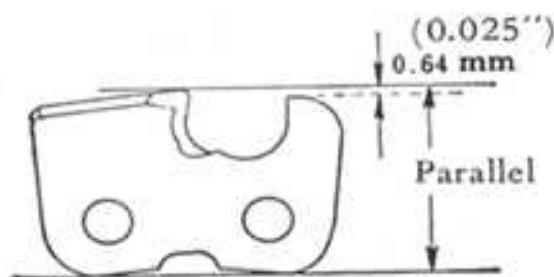
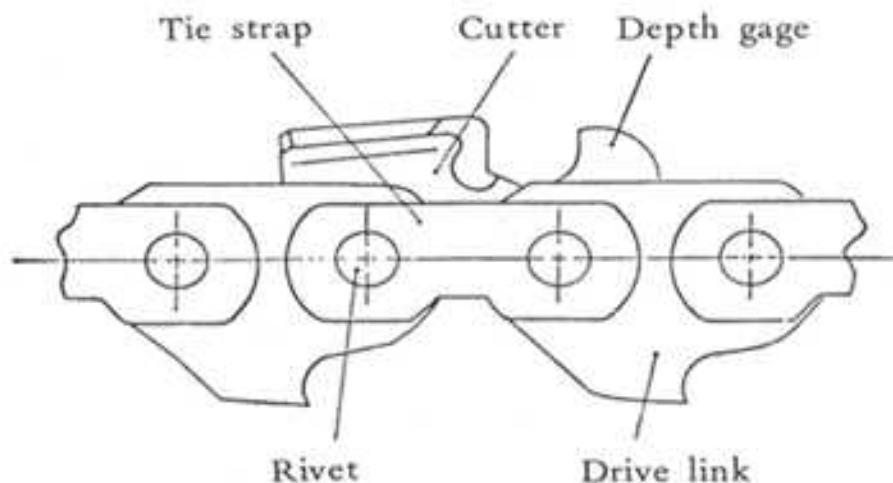
1. Start the engine unaided, keeping any person off.
2. Do not let anybody come near the chainsaw operator.
3. When two or more operators work at the same time, leave a sufficient room between them.
4. When you move to another place, always stop the chainsaw.
5. When you adjust the chain tension or set the chain, stop the chainsaw.
6. Hold the chainsaw by both hands when you cut a tree.
7. Refuel at a place where there is no fire.
8. Do not start the engine where you refueled.

9. SETTING THE CHAIN AND SERVICING THE BAR

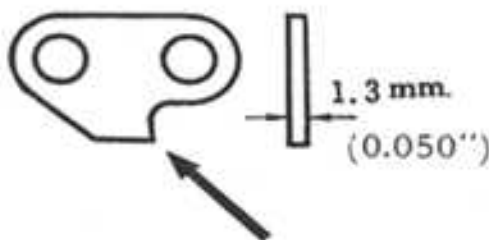
Parts designation

Each part of the chain is designated as shown in the figure below.

- * The chain pitch for the Echo 701SVL is 9.525 mm (3/8").
- * Do not use a chain with a pitch other than the above-mentioned.



- * The depth gages limit the cutter depth at the time of cutting.



- * The drive links help remove sawdust from the bar grooves. Therefore, sharpen the lower end corner of each link.

Setting the chain

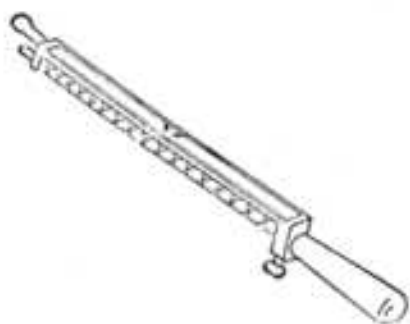
It is important to:

1. Keep the cutters always sharp.
2. Align the right and left cutters.

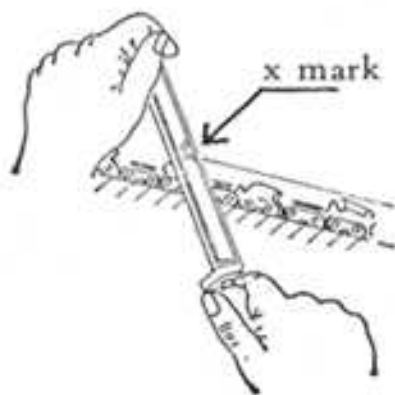
If they are blunt, irregular, or misaligned, the cutting efficiency will drop, the chain vibrations will increase, and the machine will result in a premature damage.

Correct setting procedure

- * Use a 5.5 mm (7/32") round file or a flat file to set the chain.
- * If the cutters have become smaller after being set many times, a 5 mm (3/16") round file may be used instead of a 5.5 mm (7/32") one.
- * Fix the file on the file holder.

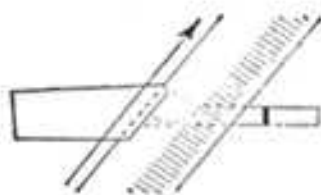


- * Place the file on a cutter and push it to file.
- * Keep the file off the cutter when you pull it back.

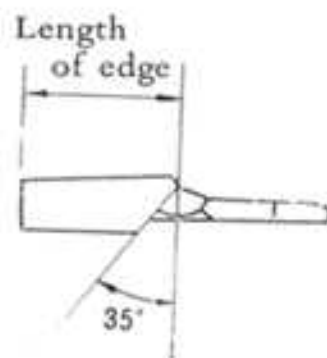


(Correct direction and position of file)

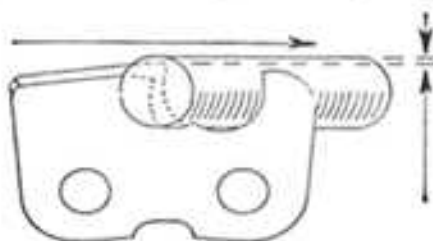
1) Upper edge setting angle (35°)



Standard angle
is 35° .

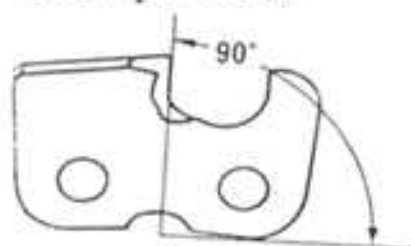


2) Lateral edge setting angle (90°)

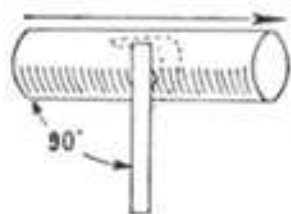


Use the file,
maintaining a
space of one
tenth the file
diameter, as
illustrated.

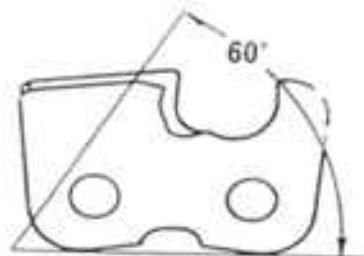
Chain pitch: $3/8''$



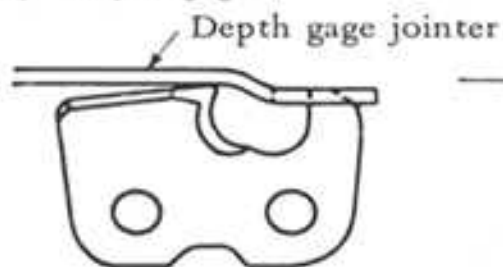
3) Upper edge end angle (60°)



Maintain the
file horizontal



4) Depth gage



Cleaning the chain

- * When the chain is stained with resin or other foreign material, clean the chain with petroleum and apply oil to it.

Servicing the bar

- * Keep the bar grooves clean.
- * Keep the oil inlet hole clean.
- * Use the bar inside out at regular intervals.

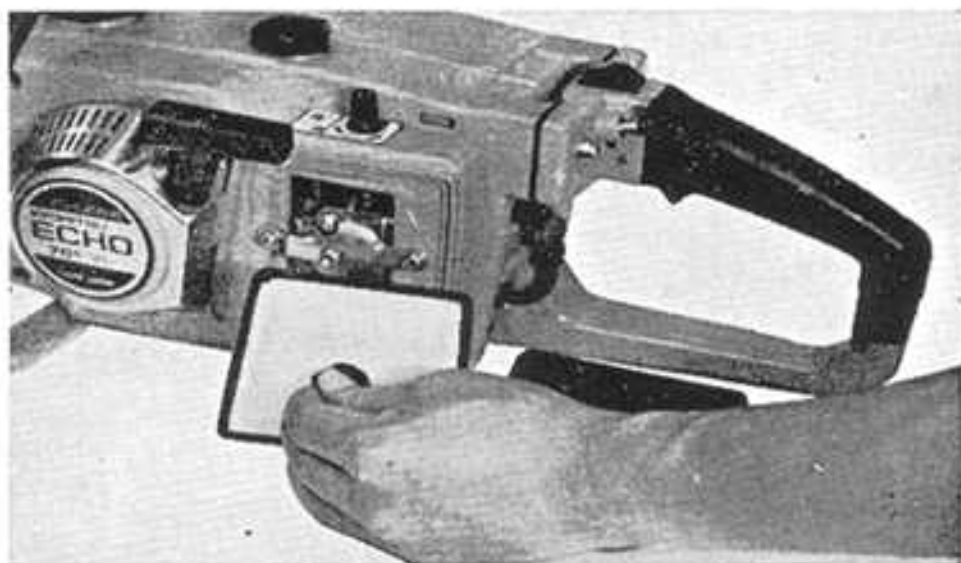
Chain and bar

Length of bar	Chain: Pitch 3/8" Gage 0.05"	
	Number of drive links	
20" (20K50)	69	Optional
24" (24K50)	81	Standard
28" (28K50)	92	Optional

10. ENGINE MAINTENANCE

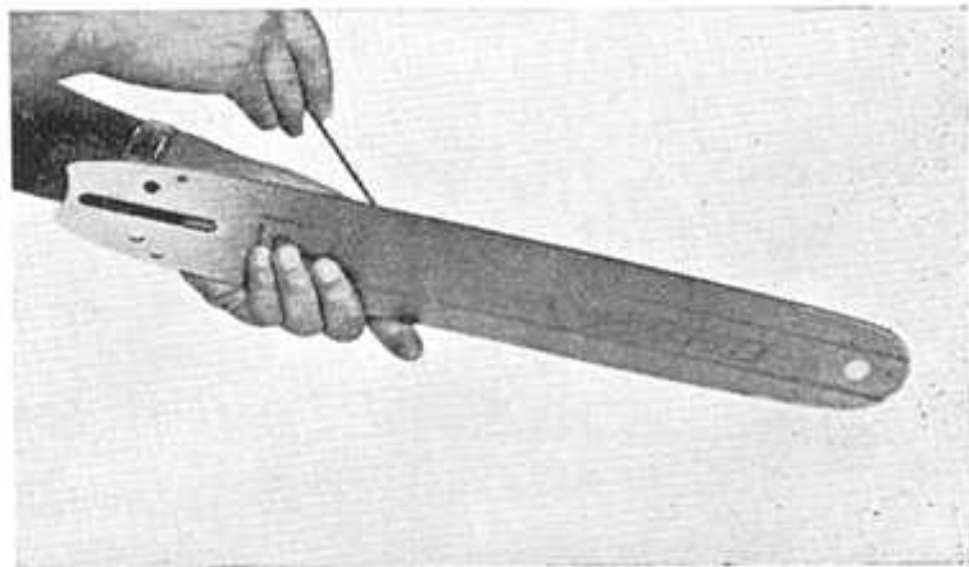
Cleaning the air cleaner Clean it every day.

- * The air cleaner can be taken off by pulling the rubber placed in the center.
- * Wipe off dust lightly, or wash the cleaner in gasoline.
- * When you wash the cleaner in gasoline, dry it completely before you put it back in place.



Inspection of screws and nuts Check them every day before you use the machine.

- * Check for any loose screws and nuts of the handles, fan cover and carburetor.



Inspection of the chain and bar

Check them every day before you use the machine.

- * Set the chain every day.
- * Clean the bar grooves.
- * Turn the bar inside out every day.

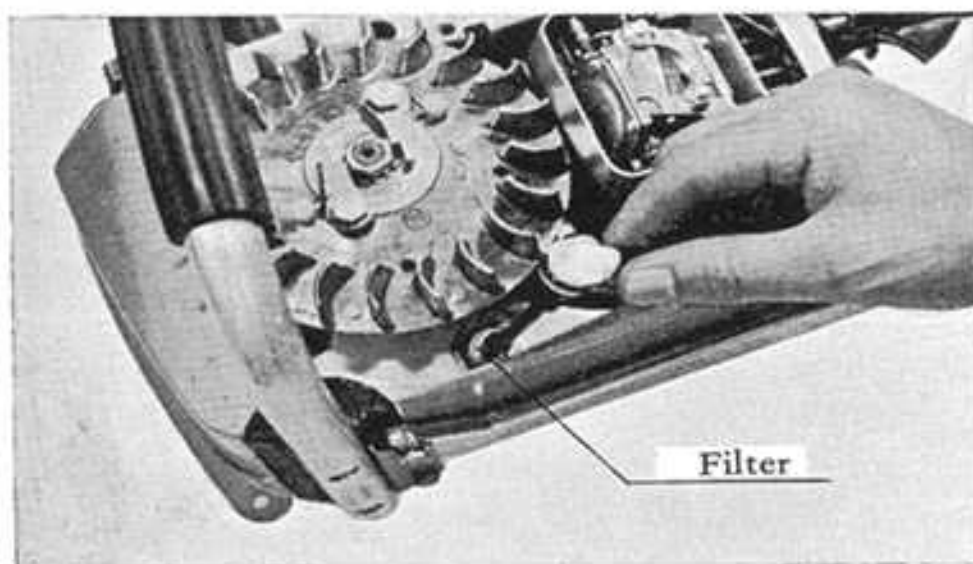
Ignition plug Check it periodically.



- * The spark plug gap must be 0.024"~0.028".
- * If the gap is too wide or narrow, adjust it.
- * When the plug is stained with carbon or other material, remove the plug and clean it.

Fuel tank filter Check it periodically.

- * Clogged filter will cause difficult starting and other engine troubles.
- * To clean the filter, remove the fan cover, the cleaner from the fuel pipe coupling.
- * Wash the filter in gasoline. If it is heavily clogged, replace it with new one.



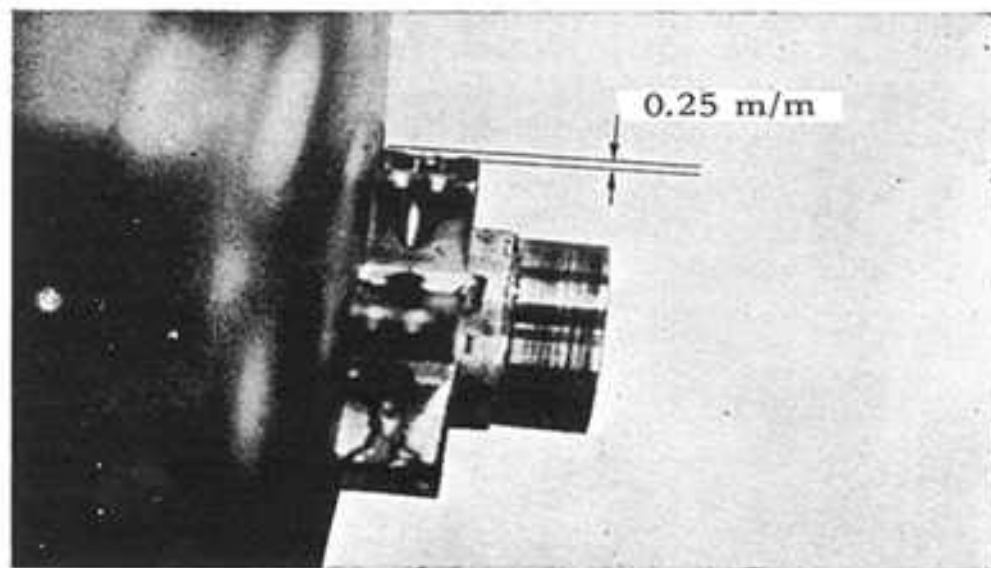
Centrifugal clutch Check it periodically.

- * Loosen the clutch hub and remove the clutch outer ring.
- * Note that the fastening screws are left-handed.



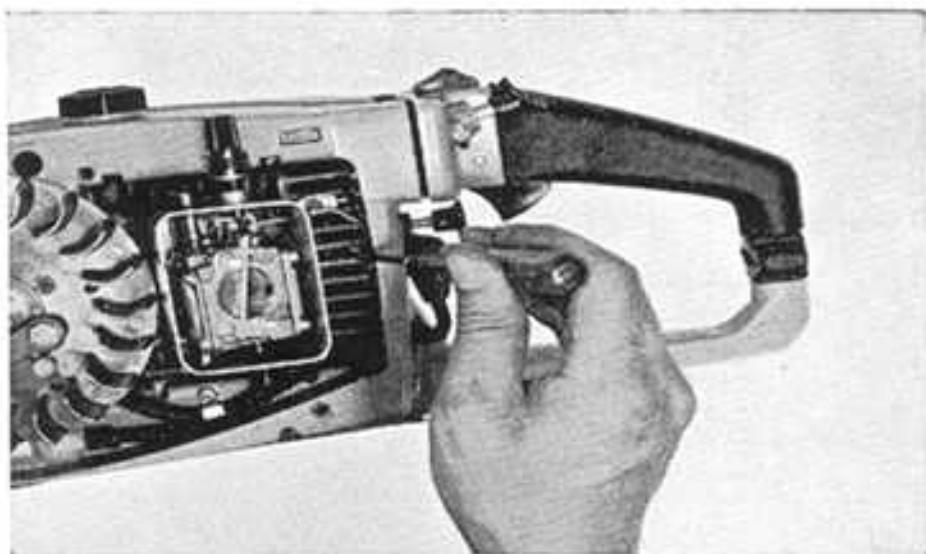
Sprocket Check it periodically.

- * Worn-out sprocket will cause the chain a premature damage.
- * If the wear becomes 0.00984" max, replace it with a new sprocket.



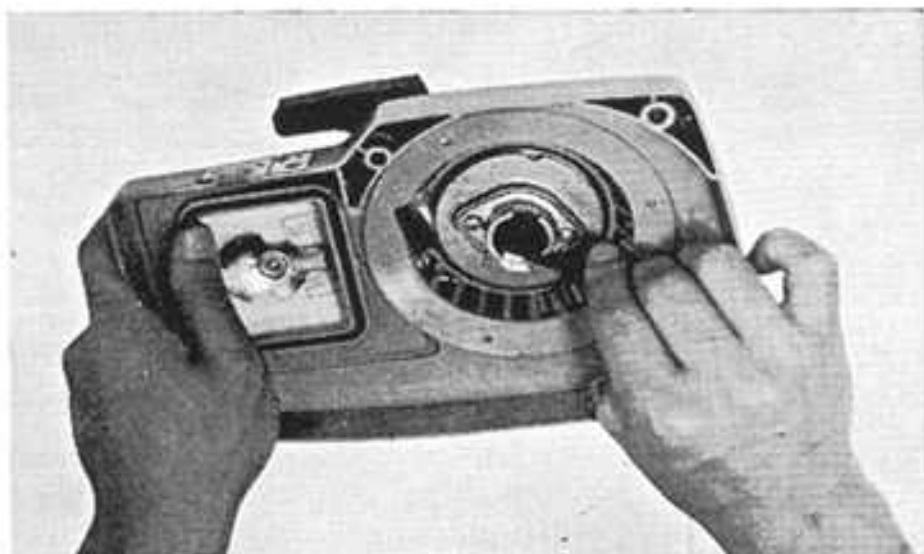
Cylinder fins Check them periodically.

- * Clogged fins will reduce cooling of the engine.
- * Whenever clogged, remove the fan cover and right handle to clean the fins.



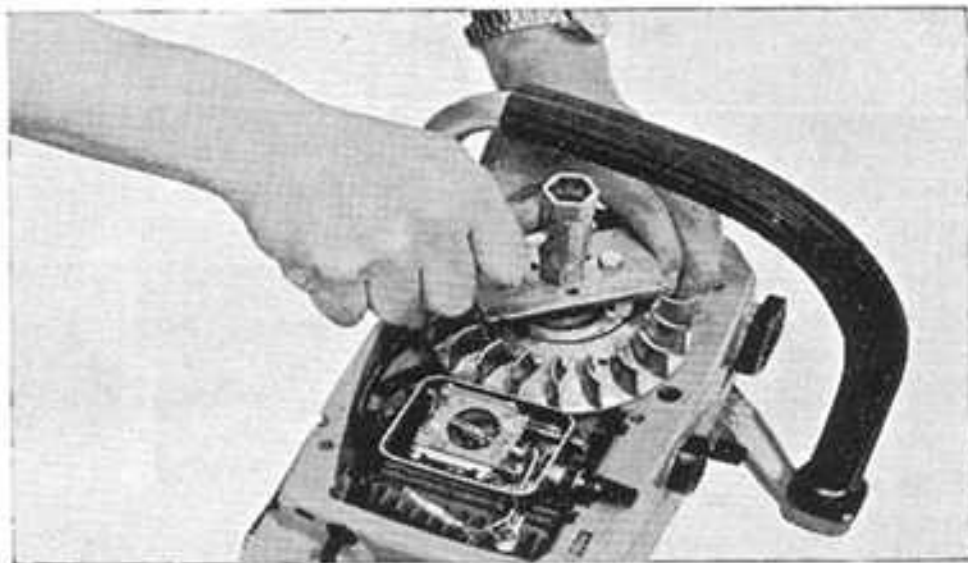
Recoil starter Check it periodically.

- * When the recoil starter fails to function normally, dismantle it in the following order. Check it and replace defective parts, if any:
- * Remove the fan cover.
- * Loosen the recoil fastening screws.

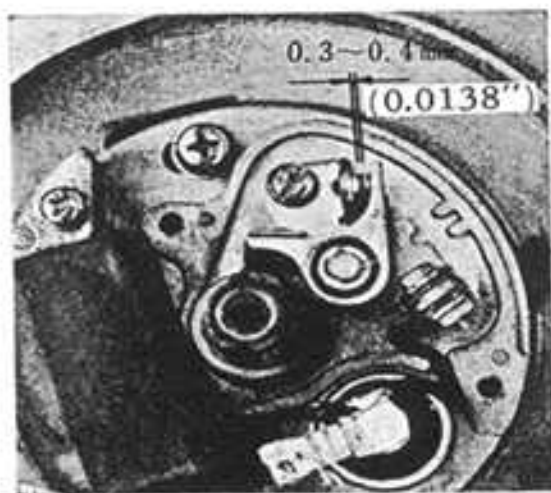


Magneto Check it periodically.

- * Remove the fan cover.
- * Remove the rotor. Use the puller. Never try to strike the rotor out.



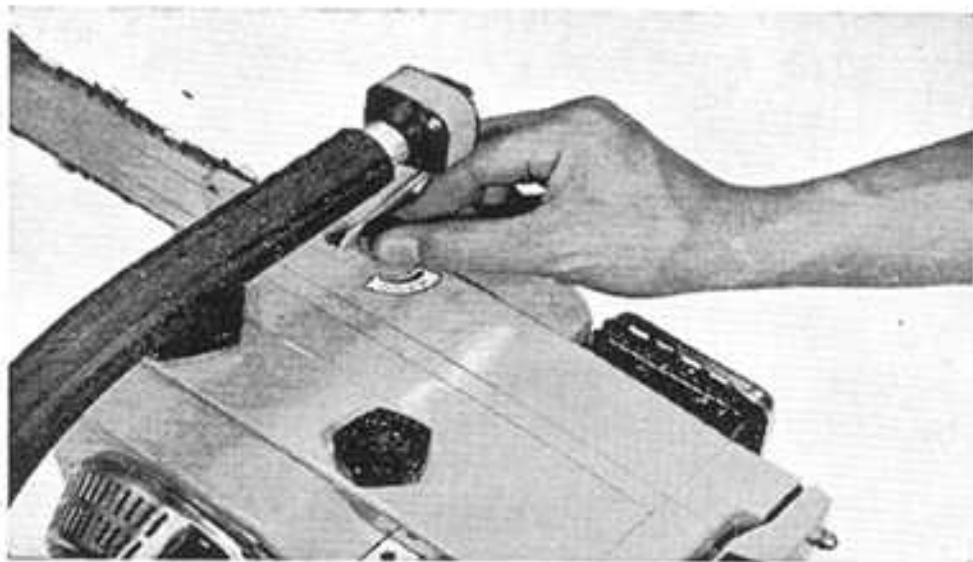
- * Remove the point cover, and check if the breaker point gap is 0.0138".
- * When you adjust the point, be careful not to stain it with oil or any other material.



Automatic oiler Check it periodically.

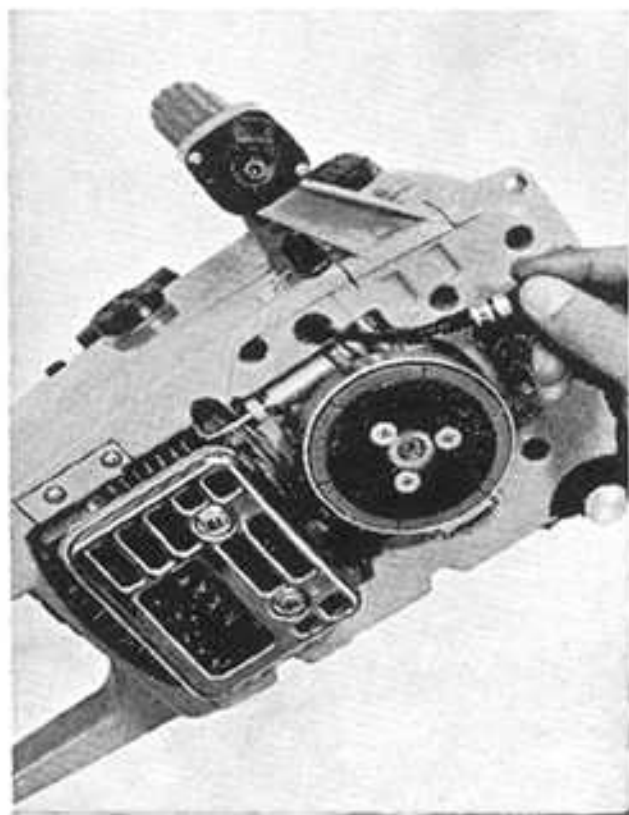
- * When the chainsaw is shipped from the factory, the automatic oiler is already adjusted to deliver 20 - 25 cc (maximum delivery: 1.225 ~ 1.530 cu.in.) of oil when the engine runs at 6,000 r.p.m.

Note: Turning the adjusting screw clockwise decreases the amount of oil delivery. Do not turn the adjusting screw beyond the stopper, because more than 1 complete turn will stop oil delivery.



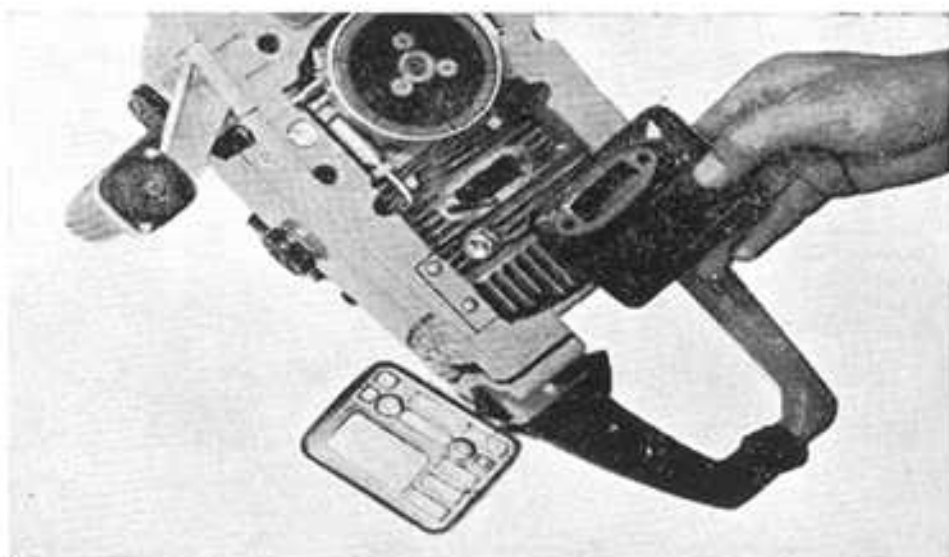
Oil strainer Check it periodically.

- * When you remove the oil strainer, remove the blank plug located on the centrifugal clutch and pull the oil strainer lightly with a 5 mm (3/16") screw.
- * If clogged with sawdust, wash it in gasoline.



Muffler Check it periodically.

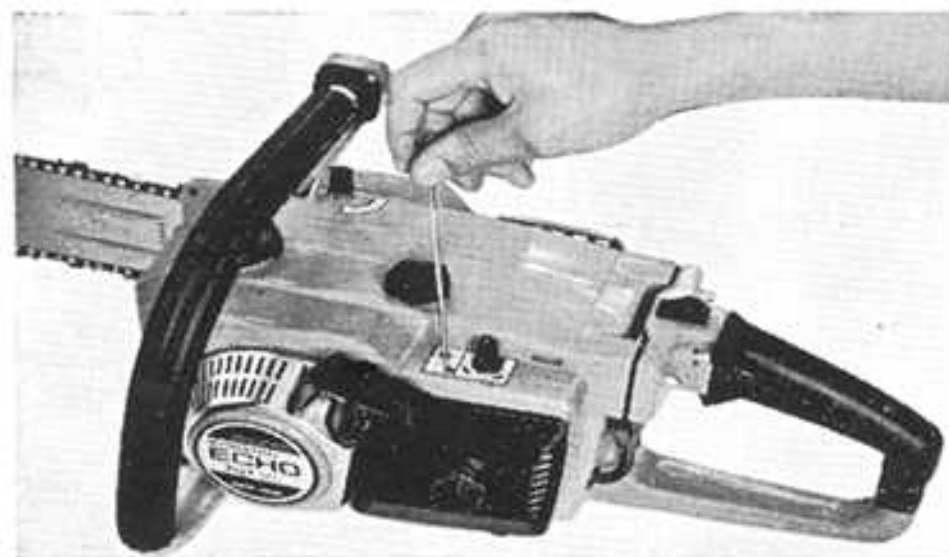
- * If carbon deposits in the cylinder exhaust port and the muffler, the engine output drops and the muffler emits sparkles.
- * If so, disassemble the muffler and remove carbon. Do not damage the cylinder



Carburetor

• When the carburetor does not function properly, adjust the needle valve as follows:

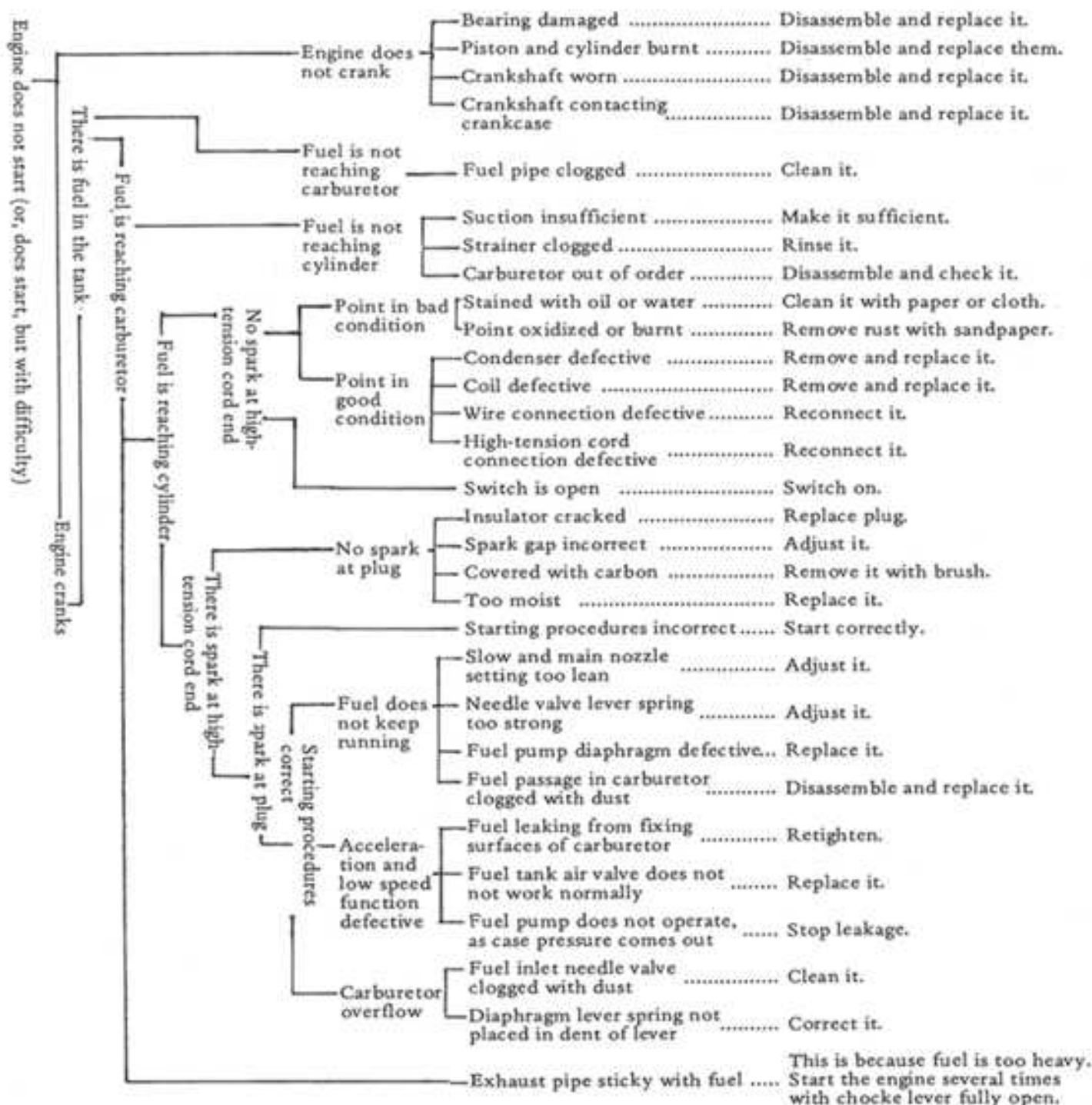
- * Turn the adjusting screw clockwise slowly so that the needle valve is in the fully closed position.
For high speed running, open the screw $3/4$ turn and for low speed, one turn.



11. TROUBLE SHOOTING

When you find any trouble in your chainsaw, check for the possible cause in the following tables and, if required, disassemble the chainsaw.

1





KIORITZ CORPORATION

5—1 Shimorenjaku 7-Chome, Mitaka, Tokyo, Japan.
Cable Address "KIORITZ MUSASHINOMITAKA"