

OPERATOR'S MANUAL

ECHO CHAIN SAW CS-302S

OCCASIONAL USER SAW

CAUTION

Read Rules for Safe Operation
and Instructions Carefully



898 560-1333 4

RULES FOR SAFE OPERATION

A. Kickback Safety Precaution for Chain Saw Users

WARNING!

KICKBACK may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut.

Tip contact in some cases may cause a lightning fast reverse REACTION, Kicking the guide bar up and back towards the operator. pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw which could result in serious personal injury.

Do not rely exclusively upon the safety devices built into your saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.

1. With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
2. Keep a good firm grip on the saw with both hands, the right hand on the rear handle, and the left hand on the front handle, when the engine is running. Use a firm grip with thumbs and fingers encircling the chain saw handles. A firm grip will help you reduce kickback and maintain control of the saw. Don't let go.
3. Make sure that the area in which you are cutting is free from obstructions. Do not let the nose of the guide bar contact a log, branch, or any other obstruction which could be hit while you are operating the saw.
4. Cut at high engine speeds.
5. Do not overreach or cut above shoulder height.
6. Follow manufacturer's sharpening and maintenance instructions for the saw chain.
7. Only use replacement bars and chains specified by the manufacturer or the equivalent.

B. Other Safety Precautions

1. Do not operate a chain saw when you are fatigued.
2. Use safety footwear ; snug-fitting clothing; protective gloves; and eye, hearing, and head protection devices.
3. Use caution when handling fuel. Move the chain saw at least 10 feet (3 m) from the fueling point before starting the engine.
4. Do not allow other persons to be near the chain saw when starting or cutting with the chain saw. Keep bystanders and animals out of the work area.
5. Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.

6. Keep all parts of your body away from the saw chain when the engine is running.
7. Before you start the engine, make sure that the saw chain is not contacting anything.
8. Carry the chain saw with the engine stopped, the guide bar and saw chain to the rear, and the muffler away from your body.
9. Do not operate a chain saw that is damaged, improperly adjusted, or not completely and securely assembled. Be sure that the saw chain stops moving when the throttle control trigger is released.
10. Shut off the engine before setting the chain saw down.
11. Use extreme caution when cutting small size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
12. When cutting a limb that is under tension, be alert for springback so that you will not be struck when the tension in the wood fibers is released.
13. Keep the handles dry, clean, and free of oil or fuel mixture.
14. Operate the chain saw only in well-ventilated areas.
15. Do not operate a chain saw in a tree unless you have been specifically trained to do so.
16. All chain saw service, other than the items listed in the operator's manual maintenance instructions, should be performed by competent chain saw service personnel. (For example, if improper tools are used to remove the flywheel or if an improper tool is used to hold the flywheel in order to remove the clutch, structural damage to the flywheel could occur and could subsequently cause the flywheel to burst.)
17. When transporting your chain saw, use the appropriate guide bar scabbard.
18. Spark arrester mufflers approved to SAE Standard J335b are Standard on ECHO Chain saws to reduce the possibility of forest fires. Do not operate the chain saw with a loose or defective muffler. Do not remove the spark arrester screen.

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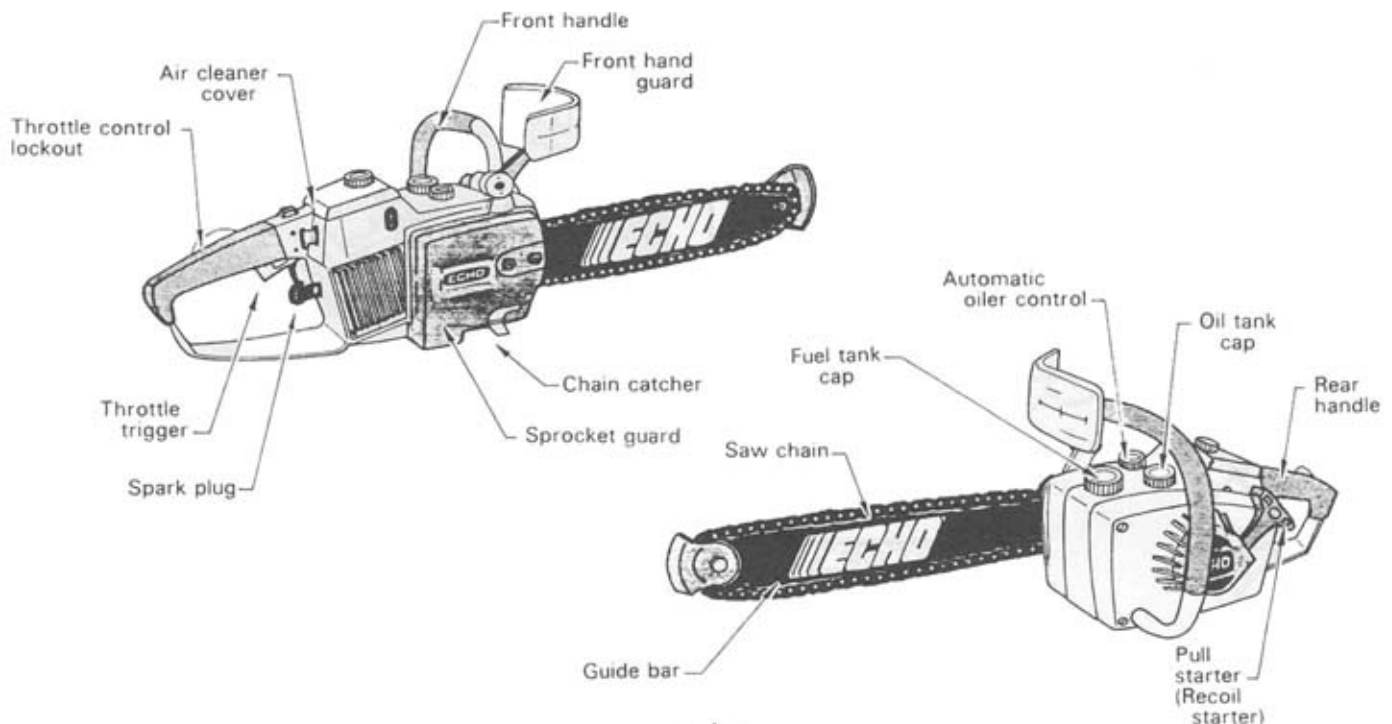
TECHNICAL DATA

Dimensions (L x W x H)	376 mm x 231 mm x 239 mm (14.8" x 9.1" x 9.4")		
Engine type:	Air-cooled, 2-stroke, single-cylinder engine		
Piston displacement:	33.4 cc (2.0 cu. in.)		
Direction of rotation:	Counterclockwise from magneto side		
Magneto:	Flywheel magneto type		
Ignition plug:	Champion CJ-8 or NGK BM-6A		
Carburetor:	Walbro diaphragm type WA-5B		
Fuel:	Mixture of regular grade gasoline and air cooled two stroke engine oil. (ECHO Oil) [32 : 1 Ratio or 50 : 1 Ratio with special oil approved by ECHO]		
Fuel tank capacity:	0.33 ℓ (11.8 Fl. oz US)		
Cooling system:	Forced-air		
Starting system:	Recoil starter		
Lubrication system:	Automatic oiler		
Chain oil:	Motor oil	SAE 30 (Summer).	SAE 10 (Winter).
Oil tank capacity:	0.20 ℓ (6.8 Fl. oz US)		
Weight:	4.5 kg (9.9 lbs.) (dry, without chain, guide bar) (91SG, 52 links)		
Guide bar:	Length 14 in (35cm) gauge 0.050 in (Kick GUARD is supplied with this unit)		

SUPPLIED SEPARATELY (not in carton).					
GUIDE BAR			CHAIN		
Asymmetrical-Low Kick Type			Low Kick-Guard Link Type		
Length	Part No.		Pitch	Part No.	Links
* 14"	ECHO 14G50K	OREGON 32893	3/8"	OREGON 91SG	52
16"	16G50K	32894	3/8"	91SG	57
*Standard Configuration					

The Echo chain saw Model CS-302S is not equipped with vibration isolator mounts for the handles and is therefore recommended as a consumer type saw intended for occasional use in general applications as clearing, pruning, fire-wood cutting etc.

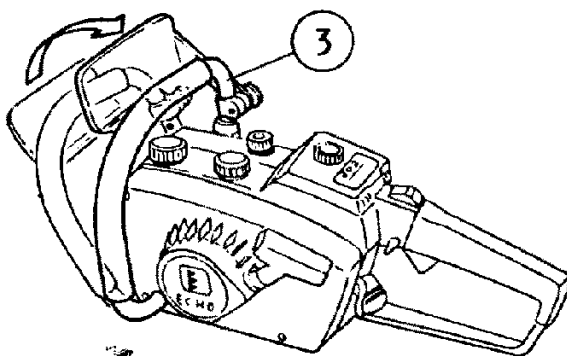
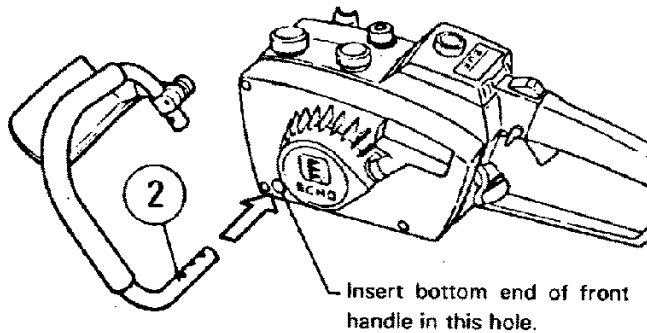
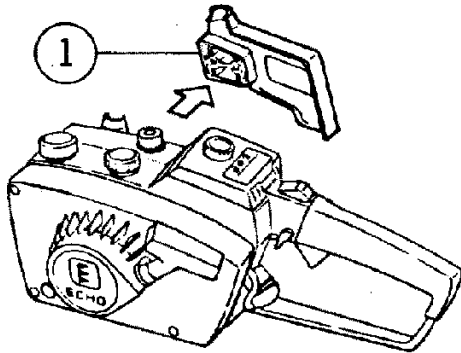
NOMENCLATURE OF PARTS



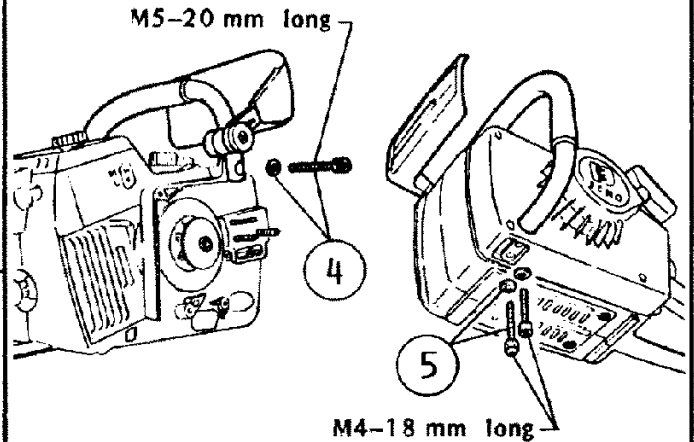
PREPARATION FOR USE

FRONT HANDLE INSTALLATION

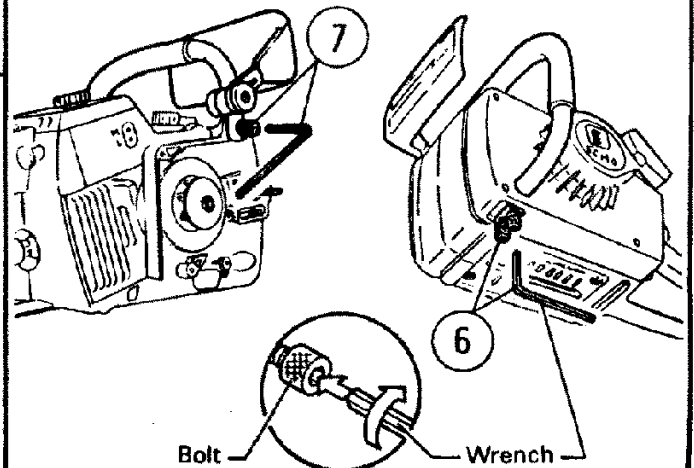
o As for this machine, FRONT HANDLE and HAND GUARD are delivered with separated.
Install them before installing the guide bar and saw chain as follows.



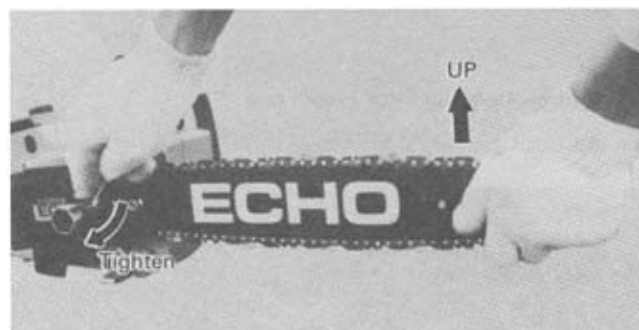
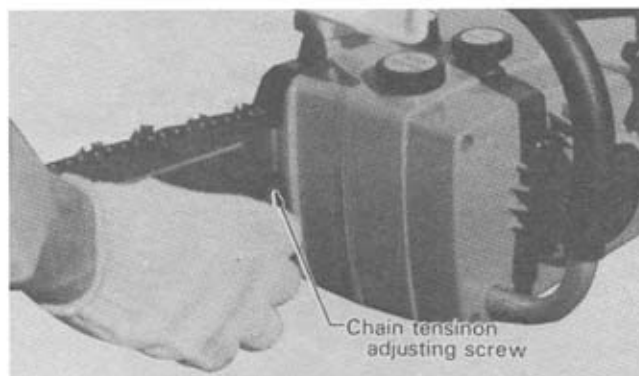
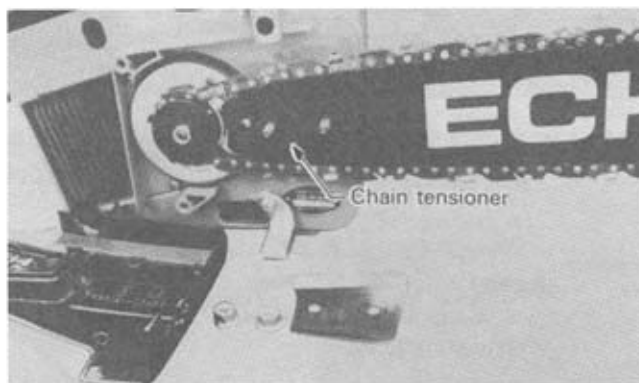
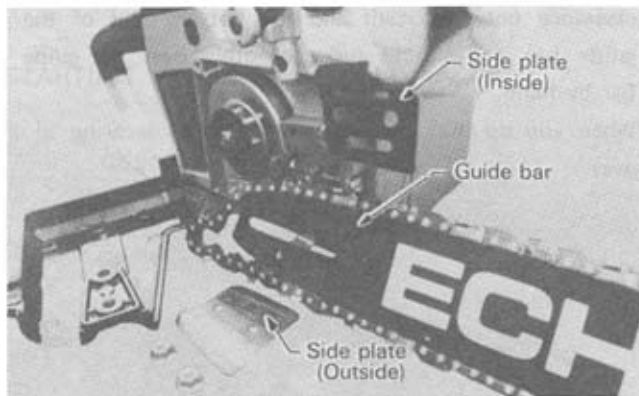
Set bolts M5-20 mm and M4-18 mm with washers finger tight.



Tighten the bolts using wrenches securely



GUIDE BAR AND SAW CHAIN



CAUTION

1. All adjustments should be made cold.
2. Always wear gloves when working on chain.
3. Do not operate with a loose chain.

MOUNTING THE GUIDE BAR AND CHAIN

(see illustration)

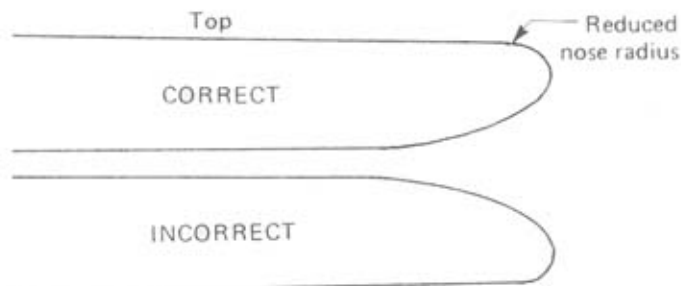
- Remove the sprocket guard and outer side plate, leaving the inner side plate in position.
- Mount the guide bar ensuring that the chain tensioner fits in the hole provided.
- Holding the bar in this position, feed the chain around the sprocket and into the guide bar groove.
- Fit the outer side plate, sprocket guard and nuts. Secure the nuts hand tight.

NOTES

1. The inner side plate is fitted with a narrow lubricating oil slot at the top.
2. The guide bar must be installed with the smaller nose radius at the top.
3. Ensure that the chain is installed with the cutters directed forward on the top of the bar.

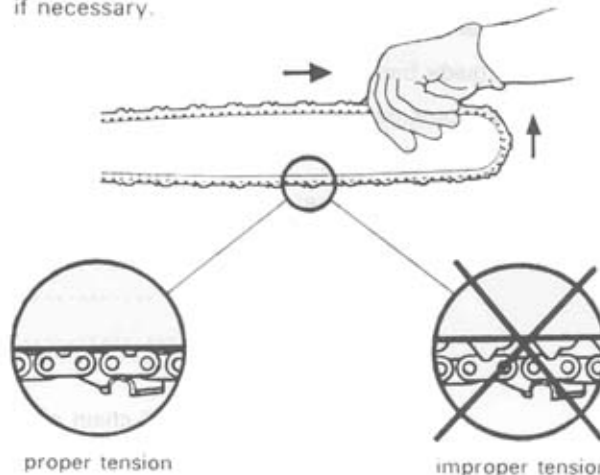
WARNING

KICKBACK IS DANGEROUS. The low kick asymmetrical bar must be mounted with the reduced radius section of the nose on top as illustrated. Incorrect installation may result in serious or fatal injury.



ADJUSTMENT, CHAIN TENSION

- Turn the adjuster screw clockwise until the chain touches the bottom of the bar.
- Hold the bar nose up and tighten the chain until there is no clearance between the bar and chain tie straps.
- Tighten both nuts with the bar nose held up to eliminate clearance.
- Pull the chain around the bar by hand. Loosen the adjustment if you feel tight spots.
- Start the engine and run at low speed. Stop and readjust if necessary.



NOTES:

- Chain tensioning is one of the most important things in the operation of your chainsaw.
- Too tightly tensioned chain will cause premature wear of the chain and the guide bar.
- Too loosely tensioned chain may run off the guide bar.
- Under proper tension, the chain provides no noticeable clearance between itself and the bottom rails of the guide bar, and should slide smoothly over the guide bar by hand.

When you do that, protect your hands by wearing gloves.

FUEL AND LUBRICANT

- Check for loose nuts, bolts and screws before using the unit every use.

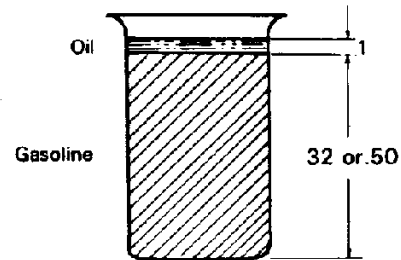
FUEL

- Fuel used for this model is a mixture of regular grade gasoline and ECHO brand motor oil or an aircooled two stroke engine oil of reputable brand name.
- Mixture ratio is

Gasoline 32 parts: Oil 1 part.

- Fuel mixture at a rate other than 32 : 1 may cause malfunction of the engine.
- Pour 1/2 of the gasoline into a safe container, add oil and mix thoroughly.
- Now add the remainder of gasoline and mix again.
- Do not use motor oil other than that recommended above.
- Do not mix directly in engine fuel tank.

- After refueling, secure the fuel tank cap and wipe all spilled fuel with a dry cloth.



(NOTE)

50:1 Ratio is applicable with special oil approved by ECHO.

Normal Use

Leaded Fuel, Regular Grade

Alternate or Emergency Use

Unleaded Fuels—Min. Octane 87 $\left(\frac{M+R}{2}\right)$
Do not Use Gasohol

Fuel mix chart

(32 : 1)				(50 : 1)			
US		METRIC		US		METRIC	
GAS	OIL	GAS	OIL	GAL	OIL	GAS	OIL
GAL.	FL.OZ.	LITERS	CC	GAL.	FL.OZ.	LITERS	CC
1	4.0	4	125	1	2.6	4	80
2	8.0	8	250	2	5.1	8	160
5	20.0	20	625	5	10.2	20	400

CHAIN LUBRICANT

- Proper lubrication of the chain while in operation reduces friction between the chain and the guide bar to a minimum, and assures a longer service life.

Use motor oil of high quality for this purpose.

Do not use used or reclaimed oil to avoid various oiler problems.

Use motor oil of following grades.

SAE No. 30.....in summer

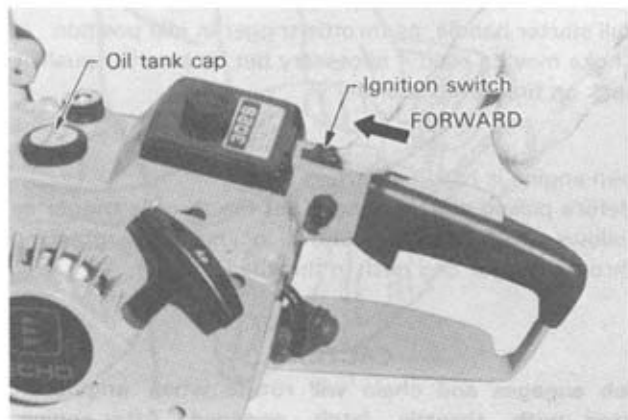
SAE No. 10.....in winter or when cutting
resinous trees.

when refueling, also refill chain oil.

STARTING AND STOPPING

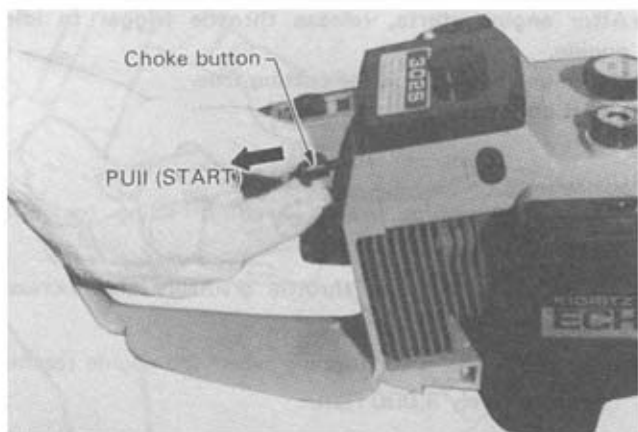
Make sure bar and chain are not touching anything starting the saw.

STARTING

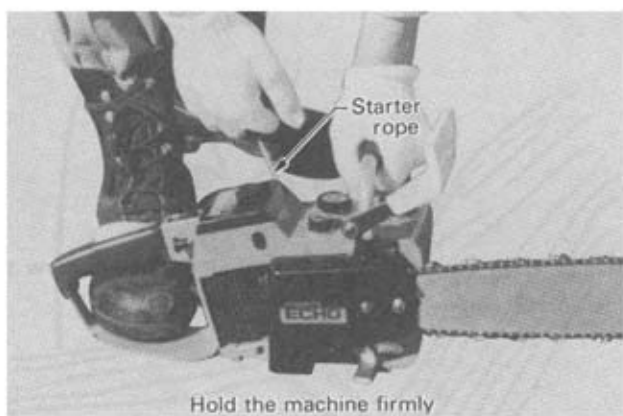


COLD ENGINE

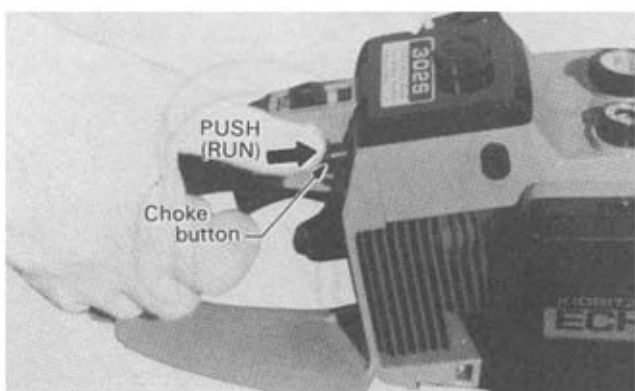
- Fill the fuel tank with fuel.
- Fill the chain oil tank with lubricant.
- Slide ignition switch forward.



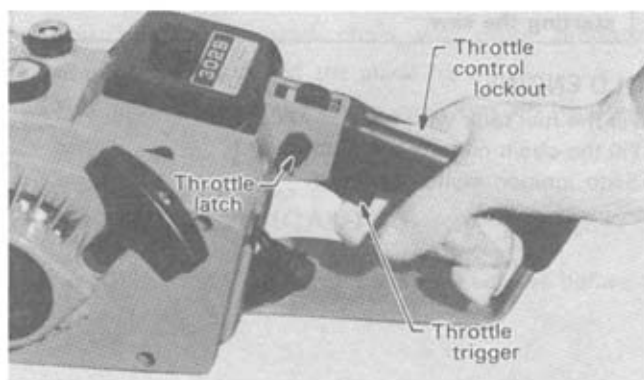
- Pull choke button all the way out (Close position).



- Pull starter handle several times until first firing sound as shown. (Hold the machine firmly)



- Push choke button all the way in. (Open position)
- Pull starter handle again as necessary.



STARTING WARM ENGINE

- Ensure that there is fuel and chain oil in the tanks.
- Slide stop switch forward.
- Pull starter handle, as throttle trigger in idle position.
- Choke may be used if necessary but be sure to push it back on first firing sound.

When engine is hard to start.

- * Before pulling starter handle, set the throttle trigger as follows. Push throttle control lockout while grasping throttle trigger and push in throttle latch.

CAUTION

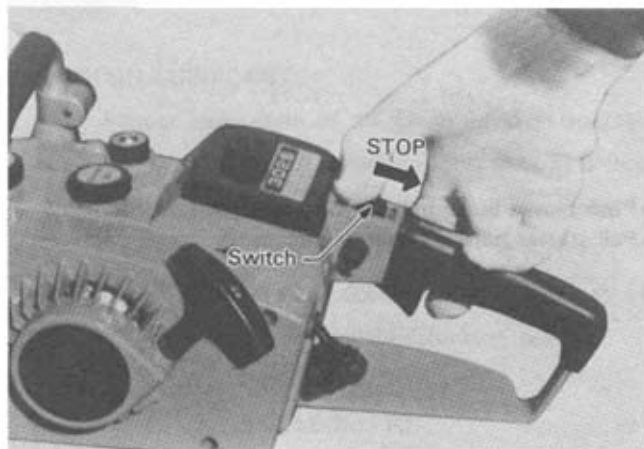
Clutch engages and chain will rotate when engine is started with throttle latch engaged. After engine starts, release throttle trigger to idle engine.

- After engine starts, release throttle trigger to idle engine.
- Never use the latch while cutting tree.
- Use it only when starting engine.



- Ensure proper acceleration and lubrication of chain and bar.

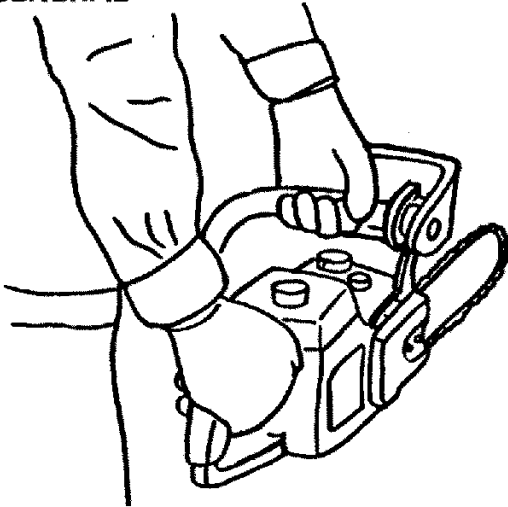
STOPPING



- Push back the switch as indicated on it by arrow to stop the engine.

CUTTING INSTRUCTION

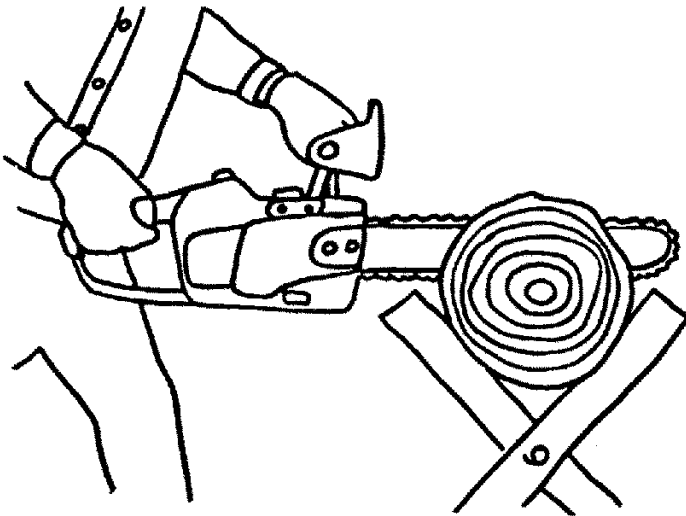
GENERAL



In all circumstances the operation of the chain saw is a one-man job. It is difficult at times to take care for your own safety, so don't assume the responsibility for a helper as well. After you have learned the basic techniques of using the saw, your best aid will be your own good common sense . . .

The accepted way to hold the saw is to stand to the left of the saw with your left hand on the front handlebar and your right hand on the rear handle so you can operate the throttle trigger with your right index finger.

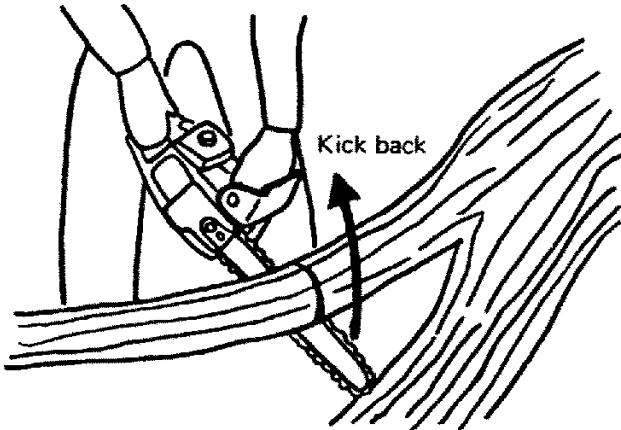
Before attempting to fell a tree, cut some small logs or limbs. Become thoroughly familiar with the controls and the responses of the saw.



Start the engine, see that it is running properly. Squeeze the trigger to open the throttle wide open and start the cut. If the chain is properly sharpened, the cutting should be relatively effortless. It is not necessary to press down hard to make the saw cut. Pushing the saw too hard will slow the engine and cutting will actually be more difficult.

Some material may adversely affect the housings of your Echo chain saw.

(Example palm Tree Acid, fertilizer etc.) To avoid housing deterioration, carefully remove all packed saw dust around clutch and guide bar area and wash with water."



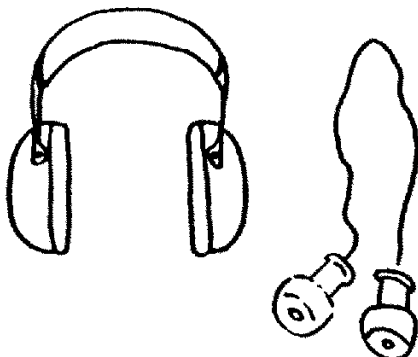
CAUTION

Do not let the tip of the bar touch anything while the engine is running. At cutting speed the chain is moving, at a high rate of speed. Should the tip contact a limb or log while the chain is moving, the tip will be pushed upward with considerable force. This is known as kickback. Avoid it!

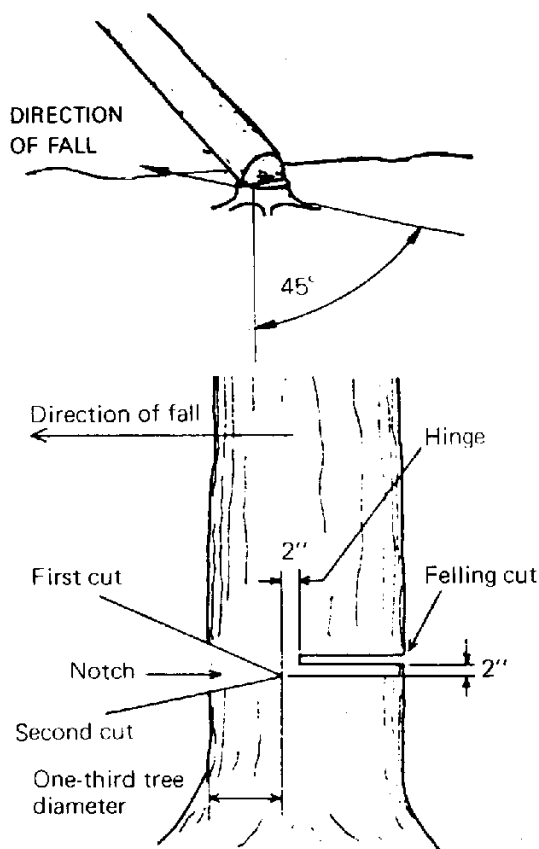
SEE OPERATOR'S MANUAL INSERT FOR INSTRUCTION AND USE WITH THE KICK GUARD.

CAUTION

Wear suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



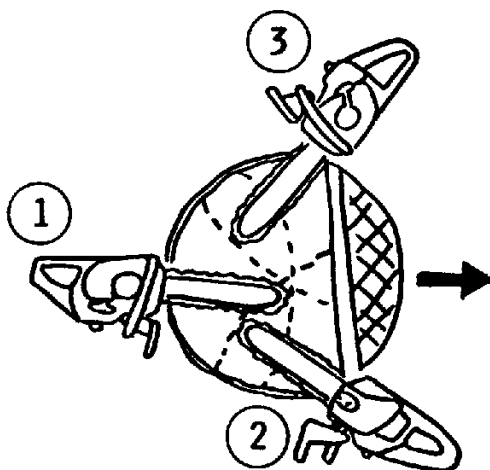
FELLING A TREE



A falling tree can seriously damage anything it may hit — a car, a house, a fence, a powerline, or another tree. There are ways to make a tree fall where you want it, so first decide where that is!

Before cutting, clear the area around the tree. You will need good footing while working and you should be able to work the saw without hitting any obstacles. Next, select a path of retreat. When the tree begins to fall you should retreat away from the direction of fall at a 45 degree angle to avoid the trunk kicking back over the stump.

Begin the cut on the side to which the tree is to fall. Cut a notch about 1/3 of the way into the tree as shown. The position of this notch is important since the tree will try to fall "into" the notch. The felling out is made on the side opposite the notch and at a level about 2" above the bottom of the notch. Do not try to cut through to the notch with the felling cut. The remaining wood between the notch cut and felling cut (about 2") will act as a hinge when the tree falls, guiding it in the desired direction. When the tree starts to fall, kill the engine, place the saw on the ground and make your retreat quickly.

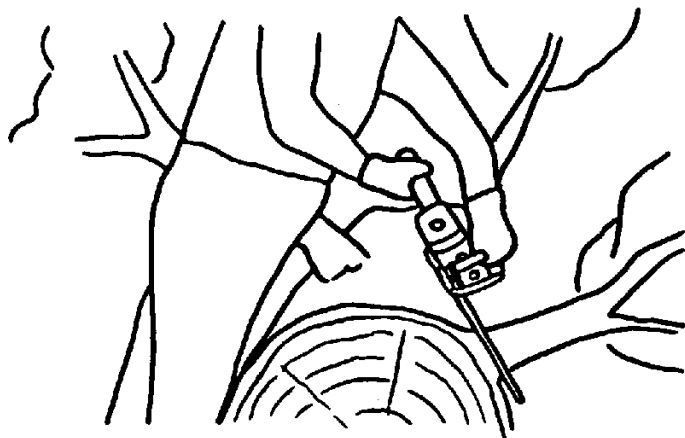


To fell big trees with a diameter exceeding twice the bar length, start the notching cuts from one side and draw the saw through to the other side of the notch. Start the back cut on one side of the tree, pivoting the saw through to form the desired hinge on that side.

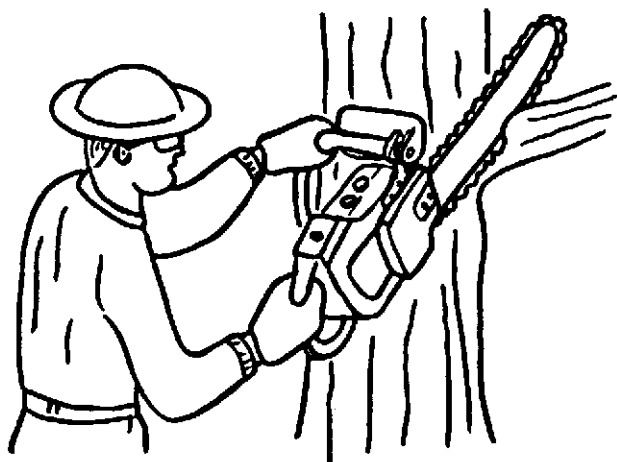
Then remove the saw for the second cut. Insert the saw in the first cut, very carefully so as not to cause kickback. The final cut is made by drawing the saw forward in the cut to reach the hinge.

SEE OPERATOR'S MANUAL INSERT FOR INSTRUCTION AND USE WITH THE KICK GUARD.

LIMBING

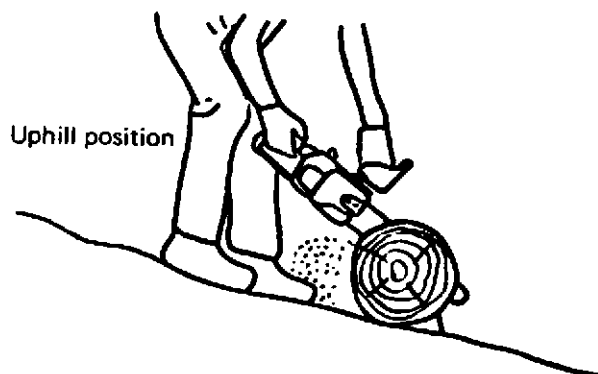


Limbing a fallen tree is much the same as bucking. Never limb on the tree that you are standing. When limbing, caution is the word. Be careful of the tip touching other limbs. Always use both hands.



Don't cut with the saw overhead or the bar in a vertical position. If the saw should kick back you may not have good enough control to prevent possible injury.

BUCKING

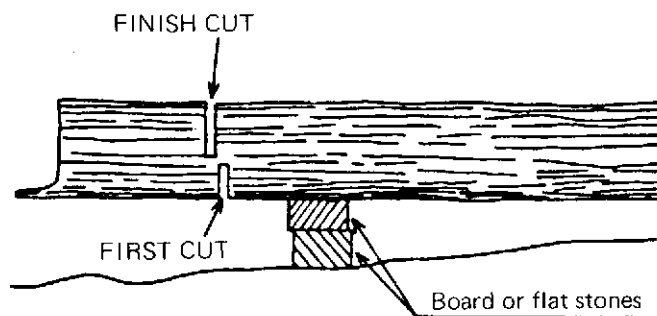


Bucking is the sawing of a log or fallen tree into smaller pieces. There are a few basic rules which apply to all bucking operations.

Keep both hands on the handles at all times.

Support logs if possible.

When cutting on a slope or hillside, always stand uphill.

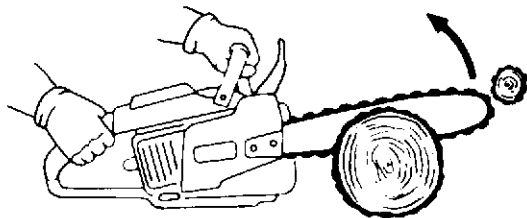


Keep in mind that the wood is heavy and that it will bend and pinch the saw if improperly supported.

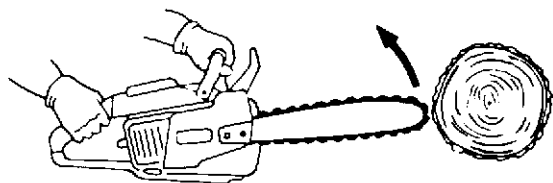
The trunk will weaken at the point where you make the cut unless the tree is lying on perfectly flat ground or supported as shown.

If you make the cut with the tree on the ground, don't let the saw's chain dig into the earth; it is harmful for the saw, and you stand a good chance of being struck by flying debris. To cut the trunk, use the bucking and two-cut sequence shown. The first cut should be no deeper than one-third the trunk diameter.

Kickback Motion:



- When the bar nose hits another tree etc.



- Improper thrust cutting.

WARNING: KICKBACK IS DANGEROUS

- Kickback is generated when the rotation of the chain is arrested for some reason. The most dangerous effect of this action occurs when the nose of the bar contacts another object, the chain is momentarily stopped and all the energy of the engine throws the bar upwards and backwards towards the operator.
- The chain saw industry and government agencies have attempted to prescribe various safety devices, but the best protection is to avoid kickback.
- Comply with the Safety Precautions as listed on page 1 of this manual.

SEE OPERATOR'S MANUAL INSERT FOR INSTRUCTION AND USE WITH THE KICK GUARD.

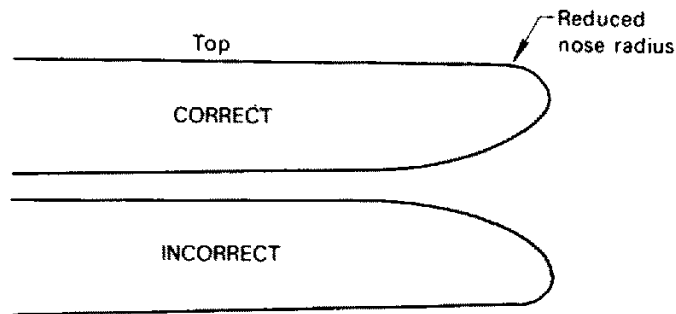
INFORMATION

Kickback Safety Features

The following features are recommended for this model as Kickback Safety Features.

- **Asymmetrical Low Kick Type Guide Bar**

The asymmetrical low kick type guide bar must be mounted with the reduced radius section of nose on top as illustrated. Incorrect installation will result in increased kickback potential.



NOTE:

Replacement Guide Bars.

The following guide bars may be considered to have equivalent kickback energy.

- Sprocket nose guide bars of the same length and nose radius, same pitch and having the same number of teeth.
- A hard nose guide bar having the same length and nose radius as a sprocket nose bar.

- **Low Kick Guard Link Type Saw Chain**

The low kick guard link chain must be maintained correctly, follow instruction "SETTING THE CHAIN" in operator's manual.

- **Front Hand Guard**

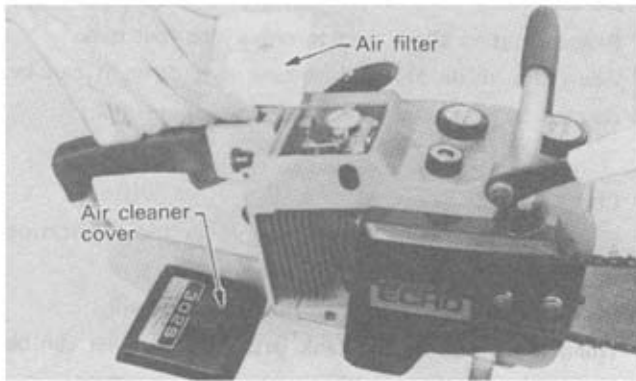
The front hand guard must be installed correctly and kept in good condition.

CAUTION!!

The consequences of using improper replacement components and of removing safety devices may result in serious or fatal injury.

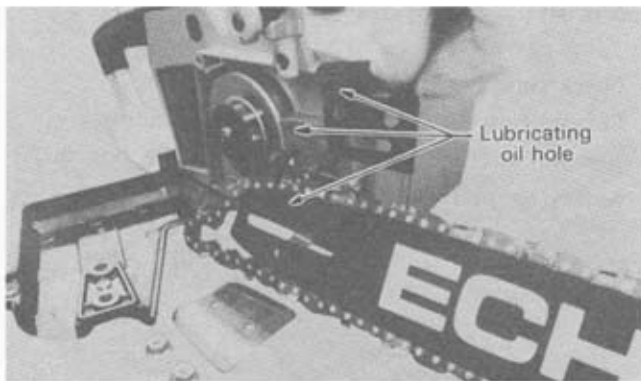
MAINTENANCE AND CARE

AIR CLEANER



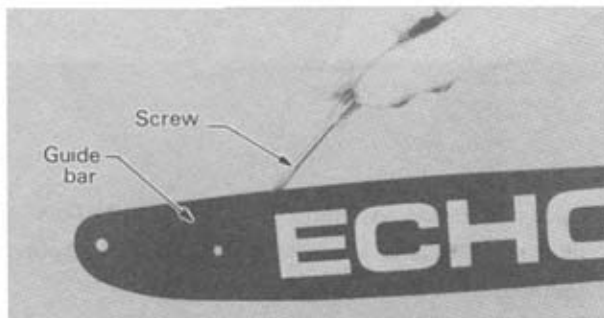
- Clean it daily.
- Pull up to remove.
- Brush off dust lightly or wash the cleaner in suitable cleaning solvent.
- When you wash it in gasoline, dry completely before you put it back in place.

LUBRICATING OIL SUPPLY HOLE



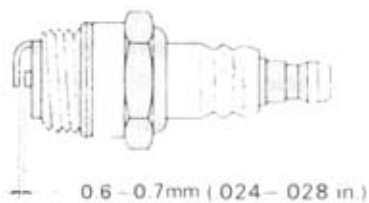
- Clean the hole daily
- Clean the guide bar lubricating oil plug area, too.

GUIDE BAR



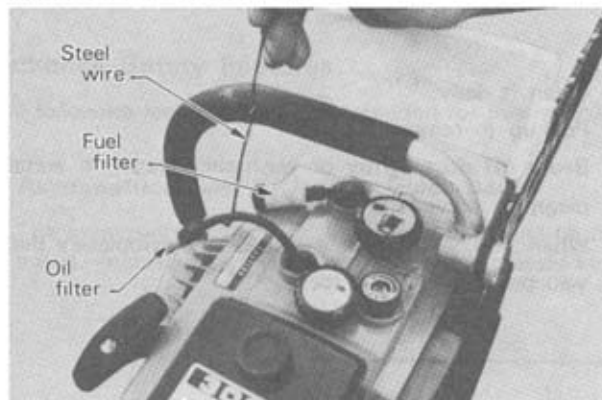
- Clean it daily before you use the chainsaw.
- Clean the groove in the guide bar by for example, a small screw driver.

SPARK PLUG



- Check periodically.
- The standard spark gap is 0.6–0.7 mm (.023–.027 in.)
- Adjust the spark gap if wider or narrower than the standard gap
- Remove carbon dust if deposited and clean if dirty.

FUEL FILTER/OIL FILTER



Fuel filter

- Check periodically.
- Clogged filter will cause engine trouble such as hard starting.
- Beware, not to allow dust to enter into fuel tank.
- When the inside of the fuel tank gets dirty, it can be cleaned by washing with suitable cleaning fluid.

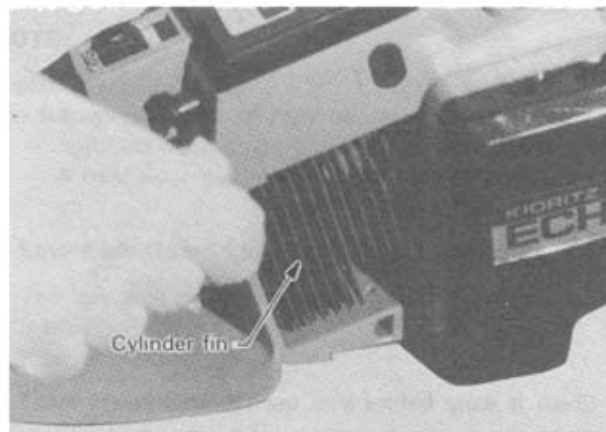
Oil filter

- Check periodically.
- Clogged filter will cause trouble in the lubricating system and in engine performance.
- Beware, not to allow dust to enter into oil tank.
- When the inside of the tank gets dirty, strainer can be cleaned by washing with suitable cleaning fluid.

NOTE

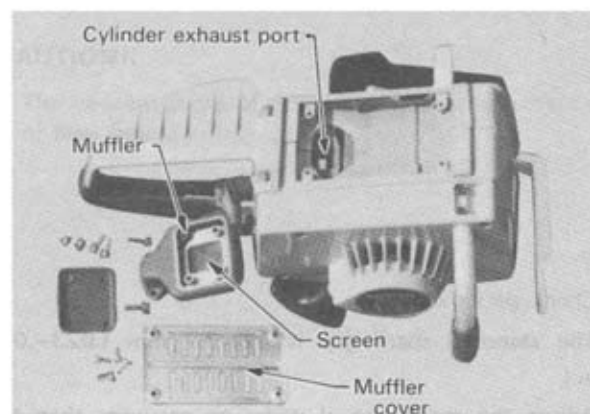
Both filters can be picked up through fuel and oil inlet ports with a piece of steel or the like.

CYLINDER FINS



- Check periodically.
- Clogged fins will result in poor engine cooling.
- Remove dirt and dust from between the fins to let cooling air pass easily.

MUFFLER (SAM)

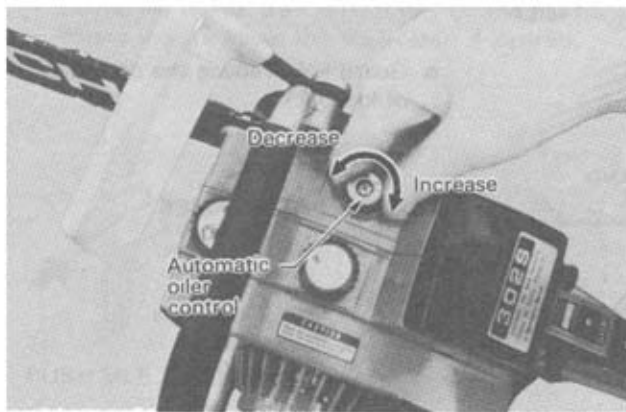


- Carbon deposits in the cylinder exhaust port and muffler will cause lowering engine power output and sparking from the muffler.
- Remove the muffler and clean the cylinder exhaust port. Be careful not to damage the cylinder.

NOTE:

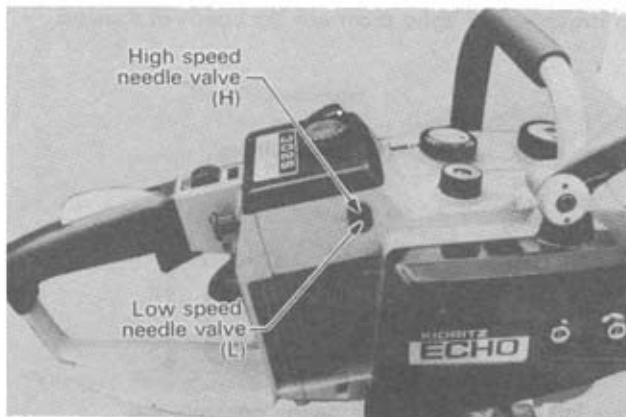
- Use wood or non-ferreous material to prevent damage to hard chrome plating.
- Also clean spark arrester screen.

AUTOMATIC OILER

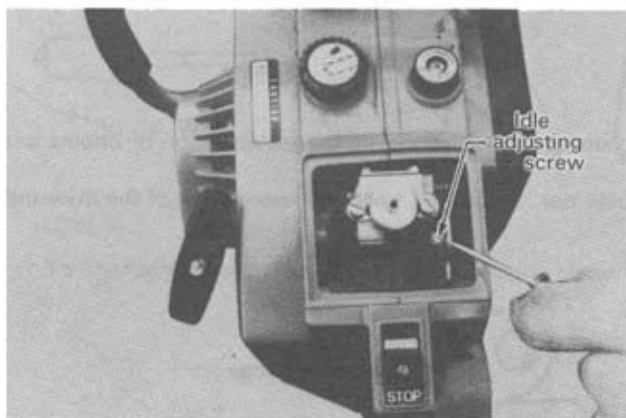


- The discharge volume of the automatic oiler is adjusted prior to shipment from factory to 10–14 cc/6000 RPM.
- To reduce discharge volume, turn the adjusting screw counter-clockwise. Turn it clockwise to increase volume.
- Do not turn the adjusting screw beyond the Max. or Min. limit of the Volume adjustment.

CARBURETOR



- Do not adjust the carburetor unless necessary.
- To adjust the carburetor, proceed as follows.
 - Low-speed needle valve (L) 3/4 to 1 turn
 - High-speed needle valve (H) 3/4 to 1 turnTurn the corresponding adjusting screw lightly clockwise to fully closed position and return the screw by the number of turns indicated above.
- Idle adjusting screw 2,500–3,000 rpm
- Turn the adjusting screw to such a degree that the centrifugal clutch will rotate lightly.
- If you have trouble with the carburetor, we suggest you to see your authorized Echo dealer.

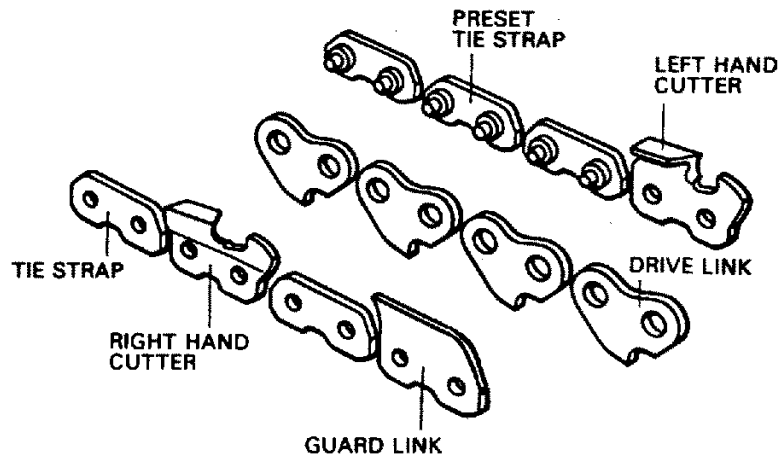


CAUTION

- Some material may adversely affect the housings of your Echo chain saw. (Example palm Tree Acid, fertilizer etc.) To avoid housing deterioration, carefully remove all packed saw dust around clutch and guide bar area and wash with water."
- When you do regular maintenance and carburetor adjusting, follow instructions thoroughly.
- When there is serious trouble with your chainsaw, do not try to repair it yourself. Have your nearby authorized Echo dealer do it for you.

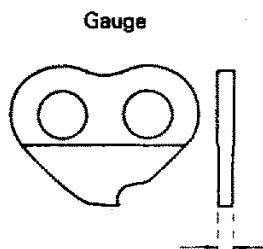
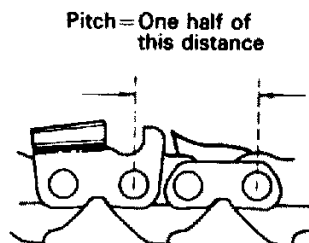
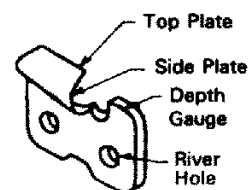
SETTING THE SAW CHAIN (For the Oregon 91SG type chain)

NOMENCLATURE OF PARTS



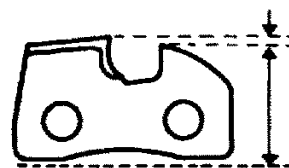
- Guard links reduce the potential of kickback.

CUTTER PART NAMES



- Gauge is thickness of drive links.

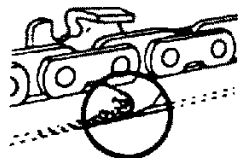
Depth gauge setting



- Depth gauge controls the cutting depth.

Important points for proper maintenance of saw chain:

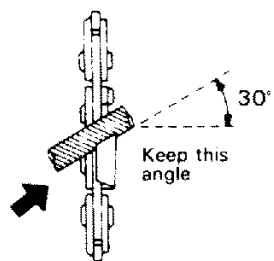
- Keep the cutters sharp at all times.
- Keep the left and the right cutters properly aligned.
 - Please note that blunt or irregular cutters will result in poor cutting performance, increased vibration of chains and premature breakage of the saw chain.
- Drive link serves to remove sawdust from the groove of the guide bar. Therefore, keep the lower edge of the drive link indicated by the arrow, sharp.



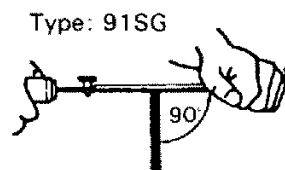
- When setting of the chain is finished, soak it in oil and wash away filings completely before using.
- When chain has been filed on the bar, supply sufficient oil to it, rotate the chain slowly to wash away the filings before using again.
- If the chain saw is operated with filings clogged in the groove, the saw chain and the guide bar will be damaged prematurely.
- If the saw chain becomes soiled with resistance, clean it with kerosene and soak it in oil.

For setting saw chains, round file (4.0 mm ϕ : 5 32") and flat file are used.

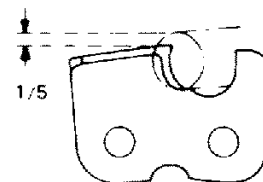
- To keep correct position and correct angle, use the file holder (Sure Sharp).
 - Round file (P-No. 897 510-0393 0) and flat file (P-No. 897 511-0023 0) are optional.
 - Please inquire about the file holder, if desired.



PUSH FILE AS SHOWN

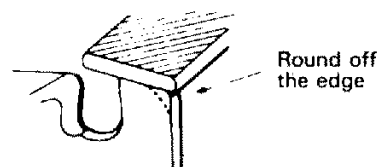
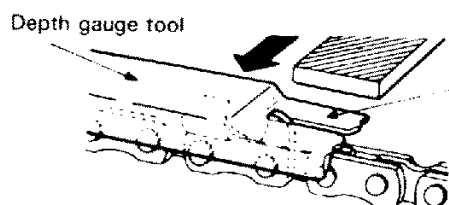


HOLD FILE HOLDER LEVEL



ONE FIFTH OF FILE DIAMETER
REMAINS ABOVE CUTTER EDGE.

- Place the depth gauge tool firmly on guide bar so that depth gauge protrudes. Then file top of depth gauge with flat the file until flat with top of the depth gauge tool.
 - Be sure to round off the front edge of the depth gauge.



These instructions are for the Oregon 91SG saw chain.

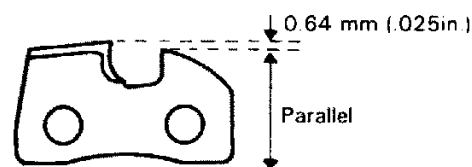
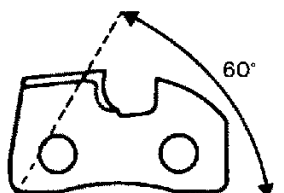
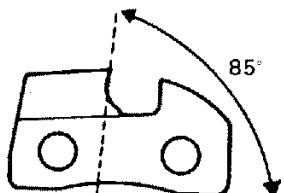
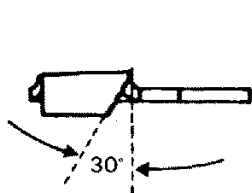
- Properly filed cutters are shown below.

(Top plate angle)

(Side plate angle)

(Top plate cutting angle)

(Depth gauge)



[NOTE]

To sharpen other types of saw chain, follow chain manufacturer's instruction.

CHAIN AND GUIDE BAR COMBINATION

The following combinations are recommended to the model CS-302S.

Length	Guide Bar		Saw chain		
	Parts No. *		Pitch	Type *	Links
	ECHO	OREGON			
14"	14G50K	32893	3/8"	ORE. 91SG	52
16"	16G50K	32894	3/8"	ORE. 91SG	57

* Or equivalent.

REMARKS: I) "ORE" means "OREGON".

CAUTION!! Do not use replacement saw chain unless it has been designated as meeting the ANSI B175.1 kick back performance requirements.

On specific powerhead, or has been designated as "LOW-KICKBACK" saw chain in accordance with the ANSI B175.1 standard.

NOTE: Low kickback saw chain is the chain which has met the kickback performance requirements of ANSI B-175.1 (safety requirements for gasolinepowered chain saws) when tested on the representative sample of chain saws below 3.8 C.I.D. specified in ANSI B175.1.

TROUBLE SHOOTING

Poor performance of the engine and/or trimming mechanism can normally be prevented by carefully following the above instructions.

Poor performances can easily be corrected even by a beginner.

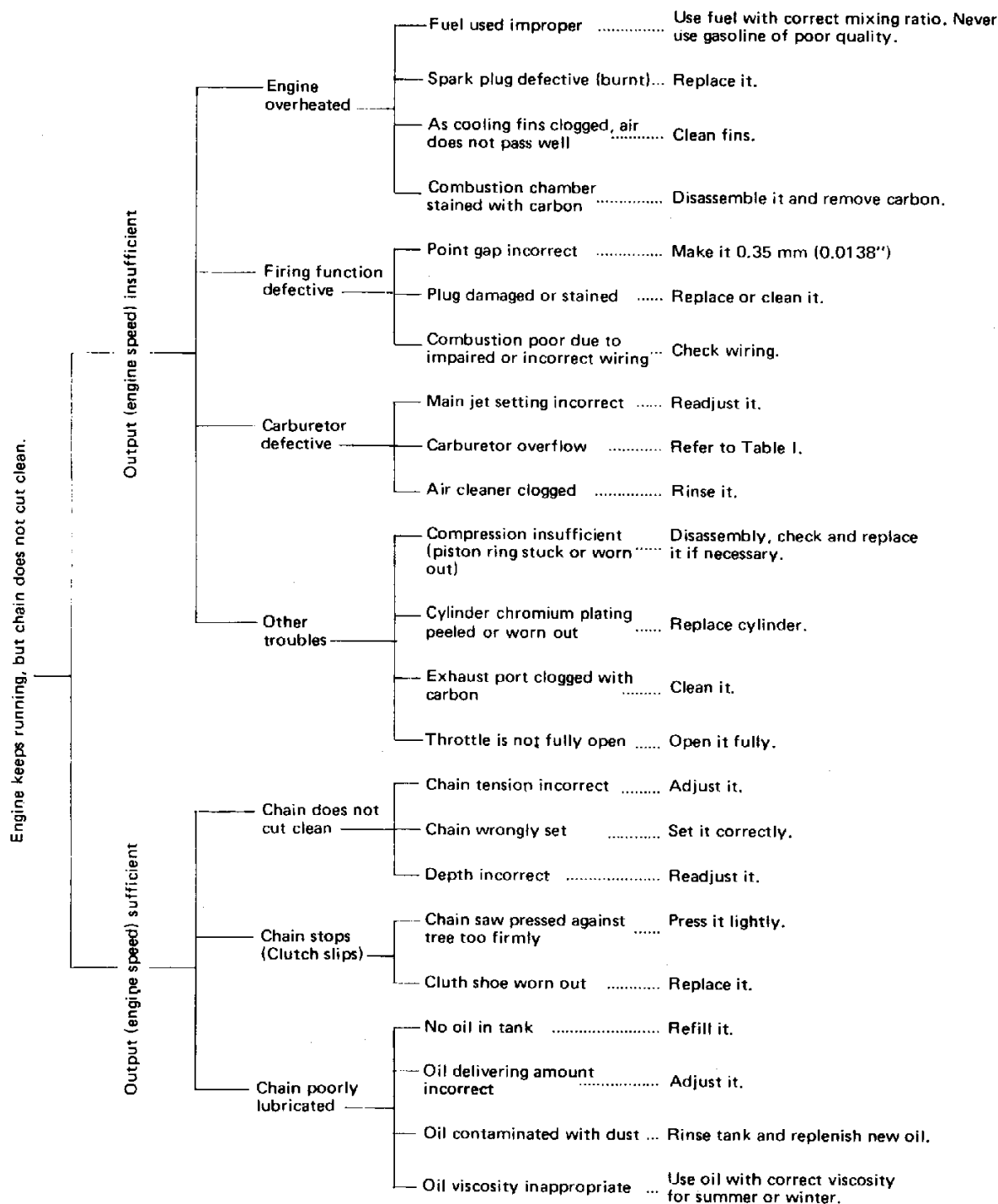
When the engine does not function properly check the following three (3) points first.

- Is engine compression adequate?
- Is fuel system in good condition and is enough fuel being supplied?
- Is electrical system in good condition and is spark plug operating normally?

When there is serious trouble with the unit, do not try to repair it yourself but have your distributor or dealer do it for you.

For detailed **TROUBLE SHOOTING** refer to tables 1 and 2. Locate the problem on the following charts and repair as necessary.





STORAGE AFTER USE

- Inspect and adjust every part of the chain saw.
 - Completely clean every part, and repair, if necessary.
 - Apply thin coating of oil on metal parts to prevent rust.
 - Remove chain and guide bar, apply them sufficient oil coating and wrap them up in plastic sheet.
- Drain fuel tank, pull starter slowly a few times to drain from carburetor.
- Pour a little amount of clean motor oil into spark plug hole, pull starter and crank the engine until the TOP DEAD CENTER.
- Store in a dry area, from dust.

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CAP INDICATION

Fuel/oil tanks are indicated by the following illustrations on the caps.



FUEL TANK CAP



OIL TANK CAP