

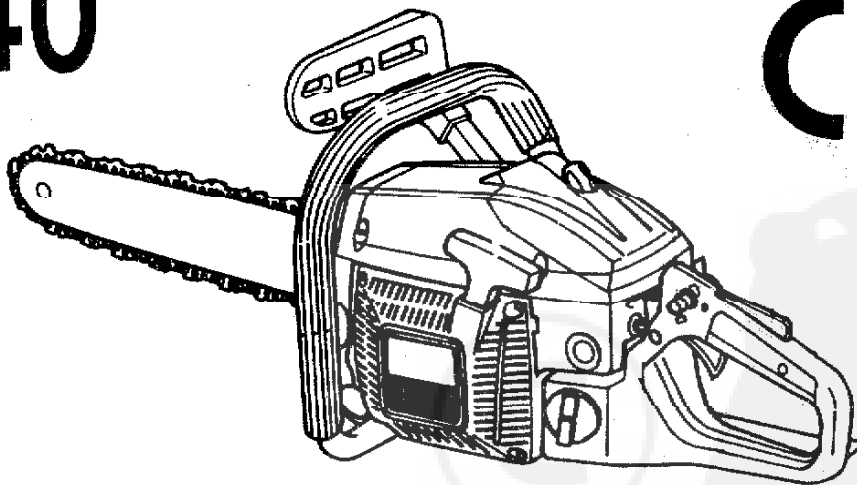
ISO 9001
CERTIFIED

shindaiwa

INSTRUCTION MANUAL

488

440



CE



WARNING !

- Read this manual and familiarize yourself with its contents.
- This machine is designed for cutting wood and timber.
Do not use this machine for other purposes.
- Minimize the risk of injury to yourself and others.
- Always wear eye protection when operating this machine.
- Do not operate or service this machine unless you clearly understand this manual.
- Keep this manual at a particular place so that you can reread it whenever you have a question about its use.

ENGLISH

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1 ATTENTION STATEMENTS

Through out this manual are special “attention statements” surrounded by boxes and preceded by the triangular Attention Symbol.



WARNING!

A statement preceded by the word “WARNING” contains information that should be acted upon to prevent serious body injury.



CAUTION!

A statement preceded by the word “CAUTION” contains information that should be acted upon to prevent machine damage.

Additional attention statements that are not preceded by the Attention Symbol are ;

IMPORTANT!: A statement preceded by the word “IMPORTANT” is one that possesses special significance.

NOTE : A statement preceded by the word “NOTE” contains information that is handy to know and may make your job easier.

2 LABELS AND SYMBOLS

The labels and symbols indicated on the machine mean as follows.



Read and follow the operator’s manual. Failure to do so could result in serious injury.

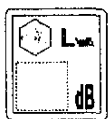


BE AWARE OF KICKBACK!

Kickback may force the bar up and back toward the operator with a lightning-fast reaction! Kickback can occur whenever the tip of the guide bar touches an object while the saw is operating.



Wear head, eye and hearing protection when operating this machine.

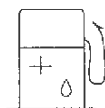


Sound Power Level
(measured in accordance with 2000/14/EC)

Chain oil filler opening



Fuel filler opening



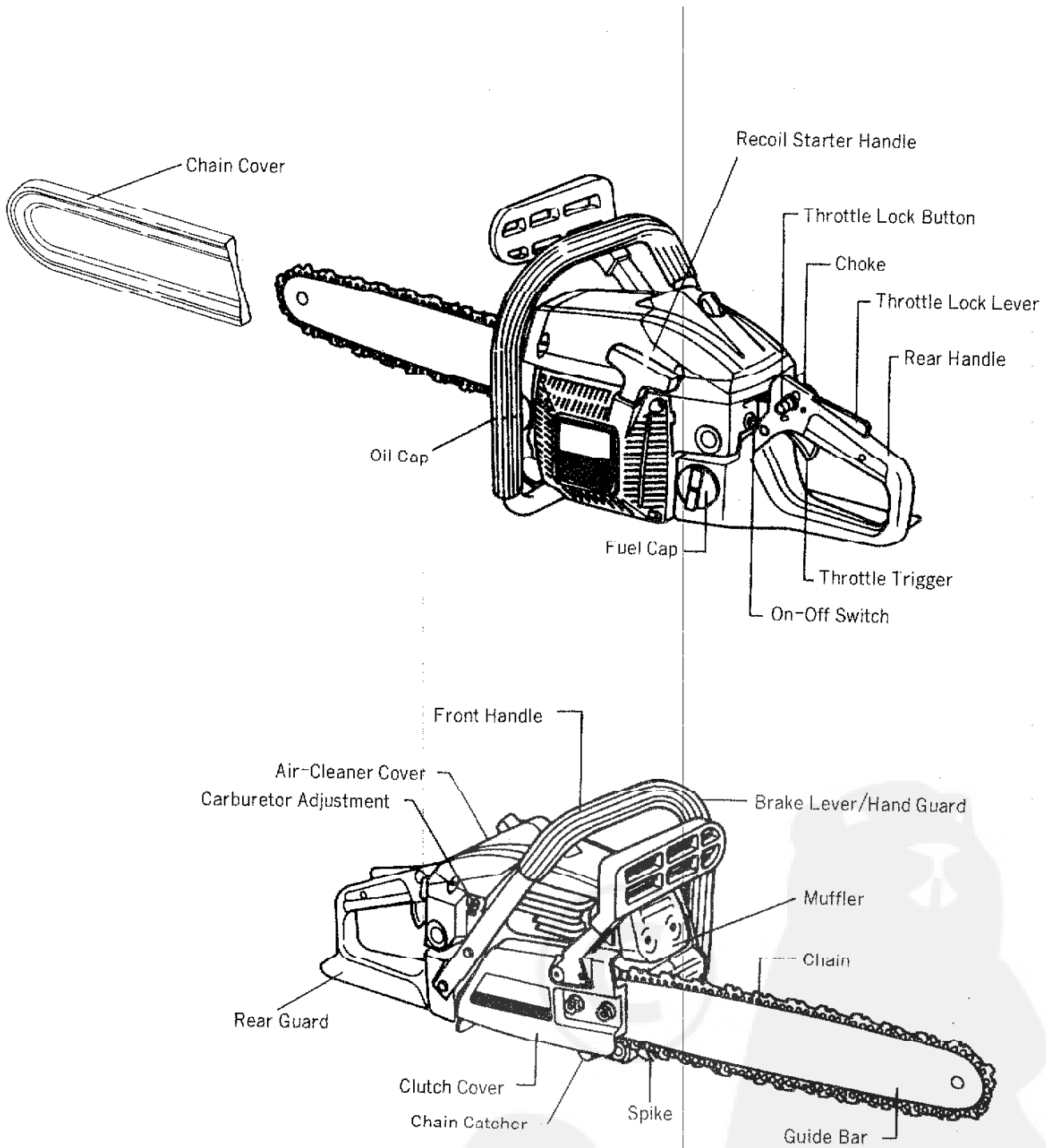
Choke



Chain brake function



3 PRODUCT DESCRIPTION



Using the accompanying illustrations as a guide, familiarize yourself with your machine and its various components. Understanding your machine helps ensure top performance, long service life, and safer operation.



WARNING!

Do not make unauthorized modifications or alternations to any of these units or their components.

4 TECHNICAL SPECIFICATIONS

Model Name	440	488
Engine Type	2-cycle, Vertical-cylinder, Air-cooled	
Displacement	43.6 cm ³	47.9 cm ³
Bore × Stroke	41 × 33 mm	43 × 33 mm
Maximum Power Output * 1)	2.13 kW	2.37kW
Recommended Maximum Engine Speed * 2)	12,500 min ⁻¹	13,500 min ⁻¹
Recommended Engine Speed at Idling	2,800 min ⁻¹	
Fuel	Gasolin-2-cycle Engine Oil Mixture--25 : 1	
Fuel Tank Capacity	600 cm ³	
Oil Tank Capacity	300 cm ³	
Recommended Bar Size	14" - 18"	16" - 20"
Recommended Chain Type	BLOUNT type 21 BP, pitch 0.325", gauge 0.058"	
Recommended Bar Type	Sprocket-Nose Bar	
Number of Rim Tooth	7	
Type of Carburetor	Diaphragm	
Ignition	Electronic Ignition System	
Spark Plug	NGK BPMR7A	
Starting	Recoil Starter	
Power Transmission	Automatic Centrifugal Clutch	
Chain Lubrication	Automatic, adjustable flow rate	
Handle	Anti-vibration	
Safety Devices	in conformity with the CE Mark regulations	
Weight(less bar/chain)	4.7 kg	
Sound Power Level * 3)	112 dB(A)	109 dB(A)
Sound Pressure Level * 4)	100.5 dB(A)	102 dB(A)
Vibration Level * 5)		
Front Handle :	4.01 m/s ²	5.79 m/s ²
Rear Handle :	7.78 m/s ²	12.02 m/s ²

- * 1) measured in accordance with ISO 7293
- * 2) with bar and chain
- * 3) measured in accordance with ISO 9207
- * 4) measured in accordance with ISO 7182
- * 5) measured in accordance with ISO 7505

5 SAFETY PRECAUTIONS



WARNING!

Read all instructions carefully before operating your Shindaiwa chain saw.

1. Guard against KICKBACK. KICKBACK is the upward motion of the guide bar that occurs when the saw chain at the nose of the guide bar contacts an object. KICKBACK can lead to dangerous loss of control of the chain saw. To reduce KICKBACK :
 - a) With a basic understanding of KICKBACK, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
 - b) 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.
 - c) Only use replacement bars and chains specified by the manufacturer.
 - d) Do not overreach.
 - e) Do not let the nose of the guide bar contact a log, branch, ground, or any other obstruction.
 - f) Cut at high engine speeds.
 - g) Do not cut above shoulder height.
 - h) Follow manufacturer's sharpening and maintenance instructions for the saw chain.
2. Do not operate a chain saw when your are fatigue.
3. Use safety footwear ; snug-fitting clothing ; protective gloves ; and eye, hearing and head protection devices.
4. Use caution when handling fuel. Move the chain saw at least 3m (10feet) from he fueling point before starting the engine.
5. Operate the chain saw only in well-ventilated areas.
6. Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.
7. Before you start the engine, make sure that the saw chain is not contacting anything.
8. 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.
9. Keep all parts of your body away from the saw chain when the engine is running.



WARNING!

(continued)

10. Do not operate a chain saw that is damaged, is improperly adjusted, or is not completely and securely assembled. Do not run without clutch cover installed. Be sure that the saw chain stops moving when the throttle trigger is released.
11. Shut off the engine before setting it down.
12. 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.
13. 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.
14. Do not operate a chain saw in a tree unless you have been specifically trained to do so.
15. Open fuel cap slowly to release any possible build-up of pressure. Do not refuel a hot saw. Allow to cool before refueling.
16. Operation of a chain saw with faulty or damaged antivibration mounts can lead to higher vibration. Long-term vibration can cause damage to the operator's hands. For lowest vibration, replace damaged mounts immediately. Mounts hardened due to age or weathering should also be replaced.
17. Prolonged exposure to excessive noise is fatiguing and could lead to impaired hearing. The use of proper ear protection can reduce this potential hazard.
18. Carry the chain saw with the engine stopped, the guide bar and saw chain to the rear, and the muffler away from the body.
19. When transporting your chain saw, use the appropriate chain cover.
20. Keep chain properly adjusted and sharpened.
21. Young children and persons unfamiliar with chain saw use should not operate this machine.
22. When repairing or servicing, use only recommended Shindaiwa replacement parts.
23. Do not operate this or any chain saw without a muffler.
24. Keep the handles dry, clean and free of oil or fuel mixture.



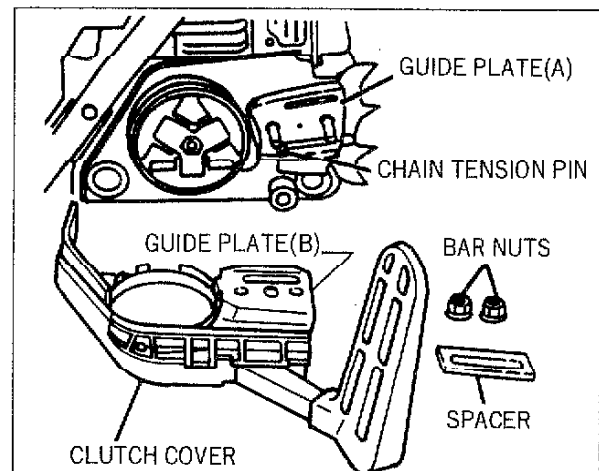
WARNING!

(continued)

25. All chain saw service, other than the items listed in the owner's maintenance instructions, should be performed by trained Shindaiwa chain saw service personnel.

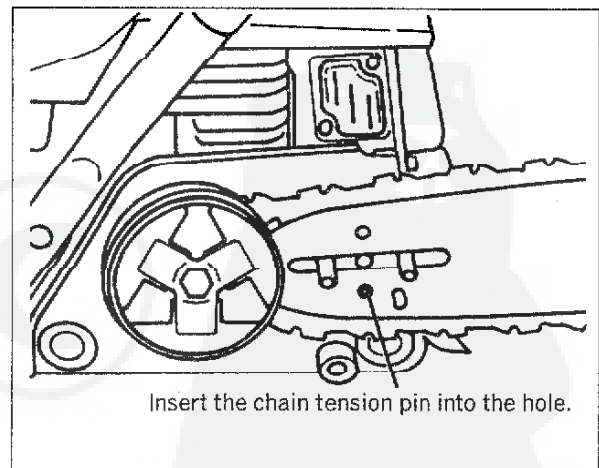
6 INSTALLING THE GUIDE BAR AND SAW CHAIN

1. Remove the two nuts, turning them counter-clockwise.
2. Remove the clutch cover and guide plate (B).
3. Remove and discard the spacer.
4. Place the guide bar over the guide bar studs and chain tensioner pin.
5. Install the chain loop over the drive sprocket, then align the chain drive links within the guide bar groove.
Make sure the cutters are properly oriented.



NOTE : For longest chain life, place new or replacement chain loops in oil and soak overnight before installation.

6. Install the clutch cover over the two bar studs. Install the two bar nuts and tighten with finger pressure only.



WARNING!

Never operate this saw without the clutch cover installed.

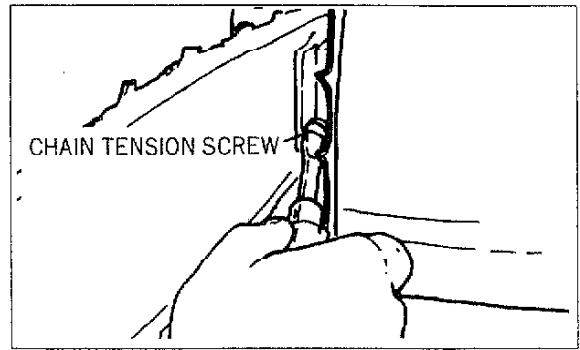
7 ADJUSTING THE SAW CHAIN

IMPORTANT :

Proper chain adjustment is essential for maximum performance, chain life, and operator safety. Always inspect chain tension before operating this saw.

1. Adjusting Initially

① Place the saw on a flat surface and lift the bar nose slightly.



② To adjust chain tension :

■ Turn the chain tension screw clockwise to tighten the chain.

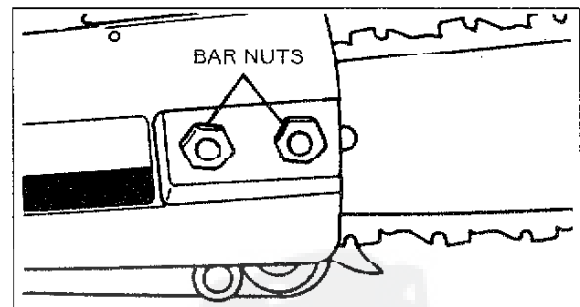
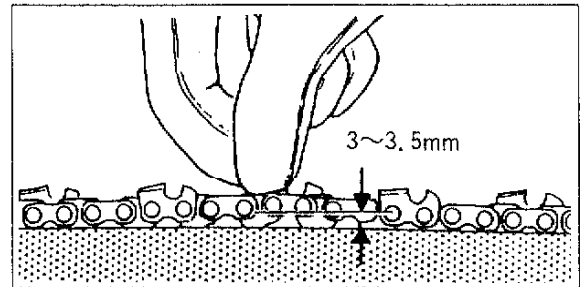
■ Turn the chain tension screw counter-clockwise to loosen the chain.

● Hard-nose guide bar :

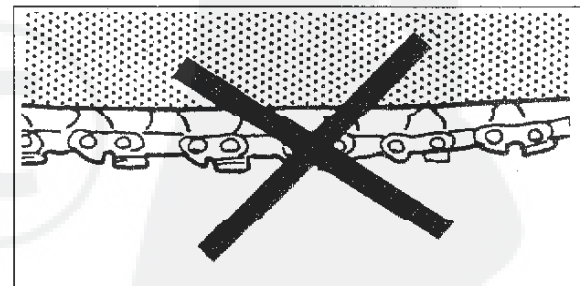
Gently lift the chain at about mid-bar. Tension is correct when there is a gap of 3-3.5 mm (about 0.125") between the chain side-plates and the bar rail.

● Sprocket-nose guide bar :

The chain should be adjusted slightly tighter than on a hard-nose bar, but must still pull freely around the bar.



③ Tighten both bar nuts securely, making sure chain adjustment is correct for the bar installed.



2. Adjusting Chain Tension in the Field

Stop the saw, loosen both bar nuts about 1 turn each, then repeat Steps ①-③ above. Never operate the saw with a loose chain.



WARNING!

Inspect chain tension often during operation, especially when breaking in a new chain. A loose saw chain can unexpectedly jump the guide bar during operation, possibly causing serious personal injury.

8 FILLING FUEL AND CHAIN OIL

1. Fuel Mixture

Always use a gas/oil ratio of 25 : 1 Use only fresh, clean fuel.

2. Chain Oil

This oil performs an essential role to reduce guide bar and chain wear, and to facilitate smooth cutting. Always use clean oil.

3. Automatic Oiler

The guide bar and saw chain are lubricated automatically by an adjustable-rate oil pump that operates whenever the clutch drum rotates.

A temporary increase in oil flow rate is often desirable when cutting hardwoods or large - diameter softwoods, and can be provided as follows :

① Step the saw. Make sure the ignition switch is in the "0" or "OFF" position.

② Place the saw on its side, with the clutch cover facing up.

③ Turn the oil flow rate adjustment screw with a screwdriver.

■ Turn counter - clockwise to increase bar and chain lubrication.

■ Turn clockwise to decrease bar and chain lubrication.



WARNING!
MINIMIZE THE RISK OF
FIRE!

■ Never refuel a hot saw!

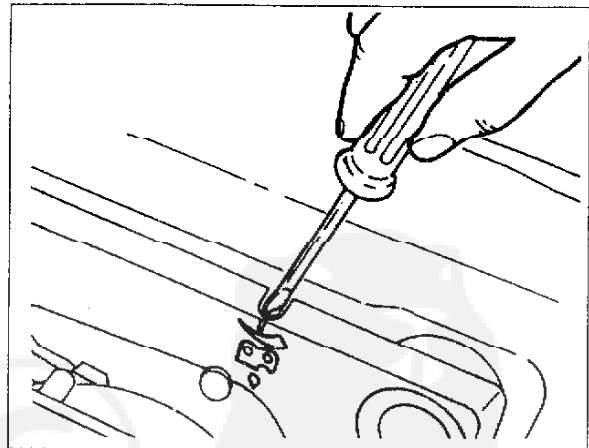
Always allow the saw to cool before fueling!

■ Wipe all spilled fuel and move the saw at least 3 m away from the fueling point before starting!

■ Never smoke or light fires near the saw or fuels!

■ Never place flammable material near the engine muffler!

■ Never operate the saw without the muffler in place!



CAUTION!

Proper lubrication is critical to the performance and service life of the saw's oil pump, guide bar, and cutting chain. Always use a high quality lubrication oil designed for saw chain lubrication. Never use dry or reclaimed oil!

9 STARTING AND STOPPING THE ENGINE



WARNING!

Clear a safe work area before starting the saw!

The saw chain will rotate when saw is started.

IMPORTANT!

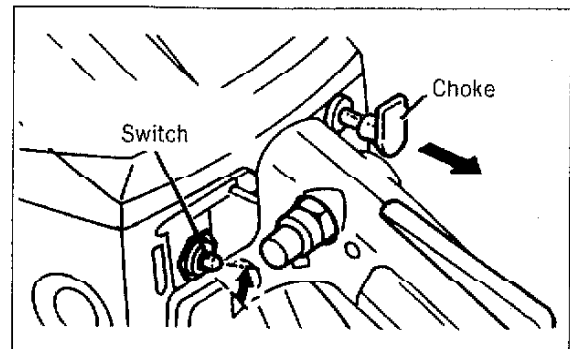
■ Engine ignition is controlled by a two-position "ON-OFF" switch located below the throttle lever. This switch is labeled "I" for ON and "O" for OFF.

■ The throttle trigger cannot be moved without first depressing the lock lever.

1. Starting the engine

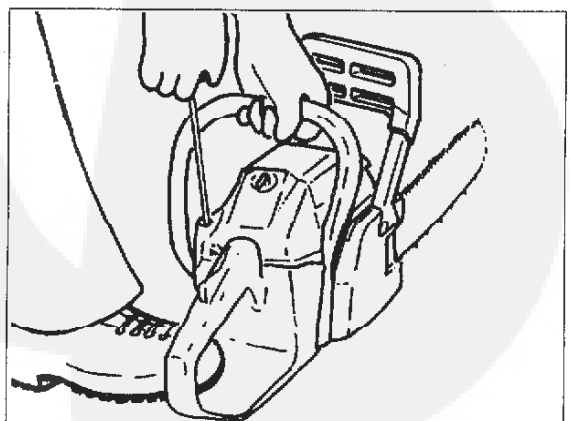
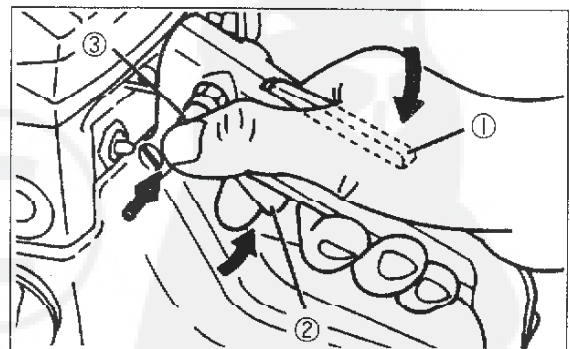
a) When the engine is cold :

- 1) Turn the switch ON.
(“I” position)
- 2) Pull the choke lever all the way out.
(choke closed)
- 3) Depress the throttle lock lever ①.
- 4) Squeeze the throttle trigger ②.
- 5) Press and hold the throttle lock button ③ while releasing the throttle trigger.



b) When the engine is warm :

- 1) Turn the switch ON.
(“I” position)
- 2) Repeat 3) - 5) mentioned above.
- 6) Place the saw on the ground.
- 7) Secure the saw by placing your right foot inside the rear handle and your left hand on the front handle as shown.
- 8) Grip the starter handle with your right hand, pull the starter cord slowly until you feel the starter engage, then.
- 9) ...start the saw by pulling the starter cord upward rapidly.





CAUTION!

The recoil starter can be easily damaged from abuse!

- Never pull the starter cord to its full length.
- Always engage the starter before cranking the engine.
- Always rewind the starter cord slowly.

2. Stopping the engine

Turn the switch OFF ("0" position) after idling at a low speed for 1 to 2 minutes.

When the engine fires :

- 1) Push the choke control in to its original position (open choke).
- 2) If the engine did not continue to run, pull the recoil again.
- 3) As the engine starts, clear excess fuel from the combustion area by revving the engine several times.



WARNING!

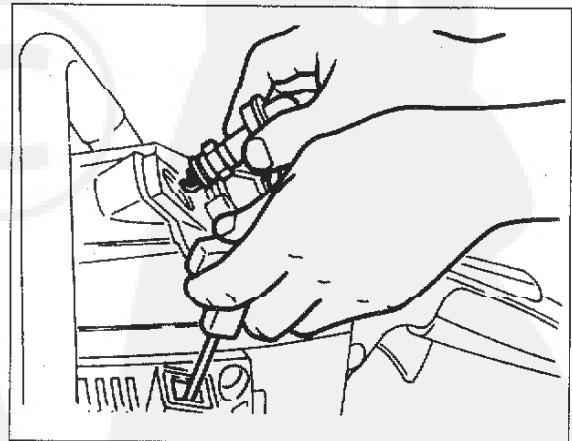
The saw chain will move as the engine accelerates!

- 4) Operating the throttle will automatically disengage the fast-idle setting.

If the engine does not start :

Repeat the appropriate starting procedures for a hot or cold engine. If the engine still will not start,

- 1) Check spark by disconnecting the spark plug and shorting against cylinder while pulling the starter cord. Make sure the switch is ON.
- 2) Disconnect the spark plug and inspect if the spark plug is fouled or soaked with fuel. If fouled or soaked :



- Clean or replace the spark plug.
- Clear excess fuel from the combustion chamber by cranking the engine several times while the spark plug is removed.

10 CARBURETOR ADJUSTMENTS

With the engine running, adjust the carburetor as follows.

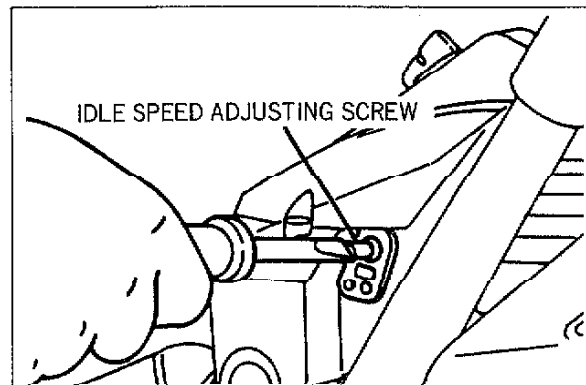
1. Idle Speed Adjustment

Use a screwdriver to slowly turn the idle speed adjusting screw clockwise or counter-clockwise until the engine idles at 2,800 min⁻¹.



WARNING!

The saw chain must never rotate at engine idle speed!



2. Standard Carburetor Setting

Low Speed Adjustment from closed :

1-1/4 ± 1/4 turns.

High Speed Adjustment from closed :

1-1/4 ± 1/4 turns.

3. Low Speed Adjustment (L)

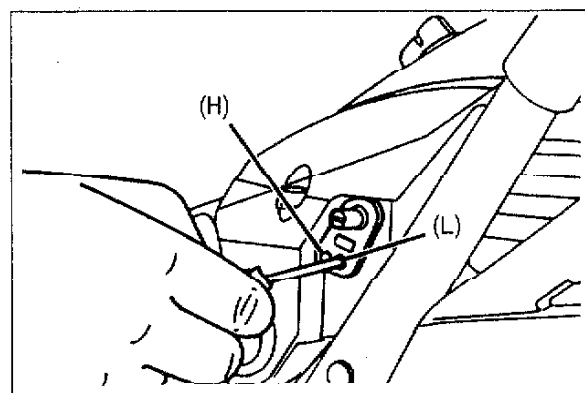
① Using a small screwdriver, slowly turn the low speed adjustment screw clockwise (lean mixture), and note any changes in engine rpm. Turning the low speed adjustment screw clockwise should cause engine speed to increase, and then to decrease as the mixture becomes leaner.

② Note the needle position where engine speed first begins to decrease: This is called the lean drop-off point.

③ Turn the low speed adjustment-screw counter-clockwise (rich mixture) and note the point at which engine speed increases and then begins to decrease: This is called the rich drop-off point.

④ Adjust the low speed adjustment screw midway between the rich and lean drop-off point.

⑤ If necessary, readjust the idle speed adjustment screw so the engine idles at 2,800 min⁻¹.



4. High Speed Adjustment (H)

No adjustment is necessary when the saw is new. After running about 10 hours, readjust the high speed adjustment screw to 1-1/4 turns from the fully closed point.



CAUTION!

■ Never run the engine at full throttle with no-load.

This may cause seizure.

■ Never operate this saw with the high speed adjustment screw adjusted to less than one turn. This may cause seizure.

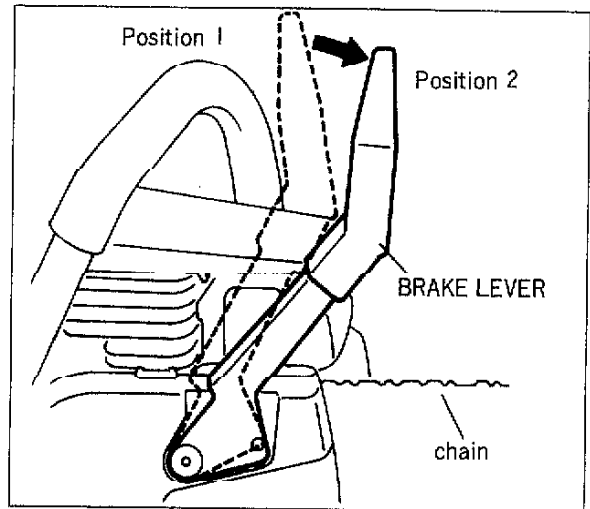
■ Never operate this saw above 12,500 min⁻¹. This may cause seizure.


11 CHAIN BRAKE


This machine is equipped with inertia chain brake system. When sudden kickback occurs, the chain is automatically actuated and the chain stops instantly. Even though the operator's hand does not touch the brake lever the chain brake is actuated when kickback occurs.

1. Chain Brake Function

- ① When the brake lever is in POSITION 1, the chain is free.
- ② When the brake lever is in POSITION 2, the chain is locked.
- ③ Pull the brake lever towards the rear handle to make the chain free.




 **CAUTION!**
When the chain brake has got actuated, the throttle trigger must be released at once.

 **WARNING!**
The chain brake is installed only to reduce the risk of kickback! The chain brake is not a substitute for careful operation!

2. Chain Brake Maintenance

- Keep the brake mechanism clean and free of sawdust or debris.
- If the chain brake becomes worn or damaged, or fail to completely engage or release the clutch drum, return the saw to your dealer for repairs.

 **CAUTION!**

- Never start or operate this saw while the chain brake is engaged!
- Never carry the saw by the brake lever. Carry the saw by the front handle.
- Always disengage the chain brake before removing or replacing the clutch cover.
- Never make carburetor adjustments while the chain brake is engaged!

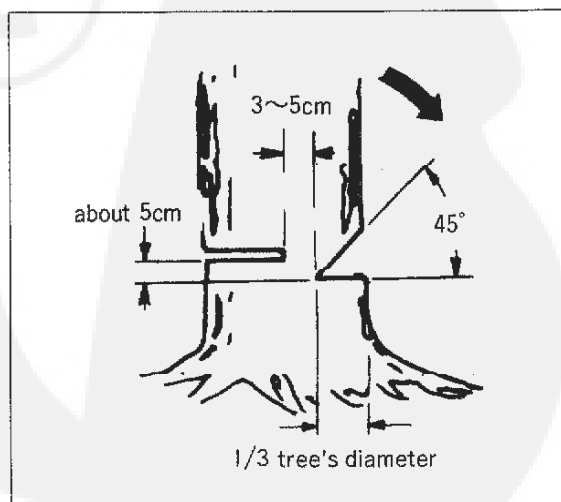
12 CUTTING WITH THE SAW

1. Before Starting/While Operating

- a) Make sure you understand all the safety procedure.
- b) Clear a safe working area.
- c) Always wear eye protection such as a face shield or goggles.
- d) Always wear gloves.
- e) Wear close-fitting clothing to protect your legs and arms. Do not wear clothing or jewelry that could get caught in machinery or brush.
- f) Wear appropriate non-skid foot wear.
- g) Keep proper footing (Do not overreach)!
- h) Use full-throttle while cutting, and apply only enough bar pressure to maintain speeds of 8,000–9,000 min^{-1} .
- i) Never operate with a loose cutting chain!
- j) Never operate the saw if fastenings are loose or missing.
- k) Never operate the saw if any component parts are damaged, loose, or missing.
- l) Stop the saw before moving it from the work area.

2. Felling Trees

- ① Determine the direction of fall.
- ② On the side of the tree facing the direction of fall, make a single 90° cut through about $1/3$ the tree's diameter.
- ③ Make a second cut at a 45° angle to the first cut to remove a notch from the tree.
- ④ Make the final felling cut on the opposite side of the tree about 5 cm higher than the bottom of the notch.



NOTE: If the felling cut appears to be closing on the bar, use a mallet to drive one or two plastic or wooden wedges into the cut behind the bar.

- ⑤ Stop the saw, and put it down.
- ⑥ Use your retreat path to exit the area quickly.

3. Bucking



WARNING!

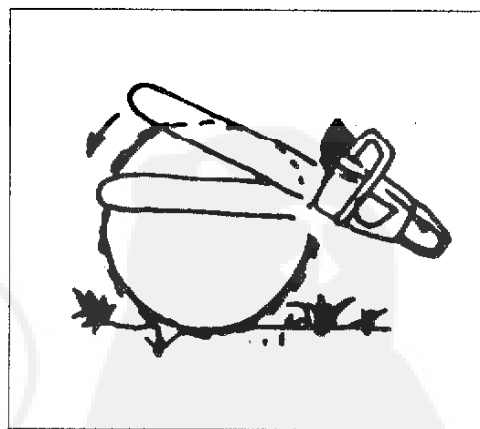
Always cut downed timber from the uphill side of the wood! Be alert for potential injury from rolling or shifting logs! Downed timber may shift or roll unpredictably during cutting or handling.

- a) If the log is lying flat on the ground, start cutting from the top of the log. Cut with repeating level action using saw spike as a fulcrum. Do not cut into the ground.



WARNING!

- Failure to leave a wooden hinge during the falling or “backcut” can cause the tree to pinch the saw’s guide bar, and may also change the direction of fall!
- Always make the falling cut parallel to the bottom cut! An angled falling cut may cause the tree to split, possibly changing the direction of fall!



- b) If the log is supported on both ends, start your cut from the top of the log, down 1/3 the log's diameter. Then, finish the cut by cutting up from the bottom. This helps prevent bar-pinching.

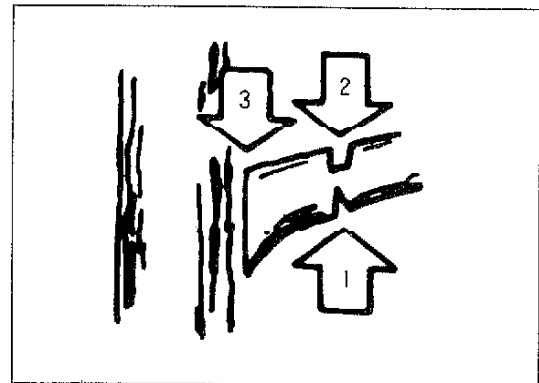
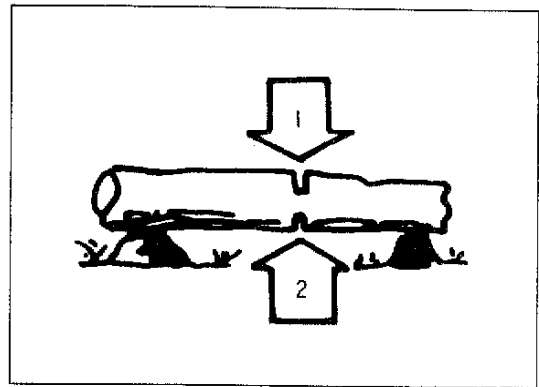
4. Limbing

Cut 1/3 from the bottom side and then cut through from the top. Then, finally cut the remaining part from the top side.



WARNING!

Do not overreach or attempt to cut above shoulder height.



13 ROUTINE MAINTENANCE

1. Saw Chain

Saw chain sharpness is essential in determining its performance. When cutter is in worn state, sharpen it at once. Cutting with a dull chain increases fatigue and greatly lowers cutting performance. When dirty due to grease or pitch, wash it with gasoline and immerse in oil to prevent rust.

2. Guide Bar

Always clean the guide bar groove and oil hole. When they clogged with chips, remove them. For distribution of wear (and increased life), occasionally turn the bar over.

3. Air Cleaner

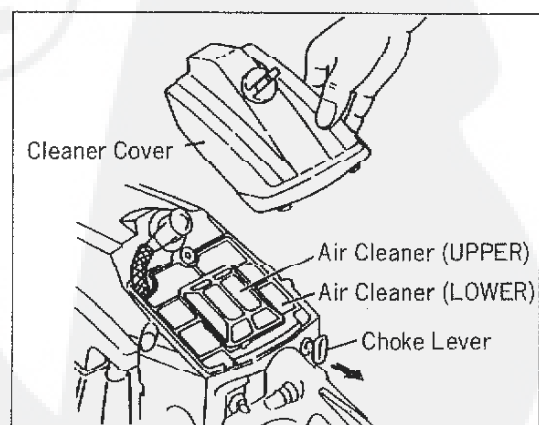
a) Maintenance

- ① Remove the air cleaner, being careful not to drop dust in the carburetor. Make sure the choke lever is pulled when

removing the air cleaner.

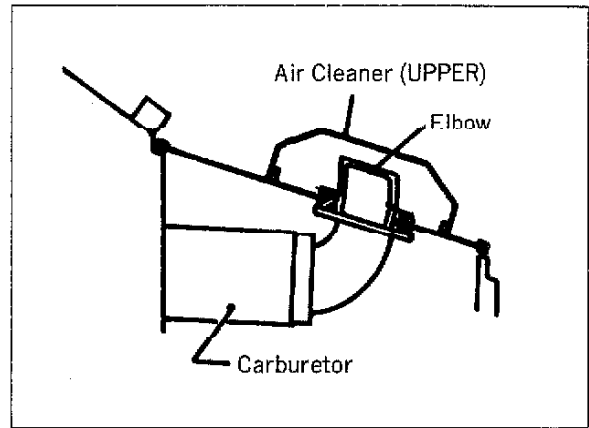
- ② Dust tends to accumulate on the bottom surface.

- ③ Rinse the air cleaner with gasoline or solvent. When blowing with air, blow from the upper side.



b) How to Attach

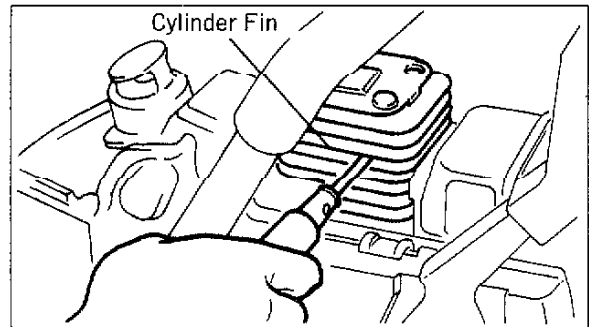
Attach the air cleaner to the elbow firmly as the illustration shows.



4. Periodical Inspection and Maintenance

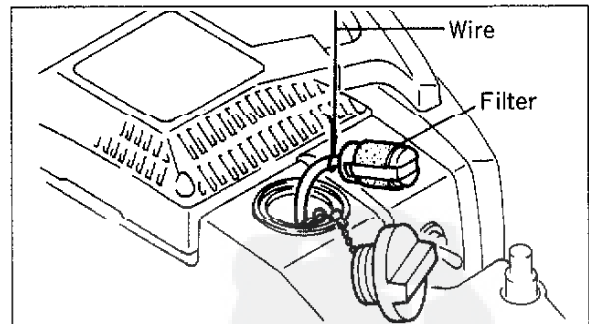
a) Cylinder Fin Cleaning

Cylinder fins clogged with dirt or dust can cause overheating. Clean between cylinder fins. When heavily clogged, clean them after removing the recoil case.



b) Fuel Filter

Take the filter out from the fuel filler opening by using a wire hook. Remove both filter elements and rinse them well with gasoline.

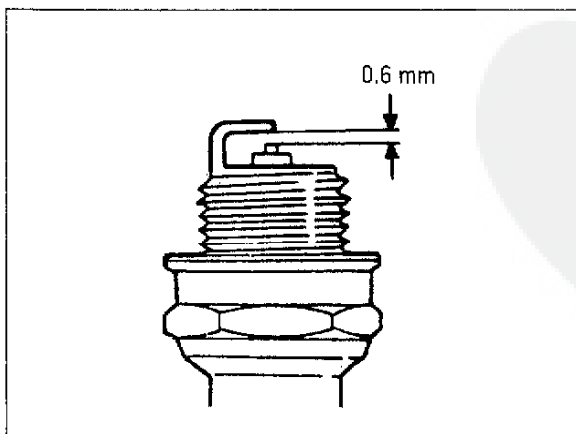
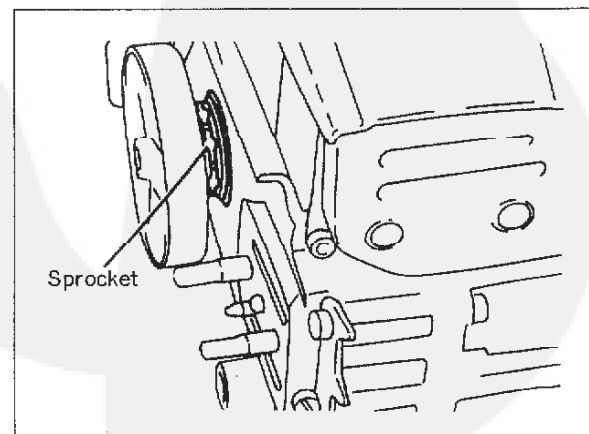


c) Spark Plug Inspection

Remove the spark plug and clean it and then adjust the plug gap to 0.6 mm.

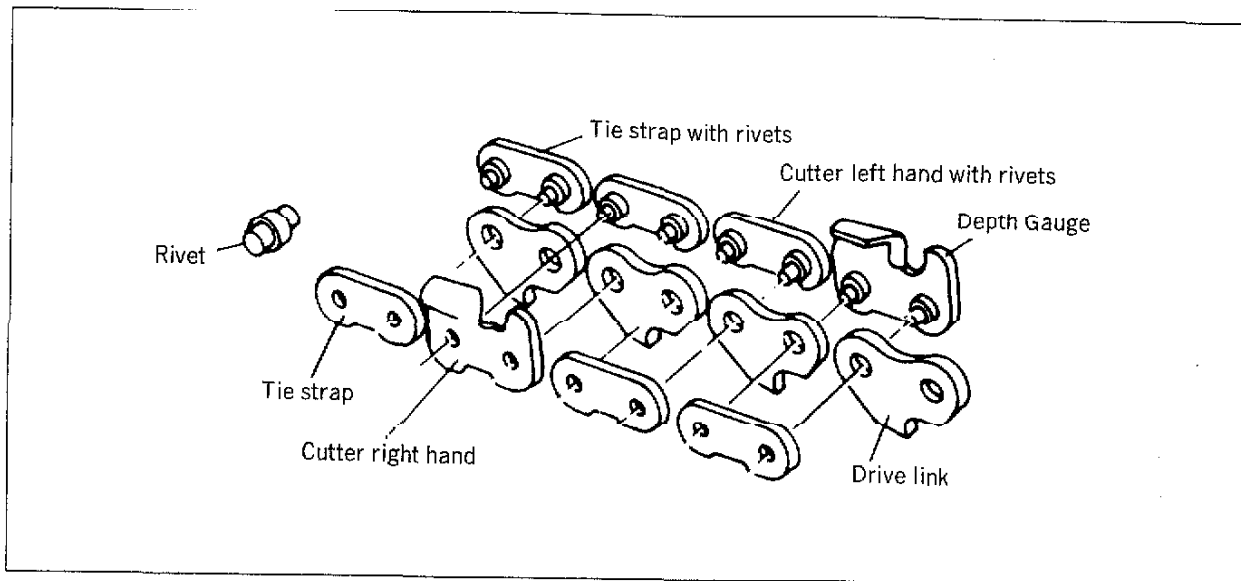
d) Sprocket Inspection

Remove the clutch cover and check the rim (which drives the chain behind the clutch drum). If there is any wear on the sprocket, replace it with a new one.



14 SAW CHAIN SHARPENING

1. Description



2. Function

- a) The depth gauge controls depth or amount of cut for each tooth.
- b) Both right and left cutters should always be sharpened to the same angle and depth.
- c) Drive links and saw chain together function to discharge sawdust.

3. Points of Sharpening

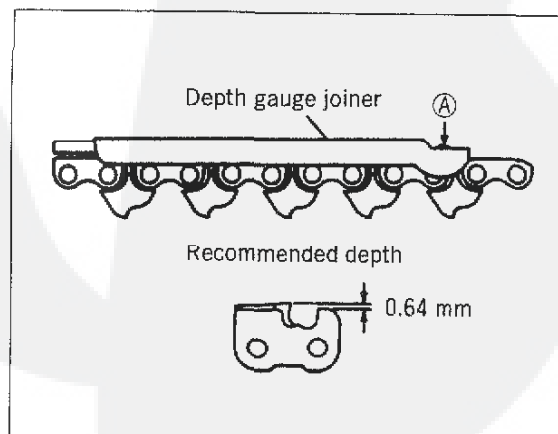
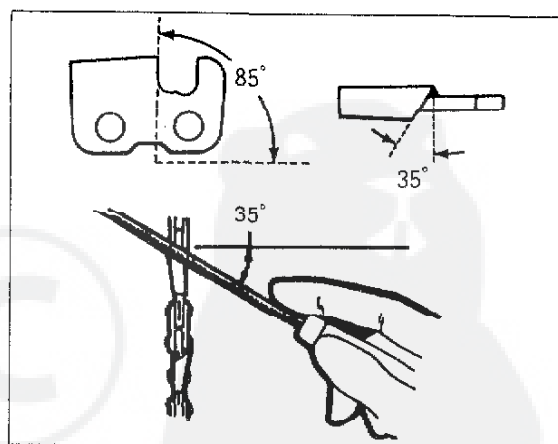
Sharpen all cutters and align right and left cutter angles to meet these specifications.

4. How to Sharpen

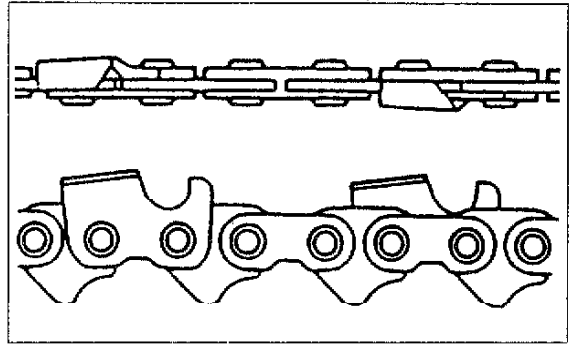
Sharpen all cutters to a 35° angle with a round file. Unequal filing can cause erratic sawing and vibration.

5. After Sharpening

When sharpening is completed, place the depth gauge joiner on all cutters as the illustration shows. File out (A) portion if it is higher than the joiner. Round the filed depth gauge as the illustration shows.

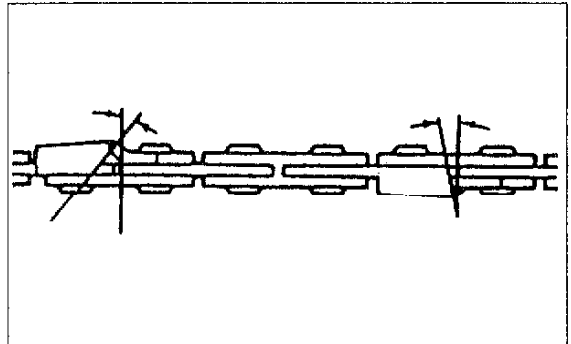


Good Sharpening Examples :

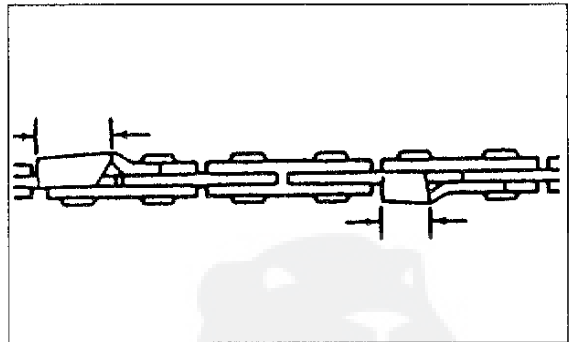


Wrong Filing Examples :

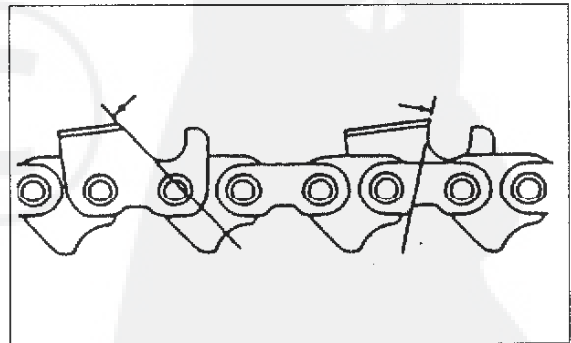
1 . Unequal cutter angles



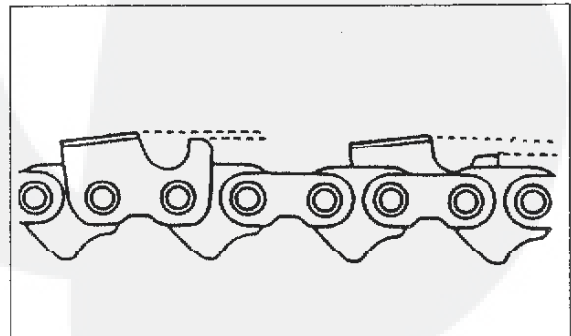
2 . Unequal cutter lengths



3 . Inconsistent contour
(caused by filing too low or too high)



4 . Unequal depth gauge



15. TROUBLESHOOTING

ENGINE DOES NOT START

What To Check	Possible Cause	Remedy
Does the engine crank ?	NO → Faulty recoil starter. Fluid in the crankcase. Internal damage.	Return saw to dealer.
YES ↓		
Good compression ?	NO → Loose spark plug. Excess wear on cylinder, piston, rings.	Tighten and re-test. Return saw to dealer.
YES ↓		
Does the tank contain fresh fuel of the proper grade ?	NO → Stale or contaminated fuel mixture.	Drain and re-fill with fresh fuel of the correct mixture
YES ↓		
Is fuel reaching the cylinder and combustion chamber ?	NO → Check for clogged fuel filter and /or vent.	Clean as required and re-start.
YES ↓		
Is there spark at the spark plug wire terminal ?	NO → Is the ignition switch ON ? Faulty ignition ground. Faulty transistor unit.	Move switch to ON and re-start. Return saw to dealer.
YES ↓		
Check the spark plug	NO → If the plug is wet, excess fuel may be in the cylinder. The plug may be fouled or improperly gapped. The plug may be damaged internally or may be the wrong size.	Crank the engine with the plug removed, replace the plug, and re-start. Clean and re-gap the plug to 0.6mm(0.024inch). Re-start. Replace the plug with an NGK BPMR 7 A. Re-start.

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LOW POWER OUTPUT

What To Check	Possible Cause	Remedy
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Is the engine overheating?</div>	<p>Operator is overworking the machine.</p> <p>Carburetor mixture is too lean.</p> <p>Improper fuel ratio.</p> <p>Fan, fan cover, cylinder fins dirty or damaged.</p> <p>Carbon deposits on piston or in the muffler.</p>	<p>Cut at a slower rate. Sharpen the chain as required.</p> <p>Adjust the carburetor.</p> <p>Re-fill with fresh fuel of the correct mixture.</p> <p>Clean, repair or replace as necessary.</p> <p>Decarbonize.</p>
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine is rough at all speeds. May also have black smoke and /or unburned fuel at the exhaust.</div>	<p>Clogged air cleaner.</p> <p>Loose or damaged spark plug.</p> <p>Air leakage or clogged fuel line.</p> <p>Water in the fuel.</p> <p>Piston seizure.</p> <p>Faulty carburetor and / or diaphragm.</p>	<p>Service the air cleaner.</p> <p>Tighten or replace.</p> <p>Repair or replace fuel filter and /or fuel line.</p> <p>Replace the fuel.</p> <p>Return saw to dealer.</p> <p>Return saw to dealer.</p>
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine is knocking.</div>	<p>Overheating condition.</p> <p>Improper fuel.</p> <p>Carbon deposits in the combustion chamber.</p>	<p>See above.</p> <p>Check fuel octane rating ; check for presence of alcohol in the fuel.</p> <p>Refuel as necessary.</p> <p>Decarbonize.</p>

ADDITIONAL PROBLEMS

Symptom	Possible Cause	Remedy
Poor acceleration.	Clogged air cleaner.	Clean the air cleaner element.
	Clogged fuel filter.	Replace the fuel filter.
	Chain brake engaged.	Inspect and/or test brake. Return to dealer as required.
	Carburetor mixture too rich or too lean.	Adjust carburetor
	Idle speed set too low.	Adjust : 2,800 min ⁻¹
Engine stops abruptly.	Switch turned off.	Set the switch to "I" (ON) and re-start.
	Fuel tank empty.	Refuel.
	Clogged fuel filter.	Clean or replace filter as required.
	Water in the fuel.	Drain ; replace with clean fuel.
	Shorted spark plug or loose terminal.	Clean or replace spark plug. Tighten the terminal.
	Ignition failure.	Replace the ignition unit.
	Piston seizure.	Return saw to the dealer.
Engine difficult to shut off.	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Correct plug : NGK BPMR 7 A
	Overheated engine.	Idle engine until cool.
Chain rotates at idle speed.	Engine idle too fast.	Set Idle : 2,800 min ⁻¹
	Broken clutch spring or shoe.	Replace spring / shoes as required.
Excessive vibration	Worn or damaged sprocket, chain or bar	Inspect and replace chain components as required.
	Bent crankshaft.	Return saw to dealer.

16 EUROPEAN DISTRIBUTORS LIST

Ref. No.	Country	Name	Address	Tel No.	Fax No.
1	France	Yvan Beal	21, avenue De l'Agriculture, B.P.16 - Zone Industrielle du Brezet, 63014 Clermont-Ferrand Cedex I	(33) 04 73 91 93 51	(33) 04 73 90 23 11
2	Italy	Fercad S.P.A.	Via Retrone, 49, 36077 Altavilla Vicentina, Vicenza	(39) 0444 220811	(39) 0444 348986
3	Germany	Iseki Maschinen GmbH	Rudolf-Diesel-Str. 4. 40670 Meerbusch	(49) 02159 5205 0	(49) 02159 520512
4	England	PLM Power Products Ltd.	Unit 5-6, The Shires Industrial Estate, Essington Close, Birmingham Road, Lichfield, Staffs, WS14 9AZ	(44) 01543 414477	(44) 01543 414541
5	Ireland	Danfay Ltd.	61D Sallynoggin Road, Dun Laoghaire, Co. Dublin	(353) 1 2859177	(353) 1 2858810
6	Holland	Matracom Int. B.V.	Hogelandseweg 51, 6545 AB Nijmegen	(31) 024 373 1990	(31) 024 373 1765
7	Belgium	Intergarden Import N.V.	Brechtsebaan 284-B 2900 Schoten	(32) 03 652 02 61	(32) 03 652 02 40
8	Switzerland	Solo Motorgeraete AG	Seuzachstrasse 26, CH-8413 Neftenbach	(41) 52 315 1221	(41) 52 315 1004
9	Portugal	Joaquim Verdasca Junior Heads Lda	Apartado 11-2490. Ourem	(351) 249 544540	(351) 249 544361
10	Greece	Technellas S.A.	92, Athinon Avenue, 104 42 Athens	(30) 1 5193 110	(30) 1 5193 114
11	Finland	Tuonti Jarvela KY	Itkonniemenkatu 11, PB1234 70501 Kuopio	(358) 17 2652 845	(358) 17 2652 801
12	Turkey	Taral Tarim Makina VeAletleri Sanayi A.S.	Gumussuyu Caddesi Hastane Yolu No.1 34020 Topkapi-Maltepe, Istanbul	(90) 212 567 95 50	(90) 212 674 06 79

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Engine Chain saw,
Model E440 (440/CE, 440/IMG-15, 440/YB591)

meets the following respective requirements.

Council Directives:

89/336/EEC as amended
98/37/EC as amended
2000/14/EC as amended

Standard taken:

EN 292 parts 1&2
EN 608
CISPR 12

Measured sound power level: 108dB(A)
Guaranteed sound power level: 109dB(A)

Have successfully passed the CE Mark approval tests carried out by :
Le Centre Technique du Bois et de l'Ameublement(CTBA),
10 avenue de Saint Maude,75012 Paris France

Obtained the following register number respectively :
380-080-A-0012-11-94

Technical documentation is kept by:

NV EUROGARDEN SA
Sint-Truidensesteenweg 252
B-3300 Tienen - Belgium
Tel. ++32-16-80 54 32
Fax ++32-16-80 54 38

17 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Engine Chain saw,
Model E488 (488/CE, 488/IMG-15, 488/YB711)

meets the following respective requirements.

Council Directives:

89/336/EEC as amended

98/37/EC as amended

2000/14/EC as amended

Standard taken:

EN 292 parts 1&2

EN 608

CISPR 12

Measured sound power level: 111dB(A)

Guaranteed sound power level: 112dB(A)

Have successfully passed the CE Mark approval tests carried out by :

Le Centre Technique du Bois et de l'Ameublement(CTBA),

10 avenue de Saint Mandé,75012 Paris France

Obtained the following register number respectively :

380-080-A-0042-09-95

Technical documentation is kept by:

NV EUROGARDEN SA

Sint-Truidensesteenweg,252

B-3300 Tienen - Belgium

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MEMO

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