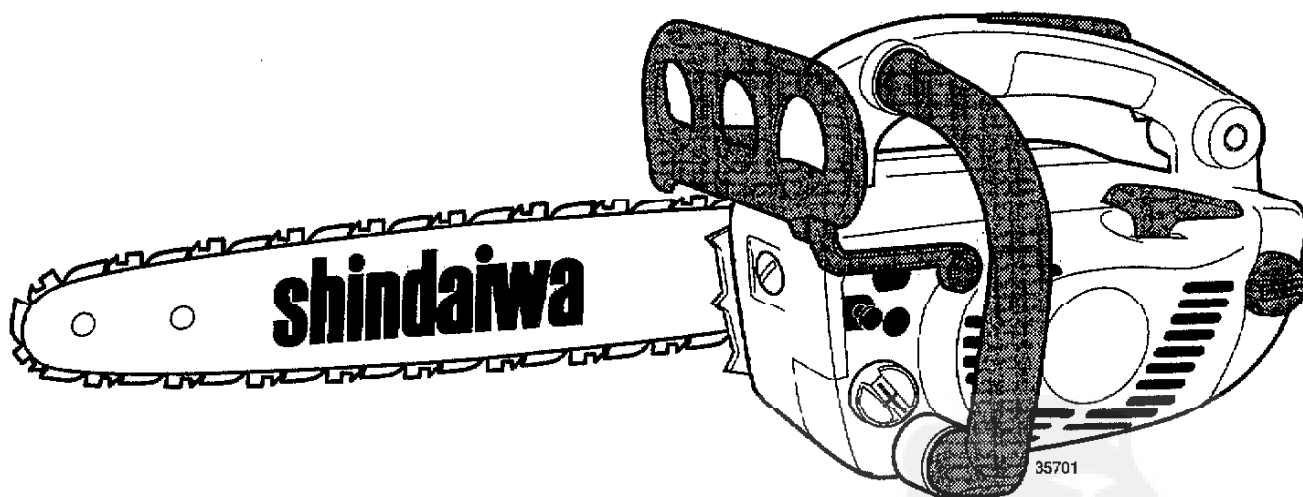



**SHINDAIWA OPERATING INSTRUCTIONS**

**357 CHAIN SAW**



**shindaiwa**



**WARNING!**

Always wear eye protection when operating this machine. Minimize the risk of injury to yourself and others; read this manual and familiarize yourself with its contents!

## **INTRODUCTION**

---

The Shindaiwa 357 Top-Handle saw has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, safety, or durability.

Shindaiwa high performance engines represent the leading edge of 2-cycle engine technology, and deliver exceptionally high power at remarkably low displacement and weight. As a professional owner/operator, you'll soon discover why Shindaiwa is simply in a class by itself!

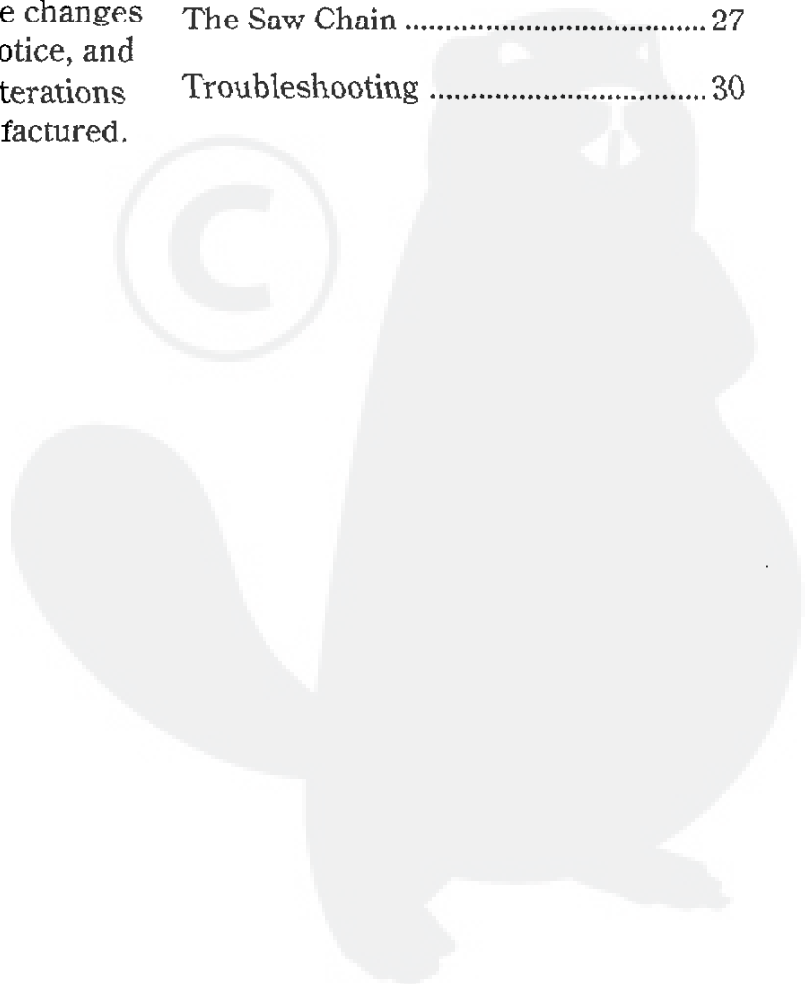
### **IMPORTANT!**

The information contained in this manual describes machines available at the time of production. While every attempt has been made to give you the very latest information about your Shindaiwa 357 chain saw, there may be some differences between your saw and what is described here. Shindaiwa Inc reserves the right to make changes in production without prior notice, and without obligation to make alterations to machines previously manufactured.

## **CONTENTS**


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	PAGE
Attention Statements .....	1
Product Description .....	2
Specifications .....	3
Safety Information .....	4
Installing the Guide Bar/Chain .....	8
Adjusting the Saw Chain .....	10
Mixing Fuel .....	11
Filling the Fuel Tank/Bar Oil .....	12
Starting the Saw .....	13
Carburetor Adjustments .....	16
Chain Brake .....	18
Cutting with the Saw .....	20
Routine Maintenance .....	24
Long-term Storage .....	26
The Saw Chain .....	27
Troubleshooting .....	30



# ATTENTION STATEMENTS

This manual contains 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 bodily injury.

 **CAUTION!**  
A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent damaging your saw.

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.



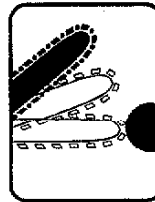
Read and follow the Operator's Manual. Failure to do so could result in serious injury.



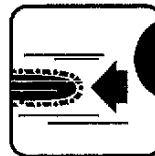
Wear eye and hearing protection at all times during the operation of this unit.



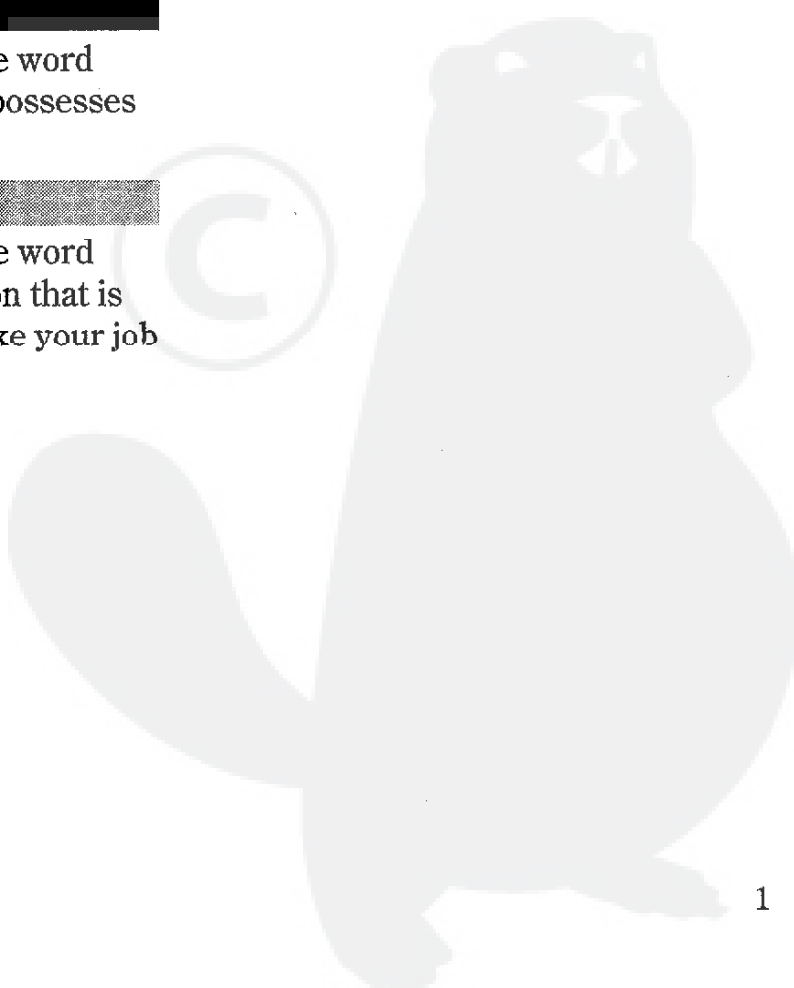
Do not operate this tool if you are tired, ill or under the influence of alcohol, drugs, or medicine.



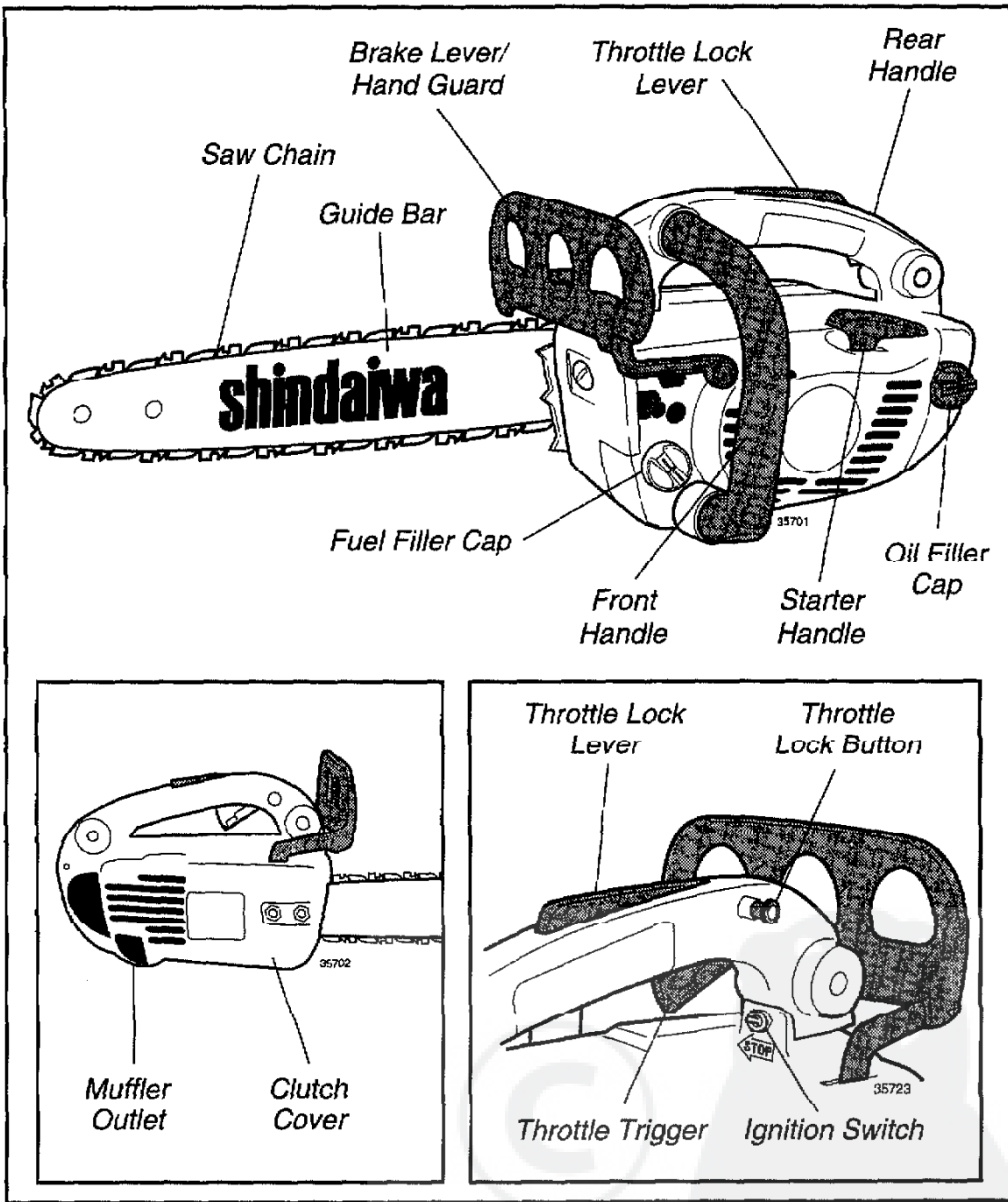
**Beware of Kickback!**  
Kickback can occur whenever the tip of the guide bar touches an object while the saw is operating. Kickback may force the bar up and back toward the operator with a lightning-fast reaction!



Pinching the saw along the top of the guide bar may force the bar rapidly back toward the operator. Pinching can occur whenever wood closes in around the moving chain.



# NOMENCLATURE



## IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from your machine and also to protect you and others from harm. These procedures are general guidelines only, and are not intended to replace any safety rules/laws that may be in force in your area.


If you have any questions regarding your 357 chainsaw, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you.

# SPECIFICATIONS

Model .....	357
Engine Type .....	2 cycle air cooled gas engine
Displacement .....	35.5 cc (2.17 cu.in.)
Fuel ... Gasoline-Oil Mixture—40:1 with Shindaiwa Premium 2-cycle Engine Oil	
Carburetor .....	Diaphragm (WALBRO Model WT)
Ignition .....	All transistor electronic ignition system
Spark Plug .....	Champion CJ-6Y
Starting .....	Auto-rewind
Stopping .....	Grounding (toggle switch)
Power transmission .....	Automatic centrifugal clutch
Chain lubrication .....	Automatic clutch-driven oiler
Chain .....	3/8" pitch, gauge 0.050
Chain oil .....	Shindaiwa brand premium Bar and Chain Oil (or equivalent)
Fuel tank capacity .....	275 cc
Oil tank capacity .....	225 cc
Front/Rear Handles .....	Special anti-vibration mountings
Cooling system .....	Forced air
Safety devices .....	Front guard, throttle lock, chain catcher and inertial brake
Weight (less bar and chain) .....	4.0 kg (8.82 lbs)

## Tools Included

- Screwdriver
- Spark plug/13 mm socket wrench
- 4 mm hex wrench
- 5 mm hex wrench



**WARNING!**  
Do not make unauthorized modifications to this saw, guide bar, or chain!

## RECOMMENDED BAR AND CHAIN COMBINATIONS

Size	Part Number	
	Chain	Bar
12-inch	OREGON	36120-12
	91SG-45X	
14-inch	OREGON	36140-14
	91SG-54X	
16-inch	OREGON	36160-16
	91SG-56X	



**WARNING!**  
Replacement chain for this saw must meet applicable ANSI B175.1 kickback performance requirements, and/or be designated as "low kickback chain" per ANSI B175.1 standards.

## KICKBACK SAFETY



This saw is equipped with the following safety equipment:

- **Inertial chain brake.** Kickback energy forces the brake lever against the operator's left hand, engaging a brake band around the chain drive mechanism.
- **"Low kick" chain.** When used in combination with the appropriate guide bar, low kick chain significantly reduces the rotational force of kickback.



### WARNING!

To reduce the risk of kickback, all of the above devices must be properly installed and in good repair. Use of other than ANSI B175.1 bar and chain combinations may result in reduced kickback protection!



### WARNING!

Brake engagement and operation depend upon proper inspection and maintenance procedures! For correct procedures, see page 19.



### WARNING!

Never operate this or any other chain saw with only one hand! One-handed operation could cause serious injury to the operator, helper, or any nearby observers! A chain saw is intended for two-handed operation!

# KICKBACK SAFETY PRECAUTIONS



## WARNING!

Either of the following reactions could cause you to lose control of your saw while cutting, possibly resulting in serious injury!

1. Kickback can occur whenever the guide bar nose or tip contacts an object while the saw is running. Tip contact may cause the guide bar to kick upward and back toward the operator, with a lightning-fast reaction!
2. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back toward the operator! Pinching can occur whenever wood closes in around the moving chain!

Do not rely exclusively on the safety devices incorporated with your saw. As a chain saw user, observing the following steps will also help you to avoid accident or injury on the job:

- **Sudden surprise can contribute to accidents!** With a basic understanding of kickback, you can reduce or eliminate the element of surprise.
- Clear obstructions from the work area before using the saw. Remove any log, branch, or other obstruction that might contact the guide bar tip during cutting operations.
- Grip the saw firmly with your right hand on the rear handle and your left hand on the front handle, thumbs and fingers encircling the handles, whenever the saw is running. Don't let go: A firm grip will help you to reduce kickback while maintaining control of the saw.
- Accelerate the saw before the chain contacts the work area, and always maintain high engine speeds throughout the cut.
- Do not overreach or attempt to cut above shoulder height.
- Follow the manufacturer's instructions for sharpening and maintenance of the saw chain.
- Use only the replacement bar and chain combinations specified by the manufacturer.
- Never stand directly over the saw while cutting!
- Use low-kickback chain, chain brakes, or special guide bars to reduce the risk of kickback.

## ADDITIONAL SAFETY PRECAUTIONS



### WARNING!

#### NOTE

These safety precautions are intended primarily for consumers or occasional users. When using this chain saw for logging purposes, refer to: CFR Section 1910.266 (5); 2.5.1 of the American National Safety Standard; Requirements for Pulpwood Logging ANSI 03.1-1978; and any applicable state safety codes.

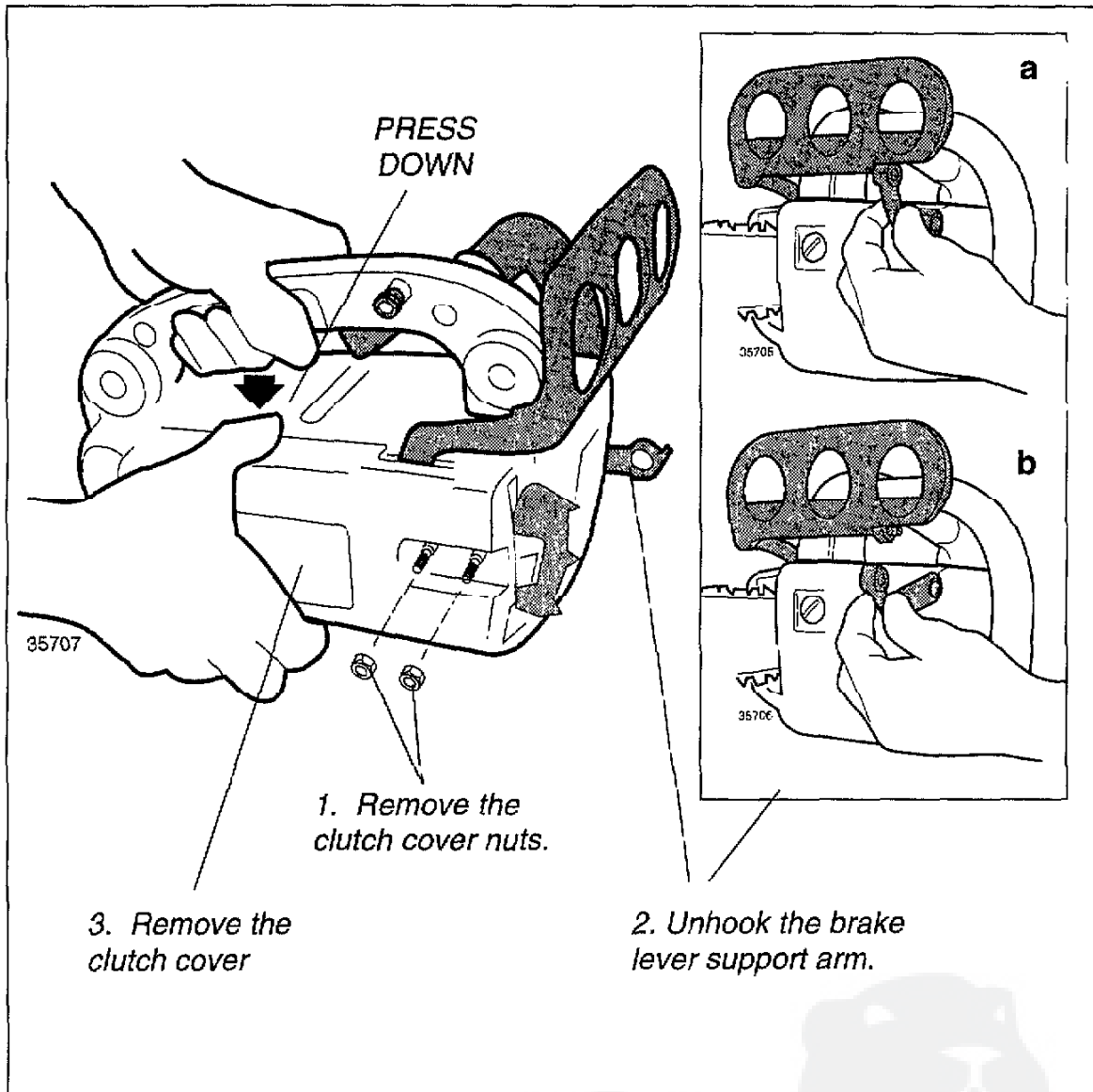
- Never operate this chain saw with only one hand! One-handed operation could cause you to lose control, causing serious injury to yourself or others!
- Never operate this chain saw if you are fatigued.
- Wear safety footwear, snug-fitting clothing, protective gloves, and eye, hearing, and head-protection devices while working with this chain saw.
- Use caution when handling fuels! Before starting the saw, move it at least 10 feet (3 meters) from the fueling area.
- Never allow other persons to be near the chain saw when the saw is operating! Keep bystanders and animals out of the work area!
- Never allow young children or any person unfamiliar with chain saws to operate this saw!
- Clear the work area before using the saw. Never start cutting until you are sure you have a secure footing and have planned a retreat path from the falling tree.
- Before starting the saw, make sure nothing is touching the saw chain.
- Keep all parts of your body away from the saw chain whenever the engine is running!
- Stop the engine before carrying the saw. Carry the saw with the engine stopped, the guide bar and saw chain pointing to the rear, and the engine muffler away from your body.
- Stop the engine before setting the saw down.



**WARNING!**

- Install the appropriate guide-bar scabbard before transporting the saw.
- Never operate a saw that is damaged, improperly assembled, or improperly adjusted.
- Use only Shindaiwa-recommended parts when repairing or servicing this saw.
- Do not use this saw if the saw chain continues to move after the throttle control trigger is released.
- Use extra care when cutting a limb that is under tension! A limb under tension could spring back suddenly, causing you to lose control of the saw!
- Use extreme caution when cutting smaller brush and saplings! Small-diameter material may catch in the chain and be whipped toward you or pull you off balance, causing you to lose control of the saw!
- Operate the saw only in a well ventilated area.
- Keep the saw handles dry, clean, and free of oil or fuel mixture.
- Never operate any saw while in a tree, unless you have been specifically trained to do so!
- Never perform service or repairs to this saw unless you are specifically trained and equipped to do so!
- Never allow any part of your body near the clutch cover of an operating saw.
- Never operate a saw that has damaged or missing anti-vibration cushions. Long-term exposure to vibration can damage your hands.
- Always maintain a firm footing while operating this saw! Ladders and other temporary platforms can shift unexpectedly, and are not recommended!

# INSTALLING THE GUIDE BAR AND CUTTING CHAIN



## IMPORTANT!

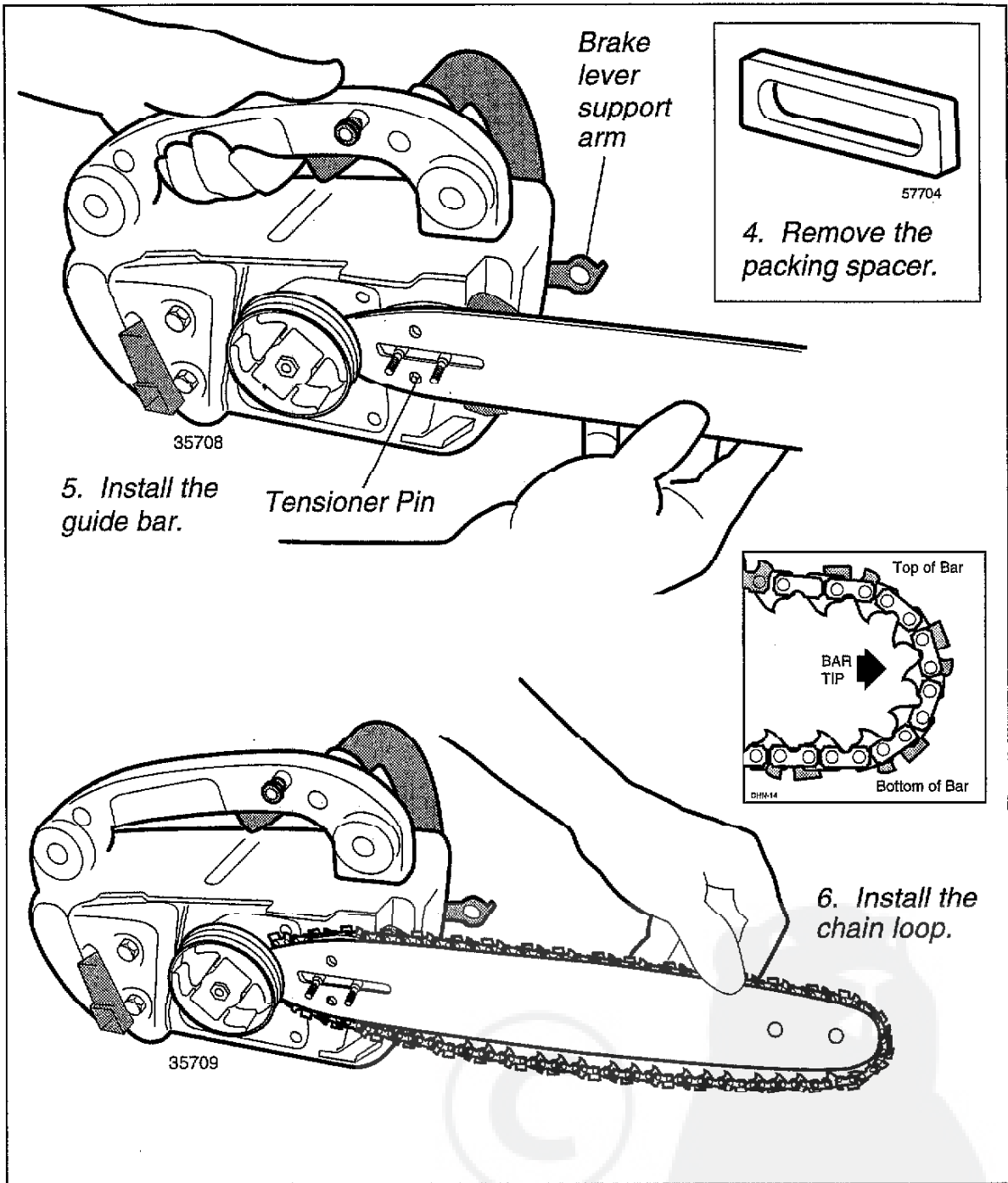
The chain brake must be completely disengaged before removing or installing the clutch cover!

1. Use the 13 mm socket wrench to remove the clutch cover nuts. Turn the nuts counter-clockwise to remove.
2. Unhook the support arm from the brake lever (see inset).
3. Disengage the clutch cover retaining hook by pressing the cover as shown, and then remove the clutch cover.
4. Remove and discard the packing spacer.
5. Place the guide bar over the guide bar studs and chain tensioner pin. If necessary, turn the chain tension screw in or out until the loop slips easily over the guide bar tip.



### CAUTION!

Failure to align the guide bar and chain tensioner pin as shown can cause serious damage to the clutch cover, guide bar, tensioner pin and/or engine crankcase!

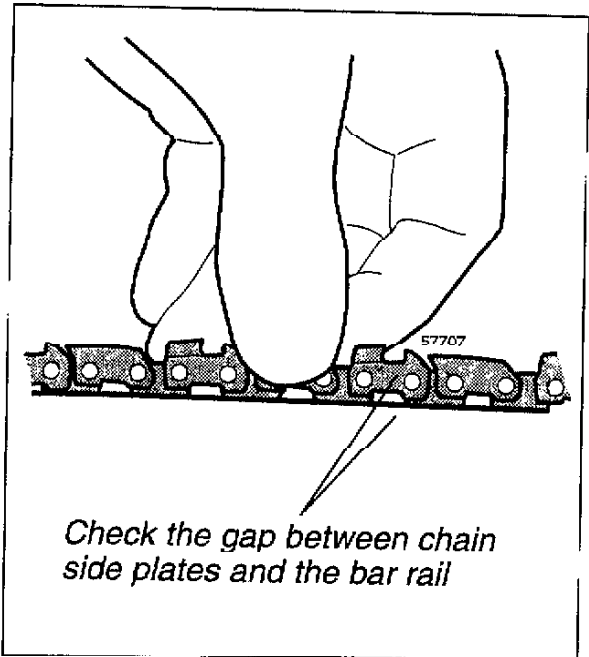
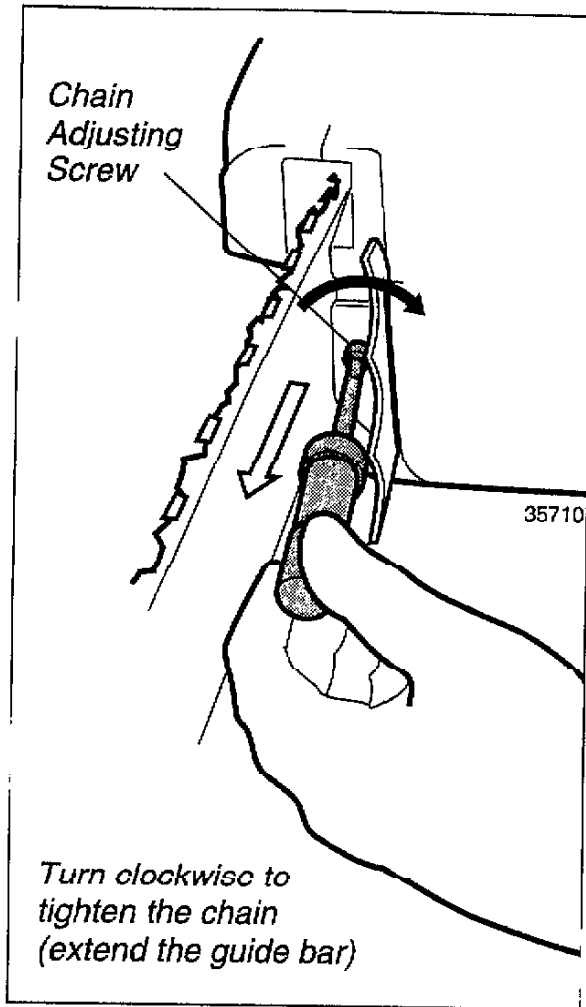


6. Install the chain loop over the drive sprocket, and then align the chain drive links within the guide bar groove. Make sure the cutters are properly oriented.
7. Install the clutch cover over the two bar studs, and then engage the brake lever and support arm. Install the two 13 mm bar nuts and tighten finger-tight only.

 **WARNING!** Never operate this saw without the clutch cover installed!

FOR CHAIN ADJUSTMENT, REFER TO THE NEXT PAGE.

# ADJUSTING THE SAW CHAIN



## IMPORTANT!

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

## NOTE:

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

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 adjuster 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 type of bar installed.

**Adjusting Chain Tension in the Field** Stop the saw, loosen both bar nuts about 1 turn each, then repeat Steps 1 through 3 (above). Never operate the saw when the chain is loose!



## 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!

## MIXING FUEL

### Fuel Requirements

- Use only fresh, clean fuel.
- Use only fuel with an octane rating of at least 87 or higher.
- Mix all fuel with Shindaiwa Premium 2-Cycle Engine Oil at a gasoline/oil ratio of 40:1 (1-gallon gasoline to 3.2-ozs. mixing oil).



#### CAUTION!

Some gasolines contain alcohol as an oxygenate!

Oxygenated fuels may cause increased engine operating temperatures. Under certain conditions, alcohol-based fuels may also reduce the lubricating qualities of some mixing oils.

**Never use any fuel** containing more than 10% alcohol by volume! When an oxygenated fuel *must* be used, an oxygenate such as MTBE is to be preferred over an alcohol based fuel.

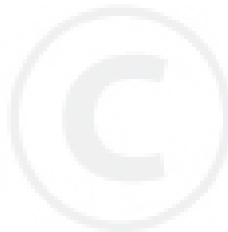


#### CAUTION!

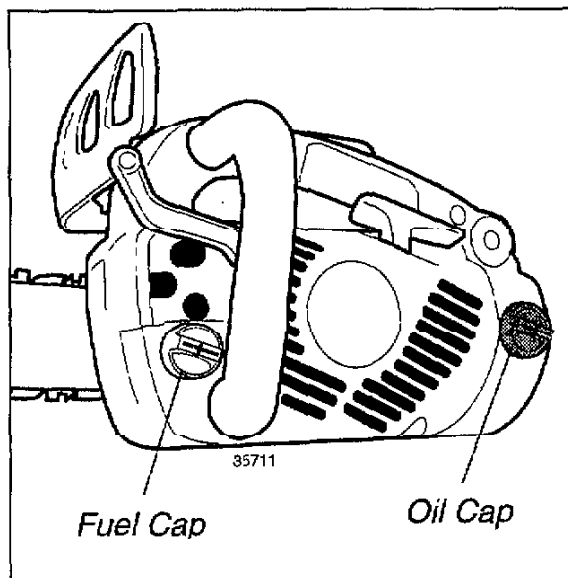
Whenever possible, use Shindaiwa Premium 2-Cycle Engine Oil or an equivalent quality oil mixed at a 40:1 ratio. Generic oils and some outboard mixing oils may not be intended for use in high-performance air cooled 2-cycle engines, and should never be used in your Shindaiwa saw!

#### IMPORTANT!

Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30 days, it should first be treated with a stabilizer such as StaBil™.



## FILLING THE FUEL TANK AND BAR OIL RESERVOIR



1. Place the saw on its side (clutch cover down), and wipe any chips or debris from around the fuel cap at the front of the saw.
2. Remove the fuel cap.
3. Fill the tank with clean, fresh fuel (see page 11), and replace the fuel cap.
4. Wipe all spilled fuel before starting the saw.

### Oil Requirements

- Use Shindaiwa Premium Bar and Chain Oil or equivalent.
- When Shindaiwa oil is not available, use a premium 30 weight oil specifically designed for bar and chain lubrication.
- For cold weather operation, bar oil may be thinned by mixing with an equal amount of clean kerosene.

### Filling the Oil Reservoir

1. Place the saw on its side (clutch cover down), and wipe any chips or debris from around the oil cap at the rear of the saw.
2. Remove the oil cap.
3. Fill the oil reservoir with Shindaiwa Premium Bar and Chain Oil (or equivalent), and replace the oil cap.
4. Wipe spilled oil from handles and controls before starting the saw.

### NOTE:

Guide bar and cutting chain lubrication is provided by a clutch-driven oil pump, and is entirely automatic.



### WARNING! Minimize the risk of fire!

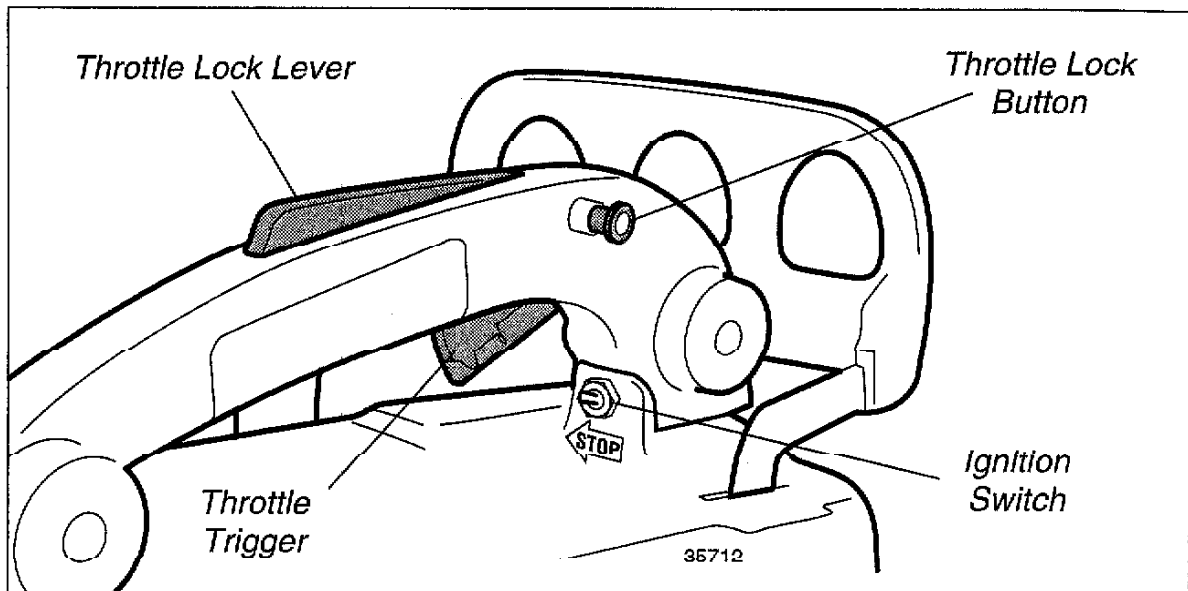
- Never refuel a hot saw! Always allow the saw to cool before refueling!
- Wipe all spilled fuel and move the saw at least 10 feet (3 meters) from the fueling point before restarting!
- Never smoke or light fires near the saw or fuels!
- Never place flammable material near the engine muffler!
- Never operate the saw without the muffler and spark arrestor in place and properly functioning!



### CAUTION!

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

## PREPARING TO START THE SAW



### WARNING!

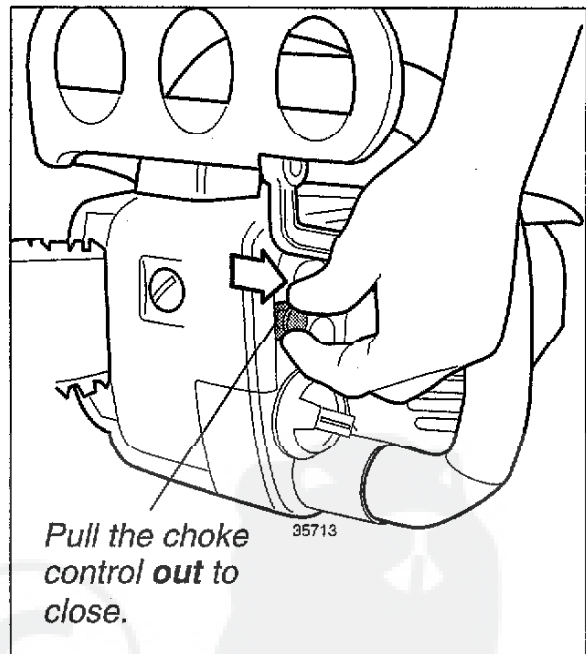
The saw chain will rotate when the saw is started! Clear a safe work area before starting the saw!

### 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.

### Control Positions (cold engine)

1. Switch the ignition ON ("I" position).
2. Choke the engine by pulling the choke control all the way out (choke is closed).
3. Set the throttle to "fast idle" by performing the following
  - Depress the throttle lock lever.
  - Squeeze the throttle trigger.
  - Press and hold the throttle lock button while releasing the throttle trigger.



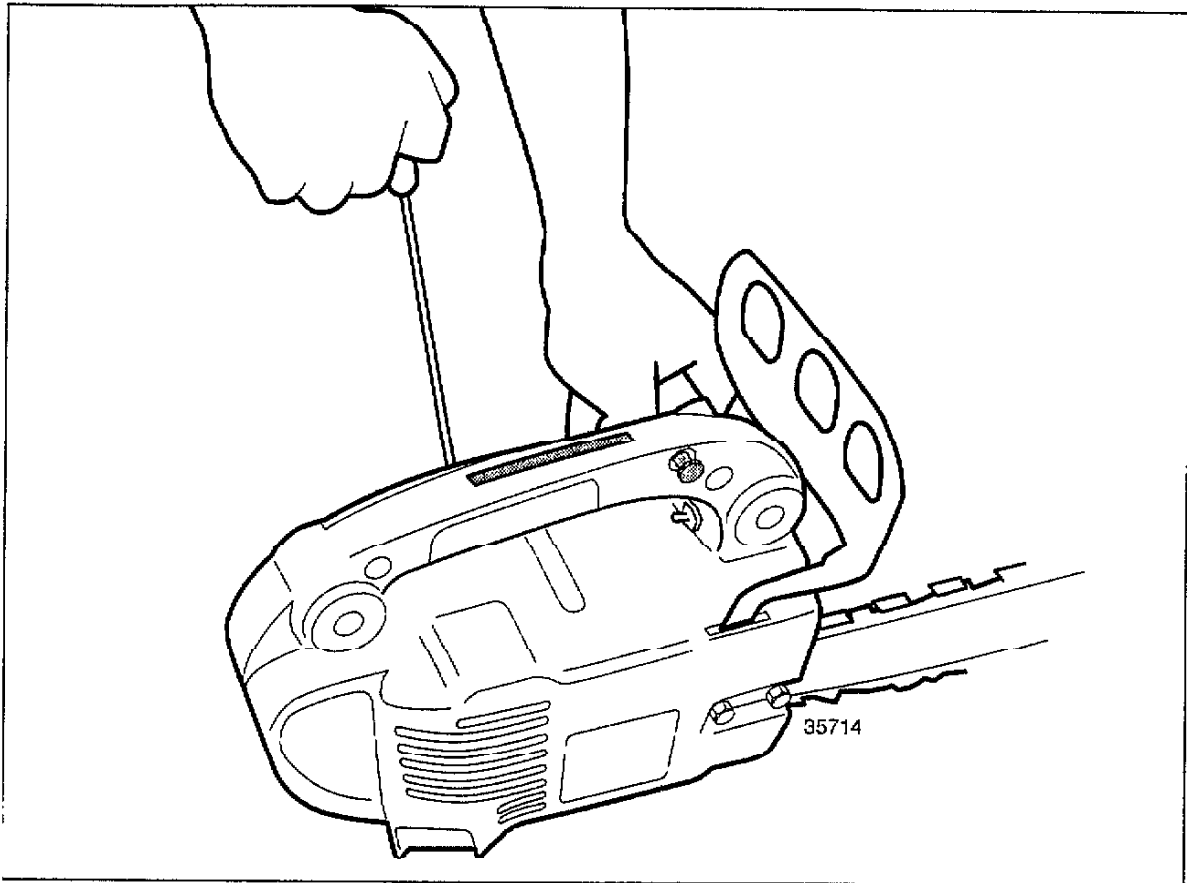
### Control Positions (warm engine)

- Set the throttle to "fast idle" (as above)

### IMPORTANT!

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

## STARTING THE SAW



1. Place the saw on the ground.
2. Secure the saw firmly as shown.
3. Grip the starter handle with your right hand, pull the starter cord slowly until you feel the starter engage, then...
4. Start the saw by pulling the starter cord upward rapidly.



### CAUTION!

The recoil starter can be easily damaged by abuse!

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

### When the engine fires:

1. Push the choke control all the way in (choke is open).
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.

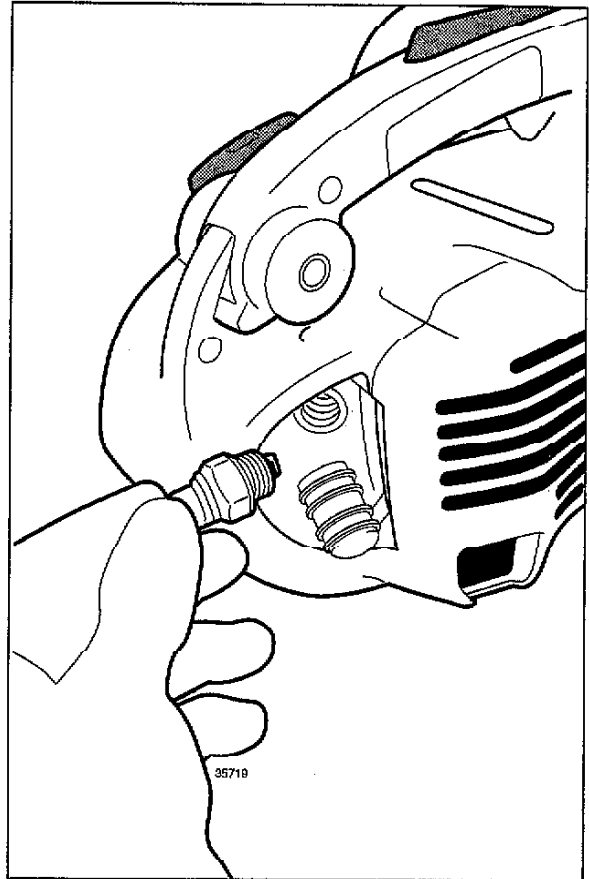
### If the engine does not start:

Repeat the appropriate starting procedure for a hot or cold engine. If the engine still will not start, follow the "Starting a Flooded Engine" procedure (next page).



## STARTING A FLOODED ENGINE

1. Disconnect the spark plug lead, then use the spark plug wrench to remove the spark plug (turn counter-clockwise to remove).
2. If the spark plug is fouled or is soaked with fuel, clean or replace the plug as required. For correct spark plug size and gapping procedure, see page 24.
3. Clear excess fuel from the combustion chamber by cranking the engine several times while the spark plug is removed.
4. Replace the spark plug and tighten it firmly with the spark plug wrench. If a torque wrench is available, torque the spark plug to 140–165 inch-pounds (170–190 kg/cm).

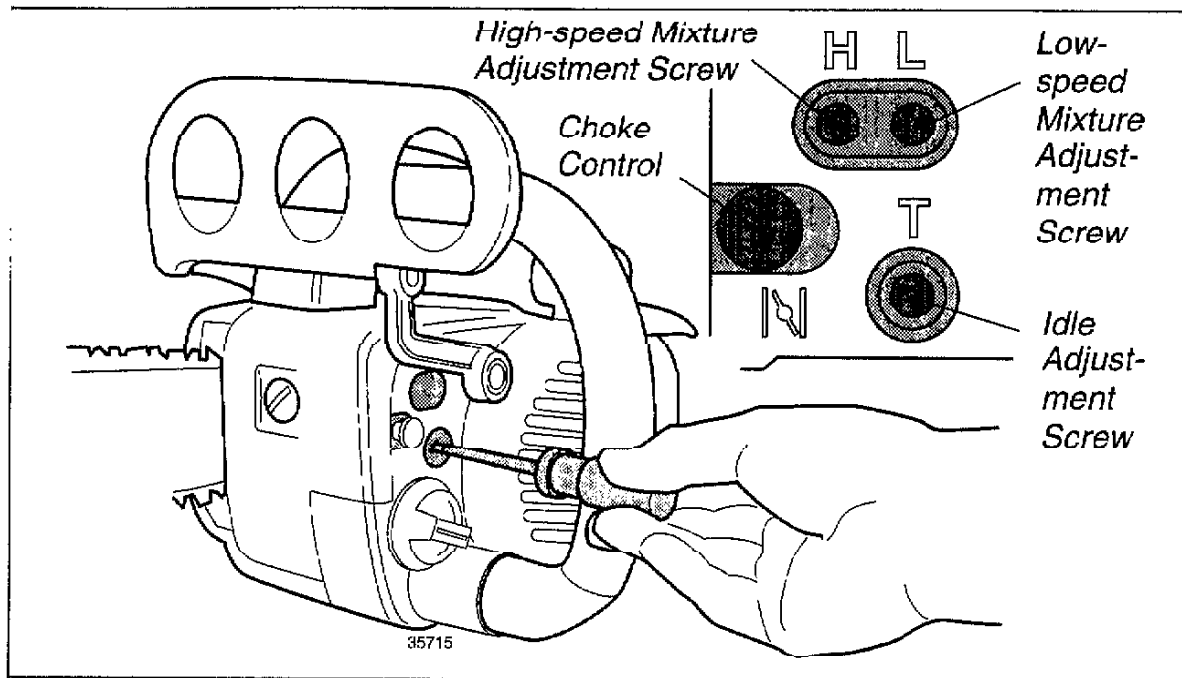


### CAUTION!

Incorrect spark plug installation can result in serious engine damage!

5. Repeat the starting procedure for a warm engine.
6. If the engine still fails to fire or start, refer to the troubleshooting chart at the end of this manual.

# CARBURETOR ADJUSTMENTS



A clean and unrestricted airflow is essential to your saw engine's performance and durability! Before attempting any carburetor adjustments, inspect and clean the engine air cleaner as required! Procedures for maintaining this saw's air cleaner are described on page 24 of this manual.

### Before starting the engine

1. Inspect and adjust cutting chain tension as required.
2. Make sure the chain brake is disengaged, and that the saw chain is free to rotate.
3. Using a small screwdriver, gently turn the high and low mixture screws to their fully "closed" (clockwise) positions.

### IMPORTANT!

High-speed mixture is factory-set on new saws and should not be readjusted until the saw has been operated at least 10 hours.

4. Carefully turn each screw counter-clockwise to the Standard Carburetor Settings as shown below:

### Standard Carburetor Settings

**Low-speed mixture** from closed  
 $1-1/4 \pm 1/4$  turns

**High-speed mixture** from closed  
 $1-1/4 \pm 1/4$  turns



### CAUTION!

Avoid overtightening carburetor adjustment screws! Adjustment screws and seats can be easily damaged from overtightening!

Start the saw and warm the engine to operating temperature. Place the saw on the ground, and adjust the carburetor as follows:

### Idle speed adjustment (engine idling)

Use a screwdriver to slowly turn the idle speed adjusting screw in or out until the engine idles at 2600-3000 rpm.



### WARNING!

The saw chain must never rotate at engine idle speed!

## Low speed mixture

(engine idling)

1. Using a small screwdriver, slowly rotate the idle mixture screw **clockwise** (lean mixture) and note any changes in engine rpm. Turning the idle mixture screw clockwise should cause engine speed to increase, then to decrease as the mixture becomes leaner.
2. Note the mixture screw position where engine speed first begins to decrease. This is called the *lean drop-off point*.
3. Turn the idle mixture screw counter-clockwise (rich mixture) and note the point at which engine speed increases and then begins to decrease. This called the *rich drop-off point*.
4. Turn the idle mixture screw counter-clockwise by 1/4 from midway between the rich and lean drop-off points.
5. If necessary, readjust the engine idle speed screw so the engine idles smoothly at 2600-3000 rpm.

## High speed mixture

(engine running)

1. *Briefly* operate the engine at full throttle (no load).



### CAUTION!

Sustained full throttle no-load operation can cause serious engine damage! Never operate the saw above 11,000 rpm!

2. Turn the high speed mixture screw clockwise and then counter-clockwise, and note the rich and lean drop-off points at full throttle.

3. Starting from the rich drop-off point, turn the high-speed mixture screw clockwise until the engine produces a single exhaust note (lean mixture) at full throttle.
4. Turn the high-speed mixture screw counter-clockwise approximately 1/2 turn (slightly rich mixture), or until the engine begins to “stutter” at full throttle.
5. Test throttle response, and then test actual performance under load by making several cuts with the saw.
  - If the saw hesitates on acceleration, enrich the idle mixture slightly (turn the idle screw counter clockwise).
  - If the saw appears to lack power under load, readjust the high speed mixture screw for maximum power in the cut.

## IMPORTANT

Final carburetor settings **must** be based on performance, rather than engine sound. When tuned for maximum performance, the Shindaiwa 357 saw typically produces a “soft” (fuel rich) exhaust note.

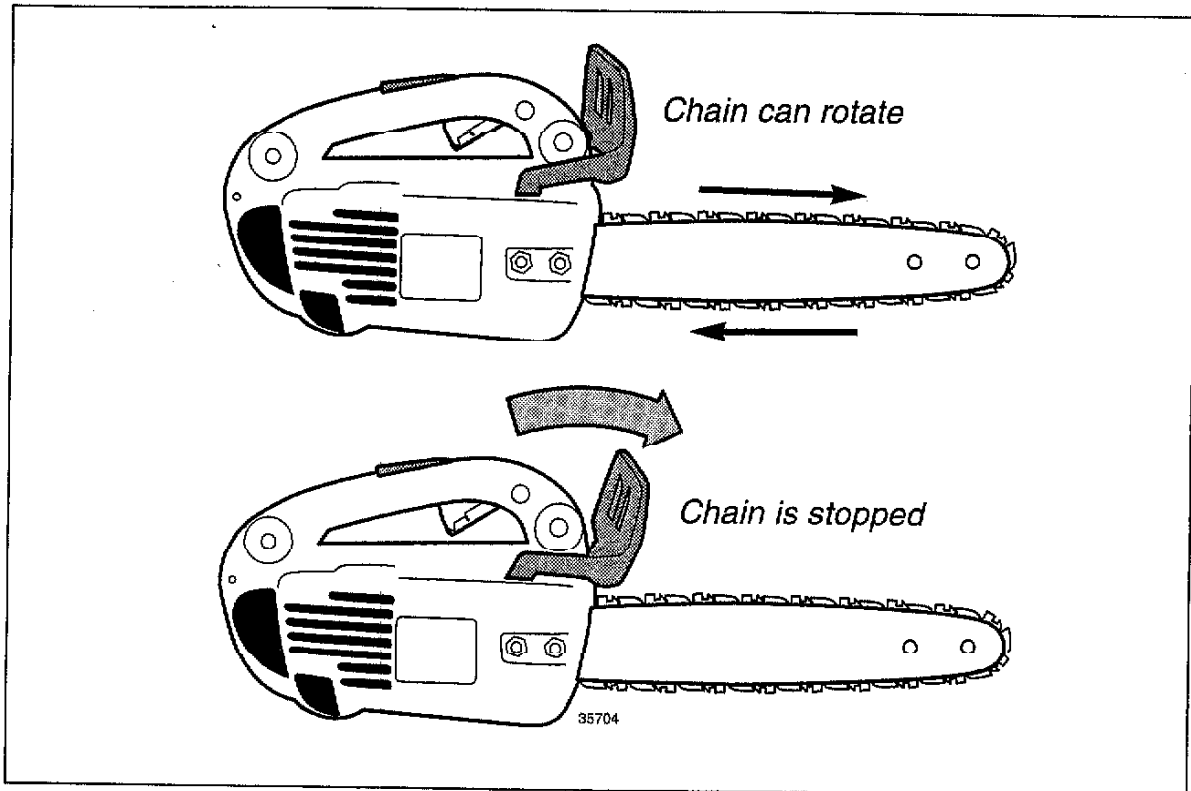
6. Recheck and adjust engine idle speed as required.



### CAUTION!

The high-speed mixture screw setting affects both engine performance and durability! Never operate this saw with the high-speed mixture screw adjusted to less than 1 turn! If you are unsure of the correct procedure for making this adjustment, have it done by your Shindaiwa dealer.

## CHAIN BRAKE



### Chain Brake Operation

The Shindaiwa 375 saw is equipped with an inertial chain brake that stops the saw chain whenever the brake lever is moved to the forward (engaged) position.

- Engaging the brake lever causes a brake band to tighten around the clutch drum, stopping the chain.
- The chain brake is designed to engage whenever the brake lever strikes the operator's hand
- The chain brake can also be activated by pushing the brake lever forward manually.
- To release (disengage) the chain brake, pull the brake lever toward you.

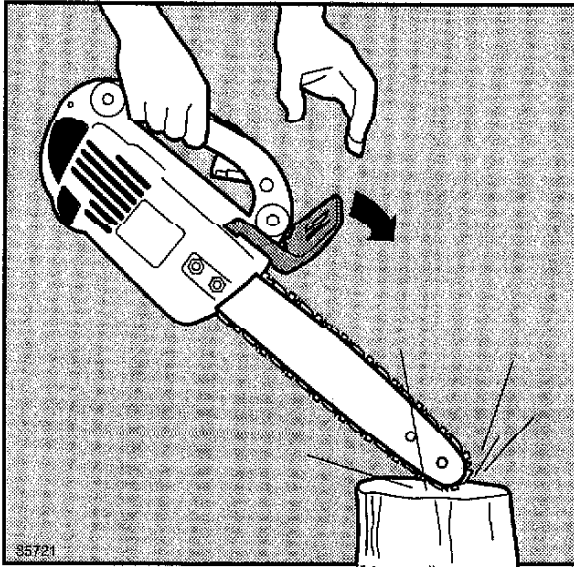
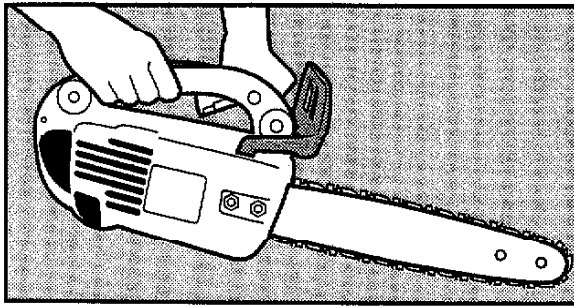


### WARNING!

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

### IMPORTANT!

Release the throttle whenever the chain brake is activated!



### Chain Brake Inspection

(engine "off")

1. Turn the engine "off," and make sure the ignition switch is in the "O" or "off" position.
2. Hold the saw with the bar tip 12 to 20 inches (30-50 cm) above a soft wood block.
3. Quickly release the front handle, allowing the guide bar tip to strike the wooden block.
4. The chain brake must engage as soon as the bar tip strikes the wood.



#### **WARNING!**

The above procedure must cause the chain brake to engage! If the chain brake does not fully engage during this test, do not operate the saw! Return the saw to your dealer for repairs!

### Chain Brake Maintenance

- Keep the brake mechanism clean and free of sawdust or debris.
- If the chain brake becomes damaged or worn, or fails 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!

# CUTTING WITH THE SAW



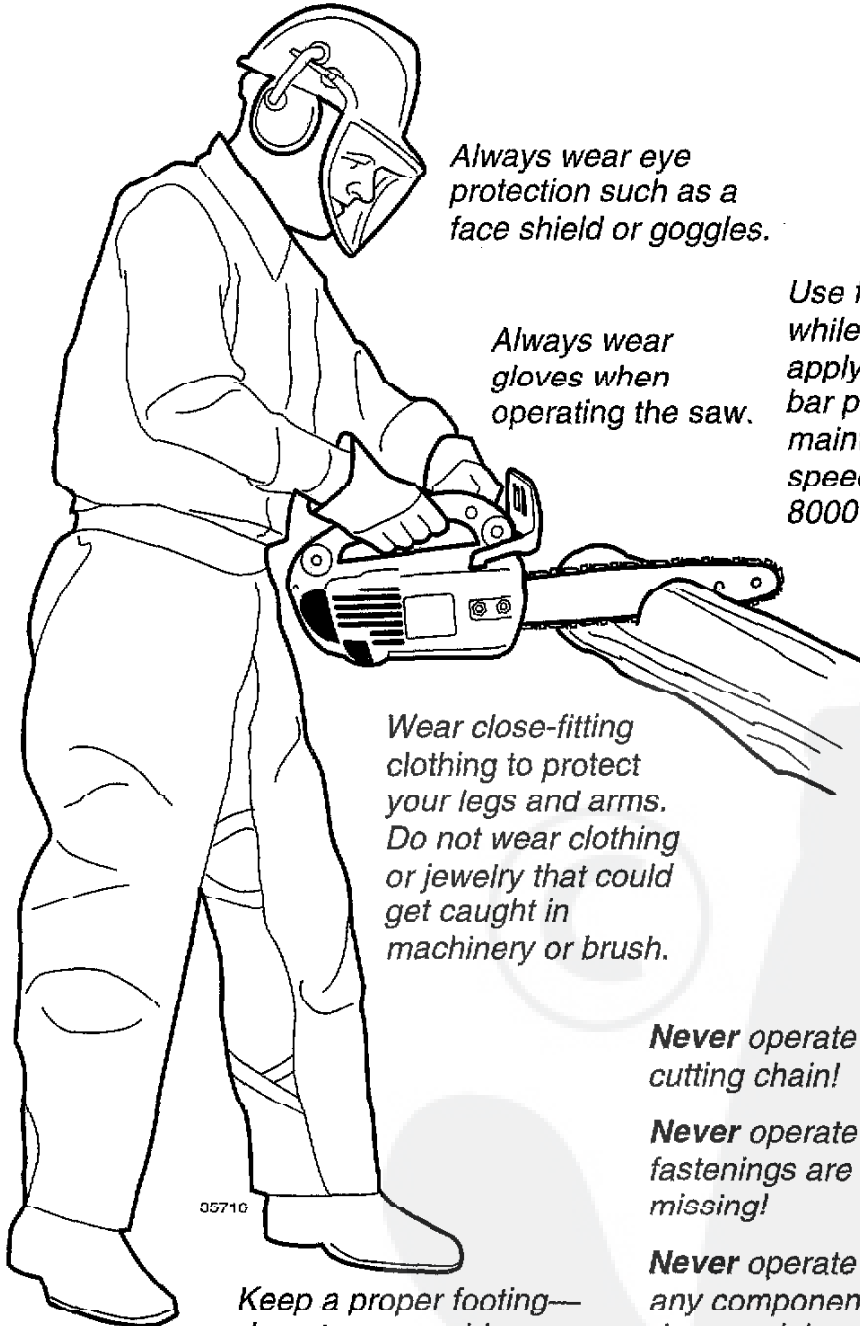
**THINK SAFETY!**

## IMPORTANT!

Use full throttle while cutting! Forcing the saw into the work reduces cutting performance and also increases operator fatigue!

*Clear a safe work area before cutting.*

*Stop the saw before moving it from the work area.*



*Always wear eye protection such as a face shield or goggles.*

*Always wear gloves when operating the saw.*

*Use full-throttle while cutting, and apply only enough bar pressure to maintain engine speeds of 7000-8000 rpm.*

*Wear close-fitting clothing to protect your legs and arms. Do not wear clothing or jewelry that could get caught in machinery or brush.*

**Never** operate with a loose cutting chain!

**Never** operate the saw if fastenings are loose or missing!

**Never** operate the saw if any component parts are damaged, loose, or missing!

*Keep a proper footing—do not overreach!*

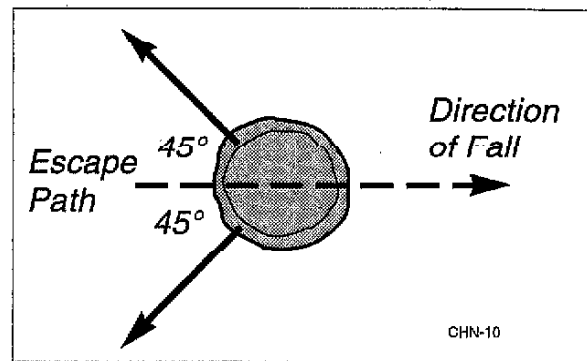
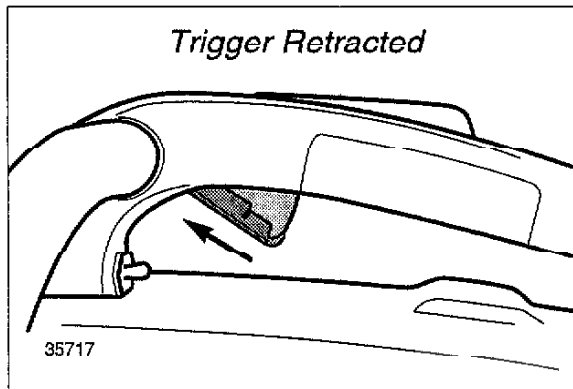
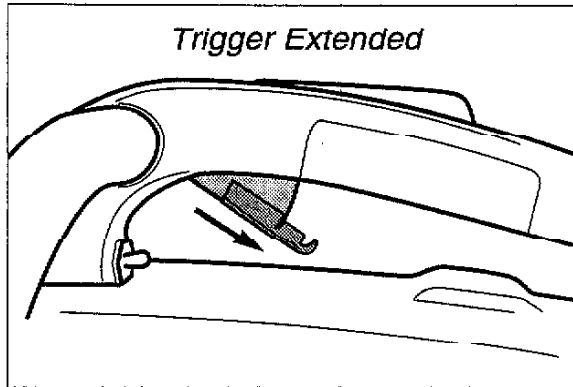
*Wear appropriate non-skid footwear.*

OPERATION

# FELLING TREES

## NOTE:

The Shindaiwa 357 Chain Saw is equipped with a sliding trigger extension to improve comfort when operating the saw in a variety of hand grip positions. When not needed, keep the extension retracted.



## Before Felling a Tree

1. Determine the direction of fall by inspecting:
  - Tree shape and angle of lean.
  - Size, shape and placement of limbs.
  - Location of nearby trees or other obstacles.
  - Condition of the tree (damage, disease, etc.).
  - Prevailing wind direction.
2. Clear a safe work area around the tree. Be alert for loose or dead limbs overhead. Clear an appropriate escape path approximately 45° from the direction of fall.
3. Notify nearby workers of your intentions!

### Felling Small Trees

(less than 6 inches in diameter)

1. Determine the direction of fall. If you are uncertain as to direction of fall, use the procedure "Felling Large Trees".
2. Start cutting on the side of the tree away from the direction of fall, and make a single felling cut all the way through the tree.
3. Stop the saw and put it down on the ground.
4. Use your retreat path to exit the area quickly.

### Felling Large Trees

(more than 6 inches in diameter)

If a tree is otherwise healthy and not seriously out of balance, its direction of fall can often be encouraged by first "notching" the tree on the side facing the desired direction of fall.

After the notch is completed, start the felling cut slightly higher and on the opposite side of the tree, away from the direction of fall.

The goal of this method is to leave a sturdy wooden "hinge" on which the tree will pivot while it's falling.

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 2 inches above 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.

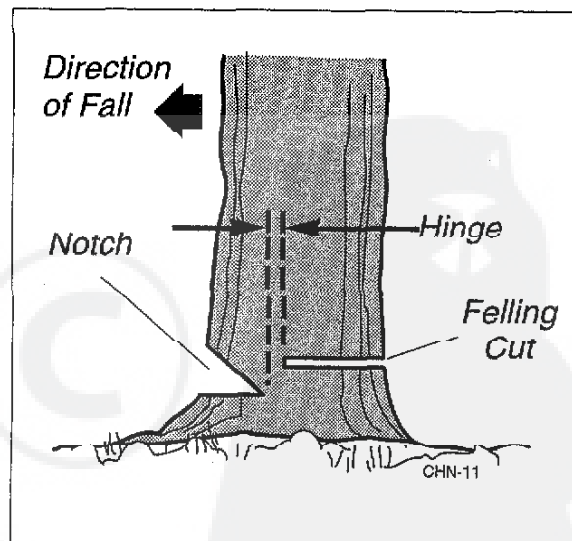
5. Stop the saw, and put it down.
6. Use your retreat path to exit the area quickly.



#### WARNING

Failure to leave a wooden hinge during the felling or "back cut" can cause the tree to pinch the saw's guide bar, and may also change the direction of fall!

Always make the felling cut parallel to the bottom cut! An angled falling cut may cause the tree to split, possibly changing the direction of fall!



Felling Large Trees

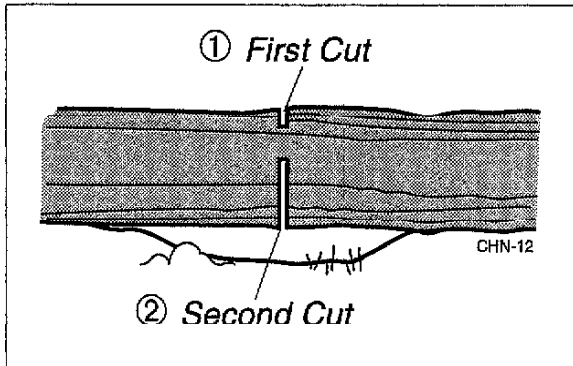


## BUCKING



### WARNING!

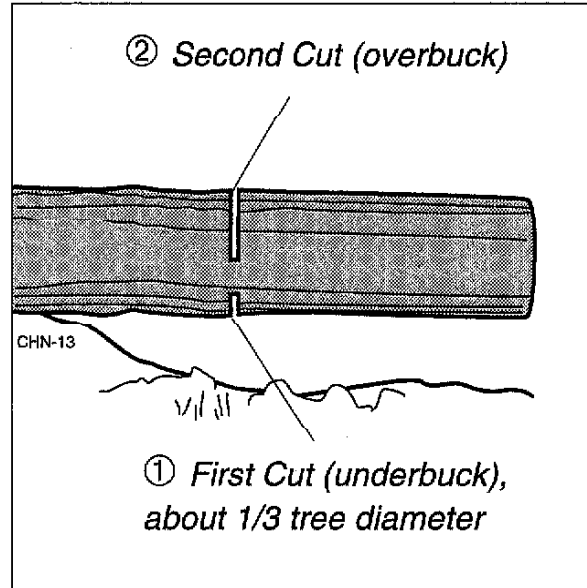
Always cut downed timber from the *uphill* side of the tree!  
Downed timber may shift or roll unpredictably during cutting or handling. Be alert for potential injury from rolling or shifting logs!



If the log is well supported, start your cut from the top of the log. Keeping the guide bar parallel to the ground, cut straight down but do not allow the saw to cut into the ground.

### NOTE:

Cutting downed timber, or "bucking," increases the possibility of the wood settling and pinching the guide bar. Driving one or more soft plastic or wooden bucking wedges can help prevent bar-pinching during a cut.



Use two cuts when bucking the outboard end of an unsupported log. Your first cut should be an underbuck. Cut the underbuck about 1/3 the diameter of the tree, then move to the top of the log and finish the cut by bucking down (overbucking) to the first cut.

## LIMBING

Limbing a standing tree is usually accomplished in the same manner as bucking, with a third and final cut used to remove the remaining stub of the limb.



### WARNING!

Do not overreach or attempt to cut above shoulder height!

### NOTE:

When cutting unsupported logs or limbs, starting with an underbuck cut will minimize the possibility of the wood splitting during the bucking cut. Use two cuts when bucking near the inboard end of an unsupported log.

- Make the first cut as an underbuck about 1/3 the diameter of the log.
- Finish the job from above with an overbuck joining the first cut.

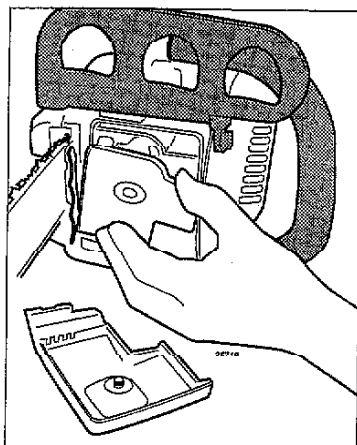
## DAILY MAINTENANCE



### WARNING!

Before performing any maintenance on this saw, stop the engine and disconnect the spark plug wire!

- Remove dirt and debris from the saw exterior, cylinder fins, and cooling air intake.
- Inspect the saw for fuel and oil leaks. Repair as necessary.



- Remove the air cleaner cover and element. Wash both parts in clean gasoline or solvent, and blow dry before reassembly.

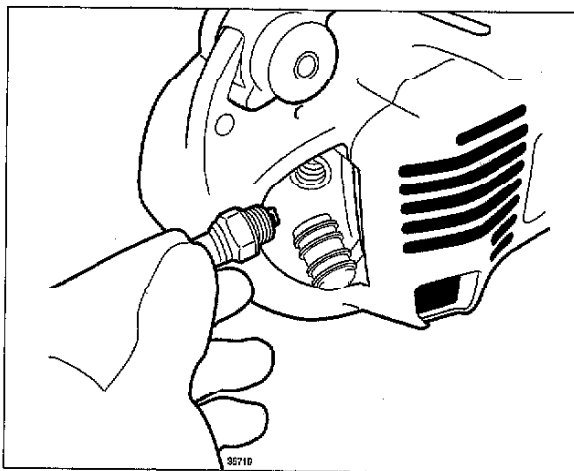


### CAUTION!

Never allow chips or other debris to enter the carburetor bore! Avoid forcing dirt into the air filter element! When using compressed air to dry the element, blow only on the inside (carburetor side) face of the element!

- Sharpen and adjust the chain as required.
- Clean the guide bar groove and oil hole. Inspect the bar groove and tip for damage or unusual wear. Repair or replace components as necessary.
- Inspect the entire saw for damage, including loose or missing components or fastenings. Repair as necessary.

## 10/15 HOUR MAINTENANCE



- Remove and clean the spark plug. Adjust the spark plug gap to 0.024" (0.6 mm), and reinstall. If a torque wrench is available, torque the plug to 148–165 in.-lbs. Replace a damaged or visibly worn plug with a Champion CJ6Y or equivalent.



### CAUTION!

Incorrect spark plug installation can result in serious engine damage!

Never allow chips or other debris to enter the cylinder bore! Before removing the spark plug, thoroughly clean the spark plug and cylinder head area!

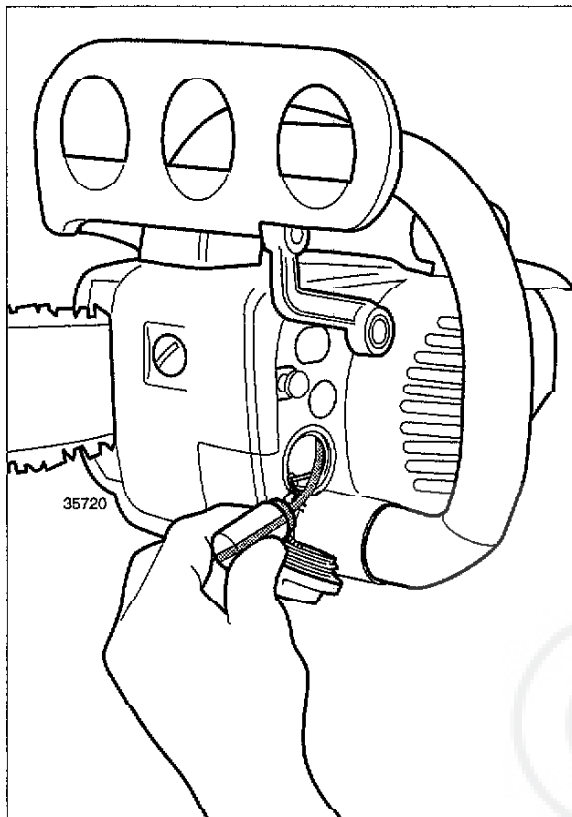
- Remove the guide bar and chain. Carefully inspect the drive sprocket for wear or damage, and replace if noted. Inspect the guide bar grooves and tip for wear or damage, and repair or replace components as required.

### IMPORTANT!

Always replace the drive sprocket and cutting chain loop as a set! For economy, rotate the same 2 or 3 chains daily. When these chains are worn out, replace both the chains and the sprocket at the same time.

## 40/50 HOUR MAINTENANCE

- Replace the spark plug with a Champion CJ6Y (or equivalent), gapped to 0.026" (0.6 mm).
- Extract the fuel filter from inside the fuel tank. Remove and wash both filter elements in clean fuel. If you discover damage or deterioration to the fuel lines or other fuel system components, remove the saw from service until it can be inspected by a Shindaiwa-trained service technician.



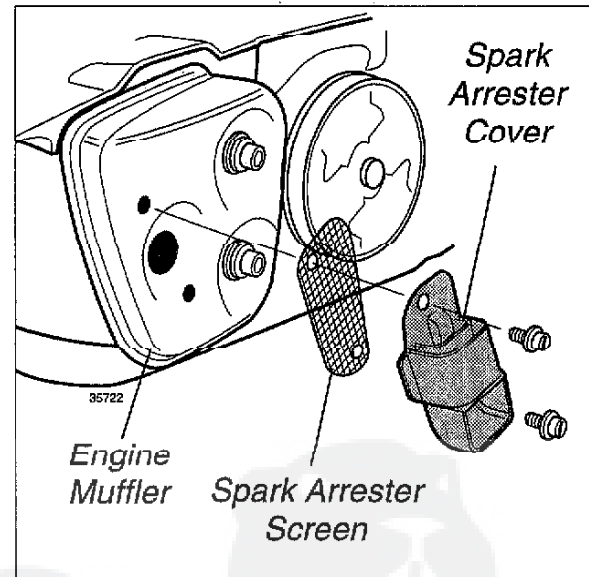
### CAUTION!

The fuel line can be punctured or torn by careless handling! Never use sharp or jagged-edged tools to extract the fuel line.

## SPARK ARRESTER MAINTENANCE

Hard starting or a gradual loss of performance can be caused by carbon deposits lodged in the spark arrester screen. For maximum performance, the spark arrester screen should be periodically cleaned as follows:

1. Unscrew the two clutch cover nuts, and remove the clutch cover (see page 8).
2. Use a screwdriver to remove the two spark arrester retaining screws, and then remove the spark arrester cover and screen.



3. Use a plastic scraper or wire brush to remove carbon deposits from the arrester screen and cover.
4. Inspect the screen carefully, and replace any screen that has been perforated, distorted, or is otherwise unserviceable.
5. Install the screen and cover in the reverse order of disassembly, and then tighten the two cover retaining screws securely.
6. Install the clutch cover and cover retaining nuts in the reverse order of removal, and then tighten both nuts securely.

## **LONG TERM STORAGE (over 30 days)**

---

- Thoroughly clean the saw exterior.
- Remove all chips and other debris from the cylinder fins and cooling passages.
- Drain the fuel tank, and then clear the carburetor and lines by running the saw until it stops from lack of fuel.
- Drain any remaining bar oil from the oil reservoir.
- Remove the spark plug, and then pour about 1/4-oz of oil into the cylinder through the spark plug hole. Before reinstalling the spark plug, slowly pull the recoil starter 2 or 3 times to distribute the oil over the cylinder walls.
- Remove, clean, and reinstall the air filter element as described under "Daily Maintenance."
- Repair or replace any damaged components as required, and then store the machine in a clean, dry, dust-free area.

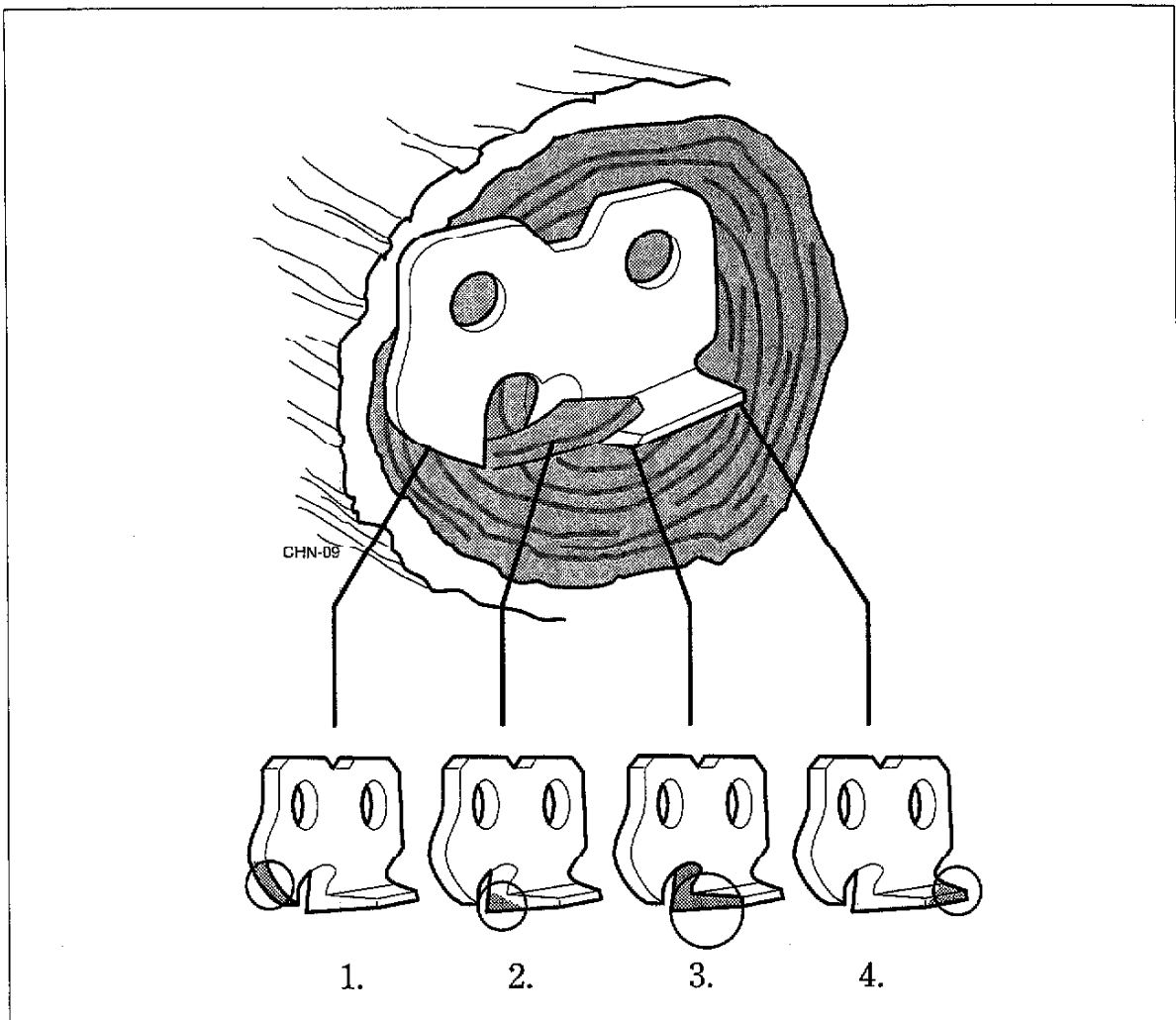


### **CAUTION!**

Never store the saw with any fuel remaining in the tank, fuel lines, or carburetor! Your Shindaiwa warranty does not include coverage for damage caused by "stale" or contaminated fuels!



# THE SAW CHAIN



Your saw's performance on the job depends greatly on the condition of its saw chain.

## **How the saw chain works**

As the chain is pulled through the wood:

1. The depth gauge determines the depth of cut for the cutter.
2. The cutter's leading edge enters the wood, causing the entire cutter to "rock back" and lift away from the bar.

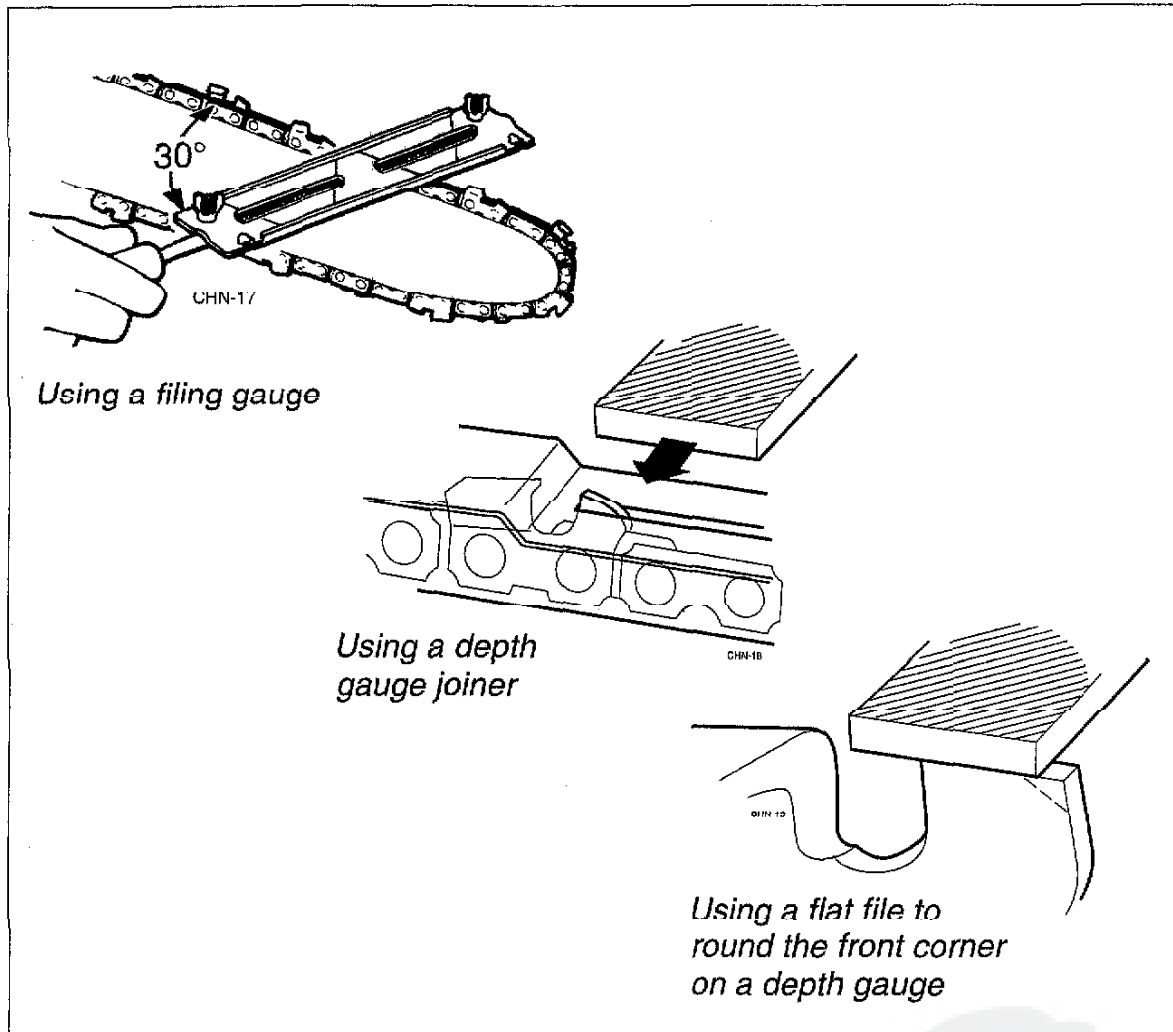
3. The top plate peels the severed wood chip away.

4. The chip is discharged out the rear of the cutter.

### **IMPORTANT!**

Most of the actual cutting is done by the sides and corners of the individual cutters.

# SHARPENING THE CHAIN



## Sharpening Technique

1. Using a 5/32" round file, sharpen all cutters to a 30° angle .

### IMPORTANT!

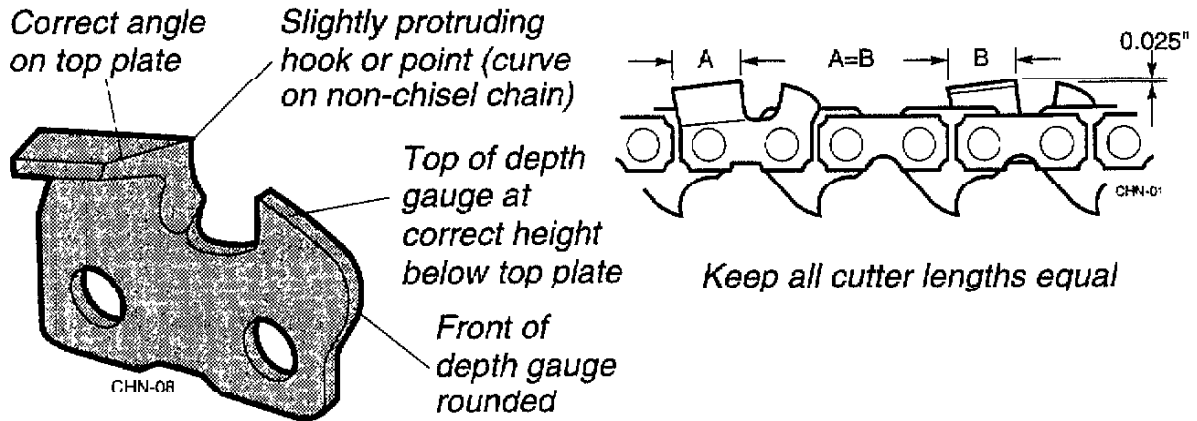
File all cutters to the same angle and depth! Unequal filing may cause the saw to vibrate or cut erratically!

### NOTE:

For consistent filing angles, use a filing guide such as Oregon® p/n 37534 or equivalent.

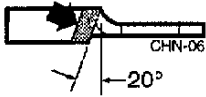
2. After all cutters are sharpened, use a depth gauge joiner (Oregon® p/n 22290 or equivalent) to measure the height of each depth gauge.
3. As required, lower the depth gauges to a height of 0.025" (0.635 mm). Use a flat file; Oregon p/n 12211 or equivalent.
4. After all depth gauges have been adjusted, use a flat file to round each depth gauge leading edge to its original curvature and angle.

## Correct Filing Technique



## Filing Problems

### Top plate angle less than recommended

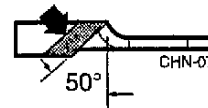


**Cause**  
File held at less than recommended angle.

**Result**  
Slow cutting. Requires extra effort to cut.

**Remedy**  
File cutters to recommended angle.

### Top plate angle more than recommended

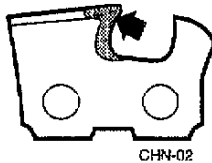


**Cause**  
File held at more than recommended angle.

**Result**  
Cutting angle is very sharp but will dull fast. Cutting action rough and erratic.

**Remedy**  
File cutters to recommended angle.

### Hook in side plate cutting edge

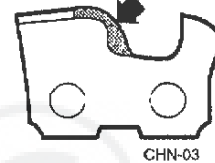


**Cause**  
File held too low or the file was too small.

**Result**  
Rough cutting. Chain grabs. Cutters dull quickly or won't hold a cutting edge.

**Remedy**  
File cutters at recommended angle. Check file size.

### Backslope on side plate cutting edge

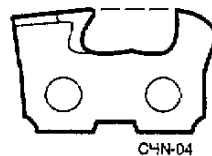


**Cause**  
File held too high or the file was too large.

**Result**  
Cutters won't feed into wood. Slow cutting. Must force chain to cut. Causes excessive bottom wear.

**Remedy**  
File cutters at recommended angle. Check file size.

### High depth gauge

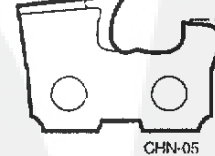


**Cause**  
Depth gauge never filed.

**Result**  
Slow cutting. Must force chain to cut. Will cause excessive wear on the cutter heel.

**Remedy**  
Lower gauges to recommended setting

### Low depth gauge



**Cause**  
Wrong gauge setting or no gauge used

**Result**  
Rough cutting. Chain grabs. Saw won't pull chain through wood. Excessive wear on the cutter heel.

**Remedy**  
If depth gauges are too low, the chain is no longer serviceable.

# TROUBLESHOOTING

## ENGINE DOES NOT START

What To Check	Possible Cause	Remedy
Does the engine crank?	<b>NO</b> → Faulty recoil starter. Fluid in the crankcase. Internal damage.	Return saw to dealer.
<b>YES</b> ↓		
Good compression?	<b>NO</b> → Loose spark plug. Excess wear on cylinder, piston, rings.	Tighten and re-test. Return saw to dealer.
<b>YES</b> ↓		
Does the tank contain fresh fuel of the proper grade?	<b>NO</b> → Stale or contaminated fuel mixture.	Drain and re-fill with fresh fuel of the correct mixture (Shindaiwa Premium 2-cycle Engine Oil and gasoline, 40 : 1 ratio).
<b>YES</b> ↓		
Is fuel reaching the cylinder and combustion chamber?	<b>NO</b> → Check for clogged fuel filter and/or vent.	Clean as required and re-start.
<b>YES</b> ↓		
Is there spark at the spark plug wire terminal?	<b>NO</b> → Is the ignition switch ON? Faulty ignition ground. Faulty transistor unit.	Move switch to ON and re-start. Return saw to dealer.
<b>YES</b> ↓		
Check the spark plug.	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 0.24 inch (0.6 mm). Re-start. Replace the plug with a Champion CJ6Y. Re-start.



# TROUBLESHOOTING

## LOW POWER OUTPUT

What To Check	Possible Cause	Remedy
Is the engine overheating?	Operator is overworking the machine.	Cut at a slower rate. Sharpen the chain as required.
	Carburetor mixture is too lean.	Adjust the carburetor.
	Improper fuel mixture.	Re-fill with fresh fuel of the correct mixture (Shindaiwa Premium 2-cycle Engine Oil and gasoline—40 : 1 ratio. Refer to page 11, "Fuels").
	Fan, fan cover, cylinder fins dirty or damaged.	Clean, repair or replace as necessary.
Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.	Clogged air cleaner.	Service the air cleaner.
	Loose or damaged spark plug.	Tighten or replace.
	Air leakage or clogged fuel line.	Repair or replace fuel filter and/or fuel line.
	Water in the fuel.	Replace the fuel.
	Piston seizure.	Return saw to dealer.
	Faulty carburetor and/or diaphragm.	Return saw to dealer.
	Carbon deposits on piston or in the muffler.	Decarbonize.
Engine is knocking.	Overheating condition.	See above.
	Improper fuel.	Check fuel octane rating; check for presence of alcohol in the fuel. Refuel as necessary.
	Carbon deposits in the combustion chamber.	Decarbonize.

# TROUBLESHOOTING

ADDITIONAL PROBLEMS		
Symptom	Possible Cause	Remedy
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Poor acceleration.</div>	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: 2600–3000 RPM
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine stops abruptly.</div>	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.
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine difficult to shut off.</div>	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Correct plug: Champion CJ6Y.
	Overheated engine.	Idle engine until cool.
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Chain rotates at idle speed.</div>	Engine idle too fast.	Set idle: 2600–3000 RPM.
	Broken clutch spring or shoe.	Replace spring/shoes as required.
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Excessive vibration</div>	Worn or damaged sprocket, chain or bar.	Inspect and replace chain components as required.
	Bent crankshaft.	Return saw to dealer.


# shindaiwa

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