

**OPERATOR'S MANUAL**

# **SHINDAIWA 577/577P CHAIN SAW**



**shindaiwa**<sup>®</sup>



**WARNING!**

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



## INTRODUCTION

The Shindaiwa 577/577P chain saw is 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, delivering 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 577/577P 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.

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## 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 damage to 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.



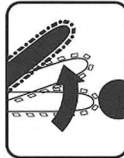
Read and follow the Operator's Manual. Failure to do so could result in serious injury.



Wear eye and hearing protection at all times while operating this unit.

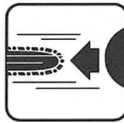


Do not operate this tool if you are tired, ill or under the influence of alcohol, drugs, or medicine.



### Beware of Kickback!

Kickback 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.



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.



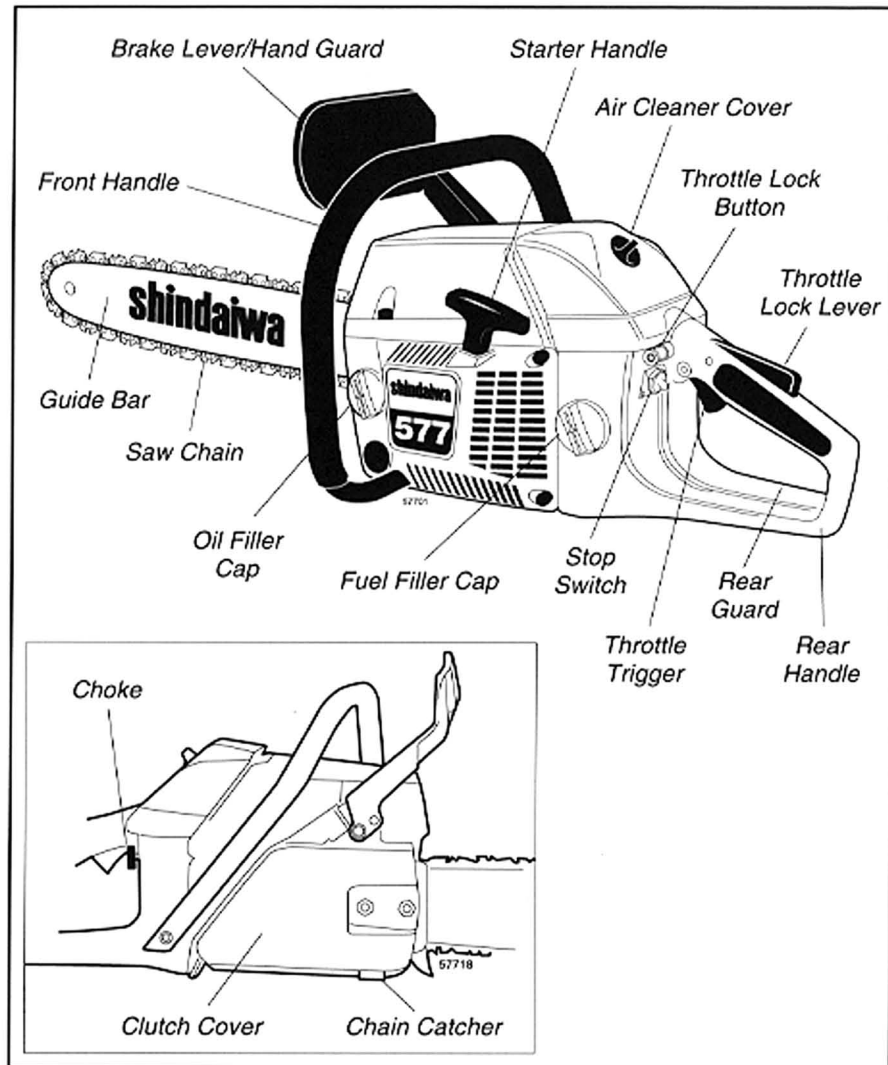
### WARNING!

Replacement cutting 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.

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



## 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 577/577P chain saw, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you.

For additional information, you may also contact Shindaiwa Inc. at the address printed on the back of this manual.

# SPECIFICATIONS

Model .....	577/577P
Engine Type .....	2 cycle air cooled gas engine
Displacement .....	57.3 cc (45 mm x 36 mm); 3.50 cu. in.
Fuel .....	Gasoline-Oil Mixture-40:1 with Shindaiwa Premium 2-cycle Engine Oil
Carburetor .....	Diaphragm (Walbro) HDA-50A
Ignition .....	Electronic ignition system (CDI)
Spark Plug .....	Champion CJ-6Y
Starting .....	Recoil starter
Stopping .....	Toggle switch
Power transmission .....	Automatic centrifugal clutch
Chain lubrication .....	Automatic, adjustable flow rate
Chain .....	3/8-inch pitch, gauge 0.058
Chain oil .....	Shindaiwa Premium Bar and Chain Oil or equivalent
Fuel tank capacity .....	0.77 liter; 12 oz.
Oil tank capacity .....	0.33 liter
Handle .....	One-piece handle with full anti-vibration mounting
Cooling system .....	Forced air
Safety devices .....	Front guard, rear guard, throttle lock, chain catcher and manual chain brake
Weight (less bar and chain) .....	577 5.8 kg, 12.8 lbs / 577P 6.1 kg, 13.4 lbs

## Tools Included

- Screwdriver
- Socket Wrench (spark plug/bar nut)
- 4 mm Hex Wrench
- 5 mm Hex Wrench
- Tool Bag



### WARNING!

Do not make unauthorized modifications to these saws, guide bar, or chain!

# RECOMMENDED BAR AND CHAIN COMBINATIONS



## WARNING!

Bar and chain combinations intended for use by professionals only do not meet ANSI B175.1 Kickback Regulations when installed on a Shindaiwa 577 chain saw! **If you do not possess the required expertise for operating this saw with these bar-chain combinations, other bar and chain combinations with significantly reduced kickback potential are available!**

### Professional Use Only

#### 16-inch

Chain Type	Guide Bar
77SL-60X (Oregon)	7961D-16 (16" Symmetrical Sprocket-Nose bar)
34SL-68X (Oregon)	8843C-16 (16" Symmetrical Sprocket-Nose bar)

#### 18-inch

Chain Type	Guide Bar
77SL-68X (Oregon)	7962D-18 (18" Symmetrical Sprocket-Nose bar)
34SL-78X (Oregon)	8844C-18 (18" Symmetrical Sprocket-Nose bar)

#### 20-inch

Chain Type	Guide Bar
77SL-72X (Oregon)	7963D-20 (20" Symmetrical Sprocket-Nose bar)

#### 24-inch

Chain Type	Guide Bar
77SL-84X (Oregon)	7960D-24 (24" Symmetrical Sprocket-Nose bar)

### For Consumer and Occasional Use

When properly installed on the Shindaiwa 577 chain saw, these bar and chain combinations meet ANSI B175.1-1991 Reduced Kickback regulations.

#### 16-inch

Chain Type	Guide Bar
77SL-60X (Oregon)	7961B-16 (16" Guard Tip Sprocket-Nose bar)

#### 18-inch

Chain Type	Guide Bar
77SL-68X (Oregon)	7962B-18 (18" Guard Tip Sprocket-Nose bar)

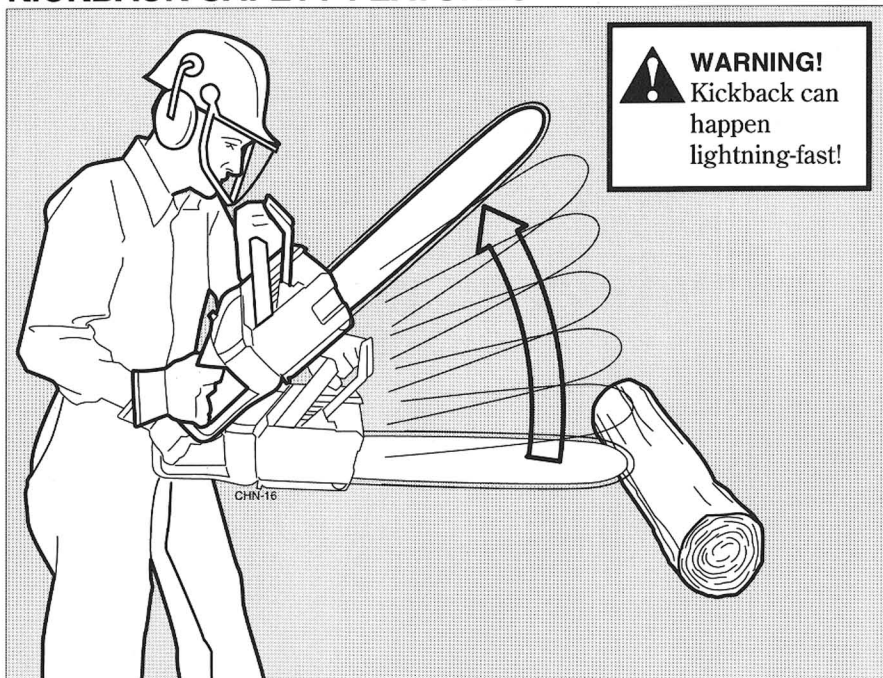
#### 20-inch

Chain Type	Guide Bar
77SL-72X (Oregon)	7963B-20 (20" Guard Tip Sprocket-Nose bar)

#### 24-inch

Chain Type	Guide Bar
77SL-84X (Oregon)	7960B-24 (24" Guard Tip Sprocket-Nose bar)

## KICKBACK SAFETY FEATURES



### ■ Manual chain brake (standard equipment)

Kickback energy forces the brake lever against the operator's left hand, engaging a brake band around the chain drive mechanism.

### ■ Low kick chain (recommended)

When used in combination with the appropriate guide bar, low kick chain can significantly reduce the rotational force of kickback.



#### **WARNING!**

To reduce the risk of kickback, safety devices must be properly installed and in good repair. Use of other than ANSI B175.1-1991 combinations may result in reduced kickback protection!



#### **WARNING!**

Brake engagement and operation depend upon proper adjustment! For correct adjustment procedures see page 21!



#### **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 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 cutting. 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. Low kickback chain is chain that has met the kickback performance requirements of ANSI B175.1-1991 (American National Standard for Power Tools—Gasoline Powered Chain Saws—Safety requirements) when tested on the representative sample of chain saws below 3.8 c.i.d. specified in ANSI B175.1-1991.

## ADDITIONAL SAFETY PRECAUTIONS



### WARNING!

#### NOTE

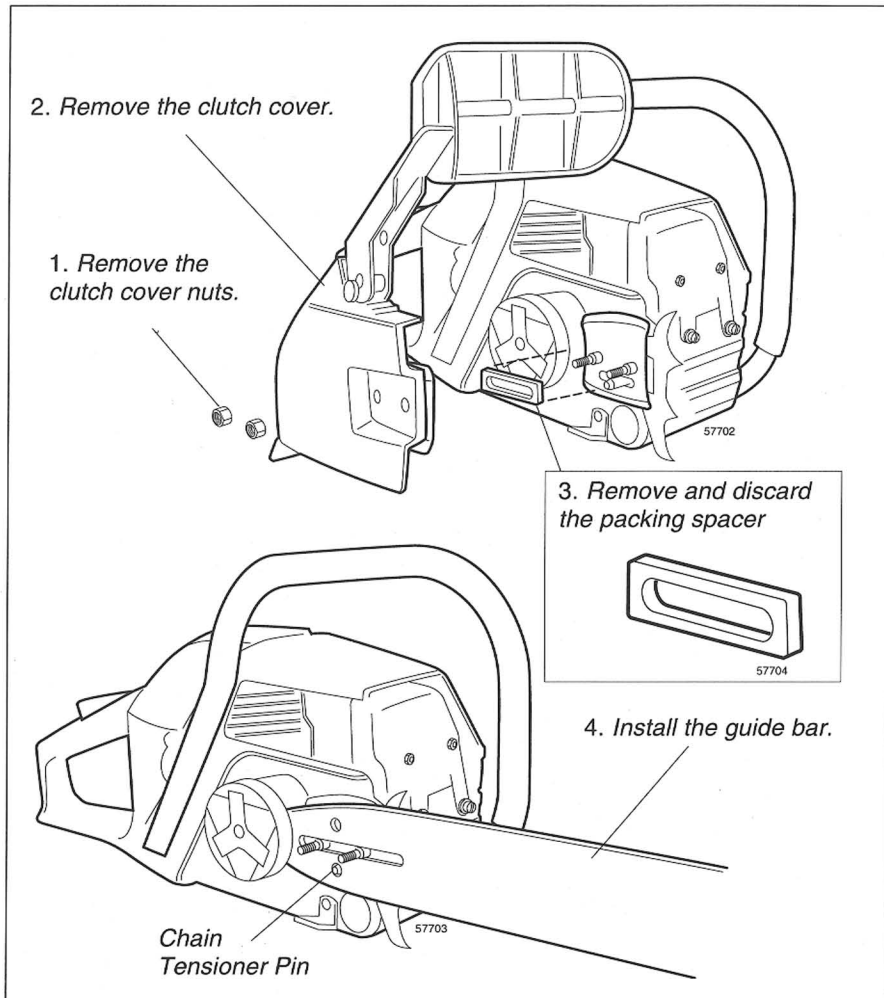
These safety precautions are intended primarily for consumers or occasional users. When using this chain saw for logging purposes, refer to: CFR Section 1910. 266 (5); 2.5.1 of the American National Safety Standard; Requirements for Pulpwood Logging ANSI 03.1-1978; and any applicable state safety codes.

- 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 engine, 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 chain 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!
- Improper maintenance, use of nonconforming replacement components, or the removal of safety devices, such as the chain brake or any of the chain brake components, could result in serious injury.
- Never allow any part of your body near the clutch cover of an operating saw.
- Never operate a saw with 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 SAW CHAIN



## IMPORTANT!

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

1. Use the socket wrench to remove the two 13 mm clutch cover nuts. Turn the nuts counter-clockwise to remove.
2. Remove the clutch cover.
3. Remove and discard the packing spacer.

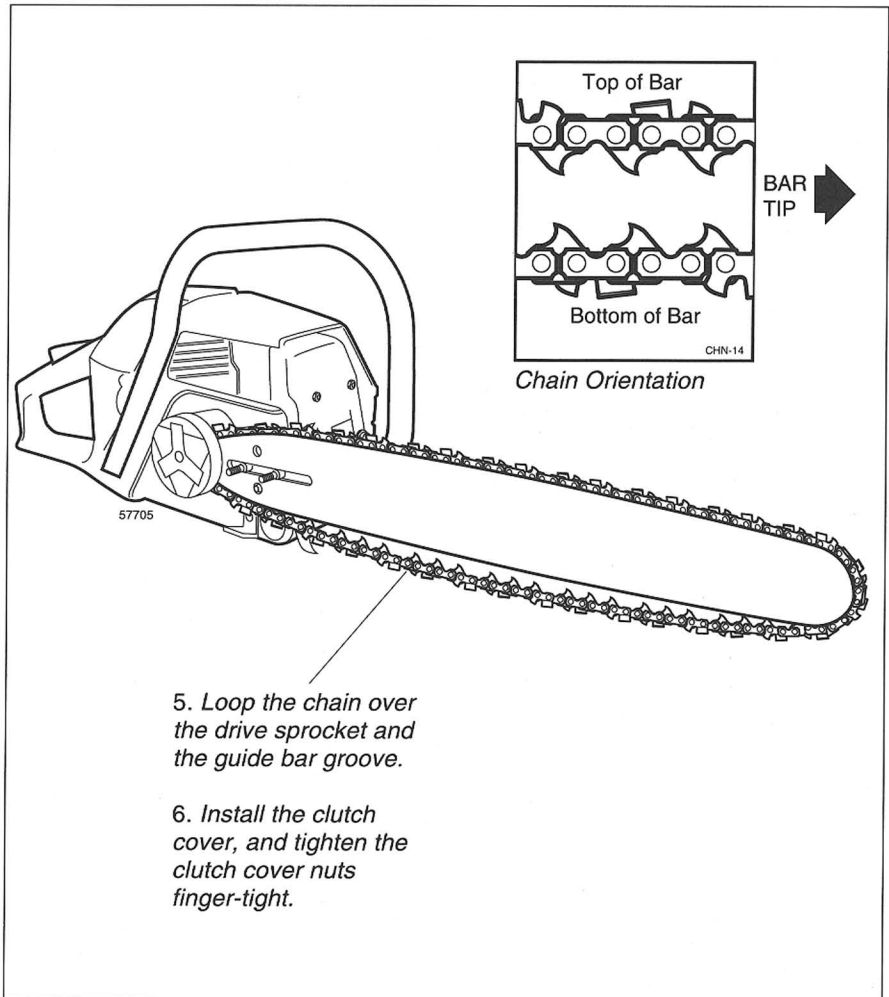
4. Place the guide bar over the guide bar studs and chain tensioner pin.



## 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!





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 as shown.

#### 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 13 mm bar nuts and tighten with finger pressure only.

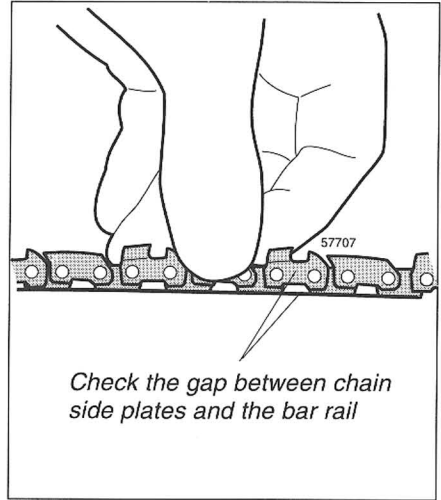
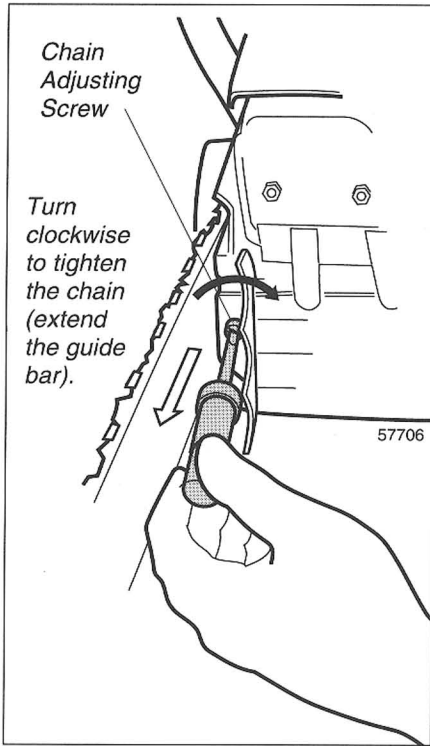


#### WARNING!

Never operate this saw without the clutch cover installed!

REFER TO THE NEXT PAGE FOR CHAIN ADJUSTMENT.

# 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. 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 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.

**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.

## 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 (3.2-ozs. mixing oil to 1-gallon gasoline).



#### 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.



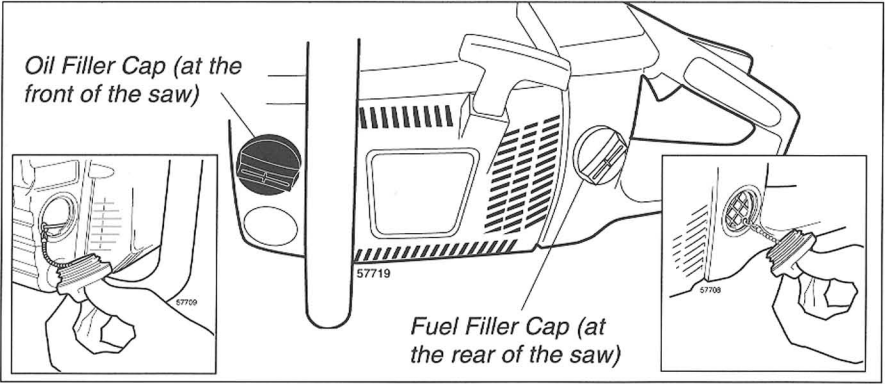
#### CAUTION!

Whenever possible, use Shindaiwa Premium 2-Cycle Engine Oil or 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 THE 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 rear of the saw.
2. Remove the fuel cap.
3. Fill the fuel tank with clean, fresh fuel, and replace the cap.
4. Wipe all spilled fuel before starting the saw.



## **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 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!

## **Oil Requirements**

- Use Shindaiwa Premium Bar and Chain Oil when available.
- When Shindaiwa oil is not available, use a premium 30 weight oil specifically blended 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**

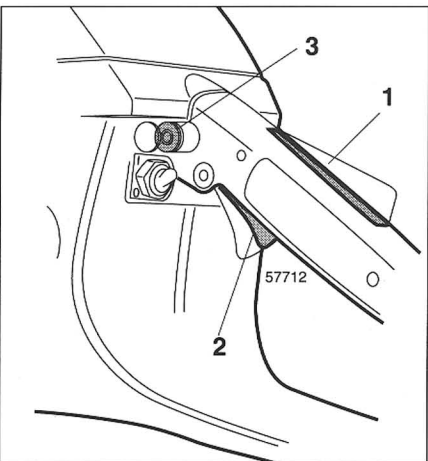
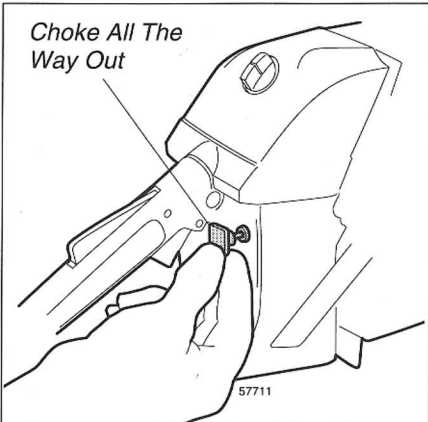
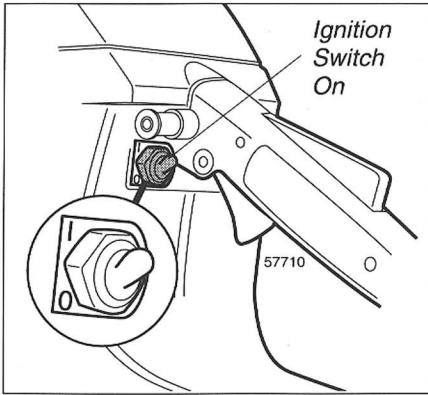
1. Place the saw on its side (clutch cover down), and wipe any chips or debris from around the oil cap at the front of the saw.
2. Remove the oil cap.
3. Fill the oil reservoir with bar and chain oil, and replace the cap.
4. Wipe spilled oil from handles and controls before starting the saw.



## **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 lubricating oil designed for saw chain lubrication. Never use dirty or reclaimed oil!

# PREPARING TO START THE SAW



## 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 near the throttle lever on the rear handle. This switch is labeled "I" for ON and "O" for OFF.

### Control Positions (cold engine):

- Switch the ignition ON ("I" position).
- Choke the engine by pulling the choke control all the way out (choke closed).

- Set the throttle to "fast idle" by performing the following:

1. Depress the throttle lock lever.
2. Squeeze the throttle trigger.
3. Press and hold the throttle lock button while releasing the throttle trigger.

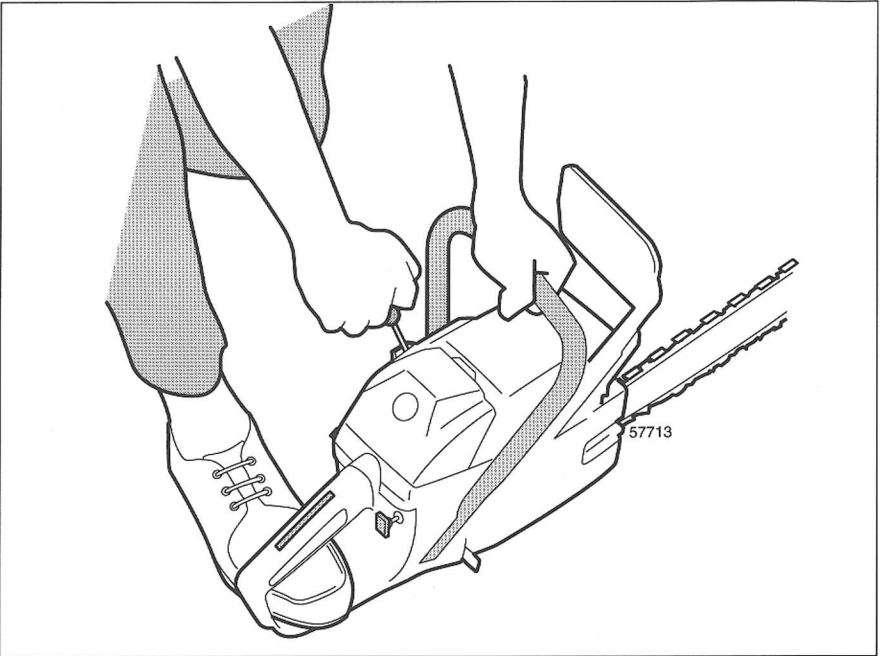
### Control Positions (warm engine):

- Switch the ignition ON ("I" position).
- Set the throttle to "fast idle" (as above).

## IMPORTANT!

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

# STARTING AND STOPPING THE ENGINE



OPERATION

1. Place the saw on the ground.
2. Secure the saw by placing your right foot inside the rear handle and your left hand on the front handle 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 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!

## 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!

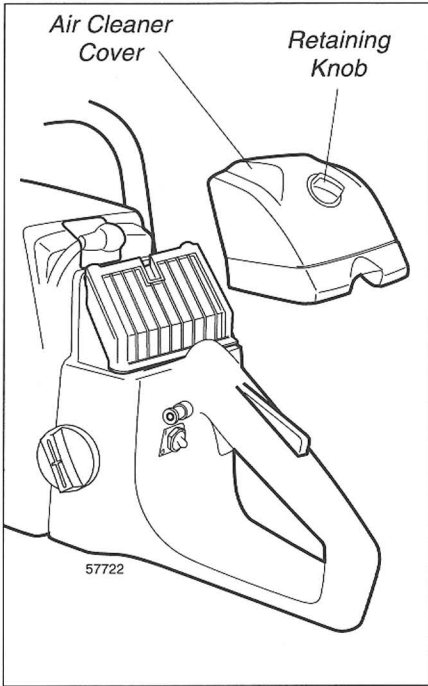
The saw chain will move as the engine accelerates!

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

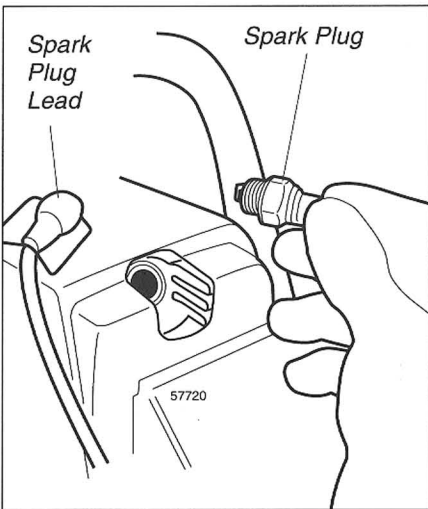
## If the engine does not start:

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

# STARTING A FLOODED ENGINE



1. Remove the air cleaner cover (turn the retaining knob counter-clockwise to remove).
2. Disconnect the spark plug lead, then use the spark plug wrench to remove the spark plug (turn counter-clockwise to remove).
3. 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 26.
4. Clear excess fuel from the combustion chamber by cranking the engine several times while the spark plug is removed.
5. 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!

6. Replace the air cleaner cover in the reverse order of removal.
7. Repeat the starting procedures for a warm engine.
8. If the engine still fails to fire or start, refer to the troubleshooting chart at the end of this manual.

## **Stopping:**

Turn switch "OFF" after idling at low speed for 1 to 2 minutes.

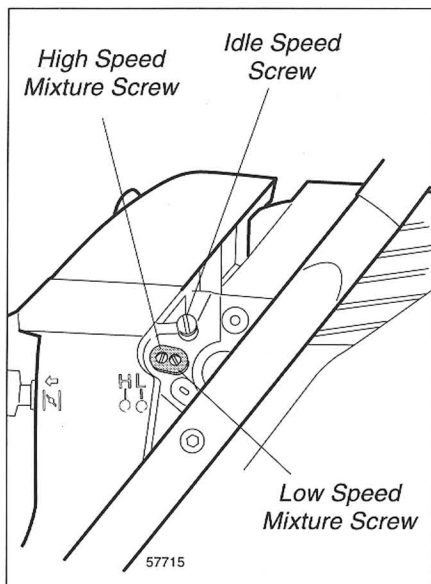
# CARBURETOR ADJUSTMENTS

## IMPORTANT!

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 26 of this manual.

### Before starting the engine

1. Inspect and adjust the saw 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 both 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 counterclockwise to the Standard Carburetor Setting as shown below.

### Standard Carburetor Settings

**Low-speed mixture** from closed:

$1\text{-}1/4 \pm 1/4$  turns.

**High-speed mixture** from closed

$1\text{-}1/4 \pm 1/4$  turns.



### CAUTION!

The carburetor can be permanently damaged by overtightening the mixture adjustment screws!



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 smoothly at 2700 to 2900 rpm.



#### WARNING!

The saw chain must never rotate at engine idle speed!

### Low Speed Mixture (engine idling)

1. Using a small screwdriver, slowly turn 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, 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 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. Adjust the idle mixture screw midway between the rich and lean drop-off points.
5. If necessary, readjust the idle speed screw so the engine idles at 2700-2900 rpm.

### High Speed Mixture

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 11,500 rpm!

2. Turn the high speed mixture screw clockwise and then counter-clockwise with a small screwdriver, and note the rich and lean drop-off points at full throttle.
3. Adjust the high speed mixture screw midway between the rich and lean drop-off points, and note the engine sound at full throttle.
4. High speed mixture setting is correct when the engine just begins to "stutter" (slightly rich mixture) at full throttle.

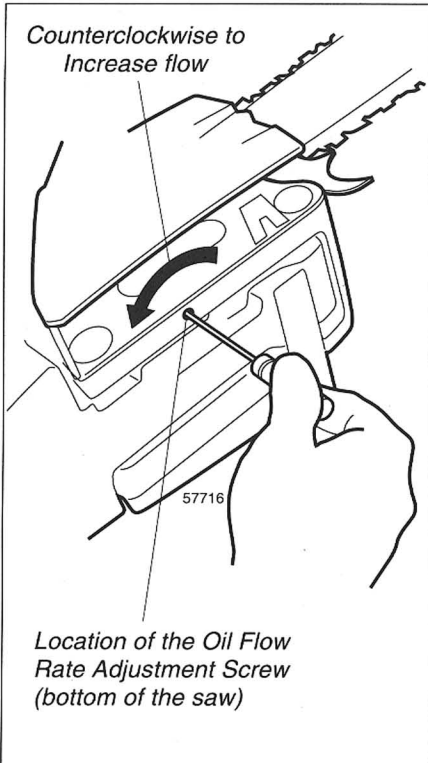


#### CAUTION!

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

5. Recheck engine idle speed and make sure the engine accelerates smoothly.
  - If the engine appears to "stumble" on acceleration, enrich the idle mixture slightly (counter-clockwise).
  - Recheck and adjust engine idle speed as required.

## OIL PUMP ADJUSTMENT



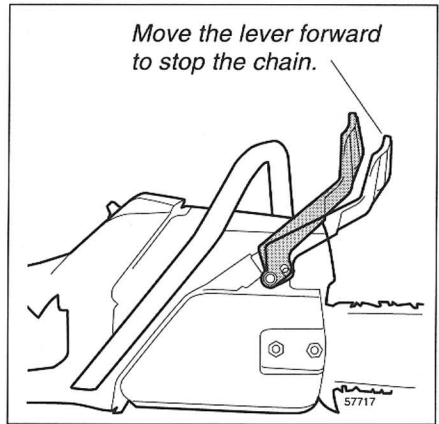
Location of the Oil Flow Rate Adjustment Screw (bottom of the saw)

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. Stop the saw. Make sure the ignition switch is in the "O" 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.

## CHAIN BRAKE



### Chain Brake Operation

The Shindaiwa 577 saw is equipped with a chain brake that stops the saw chain whenever the brake lever is moved to the forward position.

- Engaging the brake lever causes a brake band to tighten around the clutch drum, stopping the saw 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!

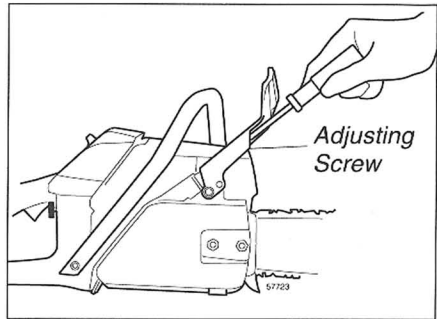
## Chain Brake Inspection and Adjustment (engine off)

1. Turn the engine off. Make sure the ignition switch is set to "O" (off).
2. Engage the chain brake by manually pushing the brake lever forward (away from the operator).
3. While wearing heavy gloves, attempt to rotate the saw chain as follows.

- Grasp the chain behind one of the cutters.

- Attempt to push the chain around the bar.

4. If the chain cannot be rotated, no further adjustment is required. If you can move the chain, go to Step 5 (below).
5. Tighten the chain brake adjusting screw 2–4 turns (clockwise) with a screwdriver.
6. Repeat Steps 3, 4, and 5 until the chain cannot be moved with the brake lever engaged (forward).



7. Start and *briefly* accelerate the saw to make sure the saw chain will not move when the brake lever is forward.



### 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! **Never attempt to adjust the chain brake while the engine is running!**

## Chain Brake Maintenance

- Keep the brake mechanism clean and free of sawdust or debris.
- If the chain brake becomes worn or damaged, 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! Keep the chain sharp and let the saw do the work! Forcing the saw into the work reduces cutting performance and increases operator fatigue!

Clear a safe work area before cutting.

Wear hearing protection devices.

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 this saw.

Use full-throttle while cutting, and apply only enough bar pressure to maintain engine speeds of 8000-9000 rpm.



Protective chaps are recommended.

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!

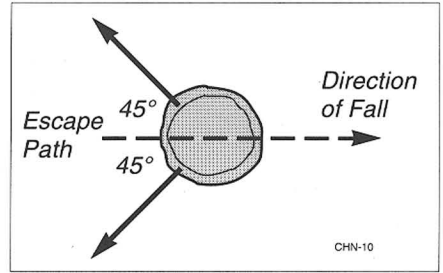
Wear appropriate non-skid footwear.

Keep a proper footing (do not overreach)!

# FELLING TREES

## 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  $45^\circ$  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 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.

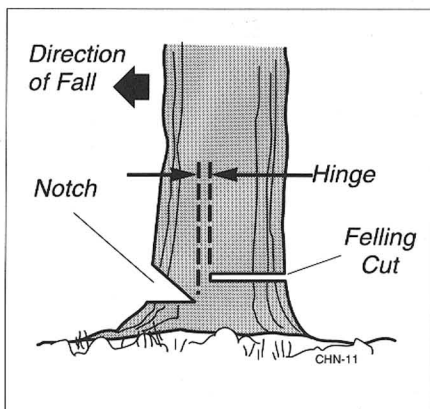
## Felling Large Trees (over than 6 inches in diameter)

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 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.



### 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!



### WARNING

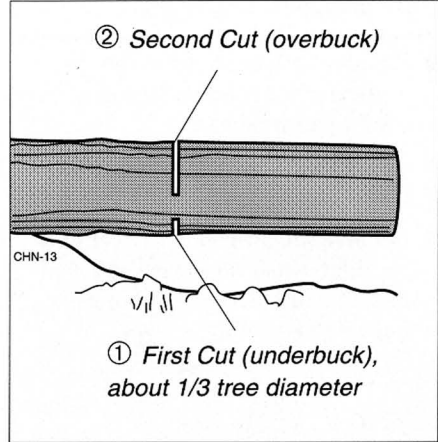
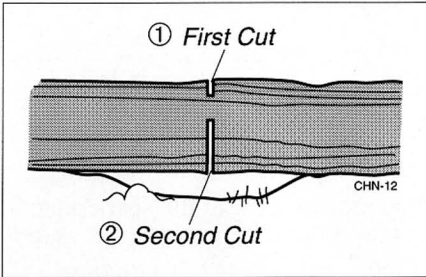
Always make the falling cut parallel to the bottom cut! An angled falling cut may cause the tree to split, possibly changing the direction of fall!

# 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.



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 your 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 overbuck about 1/3 the diameter of the log.
- Finish the job with an underbuck coming up from beneath and joining the first cut.

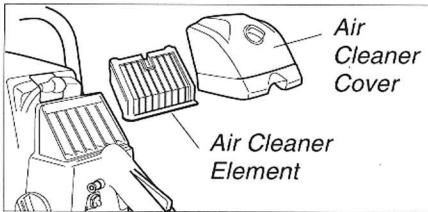
## DAILY MAINTENANCE



### 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.

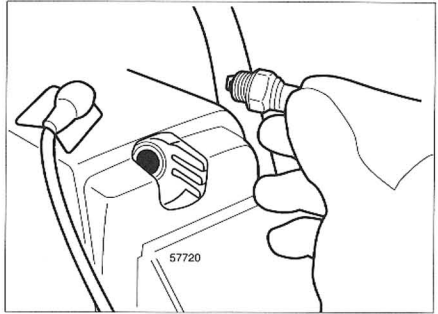


### CAUTION!

Never allow chips or other debris to enter the carburetor bore! Avoid forcing dirt into the air cleaner element! When using compressed air to dry the element, blow only from 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, as well as loose or missing components or fastenings. Repair as necessary.

## 10/15-HOUR MAINTENANCE



- Remove and clean the spark plug. Adjust the 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 any 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!

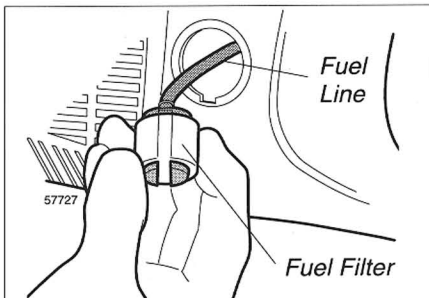
Always replace the drive sprocket and cutting chain loop as a set. For economy, rotate the same 2 or 3 chains daily. When the chains are worn out, replace the chains and sprocket at the same time.



## 10/15-HOUR MAINTENANCE

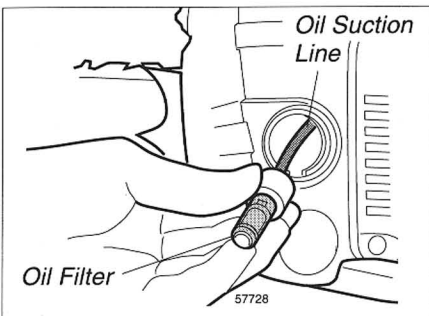
- Replace the spark plug with a Champion CJ6Y or equivalent, gapped to 0.024" (0.6 mm).
- Extract the fuel filter from the fuel tank. Remove and wash both filter elements in clean fuel.

Before reinstalling the filter, inspect the condition of the fuel line. If you discover damage or deterioration, remove the saw from service and have it inspected by a Shindaiwa-trained service technician.



- Extract the oil filter from the oil tank. Remove and wash the filter element in clean fuel.

Before reinstalling the filter, inspect the condition of the oil suction line. If you discover damage or deterioration, remove the saw from service and have it inspected by a Shindaiwa-trained service technician.



## 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.

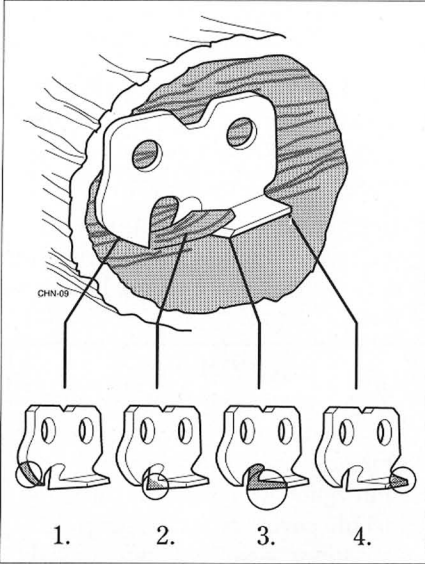


### CAUTION!

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!

- Drain any remaining bar oil from the oil reservoir.
- Remove the spark plug, and then pour about 1/4 ounce of oil into the cylinder through the spark plug hole. Before reinstalling the spark plug, pull the recoil starter 2 or 3 times to distribute the oil over the cylinder walls.
- Remove, clean, and reinstall the air cleaner element as described under "Daily Maintenance."
- Repair or replace any damaged components as required, then store the machine in a clean, dry, dust-free area.

# THE CUTTING CHAIN



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

## How the cutting chain works

As the saw chain is pulled through the wood:

1. The depth gauge determines the depth of cut for each 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. Sharpen all cutters to a 25° angle using a 4.5 mm round file.

## IMPORTANT!

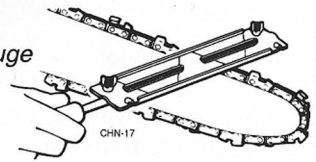
File all cutters to the same angle and depth! Unequal filing may cause the saw to vibrate or cut erratically!

## NOTE:

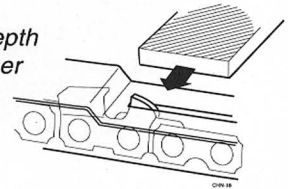
For consistent filing angles, use a filing guide such as Oregon® p/n 31692 or equivalent.

2. After all cutters are sharpened, use a depth gauge joiner (Oregon® p/n 22291 or equivalent) to measure the height of each depth gauge.
3. As required, lower the depth gauges to a height of 0.030" (0.762 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.

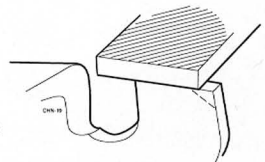
*Using a filing gauge*



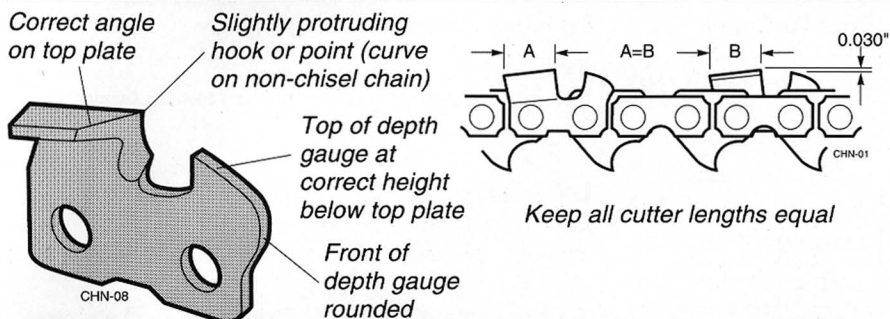
*Using a depth gauge joiner*



*Using a flat file to round the front corner on a depth gauge*

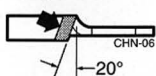


## Correct Filing Technique



## Filing Problems

### Top plate angle less than recommended

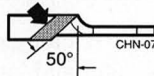


**Cause**  
File held at less than recommended angle.

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

**Remedy**  
File cutters to recommended angle.

### Top plate angle more than recommended

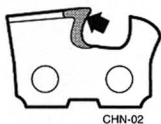


**Cause**  
File held at more than recommended angle.

**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

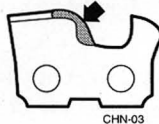


**Cause**  
File held too low or the file was too small.

**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

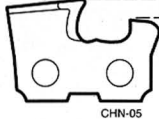


**Cause**  
Depth gauge never filed.

**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?	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 (Shindaiwa Premium 2-cycle Engine Oil and gasoline, 40 : 1 ratio.)
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	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
<p>Is the engine overheating?</p>	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 ratio.	Re-fill with fresh fuel of the correct mixture (Shindaiwa Premium 2-cycle Engine Oil and gasoline—40 : 1 ratio. Refer to page 13, "Fuels").
	Fan, fan cover, cylinder fins dirty or damaged.	Clean, repair or replace as necessary.
	Carbon deposits on piston or in the muffler.	Decarbonize.
<p>Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.</p>	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
<p>Engine is knocking.</p>	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
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: 2700–2900 RPM
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.
Engine difficult to shut off.	Piston seizure.	Return saw to the dealer.
	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Correct plug: Champion CJ6Y.
Chain rotates at idle speed.	Overheated engine.	Idle engine until cool.
	Engine idle too fast.	Set idle: 2400–2900 RPM.
Excessive vibration	Broken clutch spring or shoe.	Replace spring/shoes as required.
	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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