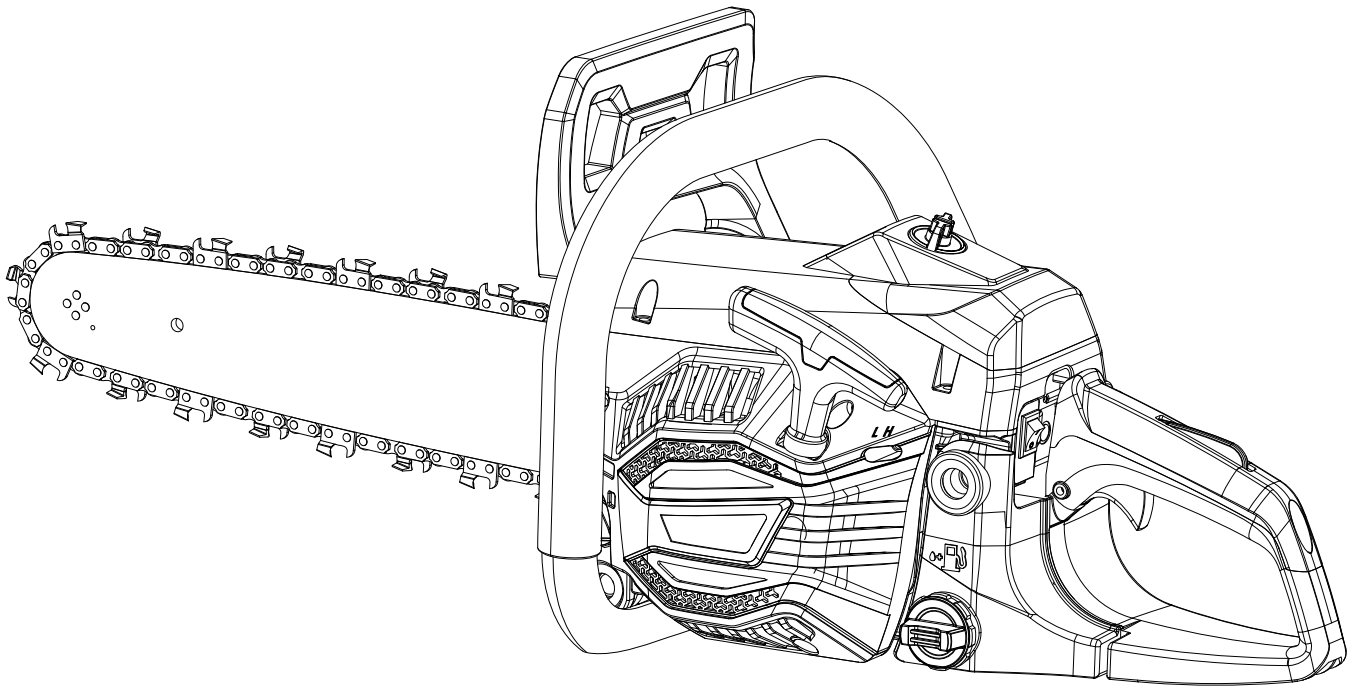
CHAINSAW 16IN 40CC



TSCS10

www.thetoolshed.co.nz

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Thank You

For the purchase of this ToolShed product. We try our hardest to supply customers like you with the best quality products available, at the best price possible. We cant wait to continue working together in the future.

Please contact us for any servicing, replacement parts, or questions you might have about your ToolShed product by visiting our website, or calling: 0800 948 665.

PRODUCT DETAILS

Product Model	*ToolShed Chainsaw 16in 40cc*
Product Code	*TSCS10*

DISTRIBUTED BY:

Note:

This manual is for your reference only. Due to the continuous improvement of the ToolShed products, changes may be made at any time without obligation or notice.

Warranty:

This product may be covered under The ToolShed warranty. For more information, see our Terms & Conditions at www.thetoolshed.co.nz

SPECIFICATIONS

Net Weight (Without Guide Bar & Chain)	4.60 kg
Dimensions (Without Guide Bar & Chain)	410 x 235 x 265 mm
Fuel	Mixture 25:1 (Gasoline 25: Two-Stroke oil 1)
Fuel Tank Capacity	400 ml
Chain Oil	Motor Oil SAE 10W-30
Oil Tank Capacity	260 ml
Engine Displacement	40 CC/REV
Maximum Engine Power	1.6 kW
Maximum Engine Speed with Cutting Attachment	11,000 RPM
Maximum Engine Speed At Idle	3,200 RPM
Maximum Cutting Length	400mm
Saw Chain Type	OREGON
Saw Chain Pitch	0.325" or 3/"
Saw Chain Gauge	0.058"
Guide Bar Type	Sprocket Nose
Saw Bar Size	16"
Oil Feeding System	Automatic Pump with Adjuster

Note:
2-Stroke Oil mix only with a mix of 25-to-1 is to be used in this engine.

PRODUCT IDENTIFICATION

1	Guide Bar Tip	***7***	Air Filter Cover
2	Saw Chain	***8***	Throttle Control
3	Guide Bar	***9***	Throttle Lock
4	Brake Lever	***10***	Rear Handle
5	Front Handle	***11***	On/Off Switch
6	Starter Pull Rope	***12***	Fuel Cap

SAFETY GUIDELINES

WARNING

READ ALL SAFETY WARNINGS & INSTRUCTIONS. Failure to follow instructions and warnings could lead to serious injury, electric shock, or fire.

Work Area Safety

- **Ensure that your work area is kept clean and well lit.** Lack of visibility and clutter greatly increase the risk of accident when using tools.
- **Keep bystanders, pets, and children clear when operating this power tool or machine.** They can cause distraction or risk injury to themselves.
- **Ensure you are not operating the power tool or machinery in the presence of dust, liquids, flammable gases, or anything that can create an explosive atmosphere.** Power tools and machinery can create sparks which can lead to ignition and fire hazards in working environments.

Personal Safety

- **Always wear personal protective equipment (PPE).** Eye protection, ear protection, dust masks, and other protective equipment will help to reduce the risk of personal injury or long-term illnesses.
- **Dress appropriately. DO NOT wear loose clothing that can get caught in moving parts.** Keep hair, loose clothing, jewellery, and anything else that could be of risk, away from moving parts in the machine, or they could become caught therein.
- **Always remain alert and DO NOT operate power tools or machinery under the influence of any substances such as alcohol or drugs, including prescription medications.** Lack of focus could lead to injury or accidents while operating these power tools and machinery.
- **Always ensure proper footing and balance.** Overreaching can lead to slipping and falling which can result in injury or accident.
- **Ensure the power switch is in the OFF position before connecting any battery, or power source to the power tool or machinery.** This can cause injury as tools and machinery can suddenly fire incidentally when live, causing accidents.
- **Use all provided dust collection and extraction attachments, if included.** This equipment, along with the use of PPE dust masks, can help keep you safe from dust, and keep your work site clear from hazards.
- **Ensure loose parts such as wrenches or adjusting keys are removed before starting the power tool or machinery.**

SAFETY GUIDELINES

Fuel & Engine Safety

- Engine exhaust contains carbon monoxide, a colourless, odourless, poison gas. Breathing carbon monoxide will cause nausea, dizziness, fainting or death. If you start to feel dizzy or weak, get fresh air immediately.

WARNING

Operate this machine outdoors only in a well-ventilated area and point the exhaust away from you.

- DO NOT operate the machine inside any building, including garages, basements, crawlspaces and sheds, enclosures, or compartments, including the storage compartment of a recreational vehicle.
- DO NOT allow exhaust fumes to enter a confined area through windows, doors, vents, or other openings.
- NEVER use inside a home or garage, EVEN IF doors and windows are open. ONLY use OUTSIDE and far away from windows, doors, and vents.

WARNING

Using an engine indoors CAN KILL YOU IN MINUTES. Engine exhaust contains Carbon Monoxide. This is a poison you cannot see or smell.

Gasoline & Vapours

DANGER

GASOLINE AND GASOLINE VAPOURS ARE HIGHLY FLAMMABLE AND EXPLOSIVE. Fire or explosion can cause severe burns or death.

- Gasoline is highly flammable and explosive.
- Gasoline can cause a fire or explosion if ignited.
- Gasoline is a liquid fuel, but its vapours can ignite.
- Gasoline is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.
- Gasoline has a distinctive odour; this will help detect potential leaks quickly.
- In any petroleum gas fire, you should not attempt to extinguish the flames unless it can be done in such a way by turning the fuel supply valve OFF. This is because if a fire is extinguished and a supply of fuel is not turned OFF, then an explosion hazard could be created.
- Never fill the gas tank to capacity as gasoline needs room to expand if temperature rises.
- Never use gasoline that is stale, contaminated, or mixed. Avoid getting contaminants, dirt or water in the fuel tank.

SAFETY GUIDELINES

When Adding or Removing Gasoline

- DO NOT light or smoke cigarettes.
- Turn the engine off and let it cool for at least two minutes before removing the gasoline cap. Loosen the cap slowly to relieve pressure in the tank.
- Only fill or drain gasoline outdoors in a well-ventilated area.
- DO NOT pump gasoline directly into the engine at the gas station. Use an approved container to transfer fuel to the engine.
- DO NOT overfill the gasoline tank.
- Always keep gasoline away from sparks, open flames, pilot lights, heat, and other sources of ignition.
- DO NOT refill the fuel tank while the engine is running or while the engine is still hot.
- When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per local regulations.

When Starting the Engine

- DO NOT attempt to start a damaged engine.
- Make certain that the gasoline cap, air filter, spark plug, fuel lines, and exhaust system are properly in place.
- Allow spilled gasoline to evaporate fully before attempting to start the engine.
- Make certain that the water pump is resting firmly on level ground.
- Spark from a removed spark plug wire can result in fire or electrical shock.

Power Tool & Machinery Use & Care

- **Use the correct tool for the job.** Forcing a tool to do a job it was not designed for increases the risk of accident or injury.
- **Disconnect tools and machinery from power, or remove batteries before doing any maintenance or adjustments, or before storing the tools and machinery.** This reduces or removes the risk of a power connection that causes the tool or machinery to accidentally fire, which can help prevent injury or accident.
- **Check the general condition of the power tool for damage or any problems that could affect the way the tool or machine works.** An unrepaired tool or machine can lead to accident and injury. Only have your tool or machine repaired with genuine parts from The ToolShed.
- **Only use the power tool and machinery with genuine parts or accessories that are designed to be used with this power tool and machinery.** Failure to do so could result in accident or injury, or damage your tool or machinery.
- **Store your tool or machinery out of reach of children, and away from untrained personnel when not in use.** Use by somebody untrained, or a child, could lead to accident or serious injury.

OPERATION MANUAL

SAFETY GUIDELINES

Service

- **Have your tools and machinery serviced at The ToolShed with ToolShed replacement parts.** This will ensure that the safety of the power tool or machine is maintained.

WARNING

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Always Use Common Sense

- It is not possible to cover every conceivable situation you can face. Always exercise care and use your common sense. If you get into a situation where you feel unsafe, stop and seek expert advise. Contact your dealer, service agent, or an experienced user. Do not attempt any task you feel unsure of!
- **Do not let familiarity gained from the frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Chainsaw Specific Safety

- Never operate a chainsaw when you are fatigued, ill, upset, or under the influence of medication that may make you drowsy, or if you are under the influence of alcohol or drugs.
- Use the right tool. Only use this tool for its intended purpose: to cut wood. Do not use the unit for cutting plastic, masonry or other non-wood building materials. Only use the unit as described in this manual.
- Keep the saw chain sharp and the saw, including the AV system, well maintained. A dull chain will increase cutting time, and pressing a dull chain through wood will increase the vibrations transmitted to your hands. A saw with loose components or with damaged or worn AV buffers will also tend to have higher vibration levels.
- Do not allow other persons to be near the chainsaw when starting or cutting. Keep bystanders and animals out of the work area.
- Never start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree/logs.
- Always hold the chainsaw firmly with both hands when the engine is running. Use a firm grip with thumb and fingers encircling both of the chainsaw handles.
- Keep all parts of your body away from the saw chain when the engine is running.
- Before you start the engine, make sure the saw chain is not contacting anything.
- Always carry the chainsaw with the engine stopped, the guide bar and saw chain to the rear, and the muffler away from your body.

SAFETY GUIDELINES

Chainsaw Specific Safety (Cont.)

- Always shut off the engine before setting it down.
- When cutting a limb that is under tension, be alert for spring back so that you will not be struck when the tension in the wood fibres is released.
- Use extreme caution when cutting small size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- Never cut in high wind, bad weather, when visibility is poor or in very high or low temperatures. Always check the tree for dead branches which could fall during the felling operation.
- Keep the handles dry, clean and free of oil or fuel mixture.
- Operate the chainsaw only in well ventilated areas. Never start or run the engine inside a closed room or building. Exhaust fumes contain dangerous carbon monoxide.
- Do not operate the chainsaw in a tree unless specially trained to do so.
- Guard against kickback. Kickback is the upward motion of the guide bar which occurs when the saw chain at the nose of the guide bar contacts an object. Kickback can lead to dangerous loss of control of the chainsaw.
- When transporting your chainsaw, make sure the appropriate guide bar scabbard is in place.
- Always use the chainsaw in daylight or good artificial light.
- Do not touch the engine or muffler. These parts get extremely hot from operation.

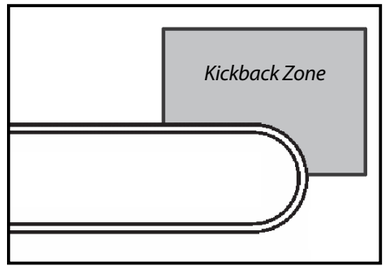
User Kickback Reduction

- Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. Tip contact in some cases may cause a lightning fast reverse reaction, kicking the guide bar up and back towards the operator.
- Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious personal injury.

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

KICKBACK SAFETY

- Kickback may also occur during limbing. The greater the force of the kickback reaction, the more difficult it becomes for the operator to control the chainsaw. Many factors influence the occurrence and force of the kickback reaction. These include chain speed, the speed at which the bar and chain contact the object, the angle of contact, the condition of the chain and other factors.

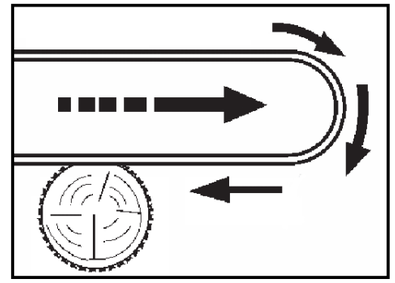


Pull In

- Pull-in occurs when the chain on the bottom of the bar is suddenly stopped when pinched, caught or encounters a foreign object in the wood. The reaction of the chain pulls the chainsaw forward and may cause the operator to lose control of the chainsaw.
- Pull-in frequently occurs when the bumper spike of the chainsaw is not held securely against the tree or limb and when the chain is not rotating at full speed before it contacts the wood.

To Avoid Pull-In

- Always start a cut with the chain rotating at full speed and the bumper spike in contact with the wood.
- Pull-in may also be prevented by using wedges to open the kerf or cut.

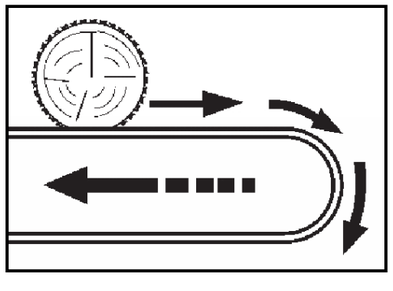


Pushback

- Pushback occurs when the chain on the top of the bar is suddenly stopped when pinched, caught or encounters a foreign object in the wood. The reaction of the chain drives the chainsaw straight back toward the operator and may cause the operator to lose control of the chainsaw. Pushback frequently occurs when the top of the bar is used for cutting.

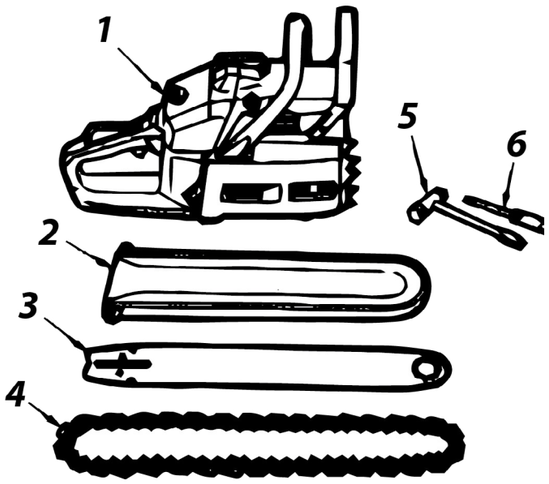
To Avoid Pushback

- Be alert to forces or situations that may cause material to pinch the top of the chain, e.g., knots in the tree log.
- Do not cut more than one log at a time.
- Do not twist the chainsaw when withdrawing the bar from a plunge cut or underbuck cut because the chain could pinch.



ASSEMBLY

What's in the Box



1 Power Unit
2 Bar Protector
3 Guide Bar
4 Saw Chain
5 Plug Wrench
6 Screwdriver For Carburettor Adjustment

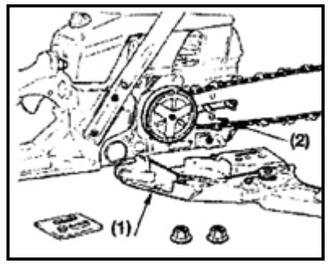
⚠ WARNING

The saw chain has very sharp edges. Use thick protective gloves for safety.

- Open the box and install the guide bar and the saw chain on the power unit as follows:

1. Pull the guard towards the front handle to check that the chain brake is not engaged.

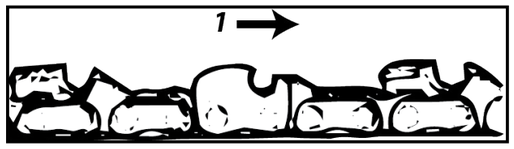
2. Loosen the nuts and remove the chain cover.



1 = Chain Cover
2 = Chain Tensioner Nut

3. Gear the chain to the sprocket and, while fitting the saw chain around the guide bar, mount the guide bar to the power unit. Adjust the position of chain tensioner nut.

NOTE: Pay attention to the correct direction of the saw chain.

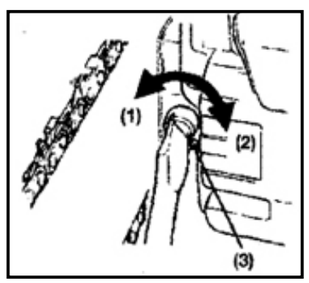


4. Fit the chain cover to the power unit and fasten the nuts to finger tightness.

5. While holding up the tip of the bar, adjust the chain tension by turning the tensioner screw until the tie straps just touch the bottom side of the bar rail.

6. Tighten the nuts securely with the bar tip held up (12–15 Nm). Then check the chain for smooth rotation and proper tension while moving it by hand. If necessary, readjust with the chain cover loose.

7. Tighten the tensioner screw.



1 = Loosen
2 = Tighten
3 = Tension Screw

FUEL & CHAIN OIL

NOTE: A new chain will expand its length in the beginning of use. Check and readjust the tension frequently as a loose chain can easily derail or cause rapid wear of itself and the guide bar.

Fuel

⚠ WARNING

Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel.

Make sure to stop the engine and allow it cool before refuelling the unit.

- The engine is lubricated by oil mixed in with the fuel. Make sure a suitable 2-stroke engine oil is used specifically designed for air cooled engines.

RECOMMENDED MIXING RATIO:

25:1 GASOLINE:OIL

- Exhaust emissions are controlled by the fundamental engine parameters and components (e.g., carburetion, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89RON.
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasoline or oils may damage sealing rings, fuel lines, or the fuel tank of the engine.

How to Mix Fuel

1. Measure out the quantities of gasoline and oil to be mixed.

2. Put some of the gasoline into a clean, approved fuel container.

3. Pour in all of the oil and shake well.

4. Pour in the rest of gasoline and agitate again for at least one minute. As some oils may be difficult to agitate depending on oil ingredients. Sufficient agitation is necessary for the engine longevity. Be careful that, if the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.

5. Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.

6. Indicate the contents on the outside of the container for easy identification.

FUEL & CHAIN OIL

Fuelling the Unit

1. Untwist and remove the fuel cap. Rest the cap on a dustless surface.
2. Put fuel into the fuel tank to 80% of the full capacity.
3. Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

⚠ WARNING

Select flat and bare ground for fuelling.

Move at least 3 metres away from the fuelling point before starting the engine.

Stop the engine before refuelling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.

Chain Oil

- If a suitable chain bar oil is not available, you can use motor oil SAE #10W-30 all year round or SAE #30–40 in summer, and SAE #20 in winter.

NOTE: Do not use wasted or regenerated oil that can cause damage to the oil pump.

Engine Life

To extend the life of your engine, avoid the following:

- FUEL WITH NO OIL (RAW GASOLINE) - It will cause severe damage to the internal engine parts very quickly.
- GASOHOL - It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication.
- OIL FOR 4-CYCLE ENGINE USE - It can cause spark plug fouling, exhaust port blocking, or piston ring sticking.
- Mixed fuels which have been left unused for a period of one month or more, this may clog the carburettor and result in the engine failing to operate property.
- In the case of storing the product for a long period of time, clean the fuel tank after rendering it empty. Next, activate the engine and empty the carburettor of the composite fuel.
- In the case of scrapping the used mixed oil container, scrap it only at an authorised repository site.
- Moreover, normal wear and change in product with no functional influence are not covered by the warranty. Also, be careful that, if the usage in the instruction manual is not observed as to the mixed gasoline, etc. described therein, it may not be covered by the warranty.

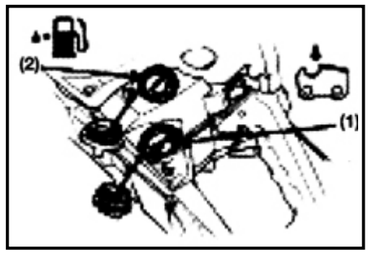
OPERATION

⚠ WARNING

It is very dangerous to run a chainsaw that mounts broken parts or lacks any parts. Before starting engine, ensure that all the parts including the bar and chain are installed property.

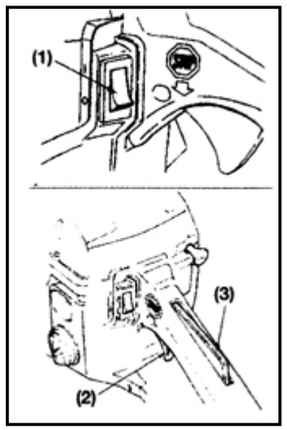
Starting the Engine

1. Fill fuel and chain oil tanks respectively, and tighten the caps securely.



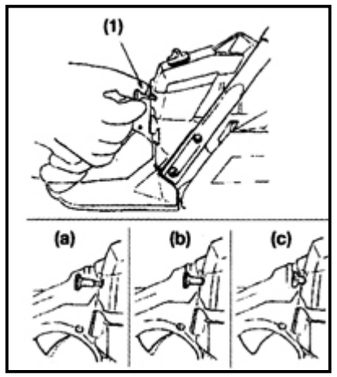
1 = Chain Oil
2 = Fuel

2. Set the switch to "I" position (On).



1 = Switch
2 = Throttle Lever
3 = Throttle Lock

3. While holding the throttle lever together with the trigger safety, push in the side latch and release the throttle lever to leave it at the starting position.

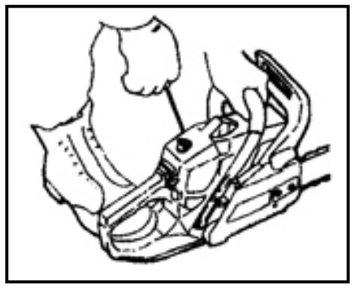


1 = Choke knob:
A = When the engine is cool
B = When the engine is warmed up
C = After the engine starts

NOTE: When restarting immediately after stopping the engine, set the Choke knob in the first-stage position (choke open and throttle lever in the starting position).

NOTE: Once the choke knob has been pulled out, it will not return to the operating position even if you press down on it with your finger. When you wish to return the choke knob to the operating position, pull out the throttle lever instead.

4. If your machine has a primer (3), press it 3–4 times to aid starting.
5. While holding the saw unit securely on the ground, pull the starter rope vigorously.



OPERATION

Starting the Engine (Cont.)

⚠ WARNING

Do not start the engine while the Chainsaw hangs in one hand. The saw chain may touch your body. This Is very dangerous.

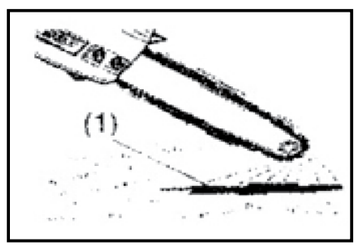
6. When engine has ignited, first push in the choke knob to the first-stage position and then pull the starter again to start the engine.
7. Allow the engine to warm up with the throttle lever pulled out slightly.

Checking the Oil Supply

⚠ WARNING

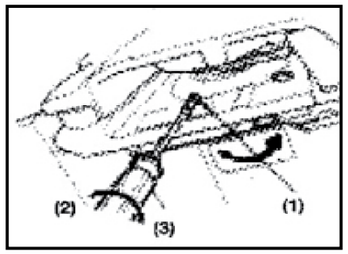
Make sure the bar and chain are properly installed before checking the oil supply. If they are not fitted, rotating parts may be exposed, which is extremely dangerous.

- After starting the engine, run the chain at medium speed and see if chain oil is scattered off as shown in the figure.



1 = Chain Oil

- The chain oil flow can be changed by inserting a screwdriver in the hole on the bottom of the clutch side. Adjust according to your work conditions.



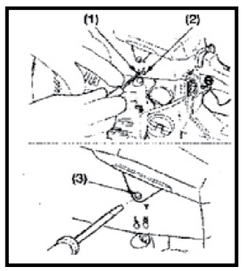
1 = Chain Oil Flow Adjusting Shaft
2 = Rich
3 = Lean

⚠ WARNING

Keep clear of the saw chain as it will start rotating upon the starting of the engine.

NOTE: The oil tank should become nearly empty by the time fuel is used up. Be sure to refill the oil tank every time when refuelling the saw.

Adjusting the Carburettor



1 = "L" Needle
2 = "H" Needle
3 = Idle Adjusting Screw

- The carburettor has been adjusted at the factory. Should your unit need readjustment due to the changes in operating conditions, please take it to your nearest ToolShed.

OPERATION

- An incorrect adjustment may cause damage to your unit.
- If you have to make the adjustment yourself, please follow the procedure below carefully.
- Before adjusting the carburettor, make sure that the provided air/fuel filters are clean and fresh and the fuel is properly mixed.

NOTE: Be sure to adjust the carburettor with the bar chain attached.

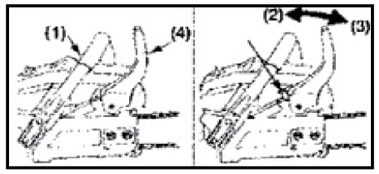
- When adjusting, take the following steps:

1. "H" and "L" needles are restricted within the number of turn as shown below.
   "H" Needle: -1/4
   "L" Needle: -1/4
2. Start the engine and allow it to warm up in low speed for a few minutes.
3. Turn the idle adjusting screw (T) counter-clockwise so that the saw chain does not turn. If the idling speed is too slow, turn the screw clockwise.
4. Make a test cut and adjust the "H" needle for best cutting power, not for maximum speed.

NOTE: Over revolution of "H" needle causes a lack of power or a poor acceleration. In such a case please turn the "H" needle slightly counter-clockwise.

Chain Brake

- This machine is equipped with an automatic brake to stop saw chain rotation upon occurrence of kickback during saw cutting.
- The brake is automatically operated by inertial force, which acts on the weight fitted inside the front guard.
- This brake can also be operated manually with the front guard turned down to the guide bar.
- To release the brake, pull up the front guard toward the front handle until a "click" sound is heard.



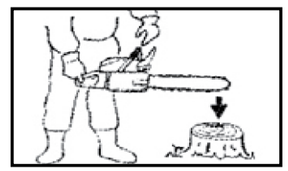
1 = Front Handle
2 = Released
3 = Braking
4 = Brake Lever

⚠ CAUTION

Be sure to confirm brake operation during daily inspection.

To confirm Brake operation testing:

1. Turn off the engine.
2. Holding the chainsaw horizontally, release your hand from the front handle, hit the tip of the guide bar to a stump or a piece of wood, and confirm brake operation. Operating level varies by bar size.

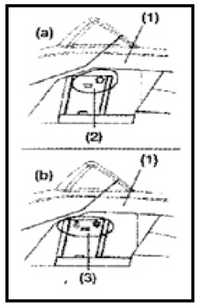


- In case the brake is not effective, contact your nearest ToolShed for inspection and repairs.
- If the engine keeps rotating at high speed with the brake engaged, the clutch will overheat causing trouble.
- When the brake engages during operation, immediately release the throttle lever to stop the engine.

OPERATION

Carburettor Anti-Freeze Mechanism

- Operating chainsaws in temperatures of 0–5°C at times of high humidity may result in ice forming within the carburettor, and this in turn may cause the output power of the engine to be reduced or for the engine to fail to operate smoothly.
- This product has accordingly been designed with a ventilation hatch on the right side of the surface of the cylinder cover to allow warm air to be supplied to the engine and to thereby prevent icing from occurring.
- Under normal circumstances the product should be used in the normal operating mode, i.e., in the mode which it is set at the time of shipment. However when the possibility exists that icing may occur, the unit should be set to operate in the anti-freeze mode before use.

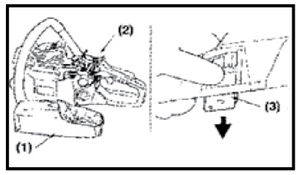


1 = Cylinder Cover
2 = Sunshine Mode
3 = Snow Mode
A = Normal Operating Mode
B = Anti-Freeze Mode

NOTE: Continuing to use the product in the anti-freeze mode even when temperatures have risen and returned to normal, may result in the engine failing to start properly or the engine failing to operate at its normal speed. For this reason you should always be sure to return the unit to the normal operating mode if there is no danger of icing.

How to Switch Between Operating Modes

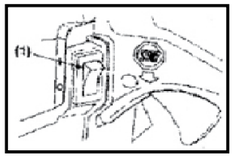
1. Flip the engine switch to turn off the engine.
2. Remove the cover to the air filter, remove the air filter, and then remove the choke knob from the cylinder cover.
3. Loosen the screws holding the cylinder cover in place (the three screws on the inside and the one screw on the outside of the cover), and then remove the cylinder cover.
4. Press with your finger down on the icing cap located on the right-hand side of the cylinder cover to remove the icing cap.
5. Adjust the icing cap so that the "Snow" mode faces upwards and then return it to its original position in the cylinder cover.
6. Fix the cylinder cover back into its original position, and then fix all other parts back into their proper positions.



1 = Cylinder Cover
2 = Choke Knob
3 = Icing Cap

Stopping the Engine

1. Release the throttle lever to allow the engine to idle for a few minutes
2. Set the switch to the "O" (STOP) position.



1 = Switch

SAWING

⚠ WARNING

Always follow the safety regulations. The chainsaw must only be used for cutting wood. It is forbidden to cut other types of material. Vibrations and kickback vary with different materials and the requirements of the safety regulations would not be respected. Do not use the chainsaw as a lever for lifting, moving or splitting objects. Do not lock it over fixed stands. It is forbidden to hitch tools or applications to the PTO other than those specified by the manufacturer.

⚠ CAUTION

It is not necessary to force the saw into the cut. Apply only light pressure while running the engine at full throttle.

When the saw chain is caught in the cut, do not attempt to pull it out by force, but use a wedge or a lever to open the way.

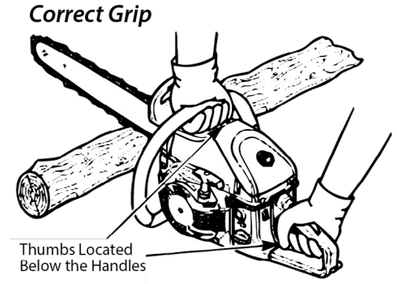
Guard Against Kickback

- This saw is equipped with a chain brake that will stop the chain in the event of kickback if operating properly. You must check the chain brake operation before each usage by running the saw at full the throttle for 1–2 seconds and pushing the front hand guard forward. The chain should stop immediately with the engine at full speed. If the chain is slow to Stop, or does not stop, replace the brake band and clutch drum before use.
- It is extremely important that the chain brake be checked for proper operation before each use and that the chain be sharp in order to maintain the kickback safety level of this saw. Removal of the safety devices inadequate maintenance, or incorrect replacement of the bar or chain may increase the risk to serious personal injury due to kickback.

Holding the Saw

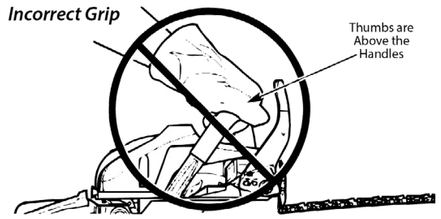
- Firmly encircle the saw handles with your thumbs and fingers.

Correct Grip



- This will help reduce the chance of losing control of the unit if kickback occurs. Any grip with thumbs and fingers on the same side of the handles is dangerous.

Incorrect Grip

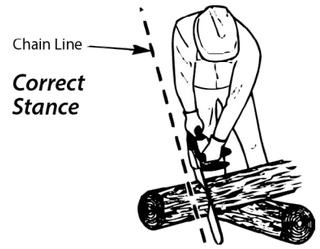


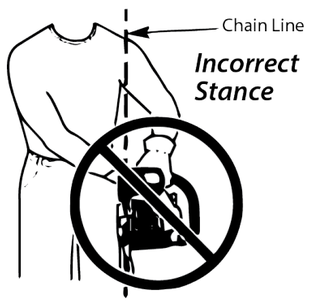
- Always grip the unit firmly with both hands when the unit is running.

SAWING

Holding the Saw (Cont.)

- Grip the front handle using your left hand, ensuring the left arm remains extended to enhance resistance against potential kick-back.
- Hold the rear handle with your right hand, maintaining a slight bend in that arm.
- Use these hand placements whether you are left or right-handed. This will help to position you slightly to the left of the unit and away from the direct path of the chainsaw in the event of kickback.





- Stand in a stable position with feet apart and firmly planted.
- Do not cut above shoulder height. Do not overreach.

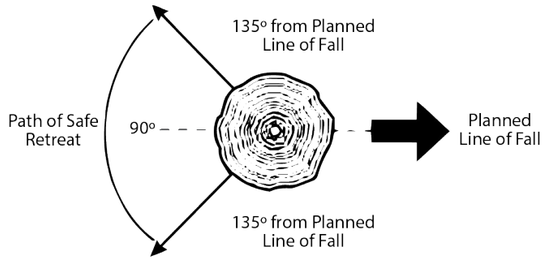
Cutting Procedure Basics

- Start the unit by following the instructions outlined on Page 16.
- Refrain from touching the throttle control with your fingers until you are prepared to begin cutting.
- Prior to making a cut, accelerate the unit to its maximum speed.
- Press the unit against the wood, exerting a firm and steady pressure throughout most of the cut. Avoid putting pressure on the unit towards the end of the cut.
- Sustain a consistent speed during the entire cutting process. Keep the unit running through the entirety of the cut.
- Avoid attempting to forcefully push the saw through the wood; instead, allow the saw chain to perform the cutting. Apply only gentle pressure to prevent potential damage to the unit or personal injury.
- Release the throttle control immediately after completing the cut. Permit the saw chain to come to a complete stop. Running the unit without a cutting load may cause unnecessary wear to the saw chain, guide bar, and engine.

SAWING

Felling a Tree

- Do not fell trees with an extreme lean. Do not fell trees with rotten limbs, loose bark or hollow trunks. Have these trees pushed or dragged down with heavy equipment.
- Do not cut trees near buildings or power lines. Leave these operations for professionals. If a felled tree does contact an electrical line, notify the power company immediately.
- Determine a safe and fast escape route. Clear the area around the tree and make sure there are no obstructions blocking the escape route. Establish a 90° corridor of escape, approximately 135° from the line of the fall.

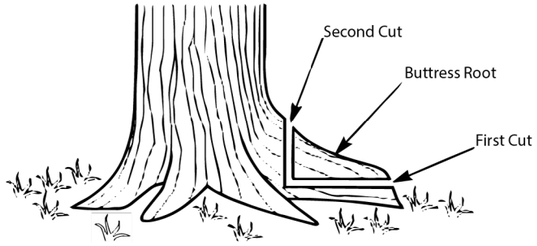


- You can usually cut down small trees, around 15–18cm (6–7in) thick, in one go. But for bigger trees, you need to do two cuts: first a notched undercut, then a felling back cut. Sometimes, you might also have to take out buttress roots.

Removing Buttress Roots

- Buttress roots are the big roots that stick out above the ground and support the tree. If these roots are in the way of cutting the tree, follow these steps to remove them:

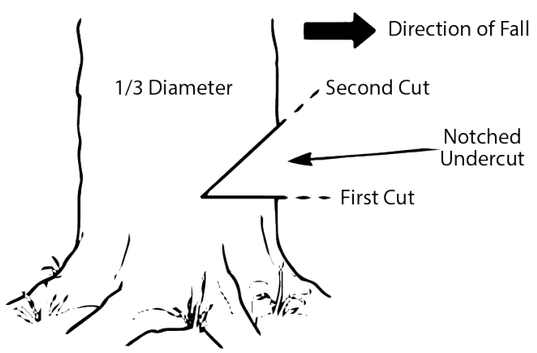
1. Start by making a horizontal cut into the buttress root. Do this first to avoid the guide bar getting stuck by the wood's weight.
2. Then, make a vertical cut into the buttress root.
3. Finally, take away the loose section from the work area.



Making the Notched Undercut

- This cut decides which way the tree will fall. Always make this cut on the side of the tree facing where you want it to fall. Cut at a 90° angle to the intended direction.

1. Begin by making a horizontal cut into the tree trunk. This cut should be about 1/3 the tree's diameter and close to the ground. To avoid the guide bar getting stuck due to the wood's weight, always start with this cut.
2. Next, make a 45° cut into the tree trunk, above the first cut. Keep cutting until the two cuts meet.
3. Lastly, take away the loose section from the work area.

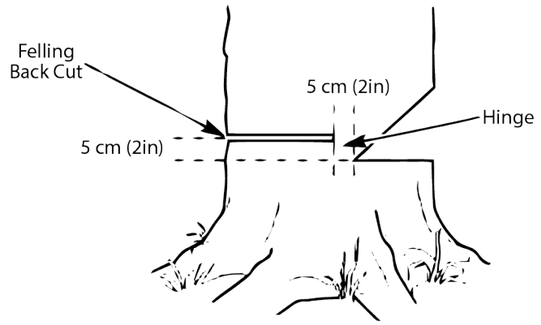


SAWING

Making the Felling Back Cut

This cut will fell the tree.

1. Cut horizontally on the opposite side of the tree from the notched undercut, positioning the cut about 5cm (2in) above the bottom of the notched undercut.
2. As the cut nears the notched undercut, a thin strip of wood, known as the hinge, supports the tree and controls its fall. Keep approximately 5cm (2in) of hinge intact; avoid cutting through it to prevent the tree from falling unpredictably.



3. Periodically check during the felling back cut to ensure the tree is falling in the right direction. If there's a risk of an incorrect fall or the tree might rock back and trap the chainsaw, pause the cut. Remove the guide bar, stop the unit, and use soft plastic or wooden wedges to open the cut and guide the fall. Drive the wedges in slowly. Once in place, you can carefully resume the cut or drive the wedges further to push the tree over.
4. As the hinge becomes smaller, the tree should start falling. When it begins to fall, withdraw the chainsaw from the cut, turn off the engine, and immediately place the unit down. Quickly leave the area along the retreat path while keeping an eye on the falling tree.

WARNING

If the tree starts to fall in the wrong direction and binds the chainsaw, leave the unit and evacuate the area immediately! Do not try to save the chainsaw!

WARNING

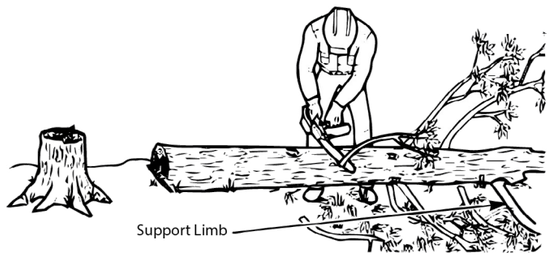
Be cautious around spring poles while using the unit. Spring poles are branches, logs, roots, or saplings that are bent under tension by other wood. When the tension is released, these spring poles can hit the operator, leading to serious injuries and potentially causing the chainsaw to strike the operator's body. Exercise extreme caution when cutting spring poles or releasing tension-causing elements.

SAWING

Limbing

Limbing is the process of removing branches from a fallen tree.

1. Leave the larger support limbs under the tree for last. These will keep the tree off the ground during the limbing process.
2. Cut one limb at a time. Stand on the opposite side of the tree from the limb. Keep the trunk between the operator and the chainsaw. To avoid binding the chainsaw, branches under tension should be cut from the bottom up.
3. Remove the cut limbs from the work area.



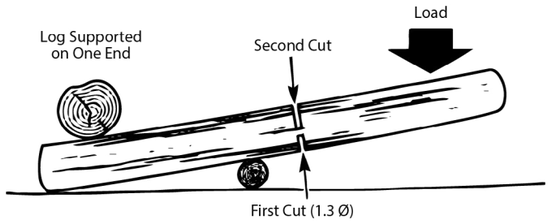
Bucking

- Bucking is the process of cutting a fallen tree into logs of desired lengths. Follow these safety precautions to reduce the risk of serious injury:
- When bucking on a slope, always stand on the uphill side of the fallen tree.
- If possible, the end of the tree to be cut should be raised off of the ground. A saw horse is ideal for this purpose. If a saw horse is not available, use other logs or any remaining limb stumps. Make sure the tree is firmly supported.
- Cut one log at a time. Release the throttle control and allow the saw chain to come to a complete stop before moving on to the next log.

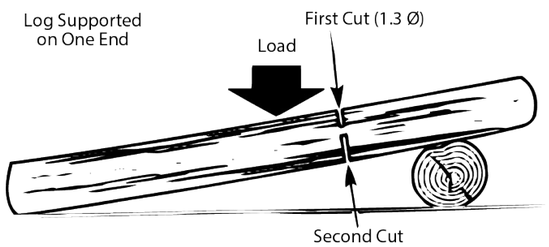
Cutting Logs Under Stress

- When logs are held up at one or both ends, the wood may bend as you cut, potentially causing the chainsaw to get stuck between the two sides. Here's how to handle it:

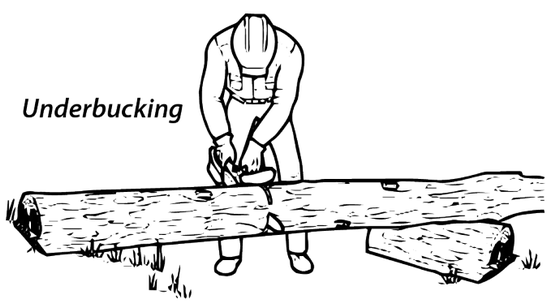
1. Begin with the first cut, going about 1/3 of the log's diameter. Don't cut deeper than 1/3.
   - If the log is supported on one end (see below), make the first cut from below (underbucking). Refer to Underbucking.



   - If the log is supported on two ends (see below), make the first cut from above (overbucking). Refer to Overbucking.



Underbucking

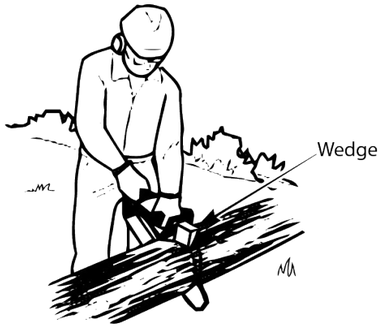


SAWING

Cutting Logs Under Stress (Cont.)

Overbucking

2. Continue with the second cut from the opposite side until the two cuts meet. If the wood's diameter is large, insert soft plastic or wooden wedges to keep the cut open and prevent pinching. Be careful not to let the saw chain touch the wedges.



Cutting Fully-Supported Logs

- When logs are supported along the entire length, extra care should be taken to make sure the saw chain does not contact the ground or other support structure .

1. Cut through the log as much as possible, without cutting into the ground or support structure. Cut from above (overbucking).
2. Roll the log over and finish cutting through the log from above (overbucking).

Overbucking

1. Begin cutting from above, with the bottom of the saw chain against the top of the log (See *Overbucking* Figure).
2. Exert light, downward pressure. The saw will tend to pull away from the operator. Be prepared and hold the saw firmly to maintain control.

Underbucking

1. Begin cutting from below, with the top of the saw chain against the bottom of the log (See *Underbucking* Figure).
2. Exert light, upward pressure. The saw will tend to push toward the operator. Be prepared and hold the saw firmly to maintain control.

Pruning

WARNING

Do not cut above shoulder height. Use a pole saw to cut limbs above shoulder height. Do not operate the unit in a tree or on a ladder unless specifically trained to do so.

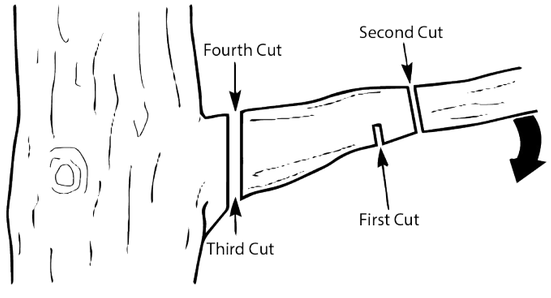
Falling branches can cause serious injury. Always wear appropriate head protection. Plan an escape route away from falling limbs. Do not position any body parts directly below the limb when cutting.

SAWING

Pruning

Pruning involves removing branches from a living tree. Follow these steps:

1. For the first cut, position it approximately 15cm (6in) from the tree trunk. Cut upward from the underside of the limb using the top of the guide bar. Cut about a third of the way through the limb's diameter.
2. Make the second cut 5–10cm (2–4in) farther out on the limb. Cut downward from the top of the limb using the bottom of the guide bar. Cut completely through the limb.
3. Execute the third cut as close to the tree trunk as possible. Cut upward from the underside of the limb stub, utilising the top of the guide bar. Cut about a third of the way through the diameter of the limb.
4. Complete the process with the fourth cut directly above the third cut. Cut downward from the top of the limb stub, using the bottom of the guide bar. Cut through the limb stub to meet the third cut, effectively removing the limb stub.

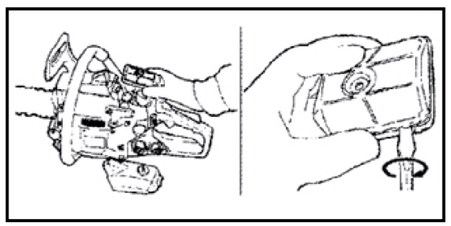


MAINTENANCE

- Before cleaning or performing any maintenance, you must ensure the tool is switched off and disconnected from the power supply.
- Compressed air is the most effective way to clean this tool. Always wear PPE safety goggles when cleaning tools with compressed air.
- Ventilation openings and switch levers must be kept clean. DO NOT attempt to clean by inserting pointed objects through openings.
- Do not use harsh chemicals or solvents when cleaning this tool.
- If you discover any damaged or broken parts, consult your nearest ToolShed for replacements and advise.

Air Filter

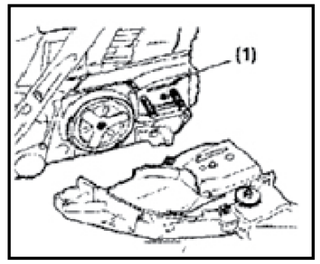
- After each use, loosen the knob and remove the air cleaner cover.
- Take off the filter element and brush off any sawdust. When the filter is clogged with dust, separate it in halves and shake-wash with gasoline.
- When using compressed air, blow from the inside out.
- To reassemble, press the two halves together until you hear a click.



NOTE: When installing the main filter, make sure that the grooves on the filter edge are correctly fit with the projections on the cylinder cover.

Oiling Port

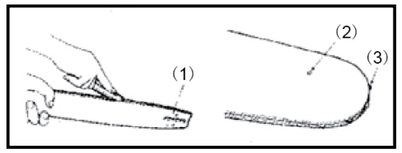
- After each use, dismount the guide bar and check the oiling port for clogging.



1 = Oiling Port

Guide Bar

- After each use, when the guide bar is dismounted, remove sawdust in the bar groove and the oiling port. Grease the nose sprocket from the feeding port on the tip of the bar.



1 = Oiling Port
2 = Grease Port
3 = Sprocket

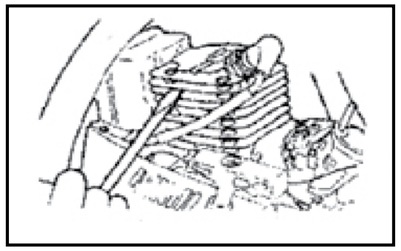
Other

- After each use, check for fuel leakage and loose fastenings and damage to major parts, especially handle joints and guide bar mounting.
- If any defects are found, make sure to have them repaired before operating the saw again.

PERIODIC MAINTENANCE

Cylinder Fins

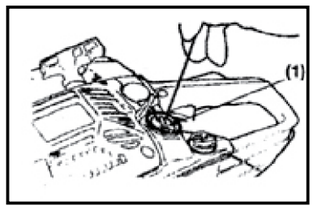
- Dust clogging between the cylinder fins will cause overheating of the engine.
- Periodically check and clean the cylinder fins after removing the air cleaner and the cylinder cover.
- When installing the cylinder cover, make sure that switch wires and grommets are positioned correctly in place.



NOTE: Be sure to block the air intake hole.

Fuel Filter

- Using a wire hook, take out the filter from the filler port.



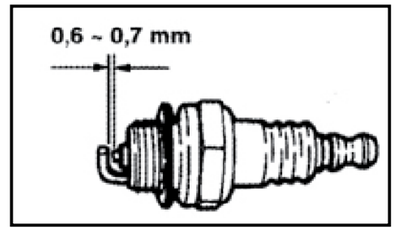
1 = Fuel Filter

- Disassemble the filter and wash with gasoline, or replace with a new one if needed.

NOTE: After removing the filter, use a pinch to hold the end of the suction pipe. When assembling the filter, take care not to allow filter fibres or dust inside the suction pipe.

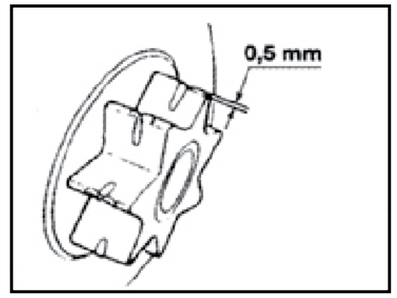
Spark Plug

- Clean the electrodes with a wire brush and reset the gap to 0.65mm as necessary.



Sprocket

- Check for cracks and for excessive wear interfering with the chain drive. If the wear is considerable, replace it with new one. Never fit a new chain on a worn sprocket, or a worn chain on a new sprocket.



SAW BAR & CHAIN MAINTENANCE

Saw Chain

⚠ WARNING

It is very important for smooth and safe operation to always keep the cutters sharp.

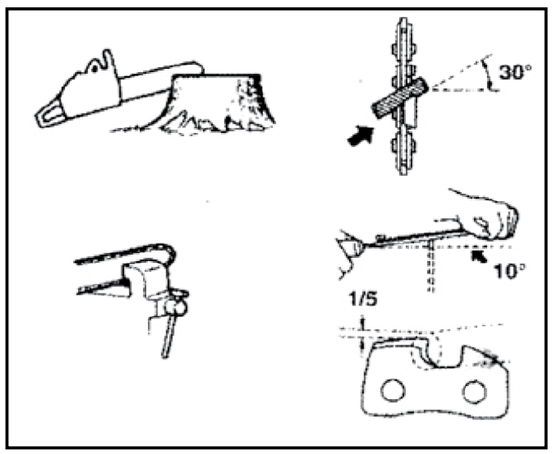
The cutters need to be sharpened when:

- Sawdust becomes powder-like.
- You need extra force to saw in.
- The cut path does not go straight.
- Vibration increases.
- Fuel consumption increases.

Cutter Setting Standards

Be sure to wear safety gloves, before filing:

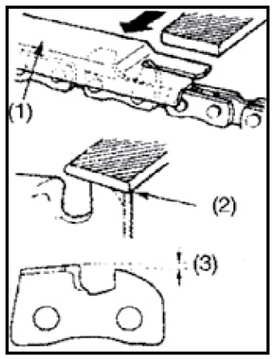
- Make sure the saw chain is held securely.
- Make sure the engine is stopped.
- Use a round file of proper size for the chain (see *"Chain Maintenance Table"*).
- Place the file on the cutter and push straight forward.
- Keep the file position as illustrated below.



- After each cutter has been filed, check the depth gauge and file it to the proper level as illustrated.

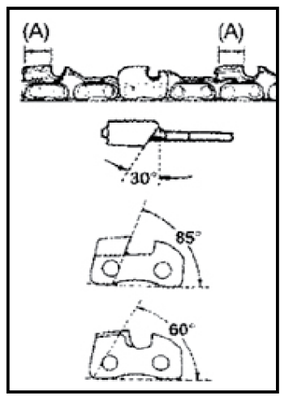
⚠ WARNING

Be sure to round off the front edge to reduce the chance of kickback or tie-strap breakage.



1 = Appropriate Gauge Checker
2 = Depth Gauge Standard
*3 = Make The Shoulder Round: (See "*Chain Maintenance Table*")*

- Make sure every cutter has the same length and edge angles as illustrated.

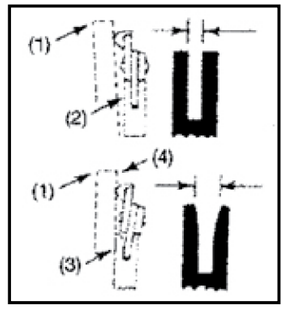


A = Cutter length
30° = Filing angle
85° = Side plate angle
60° = Top plate cutting angle

SAW BAR & CHAIN MAINTENANCE

Guide Bar

- Reverse the bar occasionally to prevent partial wear.
- The bar rail should always be square.
- Check for wear of the bar rail. Apply a ruler to the bar and the outside of a cutter. If a gap is observed between them, the rail is normal. Otherwise, the bar rail is worn. Such a bar needs to be corrected or replaced.



1 = Ruler
2 = Gap
3 = No gap
4 = Chain tilts

Chain Maintenance Table

Chain Stroke		*Limiter Tooth Level (A)*		*File Diameter (D)*	
MM	*INCHES*	*MM*	*INCHES*	*MM*	*INCHES*
9.35	3/8mini	0.45	0.018	4.0	5/32
8.25	0.352	0.65	0.026	4.8	3/16
9.32	3/8	0.65	0.026	5.2	13/64
10.26	0.404	0.80	0.031	5.6	7/32

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED SOLUTION
Starting Failure	Check fuel for water or substandard mixture	Replace with proper fuel.
WARNING: Make sure the icing prevention system is not working.	Check for engine flooding	Remove and dry the spark plug. Then pull the starter again with no choke.
	Check spark ignition	Replace with a new plug.
Lack of Power/Poor Acceleration/Rough Idling	Check fuel for water or substandard mixture	Replace with proper fuel.
	Check air filter and fuel filter for clogging	Clean.
	Check carburettor for inadequate adjustment	Readjust speed needles.
Oil Does Not Come Out	Check oil for substandard quality	Replace.
	Check oil passage and ports for clogging	Clean.
Engine Smokes Excessively.	Too much oil mixed with gasoline	Empty fuel tank and refill with correct fuel mixture.