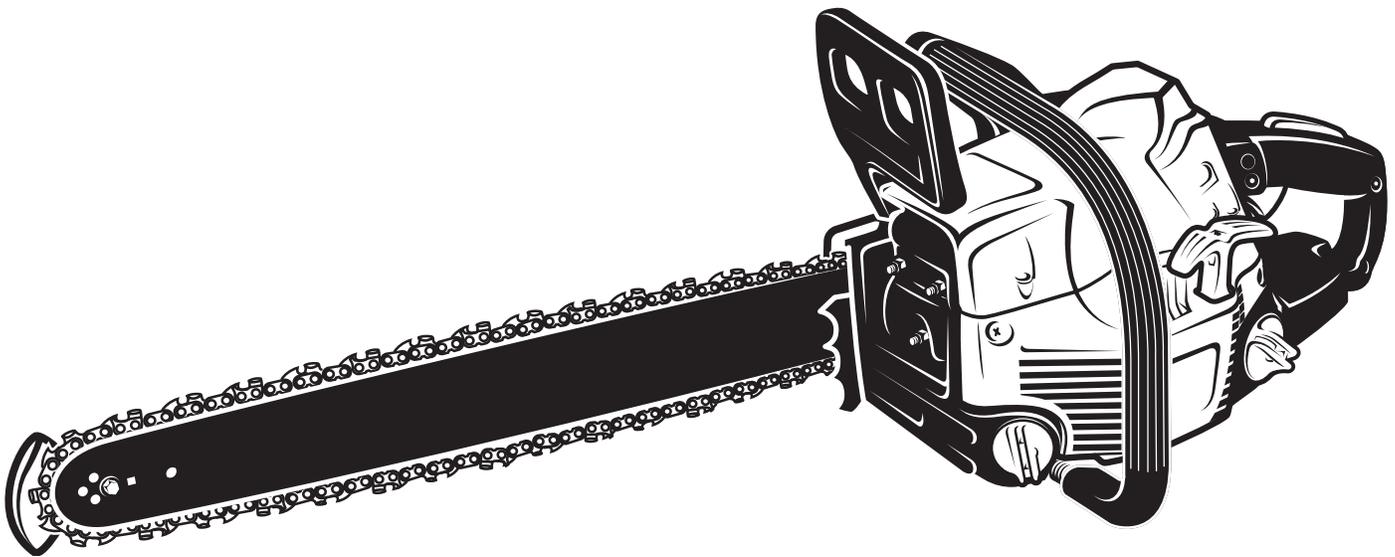




OPERATOR'S MANUAL

PCN3840 - RY74005D - 406 mm (16 in.) 38cc Chainsaw

PCN4545 - RY74007D - 457 mm (18 in.) 45cc Chainsaw



Your new chainsaw has been engineered and manufactured to Ryobi's high standard for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance.



WARNING: To reduce the risk of injury, the user must read and understand the operator's manual before using this product.

Thank you for buying a Ryobi chainsaw.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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INTRODUCTION

IMPORTANT

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. When servicing use only identical Ryobi replacement parts.

For safe operation, read and understand all instructions before using the chainsaw. Follow all safety instructions. Failure to follow all safety instructions listed below may result in serious personal injury.

WARNING:

Carefully read through this entire operator's manual before using your new saw. Pay close attention to the Safety Rules and all Safety Alert Symbols including Danger, Warning, and Caution. These safety rules are for your safety and to prevent possible serious injury. If you use your saw properly and only for what it is intended, you will enjoy years of safe, reliable service.



Look for this symbol to point out important safety precautions. It means attention!!! Your safety is involved.

WARNING:



The operation of any tool can result in foreign objects being thrown into your eyes which can result in severe eye damage. Before beginning tool operation, always wear safety goggles or safety glasses with side shields and a full face shield when needed. We recommend Wide Vision Safety Mask for use over spectacles or standard safety glasses with side shields. Always wear eye protection.

GENERAL SAFETY RULES

WARNING:

The warnings, labels, and instructions found in this section of the operator's manual are for your safety. Failure to follow all instructions may result in serious personal injury.

Safe operation of this tool requires that you read and understand this operator's manual and all labels affixed to the tool. Safety is a combination of using common sense, staying alert, and knowing how your saw works.

READ ALL INSTRUCTIONS

■ **KNOW YOUR TOOL.** Read the operator's manual carefully. Learn the saw's applications and limitations as well as the specific potential hazards related to this tool.

■ **CHAINSAWS** are designed for cutting wood only.

■ **KICK-BACK 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 toward the operator. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back toward the operator. Either of these reactions may cause you to lose control of the saw which could result in serious personal injury. **DO NOT** rely exclusively upon the safety devices built into your saw. As a chainsaw user, you should take several steps to keep your cutting jobs free from accident or injury.

1. With a basic understanding of kick-back, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
2. Keep a good firm grip on the saw with both hands when the engine is running. Place your right hand on the rear handle and your left hand on the front handle with your thumbs and fingers encircling the chainsaw handles. A firm grip together with a stiff left arm will help you maintain control of the saw if kick-back occurs.

3. Make sure that the area in which you are cutting is free from obstructions. **DO NOT** let the nose of the guide bar contact a log, branch, fence, or any other obstruction that could be hit while you are operating the saw.
4. Cut at high engine speeds. Always cut with the engine running at full speed. Fully squeeze the throttle trigger and maintain a steady cutting speed.
5. Do not overreach or cut above chest height.
6. Follow the manufacturer's sharpening and maintenance instructions for the saw chain.
7. Use only replacement bars and chains specified by the manufacturer or the equivalent.

■ **DO NOT OPERATE A CHAINSAW WITH ONE HAND.** Serious injury to the operator, helpers and/or bystanders may result from one-handed operation. A chainsaw is intended for two-handed use.

■ **DO NOT OPERATE A CHAINSAW WHEN YOU ARE FATIGUED.** Never operate a chainsaw when you are tired or under the influence of medication, drugs, or alcohol.

■ **USE SAFETY FOOTWEAR.** Wear snug-fitting clothing, protective gloves, and eye, hearing, and head protection devices.

■ **DO NOT STAND ON ANY UNSTABLE SURFACE** while using your chainsaw: that includes ladders, scaffolds, trees, etc.

■ **USE CAUTION WHEN HANDLING FUEL.** Move the chainsaw at least 50 feet (15 m) from the refuelling point before starting the engine.

■ **DO NOT ALLOW OTHER PERSONS** to be near the chainsaw when starting or cutting with the chainsaw. Keep bystanders and animals out of the work area.

■ **DO NOT START CUTTING** until you have a clear work area, secure footing, and a planned retreat path from the falling tree.

GENERAL SAFETY RULES

- **KEEP ALL PARTS OF YOUR BODY** away from the saw chain when the engine is running.
- **ALWAYS CARRY THE CHAINSAW WITH THE ENGINE STOPPED AND THE BRAKE ENGAGED**, the guide bar and saw chain to the rear, and the silencer away from your body. When transporting the chainsaw, use the appropriate guide bar scabbard.
- **DO NOT OPERATE A CHAINSAW THAT IS DAMAGED**, improperly adjusted, or not completely and securely assembled. Be sure that the saw chain stops moving when the throttle control trigger is released.
- **TURN OFF THE ENGINE** before putting the chainsaw down. **DO NOT** leave the engine running unattended. As an additional safety precaution, apply the chain brake before putting down the saw.
- **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.
- **WHEN CUTTING A LIMB** under tension, be alert for spring-back so that you will not be struck when the tension in the wood fibres is released.
- **KEEP THE HANDLES** dry, clean, and free of oil or fuel mixture.
- **OPERATE THE CHAINSAW ONLY** in well-ventilated areas.
- **DO NOT OPERATE A CHAINSAW IN A TREE** unless you have been specifically trained to do so.
- **ALL CHAINSAW SERVICE**, other than the items listed in the instruction manual and all maintenance, should be performed by competent chainsaw 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 subsequently cause the flywheel to burst.)
- **KEEP SAFE-T-TIP® ANTI-KICK-BACK NOSE GUARD** properly mounted on the guide bar to prevent rotational kick-back.
- **FOLLOW THE SHARPENING** and maintenance instructions for the saw chain.
- **USE ONLY THE REPLACEMENT GUIDE BARS** and low kick-back chains specified for your saw.
- **DO NOT** adapt your powerhead to a bow guide or use it to power any attachments or devices not listed for your saw.
- **SAVE THESE INSTRUCTIONS.** Refer to them frequently and use to instruct other users. If you lend someone this tool, lend them these instructions also.

SPECIFIC SAFETY RULES

WARNING:

The warnings, labels, and instructions found in this section of the operator's manual are for your safety. Failure to follow all instructions may result in serious personal injury.

GENERAL PRECAUTIONS

- **DO NOT CUT VINES** and/or small undergrowth (less than 76 mm (3 in.) in diameter).
- **SILENCER SURFACES ARE VERY HOT** during and after operation of the chainsaw; keep all body parts away from the silencer. Serious burns may occur if contact is made with the silencer.
- **ALWAYS HOLD THE CHAINSAW WITH BOTH HANDS** when the engine is running. Use a firm grip with thumbs and fingers encircling the chainsaw handles.
- **NEVER LET ANYONE USE YOUR CHAINSAW** who has not received adequate instructions in its proper use. This applies to rentals as well as privately owned saws.
- **BEFORE YOU START THE ENGINE**, make sure the saw chain is not contacting any object.
- **OPERATE THE CHAINSAW** only in well ventilated areas.

SPECIFIC SAFETY RULES

PROPER CLOTHING FOR SAFETY

- Wear close-fitting clothing. Always wear heavy, long trousers, boots, and gloves. Do not wear jewellery, shorts, sandals, or go barefoot. Do not wear loose-fitting clothing, which could be drawn into the engine or catch the chain or undergrowth. Wear overalls, jeans, or leggings made of cut-resistant material or ones that contain cut-resistant inserts. Secure hair so that it is above shoulder level.
- Wear non-slip safety footwear and heavy-duty gloves to improve your grip and to protect your hands.
- Wear eye, hearing, and head protection when operating this equipment.

REFUELLING (DO NOT SMOKE!)

- To reduce the risk of fire and burn injury, handle fuel with care. It is highly flammable.
- Mix and store fuel in a container approved for petrol.
- Mix fuel outdoors where there are no sparks or flames.
- Select bare ground, stop the engine, and allow it to cool before refuelling.
- Loosen the fuel cap slowly to release pressure and to keep fuel from escaping around the cap.
- Tighten the fuel cap securely after refuelling.
- Wipe spilled fuel from the unit. Move 15 m (50 ft.) away from refuelling site before starting engine.
- Never attempt to burn off spilled fuel under any circumstances.

BASIC PRECAUTIONS IN THE CUTTING/WORK AREA

- Do not operate a chainsaw in a tree.
- Do not cut from a ladder: this is extremely dangerous.
- Keep bystanders and animals out of the work area. Do not allow other persons to be nearby during starting or cutting with the chainsaw.

NOTE: The size of the work area depends on the job being performed as well as the size tree or workpiece involved. For example, felling a tree requires a larger work area than making other cuts, i.e., bucking cuts, etc.

PUSH AND PULL

The reaction force is always opposite to the direction the chain is moving. Thus, the operator must be ready to control the PULL when cutting on the bottom edge of the bar and the PUSH when cutting along the top edge.

NOTE: Your chainsaw has been fully factory tested. It is normal to find some slight oil residue on the saw.

MAINTENANCE PRECAUTIONS

Never operate a chainsaw that is damaged, improperly adjusted, or is not completely and securely assembled. Be sure that the saw chain stops moving when the throttle control trigger is released. If the saw chain moves at idling speed, the carburettor may need adjusting. Refer to "Operation – Adjusting Idling Speed" later in this manual. If the saw chain still moves at idling speed after adjustment has been made, contact a Ryobi service dealer for adjustment and discontinue use until the repair is made.

WARNING:

All chainsaw service, other than items in the operator's manual maintenance instructions, should be performed by competent chainsaw service personnel. If improper tools are used to remove the flywheel or clutch, or if an improper tool is used to hold the flywheel in order to remove the clutch, structural damage to the flywheel could occur which could subsequently cause the flywheel to burst and serious injury could result.

KICK-BACK

Kick-back is a dangerous reaction that can lead to serious injury. Do not rely only on the safety devices provided with your saw. As a chainsaw user, you must take special safety precautions to help keep your cutting jobs free from accident or injury.

NOTE: Refer to "Operation" later in this manual for added information on kick-back and how to avoid serious personal injury.

SYMBOLS

Important: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and more safely.

SYMBOL	NAME	EXPLANATION
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!! Your safety is involved.
	Read Your Operator's Manual	Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.
	Eye, Hearing, and Head Protection	Wear eye, hearing, and head protection when operating this equipment.
	SAFE-T-TIP® Nose Guard	The SAFE-T-TIP® nose guard on the guide bar helps prevent kick-back.
	No Smoking	No smoking, sparks, or open flame when mixing fuel or filling the fuel tank.
	Operate with Two Hands	Hold and operate the saw properly with both hands.
	One Handed	Do not operate the saw using only one hand.
	Carbon Monoxide	Engines produce carbon monoxide which is an odourless, deadly poison. Do not operate in an enclosed area.
	Kick-back	Danger – beware of kick-back.
	Bar Nose Contact	Avoid bar nose contact.
	Gloves	Wear non-slip gloves.
	Switch	To stop the engine, move the switch to the "O" STOP position. I = ON to Run O = OFF to Stop

SYMBOLS

	Petrol	Use unleaded petrol intended for motor vehicle use with an octane rating of 87 ([R + M] / 2) or higher.
	Oil	Use 2-cycle oil for air cooled engines.
	Mix Petrol and Oil	Mix the fuel mix thoroughly and also each time before refuelling.

SAVE THESE INSTRUCTIONS

SPECIFICATIONS

Weight - No bar, chain, fuel or oil	4.4 kg (9.7 lbs)
Fuel tank capacity	20.25 oz.(19.4 oz.)
Oil tank capacity	12.3 oz. (11.8 oz.)
Bar lengths	41 - 50 cm (16 - 20 in.)
Chain pitch	8.26 mm (.325 in.)
Chain gauge	1.27 mm (.050 in.)
Chain type	Semi-Chisel, LoPro
Drive sprocket	7 - tooth
Engine displacement	45 cm ³ (2.75 cu. in.)
Maximum engine power (ISO 7293)	1.9 kW (2.5 HP)
Maximum engine speed with attachment	12,500 min ⁻¹
Idle engine speed	2,800 - 3,400 min ⁻¹
Sound pressure level (ISO 7182)	LpA av = 103.9 dBA
Sound power level (ISO 9207)	LwA av = 110 dBA
Vibration (ISO 7505):	
Front Handle	3.5 m/s ²
Rear Handle	7.7 m/s ²

FEATURES

See Figure 1.

- (A) Front hand guard/Chain Brake
- (B) Front handle
- (C) Cylinder cover
- (D) Primer bulb
- (E) Choke Lever
- (F) Chain
- (G) SAFE-T-TIP®
- (H) Guide Bar
- (I) Chain Catcher
- (J) Trigger Release

- (K) Throttle Lock Button
- (L) Chain Oil Cap
- (M) Silencer
- (N) Carburettor Adjustment
- (O) Rear handle
- (P) Throttle Trigger
- (Q) Fuel Mix Cap
- (R) On/Off Switch
- (S) Starter/Fan Housing
- (T) Starter Grip

OPERATION

For your safety, study this entire manual before operating the saw. Pay particular attention to the precautions and instructions listed in the operator's manual.

WARNING:

The warnings and instructions in this section of the operator's manual are for your safety and to prevent serious personal injury.

UNDERSTANDING YOUR CHAINSAW SAFETY DEVICES

SAFE-T-TIP® ANTI-KICK-BACK NOSE GUARD

See Figure 2.

The SAFE-T-TIP® (A) prevents kick-back because it covers the tip of the bar where rotational kick-back is generated. Inexperienced persons should never attempt to cut when the SAFE-T-TIP® has been removed from the bar tip.

Users such as professional loggers who need to draw the tip through the cut, make boring cuts, or cut logs bigger than the bar length, should reinstall the SAFE-T-TIP® as soon as those cuts are complete. When cutting without the SAFE-T-TIP®, the user must use proper techniques as shown in the manual to avoid kick-back.

NOTE: Refer to "Maintenance" later in this manual for instructions on reinstalling the SAFE-T-TIP® nose guard.

LOW KICK-BACK SAW CHAIN

A low-kick-back saw chain is a chain which has met the kick-back performance requirements of ANSI B175.1-2000 (American National Standard for Power Tools - Petrol-Powered Chainsaws - Safety Requirements) when tested on the representative sample of chainsaws below 3.8 c.i.d. specified in ANSI B175.1-2000.

The rakers (depth gauges) ahead of each cutter can minimise the force of a kick-back reaction by preventing the cutters from digging in too deeply at the kick-back zone. Only use replacement chain that is equivalent to the original chain or has been certified as a low kick-back chain.

As saw chains are sharpened, they lose some of the low kick-back qualities and extra caution is required.

GUIDE BARS

Generally, guide bars with small radius tips have somewhat lower kick-back potentials.

When making a replacement, be sure to order one of the Ryobi bars listed for your saw in this operator's manual. The proper size SAFE-T-TIP® nose guard comes installed on the bar. Use only guide bars that have a provision for mounting the SAFE-T-TIP®.

CHAIN BRAKE

See Figure 3.

Chain brakes are designed to quickly stop the chain from rotating. When the chain brake lever/hand guard is pushed towards the bar, the chain should stop immediately. A chain brake does not prevent kick-back.

The chain brake should be cleaned and tested daily. Refer to "Operation" later in this manual for additional information.

- (A) RUN POSITION
- (B) BRAKE POSITION

WARNING:

Even with daily cleaning of the mechanism, the dependability of a chain brake to perform under field conditions cannot be certified. Keep the SAFE-T-TIP nose guard on the saw guide bar and use proper cutting techniques.

OPERATION

WARNING:

KICK-BACK occurs when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning-fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious injury.

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

KICK-BACK PRECAUTIONS

See Figures 4 and 5.

Rotational kick-back (**A**) occurs when the moving chain contacts an object at the Kick-back Danger Zone (**B**) of the guide bar. The result is a lightning-fast, reverse reaction which kicks the guide bar up and back towards the operator. This reaction may cause loss of control which can result in serious injury.

FUEL AND REFUELLING

HANDLING THE FUEL SAFELY

WARNING:

Always turn off engine before refuelling. Never add fuel to a machine with a running or hot engine. Move at least 15 m (50 ft.) from refuelling site before starting the engine. **DO NOT SMOKE!** Failure to heed this warning can result in possible personal injury.

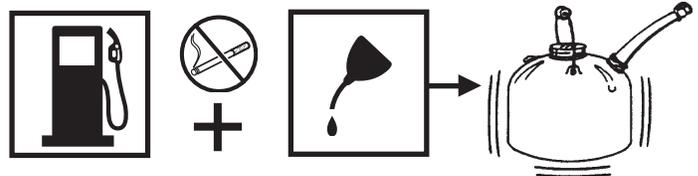
WARNING:

Check for fuel leaks. If any are found, correct them before using the saw to prevent fire or burn injury.

- Always handle fuel with care: it is highly flammable.
- Always refuel outdoors and do not inhale fuel vapour.
- Do not let petrol or oil come in contact with skin.
- Keep petrol and oil away from the eyes. If petrol or oil comes in contact with the eyes, wash them immediately with clean water. If irritation is still present, see a doctor immediately.
- Clean up spilled fuel immediately.

MIXING THE FUEL

- This product is powered by a 2-cycle engine and requires pre-mixing petrol and 2-cycle oil. Pre-mix unleaded petrol and 2-cycle engine oil in a clean container approved for petrol.
- This engine is certified to operate on unleaded petrol intended for motor vehicle use with an octane rating of 87 $([R + M] / 2)$ or higher.
- Do not use any type of pre-mixed petrol/oil from fuel service stations. This includes the pre-mixed petrol/oil intended for use in mopeds, motorcycles, etc.
- Use a high quality 2-cycle self-mixing oil for air-cooled engines. Do not use motor vehicle oil or 2-cycle outboard oil.
- Mix 2% oil into the petrol. This is a 50:1 ratio.
- Mix the fuel thoroughly each time before refuelling.
- Mix in small quantities. Do not mix quantities larger than usable in a 30-day period. A 2-cycle oil containing a fuel stabiliser is recommended.



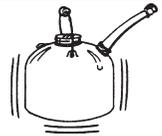
FILLING THE TANK

See Figure 6.

Refer to "Specific Safety Rules – Refuelling" earlier in this manual for additional safety information.

1. Clean the surface around fuel cap to prevent contamination.
2. Loosen the fuel cap slowly.
3. Carefully pour the fuel mixture into the tank. Avoid spillage.
4. Prior to replacing the fuel cap, clean and inspect the gasket.
5. Immediately replace the fuel cap and hand tighten. Wipe up any fuel spillage.

NOTE: It is normal for the engine to emit smoke during and after the first use.

	+		=	
1 Litre	+	20 ml	=	} 50:1
2 Litres	+	40 ml	=	
3 Litres	+	60 ml	=	
4 Litres	+	80 ml	=	
5 Litres	+	100 ml	=	

CHAIN OIL SYSTEM

See Figure 7.

Use RYOBI Bar and Chain Oil. It is designed for chains and chain oilers, and is formulated to perform over a wide temperature range with no dilution required. Chainsaw should use approximately one tank of oil per tank of fuel.

OPERATION

NOTE: Do not use dirty, used or otherwise contaminated oils. Damage may occur to the oil pump, bar, or chain.

1. Carefully pour the bar and chain oil into the tank.
2. Fill the oil tank every time you fuel the engine.

STARTING THE ENGINE

See Figure 8.

WARNING:

Keep your body to the left of the chain line. Never straddle the saw or chain, or lean over past the chain line.

1. Place the chainsaw on level ground and ensure that no objects or obstructions which could come in contact with the bar and chain are in the immediate vicinity.
2. Hold the front handle firmly with the left hand and put your right foot onto the base of the rear handle.

STARTING A COLD ENGINE:

See Figure 3 and 8 through 14.

3. Move the chain brake to the BRAKE position (B).
See Figure 3.

NOTE: Set the chain brake by pushing the chain brake lever/hand guard forward (towards the bar), to the brake position. Refer to “Operation – Operating the Chain Brake” later in this manual for additional information.

4. Set the ignition switch to the RUN (I) position (A).
5. Fully press and release the PRIMER BULB (C) 7 times.
6. Pull CHOKE (D) lever all the way OUT to full position (E). The partial throttle position is automatically set when the choke lever is set at full choke.
7. Pull STARTER (F) until engine attempts to start.

Slowly pull the starter grip out for a short distance until you feel the starter engage, then briskly pull straight up. Do not pull to the end of the rope; this may damage the starter. Hold onto the grip during rewinding.

Pull the starter rope until the first firing of the engine is heard (no more than five pulls).

NOTE: A new unit may require additional pulls.

8. Push CHOKE lever (D) all the way IN (G).
9. Pull STARTER until engine runs.

NOTE: Allow the saw to run in this position 15-30 seconds depending upon the temperature.

10. SQUEEZE and release the throttle trigger (H).
Depress the throttle trigger which releases the trigger lock button. Squeeze and release the throttle trigger to let the engine idle.

11. Move chain brake to RUN position.
Place chain brake lever/hand guard into the RUN position. Refer to “Operation – Operating Chain Brake” for additional information.

CAUTION:

Failure to release partial throttle when chain brake lever is in the brake position will result in serious damage to the unit. Never squeeze and hold the throttle trigger while the chain brake is in the brake position.

CAUTION:

Failure to release partial throttle when chain brake lever is in the brake position will result in serious damage to the unit. Never squeeze and hold the throttle trigger while the chain brake is in the brake position.

Now you are ready to pick up the saw. Use the proper grip for both handles. Refer to “Operation – Proper Grip on Handles” later in this manual for additional information.

STARTING A WARM ENGINE:

Follow the instructions for starting a cold engine (steps 1-9), but do not attempt to start in the full choke position (skip step 5). Push and release primer bulb 7 times. Pull the choke out and push back it in to the original run position.

STOPPING THE ENGINE

See Figures 15.

Release the throttle trigger and let the engine return to idle. To stop the engine, move the ignition switch to the “O” stop position (J). Do not put the chainsaw on the ground when the chain is still moving. For additional safety, set the chain brake when the saw is not in use.

In the event that the ignition switch will not stop the saw, pull the choke lever out to the fully extended position (Full Choke) and engage chain brake to stop the engine.

If the ignition switch will not stop the saw when set to the “O” stop position, have the ignition switch repaired before using the chainsaw again to prevent unsafe conditions or serious injury.

Important: When you have finished using the saw, relieve tank pressures by loosening the CHAIN OIL and FUEL MIX caps. Then retighten the caps. Allow the engine to cool before storing.

PREPARING FOR CUTTING

PROPER CLOTHING FOR SAFETY

See Figure 16.

- Wear loose-fitting clothing (A). Always wear heavy, long trousers (B), boots (C), and gloves (D). Do not wear jewellery, shorts, sandals, or go barefoot. Do not wear loose-fitting clothing, which could be drawn into the engine or catch the chain or undergrowth. Wear overalls, jeans, or leggings made of cut-resistant material or ones that contain cut-resistant inserts. Secure hair so that it is above shoulder level.
- Wear non-slip safety footwear and heavy-duty gloves to improve your grip and to protect your hands.
- Wear eye (E), hearing (F), and head (G) protection when operating this equipment.

PROPER GRIP ON HANDLES

See Figures 17 and 18.

Refer to “Specific Safety Rules – Proper Clothing for Safety” earlier in this manual for appropriate safety equipment.

- Wear non-slip gloves for maximum grip and protection.

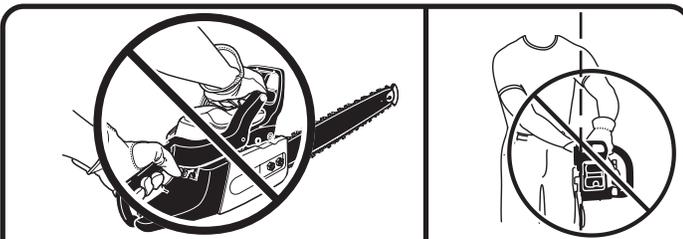
OPERATION

- Hold the saw firmly with both hands. Always keep your **LEFT HAND** on the front handle and your **RIGHT HAND** on the rear handle so that your body is to the left of the chain line.

WARNING:

Never use a left-handed (cross-handed) grip or any stance that would place your body or arm across the chain line.

- Maintain a proper grip on the saw whenever the engine is running. The fingers should encircle the handle and the thumb be wrapped under the handlebar. This grip is least likely to be broken (by a kick-back or other sudden reaction of the saw). Any grip in which the thumb and fingers are on the same side of the handle is dangerous because a slight kick of the saw can cause loss of control.



WARNING:

CHAIN LINE →

DO NOT operate the throttle trigger with your left hand and hold the front handle with your right hand. Never allow any part of your body to be in the chain line while operating a saw.

PUSH AND PULL

See Figure 19.

The reaction force is always opposite to the direction the chain is moving. Thus, the operator must be ready to control the **PULL (A)** when cutting on the bottom edge of the bar and the **PUSH (B)** when cutting along the top edge.

NOTE: Your chainsaw has been fully factory tested. It is normal to find some slight oil residue on the saw.

PROPER CUTTING STANCE

See Figure 20.

- Balance your weight with both feet on solid ground.
- Keep left arm with elbow locked in a “straight arm” position (**B**) to withstand any kick-back force.
- Keep your body to the left of the chain line (**A**).
- Keep your thumb on underside of handlebar (**C**).

BASIC OPERATING/CUTTING PROCEDURES

Practise cutting a few small logs using the following technique to get the “feel” of using your saw before you begin a major sawing operation.

1. Take the proper stance in front of the wood with the saw idling.

2. Accelerate the engine to full throttle just before entering the cut by squeezing the throttle trigger.
3. Begin cutting with the saw against the log.
4. Keep the engine at full throttle the entire time you are cutting.
5. Allow the chain to cut for you; exert only light downward pressure. Forcing the cut could result in damage to the bar, chain, or engine.
6. Release the throttle trigger as soon as the cut is completed, allowing the engine to idle. Running the saw at full throttle without a cutting load may result in unnecessary wear to the chain, bar, and engine.
7. Do not put pressure on the saw at the end of the cut.

WORK AREA PRECAUTIONS

See Figure 21.

- Cut only wood or materials made from wood; no sheet metal, no plastics, no masonry, no non-wood building materials.
- Never allow children to operate your saw. Allow no person to use this chainsaw who has not read this operator’s manual or received adequate instructions for the safe and proper use of this chainsaw.
- Keep everyone – helpers, bystanders, children, and animals, a **SAFE DISTANCE** from the cutting area. During felling operations, the safe distance should be a least twice the height of the largest trees in the felling area. During bucking operations, keep a minimum distance of 15 ft (4.5 m) between workers.
- Always cut with both feet on solid ground to prevent being pulled off balance.
- Do not cut above chest height as a saw held higher is difficult to control against kick-back forces.
- Do not fell trees near electrical wires or buildings. Leave this operation for professionals.
- Cut only when visibility and light are adequate for you to see clearly.

ADJUSTING THE CARBURETTOR

See Figures 22, 23, and 24.

Before adjusting the carburettor, clean the air filter (**A**) and the starter cover vents (**B**). Allow the engine to warm up prior to carburettor adjustment. Refer to “Maintenance” later in this manual.

The carburettor is factory set and should not require adjusting. The carburettor will permit only limited adjustment of the “**L**” (Low Jet) and “**H**” (High Jet) needles. Any adjustment should be done by a Ryobi service dealer.

Under no circumstances should the “**L**” (Low Jet) and “**H**” (High Jet) needles be forced outside the range of adjustment.

CAUTION:

Serious damage may occur to the engine if improper adjustments are made to the “**L**” and “**H**” needles. Do not force the “**L**” and “**H**” needles outside the adjustment range!

OPERATION

ADJUSTING IDLING SPEED

See Figure 24.

- If the engine starts, runs, and accelerates but will not idle, turn the idling speed screw “T” clockwise to increase idling speed.
- If the chain turns at idle, turn the idling speed screw “T” anticlockwise to reduce the idle RPM and stop the chain movement. If the saw chain still moves at idling speed, contact a Ryobi service dealer for adjustment and discontinue use until the repair is made.

WARNING:

THE SAW CHAIN SHOULD NEVER TURN AT IDLE. Turn the idling speed screw “T” anticlockwise to reduce the idle RPM and stop the chain, or contact a Ryobi service dealer for adjustment and discontinue use until the repair is made.

Serious personal injury may result from the saw chain turning at idle.

OPERATING THE CHAIN BRAKE

See Figures 25 and 26.

Refer to “Safety” earlier in this manual for additional information.

Check the operating condition of the chain brake prior to each use.

1. Start the engine and grasp the front and rear handles securely with both hands.
2. Pull the throttle trigger to bring the chainsaw up to full speed. Using the back of your left hand, engage the chain brake (A) by pushing the chain brake lever/hand guard toward the bar while the chain is rotating rapidly. See Figure 25.
NOTE: The chain brake should engage and stop the chain immediately. If not, stop the saw by placing the ignition switch in the “O” stop position. Take the saw to a Ryobi service dealer for repair and discontinue use until the repair is made.
3. Reset the chain brake back into the RUN position (B) by grasping the right-hand side (from operator’s position) of the chain brake lever/hand guard and pull towards the front handle until you hear a click. See Figure 26.

FELLING TREES - HAZARDOUS CONDITIONS

See Figure 27.

WARNING:

Do not fell trees during periods of high wind or heavy precipitation. Wait until the hazardous weather has ended.

When felling a tree, it is important that you heed the following warnings to prevent possible serious injury.

- Wear eye, hearing, and head protection (A) when operating this equipment.
- Do not cut down trees having an extreme lean or large trees with rotten or dead limbs, loose bark, or hollow trunks. Have these trees pushed or dragged down with heavy equipment, then cut them up.

- Consider the distribution and weight of heavy limbs (B).
- Clear out the undergrowth around the tree to be felled (C).
- Do not cut trees near electrical wires or buildings (D).
- Consider the direction in which the tree leans (E).
- Check the tree for damaged or dead branches which could fall and hit you during felling (F).
- Periodically glance at the top of the tree during the back-cut to assure the tree is going to fall in the desired direction.
- Keep all bystanders at a safe distance (G) (at least twice the height of the tree).
- Prepare a path of safe retreat (H).
- If the tree starts to fall in the wrong direction, or if the saw gets caught or hung up during the fall, leave the saw and save yourself!
- Consider the wind direction before felling a tree.
- Do not fell trees near power lines or near buildings which could be struck by falling limbs or the tree itself.
- The chainsaw operator should keep on the uphill side of the terrain as the tree is likely to roll or slide downhill after it is felled.
- Remove dirt, stones, loose bark, nails, staples, and wire from the tree where felling cuts are to be made.

WARNING:

Do NOT fell trees near power lines or near buildings which could be struck by falling limbs or the tree itself.

PROPER PROCEDURE FOR TREE FELLING

See Figure 28 through 31.

1. Pick your escape route (or routes in case the intended route is blocked). Clear the immediate area around the tree and make sure there are no obstructions in your planned path of retreat. Clear the path of safe retreat approximately 135° from the planned line of fall (A).
2. Consider the force and direction of the wind, the lean and balance of the tree, and the location of large limbs. These things influence the direction in which the tree will fall. Do not try to fell a tree along a line different from its natural line of fall (B).
3. Cut a notch about 1/3 the diameter of the trunk in the side of the tree (C). Make the notch cuts so they intersect at right angles to the line of fall. This notch should be cleaned out to leave a straight line. To keep the weight of the wood off the saw, always make the lower cut of the notch before the upper cut.
4. Make the back-cut (D) level and horizontal, and at a minimum of 2 inches (5 cm) above the horizontal cut of the notch.

NOTE: Never cut through to the notch. Always leave a band of wood between the notch and back cut (approximately 2 inches (5 cm) or 1/10 the diameter of the tree). This is called a “hinge” or “hingewood” (E). It controls the fall of the tree and prevents slipping or twisting or shoot-back of the tree off the stump.

OPERATION

On large diameter trees, stop the back cut before it is deep enough for the tree to either fall or settle back on the stump. Then insert soft wooden or plastic wedges (**F**) into the cut so they do not touch the chain. Drive wedges in, little by little, to help jack the tree over.

When bucking or felling with a wedge, it may be necessary to remove the SAFE-T-TIP® anti-kick-back device to allow the bar to be drawn through the cut. After you complete the cut, reinstall the tip immediately.

5. As tree starts to fall, stop the chainsaw and put it down immediately. Retreat along the cleared path, but watch the action in case something falls your way.

WARNING:

Never cut through to the notch when making a back cut. The hinge controls the fall of the tree: this is the section of wood between the notch and back-cut.

REMOVING BUTTRESS ROOTS

See Figure 32.

A buttress root is a large root extending from the trunk of the tree above the ground. Remove large buttress roots prior to felling. Make the horizontal cut (**A**) into the buttress first, followed by the vertical cut (**B**). Remove the resulting loose section (**C**) from the work area. Follow the correct tree felling procedure after you have removed the large buttress roots. Refer to “Operation – Proper Procedure for Tree Felling” earlier in this manual.

BUCKING

See Figure 33.

Bucking is the term used for cutting a fallen tree to the desired log length.

- Cut only one log at a time.
- Support small logs on a sawing stand or another log while bucking.
- Keep a clear cutting area. Make sure that no objects can contact the guide bar nose and chain during cutting: this can cause kick-back (**A**). To avoid the danger, keep the SAFE-T-TIP® anti-kick-back device attached while cutting. Refer to “Safety – Kick-back” earlier in this manual.
- During bucking operations, stand on the uphill side so that the cut-off section of the log cannot roll over you.
- Sometimes it is impossible to avoid pinching (with just standard cutting techniques) or difficult to predict which way a log will settle when cut.

BUCKING WITH A WEDGE

See Figure 34.

If the wood diameter is large enough for you to insert a soft bucking wedge (**B**) without touching the chain, you should use the wedge to hold the cut open to prevent pinching.

NOTE: When bucking or felling with a wedge, you may need to remove the SAFE-T-TIP® anti-kick-back device to allow the bar to be drawn through the cut. After you have finished, reinstall the tip.

BUCKING LOGS UNDER STRESS

See Figure 35.

- (C) LOG SUPPORTED AT ONE END.
- (D) LOG SUPPORTED AT BOTH ENDS.

Make the first bucking cut (**E**) 1/3 of the way through the log and finish with a 2/3 cut (**F**) on the opposite side. As you cut the log, it will tend to bend. The saw can become pinched or hung in the log if you make the first cut deeper than 1/3 of the diameter of the log.

Give special attention to logs under stress (**G**) to prevent the bar and chain from pinching.

OVERBUCKING

See Figure 19.

Begin on the top side of the log with the bottom of the saw against the log; exert light pressure downward. Note that the saw will tend to pull away from you (**A**).

UNDERBUCKING

See Figure 19.

Begin on the under side of the log with the top of the saw against the log; exert light pressure upward. During underbucking, the saw will tend to push back at you (**B**). Be prepared for this reaction and hold the saw firmly to maintain control.

LIMBING AND PRUNING

See Figure 36.

- Work slowly, keeping both hands on the saw with a firm grip. Maintain secure footing and balance.
- Keep the tree between you and the chain while limbing. Cut from the side of the tree opposite the branch you are cutting.
- Do not cut from a ladder: this is extremely dangerous. Leave this operation for professionals.
- Do not cut above chest height as a saw held higher is difficult to control against kick-back.

WARNING:

Never climb into a tree to limb or prune. Do not stand on ladders, platforms, a log, or in any position which may cause you to lose your balance or control of the saw.

- When pruning trees it is important not to make the flush cut next to the main limb or trunk until you have cut off the limb further out to reduce the weight. This prevents stripping the bark from the main member.
 1. Underbuck the branch 1/3 through for your first cut (**A**).
 2. Overbuck the branch to drop it (**B**).
 3. Finish by cutting smoothly and neatly against the main member (**C**) so the bark will grow back to seal the wound.

WARNING:

If the limbs to be pruned are above chest height, hire a professional to perform the pruning.

OPERATION

CUTTING SPRING POLES

See Figure 37.

A spring pole (**A**) is any log, branch, rooted stump, or sapling which is bent under tension by other wood so that it springs back if the wood holding it is cut or removed. On a fallen tree, a rooted stump has a high potential of springing back to the upright position during the bucking cut to separate the log from the stump. Watch out for spring-poles: they are dangerous.

WARNING:

Spring poles are dangerous and could strike the operator causing the operator to lose control of the chainsaw. This could result in severe or fatal injury to the operator.

MAINTENANCE

ASSEMBLING THE BAR AND CHAIN

See Figures 3 and 38 to 47.

DANGER:

Never start the engine before installing the guide bar, chain, drivecase cover, and clutch drum. Without all these parts in place, the clutch can fly off or explode exposing the user to possible serious injury.

WARNING:

To avoid serious personal injury, read and understand all the safety instructions in this section.

1. Always place the switch in the stop “**O**” position before you work on the saw.
2. Make sure the chain brake is not set by pulling the chain brake lever/hand guard towards the front handle to the RUN position (**A**). See Figure 3.
3. Wear gloves when handling the chain and bar. These components are sharp and may contain burrs.
4. Remove the bar mounting nuts (**B**) using a combination wrench (**C**) or a 5/8 in. spanner.
5. Remove the clutch cover (**D**), and the outer guide bar plate (**E**).
6. Lay out the saw chain in a loop and straighten any kinks. The cutters (**F**) should face in the direction of chain rotation (**G**). If they face backwards, turn the loop over.
7. Place the chain drive links (**H**) into the bar groove (**I**).
8. Position the chain so there is a loop at the back of the bar.
9. Hold the chain in position on the bar and place the loop round the sprocket (**J**).
10. Fit the bar flush against the mounting surface so that the bar studs (**K**) are in the long slot of the bar.
NOTE: When placing the bar on the bar studs ensure that the adjusting pin (**L**) is in the chain tension pin hole.
11. Replace the outer guide bar plate ensuring that the bar pin groove is at the bottom with the upper and lower edges angled away from the guide bar.
12. Replace the clutch cover and bar mounting nuts.

13. Tighten the bar mounting nuts finger tight only. The bar must be free to move for tension adjustment.
14. Remove all slack from the chain by turning the chain tensioning screw (**M**) clockwise until the chain seats snugly against the bar with the drive links in the bar groove.
15. Lift the tip of the guide bar up to check for sagging (**N**).
16. Release the tip of the guide bar and turn the chain tensioning screw 1/2 turn clockwise. Repeat this process until sagging does not exist.
17. Hold the tip of the guide bar up and tighten the bar mounting nuts (**O**) securely.

The chain is correctly tensioned when there is no sagging on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding. See Figure 47. Ensure that the chain brake is not set.

NOTE: If chain is too tight, it will not rotate. Loosen the bar nuts slightly and turn the tension adjuster 1/4 turn anticlockwise. Lift the tip of the guide bar up and retighten the bar nuts securely. Ensure that the chain will rotate without binding.

ADJUSTING THE CHAIN TENSION

See Figures 48, 49, and 50.

WARNING:

Never touch or adjust the chain while the motor is running. The saw chain is very sharp. Always wear protective gloves when performing maintenance on the chain.

1. Stop the engine before setting the chain tension.
2. Make sure the guide bar nuts are loosened to finger tight and turn the chain tensioner clockwise to tension the chain.
NOTE: A cold chain is correctly tensioned when there is no slack on the underside of the guide bar, the chain is snug but can be turned by hand without binding.
3. Retension the chain whenever the flats on the drive links (**A**) hang out of the bar groove.
NOTE: During normal saw operation, the temperature of the chain increases. The drive links of a correctly tensioned warm chain (**B**) will hang approximately 1.25 mm (0.05 in.) out of the bar groove. To help determine the correct warm chain tension, the tip of the combination wrench (**C**) can be used as a guide.

MAINTENANCE

NOTE: New chain tends to stretch. Check the chain tension frequently and tension as required.

CAUTION:

A chain tensioned while warm may be too tight upon cooling. Check the “cold tension” before next use.

CHAIN MAINTENANCE

See Figures 51 and 52.

CAUTION:

Check that the switch is in the STOP “” position before you work on the saw.

Use only a low-kick-back chain on this saw. This fast-cutting chain provides kick-back reduction when properly maintained.

For smooth and fast cutting, maintain the chain properly.

The chain requires sharpening when the wood chips are small and powdery, the chain must be forced through the wood during cutting, or the chain cuts to one side. During maintenance of the chain, consider the following:

- Improper filing angle of the side plate can increase the risk of a severe kick-back.
- Raker (depth gauge) clearance (A). See Figure 55.
 1. Too low increases the potential for kick-back.
 2. Not low enough decreases cutting ability.
- If the cutter teeth hit hard objects such as nails and stones, or are abraded by mud or sand on the wood, have the Ryobi service dealer sharpen the chain.

NOTE: Inspect the drive sprocket for wear or damage when replacing the chain (B). If signs of wear or damage are present in the areas indicated, have the drive sprocket replaced by a Ryobi service dealer. See Figure 56.

SHARPENING THE CUTTERS

See Figures 53 through 56.

PARTS OF A CUTTER

- | | |
|--------------------|----------------|
| (A) Cutting Corner | (E) Gullet |
| (B) Side Plate | (F) Heel |
| (C) Depth Gauge | (G) Rivet hole |
| (D) Toe | (H) Top Plate |

Be careful to file all cutters to the specified angles and to the same length, as fast cutting can only be obtained when all cutters are uniform.

1. Wear gloves for protection.

2. Tension the chain prior to sharpening.

NOTE: Refer to “Maintenance – Adjusting the Chain Tension” earlier in this manual.

3. Use a 4 mm (5/32 in.) diameter round file and holder. Do all your filing at the midpoint of the bar.

4. Keep the file level with the top plate of the tooth. Do not let the file dip or rock. See Figure 54.
5. Using light but firm pressure, stroke towards the front corner of the tooth. See Figure 55.
6. Lift the file away from the steel on each return stroke.
7. Put a few firm strokes on every tooth. File all left-hand cutters (A) in one direction. Then move to the other side and file the right-hand cutters (B) in the opposite direction. See Figure 56.
8. Remove filings from the file with a wire brush.

CAUTION:

A dull or improperly sharpened chain can cause excessive engine speed during cutting which may result in severe engine damage.

WARNING:

Improper chain sharpening increases the potential of kick-back.

WARNING:

Failure to replace or repair a damaged chain can cause serious injury.

WARNING:

The saw chain is very sharp. Always wear protective gloves when performing maintenance to the chain.

TOP PLATE FILING ANGLE

See Figure 57.

- (A) - CORRECT 30° – file holders are marked with guide marks to align file properly to produce correct top plate angle.
- (B) - LESS THAN 30° – for cross cutting.
- (C) - MORE THAN 30° – feathered edge dulls quickly.

SIDE PLATE ANGLE

See Figure 58.

- (D) - CORRECT 80° – Produced automatically if you use the correct diameter file in the file holder.
- (E) - HOOK – “Grabs” and dulls quickly, increases the potential of KICK-BACK.
Results from using a file with a diameter too small or a file held too low.
- (F) - BACKWARD SLOPE – Needs too much feed pressure, causes excessive wear to the bar and chain.
Results from using a file with a diameter too large or file held too high.

MAINTENANCE

MAINTAINING DEPTH GAUGE CLEARANCE

See Figures 51, 59, and 60.

- Maintain the depth gauge (A) at a clearance of 0.6 mm (0.025"). Use a depth gauge tool for checking the depth gauge clearances.
- Every time the chain is filed, check the depth gauge clearance.
- Use a flat file (B) (not provided) and a depth gauge jointer (C) (not provided) to lower all gauges uniformly. Use a 0.6 mm (0.025 in.) depth gauge jointer. After lowering each depth gauge, restore original shape by rounding the front (D). Be careful not to damage adjoining drive links with the edge of the file.
- Depth gauges must be adjusted with the flat file in the same direction the adjoining cutter was filed with the round file. Use care not to contact cutter face with flat file when adjusting depth gauges.

MAINTAINING THE GUIDE BAR

See Figure 61.

CAUTION:

Make sure the chain has stopped before you do any work on the saw.

Every week of use, reverse the guide bar on the saw to distribute the wear for maximum bar life. The bar should be cleaned every day of use and checked for wear and damage. Feathering or burring of the bar rails is a normal process of bar wear. Such faults should be smoothed with a file as soon as they occur.

A bar with any of the following faults should be replaced:

- Wear inside the bar rails which permits the chain to lie over sideways
- Bent guide bar
- Cracked or broken rails
- Spread rails

In addition, lubricate guide bars (with a sprocket at their tip) weekly. Using a grease syringe, lubricate weekly in the lubricating hole.

Turn the guide bar and check that the lubrication holes (A) and chain groove are free from impurities.

MAINTAINING THE SAFE-T-TIP® NOSE GUARD

See Figures 62 and 63.

CAUTION:

Make sure the chain has stopped before you do any work on the saw.

WARNING:

Although the guide bar comes with a SAFE-T-TIP® anti-kick-back device already installed, you need to check the tightness of the mounting screw before each use.

Tighten the mounting screw (A) of the nose guard as instructed below. These are specially hardened screws. If you cannot install the screw tightly, replace both the screw and the SAFE-T-TIP® (B) before further operation. Do not replace the screw with an ordinary screw.

In addition to preventing chain contact with solid objects at the nose of the bar, the SAFE-T-TIP® also helps keep the chain away from abrasive surfaces, such as the ground. Keep it on the right-hand side of the bar where it will be between the chain and the ground during flush with ground cutting.

The mounting screw requires a 5/16 in. spanner (or adjustable spanner) to achieve the recommended tightness of 4-5 Nm (35 - 45 in. lb.). A tightness within this range can be achieved by using the following method.

1. Tighten the screw with your finger.
2. Tighten the screw an additional 3/4 of a turn using a spanner (C).

MOUNTING THE SAFE-T-TIP® NOSE GUARD

See Figures 62 and 63.

1. Mount the SAFE-T-TIP® on the bar nose.
2. Fit the locking rivet or tab in the recessed hole in the guide bar.
3. Tighten the screw with your finger.
4. From the finger-tight position, tighten the screw an additional 3/4 of a turn using a spanner.

CLEANING THE AIR FILTER

See Figures 64, 65, and 66.

NOTE: Always clean the air filter before making any mixture adjustments of the carburettor.

1. For access to the air filter and carburettor area, loosen the three screws (A) holding the cylinder cover (B).
2. Activate chain brake.
3. Lift the front of the cylinder cover past chain brake lever.
4. Lift the back of the cylinder cover past the handle.
5. Before removing the air filter from the carburettor, blow or brush as much loose dirt and sawdust from around the carburettor and chamber as possible.

NOTE: Be sure to pull the choke rod out to keep the carburettor from being contaminated.

6. Remove the screw (C) securing the air filter (D).
7. Position a flat screw driver between the tabs and twist as shown in the illustration.
8. Lift the air filter off the air filter base.

MAINTENANCE

Choose one of the following cleaning options:

9. To lightly clean, tap the filter against a smooth, flat surface to dislodge most saw dust and dirt particles.
 10. For a more thorough cleaning, clean in warm soapy water, rinse, and let dry completely.
NOTE: An alternative method is to clean the filter with compressed air (always wear eye protection to avoid eye injury).
 11. Reinstall the air filter, making sure that the tabs on the air filter are located in channels on the air filter bottom before tightening filter retainer screw.
- Clean the pre-filter (D) every 25 tanks of fuel or sooner, if required. Remove the cylinder cover (B), starter assembly (E) and the fan housing baffle (F) for access to the pre-filter in the engine housing.
NOTE: If you use an air hose for drying, blow through both sides of filter.

CAUTION:

Never run the engine without the air filter: serious damage could result.

Make sure the air filter is correctly placed in the air filter cover before reassembly.

CLEANING THE STARTER UNIT

See Figure 67.

Use a brush or compressed air to keep the cooling vents of the starter assembly free and clean of debris.

CLEANING THE ENGINE

See Figures 68 and 69.

Clean the cylinder fins and flywheel fins with compressed air or a brush periodically. Dangerous overheating of the engine may occur due to impurities on the cylinder.

WARNING

Never run the saw without all the parts, including the drivecase cover and starter housing, securely in place.

Because parts can fracture and pose a danger of thrown objects, leave repairs of the flywheel and clutch to trained Ryobi service dealer personnel.

NOTE: Depending on the type of fuel used, the type and amount of oil used, and/or your operating conditions, the exhaust port and silencer may become blocked with carbon deposits. If you notice a power loss with your petrol-powered tool, you may need to remove these deposits to restore performance. We highly recommend that only qualified service technicians perform this service.

CHECKING THE FUEL FILTER

See Figure 70.

Check the fuel filter (A) periodically. Replace it if contaminated or damaged.

REPLACING THE SPARKING PLUG

See Figure 71.

This engine uses a Champion RCJ-4 with 0.63 mm (0.025") electrode gap. Use an exact replacement and replace every six months, or more frequently if necessary.

1. Loosen the sparking plug by turning it anticlockwise with a spanner.
2. Remove the sparking plug.
3. Hand-thread the new sparking plug, turning it clockwise.

NOTE: Be careful not to cross-thread the sparking plug. Cross-threading will seriously damage the product.

CLEANING THE SPARK ARRESTING SILENCER

See Figure 72.

The silencer (A) is equipped with a spark arrester screen (B). A faulty spark arrester screen can create a fire hazard. Through normal use the screen can become dirty and should be inspected weekly and cleaned as required. Always keep the silencer and spark arrester on your saw in good condition.

WARNING

Silencer surfaces are very hot during and after operation of the chainsaw. Keep all body parts away from the silencer. Serious burns may occur if contact is made with the silencer.

1. Allow the silencer to cool.
2. The spark arrester screen (B) is retained by the deflector (C). Remove the nuts (D) and screen retainer to access the spark arrester screen.
3. Replace the spark arrester screen if it is cracked or otherwise deteriorated.

CHAIN BRAKE

See Figures 73 and 74.

- Remove the clutch cover and clean the chain brake components. Check wear on the brake band (A). If brake band is worn or deformed, have it serviced at your nearest authorised service dealer. The band thickness should not be less than 0.60 mm (0.024 in.), or worn halfway through.
- Always keep the chain brake mechanism clean (B) and lightly lubricate the linkage (C).
- Always test the chain brake performance after servicing or cleaning. Refer to "Operation – Operating Chain Brake" earlier in this manual for additional information.
- Check and, if damaged, replace the chain catcher (D).

MAINTENANCE

STORING THE CHAINSAW (1 MONTH OR LONGER)

1. Drain all fuel from tank into a container approved for petrol.
2. Run the engine until it stops. This will remove all fuel-oil mix that could become stale and leave varnish and gum in the fuel system.
3. Drain all bar and chain oil from tank into a container approved for oil.

4. Clean all foreign material from the saw.
5. Store it in a well-ventilated place that is inaccessible to children.

NOTE: Keep away from corrosive agents such as garden chemicals and de-icing salts.

Abide by all government and local regulations for the safe storage and handling of petrol. Excess fuel should be used in other 2-cycle engine powered equipment.

BAR AND CHAIN COMBINATIONS

RECOMMENDED BAR AND CHAIN COMBINATIONS FOR .325 LOW PROFILE .050 GAUGE

Length of Bar	Guide Bar Part Number	Chain Part Number
406 mm (16 in.)	984316001	PS06136
457 mm (18 in.)	984319001	PS06135

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start. (Make sure ignition switch is in start position "I".)	<ol style="list-style-type: none"> 1. No spark. 2. Flooded engine. 	<ol style="list-style-type: none"> 1. Check spark. Remove air filter cover. Remove sparking plug from cylinder. Reattach the sparking plug wire and lay sparking plug on top of cylinder with the metal part of plug touching the cylinder. Pull the starter rope and watch for spark at sparking plug tip. If there is no spark, repeat test with a new sparking plug. 2. With the ignition switch off, remove sparking plug. Move choke lever to run position (pushed in completely) and pull starter cord 15 to 20 times. This will clear excess fuel from engine. Clean and reinstall sparking plug. Set ignition switch to run (I) position. Push and fully release primer bulb 7 times. Pull starter three times with choke lever at run. If engine does not start, move choke lever to choke and repeat normal starting procedure. If engine still fails to start, repeat procedure with a new sparking plug.
Engine starts but will not accelerate properly.	Carburettor requires "L" (Low jet) adjustment.	Contact a Ryobi service dealer for carburettor adjustment.
Engine starts but will not run properly at high speed.	Carburettor requires "H" (High jet) adjustment.	Contact a Ryobi service dealer for carburettor adjustment.
Engine does not reach full speed and/or emits excessive smoke.	<ol style="list-style-type: none"> 1. Check oil fuel mixture. 2. Air filter dirty. 3. Spark arrester screen dirty. 4. Carburettor requires "H" (High jet) adjustment. 	<ol style="list-style-type: none"> 1. Use fresh fuel and the correct 2-cycle oil mix ratio. 2. Clean air filter. Refer to "Maintenance – Cleaning the Air Filter" earlier in this manual. 3. Clean spark arrester screen. Refer to "Maintenance – Cleaning the Spark Arresting Silencer" earlier in this manual. 4. Contact a Ryobi service dealer for carburettor adjustment.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine starts, runs, and accelerates but will not idle.	Carburettor requires adjustment.	Turn idling speed screw "T" clockwise to increase idling speed. If chain turns at idle, turn idling speed screw "T" anticlockwise to decrease speed. Wear protective equipment and observe all safety instructions. See <i>Figure 24</i> .
Engine starts and runs, but chain is not rotating.	<ol style="list-style-type: none"> 1. Chain oil tank empty. 2. Check chain tension for overtight condition. 3. Check for oiler function. 	<ol style="list-style-type: none"> 1. Oil tank should be filled every time fuel tank is filled. 2. Tension chain per instructions in "Maintenance – Adjusting the Chain Tension" earlier in this manual. 3. Run at half throttle 30 to 45 seconds. Stop saw and check for oil dripping from SAFE-T-TIP® and guide bar. If oil is present the chain may be dull or bar may be damaged. If no oil is on the SAFE-T-TIP®, contact a Ryobi service dealer.
Bar and chain running hot and smoking.	<ol style="list-style-type: none"> 1. Chain brake engaged. 2. Chain tension too tight. 3. Check guide bar and chain assembly. 4. Check guide bar and chain for damage. 	<ol style="list-style-type: none"> 1. Release chain brake, refer to "Operation – Operating Chain Brake" earlier in this manual. 2. Tension chain per instructions in "Maintenance – Adjusting the Chain Tension" earlier in this manual. 3. Refer to "Maintenance – Assembling the Bar and Chain" earlier in this manual. 4. Inspect guide bar and chain for damage.

NOTE: The carburettor adjustment needle(s) are equipped with plastic cap(s) which prevent anticlockwise rotation from the original factory adjustment. If your product exhibits specific performance problem(s) where the Troubleshooting Section recommends an anticlockwise needle adjustment and you have made no adjustments since the original purchase, take the product to a factory authorised service dealer for repair. In most cases, the needed adjustment is a simple task for the factory trained service representative.

WARRANTY

GUARANTEE – STATEMENT

(RTSA / RTUK / RTG)

All Ryobi products are guaranteed from defects in material and workmanship, for a period of twenty-four (24) months, effective and evidenced from date of original invoice or delivery note.

Defects caused by normal wear and tear, unauthorised/improper maintenance/handling or overload are excluded from this guarantee as are accessories such as battery packs, bulbs, blades and bits, etc.

In the event of malfunction within the guarantee period, please return the assembled product with proof of purchase to your dealer or nearest Ryobi Service Centre.

Your statutory rights in respect of defective products remain unaffected by the warranty.

Ryobi Technologies GmbH, Itterpark 7, D-40724 Hilden, Germany

Ryobi Technologies, Customer Services, Anvil House, Tuns Lane, Henley-on-Thames, RG9 1SA, UK

Ryobi Technologies, BP 50012 - 95945 Roissy CDG Cedex – FRANCE

Ryobi Technologies Australia PTY Limited, 359-361 Horsley Road, Milperra, NSW 2214 Australia

SAFETY DIRECTIVE

EC DECLARATION OF CONFORMITY

According to machinery directive 98/37/EC and EMC directive 89/336/EEC - We,

Ryobi Technologies Inc., 1428 Pearman Dairy Road, Anderson, SC 29625

Declare in sole responsibility that the product: PCN3840 (RY74005D) and PCN4545 (RY74007D) - to which this certificate applies, conforms to the basic health and safety requirements of the Machinery Directive 98/37/EC and other relevant directives, such as EMC Directive 89/336/EEC and Outdoor Directive 2000/14/EC.

EC type examination certificates have been issued by the following approved body:

SLG Prüf - und Zertifizierungs GmbH - Certyfikat nr 100885D

SLG Prüf - und Zertifizierungs GmbH - Certyfikat nr 100889O

To effect correct application of the health and safety requirements stated in the EEC directives, the following European and/or national standards and/or technical specifications were consulted:

EN292-1:1991 / EN292-1:1991 + A1:1995 / EN 608:1994 / ISO 6533: 2001 / ISO 6534:1992 / ISO 6535:1991 / ISO 7293:1997 / ISO 7914:2002 / ISO 7915:1991 / ISO 6531:1999 / ISO 8334:1985 / ISO 9518:1998 / ISO 10726:1992 / EN ISO 14982:1998 / EN ISO 3744:1995 / EN ISO 4871:1996 / ISO 9207:1995 / ISO 7182:1984 / ISO 7505:1986

Wayne Hill
Director, Environmental Compliance



Ryobi Technologies Inc.
1428 Pearman Dairy Road
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August 25, 2003