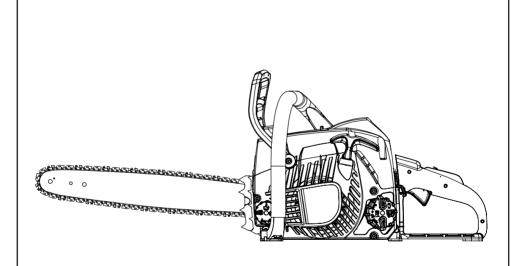




RCS4235B Type III/RCS4240B Type III

CHAINSAW

ORIGINAL INSTRUCTIONS





Important!

It is essential that you read the instructions in this manual before assembling, maintaining and operating this machine.





Thank you for buying a Ryobi chainsaw.

Your 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.

Some regions have regulations that restrict the use of the product to some operations. Check with your local authority for advice

READ ALL INSTRUCTIONS

Intended use

This chainsaw is designed for cutting branches, trunks, logs and beams of a diameter determined by the cutting length of the guide bar. It is only designed to cut wood. It is only to be used outdoors, by adults.

Do not use the chainsaw for any purpose not listed above. This chainsaw is not to be used for professional tree services. It is not to be used by children or by persons not wearing adequate personal protective equipment and clothing.

Residual risks

Even when using the chainsaw as intended, there remains a residual risk of harm which cannot be fully prevented. The following list of potential hazards should be read and understood. You should pay extra attention and care to these items to reduce the risk of occurrence or injury.

- Contact with exposed cutting teeth and saw chain.
- Access to rotating parts (the saw chain).
- Unexpected, abrupt movement (kick back) of the guide har
- Flying chain parts (thrown off or broken).
- Flying material (cut from the work piece).
- Inhalation of saw dust and particles or emissions from the petrol engine.
- Skin contact with petrol/oil.
- Loss of hearing if no hearing protective equipment worn during use.

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.

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.

GENERAL PRECAUTIONS

- 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.
- 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. Do not operate this product when you are tired, ill or under the influence of alcohol, drugs or medication.
- 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.
- 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.
- Do not cut vines and/or small undergrowth (less than 76 mm (3 inch) 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.
- Always have a fire extinguisher available when using chainsaw.
- Use guide bar cover during transport and storage.
- The chainsaw should always be used with correctly mounted spiked bumper.
- Do not adapt your powerhead to a bow guide or use it to power any attachments or devices not listed for your saw.









PROPER CLOTHING FOR SAFETY

- Clothing must be sturdy and snug-fitting but allow complete freedom of movement. Always wear long pants made of heavy material to help protect your legs from contact with branches and brush. To reduce the risk of cut injuries, wear pants or chaps that contain pads of cut retardant material. Never wear scarves. ties, jewellery or other items of clothing, which might get caught in the equipment, in brush or on branches. Secure hair so it is above shoulder.
- Always wear safety boots with a good tread (with nonslip soles).
- Wear non-slip, heavy duty saw protective gloves.
- Always wear eve protection with side shields marked to comply with EN 166 as well as hearing and approved 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 9 m 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 stand on any unstable surface while using your chainsaw, that includes ladders, scaffolds, trees, etc.
- Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.
- Do not cut from a ladder, this is extremely dangerous.
- 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 springback so that you will not be struck when the tension in the wood fibres is released. This should be done by trained users.
- Do not operate a chainsaw in a tree.
- Beware of the emission of exhaust gases, lubricant mist and saw dust.

- This product is very noisy when operating, to prevent long term hearing damage, wear hearing protection and keep other persons 15 m away from the work area. Operating similar tools nearby increases risk of injury. Take frequent breaks.
- Use of hearing protection reduces the ability to hear warnings (shouts or alarms). The operator must pay extra attention to what is going on in the work area.
- 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 of the tree or work piece 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 lubricant 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 Rvobi service dealer for adjustment and discontinue use until the repair is made.
- Keep the handles dry, clean, and free of lubricant or fuel mixture.
- Follow the sharpening and maintenance instructions for the saw chain
- Use only the replacement guide bars and low kickback chains specified for your saw. You must never modify or remove parts from this product or use parts not recommended by Ryobi. This will increase the risk of injury.



WARNING:

The risk of kickback may increase if nonapproved guide bar and chain combinations are used. Refer to technical specifications for qualified replacement quide bar and chain combinations.









WARNING:

All chainsaw service, other than the 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 may occur when the nose of the guide bar touches an object or when the wood closes in and pinches the saw chain in the cut. The nose of guide bar 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 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.
- With a basic understanding of kick-back, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
- 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.
- 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.
- 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.
- Do not overreach or cut above chest height.
- Follow manufacturer's the sharpening and maintenance instructions for the saw chain.
- Use only replacement bars and chains specified by the manufacturer or the equivalent.

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

WHITE FINGER RISKS

Prolonged use of chainsaws expose operators to harmful vibration that may lead to white finger risks. Symptoms include episodic blanching of fingers in response to cold, numbness and tingling. In extreme cases, it will cause loss of touch sensation.

Anti-vibration system does not guarantee that you will not suffer white finger risks. Operators should observe their hands and fingers. If the above symptoms occur. operators should seek medical advice immediately.

When operating the unit wear gloves to keep the hands and wrists warm.

SERVICE

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service we suggest you return the product to your nearest authorised service center for repair. When servicing, use only identical replacement parts.



WARNING.

To avoid serious personal injury, do not attempt to use this product until you read thoroughly and understand completely the operator's manual. If you do not understand the warnings and instructions in the operator's manual, do not use this product. Call Rvobi customer service for assistance.



WARNING:

The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles, safety glasses with side shields, or a full face shield when needed. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with EN 166.



WARNING:

Long term inhalation of the engine's exhaust fumes, chain oil mist and sawdust can result in serious personal injury.



WARNING:

Injuries may be caused, or aggravated, by prolonged use of a tool. When using any tool for prolonged periods, ensure you take regular breaks.

SAVE THESE INSTRUCTIONS AND PASS THEM ON IF THE SAW IS TO BE USED BY ANOTHER PERSON







DESCRIPTIONS

Figure 1a - General overview of the chainsaw

- 1. Starter grip
- 2. Trigger release
- 3. Throttle trigger
- Starter housing
- 5. Chain lubricant cap
- 6. Rear handle
- 7. Engine cover
- 8. Front handle
- 9. Front hand guard/chain brake
- 10. Clutch cover
- 11. Chain tensioning dial
- 12. Clutch cover lock knob
- 101.Bumper spike bar

Figure 1b - General overview of the chainsaw

- 13 Primer bulb
- 14. Ignition switch
- 15. Choke lever
- 16. Fuel cap

Figure 2 – Saw chain 17. Flats on drive links

Figure 7 - Chainsaw brake - brake position

18. Brake position

Figure 8 – Chainsaw brake – run position 19. Run position

Figure 9 – Chainsaw starting position

1. Starter grip

Figure 10 - Ignition switch

14. Ignition switch in the run position

Figure 11

13. Primer bulb

Figure 12

- 15. Choke lever
- 21. Start position
- 22. Run position

Figure 13

- 2. Trigger release
- 3. Throttle trigger

Figure 14

14. Ignition switch in the stop position

Figure 15

25. Idle speed screw "T"

Figure 16

26. Pull

27. Push

Figure 17

23. Kickback danger zone

Figure 18

28. Rotational kickback

Figure 19

29. Proper hand grip position

30. Improper grip

31. Proper grip

Figure 20

32. Chain line

Figure 21

32. Chain line

33. Thumbs on underside of handle bar

34. Straight arm

Figure 23

35. Planned line of fall

36. 135 degree from planned line of fall

37. Path of safe retreat

Figure 24

38. Hinge - 5 cm or 1/10 diameter

39. Back cut

40. Notch approx. 1/3 diameter of the trunk

Figure 25

39. Back cut

41. Hinge

Figure 26

Figure 26

42. Wedge

Figure 27

43. Vertical cut

44. Lodge section

45. Horizontal cut

Figure 28

46. Kickback

Figure 29

42. Wedge

Figure 30





- 47. Log supported at one end
- 48. Finishing cut
- 49. Load
- 50. 1st cut 1/3 diameter
- 51. Log supported at both ends

Figure 31

52. Overbucking

Figure 32

53. Underbucking

Figure 33

- 54. Second cut
- 49. Load
- 50. 1st cut 1/3 diameter
- 48. Finishing cut

Figure 34

55. Cut limbs one at a time and leave support limbs under tree until log is cut

Figure 35

56. Springpole

Figure 36

22. Run position

Figure 38

10. Clutch cover

Figure 39

- 57. Chain drive links
- 58. Cutters
- 59. Chain rotation

Figure 40

60. Bar groove

Figure 41

- 61. Adjusting pin
- 62. Chain tensioning pin hole
- 63. Sprocket
- 10. Clutch cover

Figure 42

- 64. Rotate clutch cover knob clockwise to secure
- 12. Clutch cover lock knob
- 11. Chain tensioning dial

Figure 44

- 65. Loosen chain
- 66. Tighten chain

Figure 46

67. Raker (depth gauge) clearance

Figure 47

68. Inspect drive sprocket

Figure 48

69. Gullet

70. Heel

71. Rivet hole

72. Top plate

73. Cutting corner 74. Side plate

75. Depth gage

76. Toe

Figure 51

77. Left hand cutters

78. Right hand cutters

Figure 52

79. Top plate filing angle

80. Correct

81. Less than 30 degree

82. More than 30 degree

83. Incorrect

Figure 53

80. Correct

84. Side plate filing angle

85. Hook

86. Backward slope

Figure 54

67. Raker (depth gauge) clearance

Figure 55

87. Depth gauge jointer

88. Flat file

89. Restore original shape by rounding the front

Figure 57

90. Lubricating hole

Figure 58

7. Engine cover

Figure 59

91. Air filter

Figure 61

25. Idle speed screw "T"



Figure 62

92. Chain brake

5. Chain lubricant cap

16. Fuel cap

93. Post

94. Starter cover

104. T25 Torx Screwdriver

Figure 63

95. Clean Engine fins

Figure 64

96. Clean flywheel fins

Figure 65 97. Fuel filter

Figure 67

98. Deflector

99. Deflector retaining nut

100. Spark arrestor

103. Gasket

20. Silencer

101. Bumper spike bar

102. Bolt & nut

Figure 68

24. Clean the chain brake

SYMBOLS

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

SYMBOLS	DESIGNATION / EXPLANATION
\triangle	Precautions that involve your safety.
3	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Always wear eye protection with side shields marked to comply with EN 166 as well as hearing and head protection when operating this equipment.
	No smoking, sparks, or open flame.
	Hold and operate the saw properly with both hands.
	Do not operate the saw using only one hand.
	Engines produce carbon monoxide which is an odorless, deadly poison. Do not operate in an enclosed area.
	Danger! Beware of kickback.
8	Avoid bar nose contact.
	Wear non-slip, heavy-duty protective gloves when handling the chainsaw.









	Keep all bystanders and animals at least 15m away.
	Add bar and chain oil every time you add fuel to the chainsaw.
114 _B	Guaranteed sound power level is 114 dB.
CE	Conforms to all regulatory standards in the country in the EU where the product is purchased.
(F)	Conforms to all regulatory standards in Russia where the product is purchased.
	Use unleaded petrol intended for motor vehicle use with an octane rating of 91 ([R+M]/2) or higher.
*	Use 2-stroke oil for air cooled engines.
	Mix the fuel mix thoroughly and also each time before refueling.
	Turn ignition switch to the ON position.
<u> </u>	Set the chain brake to the BRAKE position.
x10 1	Fully press and release the primer bulb at least 10 times.
	Pull the choke lever all the way out the START position.
7 1	Pull the starter rope until the first firing of the engine is heard (no more than five pulls).
	Set the choke lever to the RUN position.
Ti	Pull starter grip until the engine starts.







77	Depress the trigger release.
T	Release the brake lever to the RUN position.
	Beware of chain saw kickback and avoid contact with bar tip.
	Risk of fire/flammable materials
	Bar and chain lubricant
4	Rotate to adjust chain tension + = Tighten/ - = Loosen the chain
	Moving direction of the chain
H CL	H/L: High/Low speed adjustment needle, T: Idle adjustment screw
	Rotation direction to tighten the guide bar
	Rotation direction to loosen the guide bar

The following signal words and meanings are intended to explain the levels of risk associated with this product.

SYMBOLS	SIGNAL	MEANING						
\triangle	DANGER	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.						
<u>^</u>	WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.						
\triangle	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.							
	CAUTION	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.						









GLOSSARY OF TERMS

Skating

When the chain saw fails to dig in during a cut, the guide bar can begin hopping or dangerously skidding along the surface of the log or branch, possibly resulting in the loss of control of the chain saw. The sideward motion of the guide bar can increase the risk of kickback. To prevent or reduce this skating, hold the chain saw with two hands and make sure the saw chain establishes a groove for cutting.

Bucking

The process of cross cutting a felled tree or log into lengths.

Bouncing

Never cut small, flexible branches or brush with your chain saw. Their size and flexibility can easily cause the saw to bounce toward you or bind up with enough force to cause a kickback. The best tools for that kind of work are a hand saw, pruning shears, an axe and other hand tools.

Chain Brake

A device used to stop the saw chain.

Chain Saw Powerhead

A chain saw without the saw chain and guide bar.

Clutch

A mechanism for connecting and disconnecting a driven member to and from a rotating source of power.

Drive Sprocket or Sprocket

The toothed part that drives the saw chain.

Felling

The process of cutting down a tree.

Felling Back Cut

The final cut in a tree felling operation made on the opposite side of the tree from the notching undercut.

Front Hand Guard

A structural barrier between the front handle of a chain saw and the guide bar, typically located close to the hand position on the front handle, and sometimes employed as an activating lever for a chain brake.

Front Handle

The support handle located at or toward the front of the chain saw. This handle is for the left hand.

Guide Bar

A solid railed structure that supports and guides the saw chain.

Kickback

The backward or upward motion, or both, of the guide bar occurring when the saw chain near the nose of the top area of the guide bar contacts any object such as a log or branch, or when the wood closes in and pinches the saw chain in the cut.

Kickback (Pinch)

The rapid pushback of the saw which can occur when the wood closes in and pinches the moving saw chain in the cut along the top of the guide bar.

Kickback (Rotational)

The rapid upward and backward motion of the saw which can occur when the moving saw chain near the upper portion of the tip of the guide bar contacts an object, such as a log or branch.

Low-Kickback Chain

A chain that complies with the kickback performance requirements of ISO 9518 when tested on a representative sample of chain saws.

Normal Cutting Position

Those positions assumed in performing the bucking and felling cuts.

Notching Undercut

A notch cut in a tree that directs the tree's fall

Rear Handle

The support handle located at or toward the rear of the saw. It normally contains the throttle. This handle is for the right hand.

Reduced Kickback Guide Bar

A guide bar which has been demonstrated to reduce kickback significantly.

Replacement Saw Chain

A chain that complies with the kickback performance requirements of ISO 9518 when tested with specific chain saws.

Saw Chain

A loop of chain having cutting teeth that cut the wood and that is driven by the motor and is supported by the guide bar.

Springpole

A small tree (sapling) or limb that is bent or trapped under tension. It may "spring back" rapidly when cut, causing a dangerous situation.





SPECIFICATIONS

Model name	RCS4235B Type III	RCS4240B Type III				
Description	42cc 35cm (14") CE saw	42cc 40cm (16") CE saw				
Weight - No bar, chain, fuel	4.7 kg	4.7 kg				
Fuel tank capacity	340 cm ³	340 cm ³				
Lubricant tank capacity	192 cm ³	192 cm ³				
Maximum chain speed at the recommended maximum engine speed	23.8 m/s	23.8 m/s				
Bar length	35 cm	40 cm				
Usable cutting length	33.3 cm	37.0 cm				
Chain pitch	9.53 mm (0.375 inch)	9.53 mm (0.375 inch)				
Chain gauge	1.27 mm (0.05 inch)					
Chain type	3/8" low profile full complement	3/8" low profile full complement				
Drive sprocket	6 teeth x 3/8"	6 teeth x 3/8"				
Engine displacement	42 cm ³	42 cm ³				
Maximum engine power (ISO 7293)	1.7 kW	1.7 kW				
Recommended maximum engine speed with cutting attachment	12,500 min ⁻¹	12,500 min ⁻¹				
Engine idling speed range	2,600-3,600 min ⁻¹	2,600-3,600 min ⁻¹				
Specific fuel consumption at maximum engine power	426 g/kw.h	426 g/kw.h				
Sound pressure level (ISO 22868)	LpAav: 101 dB(A), KpA=3 dB(A)	LpAav: 101 dB(A), KpA=3 dB(A)				
Sound power level (ISO 22868)	114 dB(A)	114 dB(A)				
Vibration (ISO 22867): - Front Handle - Rear Handle	Carlton/Oregon 8.2 m/s ² , K=1.5 7.7 m/s ² , K=1.5	Carlton/Oregon 8.2 m/s ² , K=1.5 7.7 m/s ² , K=1.5				









SPECIFICATIONS

Guide bar & chain (Note: Carlton guide bar only use with Carlton saw chain, and Oregon guide bar only use with Oregon saw chain)

Model name	RCS4235B Type III	RCS4240B Type III
Guide bar (no silkscreen) - Carlton part number	14-10W-N1-MHC	16-10W-N156-MHC
Chain - Carlton part number	N1C-BL-52E	N1C-BL-56E
Guide bar (no silkscreen) - Oregon part number	140 SDEA 041	160 SDEA 041
Chain - Oregon part number	91P-52P	91P-56P

Bar & Chain

Guide bar	CSA035	CSA047
Chain	CSA044	CSA046









ASSEMBLY



WARNING:

If any parts are damaged or missing do not operate this product until the parts are replaced. Failure to heed this warning could result in serious personal injury. This product has been shipped completely assembled.



WARNING:

Do not attempt to modify this product or create accessories not recommended for use with this product. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

NOTE: The chainsaw has been fully factory tested. It is normal to find some slight lubricant residue on the saw. Read and remove all hang tags and store with the Operator's Manual.



WARNING:

Before first use, it is essential that you follow the 'Chain Adjustment' guide (following this section) to ensure the bar and chain have not become loose in transit. Never operate a chainsaw with incorrectly adjusted chains. Failure to follow these steps could result in severe personal injury.

UNPACKING

- Carefully remove the product and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the product carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the product.
- If any parts are damaged or missing, please call your Ryobi service centre for assistance.

PACKING LIST

Chainsaw Scabbard Combination Wrench 2-Cycle Engine Lubricant Bar and Chain Lubricant Gift-box Operator's Manual

ADJUSTING THE CHAIN TENSION

See Figures 2-3, 37, 42-45.



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

- Stop the engine before setting the chain tension.
- Slightly loosen the clutch cover lock knob by pressing in and rotating counter clockwise. (Figure 37)
- Turn the chain tensioning dial clockwise to tension the chain. (*Figure 44*)
 - **Note:** A cold chain is correctly tensioned when there is no slack on the underside of the guide bar, the chain is snug, and it can be turned by hand without binding.
- Re-tension the chain whenever the flats on the drive links hang out of the bar groove. (Figure 3)
 - **Note:** During normal saw operation, the temperature of the chain increases. The drive links of a correctly tensioned warm chain will hang approximately 1.2mm out of the bar groove. The tip of the combination wrench can be used as a guide to help determine the correct warm chain tension.
 - **Note:** New chains tend to stretch; check the chain tension frequently and tension as required. This is the same for a NEW tool.
- Lift the tip of the guide bar up to check for sag. (Figure 43)
- Release the tip of the guide bar and turn the chain tensioning dial clockwise. Repeat this process until sag does not exist.
- Hold the tip of the guide bar up and tighten the clutch cover lock knob securely. The chain is correctly tensioned when there is no sag on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding. Ensure that the chain brake is not set

Note: If chain is too tight, it will not rotate. Loosen the clutch cover lock knob by pressing in and slightly rotating counter clockwise, then rotate the chain tensioning dial counter clockwise. Lift the tip of the guide bar up and retighten the clutch cover lock knob securely. Ensure that the chain will rotate without binding.



CAUTION:

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







OPERATION



WARNING:

Do not allow familiarity with this product to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.



WARNING:

Always wear safety goggles or safety glasses with side shields when operating power tools. Failure to do so could result in objects being thrown into your eyes resulting in possible serious injury.



WARNING:

Do not use any attachments or accessories not recommended by the manufacturer of this product. The use of attachments or accessories not recommended can result in serious personal injury.



WARNING:

Wear eye protection which is marked to comply with EN 166, as well as hearing and head protection, when operating this equipment. Failure to heed this warning could result in serious personal injury.



WARNING:

Exposure to vibrations through prolonged use of petrol powered hand tools could cause blood vessel or nerve damage in the fingers, hands, and joints of people prone to circulation disorders or abnormal swellings. Prolonged use in cold weather has been linked to blood vessel damage in otherwise healthy people. If symptoms occur such as numbness, pain, loss of strength, change in skin color or texture, or loss of feeling in the fingers, hands, or joints, discontinue the use of this use of this tool and seek medical attention. An anti-vibration system does not quarantee the avoidance of these problems. Users who operate power tools on a continual and regular basis must monitor closely their physical condition and the condition of this tool.

KNOW YOUR Chainsaw

See Figures 1a - 1b.

The safe use of this product requires an understanding of the information on the product and in this operator's manual as well as knowledge of the project you are attempting.

Before use of this product, familiarise yourself with all operating features and safety rules.

Bumper Spike - The integral bumper spike (see figure 1) may be used as a pivot when making a cut.

CHOKE LEVER

The choke lever opens and closes the choke valve in the carburettor. Positions available include FULL CHOKE and RUN

FRONT HAND GUARD/ CHAIN BRAKE

The chain brake is designed to quickly stop the chain from rotating. When the front hand guard/ chain brake is pushed toward the bar, the chain should stop immediately. The chain brake does not prevent kickback.

GUIDE BAR

The factory-equipped guide bar has a small radius tip that offers reduced kickback potential.

LOW KICKBACK SAW CHAIN

The low kickback saw chain helps minimize the force of a kickback reaction by preventing the cutters from digging in too deeply at the kickback zone.

PRIMER BULB

The primer bulb pumps fuel from the fuel tank to the carburettor.

THROTTLE TRIGGER

The throttle trigger is used for controlling chain rotation.



WARNING:

Always shut off engine before fuelling. Never add fuel to a machine with a running or hot engine. Move at least 10 metres from refuelling site before starting the engine. DO NOT SMOKE! Failure to heed this warning could result in serious personal injury.

FUEL AND REFUELLING HANDLING THE FUEL SAFELY





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

- Always handle fuel with care; it is highly flammable.
- Always refuel outdoors away from potential sources of ignition, do not inhale fuel vapours.
- Do not let petrol or lubricant come in contact with skin. If contact does occur wash immediately with soap and plenty of water
- Keep petrol and lubricant away from the eyes. If petrol or lubricant comes in contact with the eyes, wash them immediately with clean water. If irritation is still present, see a doctor immediately.

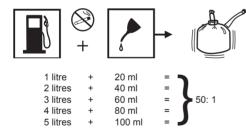




 Clean up spilled fuel immediately. Refer to Refuelling in the Specific Safety Rules section of this manual for additional safety information.

MIXING THE FUEL

- This product is powered by a 2-cycle engine and requires pre-mixing petrol and 2-cycle lubricant. Premix unleaded petrol and 2-cycle engine lubricant in a clean container approved for petrol.
- This engine is certified to operate on unleaded petrol intended for automotive use with an octane rating of 91 or higher.
- Do not use any type of pre-mixed petrol/lubricant from fuel service stations; this includes the premixed petrol/lubricant intended for use in mopeds, motorcycles, etc.
- Use a high quality 2-cycle self-mixing lubricant for aircooled engines. Do not use automotive lubricant or 2-cycle outboard lubricant.
- Mix 2% lubricant into the petrol. This is a 50:1 ratio.
- Mix the fuel thoroughly and each time before fuelling.
- Mix in small quantities. Do not mix quantities larger than usable in a 30-day period. A 2-cycle lubricant containing a fuel stabilizer is recommended.



NOTE: Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates stated previously are not covered under warranty.

FILLING THE FUEL TANK

See Figure 5.

- Clean the surface around the fuel cap to prevent contamination.
- Loosen the fuel cap slowly.
- Carefully pour the fuel mixture into the tank. Avoid spillage.
- Prior to replacing the fuel cap, clean and inspect the gasket.
- Immediately replace the fuel cap and hands tighten it. Wipe up any fuel spillage.

Note: It is normal for the engine to emit smoke during

and after the first use.

ADDING BAR AND CHAIN LUBRICANT

See Figure 6.

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

Note: Do not use dirty, used, or otherwise contaminated lubricants. Damage may occur to the lubricant pump, bar, or chain

- Carefully pour the bar and chain lubricant into the lubricant tank.
- Fill the lubricant tank every time you fuel the engine.

OPERATING THE CHAIN BRAKE

See Figures 7 - 8.

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

- Engage the chain brake by rotating your left hand around the front handle, allowing the back of your hand to push the chain brake lever/hand guard toward the bar while the chain is rotating rapidly. Be sure to maintain both hands on the saw handles at all times.
- Reset the chain brake back into the RUN position by grasping the top of the chain brake lever/hand guard and pulling toward the front handle until you hear a click



WARNING:

If the chain brake does not stop the chain immediately, or if the chain brake will not stay in the run position without assistance, take the saw to an authorised service centre for repair prior to use.

STARTING THE ENGINE

See Figures 8 - 13.

Starting the product differs depending on whether the engine is cold or warm.



WARNING:

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

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

 $\ensuremath{\text{NOTE:}}$ In the following starting instruction, when the





choke lever is pulled all the way out to the **START** position, the throttle is set for starting. To reset the throttle to the **RUN** position, squeeze and then release the throttle trigger.

To start a cold engine:

- Turn ignition switch to the **ON** position.
- Make sure the chain brake is in the brake position by pushing forwards on the lever/hand guard.
- Fully press and release the primer bulb at least 10 times.
- Pull choke lever all the way out to the START position.
- When the temperature is above 10°C, pull the starter grip until the engine attempts to start, but no more than 3 times. When the temperature is below 10°C, pull the starter grip until the engine attempts to start, but no more than 5 times.
- Push choke lever to the RUN position. Pull starter grip until engine runs.
- Depress the trigger release. Squeeze and release the throttle trigger to let the engine idle. Before accelerating the engine or cutting wood, make sure the chain brake is in the RUN position by pulling back on the brake lever/hand guard.

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.

To Start a Warm Engine:

- Turn ignition switch to the **ON** position.
- Make sure the chain brake is in the brake position by pushing forwards on the lever/hand guard.
- Keep choke lever on the **RUN** position.
- Pull starter grip until engine runs, but no more than 5 times. If engine does not start after 5 pulls, use cold engine starting procedure.
- Depress the trigger release. Squeeze and release the throttle trigger to let the engine idle. Before accelerating the engine or cutting wood, make sure the chain brake is in the RUN position by pulling back on the brake lever/hand quard.

STOPPING THE ENGINE

See Figures 7 and 14.

Release the throttle trigger and let the engine return to idle. To stop the engine, move the ignition switch to the stop (0) position. 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 the chain brake to stop the engine. If the ignition switch will not stop the saw when set to the **stop** position, have the ignition switch repaired before using the chainsaw again to prevent unsafe conditions or serious injury.

NOTE: When you are finished using the saw, always relieve tank pressure by loosening, then retightening, the chain lubricant and fuel caps. Allow the engine to cool before storing.

ADJUSTING IDLE SPEED

See Figure 15.

- If the engine starts, runs, and accelerates, but will not idle, turn the idle speed screw "T" clockwise to increase idle speed to 2600~3600 rpm.
- If the chain turns at idle, turn the idle speed screw "T" counter clockwise to reduce the idle RPM and stop the chain movement. If the saw chain still moves at idle speed, contact an authorised service centre for adjustment and discontinue use until the repair is made.



WARNING:

THE SAW CHAIN SHOULD NEVER TURN AT IDLE. Serious personal injury may result from the saw chain turning at idle.

PULL AND PUSH

See Figure 16.

The reaction force of the saw 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: The chainsaw has been fully factory tested. It is normal to find some slight lubricant residue on the saw.

KICKBACK PRECAUTIONS

See Figures 17 - 18.

Rotational kickback occurs when the moving chain contacts an object at the Kickback Danger Zone 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 can cause loss of control, which can result in serious injury.

PREPARING FOR CUTTING PROPER GRIP ON HANDLES

See Figure 19.

See General Safety Rules for appropriate safety equipment.

Wear non-slip gloves for maximum grip and protection.







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 is wrapped under the handlebar. This grip is least likely to be broken by a kickback 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:

See Figure 20

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.

PROPER CUTTING STANCE

See Figure 21.

- Balance your weight with both feet on solid ground.
- Keep left arm with elbow locked in a "straight arm" position to withstand any kickback force.
- Keep your body to the left of the chain line.
- Keep your thumb on underside of handlebar.

WORK AREA PRECAUTIONS

See Figure 22.

- Cut only wood or materials made from wood
- Never allow children to operate the saw. Do not Allow persons to use this chainsaw who have not read this operator's manual or received adequate instructions for the safe and proper use of this chainsaw.
- Keep 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 5 metres 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 kickback 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.

BASIC OPERATING/CUTTING PROCEDURES

It is strongly suggested that you seek professional training in the safety and use of this tool.

Practice cutting a few small logs on a saw-horse or cradle using the following technique to get the "feel" of using the saw before you begin a major sawing operation.

- Take the proper stance in front of the wood with the saw idling.
- Accelerate the engine to full throttle just before entering the cut by squeezing the throttle trigger.
- Begin cutting with the saw against the log.
- Keep the engine at full throttle the entire time you are cutting.
- 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.
- 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 can result in unnecessary wear to the chain, bar, and engine.
- Do not put pressure on the saw at the end of the cut as this may cause the saw to drop in an unsafe manner

FELLING TREES IN HAZARDOUS CONDITIONS



WARNING:

Do not fell trees during periods of high wind or heavy rain. 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.

- Do not cut down trees having extreme lean or large trees with rotten limbs, loose bark, or hollow trunks.
 Have these trees pushed or dragged down with heavy equipment, then cut them up.
- Do not cut trees near electrical wires or buildings.
- Check the tree for damaged or dead branches that could fall and hit you during felling.
- Periodically glance at the top of the tree during the back cut to assure the tree is going to fall in the desired direction.
- 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!

PROPER PROCEDURE FOR TREE FELLING

See Figures 23 - 26.

- 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.
- 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.

- Cut a notch about 1/3 the diameter of the trunk in the side of the tree. Make the notch cuts so they intersect at a right angle 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.
- Make the back cut level and horizontal, and at a minimum of 2 in. 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 in. or 1/10 the diameter of the tree). This is called a "hinge" or "hinge wood." It controls the fall of the tree and prevents slipping or twisting or shoot back of the tree off the stump.

- 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 into the cut so they do not touch the chain. Drive wedges in, little by little, to help jack the tree over.
- 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 27.

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 into the buttress first, followed by the vertical cut. Remove the resulting loose section from the work area. Follow the correct tree felling procedure as stated in **Proper procedure for tree felling** after you have removed the large buttress roots. **BUCKING**

See Figure 28.

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 saw horse 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 Kickback. Refer to Kickback in the Specific Safety Rules section of this manual for

more information.

- 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 29.

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

BUCKING LOGS UNDER STRESS

See Figure 30.

Make the first bucking cut 1/3 of the way through the log and finish with a 2/3 cut 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 to prevent the bar and chain from pinching.

OVERBUCKING

See Figure 31.

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.

UNDERBUCKING

See Figure 32.

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

BRANCH TRIMMING AND PRUNING

See Figures 33 - 34.

- 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.
- Do not cut from a ladder. This is extremely dangerous. Leave this operation for professionals.
- Do not cut above chest height. A saw held higher than chest height is difficult to control against kickback.



WARNING

Never climb into a tree to limb or prune. Do not stand on ladders, platforms, a log, or in any position which can 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.

- Under buck the branch 1/3 through for your first cut.
- Over buck the branch to drop it.
- Finish by cutting smoothly and neatly against the main member 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.

CUTTING SPRINGPOLES

See Figure 35.

A springpole 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 springpoles — they are dangerous.



WARNING:

Springpoles 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. This should be done by trained users.

MAINTENANCE



WARNING:

When servicing, use only identical Ryobi replacement parts. Use of any other parts may create a hazard or cause product damage.



WARNING:

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, lubricant, grease, etc.



WARNING:

Do not at any time let brake fluids, petrol, petroleum-based products, penetrating lubricants, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

LUBRICATION

All of the bearings in this product are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further lubrication is required.

REPLACING THE GUIDE BAR AND CHAIN

See Figures 36 - 45.



DANGER:

Never start the engine before installing the guide bar, chain, clutch 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.

- Always place the switch in the stop "0" position before you work on the saw.
- Make sure the chain brake is not set by pulling the chain brake lever/hand guard towards the front handle to the run position.

NOTE: When replacing the guide bar and chain, always use the specified bar and chain listed in the Bar and Chain Combinations section later in this manual

- Wear gloves when handling the chain and bar. These components are sharp and may contain burrs.
- Press in on the clutch cover lock knob and rotate counter clockwise until the clutch cover can be removed.
- Remove the bar and chain from the mounting surface.
- Remove the old chain from the bar.
- Lay out the new saw chain in a loop and straighten any kinks. The cutters should face in the direction of chain rotation. If they face backwards, turn the loop over.
- Place the chain drive links into the bar groove as shown
- Position the chain so there is a loop at the back of the bar.
- Hold the chain in position on the bar and place the loop around the sprocket.
- Fit the bar flush against the mounting surface so that the bar studs are in the long slot of the bar.
- Replace the clutch cover ensuring that the adjusting pin in the clutch cover is in the bar chain tensioning pin hole.









- Replace the clutch cover and rotate clutch cover lock knob just enough to hold the cover in position.
 - **NOTE:** The bar must be free to move for tension adjustment.
- Remove all slack from the chain by rotating the chain tensioning dial clockwise until the chain seats snugly against the bar with the drive links in the bar groove.
- Lift the tip of the guide bar up to check for sag.
- Release the tip of the guide bar and turn the chain tensioning dial clockwise. Repeat this process until sag does not exist.
- Hold the tip of the guide bar up and tighten the clutch cover lock knob securely. The chain is correctly tensioned when there is no sag on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding. Ensure that the chain brake is not set.

Note: If chain is too tight, it will not rotate. Loosen the clutch cover lock knob by pressing in and slightly rotating counter clockwise, then rotate the chain tensioning dial counter clockwise. Lift the tip of the guide bar up and retighten the clutch cover lock knob securely. Ensure that the chain will rotate without binding.

CHAIN MAINTENANCE

See Figures 45 - 47.



WARNING:

Check that the switch is in the **STOP** "0" position before you work on the saw.

Use only a low-kickback chain on this saw. This fastcutting chain provides kickback 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 severe kickback.
- Raker (depth gauge) clearance.
 - Too low increases the potential for kickback.
 - 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 an authorised service centre sharpen the chain.

NOTE: Inspect the drive sprocket for wear or damage when replacing the chain. If signs of wear or damage are present in the areas indicated, have the drive sprocket replaced by an authorised service centre.

NOTE: If you do not fully understand the correct procedure for sharpening the chain after reading the

instructions that follow, have the saw chain sharpened by an authorised service centre or replace with a recommended low-kickback chain.

SHARPENING THE CUTTERS

See Figures 48 - 51.

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.



WARNING:

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

- Tension the chain prior to sharpening. Refer to Adjusting The Chain Tension.
- Use a 5/32 in. (4 mm) diameter round file and holder. Do all of your filing at the midpoint of the bar.
- Keep the file level with the top plate of the tooth. Do not let the file dip or rock.
- Using light but firm pressure. Stroke towards the front corner of the tooth.
- Lift the file away from the chain tooth on each return stroke
- Put a few firm strokes on every tooth. File all left hand cutters in one direction. Then move to the other side and file the right hand cutters in the opposite direction.
- 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 kickback.



WARNING:

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

TOP PLATE FILE ANGLE

See Figure 52.

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

SIDE PLATE ANGLE

See Figure 53.

 CORRECT 80° – Produced automatically if you use the correct diameter file in the file holder.





- HOOK "Grabs" and dulls quickly; increases the potential of KICKBACK. Results from using a file with a diameter too small or a file held too low.
- 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.

MAINTAINING DEPTH GAUGE CLEARANCE

See Figures 54 - 56.

- Maintain the depth gauge at a clearance of 0.64mm.
 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 and a depth gauge jointer to lower all gauges uniformly. Use a 0.64mm depth gauge jointer. After lowering each depth gauge, restore original shape by rounding the front. 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 57.



WARNING

Check that the switch is in the STOP "0" position on the saw.

Every week of use, turn over 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 burning 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 that permits the chain to lay over sideways
- Bent guide bar
- Cracked or broken rails
- Spread rails

Lubricate guide bar sprockets weekly. Using a grease syringe, lubricate weekly in the lubricating hole. Turn the guide bar and check that the lubrication holes and chain groove are free from impurities.

CLEANING THE AIR FILTER

See Figures 58 - 59.

- Activate the chain brake.
- Remove the two screws holding the Engine cover.

- Lift the front of the Engine cover past chain brake lever
- Lift the back of the Engine cover past the handle.
- 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: Make sure to pull the choke rod out to keep the carburettor from being contaminated.
- Lift the air filter off the air filter base.

Choose one of the following cleaning options:

- To lightly clean, tap the filter against a smooth, flat surface to dislodge most saw dust and dirt particles.
- After every 5 hours of operation, clean in warm soapy water, rinse, and let dry completely. Replace with a new filter after every 25 hours of use.

Note: An alternate method is to clean the filter with compressed air. Always wear eye protection to avoid eye injury.

Reinstall the air filter.

Note: If you use an air hose for drying, blow through both sides of filter.

CAUTION:

Make sure the air filter is correctly replaced before reassembly. Never run the engine without the air filter, serious damage could result.

CLEANING THE STARTER UNIT

See Figure 60.

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

ADJUSTING THE CARBURETTOR

See Figure 61.

Before adjusting the carburettor:

- Use a brush to clean the starter cover vents.
- Clean the air filter. Refer to Cleaning the Air Filter in the Maintenance section of this manual.
- Allow the engine to warm up prior to adjustment of engine idle speed.



WARNING:

Weather conditions and altitude may affect carburetion. Do not allow bystanders close to the chainsaw while adjusting the carburettor.

Idle Speed Adjustment - The idle speed adjustment controls how much the throttle valve stays open when the throttle trigger is released. To adjust:

- Turn idle speed screw "T" clockwise to increase idle speed.
- Turn idle speed screw "T" counter clockwise to decrease idle speed.









WARNING:

THE SAW CHAIN SHOULD NEVER TURN AT IDLE. Serious personal injury may result from the saw chain turning at idle.

CLEANING THE ENGINE

See Figures 58, 62-64.

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



WARNING

Never run the saw without all the parts, including the clutch 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 factory trained authorised service centre personnel.

- Remove the screws and Engine cover as described previously.
- Clean the Engine fins.
- Lift the chain brake over the post.
- Lay the chainsaw on its side with the bar and chain on the ground.
- Remove the chain lubricant and fuel caps.
- Remove the three screws that hold the starter housing in place.
- Lift off the starter cover and set aside.
- Replace chain lubricant and fuel caps to prevent contamination during cleaning.
- Clean the flywheel fins.
- Replace the starter housing. Reinstall screws and secure.
- Replace the chain lubricant and fuel caps.
- Replace the Engine cover. Reinstall screws and secure.
- Replace the chain brake on the post.

NOTE: Check to ensure that the air filter is in the proper position before reinstalling the Engine cover.

NOTE: If you notice a power loss with the petrol powered tool, the exhaust port and Silencer may be blocked with carbon deposits. These deposits may need to be removed to restore performance. We highly recommend that only qualified service technicians perform this service.

CHECKING THE FUEL FILTER

See Figure 65.

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

REPLACING THE SPARK PLUG

See Figure 66.

This engine uses a Champion RCJ4 or RCJ6Y or NGK

(Original instructions)

BPMR7A with .025 in. electrode gap. Use an exact replacement and replace every 50 hours or more frequently, if necessary.

- Remove the spark plug lead, by carefully rotating back and forth whilst gently pulling upwards
- Loosen the spark plug by turning it counter clockwise with a wrench.
- Remove the spark plug.

Hand thread the new spark plug, turning it clockwise. Tighten securely with wrench.

Note: Be careful not to cross-thread the spark plug. Cross-threading will seriously damage the Engine.

 Re-attach the spark plug lead by pressing firmly onto top of spark plug

INSPECTING/CLEANING THE SPARK ARRESTOR SCREEN

See Figure 67.

The Silencer is equipped with a spark arrestor screen. A faulty spark arrestor 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 arrestor on the saw in good condition.



WARNING

Silencer surfaces are very hot during and after operation of the chainsaw. To avoid serious personal injury, keep all body parts away from the Silencer.

- Allow the Silencer to cool.
- Remove the deflector retaining nut.
- Remove the deflector to access the spark arrestor screen and gasket.
- If dirty, clean the spark arrestor screen with a small wire brush. Replace the screen and gasket if they are cracked or otherwise deteriorated. Reinstall the retaining nut to obtain a replacement spark arrestor, contact your Rvobi service centre.

INSPECTING AND CLEANING THE CHAIN BRAKE See Figure 68.

- Always keep the chain brake mechanism clean by lightly brushing the linkage free from dirt
- Always test the chain brake performance after cleaning. Refer to Operating Chain Brake for additional information.



WARNING:

Even with daily cleaning of the mechanism, the dependability of a chain brake to perform under field conditions cannot be certified.

TRANSPORTING THE PRODUCT

When carrying the product for short distance (from









one working area to the next), always apply the brake so that the product is blocked (preferably switch off the product as well).

- Never carry or transport the product while it is running.
- When transporting the chainsaw, use the appropriate guide bar scabbard.
- To prevent the leakage of fuel or oil and damage in general, secure the product when it is transported. Check the fuel and chain lubricant tanks for leaks

Ideally you should drain the tanks prior to transport.

STORING THE PRODUCT

- Clean all foreign material from the product. Store it in a well-ventilated place that is inaccessible to children.
 Keep away from corrosive agents such as garden chemicals and de-icing salts.
- Observe local regulations for the safe storage and handling of petrol.

When storing 1 month or longer:

- Drain all fuel from tank into a container approved for petrol.
- Run the engine until it stops. This will remove all fuel-lubricant mix that could become stale and leave varnish and gum in the fuel system.
- Squeeze primer bulb several times to purge fuel from carburettor.
- Drain all bar and chain lubricant from tank into a container approved for lubricant.
- Always place the scabbard over the guide bar and chain before transporting or storing the unit.

Fuel mixture level Before each use

MAINTENANCE SCHEDULE

Bar lubrication	.Before each use
Chain tension	.Before each use
Chain engagement	
(no chain movement at idling speed)	.Before each use
Chain sharpness	.Before each use
For damaged parts	.Before each use
For loose fasteners	.Before each use
For loose parts	.Before each use
Chain brake function	.Before each use
For fuel leaks	.Before each use

Inspect and Clean:

Bar									.Е	3efore	each	use
Complete saw.										. After	each	use

Air filter Every 5 h	
Chain brake Every 5 h	ours*
Replace spark plug	rearly
Replace fuel filter	early
* Hours of Operation	

Inspection after dropping or other impacts

Thoroughly inspect the product and identify any affections or damage with the unit. Any part that is damaged should be properly repaired or replaced by an authorized service centre.

- For fuel or chain lubrication leaks
- Chain brake function
- Chain tension
- For damaged, loose or broken parts
- For loose or damaged fasteners
- Handles and hand guards









TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start.	No spark.	Clean or replace spark plug. Reset spark plug gap. Refer to Spark Plug Replacement earlier in this manual.
[Make sure ignition switch is in the RUN(I) position]	Engine is flooded.	With the ignition switch OFF, remove spark 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 spark 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 FULL choke and repeat normal starting procedure. If engine still fails to start, repeat procedure with a new spark plug.
	Old fuel.	Only use fresh fuel mixed with recommended oil. Fuel over 30 days old may prevent the unit from starting.
Engine starts but will not accelerate properly.	Carburettor requires "L" (Low jet) adjustment.	Contact an authorised service centre for carburettor adjustment.
Engine starts, then dies.	Carburettor requires "L" (Low Jet) adjustment.	Contact an authorised service centre for carburettor adjustment.
Engine starts but will not run properly at high speed.	Carburettor requires "H" (High jet) adjustment.	Contact an authorised service centre for carburettor adjustment.
Engine does not reach full speed and/or emits excessive smoke.	Lubricant/fuel mixture incorrect.	Use fresh fuel and the correct 2-cycle lubricant mix ratio.
	Air filter dirty.	Clean air filter. Refer to Cleaning the Air Filter in the Maintenance section of this manual.
	Spark arrester screen dirty.	Clean spark arrestor screen. Refer to Inspecting/Cleaning the Spark Arrestor Screen in the Maintenance section of this manual.
	Carburettor requires "H" (High jet) adjustment.	Contact an authorized service centre for carburettor adjustment.
Engine starts, runs, and accelerates but will not idle.	Carburettor requires adjustment to idle speed.	Turn idle speed screw "T" clockwise to increase idle speed. Refer to Adjusting the Carburettor in the Maintenance section of this manual.
Chain turns at idle.	Carburettor requires adjustment to idle speed.	Turn idle speed screw "T" counter clockwise to decrease speed. Refer to Adjusting the Carburettor in the Maintenance section of this manual.
	Air leak in the intake system.	Contact an authorised service centre for a rebuild kit.









TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Bar and chain running hot and smoking.	Chain lubricant tank empty.	Lubricant tank should be filled every time fuel tank is filled.
	Chain tension is too tight.	Tension chain per instructions in Adjusting the Chain Tension in the Maintenance section of this manual.
	Oiler is not functioning.	Run at half throttle 30 to 45 seconds. Stop saw and check for lubricant dripping from guide bar. If lubricant is present, the chain may be dull or bar may be damaged. If no lubricant is present contact an authorised service centre.
Engine starts and runs, but chain is not rotating.	Chain brake is engaged.	Release chain brake. Refer to Operating the Chain Brake in the Operation section of this manual.
	Chain tension is too tight.	Tension chain per instructions in Adjusting the Chain Tension in the Maintenance section of this manual.
	Guide bar and chain assembled incorrectly.	Refer to Replacing the Guide Bar and Chain in the aintenance section of this manual.
	Guide bar and/or chain are damaged	Inspect guide bar and chain for damage.
	Drive sprocket teeth damaged	Contact an authorised service centre for drive
		sprocket replacement.









GUARANTEE

In addition to any statutory rights resulting from the purchase, this product is covered by a guarantee as stated below.

- The guarantee period is 24 months for consumers and commences on the date when the product was purchased. This date has to be documented by an invoice or other proof of purchase. The product is designed and dedicated to consumer and private use only. So there is no guarantee provided in case of professional or commercial use.
- 2. There is, in some cases (i.e. promotion, range of tools), a possibility to extend the warranty period over the period described above using the registration on the www.ryobitools.eu website. The eligibility of the tool is clearly displayed in stores and/or on packaging. The end user needs to register his/her newly-acquired tools online within 8 days the date of purchase. The end user may register for the extended warranty in his country of residence if listed on the online registration form where this option is valid. Furthermore, end users must give their consent to the storage of the data which are required to enter online and they have to accept the terms and conditions. The registration confirmation receipt, which is sent out by e-mail, and the original invoice showing the date of purchase will serve as proof of the extended warranty. Your statutory rights remain unaffected.
- 3. The guarantee covers all defects of the product during the warranty period due to defaults in workmanship or material at the purchase date. The guarantee is limited to repair and/or replacement and does not include any other obligations including but not limited to incidental or consequential damages. The warranty is not valid if the product has been misused, used contrary to the instruction manual, or being incorrectly connected. This quarantee does not apply to:
 - any damage to the product that is the result of improper maintenance
 - any product that has been altered or modified
 - any product where original identification (trade mark, serial number) markings have been defaced, altered or removed
 - any damage caused by non-observance of the instruction manual
 - any non CE product
 - any product which has been attempted to be repaired by an non-qualified professional or without prior authorization by Techtronic Industries
 - any product connected to improper power supply (amps, voltage, frequency)
 - any product used with inappropriate fuel mixture (fuel, oil, percentage of oil)
 - any damage caused by external influences (chemical, physical, shocks) or foreign substances
 - normal wear and tear of spare parts
 - inappropriate use, overloading of the tool
 - use of non-approved accessories or parts
 - carburettor after 6 months, carburettor adjustments after 6 months
 - components (parts and accessories) subject to natural wear and tear, including but not limited to bump knobs, drive belts, clutch, blades of hedge trimmers or lawn mowers, harness, cable throttle, carbon brushes, power cord, tines, felt washers, hitch pins, blower fans, blower and vacuum tubes, vacuum bag and straps, guide bars, saw chains, hoses, connector fittings, spray nozzles, wheels, spray wands, inner reels, outer spools, cutting lines, spark plugs, air filters, gas filters, mulching blades, etc.
- 4. For servicing, the product must be sent or presented to an RYOBI authorized service station listed for each country in the following list of service station addresses. In some countries your local RYOBI dealer undertakes to send the product to the RYOBI service organisation. When sending a product to an RYOBI service station, the product should be safely packed without any dangerous contents such as petrol, marked with sender's address and accompanied by a short description of the fault.
- 5. A repair/replacement under this guarantee is free of charge. It does not constitute an extension or a new start of the guarantee period. Exchanged parts or tools become our property. In some countries delivery charges or postage will have to be paid by the sender.
- This guarantee is valid in the European Community, Switzerland, Iceland, Norway, Liechtenstein, Turkey and Russia. Outside these areas, please contact your authorized RYOBI dealer to determine if another warranty applies.









AUTHORISED SERVICE CENTRES

RYCKO Technical Services LTD

104 Green Lane Hertfordshire AL3 6EX St Albans Phone: 08458 678 790 Email: info@ryckotechnical.com

Penn Lawn Mowers

19-21 Parkside Ind Estate Hants BH24 3SG

Phone: 01425 479386 Fax: 01425 479386

Email: sales@penn-lawn-mowers.co.uk

Brighton Tools & Fixings

Unit 7.Centenary Ind Estate Hughes Road. Off Hollingdean Road Sussex Est BN2 4AW Brighton Phone: 01273 620 456

Fax: 01273 620611

Email: wayne@brightontools.co.uk

Tooltech Industrial Equip

227 E Dunhill Road Macosquin Coleraine Co Londonderry BT514LQ Phone: 028 70359493 Email: john@tooltech.org.uk

The Lawnmower Company
Unit B1, North Cheshire Trading Estate Prenton CH43 3DU Wirral

Phone: 0151 609 0652 Fax: 0151 608 7615 Email: tlcwirral@aol.com

C J Sinclair Limited

44 Victoria Road St Peters KENT CT10 2UG Broadstairs Phone: 01843 869400 Fax: 01843 869400

Email: repairs@cjsinclairltd.co.uk

ACD PLANT LTD

145 Southbank Road Coundon CV6 1FG Coventry Phone: 02476 594348

Email: danmcgunigle@acdplant.co.uk

Vale Garden & Leisure King Street Middlewich Cheshire CW10 9LF

Phone: 01606 841800

Email: garden@valemotorcycles.co.uk

JWC Tool Repairs

Unit 6 Hills Centre Johnstown Road Dun Laoghire Co Dublin 18

Phone: 01 2369877

Email: jwc.toolrepairs@eircom.net

Frank Clark Ltd

Doughcloyne Industrial Estate Sarsfield Road Wilton, Cork EIRE

Phone: 00353 21 4542222 Email: vicky@frankclark.ie

Murray Power Tools

10 Primrose Avenue Grangemouth FK3 8YD Falkirk

Phone: 01324 486218 Fax: 01324 666184

Email: info@murravpowertools.com

Austin Eames

Plas Acton Wrexham North Wales LL11 2UB Phone: 01978 261095

Email: austineames@btconnect.com

Wrexham Power Tools

Five Fords Gate, Bridge Road, Wrexham Ind Estate Wrexham LL13 9PS Wrexham Phone: 01978 660011

Fax: 01978 664644

Email: info@wrexhampower.co.uk

Lawnmower Service Limited

Grantham Road, Wellingore LN5 0HH Lincolnshire Phone: 01522 810562

Power Tool Solutions

321 Newark Road Bracebridge LN5 8PE LINCOLN Phone: 01522 535352

Fax: 01592 519005

Email: sales@powertoolsolutions.co.uk

C D Powertools

76 Old Road Churwell Morley I S27 7TH Leeds Phone: 0113 271 84 94

Fax: 0113 270 99 55 Email: info@cdpowertools.co.uk

Henton & Chattell Limited

London Road Nottingham NG2 3HW Phone: 0115 986 2161 Email: service@hentonandchattell.com

Garden Machines (Northampton)

66-70 Kingsthorpe Road NN2 6HD Northampton Phone: 01604 716222 Email: jackbrown@gardenmachinesltd.co.uk

CBS Power Tools Limited

Unit 4, V P Square Fengate PE1 5YS Peterborough Phone: 01733 343031

Email: keith@cbspowertools.co.uk

Plymouth Tools & Spares

111 Victoria Road St Budeaux PL15 1RX Plymouth Phone: 01752 361474 Fax: 01752 366133

Email: info@plymouthtools.com Island Power Tools & Hire Centre

Unit D 5 Spithead Bus Centre, Newport Road, Sandown Isle of Wight PO36 9PH Sandown Phone: 01983 404546

Fax: 404241

Email: steve@islandpowertools.wanadoo.co.uk

Aldermaston Tools

Unit 47 Young's Ind Estate RG7 4PW Aldermaston Phone: 0118 981 1470 Fax: 0118 981 6879

Email: aldermaston@btconnect.com

Bryn Y Groes Farm Ystradgynlais West Glamorgan Phone: 01639 845184

Email: becca@cme-direct.co.uk

Southern Power Tool Services

Unit A Nickel Close Winnall Hampshire SO23 7RJ Winchester

Phone: 01962 863507

Tool-Line Limited

480-486 London Road Westcliff on sea Essex SS0 9LD Westcliff-On-Sea

Phone: 01702 391791

Marshall & Parsons

1111 London Road Leigh on Sea Essex SS9 3JL

Leigh-On-Sea

Phone: 01702 470100

POWERTECH IND LTD

Unit 2c Ellisons Road Killmarsh S21 2JG Sheffield Phone: 0114 247 4080

Email: workshop@powertech-industrial.co.uk

Toolfix Limited

Unit 8 Quay Road Brunel Ind Estate TQ12 4DZ Newton Ahhot

Phone: 01626 362129

Celtic Engineering

Water-Ma-Trout Ind Est Helston Cornwall TR13

OLW Phone: 01326 574961

Email: celticeng@btconnect.com

Heath Hayes Marine

49 Stafford Street Heath Hayes Cannock, Staffs WS12 2EH

Phone: 01543 275048

Email: hhmsales@btconnect.com

90/2 Lagan Road Dublin Ind Estate Glasnevin Dublin 11

Phone: 01 8305866

Email: enquiries@powertool.ie

Paragon Power Tools Ltd

11-12 Cookstown Enterprise Park, Tallaght Dublin 24

Phone: 00353014596999

Email: service@paragonpt.com

Donegal Fixings

Glerczou Business Park Mouicle Co Donegal Phone: 074 93 82046

Email: donegalfixings@yahoo.ie

J W Tools

Unit 8 Oranmore Business Park Oranmore Co

Galway

Phone: 091 792880

Email: joewhelan@lawnking.ie

DALY INDUSTRIAL 95 Lower Glanmire Road Cork Ireland

Phone: 00353 21 4500051

Fax: 003532214508203

Email: info@disc.ie

For an updated list of authorised service centres, visit http://uk.ryobitools.eu/service-agents-ryobi.htm.







EC DECLARATION OF CONFORMITY

Manufacturer: Techtronic Product Development Limited

Address: 24/F, CDW Building, 388 Castle Peak Road, Tsuen Wan, Hong Kong

Authorized to compile the technical file:

Klaus Hahn

Techtronic Industries (UK) Limited

Medina House, Fieldhouse Lane, Marlow, Bucks, SL7 1TB, United Kingdom

Herewith we declare that the product

is in conformity with the relevant provisions of the Machinery Directive (2006/42/EC)

• is in conformity with the provisions of the following other EC-Directives

EMC Directive (2004/108/EC),

Noise Emission Directive (2000/14/EC amended by 2005/88/EC), and

Gas Emission Directive (97/68/EC amended by 2002/88/EC, 2004/26/EC, 2010/26/EU).

And furthermore, we declare that

· the following (parts/clauses of) European harmonised standards have been used

EN ISO 11681-1:2011. EN ISO 22867:2011.

EN ISO 22868:2011, EN ISO 14982:2009, EN ISO 3744:2010

Notified body, 0905 Intertek Deutschland GmbH, Stangenstraße 1, 70771 Leinfelden-Echterdingen has carried out EC type approval, and the certificate No. is 11SHW0892-02.

Measured sound power level

111.1 dB(A)

Guaranteed sound power level

114 dB(A)

Conformity assessment method to Annex V/Directive 2000/14/EC

Signature: Floyd Jeffrey Nesom (BSME)

Senior Director of Engineering

Place, date: Hong Kong, Jun 2012

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