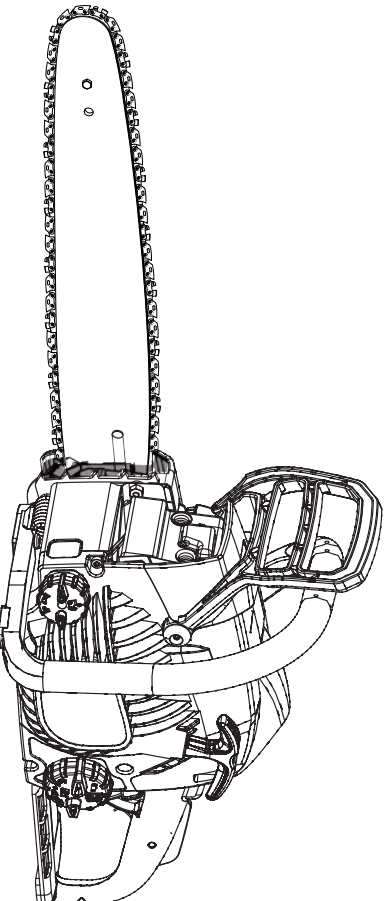


RYOBI®

RCS3535A/RCS3535CA/RCS4040CA
CHAINSAW
OPERATOR'S MANUAL



Important! It is essential you read the instructions in this manual before starting any operation with this machine.



English

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

Important! It is essential you read the instructions in this manual before starting any operation with this machine.

Thank you for buying a Ryobi product.

SAVE THIS MANUAL FOR FUTURE REFERENCE



INSTRUCTION

This product has many features for making its use more pleasant and enjoyable.

Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

DESCRIPTION OF FIGURES

Figure 1a – General overview of the chainsaw

1. Starter grip
2. Trigger release
3. Throttle trigger
4. Starter housing
5. Chain lubricant cap
6. Rear handle
7. Cylinder cover
8. Front handle
9. Front hand guard/chain brake
10. Clutch cover
11. Chain tensioning dial
12. Clutch cover lock knob
102. 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

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

Figure 31

51. Log supported at both ends
- Figure 31
52. Underbucking

- Figure 32
53. Underbucking

INSTRUCTION

- 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. Guillot
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 filling angle
80. Correct
81. Less than 30 degree
82. More than 30 degree
83. Incorrect
- Figure 53
80. Correct
84. Side plate filling angle
85. Hook
86. Backward slope
- Figure 54
67. Raker (depth gauge) clearance
- Figure 55
87. Depth gauge jointer
88. Flat file
- Figure 56
89. Restore original shape by rounding the front
- Figure 57
90. Lubricating hole
- Figure 58
7. Cylinder cover
91. Screws
- Figure 59
92. Air filter
- Figure 61
25. Idle speed screw "T"
- Figure 62
93. Chain brake
5. Chain lubricant cap
16. Fuel cap
94. Post
95. Starter cover
- Figure 63
96. Clean cylinder fins
- Figure 64
97. Clean flywheel fins
- Figure 65
98. Fuel filter
- Figure 67
99. Deflector
100. Deflector retaining screw
101. Spark arrestor
20. Muffler
- Figure 68
24. Clean the chain brake

GENERAL SAFETY RULES**WARNING**

Read and understand all instructions. Failure to follow all instructions listed below may result in fire and/or serious personal injury.

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.
 - **Kickback may occur** when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. Tip contact in some cases may cause a lightning-fast reverse reaction, kicking the guide bar up and back 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 the saw. As a chainsaw user, you should take every step to keep your cutting jobs free from accident and injury.
 - With a basic understanding of kickback, 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 kickback 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.
 - 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 the manufacturer's sharpening and maintenance instructions for the saw chain.
 - Only use 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, bystanders, may result from one-handed operation. A chainsaw is intended for two-handed use.
 - **Do not operate a chainsaw when you are fatigued.** Fatigue causes carelessness. Be more cautious before rest periods and towards the end of your shift. Never
- 4
- operate a chainsaw when under the influence of medication, drugs, or alcohol.
 - **Use safety footwear.** Do not wear loose clothing, wear protective gloves and clothing(class1), and eye, hearing, and head protection devices.
 - **Heavy protective clothing may increase operator fatigue, which could lead to heat stroke.** During weather that is hot and humid, heavy work should be scheduled for early morning or late afternoon hours when temperatures are cooler.
 - **Do not stand on any unstable surface** while using the chainsaw, that includes ladders, scaffolds, trees, etc. always keep a sound and firm footing.
 - **Use caution when handling fuel.** Move the chainsaw at least 10 metres from the fuelling 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.
 - **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 muffler 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.
 - **Shut off the engine before setting the chainsaw down.** Do not leave the engine running unattended. As an additional safety precaution, apply the chain brake prior to setting 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 that is under tension,** be alert for spring back so that you will not be struck when the tension in the wood fibres is released.
 - **Keep the handles dry,** clean, and free of lubricant or fuel mixture.
 - **Beware of carbon monoxide poisoning.** Operate the chainsaw only in well-ventilated areas.
 - **Do not climb a tree to use the chainsaw,** unless you have been specifically trained to do so.
 - **Do not cut from a ladder;** this is extremely dangerous.

GENERAL SAFETY RULES

- **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 could cause the flywheel to burst.)
- **Always have a fire extinguisher available** when using a chainsaw.
- **Use only the replacement guide bars and low kickback chains** specified for the saw.
- **Do not adapt the powerhead to a bow guide** or use it to power any attachments or devices not listed for the saw.
- The petrol powered saw is intended for infrequent use by homeowners, cottagers, and campers, and for such general applications as clearing, pruning, cutting firewood, etc. It is not intended for prolonged use. Prolonged periods of operation can cause circulatory problems in the user's hands due to vibration. For such use, it may be appropriate to use a saw having an anti-vibration feature.
- **Save these instructions.** Refer to them frequently and use to instruct other users. If you loan someone this tool, loan 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.

- **Do not cut vines and/or small underbrush** (a diameter of less than 3 in.)
- **Muffler surfaces are very hot during and immediately after operation of the chainsaw.** Keep all body parts away from the muffler. Serious burns may occur if contact is made with the muffler.
- **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 the 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.
- **Wear snug-fitting clothing.** Always wear heavy, long trousers, boots, and gloves. Do not wear jewelry, shorts, sandals, or go barefoot. Loose fitting clothing could be drawn into the engine or catch the chain or underbrush. Wear overalls, jeans, or chaps made of

cut-resistant material or ones that contain cut-resistant inserts. Secure hair so that it is above shoulder level.

**WARNING**

Wear safety clothing rated to 'class 1' (use for chainsaws).

- **Wear non-slip safety footwear and heavy-duty gloves** to improve your grip and to protect your hands.
- **Wear eye protection which is marked to comply with BS EN166, as well as hearing and head protection**, when operating this equipment.
- **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 work piece involved. For example, felling a tree requires a larger work area than making other cuts (i.e., bucking cuts, etc.).
- **Follow the sharpening and maintenance instructions for the saw chain.**
- **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 idle speed, the carburetor may need adjusting. Refer to Adjusting the Carburetor in the Maintenance section of this manual. If the saw chain still moves at idle speed after adjustment has been made, contact an authorized service centre for adjustment and discontinue use until the repair is made.

REFUELING (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 risks from sparks or flames.
- **Select bare ground, stop the engine, and allow it to cool** before refuelling.
- **Loosen the fuel cap slowly** to release any pressure and to keep fuel from escaping around the cap.
- **Tighten the fuel cap securely** after refuelling.
- **Wipe spilled fuel from the unit.** Move 10 metres away from refuelling site before starting engine.
- **NEVER attempt to burn off spilled fuel** under any circumstances.














KICKBACK

- **Kickback is a dangerous reaction that can lead to serious injury.** Do not rely only on the safety devices provided with the saw. As a chainsaw user, you must take special safety precautions to help keep your cutting jobs free from accident or injury. See the *General Safety Rules and Operation* sections of this manual for added information on kickback and how to avoid serious personal injury.

English

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.

| SYMBOL | NAME | DESIGNATION / EXPLANATION |
|---|--|---|
|  | Safety Alert | Precautions that involve your safety. |
|  | Read The Operator's Manual | To reduce the risk of injury, user must read and understand operator's manual before using this product. |
|  | Wear Eye, Hearing, and Head Protection | Wear eye protection which is marked to comply with EN 166 as well as hearing and head protection when operating this equipment. |
|  | No Smoking | No smoking, sparks, or open flame. |
|  | 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 odorless, deadly poison. Do not operate in an enclosed area. |
|  | Kickback | DANGER! Beware of kickback. |
|  | Bar Nose Contact | Avoid bar nose contact. |
|  | Wear Gloves | Wear non-slip, heavy-duty protective gloves when handling the chainsaw. |
|  | Petrol and Lubricant | Use unleaded petrol intended for motor vehicle use with an octane rating of 87 [(R + M)/2] or higher. This product is powered by 2-stroke cycle engine and requires pre-mixing petrol and 2-stroke lubricant. |
|  | Keep Bystanders Away | Keep all bystanders and animals at least 15m away. |
|  | Chain Oil Fill / Oil Pump | Add bar and chain oil every time you add fuel to the chainsaw. |



English

SYMBOLS

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

| SYMBOL | SIGNAL | MEANING |
|--------|----------------|--|
| | DANGER | Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury. |
| | WARNING | Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury. |
| | CAUTION | 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. |

SERVICE

Service 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.



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

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 Ryobi 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.



GLOSARY OF TERMS

Bouncing (Skating)

The sideward motion of the guide bar that can occur increasing the risk of kickback.

Bucking

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

Chain Brake

A device used to stop the saw chain.

Chainsaw Powerhead

A chainsaw 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 chainsaw 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 chainsaw. 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 chainsaws.

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 chainsaws. It may not meet the ANSI performance requirements when used with other 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.

English

TECHNICAL

| Model name | RCS3535A | RCS3535CA | RCS4040CA |
|---|--|--|--|
| Description | 35cc 14" CE saw | 35cc 14" CE saw | 40cc 16" CE saw |
| Weight - No bar, chain, fuel | 4.4 kg | 4.4 kg | 4.4 kg |
| Fuel tank capacity | 340 cm ³ | 340 cm ³ | 340 cm ³ |
| Lubricant tank capacity | 201 cm ³ | 201 cm ³ | 201 cm ³ |
| Bar length | 35 cm | 35 cm | 40 cm |
| Usable cutting length | 33.3 cm | 33.3 cm | 37.0 cm |
| Chain pitch | 9.53 mm (0.375 inch) | 9.53 mm (0.375 inch) | 9.53 mm (0.375 inch) |
| Chain gauge | 1.27 mm (0.05 inch) | 1.27 mm (0.05 inch) | 1.27 mm (0.05 inch) |
| Chain type | 3/8" low profile full complement chain | 3/8" low profile full complement chain | 3/8" low profile full complement chain |
| Drive sprocket | 6-tooth | 6-tooth | 6-tooth |
| Engine displacement | 35 cm ³ | 35 cm ³ | 40 cm ³ |
| Maximum engine power(ISO 7293) | 1.5 kW | 1.5 kW | 1.6 kW |
| Maximum engine speed with attachment | 12,500 min ⁻¹ | 12,500 min ⁻¹ | 12,500 min ⁻¹ |
| Idling engine speed | 2,600 - 3,700 min ⁻¹ | 2,600 - 3,700 min ⁻¹ | 2,600 - 3,700 min ⁻¹ |
| Specific fuel consumption at maximum engine power | 550 g/kwh | 550 g/kwh | 550 g/kwh |
| Sound pressure level (ISO 22869) | 102.0 dB(A) | 102.0 dB(A) | 102.0 dB(A) |
| Sound power level (ISO 22869) | 108.0 dB(A) | 108.0 dB(A) | 108.0 dB(A) |
| Vibration (ISO 22867): - Front Handle - Rear Handle | Carlton / Oregon 10.8m/s ² / 12.8m/s ² 9.96m/s ² / 7.78m/s ² | Carlton / Oregon 10.8m/s ² / 12.8m/s ² 9.96m/s ² / 7.78m/s ² | Carlton / Oregon 10.8m/s ² / 12.8m/s ² 9.96m/s ² / 7.78m/s ² |

Other Features:

| | | | |
|---------------------------------------|-------------------|-------------------|-------------------|
| Catalyst | Yes | Yes | Yes |
| Integral plastic bumper spikes | Yes | Yes | Yes |
| Primer bulb | Yes | Yes | Yes |
| Chain brake | Dual post support | Dual post support | Dual post support |
| Vibration isolation | Springs | Springs | Springs |
| Throttle and choke integrated control | No | No | No |
| Tool-less chain tensioning | Yes | Yes | Yes |
| Packaging | Giftbox | Blow-molded Case | Blow-molded Case |
| Engine Oil | Yes | Yes | Yes |
| Bar and Chain Oil | Yes | Yes | Yes |



English

TECHNICAL

Bar & Chain

| Model name | RCS33535A | RCS3535CA | RCS4040CA |
|--|--|--|--|
| Guide bar (no silkscreen) - Carlton part number - TTI part number - Color | 14-10W-N1-MHC UNB Y 308714003 Yellow | 14-10W-N1-MHC UNB Y 308714003 Yellow | 16-10W-N156-MHC UNB Y 308946004 Yellow |
| Chain - Carlton part number - TTI part number | N1C-BL-52E B 901213001 | N1C-BL-52E B 901213001 | N1C-BL-56E B 901213002 |
| Guide bar (no silkscreen) - Oregon part number - TTI part number - Color | 140 SDEA041 \ Y 300961008 Yellow | 140 SDEA041 \ Y 300961008 Yellow | 160 SDEA041 \ Y 308109004 Yellow |
| Chain - Oregon part number - TTI part number | 91P-52P 901213011 | 91P-52P 901213011 | 91P-56P 901213012 |

Bar & Chain

| | | | |
|-----------|--------|--------|--------|
| Guide bar | CSA049 | CSA049 | CSA051 |
| Chain | CSA048 | CSA048 | CSA050 |

Certificatin/ Compliance

| | | | |
|----------------------------|------------|------------|------------|
| Full CE approval includes: | | | |
| - Safety | Yes | Yes | Yes |
| - EMC | Yes | Yes | Yes |
| - Noise | Yes | Yes | Yes |
| - Vibration | Yes | Yes | Yes |
| Emission compliance | EU stage 2 | EU stage 2 | EU stage 2 |
| Durability | 50 hours | 50 hours | 50 hours |



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
Case (RCS3535CA / RCS4040CA)
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. (*Figures 37*)
 - Turn the chain tensioning dial clockwise to tension the chain. (*Figures 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. (*Figures 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. (*Figures 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 gasoline 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 guarantee 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.

APPLICATIONS

You may use this product for the purposes listed below:

- Basic limbing, felling, and bucking
- Removing buttress roots

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 carburetor. 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 carburetor.

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 REFUELING HANDLING THE FUEL SAFELY

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, do not inhale fuel vapours.

OPERATION

- 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 gasoline 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. Pre-mix 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 pre-mixed petrol/lubricant intended for use in mopeds, motorcycles, etc.
- Use a high quality 2-cycle self-mixing lubricant for air-cooled 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.

**OXYGENATED FUELS**

Some conventional petrol are blended with alcohol or an ether compound. This type of petrol is collectively referred to as oxygenated fuels.

If using an oxygenated fuel, make sure it is unleaded and meets the minimum octane rating requirements. Before using an oxygenated fuel, try to confirm the fuel's contents. Some areas require this information to be posted on the pump. The following are the EPA approved percentages of oxygenates:

Ethanol (ethyl or grain alcohol) 10% by volume. You may use petrol containing up to 10% ethanol by volume.

Petrol containing ethanol may be marketed under the name "Gasohol." **Do not use E85 fuel.**

MTBE (methyl tertiary butyl ether) 15% by volume. You may use petrol containing up to 15% MTBE by volume.

Methanol (methyl or wood alcohol) 5% by volume. You may use petrol containing up to 5% methanol by volume as long as it also contains co solvents and corrosion inhibitors to protect the fuel system. Petrol containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of the product or your fuel system. If you notice any undesirable operating symptoms, try another service station or switch to another brand of Petrol.

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.

(ADD IMAGE PUMP + LUBRICANT = MIX FROM OTHER PETROL MANUALS)



| | | | | |
|----------|---|--------|---|--------|
| 1 litre | + | 20 ml | = | } 50:1 |
| 2 litres | + | 40 ml | = | |
| 3 litres | + | 60 ml | = | |
| 4 litres | + | 80 ml | = | |
| 5 litres | + | 100 ml | = | |

OPERATION**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.

To start a cold engine:

- Set the ignition switch to the **RUN (I)** position.
- Make sure the chain brake is in the run position by pulling back on the lever/hand guard.
- Fully press and release the primer bulb at least 7 times.
- Pull choke lever all the way out to **FULL** 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 **RUN** position. Pull starter grip until engine runs.

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

- Depress the trigger release and squeeze and release the throttle trigger to return the engine to idle after a total run time of at least 30 seconds.

**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:

- Set the ignition switch to the **RUN (I)** position.
- Make sure the chain brake is in the run position by pulling back on the lever/hand guard.
- Pull choke lever out to **FULL CHOKE** position to set fast idle.
- 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.
- Squeeze and release the throttle trigger to return the engine to idle.

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 (O)** 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.

OPERATION

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.
- 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.

OPERATION**BASIC OPERATING/CUTTING PROCEDURES**

- Practice cutting a few small logs 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 fall 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.

OPERATION

- 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.

LIMBING 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.

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.

MAINTENANCE

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*.



CAUTION: 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 fast-cutting 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.

MAINTENANCE

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 FILING 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 *Figure 54 - 56*.

■ Maintain the depth gauge at a clearance of .025 in. 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 .025 in. 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*.



CAUTION: Make sure the chain has stopped before you do any work 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 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 that permits the chain to lay over sideways
- Bent guide bar
- Cracked or broken rails
- Spread rails

MAINTENANCE

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 cylinder cover.
 - Lift the front of the cylinder cover past chain brake lever.
 - Lift the back of the cylinder 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 cylinder fins and flywheel fins with 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 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 cylinder cover as described previously.
 - Clean the cylinder 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 cylinder 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 cylinder cover.
- NOTE:** If you notice a power loss with the petrol powered tool, the exhaust port and muffler 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.

MAINTENANCE**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 RCJ-6Y 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 cylinder.
- Re-attach the spark plug lead by pressing firmly onto top of spark plug

**INSPECTING/CLEANING THE SPARK ARRESTOR SCREEN**

See *Figure 67*.

The muffler 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 muffler and spark arrestor on the saw in good condition.

**WARNING**

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

- Allow the muffler to cool.
- Remove the deflector retaining screw.
- Remove the deflector to access the spark arrestor screen.
- If dirty, clean the spark arrestor screen with a small wire brush. Replace the screen if it is cracked or otherwise deteriorated. To obtain a replacement spark arrestor, contact your Ryobi 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.

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.

**MAINTENANCE SCHEDULE****Check:**

| | |
|----------------------------|-----------------|
| Fuel mixture level | Before each use |
| Bar lubrication | Before each use |
| Chain tension | 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 |
| Inspect and Clean: | |
| Bar | Before each use |
| Complete saw | After each use |
| Air filter | Every 5 hours* |
| Chain brake | Every 5 hours* |
| Replace spark plug | Yearly |
| Replace fuel filter | Yearly |
| * Hours of Operation | Yearly |



English

TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|--|---|
| Engine will not start. [Make sure ignition switch is in the RUN(0) position]. | No spark. Engine is flooded. | Clean or replace spark plug. Reset spark plug gap. Refer to Spark Plug Replacement earlier in this manual. 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 (1) 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. |
| 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. Air filter dirty. Spark arrester screen dirty. | Use fresh fuel and the correct 2-cycle lubricant mix ratio. Clean air filter. Refer to Cleaning the Air Filter in the <i>Maintenance</i> section of this manual. Clean spark arrester screen. Refer to Inspecting/Cleaning the Spark Arrester Screen in the <i>Maintenance</i> section of this manual. 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 <i>Maintenance</i> section of this manual. |
| Chain turns at idle. | Carburettor requires adjustment to idle speed. Air leak in the intake system. | Turn idle speed screw "T" counter clockwise to decrease speed. Refer to Adjusting the Carburettor in the <i>Maintenance</i> section of his manual. Contact an authorised service centre for a rebuild kit. |

English

TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|--|
| Bar and chain running hot and smoking. | Chain lubricant tank empty. Chain tension is too tight. Oiler is not functioning. | Lubricant tank should be filled every time fuel tank is filled. Tension chain per instructions in Adjusting the Chain Tension in the <i>Maintenance</i> section of this manual. 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. Chain tension is too tight. Guide bar and chain assembled incorrectly. Guide bar and/or chain are damaged. Drive sprocket teeth damaged | Release chain brake. Refer to Operating the Chain Brake in the <i>Operation</i> section of this manual. Tension chain per instructions in Adjusting the Chain Tension in the <i>Maintenance</i> section of this manual. Refer to Replacing the Guide Bar and Chain in the <i>Maintenance</i> section of this manual. Inspect guide bar and chain for damage. Contact an authorised service centre for drive sprocket replacement. |

LIMITED WARRANTY

TTI warrants this outdoor product to be free of defects in material or workmanship for 24 months from the date of purchase by the original purchaser, subject to the limitations below. Please keep your invoice as proof of date of purchase.

This warranty is only applicable where the product is used for personal and non-commercial purposes. This warranty does not cover damage or liability caused by / due to misuse, abuse, accidental or intentional acts by user, improper handling, unreasonable use, negligence, failure by end user to follow operating procedures outlined in the user's manual, attempted repair by non-qualified professional, unauthorized repair, modification, or use of accessories and/or attachments not specifically recommended by authorized repair.

This warranty does not cover belts, brushes, bags, bulbs or any part which ordinary wear and tear results in required replacement during warranty period. Unless specifically provided under applicable law, this warranty does not cover transportation cost or consumable items such as fuses.

This limited warranty is void if the product's original identification (trade mark, serial number, etc.) markings have been defaced, altered or removed or if product is not purchased from an authorized reseller or if product is sold AS IS and / or WITH ALL FAULTS.

Subject to all applicable local regulations, the provisions of this limited warranty are in lieu of any other written warranty, whether express or implied, written or oral, including any warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL WE BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES. OUR MAXIMUM LIABILITY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID BY YOU FOR THE PRODUCT.

This warranty is valid only in the European Union, Australia and New Zealand. Outside these areas, please contact your authorized Ryobi dealer to determine if another warranty applies.

CE DECLARATION OF CONFORMITY

We declare in sole responsibility that the product: - to which this manual applies, conforms to the basic health and safety requirements of the Machinery Directive 98/37/EC, 2006/42/EC and other relevant directives, like EMC Directive 2004/108/EC and Directive 2000/14/EC and Gas Emission Directive 97/68/EC, 2002/88/EC and 2004/126/EC. 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: DIN EN ISO 11681-1:2004 / EN ISO 22868:2006 / EN ISO 22867:2006 / EN ISO 14982:1998

We declare this product complies to the requirements of the Directive, 2000/14/EC.

| | | |
|------------------------------|------------|------------|
| Measured Sound Power Level | 35 cc | 40 cc |
| Guaranteed Sound Power Level | 102 dB (A) | 102 dB (A) |
| Date of issuance | 108 dB (A) | 108 dB (A) |
| | 05 / 2008 | |

Technical documents are kept by Homelite Far East Co., Ltd, 24/F, 388 Castle Peak Road, Tsuen Wan, N. T., Hong Kong.
Declared in May 2008 by Homelite Far East Co., Ltd.

SAFETY NOTICE: Exposure to vibrations through prolonged use of gasoline 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 tool and seek medical attention. An anti-vibration system does not guarantee 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.



RYOBI TECHNOLOGIES (UK) LIMITED.
Medina House,
Fleethouse Lane, Marlow,
Buckinghamshire,
SL7 1TB
UNITED KINGDOM
Tel: + 44 (0) 1628 894400
Fax: + 44 (0) 1628 894401
Technical Helpline : + 44 (0) 800 389 0305

TECHTRONIC INDUSTRIES FRANCE SAS
Immeuble Le Grand Roissy
Z.A. du Gué - 35 rue de Guivry
77990 LE MESSNIL AMELOT FRANCE
Phone: + 33(0)1 60 94 69 70
Fax: + 33(0)1 60 94 69 79

RYOBI BELGIUM
Avenue des Pâqueteries, 55
Zoning artisanal - bâtiment 5
B - 1470 Waterloo
BELGIQUE
Tel : + 32(0) 2357 8140
Fax : + 32(0) 2357 8149

TTI ITALIA SRL
Via Fratelli Gracchi, 39
20092 Chrisello Balsamo (MI)
Italia
Tel : + 39(0) 5923 8408
Fax : + 39(0) 5924 6960

TECHTRONIC INDUSTRIES IBERIA S.L.
Av. De la Industria,52
Coslada – Madrid – España
Tel: 91 485 12 10

**TECHTRONIC INDUSTRIES SOUTH AFRICA
CO. (PTY) LTD**
P.O.Box 83888, South Hills, Johannesburg, 2136
South Africa

TECHTRONIC INDUSTRIES (ASIA) CO., LTD.
24/F, CDW Building,
388 Castle Peak Road,
Tsuen Wan, Hong Kong.
Tel : + 852 2402 6888

RYOBI TECHNOLOGIES GMBH
Iteipark 4
D-40724 Hilden
DEUTSCHLAND
Tel: + 49 (0) 2103 2956-0
Fax: + 49 (0) 2103 2958-29

RYOBI TECHNOLOGIES GMBH
Vertriebsbüro Österreich
Schnitzgasse 13
A-8605 Kapfenberg
Tel.: + 43 (0) 3862 23590-0
Fax: + 43 (0) 3862 23590-25

TECHTRONIC INDUSTRIES AUSTRALIA PTY LIMITED.
Building B, Rosehill Industrial Estate,
3 Shirley Street,
Rosehill NSW 2142
AUSTRALIA
Tel: (02) 8892 1800 or 1300 361 505
Fax: 1800 807 993

TECHTRONIC INDUSTRIES (NZ) LIMITED.
27 Chernow Drive, Mt Wellington
PO Box 12-806, Penrose, Auckland
NEW ZEALAND
Tel: + 64 (0) 9 573 0230
Free Call: +64 0800 279 624
Fax: + 64 (0) 9 573 0231

A&M MIDDLE EAST FZCO
P.O.Box 61254
Jebel Ali, Dubai,
UNITED ARAB EMIRATES
Tel.: + 9714 8861399
Fax: + 9714 8861400

TECHTRONIC INDUSTRIES DENMARK APS
Stamholmen 147, 4,
DK-2650 Hvidovre
Denmark
Tlf 43 56 55 55, Fax 43 56 55 56
E-mail: kundservice@th-emea.com

TECHTRONIC INDUSTRIES NORWAY AS
Tlf: 800 12 493, Faks: 800 12 492
E-mail: kundejeneste@th-emea.com

TECHTRONIC INDUSTRIES SWEDEN AB
Tel (+46) 08 24 60 30, fax (+46) 08 24 60 31,
E-mail: kundjanst@th-emea.com

TECHTRONIC INDUSTRIES FINLAND OY
Tel. 0800 1 09000, Fax 0800 1 09001
Email: asiakaspalvelu@th-emea.com

Machine: **Petrol Chainsaw**

Type: **RCS3535A/RCS3535CA/RCS4040CA**

Name of company: **Homelite Far East Co., Ltd.**
Address: **24/F, CDW Building,
388 Castle Peak Road,
Tsuen Wan, Hong Kong.**

Name / title: **Andrew Eyre**
Vice President, Engineering

Signature: 

05 / 2008



