

Kress

Commercial



SAFETY AND OPERATING MANUAL

Cordless Top Handle Chainsaw

KC320 KC320.X

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INTRODUCTION

Dear Customer,

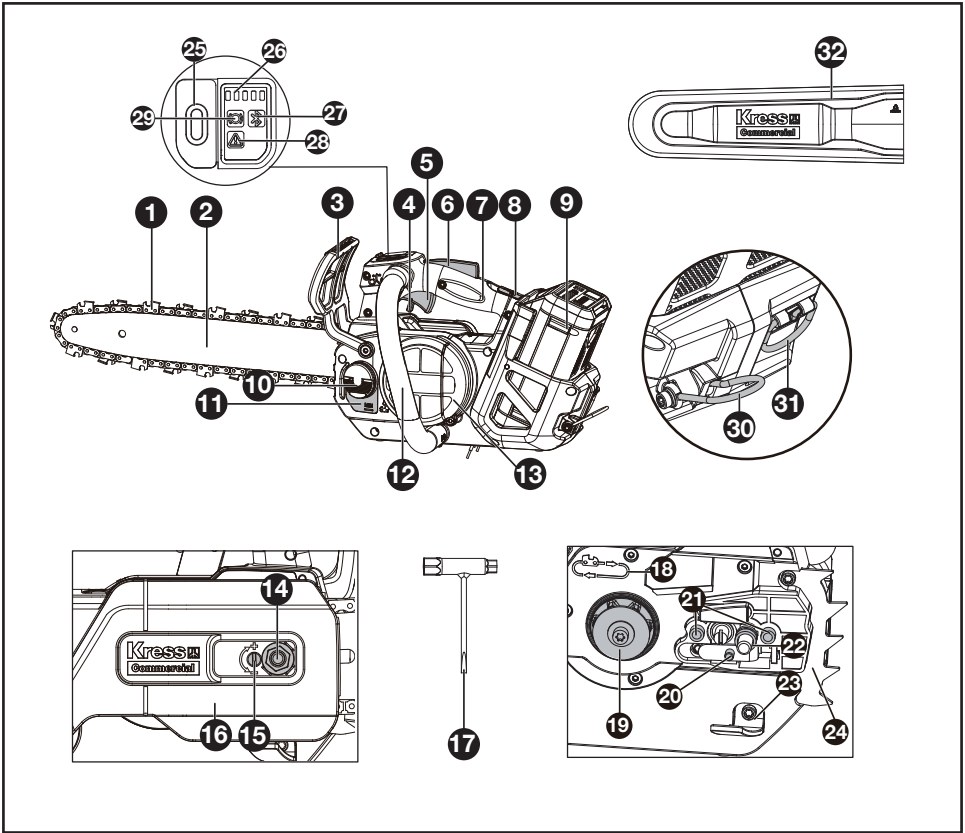
Thank you for buying this Kress Commercial product. We are dedicated to developing high quality products to meet your commercial landscaping requirements.

The Kress brand is synonymous with premium quality service. Over the years of your product's life, if you have any questions or concerns about your product, please contact your dealer or our Customer Service Team for assistance.

We are confident you will enjoy working with your Kress product for years to come.

INTENDED USE

This chainsaw is designed for the use of professional tree service operators for cutting of branches and tree tops within the tree canopy. The tool is not designed for felling trees or cutting logs on the ground.




COMPONENT LIST

1. Chain	12. Front handle	23. Chain catcher
2. Guide bar	13. Air inlet filter	24. Bucking spike
3. Chain brake lever	14. Hex nut	25. On/off switch
4. Safety lock off lever	15. Chain tensioning screw	26. Battery level indicator light
5. Throttle trigger	16. Drive cover	27. Bluetooth indicator light
6. Lock-off button	17. Scrench	28. Warning indicator light
7. Top handle	18. Chain direction symbol	29. Chain brake status indicator
8. Battery pack release	19. Drive sprocket	30. Belt ring
9. Battery pack*	20. Chain tensioning pin	31. Rope hook
10. Oil filler cap	21. Bar locating studs	32. Scabbard
11. Oil level window	22. Transportation ring	

* Not all the accessories illustrated or described are included in standard delivery.

PRODUCT SAFETY

GENERAL POWER TOOL SAFETY WARNINGS

 **WARNING** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1. WORK AREA SAFETY

- a) **Work work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2. ELECTRICAL SAFETY

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tool to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- c1) **Do not operate the machine in rain or wet conditions.** Water entering the machine may increase the risk of electric shock or malfunction that could result in personal injury. If the machine gets wet in the rain during operation, the machine and the battery should be dried before storing or charging. Remove the battery and reinsert it if the machine fails to turn on. Keep battery connection free of dirt and debris, and clean with a soft and dry brush or cloth.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3. PERSONAL SAFETY

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

4. POWER TOOL USE AND CARE

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- f) **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the power tool for operations different from those intended could result in a hazardous situation.*
- h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** *Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.*

5. BATTERY TOOL USE AND CARE

- a) **Recharge only with the charger specified by the manufacturer.** *A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.*
- b) **Use power tools only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*
- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** *Shorting the battery terminals together may cause burns or a fire.*
- d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** *Liquid ejected from the battery may cause irritation or burns.*
- e) **Do not use a battery pack or tool that is damaged or modified.** *Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.*
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** *Exposure to fire or temperature above 130 °C may cause explosion.*
- g) **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** *Charging improperly or at temperatures outside the specified range may*

damage the battery and increase the risk of fire.

6. SERVICE

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the power tool is maintained.*
- b) **Never service damaged battery packs.** *Service of battery packs should only be performed by the manufacturer or authorized service providers.*

1) GENERAL SAFETY WARNINGS FOR CHAINSAW FOR TREE SERVICE

- a) **The chainsaw is of a special type designed especially for tree service. It is only to be used by a trained operator using a carefully designed, safe work system, and it is only intended for tree service under these defined conditions. It is used for pruning and dismantling standing tree crowns.**
- b) **WARNING — THIS CHAINSAW IS FOR USE BY TRAINED TREE SERVICE OPERATORS ONLY. USE WITHOUT PROPER TRAINING CAN RESULT IN SEVERE INJURIES.**
- c) **Keep all parts of the body away from the saw chain when the chainsaw is operating. Before you start the chainsaw, make sure the saw chain is not contacting anything.** *A moment of inattention while operating chainsaws may cause entanglement of your clothing or body with the saw chain.*
- d) **Always hold the chainsaw with your right hand on the top handle and your left hand on the front handle.** *Holding the chainsaw with a reversed hand configuration increases the risk of personal injury and should never be done.*
- e) **Hold the chainsaw by insulated gripping surfaces only, because the saw chain may contact hidden wiring. Saw chains contacting a "live" wire may make exposed metal parts of the chainsaw "live" and could give the operator an electric shock.**
- f) **Wear safety glasses protection. Further protective equipment for hearing, head, hands, legs and feet is recommended.** *Adequate protective clothing will reduce personal injury by flying debris or accidental contact with the saw chain.*
- g) **Always keep proper footing and operate the chainsaw only when standing on fixed, secure surface.** *Slippery or unstable surfaces may cause a loss of balance or control of the chainsaw.*
- h) **When cutting a limb that is under tension, be alert for spring back.** *When the tension in the wood fibres is released, the spring loaded limb may strike the operator and/or throw the*

chainsaw out of control.

- i) **Use extreme caution when cutting brush and saplings.** *The slender material may catch the saw chain and be whipped toward you or pull you off balance.*
- j) **Carry the chainsaw by the front handle with the chainsaw switched off and away from your body.** *When transporting or storing the chainsaw, always fit the guide bar cover. Proper handling of the chainsaw will reduce the likelihood of accidental contact with the moving saw chain.*
- k) **Cleaning and maintenance before storage.**
- l) **Follow instructions for lubricating, chain tensioning and changing the bar and chain.** *Improperly tensioned or lubricated chain may either break or increase the chance for kickback.*
- m) **Cut wood only. Do not use chainsaw for purposes not intended.** *For example: do not use chainsaw for cutting metal, plastic, masonry or non-wood building materials. Use of the chainsaw for operations different than intended could result in a hazardous situation.*
- n) **This chainsaw is not intended for tree felling.** *Use of the chainsaw for operations different than intended could result in serious injury to the operator or bystanders.*
- o) **Follow all instructions when clearing jammed material, storing or servicing the chainsaw. Make sure the switch is off and the battery pack is removed.** *Unexpected actuation of the chainsaw while clearing jammed material or servicing may result in serious personal injury.*
- p) **Follow all instructions when clearing jammed material, storing or servicing the chainsaw. Make sure the switch is off and the lock-off is in the locked position.** *Unexpected actuation of the chainsaw while clearing jammed material or servicing may result in serious personal injury.*
- q) **Recommendation to have sharpening and maintenance of the saw chain performed by authorised service centres.**
- r) **Inspection before use and after dropping or other impacts to identify significant damage or defects.**
- s) **Do not operate the chainsaw when you are tired, ill or under the influence of alcohol or other drugs.**
- t) **Use eye (visor or glasses), head, hand, leg and foot, slip-resistant foot protection when operating.**
- u) **Keep bystanders and animals away by a safe distance at least 15 m during operation.**
- v) **The normal temperature range for charging the battery is 5 °C~40 °C .**
- w) **Do not expose the appliance or battery to excessive temperatures**
- x) **Rechargeable batteries are to be removed from the appliance before being charge**
- y) **Different types of batteries or new and used**

batteries are not to be mixed;

- z) **Exhausted batteries are to be removed from the appliance and safely disposed of;**
 - (a) **If the appliance is to be stored unused for a long period, the batteries should be removed;**
 - (b) **do not use non-rechargeable batteries in place of rechargeable batteries**
 - (c) **do not use modified or damaged batteries.**
 - (d) **WARNING: Use only with KAC840 battery charger or additional battery chargers listed in Operator's Manual**

2) SAFETY WARNING FOR WORKING WITH TREE SERVICE CHAINSAWS FROM ROPE AND HARNESS

General recommendations

- a) **The operator of a tree service chainsaw working at height from a rope and harness should never work alone. A ground worker trained in appropriate emergency procedures should be present to assist.**
- b) **The operator should be trained in general safe climbing and work positioning techniques and should be properly equipped with harness, ropes, strops, carabiners and other equipment for maintaining secure and safe working positions for both himself and the chainsaw.**

Preparing the chainsaw for use

The chainsaw should be checked, oiled, started and warmed up by the ground worker and then switched off before being sent up to the operator in the tree.

The chainsaw should be fitted with a suitable strop for attachment to the operator's harness (See Figure A.1).



Figure A.1 – Example of attachment of tree service chainsaw to operator's harness

- a) Secure the strap around the attachment point on the rear of the chainsaw.
- b) Provide suitable carabiners to allow indirect (i.e. via the strop) and direct attachment (i.e. at the attachment point on the chainsaw) of the chainsaw to the operator's harness.
- c) Ensure the chainsaw is securely attached when sent up to the operator.
- d) Ensure the chainsaw is secured to the harness before disconnecting it from the means of ascent.
- e) The ability to directly attach the chainsaw to the harness reduces the risk of damage to equipment when moving around the tree. The chainsaw should always be switched off when directly attached to the harness.
- f) The chainsaw should only be attached to the recommended attachment points on the harness. These may be at mid-point (front or rear) or at the sides. Wherever possible, the chainsaw should be attached to the centre rear mid-point to keep it clear of climbing lines and to support its weight centrally down the operator's spine. (See Figure A.2)

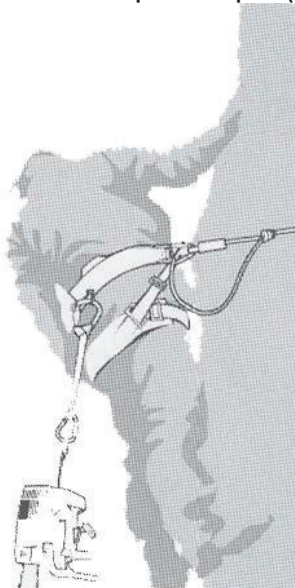


Figure A.2 – Example of attachment of tree service chainsaw to centre rear mid-point on harness

- g) When moving the chainsaw from any one attachment point to another, the operator should ensure that it is secured in the new position before releasing it from the previous attachment point.

Using the chainsaw in the tree

A. Analysis of accidents

An analysis of accidents with these chainsaws during tree service operations shows the primary cause as being inappropriate one-handed use of the chainsaw. In the vast majority of accidents, operators fail to adopt a secure work position that allows them to hold both handles of the chainsaw, resulting in an increased risk of injury due to

- not having a firm grip on the chainsaw if it kicks back,
- a lack of control of the chainsaw, such that it is more likely to come into contact with climbing lines and the operator's body (particularly the left hand and arm), and
- loss of control due to an insecure work position and resulting in contact with the chainsaw (unexpected movement during operation of the chainsaw).

B. Securing the work position for two-handed use

In order to allow the chainsaw to be held with both hands, as a general rule, operators should aim for a secure work position in which the chainsaw is operated at

- hip level, when cutting horizontal sections, and
- solar-plexus level, when cutting vertical sections.

Where the operator is working close into vertical stems with low lateral forces on the work position, secure footing could be all that is needed for maintaining a secure work position. However, as operators move away from the stem, they will need to take measures to remove or counteract increasing lateral forces by, for example, redirecting the main line via a supplementary anchor point or using an adjustable strop direct from the harness to a supplementary anchor point (See Figure A.3).



Figure A.3 – Example of redirection of main line via supplementary anchor point

Gaining a secure footing at the work position can be aided by the use of a temporary foot stirrup created from an endless sling (see Figure A.4).

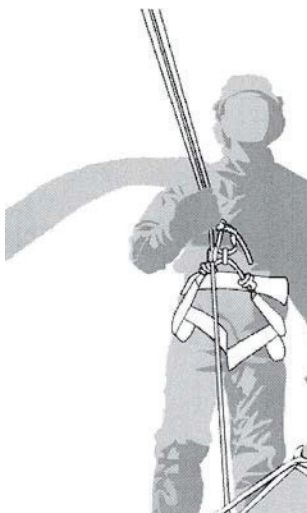


Figure A.4 — Example of temporary foot stirrup created from endless sling

C. Starting the chainsaw in the tree

When starting the chainsaw in the tree, the operator should

- a) apply the chain brake before starting,
- b) hold the chainsaw on either the left or right side of the body when starting:
 - on the left side, holding the chainsaw with the left hand on the front handle and thrusting the chainsaw away from the body while holding the cutting control on the top handle in the right hand, or
 - on the right side, holding the chainsaw with the right hand on either handle and thrusting the chainsaw away from the body while holding the cutting control on the top handle in the left hand.

The operator should always check that the chainsaw has sufficient Remaining capacity of the battery pack before undertaking critical cuts.

D. Freeing a trapped chainsaw

If the chainsaw becomes trapped during cutting, operators should

- a) switch off the chainsaw and attach it securely to the tree inboard (i.e. towards the trunk side) of the cut or to a separate tool line,
- b) pull the chainsaw from the kerf while lifting the branch as necessary, and
- c) if necessary, use a handsaw or second chainsaw to release the trapped chainsaw by cutting a minimum of 30 cm away from the trapped chainsaw.

Whether a handsaw or a chainsaw is used to free a trapped chainsaw, the release cuts should always be outboard (toward the tips of the branch), in order to prevent the chainsaw being taken with the section and further complicating the situation.

3) CAUSES AND OPERATOR PREVENTION OF KICKBACK

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 sudden reverse reaction, kicking the guide bar up and back towards the operator.

Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator.

Either of these reactions may cause you to lose control of the saw which could result in serious personal injury. 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.

Kickback is the result of chainsaw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

- a) **Maintain a firm grip, with thumbs and fingers encircling the chainsaw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces.** *Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the chainsaw.*
- b) **Do not overreach and do not cut above shoulder height.** *This helps prevent unintended tip contact and enables better control of the chainsaw in unexpected situations.*
- c) **Only use replacement bars and chains specified by the manufacturer.** *Incorrect replacement guide bars and saw chains may cause chain breakage and/or kickback.*
- d) **Follow the manufacturer's sharpening and maintenance instructions for the saw chain.** *Decreasing the depth gauge height can lead to increased kickback.*

4) RESIDUAL RISKS

Even with the intended use of the appliance there is always a residual risk, which can not be prevented. According to the type and construction of the appliance the following potential hazards might apply:

- Contact with exposed saw teeth of the saw chain (cutting hazards)
- Access to the rotating saw chain (cutting hazards)
- Unforeseen, abrupt movement of the guide bar (cutting hazards)
- Flung out of parts from the saw chain (Cutting / injection hazards)
- Flung out of parts of the work piece
- Skin contact with the oil
- blockage of the saw chain
- Loss of hearing, if no required ear protection used during work

SAFETY WARNINGS FOR BATTERY PACK

- a) Do not dismantle, open or shred cells or battery pack.
- b) Do not short-circuit a battery pack. Do not store battery packs haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by conductive materials. When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- c) Do not expose battery pack to heat or fire. Avoid storage in direct sunlight.
- d) Do not subject battery pack to mechanical shock.
- e) In the event of battery leaking, do not allow the liquid to come into contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- f) Keep battery pack clean and dry.
- g) Wipe the battery pack terminals with a clean dry cloth if they become dirty.
- h) Battery pack needs to be charged before use. Always refer to this instruction and use the correct charging procedure.
- i) Do not maintain battery pack on charge when not in use.
- j) After extended periods of storage, it may be necessary to charge and discharge the battery pack several times to obtain maximum performance.
- k) Recharge only with the charger specified by Kress. Do not use any charger other than that specifically provided for use with the equipment.
- l) Do not use any battery pack which is not designed for use with the equipment.
- m) Keep battery pack out of the reach of children.
- n) Retain the original product literature for future reference.
- o) Remove the battery from the equipment when not in use.
- p) Dispose of properly.
- q) Do not use battery packs of different manufacture, size or type.
- r) Keep the battery away from microwaves and high pressure.
- s) **Warning! Do not use non-rechargeable batteries.**

User manual requirements for wireless product

- a) Operation of this device is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) this device must accept any interference

received, including interference that may cause undesired operation.

- b) Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- c) NOTE: This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

SAVE THESE INSTRUCTIONS

For Battery tools

The recommended ambient temperature range for discharging is -20 °C~45 °C.

The recommended ambient temperature range for the charging system during charging is 5 °C~40 °C.










Details regarding safe disposal of used batteries
At the end of the life of the appliance, remove the battery pack safely before disposing of the appliance. Do not throw batteries away or throw them in the normal trash can. Also do not dispose of the battery with the machine. Remove the used battery pack from the appliance and dispose of it at the nearest or convenient dedicated recycling facility. If in doubt, consult your local environmental protection department. Batteries may enter water cycle if disposed improperly, which can be hazardous for ecosystem. Do not dispose of waste batteries as unsorted municipal waste.

Low temperature use reminder


To guarantee optimal performance and maintain the longevity of your battery system, please ensure that the battery is at normal room temperature before starting work in cold conditions.

SYMBOLS


	To reduce the risk of injury, user must read instruction manual
	WARNING
	Always use chainsaw two-handed
	Beware of chainsaw kickback and avoid contact with bar tip
	Protective gloves
	Protective footwear
	Appropriate ear, eye, and head protection must be worn
	Wear protective clothing
	Wear arm protection
	Wear a safety harness
	Wear protective roller sport equipment
 Li-Ion  Li-Ion	Li-Ion battery. This product has been marked with a symbol relating to 'separate collection' for all battery packs and battery pack. It will then be recycled or dismantled in order to reduce the impact on the environment. Battery packs can be hazardous for the environment and for human health since they contain hazardous substances.

	Do not burn
	Batteries may enter water cycle if disposed improperly, which can be hazardous for ecosystem. Do not dispose of waste batteries as unsorted municipal waste.
	The symbol on the packaging is for France only.
	Unlock
	Lock
	Plus; positive polarity
	Minus; negative polarity
	Use with model KAC840 battery charger. See instruction manual for additional battery chargers.
	RCM marking
	ABN: Australian Business Number. By this number, business information such as entity type, status, business location etc. can be found at website http://abr.business.gov.au . ABN of Positec Australia Pty Limited is 14 101 682 357

ASSEMBLY & OPERATION

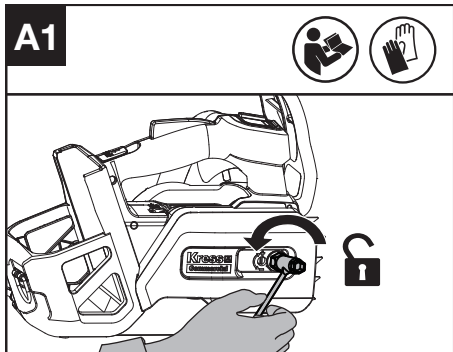
 **NOTE:** Before using the tool, read the instruction book carefully.

ASSEMBLY

 **WARNING!** Do not install the battery pack before it has been completely assembled. Always use gloves when handling the chain.

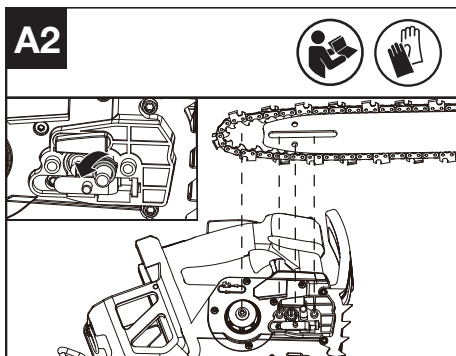
CHAIN AND GUIDE BAR ASSEMBLY

1. Remove the drive cover (See Fig. A1)



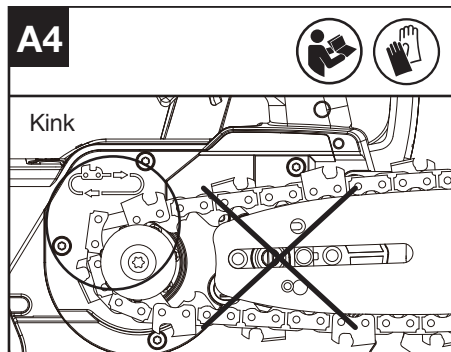
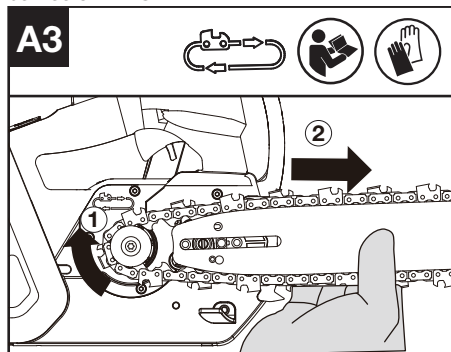
2. Remove the transportation ring. Fit the chain onto the drive sprocket, so that the two bar locating studs on the bar pad fit into the keyway of the opening on the guide bar. Ensure that the chain tension hole fits on the chain tensioning pin. (See Fig. A2).

NOTE: Use only genuine Kress chains or those recommended for the guide bar. Ensure the chain is in correct running direction.

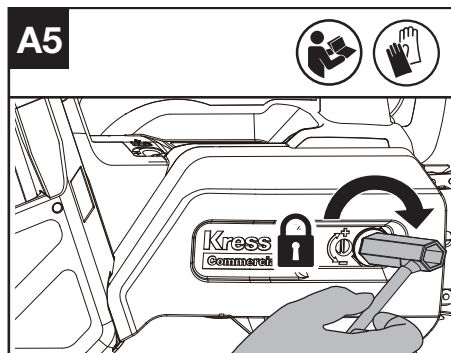


3. Make sure the drive links are fully seated in the drive sprocket (See Fig. A3), avoiding a kink as shown in Fig. A4. If kink occurs, pick up on the chain at the guide bar just ahead of the kink and then pull the kink out.

NOTE: Chain should rotate under pressure and be free of kinks.



4. Fit the drive cover and tighten the drive cover by turning the hex nut clockwise until it is slightly tight (**Torque: 7~7.5 Nm**). (See Fig. A5)



5. Adjust the saw tension. Please refer to CHAIN TENSIONING section of MAINTENANCE.

OPERATION

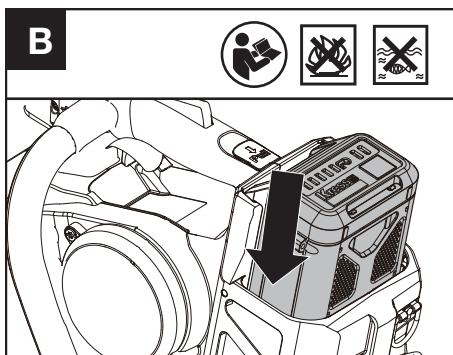
BEFORE USING YOUR CORDLESS TOOL

To remove or install battery pack (See Fig. B, C)

! **WARNING!** The charger and battery pack are specially designed to work together so do not attempt to use any other devices. Never insert or allow metallic objects into your charger or battery pack connections because of an electrical failure and hazard will occur.

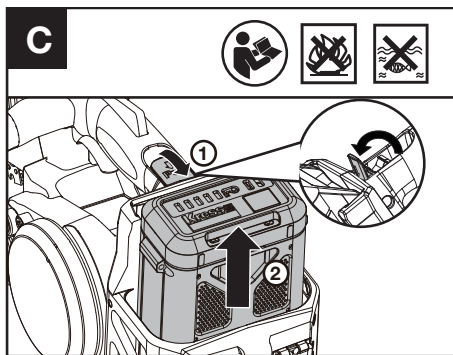
NOTE: Your battery pack is UNCHARGED and you must charge once before use.

After recharging, insert the battery pack into the battery port. A simple push and slight pressure will be sufficient until a click is heard.

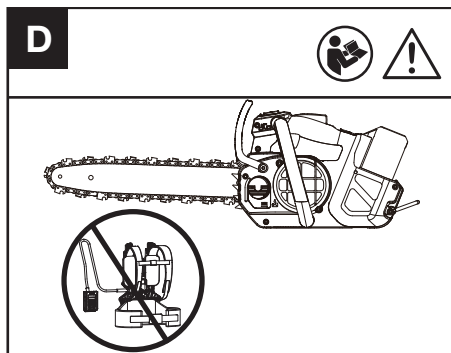


Pull the battery pack release until the battery pack comes out and remove the battery pack from your tool after operation.

NOTE: When removing the battery pack, hold it firmly to avoid dropping and injury.



WARNING



It is suggested not to use the chainsaw with battery harness for your safety. Check the battery packs before using your cordless tool. Only use the battery pack listed in the accessories section.

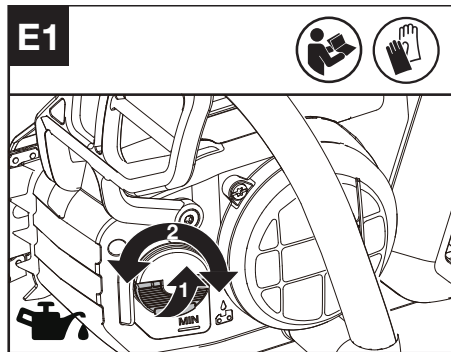
Lubrication

! **WARNING:** The chainsaw is not filled with oil. It is essential to fill with oil before use. Removing the battery pack before filling the oil tank.

NOTE: Chain life and cutting capacity depend on optimum lubrication.

Filling oil tank (See Fig. E1)

1. Please use dedicated chain oil.
2. Avoid dirt or debris entering oil tank.



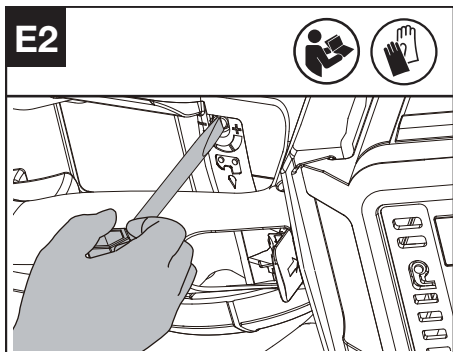
! **WARNING:** Do not use waste oil, which can cause injury to you and the environment. Waste oil also causes damage to the oil pump, the guide bar and the saw chain. Use of non approved oil will void the warranty. Insufficient lubrication will cause damage to the saw chain and serious injury or death to the operator. It is important to use bar and chain lubricant (not automotive oil) that is formulated to

perform over a wide temperature range with no dilution required. This can be found at the location where you purchased this saw or your local hardware store.

Refer to your dealer when you select your chain oil.

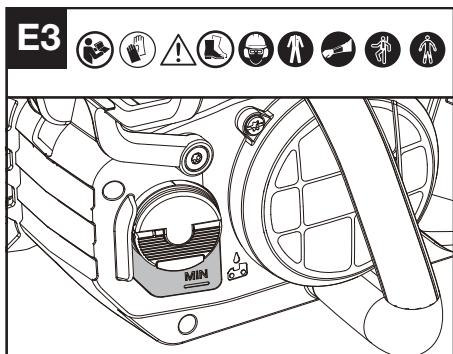
Do not swallow any type of bar oil. If swallowed, call a physician immediately. Keep out of reach of children. Store away from heat or open flame.

It is possible to adjust oiler pumping volume with screw as Fig E2 shown.



Check the oil level window prior to starting and regularly during operation (See Fig. E3)

NOTE: The operation time of cutting with a full oil tank depends on the actual material being cut. Normally, the actual cutting time corresponds to the usage time of one battery pack.



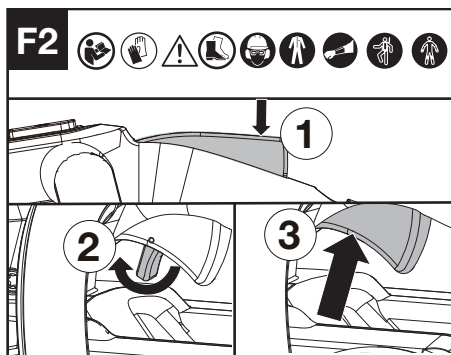
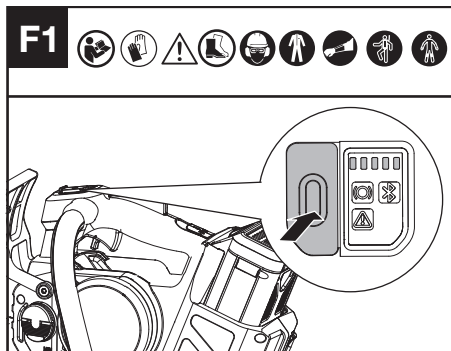
Checking the function and the components

Checking the controls

Turn on the on/off switch, press the lock-off button, push the safety lock off lever forward and then squeeze and hold the throttle trigger to start the machine. (See Fig. F1,F2)

Stop the saw by releasing the throttle trigger, the safety lock off lever and the lock-off button.

The machine stops after a short delay. If the machine continues to cut, remove the battery and contact the service agent.



Checking the display

The product is switched on when the battery level indicator light is lit.

The product is switched off when the battery level indicator light is out.

If the warning indicator is flashing, refer to your dealer for solutions.

Checking the chain brake (See Fig. G)

The chain brake lever is a safety mechanism activated through the front hand guard, when kickback occurs. Chain stops immediately.

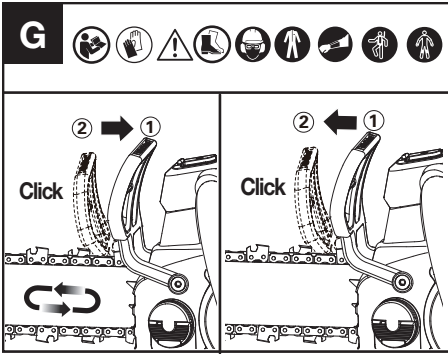
The following function check should be carried out at regular intervals. Pull the front hand guard towards the operator (position ①) to deactivate chain brake. To activate the chain brake, push front hand guard forwards (position ②)*. If the brake is activated, chain brake status indicator will come on.

NOTE:

1. If the saw is unable to start and chain brake indicator light flashes in red, even though it is assembled properly and working with fully charged battery packs, then you should check if the chain brake lever is in the correct position

(position ①).

2. *When the chain brake is activated, the saw chain should stop instantly. If the saw chain does not stop or take time to slow down, please stop using the chainsaw and contact the service agent.



Checking the oiler

Proper functioning of the oiler can be checked by running the chainsaw and pointing the tip of the guide chain bar towards a piece of cardboard or paper on the ground. If an increasing oil pattern develops on the cardboard, the oiler is operating fine. If there is no oil pattern, despite a full oil tank, contact Kress customer service agent or Kress approved service agent.

NOTE: It may take an extended period of time (1 minute +) for the pump to prime when new or after the saw has not been in use for an extended period of time.

WARNING: Do not touch the ground with the chain. Ensure safety clearance of 15 cm (6").

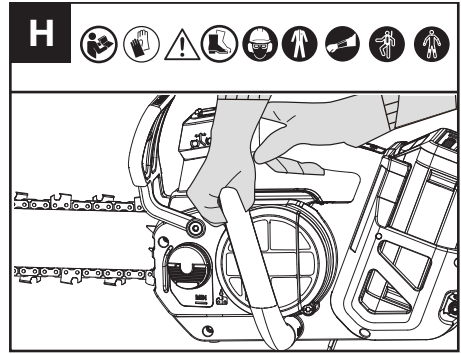
Checking the chain catcher

Make sure that the chain catcher is attached correctly and is not defective.

Check to make sure that all parts are correctly attached and not defective or missing.

CUTTING

- (1) Installing the battery pack into the machine.
- (2) Make sure section of log to be cut is not laying on the ground. If the log you are cutting is laying on the ground, do not cut completely through and allow the chain to make contact with the soil. Reposition the log for the final separating cut.
- (3) Use both hands to grip saw. Always use left hand to grip front handle and right hand to grip top handle. Use a firm grip. Thumbs and fingers must wrap around saw handles. (See Fig. H)



- (4) When ready to make a cut, refer to CHECKING THE CONTROLS section. Make sure the saw is running at full speed before starting a cut.
- (5) Guide the saw using light pressure with your left forearm and do not put excessive force on the saw, letting the saw do its work. The motor will overload and can burn out. It will do the job better and safer at the rate for which it was intended.
- (6) Remove the saw from a cut with the saw running at full speed. Stop the saw. Make sure the chain has stopped before setting the saw down.
- (7) **WARNING:** Do not stand directly below a branch being cut. Keep bystanders far away. Do not use the tool near cable, electrical power or telephone lines. Keep 3m (10 ft) away from all power lines.

KICKBACK SAFETY DEVICES ON THIS SAW

This saw has a low-kickback chain and reduced kickback guide bar. Both items reduce the chance of kickback. However, kickback can still occur with this saw.

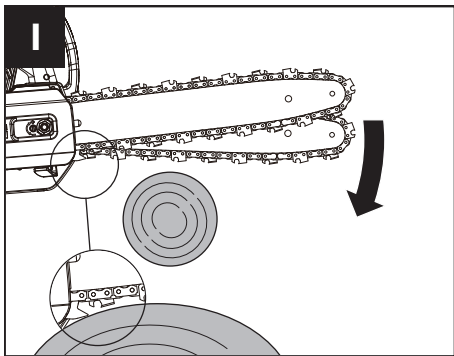
The following steps will reduce the risk of kickback.

- Use both hands to grip saw while saw is running. Use firm grip. Thumbs and fingers must wrap around saw handles.
- Keep all safety items in place on saw. Make sure they work properly.
- Keep solid footing and balance at all times.
- Stand slightly to the left side of saw. This keeps your body from being in direct line with chain.
- Do not let guide bar nose tip touch anything when chain is moving.
- Never try cutting through two branches at same time. Only cut one branch at a time.
- Do not bury the guide bar nose or try plunge cut (boring into wood using guide bar nose). This type of cutting is for properly trained professionals only.
- Watch for shifting of branches or other forces that may pinch chain.
- Use extreme caution when reentering a previous cut.

- Use only the low-kickback chain and guide bar that were supplied with this chainsaw or are recommended as a replacement.
- Never use a dull or loose chain. Keep chain sharp with proper tension.

HOW TO USE SAW SAFELY

1. Use the chainsaw only with secure footing.
2. The chain must be running at full speed before it makes contact with the wood.
3. Use the bucking spike to secure the saw onto the wood when starting to cut.
4. Use the bucking spike as a leverage point while cutting if necessary. (See Fig. I)



TRIMMING A TREE (PRUNING)

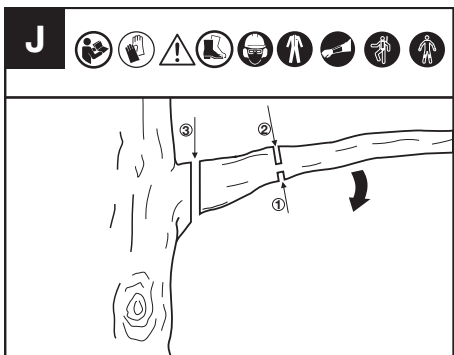
WARNING: Avoid kickback. Kickback can result in severe injury or death.

See Kickback, to avoid risk of kickback.

CAUTION: Seek professional help if facing conditions beyond your ability.

Trimming a tree is the process of cutting limbs from a living tree. Make sure your footing is firm. Follow directions below to trim a tree.

1. Make the first cut on underside of limb. Use top of guide bar to make this cut. (See Fig. J)



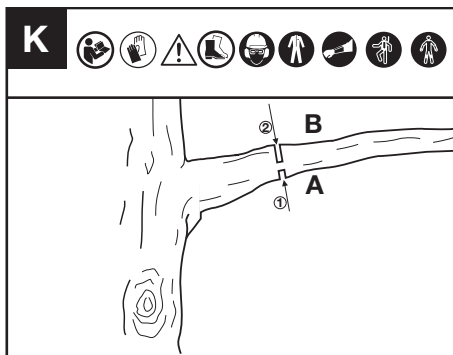
2. Make second cut from above limb. Continue cut until you cut limb off.
3. Make the third cut as close to the tree trunk as

possible fully severing the remaining stub. Use bottom of guide bar to make this cut.

CUTTING BRANCHES UNDER TENSION (SEE FIG. K)

WARNING: When cutting a limb that is under tension, use extreme caution. Be alert for wood springing back. When wood tension is released, limb could spring back and strike operator causing severe injury or death.

Always start with a relieving cut (1) at the compression side (A) of the branch, and then make a bucking cut (2) at the tension side (B). If a pinch occurs that traps the bar/chain, switch off the machine, activate the chain brake and remove the battery to remove the saw from the branch, exercising caution that the limb does not suddenly snap or release.



A: compression side

B: tension side

MAINTENANCE

WARNING: Wear heavy duty gloves when performing any maintenance or service to this tool. Switch off the machine and remove the battery pack before carrying out any adjustment, servicing or maintenance.

Inspect chainsaw before and after each use.

Check saw closely for any damage that may affect operator safety or operation of saw. Check for broken or damaged parts. Do not use chainsaw if damage affects safety or operation. Have damage repaired by authorized service center.

Maintain chainsaw with care.

- Make sure that the on/off switch, the lock-off button and the safety lock off lever function correctly.
- Keep chain sharp, clean, and lubricated for better and safer performance.
- Keep handles dry, clean, and free of oil and grease.
- Clean the chain brake and check it periodically to make sure that it operates safely.

- Check the chain catcher periodically to make sure that it is not damaged.
- Keep all screws and nuts tight.
- When servicing, use only identical replacement parts.

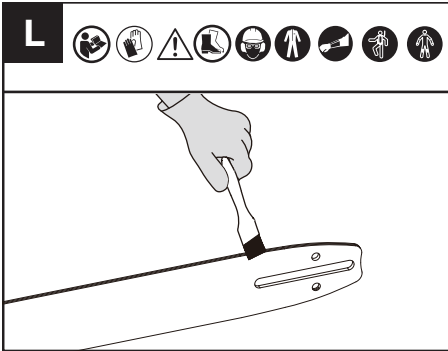
BAR MAINTENANCE

To clean the bar rails (See Fig. L)

The bar rails that carry the chain should be cleaned before storing the tool or if the bar or chain appear to be dirty.

The rails should be cleaned every time the chain is removed.

1. Remove drive cover and bar and chain. (See section ASSEMBLY)
2. Using a wire brush, screwdriver or similar tool, clear the residue from the inner groove of the bar.
3. Make sure to clean oil passages thoroughly.



Clean all sawdust from the guide bar and sprocket hole.

When rail top is uneven, use a flat file to restore square edges by removing any burrs from the side or top of the bar.

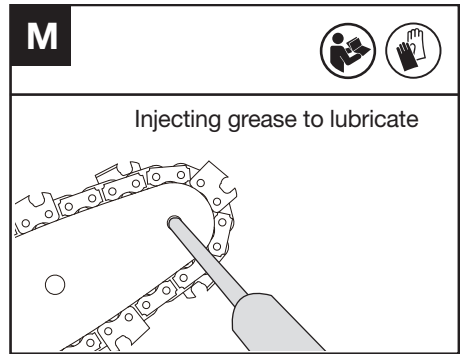


Replace the guide bar when the groove is worn, the guide bar is bent or cracked, or when excess heating or burring of the rails occurs. If replacement is necessary, use only the guide bar specified for your saw in the manual or on the decal located on the chainsaw.

To lubricate sprocket (See Fig. M)

NOTE: It is not necessary to remove the chain or bar when lubricating the guide bar sprocket.

1. Clean the bar and sprocket
2. Using a grease gun, insert the tip of the gun into the lubrication hole and inject grease until it appears at the outside edge of the sprocket tip.



3. To rotate the sprocket pull the chain by hand until the ungreased side of the sprocket is in line with the grease hole. Repeat the lubrication procedure.

CHAIN MAINTENANCE

Chain tensioning (See Fig. N, O)

WARNING: Check the chain tension frequently and tighten when the chain becomes loose around the guide bar. Check recent replaced chain tension every time you replace the battery pack.

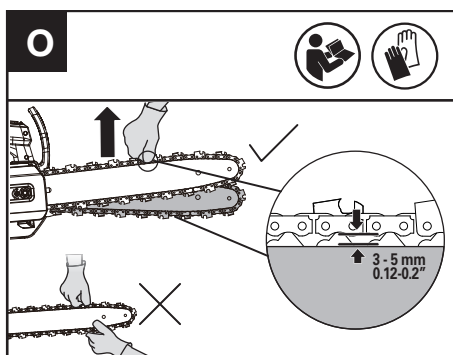
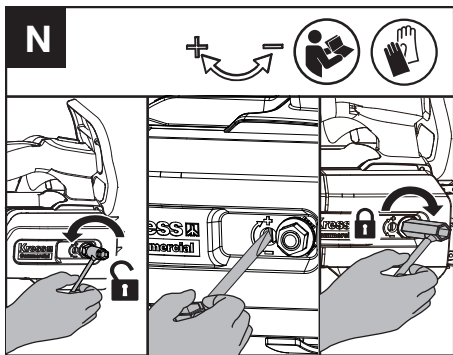
Maintain proper chain tension always. A saw chain with inappropriate tension can come loose from the saw and cause serious injury or death.

1. Loosen the nut on the drive cover with screwdriver.
2. Lift the end of guide bar to remove any free play and turn the tensioning screw with a screwdriver in a clockwise direction. Tighten the tensioning screw until the chain is tensioned correctly and can still move easily.
3. Tighten the nut on the drive cover with screwdriver until it is tight.
4. Double check the tension set by the chain tensioning screw. The correct chain tension is reached when the chain can be raised approximately half the driveline depth from the guide bar in the center.

NOTE: The chain will stretch while cutting and lose proper tension. When the chain becomes loose, completely unscrew the hex nut or turn the hex nut around three full turns in a counter-clockwise direction, then re-tension the chain and tighten the hex nut to properly reset the chain tension by repeating steps 1-4 listed above.

NOTE: The chain is properly tensioned when it can

be lifted off of the guide bar and the driveline within the rail of the guide bar.

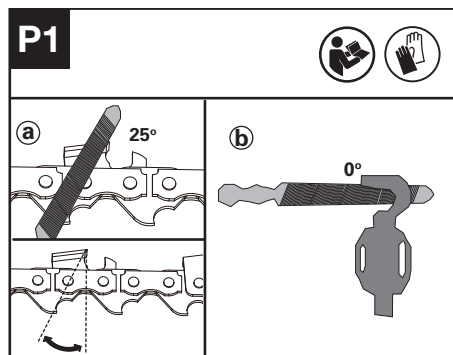


To sharpen the saw chain

Keep chain sharp. Your saw will cut faster and more safely. A dull chain will cause undue sprocket, guide bar, chain, and motor wear. If you must force chain into wood and cutting creates only sawdust with few large chips, chain is dull.

NOTE: Inspect guide bar before sharpening chain. A worn or damaged guide bar is unsafe. A worn or damaged guide bar will damage chain. It will also make cutting harder.

Before sharpening, please pay attention of the following steps: (See Fig. P1)

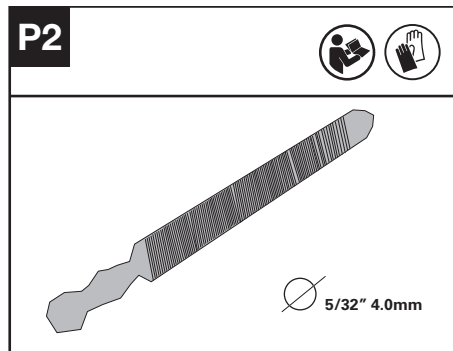


a : Filing angle; b : file position.

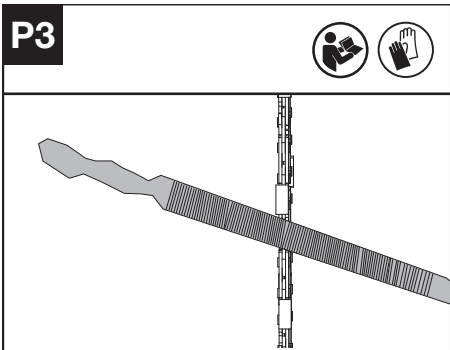
How to sharpen the cutters

1. Use a round file to sharpen the cutters.(See Fig. P2).

NOTE:Firmly clamp the guide bar in a vice before sharpening the chain. Ensure that the chain is not "nipped" and can freely move on the guide bar. Check that the chain is properly tensioned. (See "Tensioning chain" section)

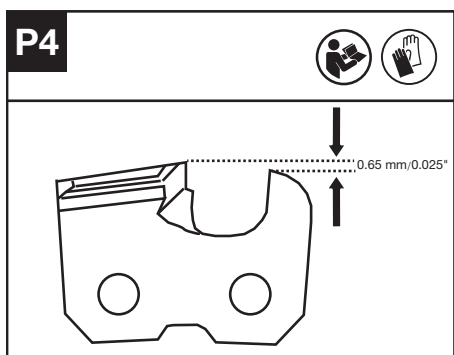


2. Sharpen the cutters with file from the inner side of cutting teeth towards the outside of the chain.(See Fig. P3)



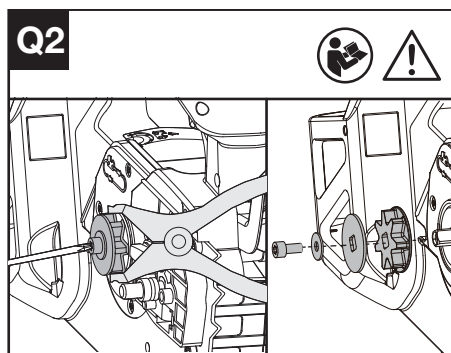
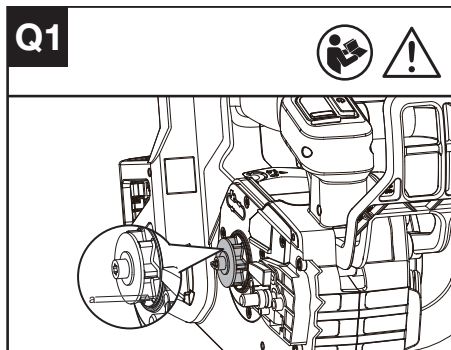
3. File all the cutters on one side of the guide bar.
4. Turn the chainsaw around and file all of the cutters on the opposite side.
5. Ensure that the length of all cutting teeth is same.

To ensure efficient, safe and smooth cutting, file the depth gauge height to 0.65 mm (0.025"). Make sure that the leading edge of the depth gauge is rounded off. (See Fig. P4)



CHAIN SPROCKET INSPECTION AND MAINTENANCE

1. Check if the wear marks are deeper than $a=0.5$ mm (0.020 ") as shown in Fig. Q1, if so, then the chain sprocket should be replaced. (See Fig. Q1)
2. When replace chain sprocket, control the sprocket with pliers and use screwdriver to loosen nut and replace it. (See Fig. Q2)

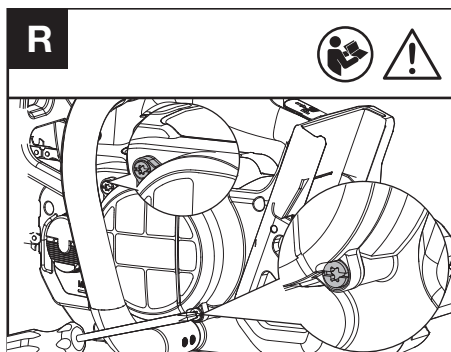


AIR INLET FILTER MAINTENANCE

Make sure that the air inlet filter is not dirty or blocked.

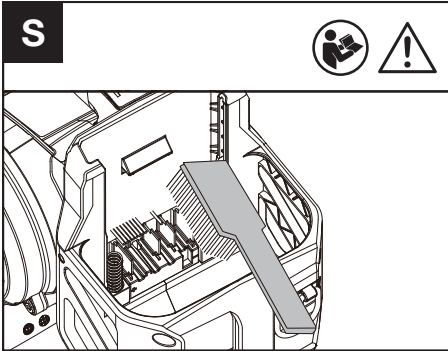
If foreign objects are found in the inlet hood, then loosen two nuts with T27 screwdriver and clean out foreign objects with a damp cloth. (See Fig. R)

! WARNING: A dirty or blocked air inlet filter can cause the product to become too hot and cause damage to the machine.



CLEANING THE BATTERY HOLDER (SEE FIG. S)

Clean the battery holder with a soft brush. Do not use a wire brush to clean the holder.



STORAGE

1. Remove the battery pack from the chainsaw before storage.
2. Store the chainsaw and the battery in a dry and secure place that is inaccessible to children and other unauthorized people. Store the chainsaw with scabbard in place.
Remove the cutting attachment if no use for a long time.
3. Store the battery only within a temperature range between 5 °C (41 °F) and 25 °C (77 °F). As an example, do not leave the battery in the car in summer time.
4. If saw gets wet in the rain during operation, the machine and the battery should be dried before storing or charging. Remove the battery and reinsert it if the machine fails to turn on.

BLUETOOTH CONNECTION

Please refer to APP DOWNLOAD AND CONNECTION GUIDE

TROUBLESHOOTING ALERT

The warning indicator light will illuminate if there is a fault detected with the saw.

For detailed information, please refer to TROUBLESHOOTING TABLE and APP .

NOTE: It is suggested to connect the saw with APP for checking specific issues.

TROUBLESHOOTING TABLE

The following table gives checks and actions that you can perform if your machine does not operate correctly. If these do not identify/remedy the problem, contact your service agent.



WARNING: Switch off and remove the battery pack before investigating fault.

Symptom	Possible Cause	Remedy
Flashing Red Light	The machine has failure in operation.	Charge and replace battery, then restart it. If still not working, please contact service agent.
Flashing Yellow Light	Abnormal operation	Restart the machine. Press the lock-off button, push the safety lock off lever forward and then squeeze and hold the throttle trigger to start the machine.
	Throttle trigger defective.	Contact your service agent.
	Chain/chain bar over-heats	Allow the battery to cool down for a while, then restart it.
	Chain is over tensioned	Adjust chain tension.
	No oil in oil tank	Refill oil.
	Chain sprocket defective.	Replace chain sprocket.
	Guide bar and chain are stuck by foreign objects	Restart the machine after removing foreign objects.
	Inlet hood blocked	Clean inlet hood and restart the machine.
	Battery pack underheating	Place the battery pack in a suitable temperature environment for some time to wait for the temperature to stabilize, then restart the machine.
		Battery pack defective.

TECHNICAL DATA

Type Designation **KC320 KC320.X** (320 - designation of machinery, representative of battery operated chainsaw for tree service)

	KC320 KC320.X **
Rated voltage	60 V Max. ***
Bar length	35 cm
Chain speed	24 m/s
Oil tank capacity	180 ml
Chain pitch	.325" LP

Chain gauge	1.1 mm
Degree of protection	IPX5
Machine weight (with empty oil tank and without battery, or bar & chain)	2.5 kg

** X=1-999, A-Z, M1-M9 there are only used for different customers, there are no safe relevant changes between these models.

*** Voltage measured without workload. Initial battery voltage reaches maximum of 60 volts. Nominal voltage is 54 volts.

SUGGESTED BATTERIES AND CHARGERS

Battery	Amp	Charger	Amperage
KAC800	4 Ah	KAC840	30 A

We recommend that you purchase your accessories from the same dealer that sold you the tool. Refer to the accessory packaging for further details. Your Dealer can assist you and offer advice.

COMBINATIONS OF CUTTING ATTACHMENTS

Cutting attachment
KAC303-12"/30cm .043"/1.1mm .325"LP chain
KAC334-12"/30cm .043"/1.1mm .325"LP bar
KAC300-14"/35cm .043"/1.1mm .325"LP chain
KAC330-14"/35cm .043"/1.1mm .325"LP bar
KAC301-16"/40cm .043"/1.1mm .325"LP chain
KAC331-16"/40cm .043"/1.1mm .325"LP bar

TECHNICAL DATA FOR BATTERY PACK (OPTIONAL)

Frequency bands for Bluetooth	2400-2483.5 MHz
Maximum Transmitted Power for Bluetooth	8 dBm

Positec Australia Pty Limited
10 Corporate Blvd Bayswater , VIC 3153, Australia



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