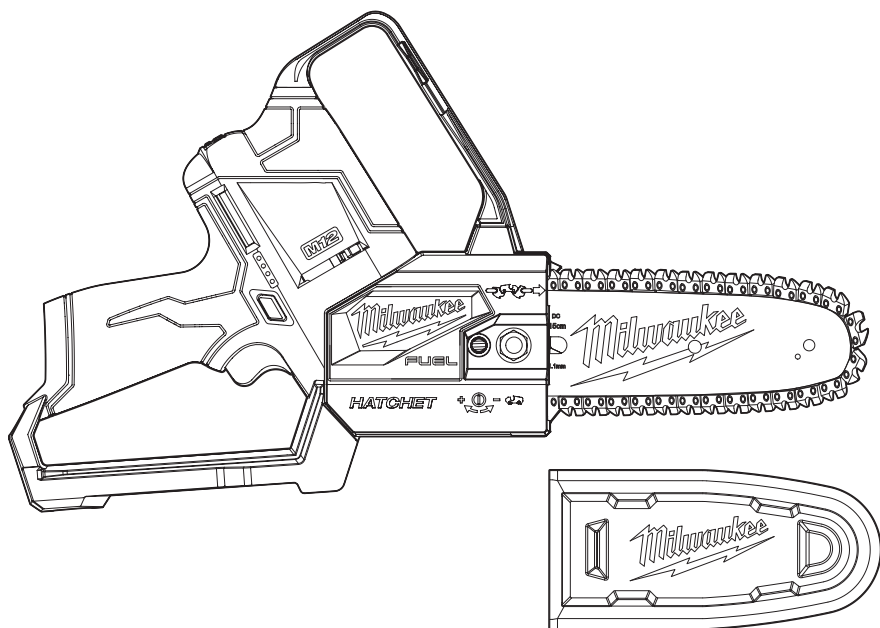




OPERATOR'S MANUAL



Cat. No.
M12 FHS

M12 FUEL™ HATCHET™ 152MM (6") PRUNING SAW

 **WARNING**

To reduce the risk of injury, user must read and understand operator's manual.



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.

WORK AREA SAFETY

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **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.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

- **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.
- **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.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **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.
- **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.
- **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of a RCD reduces the risk of electric shock.

PERSONAL SAFETY

- **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.
- **Use personal protective equipment. Always wear eye protection marked to comply with ANS/NZS 1337.1.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- **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.
- **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.

- **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- **Dress properly.** Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- **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.
- **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.

POWER TOOL USE AND CARE

- **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.
- **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.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
- **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.
- **Maintain power tools and accessories.** 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.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **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.
- **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.

BATTERY TOOL USE AND CARE

- **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.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **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.
- **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.

- **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.
- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130°C (265°F) may cause explosion.
- **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.

SERVICE

- **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.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorised service providers.

SPECIFIC SAFETY RULES FOR HATCHET PRUNING SAW

General pruning saw safety warnings:

- **Keep all parts of the body away from the saw chain when the pruning saw is operating. Before you start the pruning saw, make sure the saw chain is not contacting anything.** A moment of inattention while operating pruning saws may cause entanglement of your clothing or body with the saw chain.
- **Hold the pruning saw with your right hand on the trigger handle and your left hand on the body grip.** Holding the pruning saw with a reversed hand configuration increases the risk of personal injury.
- **Hold the pruning saw 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 pruning saw "live" and could give the operator an electric shock.
- **Wear safety glasses and hearing protection. Further protective equipment for head, hands, legs and feet is recommended.** Adequate protective equipment will reduce personal injury from flying debris or accidental contact with the saw chain.
- **Always keep proper footing and operate the pruning saw only when standing on fixed, secure and level surface.** Slippery or unstable surfaces may cause a loss of balance or control of the pruning saw.
- **Do not operate a pruning saw in a tree, on a ladder, rooftop, or scaffold unless properly trained.** To avoid death or serious injury, operator must be trained in safe climbing techniques and in the use of all appropriate safety equipment.
- **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 pruning saw out of control.
- **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.
- **Carry the pruning saw away from your body and with your finger off of the trigger. When transporting or storing the pruning saw always fit the scabbard.** Proper handling of the pruning saw will reduce the likelihood of accidental contact with the moving saw chain.
- **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.

- **Keep handles dry, clean, and free from oil and grease.** Greasy, oily handles are slippery causing loss of control.
- **Cut wood only. Do not use pruning saw for purposes not intended.** For example: do not use pruning saw for cutting metal, plastic, masonry or non-wood building materials. Use of the pruning saw for operations different than intended could result in a hazardous situation.
- **Do not attempt to fell a tree until you have an understanding of the risks and how to avoid them.** Serious injury could occur to the operator or bystanders while felling a tree.

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 pruning saw user, you should take several steps to keep your cutting jobs free from accident or injury.

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

- **Maintain a firm grip on the pruning saw and position your body and arm(s) 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 pruning saw.
 - **Do not overreach and do not cut above shoulder height.** This helps prevent unintended tip contact and enables better control of the pruning saw in unexpected situations.
 - **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 unit running at full speed.** Fully squeeze the throttle trigger and maintain a steady cutting speed.
 - **Only use replacement guide bars and saw chains specified by the manufacturer.** Incorrect replacement guide bars and saw chains may cause chain breakage and/or kickback.
 - **Follow the manufacturer's sharpening and maintenance instructions for the saw chain.** Decreasing the depth gauge height can lead to increased kickback.
 - **Follow all instructions when clearing jammed material, storing or servicing the pruning saw. Make sure the switch is off and the battery pack is removed.** Unexpected actuation of the pruning saw while clearing jammed material or servicing may result in serious personal injury.
- Other Pruning Saw Safety Rules**
- **Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling workpiece.** Cluttered areas invite accidents.
 - **Keep ALL children, bystanders, visitors, and animals out of the work area while starting or cutting with the pruning saw.**

- **Dress Properly - Wear snug fitting clothing.** Always wear heavy, long pants, long sleeves, overalls, jeans or chaps made of cut resistant material or ones that contain cut resistant inserts. Wear non-slip safety footwear. Wear non-slip heavy duty gloves to improve your grip and to protect your hands. Do not wear jewellery, short pants, sandals, or go barefoot. Do not wear loose fitting clothing, which could be drawn into the motor or catch the chain or underbrush. Secure hair so it is above shoulder level.
 - **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.
 - **Always wear proper eye protection with side shields, marked to comply with AS/NZS 1337.1 when operating the pruning saw.**
 - **Always be aware of what you are doing when using the pruning saw. Use common sense.** Do not operate the pruning saw when you are tired, ill, or under the influence of alcohol, drugs, or medication.
 - **Keep all parts of your body away from the saw chain when the unit is running.**
 - **Never let anyone use your pruning saw who has not received adequate instructions in its proper use.** This applies to rentals as well as privately owned saws.
 - **Before you start the unit, make sure the saw chain is not contacting any object.**
 - **Stop the pruning saw before setting it down.**
 - **Maintain the unit with care.** Keep the cutting edge sharp and clean for best performance and to reduce the risk of injury. Follow instructions for lubricating and changing accessories.
 - **Maintain a firm grip on the recommended grasping surfaces.** If an operation cannot be performed safely with two hands on the saw, USE EXTREME CAUTION.
 - **During operations where it is necessary to use one hand, such as to steady or control the work-piece/branch, guide workpiece away from you, or provide better visibility to the work area:**
 - Keep free hand clear of the chain and out of the cutting path.
 - Maintain a firm grip on the branch being cut to avoid "skating" or "bouncing" of the saw.
 - Never cut above shoulder height.
 - Do not cross arms or overreach.
 - Always cut away from yourself.
 - Avoid excess flexing or tension on the branch being cut.
 - **Do not operate a pruning saw that is damaged, improperly adjusted, or not completely and securely assembled.** Chain should slow to a stop when the switch trigger is released. If the chain continues to turn after the switch trigger has been released, have the unit serviced by an authorised service centre.
 - **Do not force the pruning saw.** The job can be performed better and safer at the rate for which it was intended.
 - **Always use the right product for your application.** The pruning saw should be used for cutting wood only. Never use the pruning saw to cut metal, plastic, masonry or non-wood building materials.
 - **Use extreme caution when cutting thin branches, vines or small underbrush.** The slender material may catch the saw chain and be whipped toward you or pull you off balance. We recommend using hedge trimmers or brush cutters for these operations.
 - **Store pruning saw when not in use.** Pruning saw should be stored in a dry and high or locked area out of the reach of children. When storing pruning saw place the scabbard on the bar and chain.
 - **Battery operated units do not have to be plugged into an electrical outlet; therefore, they are always in operating condition.** Be aware of possible hazards even when unit is not operating.
 - **Save these instructions.** Refer to them frequently and use them to instruct others who may use this product. If you loan someone this product, loan them these instructions also.
 - **After each use, clean the machine with a soft dry cloth. Remove any chips, dirt and debris in the battery bay.**
 - **Follow the manufacturer's sharpening and maintenance instructions for the saw chain.** Decreasing the depth gauge height can lead to increased kickback.
 - **Always use common sense and be cautious when using tools.** It is not possible to anticipate every situation that could result in a dangerous outcome. Do not use this tool if you do not understand these operating instructions or you feel the work is beyond your capability; contact MILWAUKEE® Tool or a trained professional for additional information or training.
 - **Maintain labels and nameplates.** These carry important information. If unreadable or missing, contact a MILWAUKEE® service facility for a replacement.
- ⚠WARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
- lead from lead-based paint
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
- ADDITIONAL BATTERY SAFETY RULES**
- ⚠WARNING** To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach-containing products, etc., can cause a short circuit.
- ⚠WARNING** Do not charge non-rechargeable batteries.

SPECIFICATIONS

Cat. No.....	M12 FHS
Volts.....	12V DC
Battery Type.....	M12™
Charger Type.....	M12™
RPM.....	2,650
Chain Speed.....	5 m/s
Bar Length.....	152 mm (6")
Cutting Capacity.....	139.7 mm (5.5")
Chain Oil Tank Capacity.....	50 mL
Replacement Bar.....	49162733
Chain Gauge.....	0.043"
Replacement Chain.....	49162732
Chain Type.....	Low kickback
Chain Pitch.....	3/8" Low profile
Chain Teeth.....	.28
Recommended Ambient Operating Temperature.....	-17°C to 51°C



Chain Direction



Chain Tension Adjustment

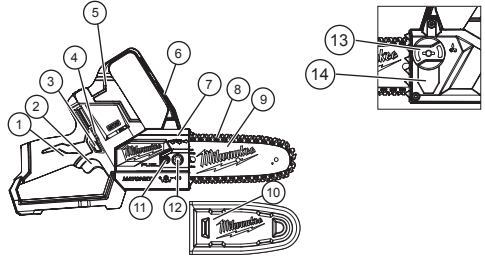


Do not dispose of electric tools together with household waste material. Electric tools and electronic equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.



Regulatory Compliance Mark (RCM). This product meets applicable regulatory requirements.

FUNCTIONAL DESCRIPTION



- | | |
|---------------------------|----------------------------|
| 1. Trigger handle | 8. Saw chain |
| 2. Variable speed trigger | 9. Guide bar |
| 3. Lock-off button | 10. Scabbard |
| 4. Fuel battery indicator | 11. Chain tensioning screw |
| 5. Body grip | 12. Guide bar nut |
| 6. Knuckle guard | 13. Oil cap |
| 7. Chain cover | 14. Oil reservoir |

ASSEMBLY

WARNING Recharge only with the charger specified for the battery. For specific charging instructions, read the operator's manual supplied with your charger and battery.

Removing/Inserting the Battery

To remove the battery, push in the release buttons and pull the battery pack away from the tool.

WARNING Always remove battery pack before changing or removing accessories.

To insert the battery, slide the pack into the body of the tool. Make sure it latches securely into place.

WARNING Only use accessories specifically recommended for this tool. Others may be hazardous.

Replacing/Adjusting the Saw Chain and Bar

WARNING Always remove battery pack before changing or removing accessories.

CAUTION Chain is sharp. Always wear protective gloves when handling the chain.

Use Low Kickback Saw Chains - The rakers (depth gauges) ahead of each cutter can minimise the force of a kickback reaction by preventing the cutters from digging in too deeply at the kickback zone. Only use replacement chain that is equivalent to original chain or has been certified as low kickback chain per ANSI B175.1.

SYMBOLGY



Volts



Direct Current

n_0 XXXX min⁻¹ No Load Revolutions per Minute (RPM)



Read operator's manual



Always wear eye, ear and head protection and use proper personal protective equipment.



Wear non-slip safety footwear.



Wear protective gloves



Keep bystanders at least 15m (50') away during use.



Do not expose to rain or use in damp locations.



Use EXTREME CAUTION during one-handed operations.



Use pruning saw two-handed.



Avoid contact with bar tip.



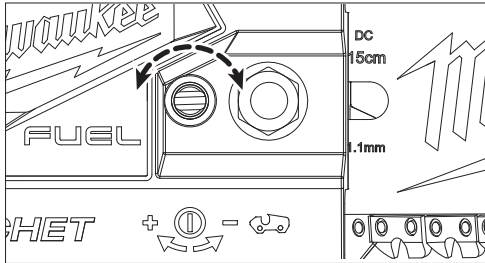
DANGER Beware of kickback.



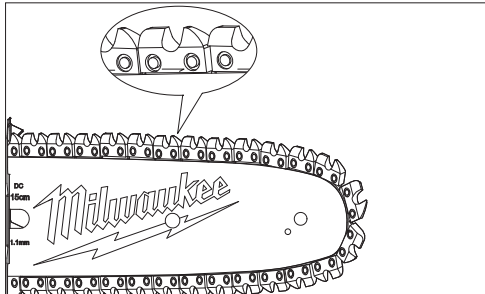
Chain Oil Reservoir

As saw chains are sharpened during their useful life, they lose some of the low kickback qualities and extra caution should be used.

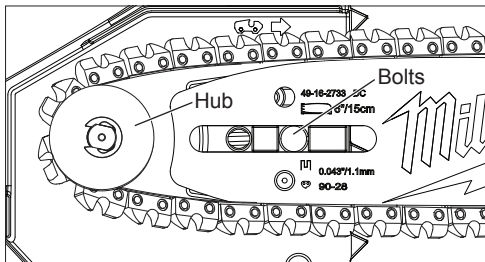
1. Remove the battery pack.
2. Place the saw on a flat, firm surface.
3. Remove the drive cover by removing the guide bar nuts using the adjustment tool.



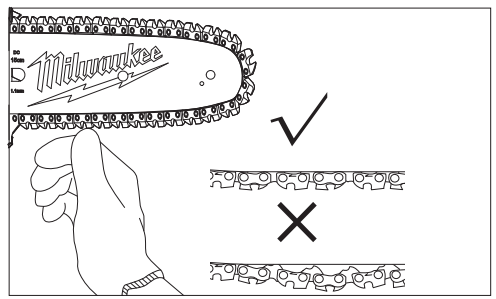
4. Loosen the chain by turning the chain tensioning screw counterclockwise with the adjustment tool.
5. Pull the guide bar off of the guide bar bolts and unloop the chain from the drive hub. **CAUTION!** Saw Chain is sharp.
6. Remove the chain from the guide bar groove. **CAUTION!** Saw Chain is sharp. Inspect guide bar for cracks or wear; replace if damaged.
7. Wrap the new or sharpened chain around the the guide bar in the direction indicated on the saw



8. Ensure the chain is properly set in the slot around the entire guide bar.
9. Loop the chain around the hub and fit the bar around the bolts.



10. Replace the drive cover.
11. Use the adjustment tool to rotate the chain tensioning screw to increase tension (clockwise) until the chain is snug around the guide bar.
 - The tension is correct when the chain snaps back after being pulled 3 mm (1/8") away from the guide bar. No sag should be visible in the chain.



- Do not over-tension the chain - excess tension will cause excessive wear and will reduce the life of the chain and could damage the bar.
 - New chains could stretch and loosen during initial use. **NOTE:** Remove battery pack and check chain tension frequently during the first two hours of use.
12. Tighten the guide bar nuts securely.

Chain Oil

AWARNING Always remove battery pack before changing or removing accessories.

NOTICE Fill oil reservoir with chain oil (76mL bottle is included) before starting the pruning saw and when tank is less than 1/4 full. Failure to oil the chain will cause damage to the bar and chain.

Check oil level frequently and fill the oil reservoir after each full battery discharge. Use a high quality chain oil. The oil will keep the saw chain and guide bar properly lubricated. Never run the saw without chain oil. Keep the reservoir more than 1/4 full to ensure sufficient oil is available for the job. Always lightly oil the chain when storing to prevent rust. Always empty the oil tank when storing to prevent leakage.

NOTE: It is recommended to use a vegetable based chain oil when pruning trees. Mineral oil may harm trees. Never use waste oil, automotive oil, or very thick oils. These could damage the pruning saw.

Filling the Oil Reservoir

1. Remove the battery pack.
2. Place the saw on a flat, firm surface, blade side down.
3. Unscrew the oil cap.
4. Carefully fill reservoir with chain oil.
5. Tighten oil cap securely.
6. Repeat as needed during use.
7. Periodically check that the saw chain is lubricating correctly:
 - With a full reservoir, hold the pruning saw with the tip of the guide bar pointing at a light-colored surface
 - Run the pruning saw for approximately 30 seconds.
 - An oil line should become visible on the light surface.
 - If not, remove and clean the guide bar thoroughly. Ensure the guide bar sprocket (at the tip) rotates freely.
 - If the lubrication system still does not work properly, contact a **MILWAUKEE®** service facility.

Transporting Saw

Before transporting, always:

1. Remove the battery pack
2. Place the scabbard over the guide bar.

OPERATION

WARNING To reduce the risk of injury, always wear proper eye protection marked to comply with AS/NZS 1337.1.

When working in dusty situations, wear appropriate respiratory protection.

DANGER Never cut near power lines, electric cords, or other electric sources. If bar and chain jams on any electrical cord or line, **DO NOT TOUCH THE BAR OR CHAIN! THEY CAN BECOME ELECTRICALLY LIVE AND VERY DANGEROUS.** Continue to hold the pruning saw by the insulated grasping surfaces or lay it down and away from you in a safe manner. Disconnect the electrical service to the damaged line or cord before attempting to free the bar and chain from the line or cord. Contact with the bar, chain, other conductive parts of the pruning saw, or live electric cords or lines will result in death by electrocution, electric shock, or serious personal injury.

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

• Guard Against Kickback which can result in severe injury or death. See Important Safety Instructions "Guard Against Kickback", to avoid the risk of kickback.

• Always wear proper eye protection with side shields, marked to comply with AS/NZS 1337.1 when operating the pruning saw. Failure to do so could result in objects being thrown into your eyes and other possible serious injuries.

• Do not overreach. Do not cut above shoulder height. Make sure your footing is firm. Keep feet apart. Divide your weight evenly on both feet.

• Always keep proper footing and operate the pruning saw only when standing on fixed, secure and level surface. Slippery or unstable surfaces may cause a loss of balance or control of the pruning saw.

• Do not operate a pruning saw in a tree, on a ladder, rooftop, or scaffold unless properly trained. To avoid death or serious injury, operator must be trained in safe climbing techniques and in the use of all appropriate safety equipment.

• 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.

• Hold the pruning saw with your right hand on the trigger handle and your left hand on the body grip. Holding the pruning saw with a reversed hand configuration increases the risk of personal injury.

• During operations where it is necessary to use one hand, such as to steady or control the workpiece/branch, guide workpiece away from you, or provide better visibility to the work area:

- Keep free hand clear of the chain and out of the cutting path.

- Maintain a firm grip on the branch being cut to avoid "skating" or "bouncing" of the saw.
- Never cut above shoulder height.
- Do not cross arms or overreach.
- Always cut away from yourself.
- Avoid excess flexing or tension on the branch being cut.

- Never allow any part of your body to be in line with the guide bar when operating the pruning saw.
- Never operate while in any awkward position or on an other unstable surface. You may lose control of saw causing severe injury.
- Making a cut that has a diameter greater than the saw's cutting capacity requires advanced techniques and should only be performed by properly trained professionals. Performing these types of cuts can cause an accident and result in death or serious personal injury.
- Keep the pruning saw running at full speed the entire time you are cutting.
- Allow the chain to cut for you. Exert only light pressure. Do not put pressure on pruning saw at end of cut.
- Do not use any attachments or accessories not recommended by the manufacturer. The use of attachments or accessories not recommended can result in serious personal injury.

Fuel Gauge

To determine the amount of charge left in the battery, press the trigger. The fuel gauge will light up for 2-3 seconds. When less than 10% of charge is left, 1 light on the fuel gauge will flash 4 times.

To signal the end of charge, 1 light on the fuel gauge will flash 8 times and the product will not run. Charge the battery pack.

If the battery becomes too hot, the fuel gauge lights will flash in an alternating pattern and the product will not run. Allow the battery to cool down.

Kickback

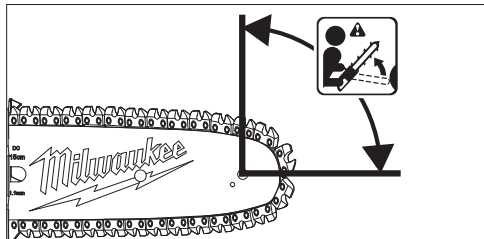


WARNING Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut.

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 pruning saw user, you should take several steps to keep your cutting jobs free from accident or injury.



With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.

•Keep proper footing and balance at all times.

•Maintain a firm grip on the pruning saw and position your body and arm(s) 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 pruning saw.



•Do not overreach and do not cut above shoulder height. This helps prevent unintended tip contact and enables better control of the pruning saw in unexpected situations.

•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.

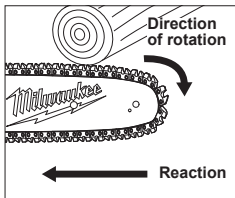
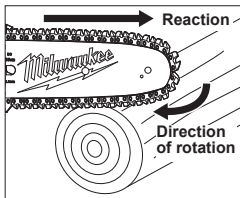
•Always cut with the unit running at full speed. Fully squeeze the throttle trigger and maintain a steady cutting speed.

•Only use replacement guide bars and saw chains specified by the manufacturer. Incorrect replacement guide bars and saw chains may cause chain breakage and/or kickback.

•Follow the manufacturer's sharpening and maintenance instructions for the saw chain. Decreasing the depth gauge height can lead to increased kickback.

•Follow all instructions when clearing jammed material, storing or servicing the pruning saw. Make sure the switch is off and the battery pack is removed. Unexpected actuation of the pruning saw while clearing jammed material or servicing may result in serious personal injury.

•Push and Pull - This reaction force is always opposite to the direction the chain is moving where wood contact is made. Thus, the operator must be ready to control the PULL when cutting on the bottom edge of the bar, and PUSH when cutting along the top edge.



Starting/Stopping the Product

WARNING Hold the pruning saw with your right hand on the trigger handle and your left hand on the body grip. Position your body and arm(s) to allow you to resist kickback forces. A firm grip together with a stiff left arm will help you maintain control of the saw if kickback occurs. **Keep body to the left of the chain line. Never straddle the saw or chain, or lean over past the chain line.**



Wear non-slip gloves for maximum grip and protection.

1. Insert the battery pack.
2. Grip both handles securely, keeping body out of line with the chain.

3. Press in the lock-off button and pull the trigger.
4. Allow pruning saw to come to full speed before contacting workpiece.
5. To stop, release the trigger. Hold saw still until chain comes to a complete stop.

WARNING Never attempt to lock the trigger in the ON position.

Proper Cutting Stance

WARNING Always use the proper cutting stance described in this section.

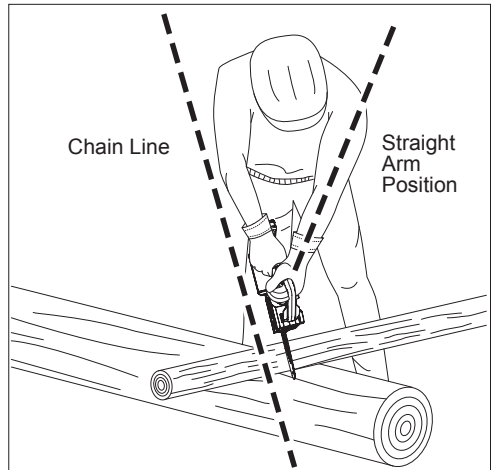
Never kneel when using the pruning saw, except when felling a tree. Kneeling could result in loss of stability and control of the pruning saw, resulting in serious personal injury.

•Weight should be balanced with both feet on solid ground.

•Keep left arm with elbow locked in a "straight arm" position to withstand any kickback force.

•Your body should always be to the left of the chain line.

•Thumb should be on underside of handlebar.



Basic Cutting Procedure

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 off.
- Squeeze the switch trigger and let the chain accelerate to full speed before entering the cut.
- Begin cutting with the saw against the log.
- Keep the unit running the entire time you are cutting, maintain a steady speed.
- Allow the chain to cut for you; exert only light downward pressure. If you force the cut, damage to the bar, chain, or unit can result.
- Release the switch trigger as soon as the cut is completed, allowing the chain to stop. If you run the saw without a cutting load, unnecessary wear can occur to the chain, bar, and unit.
- Do not put pressure on the saw at the end of cut.

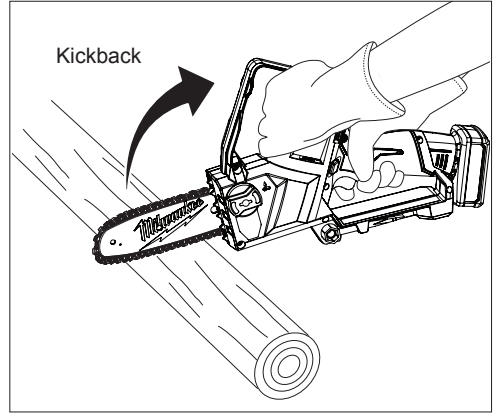
Work Area Precautions

- Cut only wood or materials made from wood; no sheet metal, no plastics, no masonry, no non-wood building materials.
- Never allow children to operate the saw. Allow no person to use this pruning saw who has not read this Operator's Manual or received adequate instructions for the safe and proper use of this pruning saw.
- Do not attempt to fell a tree or sapling greater than 76 mm (3") in diameter. To avoid death or serious injury, operator must be trained in safe tree felling techniques, in the use of all appropriate safety equipment and use of a pruning saw suitable for the application.
- Always cut with both feet on solid surface to prevent being pulled off balance.
- Do not cut above shoulder 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.
- Check work area for hazards such as bees, rodents, snakes, etc., that may live in trees or brush.

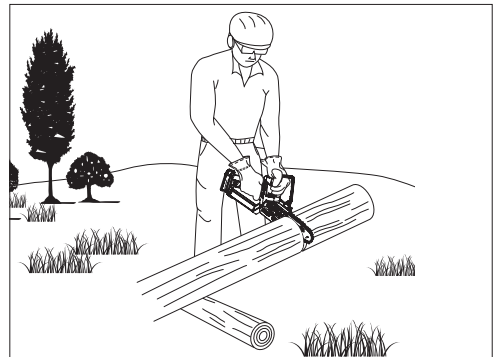
Bucking

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

- Always make sure your footing is secure and your weight is distributed evenly on both feet.
- 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.
- Never allow someone to hold the log during cutting.
- Never stabilise log with leg or feet.



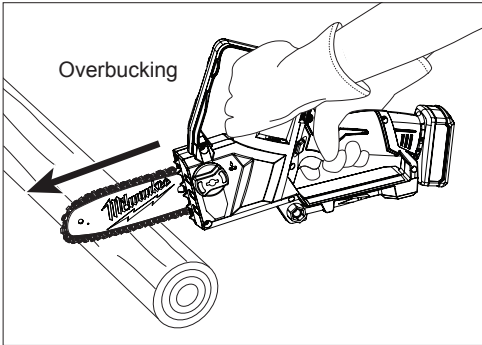
- When bucking on a slope, always stand on the uphill side of the log. To maintain complete control of the pruning saw when cutting through the log, release the cutting pressure near the end of the cut without relaxing your grip on the grasping surfaces. Do not let the chain contact the ground. After completing the cut, wait for the saw chain to stop before you move the pruning saw. Always stop the motor before moving from tree to tree.



- Sometimes it is impossible to avoid pinching (with just standard cutting techniques) or difficult to predict which way a log will settle when cut. To avoid pinching while cutting, rotate or move the log so that the pinch is eliminated.

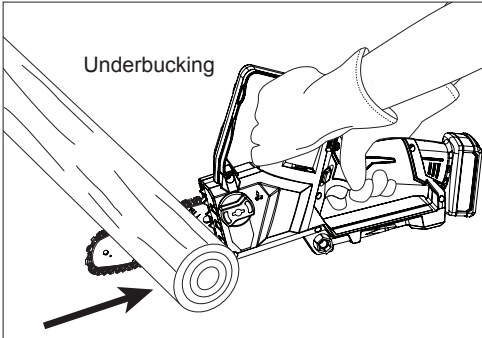
Types of Cutting Used

Overbucking (crosscutting)



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.

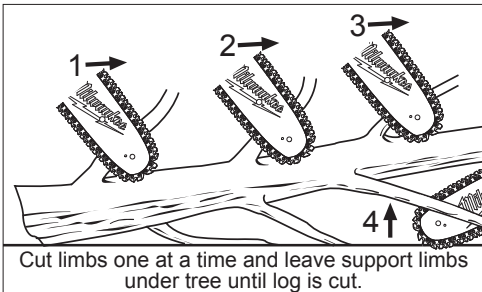
Underbucking (crosscutting)



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

Limbing

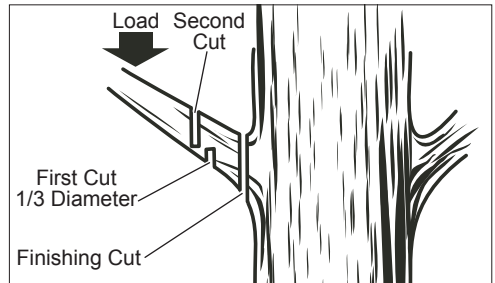
WARNING Never climb into a tree to limb or prune. Do not stand on ladders, platforms, a log, or in any position which can cause you to lose your balance or control of the saw.



- Limbing is removing branches from a fallen tree.
- Work slowly, keeping both hands on the pruning saw with a firm grip. Always make sure your footing is secure and your weight is distributed evenly on both feet.
 - Leave the larger support limbs under the tree to keep the tree off the ground while cutting.
 - Limbs should be cut one at a time. Remove the cut limbs from the work area often to help keep the work area clean and safe.
 - Branches under tension should be cut from the bottom up to avoid binding the pruning saw.
 - Keep the tree between you and the pruning saw while limbing. Cut from the side of the tree opposite the branch you are cutting.

Pruning

WARNING If the limbs to be pruned are above shoulder height, hire a professional to perform the pruning. Failure to do so could result in serious personal injury.



- Pruning is trimming limbs from a live tree.
- Work slowly, keeping both hands on the pruning saw with a firm grip. Always make sure your footing is secure and your weight is distributed evenly on both feet.
 - Do not cut from a ladder, this is extremely dangerous. Leave this operation for professionals.
 - Do not cut above shoulder height as a saw held higher is difficult to control against kickback.
 - When pruning trees it is important not to make the finishing 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.
 - Underbuck the branch 1/3 through for your first cut.
 - Your second cut should overbuck to drop the branch off.
 - Now make your finishing cut smoothly and neatly against the main member so the bark will grow back to seal the wound.

Springpoles

WARNING Springpoles are dangerous and could strike the operator, causing the operator to lose control of the pruning saw. This could result in severe or fatal injury to the operator.



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.

TROUBLESHOOTING

Problem	Cause	Solution
Bar and chain running hot and smoking.	Check chain tension for over tight condition.	Correct chain tension.
	Chain oil reservoir is empty.	Fill oil reservoir.
Motor runs, but chain is not rotating.	Chain tension too tight.	Correct chain tension.
	Guide bar and chain improperly assembled.	Correct assembly.
	Guide bar or chain is damaged.	Replaced damaged parts before use.

MAINTENANCE

WARNING To reduce the risk of injury, always unplug the charger and remove the battery pack from the charger or tool before performing any maintenance. Never disassemble the tool, battery pack or charger. Contact a MILWAUKEE® service facility for ALL repairs.

Maintaining Tool

Keep your tool, battery pack and charger in good repair by adopting a regular maintenance program. Inspect your tool for issues such as undue noise, misalignment or binding of moving parts, breakage of parts, or any other condition that may affect the tool operation. Return the tool, battery pack, and charger to a MILWAUKEE® service facility for repair. After six months to one year, depending on use, return the product, battery pack and charger to a MILWAUKEE® service facility for inspection. If the tool does not start or operate at full power with a fully charged battery pack, clean the contacts on the battery pack. If the tool still does not work properly, return the tool, charger and

battery pack, to a MILWAUKEE® service facility for repairs.

Chain and Bar

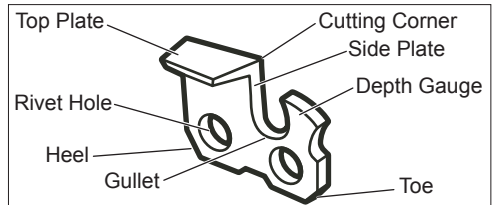
After every few hours of use, remove the chain cover, guide bar and chain, and clean thoroughly using a soft bristle brush. Ensure oiling hole on bar is clear of debris. When replacing dull chains with sharp of debris. When replacing dull chains with sharp chains, it is good practice to flip the guide bar from bottom to top.

Sharpening the Saw Chain

WARNING Improper chain sharpening increases the potential of kickback.

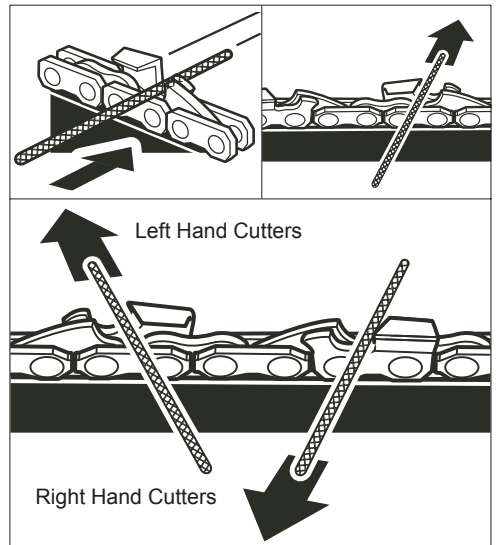
Failure to replace or repair damaged chain can cause serious injury.

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



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

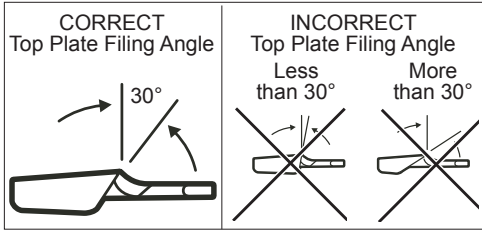
•Wear gloves for protection. Properly tension the chain prior to sharpening. Refer to Chain Tension section earlier in this manual. Do all of your filing at the mid-point of the bar.



- Use a 4 mm diameter round file and holder.
- 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 file away from the steel on each return stroke.

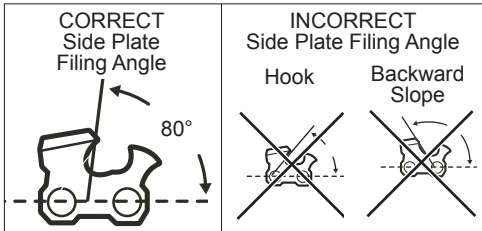
Put a few firm strokes on every tooth. File all left hand cutters in one direction. Then move to the other side and file the right hand cutters in the opposite direction. Occasionally remove filings from the file with a wire brush.

Top Plate Filing Angle



- 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.

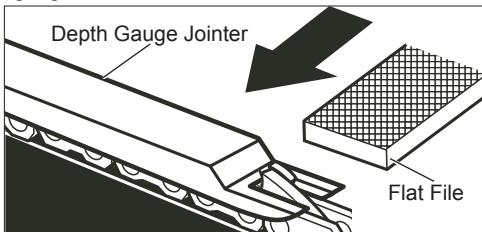
Side Plate Angle



- CORRECT - 80° Produced automatically if correct diameter file is used in file holder.
- HOOK - "Grabs" and dulls quickly. Increases potential of KICKBACK. Results from using a file with diameter too small, or file held too low.
- BACKWARD SLOPE - Needs too much feed pressure, causes excessive wear to bar and chain. Results from using a file with diameter too large, or file held too high.

Depth Gauge Clearance

- The depth gauge should be maintained at a clearance of 0.63mm. 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. Depth gauge jointers are available in 0.5 mm to 0.9 mm. Use a 0.63 mm 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.



Guide Bar Maintenance

When the guide bar shows signs of wear, flip the guide bar from bottom to top on the saw to distribute the wear for maximum bar life. The bar should be cleaned every day of use and checked for wear and damage.

Feathering or burring of the bar rails is a normal process of bar wear. Such faults should be smoothed with a file as soon as they occur.

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

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

Lubricate guide bars with a sprocket at their tip weekly. Using a grease syringe, lubricate weekly in the lubricating hole. Turn the guide bar and check that the lubrication holes and bar rails are free from impurities.

NOTE: Do not replace the screw with an ordinary screw. Use only identical replacement parts from the manufacturer when replacing parts.

Cleaning

Clean dust and debris from vents. Keep handles clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean, since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

Repairs

For repairs, return the tool, battery pack and charger to the nearest authorised service centre.

ACCESSORIES

⚠ WARNING Use only recommended accessories. Others may be hazardous.

For a complete listing of accessories, go online to www.milwaukeetool.com.au or www.milwaukeetool.co.nz or contact a distributor.

WARRANTY - AUSTRALIA and NEW ZEALAND

Please refer to Australian and New Zealand warranty supplied with tool. This warranty applies only to product sold in Australia and New Zealand.

SERVICE - AUSTRALIA and NEW ZEALAND

MILWAUKEE® prides itself in producing a premium quality product that is Nothing But Heavy Duty™. Your satisfaction with our products is very important to us! If you encounter any problems with the operation of this tool, please contact your authorised **MILWAUKEE®** dealer.

For a list of **MILWAUKEE®** dealers, guarantee or service agents please contact **MILWAUKEE®** Customer Service or visit our website.

(Australia Toll Free Telephone Number 1300 645 928)

(New Zealand Toll Free Telephone Number 0800 645 928)

or visit milwaukeetool.com.au/milwaukeetool.co.nz.

Milwaukee Electric Tool Corporation

13135 West Lisbon Road, Brookfield, Wisconsin U.S.A. 53005

Milwaukee Tool (Australia)

21 Kelleets Road, Rowville, VIC 3178
Melbourne, Australia

Milwaukee Tool (New Zealand)

274 Church Street, Penrose,
Auckland, 1061, New Zealand

DESIGNED BY MILWAUKEE ELECTRIC TOOL CORP.
PROFESSIONALLY MADE IN CHINA
PRINTED IN CHINA

All trade marks are owned by Techtronic Cordless GP unless otherwise stated.
© 2020 Milwaukee Electric Tool Corporation.