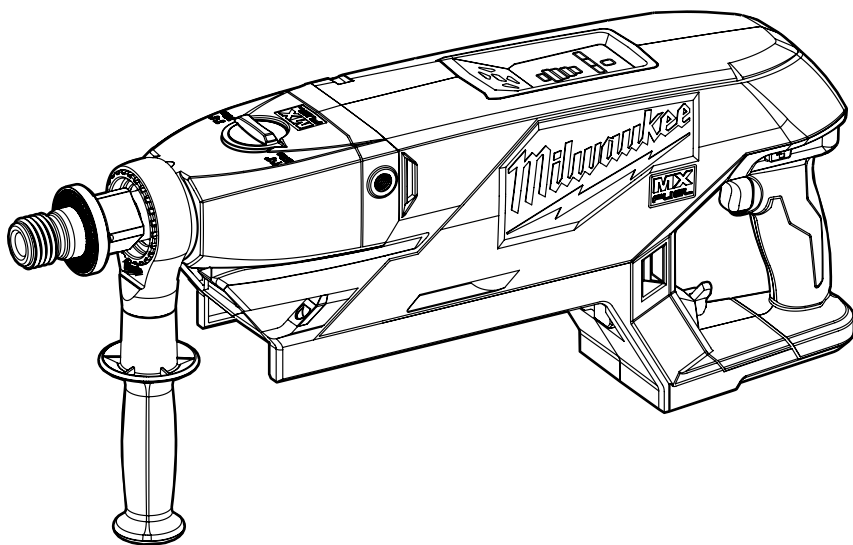




OPERATOR'S MANUAL



Cat. No.
MXF DCD150

MX FUEL™ HANDHELD CORE DRILL



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.** 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 energizing 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 jewelry. Keep your hair and clothing away from moving parts.** Loose clothes, jewelry 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 behavior 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 CORE DRILL

Safety instructions for all operations

- **Use the auxiliary handle(s).** Loss of control can cause personal injury.
- **Brace the tool properly before use.** This tool produces a high output torque and without properly bracing the tool before operation, loss of control may occur resulting in personal injury.
- **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory or fasteners may contact hidden wiring.** Cutting accessory or fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

Safety instructions when using long drill bits

- **Never operate at higher speed than the maximum speed rating of the drill bit.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- **Always start drilling at low speed and with the bit tip in contact with the workpiece.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- **Apply pressure only in direct line with the bit and do not apply excessive pressure.** Bits can bend causing breakage or loss of control, resulting in personal injury.

SPECIFIC SAFETY RULES FOR CORE STANDS

Diamond drill safety warnings

- **When performing drilling that requires the use of water, route the water away from the operator's work area or use a liquid collection device.** Such precautionary measures keep the operator's work area dry and reduce the risk of electrical shock.

• **Operate power tool by insulated grasping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

• **Wear hearing protection when diamond drilling.** Exposure to noise can cause hearing loss.

• **When the bit is jammed, stop applying downward pressure and turn off the tool.** Investigate and take corrective actions to eliminate the cause of the bit jamming.

• **When restarting a diamond drill in the workpiece check that the bit rotates freely before starting.** If the bit is jammed, it may not start, may overload the tool, or may cause the diamond drill to release from the workpiece.

• **When securing the drill stand with anchors and fasteners to the workpiece, ensure that the anchoring used is capable of holding and restraining the machine during use.** If the workpiece is weak or porous, the anchor may pull out causing the drill stand to release from the workpiece.

• **When securing the drill stand with a vacuum pad to the workpiece, install the pad on a smooth, clean, non-porous surface. Do not secure to laminated surfaces such as tiles and composite coating.** If the workpiece is not smooth, flat or well affixed, the pad may pull away from the workpiece.

• **Ensure there is sufficient vacuum before and during drilling.** If the vacuum is insufficient, the pad may release from the workpiece.

• **Never perform drilling with the machine secured by the vacuum pad only, except when drilling downwards.** If the vacuum is lost, the pad will release from the workpiece.

• **When drilling through walls or ceilings, ensure to protect persons and the work area on the other side.** The bit may extend through the hole or the core may fall out on the other side.

• **Do not use this tool for overhead drilling with water supply.** Water entering the power tool will increase the risk of electric shock.

ADDITIONAL SPECIFIC SAFETY RULES

• **Maintain tools carefully.** Keep handles dry, clean and free from oil and grease. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Periodically inspect tool cords and extension cords and batteries for damage. Have damaged parts repaired or replaced by a MILWAUKEE® service facility.

• **WARNING** To reduce the risk of injury, when working in dusty situations, wear appropriate respiratory protection or use a suitable dust extraction solution.

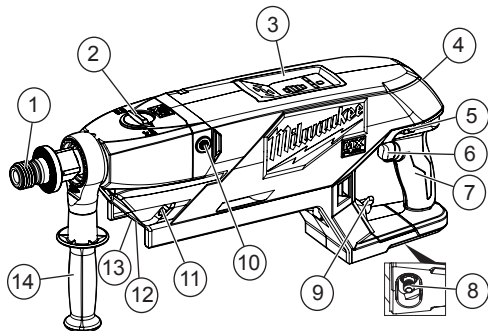
• **Always use common sense and be cautious when using tools.** It is not possible to anticipate every situation that could result in a dangerous outcome. Do not use this tool if you do not understand these operating instructions or you feel the work is beyond your capability; contact Milwaukee Tool 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.

FUNCTIONAL DESCRIPTION



- | | |
|-------------------|---------------------------|
| 1. Spindle | 8. Water quick connect |
| 2. Speed selector | 9. Water valve |
| 3. Command Center | 10. Side handle locations |
| 4. Arm button | 11. Worklight |
| 5. Trigger Lock | 12. Battery latch lock |
| 6. Trigger | 13. Battery latch lever |
| 7. Handle | 14. Side handle |

SYMBOLLOGY



Volts



Direct Current

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



⚠ CAUTION Risk of Electric Shock



Read operator's manual



Always wear eye protection.
Use appropriate hearing and respiratory protection.



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

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. **MXF DCD150**
 Battery Type **MX FUEL™**
 Charger Type **MX FUEL™**
 Recommended Ambient Operating Temperature
 -17°C to 51°C (0°F to 125°F)
 No Load Rated Speed 0 - 800 / 0 - 1600 RPM
 Max. Bit Capacity 152mm (6")
 Spindle Male & Female Thread 1-1/4" & 1/2"
 1/2" Spindle Adapter 622341001
 Max. Inlet Pressure 90 psi

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 the battery latch lock to the side and squeeze the battery latch lever. Pull the battery pack away from the machine.

⚠ WARNING Always remove battery pack before changing or removing accessories.

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

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

Selecting and Installing a Core Bit

MILWAUKEE® offers core bits that are designed to cut through a variety of materials including poured concrete, steel-reinforced concrete, and prestressed concrete. Select the proper style and size bit for the job. Always use clean, sharp, and properly maintained bits. Use core drill bits with a 1-1/4" thread. Bits with a 5/8" thread can be used with adapter 48-17-6005.

1. To **install** the bit, remove the battery pack.
2. Thread the bit securely onto the spindle.
3. Grip collar tightly (by hand or with a 1-1/4" open end or adjustable wrench) and tighten the bit securely.
4. To **remove** bit, remove the battery pack.
5. Place a 1-1/4" open end or adjustable wrench on the collar, and a 1-3/4" or adjustable wrench on the bit.
6. Hold the collar wrench securely while using the bit wrench to loosen the bit.

Diamond Core Bits

The following conditions can greatly influence diamond core performance:

- Amount of water
- RPM of core drill motor
- Bit runout
- Amount of steel
- Size of embedded steel
- Age of concrete
- Aggregate (size, type, hardness, abrasiveness)
- Type of sand—manufactured vs. river (natural)
- Operator technique
- Operator care
- Feed pressure applied to bit by operator
- Core Drill Stand rigidity and condition

To extend core bit life:

- Choose the right bit for the job. Take into account the size, aggregate, sand, etc.
- When using a new bit, use light feed pressure for the first 2 or 3 holes, so the new diamond gradually breaks in.
- Feed bits very slowly onto the work surface. Use light feed pressure until the bit crown has penetrated or "seated" into the material.
- If the core bit encounters embedded steel, slow down the feed pressure and let the bit core at its own pace. Don't force the bit. Typically, the water around the bit will clear when embedded steel is encountered.
- Minimise all vibration. Slow the feed rate when necessary. Vibration will cause severe diamond breakage or pullout.
- Use sharp bits.

WARNING To reduce the risk of injury, when working in dusty situations, wear appropriate respiratory protection or use a suitable dust extraction solution.

When drilling with water, route the water away from the work area or use a liquid collection device to keep work area dry and reduce the risk of electrical shock. Do not allow water to flow inside machine or battery pack.

Water Supply

Water provides several benefits during coring:

- Water acts as a coolant, reducing the heat caused by the friction of the coring action. This preserves the integrity of the diamonds, the bond matrix, the segment solder, and core tube. Without a coolant, the excessive heat buildup during coring can cause all of these components to fail.
- Water flushes loose, abrasive particles created during coring. These particles consist of aggregate, sand, diamond particles and various metals from embedded steel and the core bit matrix. The hole must be free of debris to allow the core bit to work. If loose particles are not properly flushed from the hole, an unnecessary drag will occur along the side of the core barrel. This can contribute to bit glazing through lack of power as well as motor damage through amperage increases due to bit resistance. In addition, loose particles tend to wear the bit tube, which can eventually result in the loss of segments.
- Water keeps dust down and makes for a cleaner, healthier workplace.

WARNING Always use a suitable dust extraction solution.

To prevent visible dust, an adequate supply of water must flow freely and constantly during the entire cut. These core drills have a built-in water system to allow water to flow down the inside and up around the outside of the bit.

WARNING When drilling with water, route the water away from the work area or use a liquid collection device to keep work area dry and reduce the risk of electrical shock.

1. Use only clean water at less than 90 psi.
2. Connect a standard quick-connect fitting to a garden hose and snap it onto the core drill's fitting.
3. Do not use hoses that are distorted, worn or damaged.
4. Use the water valve to turn the water supply on and off when coring.

WARNING To reduce the risk of injury, always use a side handle during handheld operations. Always brace or hold securely. Ensure side handle is tightened securely before each use. Always be prepared for bit binding and core drill reaction.

Adjusting the Side Handle

The side handle can be used at the front of the machine in any orientation, or mid-machine in one of the side handle locations.

To install the side handle on the core drill collar:

1. Loosen the side handle grip until the side handle ring can be pushed onto the core drill collar.
2. Position the side handle as desired.
3. Rotate collar slightly to ensure the detent snaps into place.
4. Hand tighten the side handle grip securely.

To install the side handle into a side handle location:

1. Unscrew the side handle grip completely from the side handle ring.
2. Select the desired side handle location and thread in the side handle grip.
3. Hand tighten the side handle grip securely.

Mounting the Core Drill to a Stand

WARNING Always remove battery pack before installing the core drill on a stand.

1. Install the core drill onto the stand according to the core drill stand instructions. **MILWAUKEE®** recommends using a **MILWAUKEE®** Core Drill stand (Cat. No. MXF DR150) with this machine. A **MILWAUKEE®** MX FUEL™ Core Drill adapter (Cat. No. 49-67-0105) is available for securing this core drill to older styles of **MILWAUKEE®** core stands.
2. After the core drill is mounted, ensure the carrier is rigid against the mast. A loose carrier can allow the core drill or bit to wobbling during coring. Wiggle the core drill front to back and side to side. If it moves, adjust according to the core drill stand instructions.
3. Before use, secure the core drill and stand using a vacuum pad, expansion bolts, or other recommended method.

WARNING Do not rely on the weight of the stand, shoring pin alone, or body weight on the stand for securing during use. The stand will rotate and cause injury.

4. To remove core drill, disconnect according to the core drill stand instructions.

OPERATION

Selecting Speed

Select the speed according to the bit diameter and materials. Only change speeds when core drill is stopped.

Select **76-152mm (3"-6")** for low speed, which is appropriate for those core bit sizes and for cutting through rods, deep holes, and hard aggregate.

Select **25-76mm (1"-3")** for high speed, which is appropriate for those core bit sizes and for cutting in softer materials.

Locking the Trigger

To **lock** the trigger, slide the trigger lock to the locked position.

To **unlock** the trigger, slide the trigger lock to the unlocked position.

The trigger will not work when the trigger lock is in the locked position.

Always lock the trigger and unarm the machine or remove the battery pack before performing maintenance, changing accessories, storing the machine, and any time the machine is not in use.

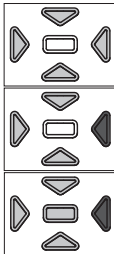
Command Center

The command center provides feedback during coring, allowing you to help prevent motor overload and premature bit wear.

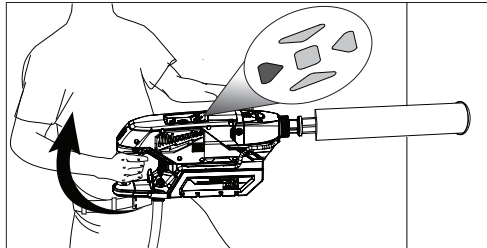
Digital Level

Use the digital level to ensure the hole is level throughout the operation. Use the digital level to properly align the core drill during handheld use, or when installing into a core drill stand. The four red arrow LEDs indicate where the machine is off of level and the direction the machine handle needs to be moved to become level. The center white LED indicates the machine is level.

- When level, the center White LED will light up (<1.5° off of level).
- When "slightly" off level, the center White LED and the Red LED associated with the direction off of level will light up (1.5° - 2.7° off of level).
- When "very" off level, the Red LED associated with the direction off of level will light up (>2.7° off of level).



During Horizontal drilling, the left and right arrows are not used.



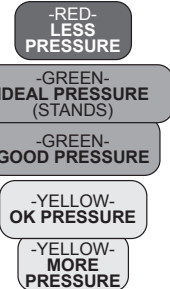
Performance Indicator

The performance indicator provides pressure feedback. The LEDs will light up one by one as pressure is applied to the bit. Increase or decrease pressure on the bit to reach the green "Ideal Pressure".

NOTE: Green "Ideal Pressure" is best obtained using a core drill stand. Most handheld applications will result in yellow "OK" or green "Good" pressures.

When using new diamond bits, follow manufacturer's instructions for breaking them in (see "Diamond Core Bits").

After the bits have been broken in, low feed pressure will polish diamonds, slows penetration and contributes to bit glazing. High feed pressure can overload the core drill motor or can cause diamonds to pull out prematurely, particularly when coring embedded steel. Make the bit work, but do not try to jam the bit through the material.



Fuel Gauge

When the machine is armed, the Fuel Gauge displays the battery pack's remaining run time. The fuel gauge mirrors the fuel gauge on the battery pack. When less than 10% of charge is left, 1 light on the fuel gauge will flash. When the battery reaches 0% charge, the fuel gauge will flash 8 times. Charge the battery pack.

10-32%

32-55%

55-77%

77-100%

Less than 10% if first light flashes 4 times

ONE-KEY™

To learn more about the ONE-KEY™ functionality for this machine, please refer to the quick reference included with this machine or go to milwaukee tool.com.au/One-Key or milwaukee tools.co.nz/One-Key. To download the ONE-KEY™ app, visit the App Store or Google Play from your smart device.

ONE-KEY™ Indicator

Solid Blue	Wireless mode is active and ready to be configured via the ONE-KEY™ app.
Blinking Blue	Machine is actively communicating with the ONE-KEY™ app.
Blinking Red	Machine is in security lockout and can be unlocked by the owner via the ONE-KEY™ app.

⚠ WARNING To reduce the risk of injury, always check the work area for hidden wires before coring.

Always wear proper eye protection marked to comply with ANSI Z87.1.

When working in dusty situations, wear appropriate respiratory protection or use a suitable dust extraction solution.

When drilling with water, route the water away from the work area or use a liquid collection device to keep work area dry and reduce the risk of electrical shock. Do not allow water to flow inside machine or battery pack.

Use extreme care when drilling through floors. Provide for protection of all personnel and material below the area. Cores generally drop from bit at the completion of the hole.

To reduce the risk of injury, always use a side handle during handheld operations. Always brace or hold securely. Ensure side handle is tightened securely before each use. Always be prepared for bit binding and core drill reaction.

Arming the Machine

The MX FUEL™ machines must be armed prior to use. Even with the battery pack inserted, the trigger and machine functions will not operate until the machine is armed.

To arm the machine:

1. Insert the battery pack.
2. Press the Arm button. The MX FUEL™ icon will light. The trigger will become armed in 2 seconds.
3. After 15 minutes of inactivity, the machine will enter sleep mode. The MX FUEL™ icon will go off and the trigger and LEDs are un-operational.
4. Press and hold the Arm button for 1 second to reactivate the machine.
5. Press and hold the ARM button for 1 second to unarm (turn off) the machine. The MX FUEL™ icon will go off.

Handheld Core Drilling

1. Install the bit and select the speed.
2. Insert the battery pack.
3. Arm the machine.
4. Start the flow of water to the bit by opening the water valve.

⚠WARNING

When drilling with water, route the water away from the work area or use a liquid collection device to keep work area dry and reduce the risk of electrical shock.

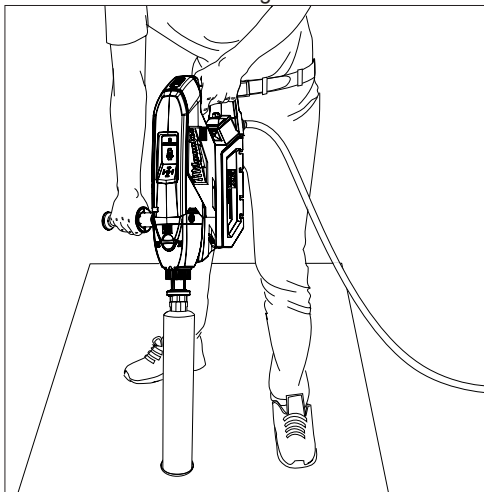
5. Press the trigger lock to the unlocked  position.
6. Grasp the handles firmly and align the bit.
7. Use the digital level to ensure the core drill is level throughout the cut.
8. To **start** the machine, pull the trigger.

NOTE: A worklight is turned on when the trigger is pulled.

9. Feed bits very slowly into the work surface. Use light feed pressure until the bit crown has penetrated or "seated" into the material.
10. Once the bit is "seated", use the Performance Indicator to determine if proper pressure is being used throughout the cut. Increase or decrease pressure as needed. Too much pressure will slow the bit and reduce drilling efficiency; reduce pressure slightly to allow the bit to regain speed. Too little pressure will cause the bit to slide over the work area and dull the point of the bit.
11. To **vary** the speed, increase or decrease the pressure on the trigger. The further the trigger is pulled, the greater the speed.

12. Monitor the water flow. Adjust the water valve so the water return is a muddy, solid color. Clear water or clear streaks indicate too much water volume and will reduce bit life. Adequate water volume varies according to the bit diameter. Use only enough water during coring to flush the cuttings from the work surface.

13. To **stop** the machine, remove the bit from the hole and release the trigger. Make sure the bit comes to a complete stop before laying down the machine.
14. If the bit binds, release the trigger and wait for the bit to stop completely. Free the bit from the workpiece.
15. Press the trigger lock to the locked  position.
16. Close the water valve.
17. Press the arm button to turn off the machine.
18. See "Retrieving Cores and Deep Coring" for instructions on removing cores.



Core Drilling on a Stand

⚠WARNING To reduce the risk of injury, do not core unless the proper vacuum has been achieved when the stand is secured with a vacuum system.

1. Install the core drill onto the stand according to the core drill stand instructions (see "Mounting the Core Drill to a Stand").
2. Secure the stand to the work surface according to the core drill stand instructions.

⚠WARNING

Do not rely on the weight of the stand, shoring pin alone, or body weight on the stand for securing during use. The stand will rotate and cause injury.

3. Use the digital level to ensure the core drill is level.
4. Install the bit and select the speed.
5. Insert the trigger lock-on (optional) but do NOT engage the trigger.
6. When using a vacuum system, follow the manufacturer's instructions.

⚠WARNING

Do not core unless the proper vacuum has been achieved. Always monitor the vacuum gauge during coring.

7. Insert the battery pack.
8. Arm the machine.
9. Start the flow of water to the bit by opening the water valve.

⚠WARNING

When drilling with water, route the water away from the work area or use a liquid collection device to keep work area dry and reduce the risk of electrical shock.

10. Press the trigger lock to the unlocked  position.
11. Use the digital level to ensure the core drill is level throughout the cut.
12. To **start**, pull the trigger. Rotate the trigger lock-on to engage the trigger.
NOTE: A worklight is turned on when the trigger is pulled.
13. Feed bits very slowly into the work surface. Use light feed pressure until the bit crown has penetrated or "seated" into the material.
14. Once the bit is "seated", use the Performance Indicator to determine if proper pressure is being used throughout the cut. Increase or decrease pressure as needed. Too much pressure will slow the bit and reduce drilling efficiency; reduce pressure slightly to allow the bit to regain speed. Too little pressure will cause the bit to slide over the work area and dull the point of the bit.
15. To **vary** the speed, increase or decrease the pressure on the trigger. The further the trigger is pulled, the greater the speed.
16. Monitor the water flow. Adjust the water valve so the water return is a muddy, solid color. Clear water or clear streaks indicate too much water volume and will reduce bit life. Adequate water volume varies according to the bit diameter. Use only enough water during coring to flush the cuttings from the work surface.
17. When the cut is complete, raise the bit from the cut.
18. To **stop** the machine, remove the bit from the hole and release the trigger. When using the trigger lock-on, rotate it to disengage the trigger. Make sure the bit comes to a complete stop before laying down the machine.
19. If the bit binds, release the trigger and wait for the bit to stop completely. Free the bit from the workpiece.
20. Press the trigger lock to the locked  position.
21. Close the water valve.
22. Press the arm button to turn off the machine.
23. See "Retrieving Cores and Deep Coring" for instructions on removing cores.

Retrieving Cores and Deep Coring

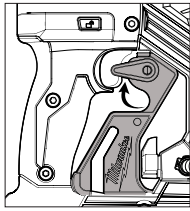
When coring holes that are deeper than the core bit:

1. Core the hole. Once the maximum depth has been cut, remove the bit from the hole and stop the machine.
2. Remove the core by driving a chisel or slender wedge into the cut between the core and the work surface. Other items, such as core tongs, bent wire or anchor bolts can also be used to remove the core. Removing cores with diameters greater than twice their length can be difficult. One method is to first break the core into smaller pieces and then remove the pieces.
3. Reinstall the bit using a bit extension, if necessary, and continue coring.

Troubleshooting

Vibration

1. Stop drilling.
2. Turn core drill off.
3. Remove battery.



4. Check for loose nuts and bolts. Tighten if required.
5. Check for excessive bit runout. Replace if required. If vibration continues to occur, remove the core and loose material. If vibration continues to occur after attempting these measures, return the rig to the nearest **MILWAUKEE®** service facility.

Bit Binding

Bit binding is caused by one of two things: a dull (glazed) bit or a poorly stabilised stand.

Causes of bit glazing:

- Wrong RPM for bit diameter
- High feed pressure
- Low feed pressure
- High steel content in work surface
- Large, hard aggregate
- Too much water
- Low motor power

A sharp bit typically has good diamond exposure and will cut/grind almost anything in its path, including embedded steel.

MAINTENANCE

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

Maintaining Machine

Keep your machine, battery pack and charger in good repair by adopting a regular maintenance program. Inspect your machine for issues such as undue noise, misalignment or binding of moving parts, breakage of parts, or any other condition that may affect the machine operation. Return the machine, battery pack, and charger to a **MILWAUKEE®** service facility for repair. After six months to one year, depending on use, return the machine, battery pack and charger to a **MILWAUKEE®** service facility for inspection.

If the machine does not start or operate at full power with a fully charged battery pack, clean the contacts on the battery pack. If the machine still does not work properly, return the machine, charger and battery pack, to a **MILWAUKEE®** service facility for repairs.

ONE-KEY™

WARNING Chemical Burn Hazard. This device contains a lithium button/coin cell battery. A new or used battery can cause severe internal burns and lead to death in as little as 2 hours if swallowed or enters the body. Always secure the battery cover. If it does not close securely, stop using the device, remove the batteries, and keep it away from children. If you think batteries may have been swallowed or entered the body, seek immediate medical attention.



Internal Battery

An internal battery is used to facilitate full ONE-KEY™ functionality.

If the Mode Indicator LED turns off and the machine cannot adjust speed, or if the Bluetooth communication stops working, remove and reinsert the coin cell battery to reset. Replace the battery if the problem continues.

To replace the battery:

1. Remove the battery pack.
2. Remove the screw(s) and open the battery door.
3. Remove the old battery, keep it away from children, and dispose of it properly.

4. Insert the new battery (3V CR2032), with the positive side facing up.
5. Close the battery door and tighten the screw(s) securely.

⚠WARNING To reduce the risk of personal injury, electric shock and damage, never immerse your machine in liquid or allow a liquid to flow inside it.

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 machines.

Cleaning the Battery and Battery Bay

Keep battery connections and surfaces between the machine and battery free of debris and materials. Failure to keep surfaces clean may result in misalignment and/or damage to the battery connection.

Repairs

For repairs, return the machine to the nearest service center.

ACCESSORIES

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

For a complete listing of accessories, go online to milwaukeeetool.com.au or milwaukeeetools.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 milwaukeeetool.com.au/milwaukeeetool.co.nz.

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