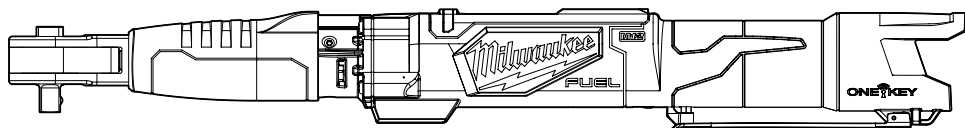
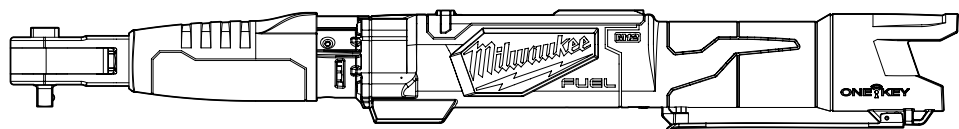




OPERATOR'S MANUAL



Cat. No. / No de cat.
2465-20, 2466-20

M12 FUEL™ DIGITAL TORQUE WRENCHES WITH ONE-KEY™



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 ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI 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 265°F (130°C) 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 authorized service providers.

SPECIFIC SAFETY RULES FOR TORQUE WRENCHES

- **Power tool gripping surfaces are not insulated.** Not intended for use in an operation where the fastener may contact hidden wiring. Fasteners contacting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.
- **Use only sockets and other accessories specifically designed for use on wrenches and drivers.** Other sockets and accessories might shatter or break causing injury.
- **Do not push the tool trigger handle when gaining leverage.** Adjust your stance and pull on the tool trigger handle to prevent a possible fall while applying torque.
- **Never use extensions, such as a pipe, on the trigger handle of the tool.** This could cause damage to the tool or personal injury due to slippage.
- **Over-torquing can cause damage. Do not flex the head of the tool for leverage. Excessive force on the tool in anyway will cause permanent damage.**
- **Damaged accessories can cause injury.** Inspect accessories to insure a snug fit on fasteners to prevent slippage. Ensure the accessories being used are rated for the torque being applied.
- **Always ensure the ratchet Forward/Reverse toggle is fully engaged.** Misuse of this function will cause damage to the tool.
- **Apply torque slowly and firmly grasp the trigger handle of the tool.** Do not apply pressure to the end of trigger handle. This may result in damage to the tool.
- **Always verify the calibration of the tool if its capacity has been overloaded or dropped.** Refer to the calibration section for more information.
- **Store tool in a dry place.** This tool is not waterproof and can be damaged when submerged in liquids.
- **Do not drop the tool.** This could result in serious damage and may leave the tool inoperable.
- **Do not use this tool as a hammer.** Impacts could damage the tool and will make it inoperable.
- **Keep this tool away from magnets.**
- **Check that the tool capacity matches or exceeds the use of the application before proceeding.** Failure to do so may result in damage to the tool.
- **Do not overload the tool.** This will result in the tool being uncalibrated and will need to be serviced at a service center.

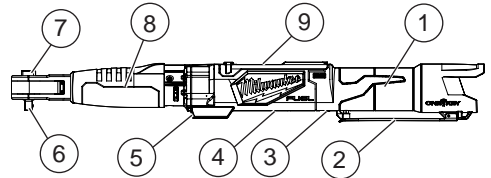
Always use common sense and be cautious when using tools. It is not possible to anticipate every situation that could result in a dangerous outcome. Do not use this tool if you do not understand these operating instructions or you feel the work is beyond your capability; contact Milwaukee Tool or a trained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

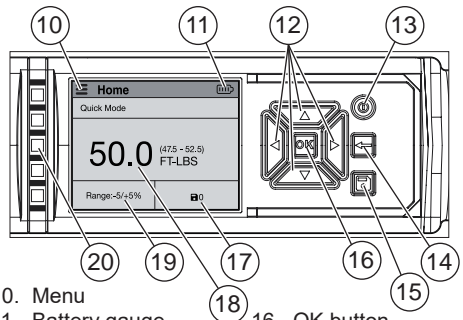
⚠WARNING Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- 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. Trigger handle
2. Paddle switch
3. Lock switch
4. Coin cell door (not shown)
5. LED light
6. Square drive anvil
7. Forward/Reverse toggle
8. Boot
9. LCD



10. Menu
11. Battery gauge
12. Arrow buttons
13. Power button
14. Exit button
15. Saved reports button
16. OK button
17. Saved reports
18. Target torque
19. Torque range
20. Progress light bar

SYMBOLOLOGY

	Volts
	Direct Current
n_0 XXXX min ⁻¹	No Load Revolutions per Minute (RPM)
	UL Listing for Canada and U.S.
	Power Button
	OK Button
	Save Button
	Back Button
	Menu Guide

SPECIFICATIONS

Volts.....	12 DC
Battery Type.....	M12™
Charger Type.....	M12™
Coin Cell Battery.....	3V CR2032
RPM.....	0-100
Recommended Ambient Operating Temperature.....	0°F to 125°F
Recommended Operating Humidity Percentage.....	up to 90% Non-Condensing
Cat. No.	2465-20
Torque Range.....	10-100 ft-lbs
Square Drive Anvil.....	3/8"
Cat. No.	2466-20
Torque Range.....	12.5-150 ft-lbs
Square Drive Anvil.....	1/2"

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.

Battery Indicator

The battery indicator displays the amount of charge left in the battery pack. The battery indicator will stay lit during operation.

Charge the battery when battery indicator is shown. **NOTE:** Tool will shut off when the battery has depleted.

⚠WARNING Use only sockets and other accessories specifically designed for use on this tool. Other sockets and accessories might shatter or break causing injury.

Attaching and Removing Accessories

These tools are intended only for use with accessories designed for torque wrenches. Other sockets could shatter or break, causing injury.

1. Use only appropriate Square Drive Sockets.
2. To attach a socket or other accessory, align the accessory with the drive anvil and push it firmly onto the tool.

3. To remove the accessory, pull the accessory off the drive anvil.

Menu Guide

To navigate throughout the menu guide , use the arrow buttons to modify settings. To set a function within each category select the button. Use exit button to exit each page.

Description	Function
<u>Modes</u>	Add preset functions to a profile: setup units, target torque, and a percentage range.
<u>Saved Events</u>	Allow for grouping events and to view recent history. (See "Saved Events/Grouping" section.)
Grouping	Organize events by saving to an open group. (See "Saved Events/Grouping" section.)
View Recent History	Recall recent history from a previous time frame.
<u>Settings</u>	View sub categories within the settings function.
Units	Select units; ft-lbs, in-lbs, Nm and kg-cm
Sound & Haptics	Change ON/OFF options to light, sound and haptics.
Screen Brightness	Select between Low, Medium and High screen brightness modes.
Screen Display	Select light or dark backlight display.
Language	Change the language setting; between English, French, Spanish, etc.
<u>Rundown Torque</u>	Add a percentage to the total selected torque. Tool will stop at or near the percentage allowing user to hand tighten for full torque. (See "Adjusting rundown torque")
<u>About</u>	General information for a certification count and firmware.
Certification Count	Display the last certified date and a count until the next certification is required. (See "Certification" section for more information.)
Firmware	Displays firmware version and tool part number.

Modes

Use the modes function to set up a profile quickly within a couple of steps. Within the modes option: set up units, target torque and percentage range. Once the mode is selected: apply, edit or delete a mode.

Saved Events / Grouping

Save events to use at a later date. Storing in a group will make it easier to recall preset specifications. The tool will not automatically save events. From the main screen, use the left and right arrows and select the save button . To open a group and include saved events within the group. Press and hold the save button for 3 seconds.

ONE-KEY™



To learn more about the ONE-KEY™ functionality for this tool, please reference the Quick Start guide included with this product or go to milwaukeeetool.com/One-Key. To download the ONE-KEY™ app, visit the App Store or Google Play from your smart device.

OPERATION

WARNING Always remove battery pack before changing or removing accessories. Only use accessories specifically recommended for this tool. Others may be hazardous.

To reduce the risk of injury, always wear proper eye protection marked to comply with ANSI Z87.1.

Turning ON/OFF

Hold tool motionless when turning the tool **ON**. Movement during the initial two second sensor check may affect torque value. Press the power button  to turn the LCD **ON**. Press and hold the power button  to turn the LCD **OFF**. The tool will go into standby mode within 2 minutes of nonuse and sleep mode after 10 minutes. **NOTE:** In standby mode, pressing the paddle switch or power button will turn the tool back on. In sleep mode, pressing the power button will turn the tool back on.

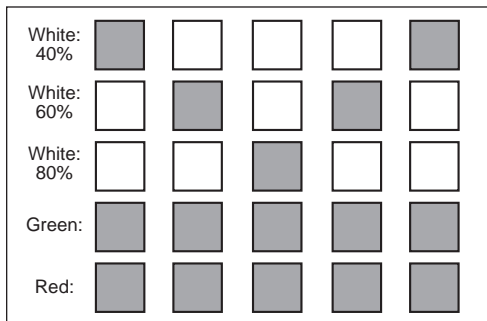
Progress Light Bar

The progress light bar will display the progress to achieving the target torque.

White: First light indicates 40% of the target torque reached with intermittent beeps. Second light indicates 60% of the target achieved with constant beeping. Third light indicates 80% of the target achieved with rapid beeping.

Green: Indicates tool reached targeted torque with beeping coming to a stop.

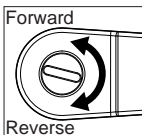
Red: Exceeded target torque with beeping and vibration to indicate that the tool is over-torqued.





Forward/Reverse Toggle

For **forward** (clockwise) rotation, rotate the forward/reverse toggle **counterclockwise**. Check the direction of rotation before use.

For **reverse** (counterclockwise) rotation, rotate the forward/reverse toggle **clockwise**. Check the direction of rotation before use.



Lock Switch

To **lock** the paddle switch, slide the lock switch to the locked  position. To **unlock** the paddle switch, slide the lock switch to the unlocked  position. The paddle switch will not work when the lock switch is in the locked position.

Always lock the paddle switch or remove the battery pack before performing maintenance, changing accessories, storing the tool and any time the tool is not in use.

Starting, Stopping and Controlling Speed


These tools may be operated at any speed from 0 to full RPM.

- To start the tool, pull the paddle switch. **NOTE:** A LED is turned on when the switch is pulled. The tool will shut off automatically when the set maximum rundown torque is reached.
- To vary the driving speed, increase or decrease pressure on the switch. The further the switch is pulled, the greater the speed.
- To stop the tool, release the paddle switch.

APPLICATIONS

Simple Torque Applications

Making a simple measurement

- Select the units of measure.**
- Set the target torque.**
- Apply torque.** Hold the center of the trigger handle and pull the trigger. While the trigger is pulled "-" is displayed. The tool will automatically stop before target torque is reached to prevent over torquing. **NOTICE!** Do not hold the tool by the boot while applying torque. It will affect the accuracy of the tool and could give inaccurate readings.
- Finish by hand to reach target torque. Current torque value is displayed.
- Press  to save an event, to stay consistent with the tool.
- Release torque.** The torque reading on the LCD will display for > than 5 seconds or the next trigger pull.

Advanced Applications

Adjusting torque range

Torque range indicates the acceptable range of values for a successful install. Adjust the torque range to meet the recommended torque specifications.

Adjusting rundown torque

Rundown torque is the approximate torque value the motor will stop driving the tool. The tool will tighten the fastener to the selected preset percentage and then stop. Finish by hand to reach target torque.

NOTE: Rundown torque changes the tools output power. Adjust the rundown torque to help prevent over torquing of the fastener.

Adjusting target torque

Target torque is the required torque value for the fastener being installed. Adjust the target torque to meet the desired torque specifications.

ALERTS AND TROUBLESHOOTING

Display Alerts

Memory for Saved Events

The tool has a limited amount of memory dedicated to saved events. When keeping a prolonged list of events outside of the tools memory, refer to the ONE-KEY™ app for better backup. To clear your saved events, connect to the ONE-KEY™ app and clear the memory on the tool using the app. This ensures that the events are backed up online within the ONE-KEY™ cloud. **NOTE:** The display will prompt that the memory is close to being full or reached capacity.

Troubleshooting

Problem	Cause	Solution
Wrench does not turn on when power button is pressed.	No battery installed/ battery is not charged Firmware Issue	Insert / Replace battery Turn tool OFF and remove battery Return to a service center to be calibrated.
Torque reading is out of specification.	Calibration required	Return to a service center to be calibrated.
Wrench settings were not saved once battery was removed.	Battery was removed before the setting was saved.	Re-enter settings, press and hold Power button to power down the tool before removing the battery.
Torque zero error	Torque applied while zeroing. Wrench is over torqued. Wrench was not calibrated correctly. Failure to the torque sensor.	Remove the torque and re-zero the tool. Return to a service center to be calibrated. Return to a service center to be calibrated. Return to a service center.
Overtorque	125% of the max torque rating has been applied to the tool.	Return to a service center to be calibrated.
Torque overload	150% of max torque rating has been applied to the tool.	Return to a service center to be calibrated.
Display memory error.	Memory failure	Clear the data in memory.
Display torque uncalibrated.	Torque is uncalibrated.	Return to a service center to be calibrated.
Display warning	Tool needs attention.	Follow steps through warning to proceed.
Display battery over temperature	Battery has exceeded peak temperature while running.	Turn the tool off and remove the battery. Allow the battery to cooldown.
Display tool over temperature	Tool has exceeded peak temperature while running.	Turn the tool off and remove the battery. Allow the tool to cooldown.
Display certification needed soon.	Tool will exceed the expiration date for certification soon.	Return to a service center to be calibrated.
Display out of certification.	Tool exceeded the expiration date that is required for certification, tool is overloaded, or 5000 tightening cycles have surpassed.	Return to a service center to be calibrated.

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 tool, 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.

⚠ WARNING To reduce the risk of personal injury and damage, never immerse your tool, battery pack or charger in liquid or allow a liquid to flow inside them.

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.

To replace the battery:

1. Remove the battery pack.
2. Remove the screw and open the battery door.
3. Remove the old battery, keep it away from children, and dispose of it properly. **NOTE:** Retain and re-install the battery removal tab on the replacement battery prior to installing.
4. Insert the new battery (3V CR2032), with the positive side facing up.
5. Close the battery door and tighten the screw securely.

Cleaning

Clean dust and debris from vents. Keep trigger handle 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 service center.

Accuracy Certification

This tool will require certification: after annual calibration, or 5,000 cycles, or if the tool has been overloaded. **NOTE:** Once tool has exceeded 5,000 cycles, the tool will be out of certification and will expire after 14 days. Contact your local Milwaukee Tool service center if the tool is overloaded. Refer to the troubleshooting section within the manual for more information.

Calibration

This tool was calibrated at the factory with torque measurement instruments. Contact a MILWAUKEE service facility for calibration. Torque parameters comply with ISO 6789-2003 and ASME B107-28-2010.