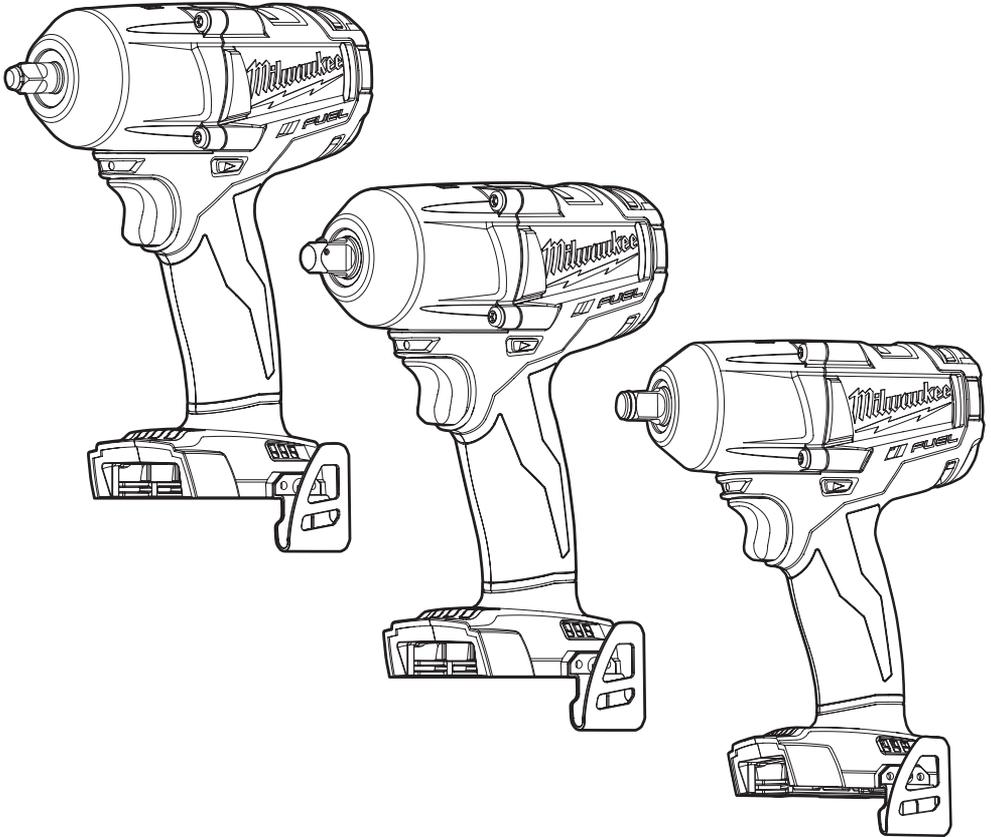




OPERATOR'S MANUAL
MANUEL de L'UTILISATEUR
MANUAL del OPERADOR



Cat. No. / No de cat.
2852-20, 2860-20, 2861-20

M18™ FUEL™ MID-TORQUE IMPACT WRENCHES
CLÉS À CHOCS À COUPLE MOYEN M18™ FUEL™
LLAVES DE IMPACTO DE MEDIO TORQUE M18™ FUEL™



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

AVERTISSEMENT Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le manuel.

ADVERTENCIA Para reducir el riesgo de lesiones, el usuario debe leer y entender el 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

• **Hold power tool by insulated gripping surfaces, when performing 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.

• **Wear ear protectors when impact drilling.** Exposure to noise can cause hearing loss.

• **Use only sockets and other accessories specifically designed for use on impact wrenches and drivers.** Other sockets and accessories might shatter or break causing injury.

• **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.

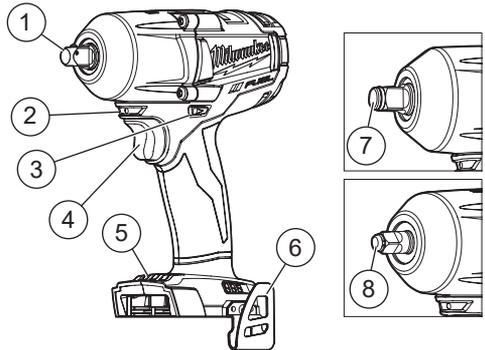
• **AWARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- 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.

SPECIFICATIONS

Volts.....	18 DC
Battery Type.....	M18™
Charger Type.....	M18™
Recommended Ambient Operating Temperature.....	0°F to 125°F
Cat. No.	2852-20
Anvil Type.....	3/8" Square-Ring Mode 1
No Load RPM.....	0 - 575
Impacts per Minute.....	450
Mode 2	
No Load RPM.....	0 - 2000
Impacts per Minute.....	2900
Mode 3	
No Load RPM.....	0 - 2300
Impacts per Minute.....	3200
Cat. No.	2860-20
Anvil Type.....	1/2" Square-Pin Mode 1
No Load RPM.....	0 - 1700
Impacts per Minute.....	2300
Mode 2	
No Load RPM.....	0 - 2100
Impacts per Minute.....	2700
Mode 3	
No Load RPM.....	0 - 2400
Impacts per Minute.....	3000
Cat. No.	2861-20
Anvil Type.....	1/2" Square-Ring Mode 1
No Load RPM.....	0 - 510
Impacts per Minute.....	420
Mode 2	
No Load RPM.....	0 - 2100
Impacts per Minute.....	2700
Mode 3	
No Load RPM.....	0 - 2400
Impacts per Minute.....	3000

FUNCTIONAL DESCRIPTION



1. 1/2" Square drive anvil with pin (2860-20)
2. LED
3. Control switch
4. Trigger
5. 3-Mode drive control
6. Belt clip
7. 1/2" Square drive anvil with ring (2861-20)
8. 3/8" Square drive anvil with ring (2852-20)

SYMBOLOLOGY



Volts



Direct Current

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

n XXXX min⁻¹ Impacts per Minute Under Load (IPM)



UL Listing for Canada and U.S.

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.

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

Attaching and Removing Accessories

1/2" Impact Wrench with Pin (Cat. No. 2860-20)

1. Use only the appropriate size Square Drive Sockets.
2. To attach a socket, align the hole in the accessory with the detent pin on the anvil. Hold the detent pin in while pushing the socket onto the anvil. The detent pin will snap into place in the hole to secure the socket.
3. To remove the socket, insert a nail or other thin object into the hole in the accessory and press in the detent pin. Pull the accessory off the anvil.

3/8" Impact Wrench with Ring (Cat. No. 2852-20)

1/2" Impact Wrench with Ring (Cat. No. 2861-20)

1. Use only the appropriate size Square Drive Sockets.
2. To attach a socket, align the accessory with the anvil and push it firmly over the retaining ring.
3. To remove the accessory, pull the accessory off the anvil.

OPERATION

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

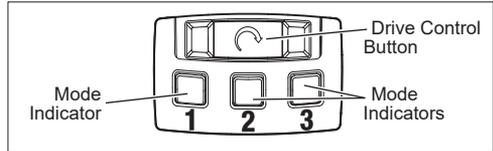
WARNING To reduce the risk of injury, always wear safety goggles or glasses with side shields.

Using the Drive Control

The drive control button is used to adjust the torque, rotation speed (RPM), and impact speed (IPM) for the application (see *Specifications* chart for RPM and IPM).

To select the drive control mode:

1. Pull and release the trigger to turn on the tool. The current mode indicator is lit.
2. Press the drive control button  to cycle through the 3 modes. When the desired mode indicator is lit, begin work.



Using the Control Switch

The control switch may be set to three positions: forward, reverse and lock. Due to a lockout mechanism, the control switch can only be adjusted when the ON/OFF switch is not pressed. Always allow the motor to come to a complete stop before using the control switch.

1. For **forward** (clockwise) rotation, push the control switch in the direction shown. Check the direction of rotation before use.
2. For **reverse** (counterclockwise) rotation, push the control switch in the direction shown. Check the direction of rotation before use.
3. To **lock** the trigger, push the control switch to the center position. The trigger will not work when the control switch is in the locked position. Always 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 speed.

1. To **start** the tool, pull the trigger.
NOTE: An LED is turned on when the trigger is pulled.
2. To **vary** the driving speed, increase or decrease pressure on the trigger. The further the trigger is pulled, the greater the speed.
3. To **stop** the tool, release the trigger.

Impacting Techniques

The longer a bolt, screw, or nut is impacted, the tighter it will become. To help prevent damaging the fasteners or workpieces, avoid excessive impacting. Be particularly careful when impacting smaller fasteners because they require less impacting to reach optimum torque.

Practice with various fasteners, noting the length of time required to reach the desired torque. Check the tightness with a hand-torque wrench. If the fasteners are too tight, reduce the impacting time. If they are not tight enough, increase the impacting time.

Oil, dirt, rust or other matter on the threads or under the head of the fastener affects the degree of tightness.

The torque required to loosen a fastener averages 75% to 80% of the tightening torque, depending on the condition of the contacting surfaces.

On light gasket jobs, run each fastener down to a relatively light torque and use a hand torque wrench for final tightening.

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.

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 service center.

ACCESSORIES

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

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

SERVICE - UNITED STATES

1-800-SAWDUST (1.800.729.3878)

Monday-Friday, 7:00 AM - 6:30 PM CST

or visit www.milwaukeetool.com

Contact Corporate After Sales Service Technical Support with technical, service/repair, or warranty questions.

Email: metproductsupport@milwaukeetool.com

Become a Heavy Duty Club Member at www.milwaukeetool.com to receive important notifications regarding your tool purchases.

SERVICE - CANADA

Milwaukee Tool (Canada) Ltd

1.800.268.4015

Monday-Friday, 7:00 AM - 4:30 PM CST

or visit www.milwaukeetool.ca

LIMITED WARRANTY USA & CANADA

Every MILWAUKEE power tool* (see exceptions below) is warranted to the original purchaser only to be free from defects in material and workmanship. Subject to certain exceptions, MILWAUKEE will repair or replace any part on an electric power tool which, after examination, is determined by MILWAUKEE to be defective in material or workmanship for a period of five (5) years** after the date of purchase unless otherwise noted. Return of the power tool to a MILWAUKEE factory Service Center location or MILWAUKEE Authorized Service Station, freight prepaid and insured, is required. A copy of the proof of purchase should be included with the return product. This warranty does not apply to damage that MILWAUKEE determines to be from repairs made or attempted by anyone other than MILWAUKEE authorized personnel, misuse, alterations, abuse, normal wear and tear, lack of maintenance, or accidents.

Normal Wear: Many power tools need periodic parts replacement and service to achieve best performance. This warranty does not cover repair when normal use has exhausted the life of a part including, but not limited to, chucks, brushes, cords, saw shoes, blade clamps, o-rings, seals, bumpers, driver blades, pistons, strikers, lifters, and bumper cover washers.

*This warranty does not cover Air Nailers & Staplers; Airless Paint Sprayer; Cordless Battery Packs; Gasoline Driven Portable Power Generators; Hand Tools; Hoist - Electric, Lever & Hand Chain; M12™ Heated Gear; Reconditioned Product; and Test & Measurement Products. There are separate and distinct warranties available for these products.

**The warranty period for Job Site Radios, M12™ Power Port, M18™ Power Source, Jobsite Fan and Trade Titan™ Industrial Work Carts is one (1) year from the date of purchase. The warranty period for the Drain Cleaning Cables is two (2) years from the date of purchase. The warranty period for the M18™ Compact Heat Gun and the 8 Gallon Dust Extractor is three (3) years from the date of purchase. The warranty period for the LED in the LED Work Light and the LED Upgrade Bulb for the Work Light is the lifetime of the product subject to the limitations above. If during normal use the LED or LED Bulb fails, the part will be replaced free of charge.

Warranty Registration is not necessary to obtain the applicable warranty on a MILWAUKEE power tool product. The manufacturing date of the product will be used to determine the warranty period if no proof of purchase is provided at the time warranty service is requested.

ACCEPTANCE OF THE EXCLUSIVE REPAIR AND REPLACEMENT REMEDIES DESCRIBED HEREIN IS A CONDITION OF THE CONTRACT FOR THE PURCHASE OF EVERY MILWAUKEE PRODUCT. IF YOU DO NOT AGREE TO THIS CONDITION, YOU SHOULD NOT PURCHASE THE PRODUCT. IN NO EVENT SHALL MILWAUKEE BE LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL OR