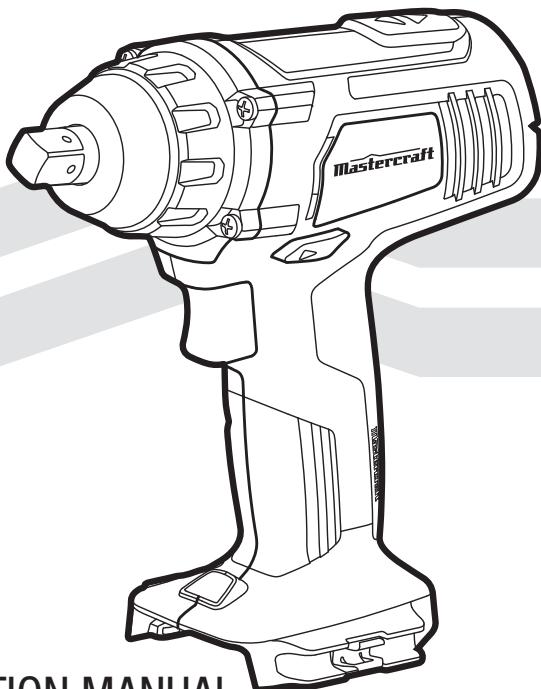


# Mastercraft™



INSTRUCTION MANUAL

## 20V max\* LITHIUM-ION COMPACT CORDLESS IMPACT WRENCH

054-3121-6

If any parts are missing or damaged, or if you have any questions, please call our toll-free helpline at 1-800-689-9928.



Read and understand this instruction manual thoroughly before using the product. It contains important information for your safety as well as operating and maintenance advice.

Keep this instruction manual for future use. Should this product be passed on to a third party, then this instruction manual must be included.

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<b>MOTOR</b>	<b>20V DC</b>
<b>NO-LOAD SPEED</b>	<b>0-2500 RPM</b> <b>0-3200 BPM</b>
<b>MAX. TORQUE</b>	<b>116 ft-lb</b>
<b>DRIVE</b>	<b>1/2" Square</b>
<b>IMPACT WRENCH WEIGHT (WITHOUT BATTERY)</b>	<b>2 lb 10 oz (1.2 kg)</b>
<b>BATTERY VOLTAGE</b>	<b>20V max* DC</b>
<b>COMPATIBLE MASTERCRAFT BATTERIES</b>	<b>1.3 Ah Li-ion (054-3124-0)</b> <b>2.6 Ah Li-ion (054-3125-8)</b>
<b>COMPATIBLE MASTERCRAFT CHARGER</b>	<b>1-hour, diagnostic (054-3126-6)</b>

\*Maximum battery voltage without workload; with workload nominal voltage is 18V.

### WARNING!



Safety symbols in this Instruction Manual are used to flag possible dangers. The safety symbols and their explanations require your full understanding. The safety warnings do not, by themselves, eliminate any danger, nor are they substitutes for proper accident prevention measures.

### WARNING!



This Safety Alert Symbol indicates caution, warning, or danger. Failure to obey a safety warning can result in serious injury to yourself or others. To reduce the risk of injury, fire, or electric shock, always follow the safety precautions.

### Know your tool

To operate this tool, carefully read this Instruction Manual and all labels affixed to the Cordless Impact Wrench before using it. Keep this instruction manual available for future reference.

### Important

This tool should only be serviced by a qualified service technician. For more information, call the toll-free helpline at 1-800-689-9928.

### Read all instructions thoroughly

### Save these instructions

### General power tool safety warnings

#### WARNING!



Read all safety warnings and instructions. Failure to follow the warnings and instructions 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 the 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 the 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 the 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 a 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 the tool while 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 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, clothing and gloves 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 that these are connected and properly used.** Use of these devices can reduce dust-related hazards.

## 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 more safely 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 the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **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.** 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, 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.

## 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, also seek medical help.** Liquid ejected from the battery may cause irritation or burns.

## 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.

## Safety guidelines for cordless impact wrench

- **Hold power tools by the insulated gripping surfaces when performing an operation where the tool may contact hidden wiring or its own cord.** Contact with a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- **Use clamps or another practical way to support and secure the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not drill, fasten or break into existing walls or other blind areas where electrical wiring may exist.** If this situation is unavoidable, disconnect all fuses or circuit breakers feeding the worksite.
- **Always wear safety goggles or eye protection when using this tool.**
- **Bits, sockets and tools get hot during operation.** Wear gloves when touching them after use.
- **Wear ear protectors when using the tool for extended periods.** Prolonged exposure to high intensity noise can cause hearing loss.
- **Use thick, cushioned gloves and limit the exposure time by taking frequent rest periods.** Vibration caused by the impact wrench action may be harmful to your hands and arms.
- **Secure the material being fastened.** Never hold it in your hand or across your legs. Unstable support can cause loss of control and injury.
- **Avoid accidental starting.** Be sure that the forward/centre-lock/reverse switch is in the "off" (centre) position before inserting the battery pack. Carrying appliances with your finger on the switch or inserting the battery pack into an appliance with the switch on invites accidents.
- **Remove the battery pack before changing accessories.** Accidental starting may occur because battery appliances with a battery inserted are in the operative condition.
- **Be prepared for a reaction torque when "seating" or removing a fastener.** The tool housing may tend to twist in the opposite direction of the bit rotation when "seating" or removing a fastener, depending on the torque setting of the tool.
- **Do not use worn or damaged impact sockets and accessories.** When installing an accessory, insert the impact socket well onto the anvil. Be sure that the anvil has locked onto the socket correctly.
- **Do not run the tool while carrying it at your side.** A spinning bit could become entangled with clothing and injury may result.

- **Place the tool onto the fastener only when the tool is switched off.** Rotating wrench tools can slide off of the fastener.

- **Be careful when driving long screws.** There is a risk of the impact wrench sliding off the fastener head, depending on the type of socket or bit used. First test the run-down of a fastener and pay attention during the driving process to ensure that you do not injure yourself if the tool bit or socket slides off of the fastener.

- **The label on your tool may include the following symbols. The symbols and their definitions are as follows:**

V ..... Volts

A ..... Amperes

Hz ..... Hertz

W ..... Watts

min ..... Minutes

~ ..... Alternating current

— — ..... Direct current

n<sub>0</sub> ..... No-load speed

□ ..... Class II Construction

.../min ..... Revolutions per minute

⊕ ..... Grounding terminal

BPM ..... Beats per minute

⚠ ..... WARNING – To reduce the risk of injury, user must read instruction manual.

## Contents

Cordless Impact Wrench, Instruction Manual



### WARNING!

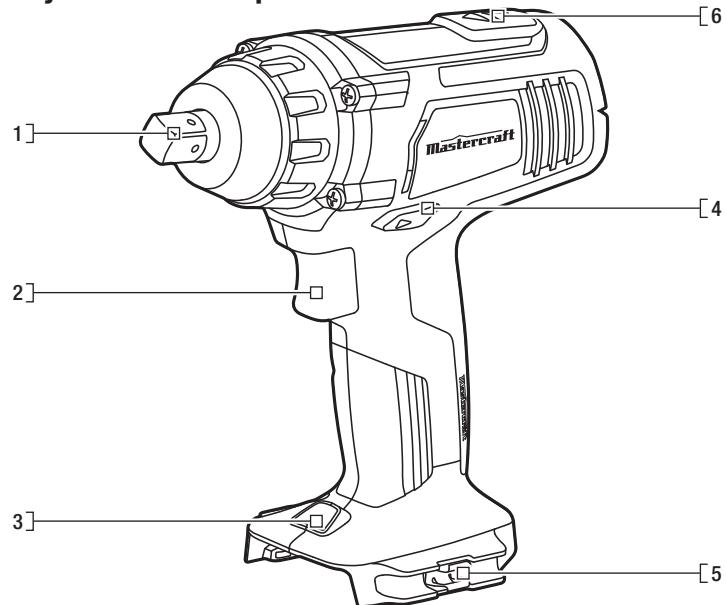
Remove the Cordless Impact Wrench from the package, and examine it carefully. Do not discard the carton or any packaging material until all parts have been examined.



### WARNING!

If any part of the Cordless Impact Wrench is missing or damaged, do not attach the battery pack to the tool or use the tool until the part has been repaired or replaced. Failure to heed this warning could result in serious injury.

## Know your cordless impact wrench



No.	Description	No.	Description
1	1/2" Square Anvil	4	Direction-of-rotation selector
2	Trigger switch	5	Bit clip
3	LED worklight	6	Forward/reverse LED indicator

Before attempting to use this tool, become familiar with all of its operating features and safety requirements. For optimum performance and safety, read the following operating instructions carefully before using.



## WARNING!

Do not allow familiarity with the Cordless Impact Wrench to cause a lack of alertness. A fraction of a second of carelessness is enough to cause severe injury.

## WARNING!

Carefully read the Instruction Manuals for your Mastercraft 20V max Lithium-Ion Battery and Mastercraft 20V max Lithium-Ion Charger for safety and operation instructions.

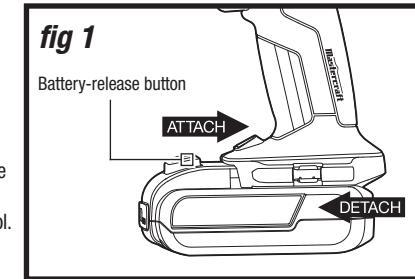
## To attach battery pack (fig 1)

## CAUTION!

Avoid the possibility of accidental starting. Always take care not to activate the trigger switch when you are attaching the battery pack or performing other adjustments to the tool.

**NOTE:** When placing a battery pack on the tool, be sure that the raised rib on the battery pack aligns with the groove on the cordless impact wrench and the latches snap into place properly. Improper assembly of the battery pack can cause damage to internal components.

1. Lock the trigger switch on the cordless impact wrench by placing the direction-of-rotation selector (forward/centre-lock/reverse) in the centre position.
2. Align the raised portion on the battery pack with the groove on the bottom of the cordless impact wrench, and then attach the battery pack to the cordless impact wrench as shown.
3. Make sure that the latch on the battery pack snaps into place and that the battery pack is secured to the cordless impact wrench before beginning operation.



## To detach battery pack (fig 1)

## CAUTION!

Avoid the possibility of accidental starting. Always take care not to activate the trigger switch when you are detaching the battery pack or performing other adjustments to the tool.

1. Lock the trigger switch on the cordless impact wrench by placing the direction-of-rotation selector (forward/centre-lock/reverse) in the centre position.
2. Depress the battery-release button located on the front of the battery pack to release the battery pack.
3. Pull forward on the battery pack to remove it from the cordless impact wrench.

## ON/OFF Trigger switch (fig 2)

To turn the cordless impact wrench ON, depress the trigger switch. To turn it OFF, release the trigger switch.

## Variable speed (fig 2)

The variable-speed trigger switch delivers higher speed with increased trigger pressure and lower speed with decreased trigger pressure.

## Direction-of-rotation selector (forward/centre-lock/reverse) (fig 2, 3)

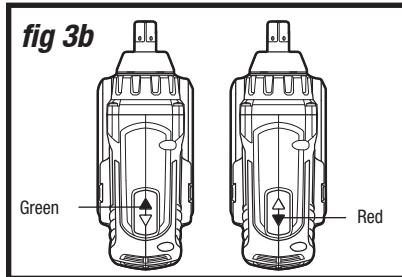
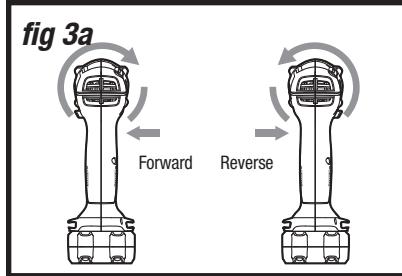
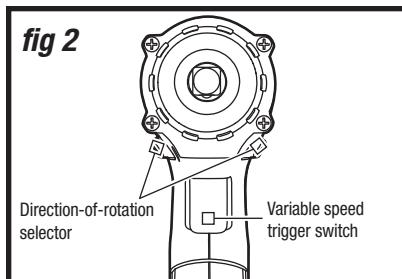
The direction-of-rotation is reversible and is controlled with a selector located above the trigger switch. With the cordless impact wrench held in normal operating position:

Position the direction-of-rotation selector to the left of the tool for forward rotation. The forward/reverse LED indicator on the impact wrench will shine green (fig 3b).

Position the direction-of-rotation selector to the right of the tool for reverse rotation. The forward/reverse LED indicator on the impact wrench will shine red (fig 3b).

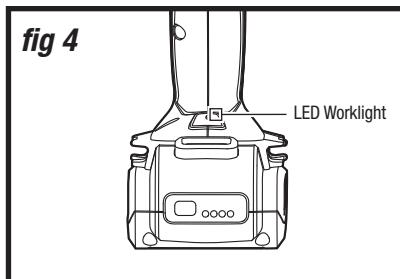
Position the direction-of-rotation selector in the centre to lock the tool off.

**NOTE:** The cordless impact wrench will not run unless the direction-of-rotation selector is engaged fully to the left or right.



## LED Worklight (fig 4)

The LED worklight, located on the base of the cordless impact wrench will illuminate when the trigger switch is depressed. This provides additional light on the surface of the workpiece for operation in lower light situations. The LED worklight will turn off when the trigger switch is released.

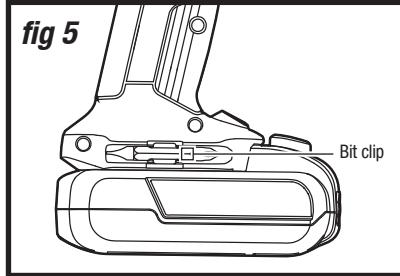


## Electric brake

To stop the tool, release the trigger switch and allow the anvil to come to a complete stop. The electric brake quickly stops rotation. This feature engages automatically when you release the trigger switch.

## Bit clip (fig 5)

When not in use, a bit (available separately) may be stored on either side of the cordless impact wrench by snapping it into place in the bit clip.



## Installing and removing a socket (fig 6)

1. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (centre) position.
2. To install a 1/2" socket (available separately), simply push it completely onto the anvil. To remove, pull it off of the anvil.



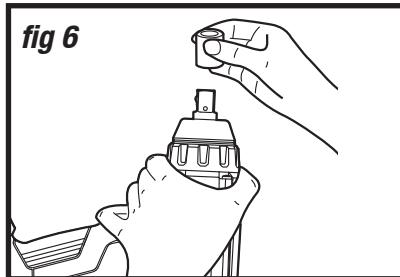
### WARNING!

Bits, sockets and tools get hot during operation. Wear gloves when touching them after use.



### WARNING!

Only use sockets designed for impact wrenches. Sockets not designed for impact wrenches could break and result in user injury. Inspect sockets prior to use to ensure that they have no cracks or other visible damage.



## Tightening fasteners

1. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (centre) position. Select a hex socket (available separately) that matches the bolt or nut.
2. Mount the socket on the anvil, and grip the bolt or nut to be tightened with the hex socket.
3. Holding the cordless impact wrench in line with the bolt or nut, press the trigger to impact the nut for several seconds.
4. If the nut is only loosely fitted to the bolt, the bolt may turn with the nut. In this case, stop impact on the nut and hold the bolt head with a hand wrench before restarting impact, or manually tighten the bolt and nut to prevent them from slipping.

## Tightening torque

The tightening torque depends on the duration of the impacting/tightening action.

The greatest tightening torque is achieved after approximately 3–5 seconds of impacting/tightening action. The torque build-up depends on the following factors:

1. Hardness of the bolts/nuts.
2. Type of washer (disc washer, spring washer, seal).
3. Hardness of the materials to be joined.
4. Lubricating effect at the surface of the junction.

For example:

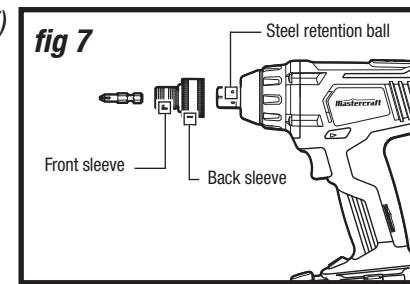
- A relatively short interval of impacting/tightening action is required when joining metal to metal with a disc washer.
- A moderate interval of impacting/tightening action is required when joining metal to metal where a spring-ring washer, disc-spring washer, stud bolt, or bolt/nut with conical seats are used.
- A longer interval of impacting/tightening action is necessary to arrive at the maximum tightening torque when joining metal to wood or insulation material.

## Loosening fasteners

1. With the proper impact socket securely mounted to the cordless impact wrench, slide the impact socket onto the bolt head.
2. Verify that the rotational direction is “reverse.”
3. Hold the tool securely with both hands and squeeze the trigger switch. The tool will start to impact immediately.
4. Once the fastener has “broken loose” it will start to unthread. Be careful that you do not allow a fastener to spin freely once it is no longer engaged with the other threaded part, as it may be thrown out of the socket.

## Installing or removing bits (fig 7)

1. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (centre) position.
2. To install or remove a 1/2" hex adaptor (available separately), pull the back sleeve of the 1/2" hex adaptor forward and press the hex adaptor onto the square drive. Make sure that the steel retention ball engages into the hole on the square drive. To remove the hex adaptor, simply grip the back sleeve and pull it off.
3. To install the bit, pull the front sleeve forward, hold it in place, insert a 1/2" bit into the hexagonal chuck, and then release the sleeve. Check that the sleeve returns to its original position and the bit is securely held in place. To remove the bit, pull the front sleeve forward and pull the bit off.



**General maintenance****WARNING!**

To avoid personal injury, always remove the battery pack from the tool when cleaning or performing any maintenance.

**WARNING!**

Do not let brake fluids, gasoline, petroleum-based products, penetrating oil, etc. come into contact with plastic parts. These substances contain chemicals that can damage, weaken, or destroy plastic.

The tool may be cleaned most effectively with compressed dry air. Always wear safety goggles when cleaning tools with compressed air. Before each use:

- Inspect the cordless impact wrench, the trigger switch, and the battery for damage.
- Check for damaged, missing, or worn parts.
- Check for loose screws, misalignment or binding of moving parts, or any other condition that may affect the operation.
- If abnormal vibration or noise occurs, turn the cordless impact wrench off immediately, and have the problem corrected before further use.

**WARNING!**

When servicing, use only identical replacement parts. The use of any other parts may create a hazard or cause damage to the product.

**WARNING!**

Use only accessories that are recommended for this wrench by the manufacturer. Accessories that may be suitable for one tool may become hazardous when used with another tool.

**WARNING!**

To ensure safety and reliability, all repairs should be performed by a qualified service technician.

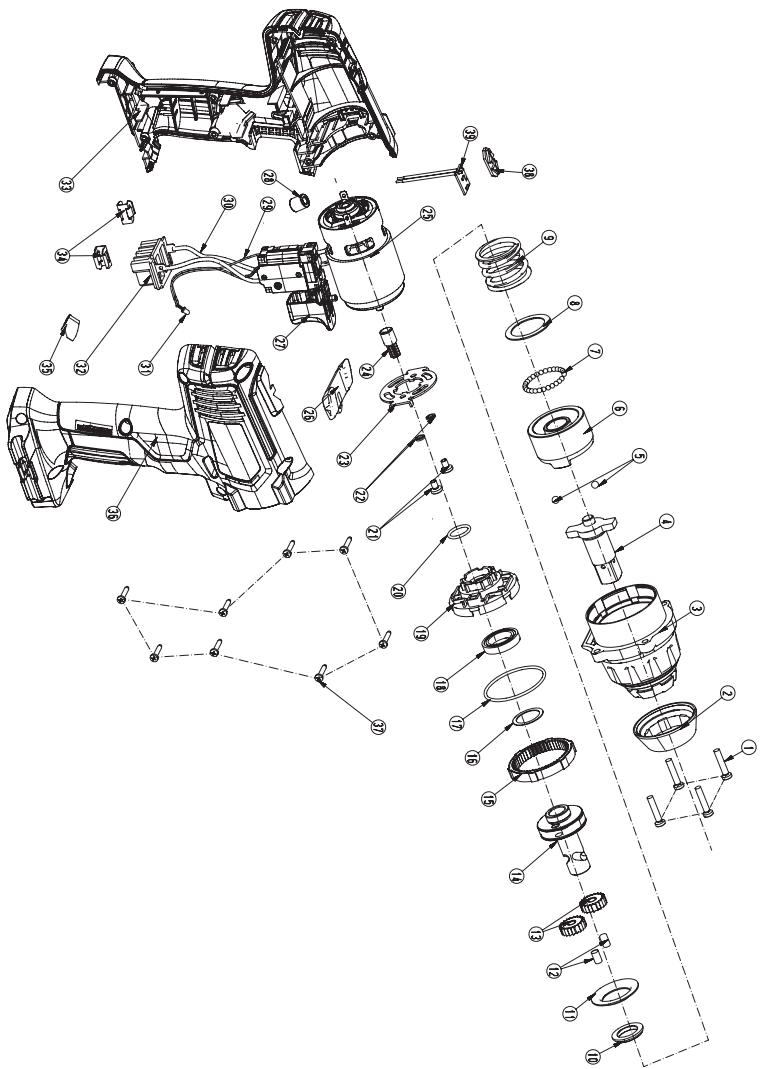
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
The cordless impact wrench does not work.	The battery is depleted.	Charge the battery.
The motor is overheating.	Be sure cooling vents are free from dust and obstacles.	Clean, clear vents. Do not cover with hand during operation.

**If the problem remains unsolved after performing the checks described above, call the toll-free helpline at 1-800-689-9928.**

# PARTS LIST

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## Exploded view



## Parts List

No.	Part No.	Description	No.	Part No.	Description
1	5610106000	Tapping Screw	21	5620037000	Screw
2	3126543000	Cover	22	5650007000	Spring Washer
3	3421381000	Front Gear Housing	23	3703951000	Bracket
4	2823347000	Spindle	24	3520658000	Pinion
5	5700226000	Steel Ball	25	2730195000	DC Motor
6	3551809000	Impact Block	26	3126501000	F/R Button
7	5700178000	Steel Ball	27	4870452000	Trigger Switch
8	5650430000	Washer	28	3680140000	Magnet Ring
9	3660528000	Compression Spring	29	4860007000	Inner Wire
10	5690274000	Rubber Ring	30	4860003000	Inner Wire
11	5650163000	Spring Washer	31	4360225000	LED
12	5670319000	Torque Pin	32	3402385000	Contact Receptacle Assembly
13	3520657000	Planet Gear	33	3321620000	Left Housing Assembly
14	3551808000	Spindle	34	3703673000	Bits Holder
15	3520656000	Ring Gear	35	3126500000	LED Cover
16	5650429000	Washer	36	3321616000	Right Housing Assembly
17	5690142000	O Ring	37	5610013000	Tapping Screw
18	5700179000	Bearing	38	3126503000	Lens
19	3126562000	Rear Gear Housing	39	4890709000	PCB Assembly
20	5690007000	O Ring			

If the problem remains unsolved after performing the checks described above, call the toll-free helpline at 1-800-689-9928.

# PARTS LIST

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Mastercraft

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Mastercraft

20V max\* LITHIUM-ION COMPACT CORDLESS IMPACT WRENCH - 054-3121-6



This Mastercraft product is guaranteed **three (3) years from the date of original retail purchase** against defects in materials and workmanship, except for the following components:

- a) Component A: Batteries, chargers and carrying case, which are guaranteed for a period of 2 years from the date of original retail purchase against defects in workmanship and materials;
- b) Component B: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with proof of purchase within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

### These warranties are subject to the following conditions and limitations:

- a) a bill of sale verifying the purchase and purchase date must be provided;
- b) this warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect or lack of proper installation, operation or maintenance (as outlined in the applicable owner's manual or operating instructions) or which is being used for industrial, professional, commercial or rental purposes;
- c) this warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use;
- d) this warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups or adjustments;
- e) this warranty will not apply where damage is caused by repairs made or attempted by others (i.e. persons not authorized by the manufacturer);

- f) this warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing);
- g) this warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons;
- h) this warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat, abrasive and chemical cleaners; and
- i) this warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

### Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential or exemplary damages arising in connection with the sale, use or inability to use this product.

### Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

**IMPORTED BY MASTERCRAFT CANADA TORONTO, CANADA M4S 2B8**

