

MASTERCRAFT™/MC

1/2" (13 MM) IMPACT WRENCH 054-7562-2



IMPORTANT:

Read and understand this instruction manual thoroughly before using the product.

INSTRUCTION MANUAL

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NOTE:

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



SAVE THESE INSTRUCTIONS

- This manual contains important safety and operating instructions. Read all instructions and follow them with use of this product.

TECHNICAL SPECIFICATIONS

Rated Voltage	20V d.c.
No-Load Speed	0–2500 RPM
Impact Rate	0–3200 BPM
Torque	150 ft-lb
Output Driver	1/2" (13 mm) Square
Tool Weight (without battery)	2 lb 10 oz (1.19 kg)

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

SAFETY GUIDELINES:



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. 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, 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 adaptor 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 energising power tools that have the switch on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits, etc., in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

BATTERY TOOL USE AND CARE

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.

- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130°C (265°F) may cause explosion.
- **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

SERVICE

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

IMPACT WRENCH SAFETY WARNINGS

SAFETY INSTRUCTIONS FOR ALL OPERATIONS

- **Hold the power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring or its own cord.** Fasteners contacting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.

ADDITIONAL SAFETY GUIDELINES FOR CORDLESS IMPACT WRENCH

- **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

— or d.c..... Direct current

n_0 No-load speed



..... Class II Construction

.../min Revolutions or reciprocation per minute



..... Grounding terminal

BPM Beats per minute

RPM Revolutions per minute



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



..... WARNING – To reduce the risk of injury always wear eye protection.



..... WARNING – To reduce the risk of injury always wear ear protection.

- **Secure the workpiece.** A workpiece clamped with clamping devices or in a vice is held more securely than it is by hand.
- **Always wait until the power tool has come to a complete stop before placing it down.** The tool insert can jam and lead to loss of control over the power tool.
- **Check the socket carefully for wear, cracks or damage before installation on the impact wrench.**
- **Always be sure that you have a firm footing.** Be sure that no one is below you when using the tool in high locations.
- **Check the torque with a torque wrench.** The proper fastening torque may differ depending on the type of size of the bolt.
- **Use thick, cushioned gloves and limit the exposure time by taking frequent rest periods.** Vibration caused by impact wrench action may be harmful to your hands and arms.
- **Do not use this tool as a drill.** Tools equipped with shut-off clutches are not designed for drilling applications. The output drive can shut off automatically and without warning.
- **Be careful when driving long screws.** There is a risk of the tool sliding off the fastener head, depending on type of socket or bit used. First test the fastening time of a fastener and pay attention during the screw-driving process to ensure you do not injure yourself if the tool bit or socket slides off of the fastener.
- **Bits, sockets, and tools get hot during operation. Wear gloves when touching them.**
- **Wear ear protection. Exposure to noise can cause hearing loss.**
- **To reduce the risk of electric shock or damage to the charger and battery, use only the Mastercraft® batteries and chargers listed.**

BATTERY PACK

054-3124-0, 054-7553-4, 054-7557-6, 054-2434-8

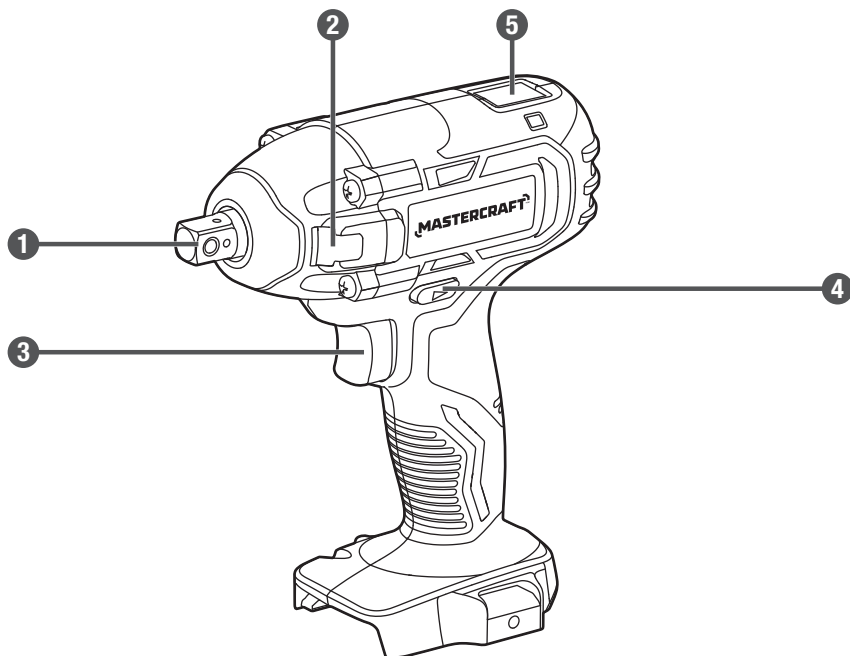
CHARGER

054-3126-6, 054-7559-2

- **For best results, your battery tool should be stored and used in a location where the temperature is more than 5°C (41°F) but less than 40°C (104°F).** Do not store outside or in vehicles.

PACKAGE CONTENTS:

Cordless impact wrench, belt clip and instruction manual.

KEY PARTS DIAGRAM

No.	Description
1	1/2" (13 mm) square drive
2	LED worklight
3	Variable-speed trigger switch

No.	Description
4	Direction-of-rotation selector
5	Magnet

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.

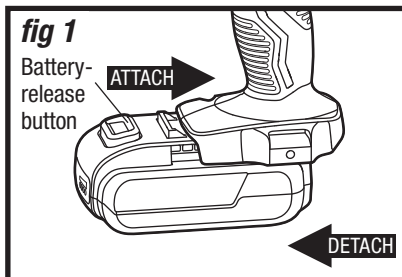
**WARNING!**

- 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.
- 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.

OPERATING INSTRUCTIONS

TO ATTACH BATTERY PACK (fig 1)

1. Lock the variable-speed trigger switch on the impact wrench by placing the direction-of-rotation selector (forward/centre-lock/reverse) in the centre position.
2. Align the raised rib on the battery pack with the grooves on the impact wrench, and then attach the battery pack to the impact wrench.
3. Make sure that the latch on the battery pack snaps into place and that the battery pack is attached securely to the tool before beginning operation.



TO DETACH THE BATTERY PACK (fig 1)

1. Lock the variable-speed trigger switch on the 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 the battery pack out and remove it from the tool.

NOTICE: 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.

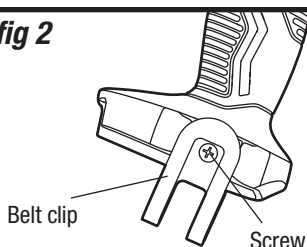


WARNING!

- To avoid the possibility of accidental starting, always take care not to activate the variable-speed trigger switch when you are attaching the battery pack or performing other adjustments to the tool.

INSTALL THE BELT CLIP (fig 2)

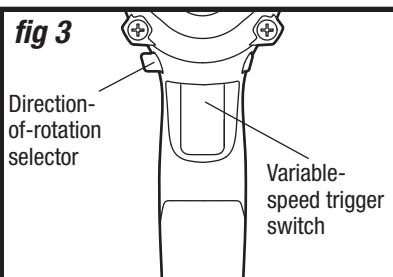
1. Remove the battery from the tool.
2. Align the rib of the clip with the hole on the base of the cordless impact wrench.
3. Insert the screw (included) and tighten the screw securely with a screwdriver (not included). The belt clip can be positioned on either side of the tool.

fig 2**REMOVE THE BELT CLIP (fig 2)**

1. Remove the battery from the tool.
2. Use a screwdriver (not included) to loosen the screw that attaches the belt clip to the cordless impact wrench.
3. Remove the screw and the belt clip.

TRIGGER SWITCH (fig 3)

1. To turn the impact wrench ON, depress the variable-speed trigger switch.
2. To turn it OFF, release the variable-speed trigger switch.

fig 3**VARIABLE SPEED (fig 3)**

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

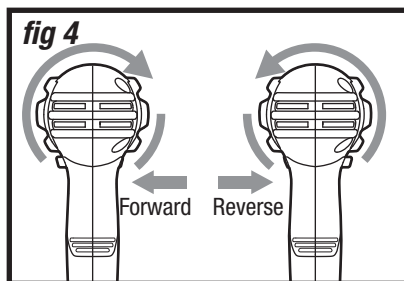
DIRECTION-OF-ROTATION SELECTOR (fig 4)

The direction of rotation of the output shaft is reversible and is controlled by a selector located above the variable-speed trigger switch. With the impact wrench held in the normal operating position:

Position the direction-of-rotation selector to the left of the tool for forward rotation.

Position the direction-of-rotation selector to the right of the tool for reverse rotation.

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

fig 4**NOTE:**

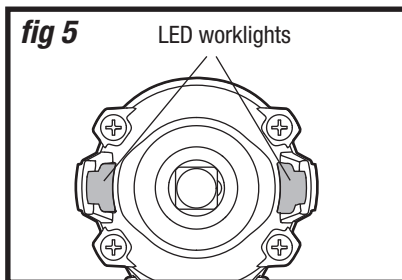
- To prevent gear damage, always allow the impact wrench to come to a complete stop before changing the direction of rotation.
- The impact wrench will not run unless the direction-of-rotation selector is engaged fully to the left or right.

ELECTRIC BRAKE

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

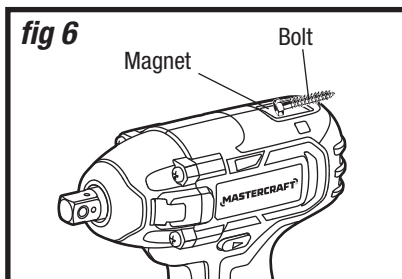
LED WORKLIGHTS (fig 5)

The LED worklights, located on both sides of the cordless impact wrench, will illuminate when the variable-speed trigger switch is depressed and will automatically turn off a short while after the variable-speed trigger switch is released. This provides additional light on the surface of the workpiece for operation in lower light situations.



MAGNET STORAGE ON TOP (fig 6)

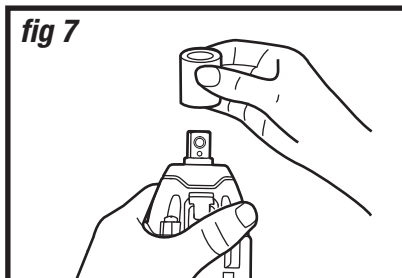
The magnet on the top of the impact wrench allows for convenient short-term storage of bolts.



INSTALLING AND REMOVING THE SOCKET (fig 7)

Always use the correct size socket for bolts and nuts. An incorrect socket will result in inaccurate and inconsistent fastening torque and/or damage to the bolt or nut.

1. Lock the variable-speed trigger switch by placing the direction-of-rotation selector in the OFF (centre) position.
2. To install the socket, push it onto the output drive of the tool until it locks into place.
3. To remove the socket, simply pull it off.



NOTICE: When the tool is overheating, the LED worklights will quickly flash to alert you to turn off the tool to allow it to cool.

INSTALLING FASTENERS

To fasten

1. Start threading the fastener by hand onto or into its threaded counterpart (e.g., nut onto bolt, or bolt into nut or threaded hole).
2. With the proper impact socket securely mounted to the wrench, slide the impact socket onto the nut or bolt head.
3. Place the direction-of-rotation selector in the FORWARD position, firmly hold the tool, and depress the variable-speed trigger switch. The impact socket will turn the fastener and impacting will begin when the fastener encounters resistance.

To loosen

1. With the proper impact socket securely mounted to the wrench, slide the impact socket onto the bolt head.
2. Place the direction-of-rotation selector in the REVERSE position, firmly hold the tool, and depress the variable-speed trigger switch. The tool will start to impact immediately.
3. 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 its threaded counterpart, as it may be thrown out of the socket.

NOTE: Always keep the impact wrench at a right angle to the fastener to avoid damaging the fastener head.



WARNING!

- Do not over-tighten, as the force of the impact wrench can break the fastener.
- When loosening a fastener, careful that you do not allow the fastener to spin freely once it is no longer engaged with its threaded counterpart, as it may be thrown out of the socket.

IMPACTING TIPS

The proper fastening torque may differ depending on the type or size of the bolt, the material of the workpiece to be fastened, etc.

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.

Hold the tool firmly, and place the socket over the bolt or nut. Turn the tool on, and fasten the bolt or nut to the proper torque.

The torque that is required to loosen a fastener averages 75% to 80% of the tightening torque, depending on the condition of the contacting surfaces. However, if rust or corrosion causes seizing, more torque may be required.

After fastening, always check the torque with a torque wrench. The fastening torque is affected by a wide variety of factors, including the following:

- **Voltage:** A voltage reduction will cause a reduction in the fastening torque.
- **Socket:** Failure to use the correct size of socket will cause a reduction in the fastening torque. A worn socket (wear on the hex end or square end) will cause a reduction in the fastening torque.
- **Bolt:** Although the torque coefficient and the class of bolt may be the same, the proper fastening torque will differ according to the diameter of the bolt. Even if the diameters of bolts are the same, the proper fastening torque will differ according to the torque coefficient, the class of bolt and the bolt length.
- The use of a universal joint or an extension bar (both available separately) will reduce the fastening force of the impact wrench somewhat. Compensate by fastening for a longer period of time.
- The manner of holding the tool or the material to be fastened will affect the torque.

NOTICE:

- Hold the tool straight along the axis of the bolt or nut.
- Excessive fastening torque may damage the bolt/nut or socket. Before starting your job, always perform a test operation to determine the proper fastening time for your bolt or nut.

MAINTENANCE

BEFORE EACH USE

1. Inspect the impact wrench, the variable-speed trigger switch, the battery pack and the accessories for damage.
2. Check for damaged, missing, or worn parts.
3. Check for loose screws, misalignment or binding of moving parts, or any other condition that may affect the operation.
4. If abnormal vibration or noise occurs, turn the tool off immediately and have the problem corrected before further use. Remove the battery pack from the tool before cleaning or performing any maintenance. Using compressed air may be the most effective cleaning method. Always wear safety goggles when cleaning tools using compressed air.



WARNING!

- Do not allow 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.
- When servicing, use only identical replacement parts. The use of any other parts may create a hazard or cause damage to the product.
- Use only accessories that are recommended for this impact wrench by the manufacturer. Accessories that may be suitable for one tool may become hazardous when used with another tool.
- To ensure safety and reliability, all repairs should be performed by a qualified service technician.

TROUBLESHOOTING

Problem	Possible Causes	Solution
The impact wrench does not work.	The battery is depleted.	Charge the battery.
Socket cannot be installed.	Improper socket selection.	Use a suitable socket.
The motor is overheating.	Be sure the cooling vents are free of dust and obstacles.	Clean and 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.

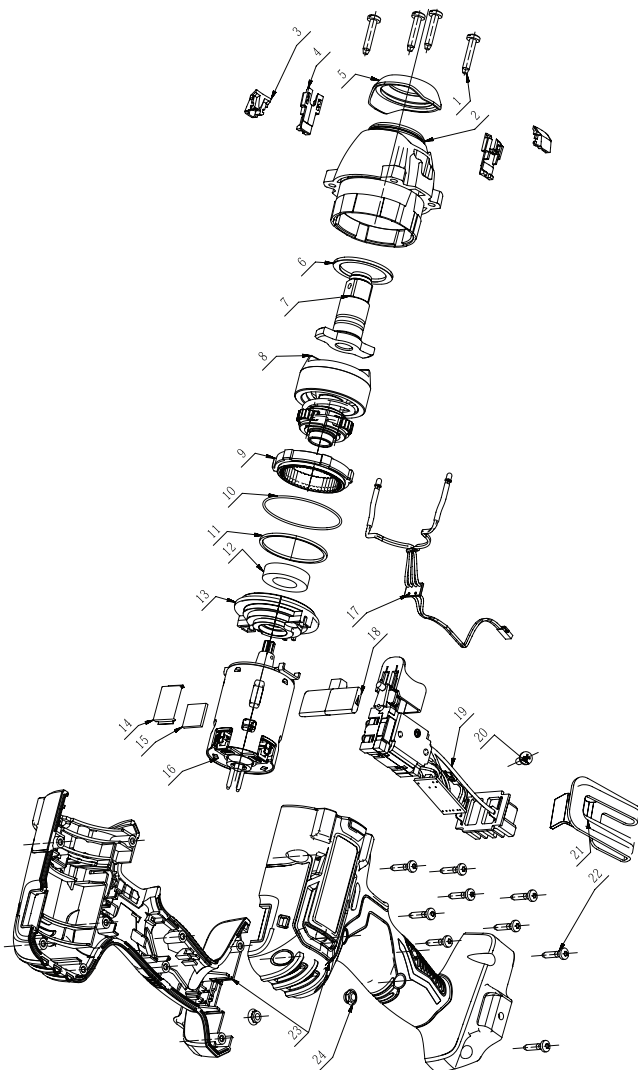


WARNING!

- Turn the variable-speed trigger switch to the "OFF" (centre) position and remove the battery from the power tool before performing any troubleshooting procedures.

EXPLODED VIEW

PARTS LIST



No.	Part No.	Description
1	5610284000	Tapping Screw
2	2826101000	Front Gear Housing Assembly
3	3129803000	LED Cover
4	3129912000	Support
5	3129850000	Decorative Cover
6	5650501000	Washer
7	2824545000	Output Shaft
8	2825806000	Impact Block Assembly
9	3520984000	Ring Gear
10	5690357000	O Ring
11	5690271000	Rubber Ring
12	5700181000	Bearing

No.	Part No.	Description
13	3129802000	Rear Cover
14	3706708000	Cover
15	3680212000	Magnetic Shoe
16	2790464000	Motor and Gear Assembly
17	2830368000	Electric Assembly
18	3127732000	F/R Button
19	2830417000	Electric Assembly
20	5620040000	Screw
21	3705301000	Hook
22	5610225000	Hexagon Lobular Screw
23	3900044000	L R Housing Set
24	5630231000	Nut

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

This Mastercraft product is guaranteed for a period of **3 years from the date of original retail purchase** against defects in workmanship and materials, 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 that 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.

Made in China

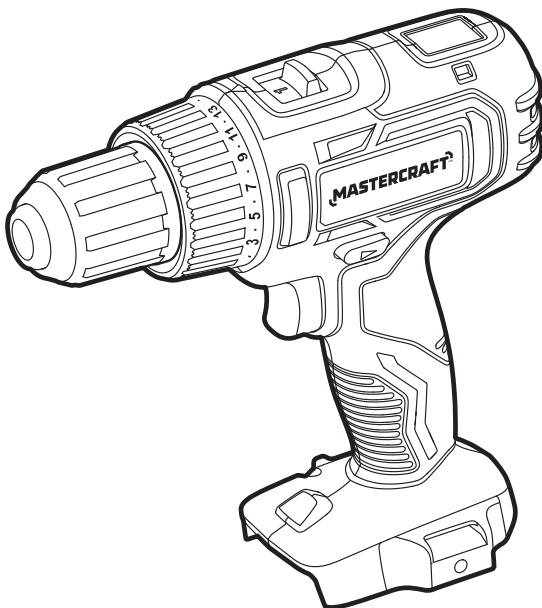
Imported by

Mastercraft Canada Toronto, Canada M4S 2B8

MASTERCRAFT™/MC

1/2" (13 MM) DRILL/DRIVER

054-7520-2



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TECHNICAL SPECIFICATIONS

Rated Voltage	20 V d.c.
Chuck Capacity	1/2" (13 mm)
No-load Speed	0-400 RPM / 0-1700 RPM
Max. Torque	420 in-lb
Clutch	24, including drill mode
Cordless Drill/Driver Weight (without battery)	2 lb 13 oz (1.27 kg)

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

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ELECTRICAL SAFETY

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adaptor 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 energising power tools that have the switch on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits, etc., in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

BATTERY TOOL USE AND CARE

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130°C (265°F) may cause explosion.

- **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

SERVICE

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

DRILL SAFETY WARNINGS

SAFETY INSTRUCTIONS FOR ALL OPERATIONS

- **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory or fasteners may contact hidden wiring or its own cord.** 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.

ADDITIONAL SAFETY GUIDELINES FOR CORDLESS DRILL/DRIVER

- **When working with the power tool, always hold it firmly with both hands and provide for a secure stance.** The power tool is guided more securely with both hands.
- **Secure the workpiece.** Clamping devices or a vise will hold the workpiece in place more effectively than your hand can.
- **Do not allow gasoline, oils, petroleum-based products, etc., to come in contact with plastic parts.** These materials contain chemicals that can damage, weaken, or destroy plastic.
- **Always wait until the machine has come to a complete stop before placing it down.** The tool insert can jam and lead to loss of control over the power tool.
- **Before performing any kind of work on the machine (e.g., maintenance, tool change, etc.), or when transporting and storing the tool, always set the direction-of-rotation switch to the centre (locked) position.** Unintentional activation of the On/Off switch may result in personal injury.

- **Wear ear protectors when using the drill/driver.** Exposure to noise can cause hearing loss.
- **Use protective gloves when removing the bit from the tool, or first allow the bit to cool down.** The bit may be hot after prolonged use.
- **Use protective gloves when operating the tool.** Protective gloves can help to keep you from being burnt or injured.
- **Keep your hands away from the motor-housing vents.** Hot gas comes from the vents during operation.
- **Release the trigger immediately when a screw is tightened to avoid breaking the screw.**
- **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

— or d.c. Direct current

n₀ No-load speed



..... Class II Construction

.../min Revolutions or reciprocation per minute



..... Grounding terminal

BPM Beats per minute

RPM Revolutions per minute



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



..... WARNING – To reduce the risk of injury always wear eye protection.



..... WARNING – To reduce the risk of injury always wear ear protection.

- **Protect the battery from heat and fire.** There is a risk of explosion.
- **Do not open the battery.** There is a risk of a short circuit.
- **Keep the cord and charger from heat to prevent damage to the housing or internal parts.**

**WARNING!**

To reduce the risk of electric shock or damage to the charger and battery, use only the Mastercraft® batteries and chargers listed.

BATTERY PACK

054-3124-0

054-7553-4

054-7557-6

054-2434-8

CHARGER

054-3126-6

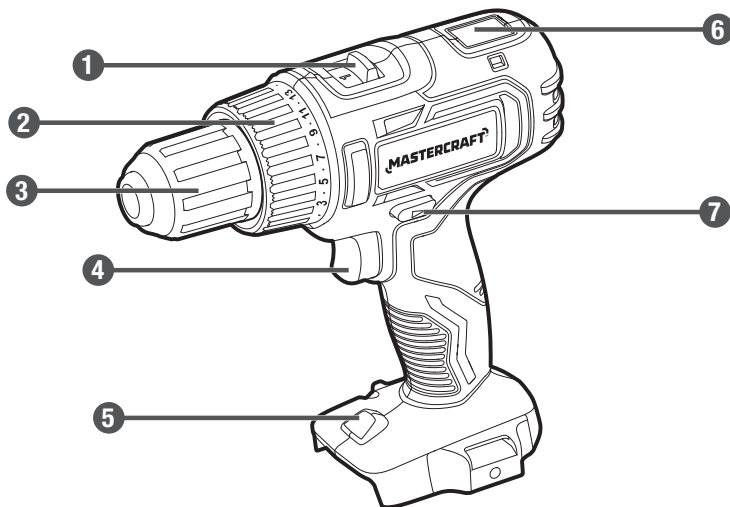
054-7559-2

- **For best results, your battery tool should be stored and used in a location where the temperature is more than 5°C (41°F) but less than 40°C (104°F).** Do not store outside or in vehicles.

PACKAGE CONTENTS:

Cordless drill/driver, 2 screwdriver bits, 1 belt clip, 1 bit holder, and instruction manual

KEY PARTS DIAGRAM



No.	Description
1	Two-speed gearbox switch
2	Torque-adjustment ring
3	Keyless chuck
4	Trigger switch

No.	Description
5	LED worklight
6	Magnet
7	Direction-of-rotation selector

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.



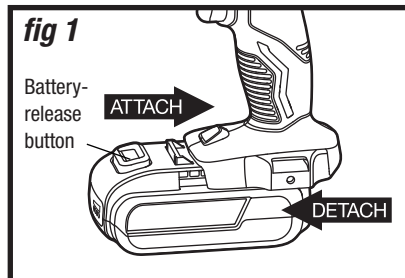
WARNING!

- Remove the cordless drill/driver from the package, and examine it carefully. Do not discard the carton or any packaging material until all parts have been examined.
- If any part of the cordless drill/driver 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.
- Do not allow familiarity with the cordless drill/driver to cause a lack of alertness. A fraction of a second of carelessness is enough to cause severe injury.

OPERATING INSTRUCTIONS

TO ATTACH BATTERY PACK (fig 1)

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



TO DETACH BATTERY PACK (fig 1)

1. Lock the trigger switch on the drill/driver 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 drill/driver.

NOTICE: 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 drill/driver and the latches snap into place properly. Improper assembly of the battery pack can cause damage to internal components.



WARNING!

- Carefully read the Instruction Manuals for your Mastercraft® Rechargeable Battery (054-3124-0, 054-7553-4, 054-2434-8, 054-7557-6) and Mastercraft® Battery Charger (054-3126-6, 054-7559-2) for safety and operation instructions.

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.
- 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.

TURN THE TOOL ON/OFF (fig 2)

To turn the drill/driver ON, depress the variable-speed trigger switch. To turn it OFF, release the variable-speed 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.

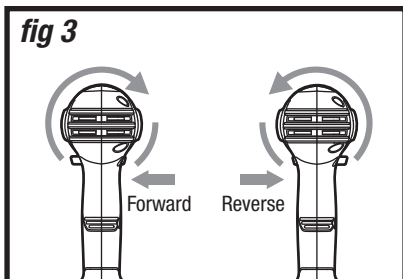
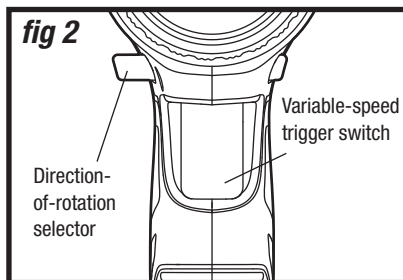
DIRECTION-OF-ROTATION SELECTOR (FORWARD/CENTRE-LOCK/REVERSE) (fig 2, 3)

The direction of rotation of the bit is reversible and is controlled with a selector located above the trigger switch. With the drill/driver held in normal operating position:

Position the direction-of-rotation selector to the left of the tool for forward rotation.

Position the direction-of-rotation selector to the right of the tool for reverse rotation.

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

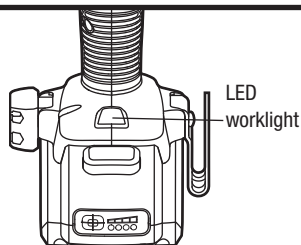


NOTE:

- To prevent gear damage, always allow the drill/driver to come to a complete stop before changing the direction of rotation.
- The drill/driver will not run unless the direction-of-rotation selector is engaged fully to the left or right.

LED WORKLIGHT (fig 4)

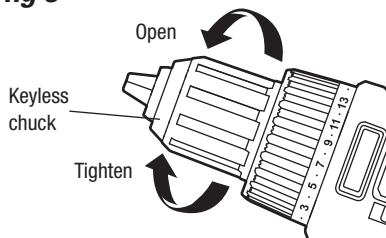
The LED worklight, located on the base of the cordless drill/driver, will illuminate when the trigger switch is depressed, and will automatically turn off a while after the trigger switch is released. This provides additional light on the surface of the workpiece for operation in lower light situations.

fig 4**ELECTRIC BRAKE**

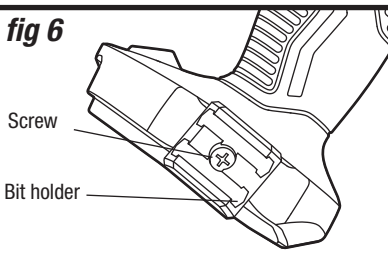
To stop the tool, release the trigger switch and allow the chuck to come to a complete stop. The electric brake quickly stops rotation. This feature engages automatically when you release the trigger switch.

KEYLESS CHUCK (fig 5)

The arrows on the chuck indicate the direction of rotation of the body of the chuck to: tighten or open the jaws of the chuck on the drill bit.

fig 5**INSTALL THE BIT HOLDER (fig 6)**

1. Remove the battery from the tool.
2. Align the rib of the bit holder with the hole on the base of the drill/driver.
3. Insert the screw (included) and tighten the screw securely with a screwdriver (not included). The bit holder can be positioned on either side of the tool.

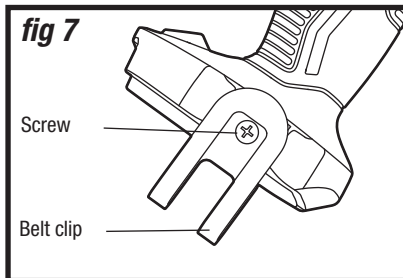
fig 6**REMOVE THE BIT HOLDER (fig 6)**

1. Remove the battery from the tool.
2. Use a screwdriver (not included) to loosen the screw that attaches the bit holder to the drill/driver.
3. Remove the screw and the bit holder.

NOTICE: The worklight is for lighting the immediate work surface and is not intended to be used as a flashlight.

INSTALL THE BELT CLIP (fig 7)

1. Remove the battery from the tool.
2. Align the rib of the clip with the hole on the base of the drill/driver.
3. Insert the screw (included) and tighten the screw securely with a screwdriver (not included). The belt clip can be positioned on either side of the tool.



REMOVE THE BELT CLIP (fig 7)

1. Remove the battery from the tool.
2. Use a screwdriver (not included) to loosen the screw that attaches the belt clip to the drill/driver.
3. Remove the screw and the belt clip.

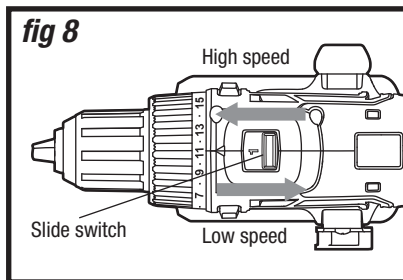
TWO-SPEED GEAR BOX (fig 8)

This drill/driver features a two-speed gearbox that is designed for drilling or driving at speed "1" (low speed range) or at speed "2" (high speed range). A slide switch is located on the top of the cordless drill/driver to select either low or high speed.

When using the cordless drill/driver in the low speed range, the cordless drill/driver will have more power and torque.

When using the cordless drill/driver in the high speed range, the cordless drill/driver will have less power and torque.

Use low speed for high power and torque applications, and use high speed for fast drilling applications.

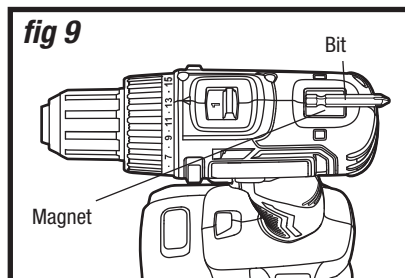


CAUTION!

- Do not change between low speed and high speed while the tool is running. Failure to obey this caution could result in serious damage to the cordless drill/driver.

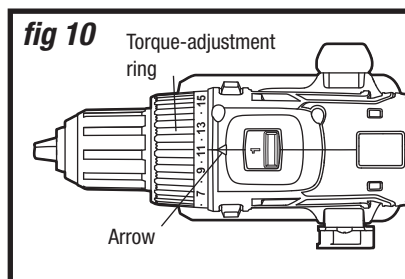
MAGNET STORAGE ON TOP (fig 9)

The magnet on the top of the drill/driver allows for convenient placement of screws and bits.

**ADJUSTABLE TORQUE CLUTCH (fig 10)**

The torque clutch can be adjusted to any of 24 different settings (23 driving and 1 drilling). The higher the torque setting, the more force the cordless drill/driver produces to turn an object in either low or high rotation speed.

When using the cordless drill/driver for driving applications, it is necessary to increase or decrease the torque to help prevent damage to screw heads, threads, and the workpiece. Adjust the torque by rotating the torque-adjustment ring. The proper setting depends on the job and the type of bit, fastener, and material you will be using.



In general, use greater torque for larger screws, but if the torque is too high, the screws may be damaged or broken. For delicate operations, such as removing a partially stripped screw, use a low torque setting.

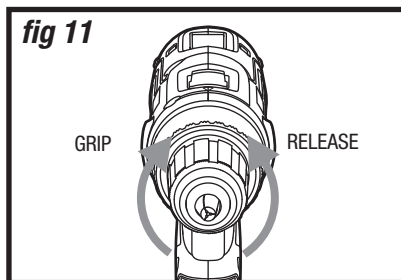
NOTICE:

- Do not change the torque setting when the tool is running.
- When adjusting the torque ring, make sure that the speed switch is either completely in the low or the high speed position.

INSTALLING A BIT (fig 11, 12)

1. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (centre) position.
2. Rotate the chuck in the "RELEASE" direction to open the jaws of the chuck.
3. Insert the drill bit. Be sure to insert the drill bit straight into the chuck jaws.
4. Rotate the chuck in the "GRIP" direction to tighten the jaws of the chuck securely on the bit.

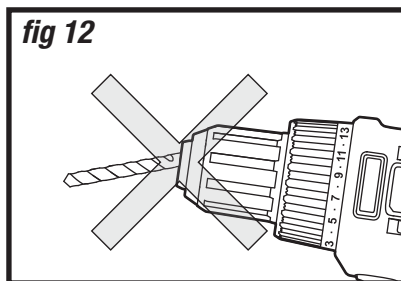
fig 11



REMOVING A BIT (fig 11)

1. Lock the trigger switch by placing the direction-of-rotation selector in the OFF (centre) position.
2. Open the jaws of the chuck (rotate in the "RELEASE" direction.)
3. Remove the drill bit.

fig 12

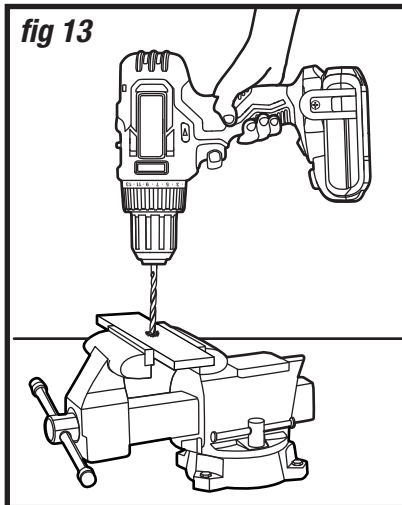


WARNING!

- Do not hold the body of the chuck with one hand while using the power of the drill/driver to tighten the jaws of the chuck on the drill bit. The body of the chuck could slip in your hand, or your hand could slip and come into contact with the rotating bit. This could cause an accident and result in serious personal injury.
- Be sure to insert the drill bit straight into the jaws of the chuck. Do not tighten the jaws of the chuck with the drill bit inserted at an angle, as shown in fig 12. Doing so could cause the drill bit to be thrown from the drill/driver, which could result in possibly serious personal injury or damage to the chuck.
- Use protective gloves when removing the bit from the tool, or first allow the bit to cool down. The bit may be hot after prolonged use.

GENERAL DRILLING (fig 13)

1. Check the direction-of-rotation selector for the correct setting (forward or reverse).
2. Use a vise or clamps to secure the material to be drilled to keep it from turning as the drill bit rotates.
3. Hold the cordless drill/driver firmly, and place the bit at the point to be drilled.
4. Depress the trigger switch to start the cordless drill/driver.
5. Move the drill bit into the workpiece, applying only enough pressure to keep the bit rotating.
6. Do not force the cordless drill/driver or apply sideways pressure to elongate a hole. Allow the tool to do the work.
7. When drilling hard, smooth surfaces, use a centre punch to mark the desired location of the hole. This will prevent the drill bit from slipping off-centre when the hole is started.
8. When drilling metal, use light oil on the drill bit to prevent it from overheating. The oil will prolong the life of the bit and will increase the drilling efficiency.
9. If the bit jams in the workpiece, or if the drill/driver stalls, stop the tool immediately. Reverse the direction of rotation and gently squeeze the trigger to remove the bit from the workpiece. Investigate and correct the cause of jamming before resuming work.

fig 13**WARNING!**

- Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If the operation is dusty, also wear a dust mask.
- Be prepared for binding when the bit breaks through the workpiece, because the drill/driver has a tendency to grab and kick opposite to the direction of rotation, which could cause a loss of control. If the operator is not prepared, this loss of control could result in serious injury.

DRILLING MODE OPERATION

FOR DRILLING IN WOOD, USE TWIST BITS, SPADE BITS, POWER AUGER BITS OR HOLE SAWS.

1. When drilling "through" holes, place a block of wood behind the workpiece to prevent ragged or splintered edges on the back side of the hole.
2. Select the desired speed range to match the planned operation.
3. Begin drilling at a very low speed to prevent the bit from slipping off of the starting point, and then increase the speed as the drill bit bites into the material.
4. If the drill/driver stalls, it is usually because it is being overloaded. Release the trigger switch immediately, remove the drill bit from the work, and determine the cause of stalling.
5. Keep the motor running when pulling the bit back out of the drilled hole. This will prevent jamming.

FOR DRILLING IN METAL, USE HIGH-SPEED, STEEL TWIST DRILL BITS.

1. Use light oil on the drill bit to keep it from overheating; the oil will prolong the life of the bit and increase the drilling action.
2. When drilling a large hole, first use a smaller bit to drill a small pilot hole to prevent the larger bit from slipping.
3. Select the desired speed to match the planned operation.
4. Begin drilling at a very low speed to prevent the bit from slipping off the starting point. Maintain a speed and pressure that allows cutting without overheating the bit.
5. If the drill stalls, it is usually because it is being overloaded. Release the trigger switch immediately, remove the drill bit from the work, and determine the cause of stalling.
6. Keep the motor running when pulling the bit back out of the drilled hole. This will prevent jamming.

SCREWDRIVER OPERATION

1. Select the desired speed/torque range to match the planned operation.
2. Attach the desired fastener accessory into the chuck.
3. Make a few practice runs in a scrap piece before working.

MAINTENANCE

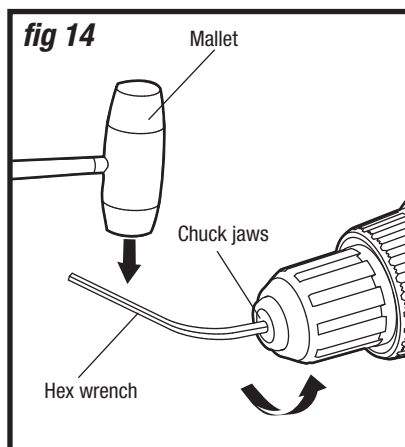
BEFORE EACH USE:

1. Inspect the cordless drill/driver, the trigger switch, and the cord for damage.
2. Check for damaged, missing, or worn parts.
3. Check for loose screws, misalignment or binding of moving parts, or any other condition that may affect the operation.
4. If abnormal vibration or noise occurs, turn the cordless drill/driver off immediately, and have the problem corrected before further use.

CHUCK REMOVAL (fig 14)

The chuck can be removed and replaced with a new one.

1. Remove the battery.
2. Lock the trigger switch by placing the direction- of- rotation selector in the centre position.
3. Open the chuck jaws. Using a screwdriver, remove the chuck screw by turning it clockwise.
4. Insert a 5/16" (8 mm) or larger hex key into the chuck of the drill/driver and tighten the chuck jaws securely.
5. Tap the hex key sharply with a mallet in a counter-clockwise direction. This will loosen the chuck for easy removal.
6. Attach a new chuck to the spindle and tighten the chuck screw.



WARNING!

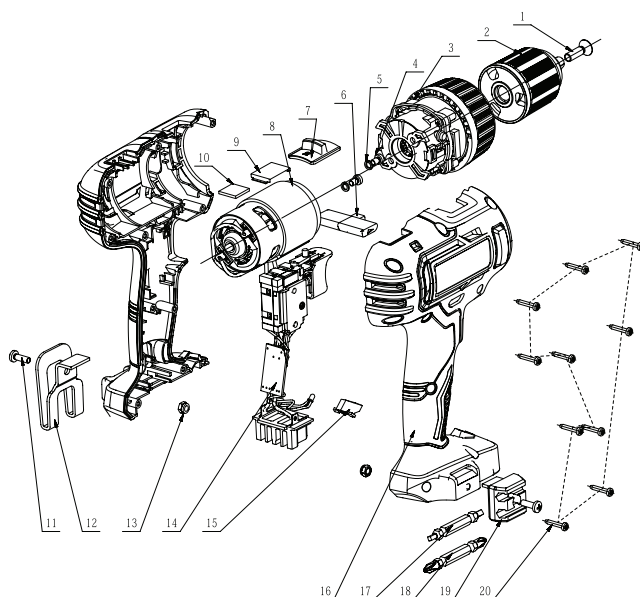
- To avoid personal injury, always remove the battery pack from the tool when cleaning or performing any maintenance.
- Do not let brake fluids, gasoline, petroleum-based products, penetrating oil, etc., come into contact with plastic parts. These substances contain chemicals that can damage, weaken, or destroy plastic.
- The tool may be cleaned most effectively with compressed dry air. Always wear safety goggles when cleaning tools with compressed air.
- When servicing, use only identical replacement parts. The use of any other parts may create a hazard or cause damage to the product.
- Use only accessories that are recommended for this drill/driver by the manufacturer. Accessories that may be suitable for one tool may become hazardous when used with another tool.
- To ensure safety and reliability, all repairs should be performed by a qualified service technician.

TROUBLESHOOTING

Problem	Possible Causes	Solution
The cordless drill/driver does not work.	The battery is depleted.	Charge the battery.
The bit cannot be installed.	The chuck is not opened.	Open the chuck.
	The bit does not fit the chuck.	Use a suitable bit.
The motor is overheating.	Be sure cooling vents are free from dust and obstacles.	Clean and clear the vents. Do not cover with your hand during operation.

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

EXPLODED VIEW



PARTS LIST

No.	Part No.	Description
1	5620488000	Screw (L.H.)
2	3860144000	Chuck
3	2790452000	Gear Case Assembly
4	5620183000	Screw
5	5650007000	Spring Washer
6	3127732000	F/R Button
7	3129851000	Speed Change Button
8	2826207000	Motor and Gear Assembly
9	3706708000	Cover
10	3680212000	Magnetic Shoe

No.	Part No.	Description
11	5620040000	Screw
12	3705301000	Hook
13	5630231000	Nut
14	2830352000	Electric Assembly
15	3126500000	LED Cover
16	3900066000	L R Housing Set
17	3810405000	Screw Bits
18	3810461000	Screw Bit
19	3321321000	Bit Holder
20	5610241000	Screw

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

This Mastercraft product is guaranteed for a period of **3 years from the date of original retail purchase** against defects in workmanship and materials, 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 that 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.

Made in China

Imported by

Mastercraft Canada Toronto, Canada M4S 2B8