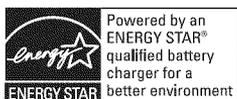
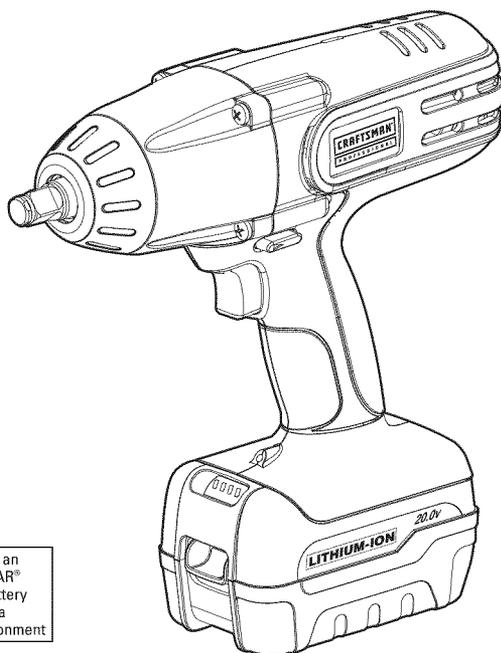


Operator's Manual



# 20.0-Volt Lithium-Ion Cordless 1/2-in. Impact Wrench

Model No. 320.66810



**⚠ WARNING:** To reduce the risk of injury, the user must read and understand this Operator's manual before using this product.

- Warranty
- Safety
- Assembly
- Operation
- Maintenance

**Charge battery before first use**

**Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.**

[www.craftsman.com](http://www.craftsman.com)

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### **ONE YEAR FULL WARRANTY ON CRAFTSMAN® PROFESSIONAL TOOL**

If this Craftsman professional tool fails to give complete satisfaction within one year from the date of purchase, return it to any Sears store or Parts & Repair Center or other Craftsman outlet in the United States for free repair (or replacement, if repair proves impossible).

This warranty does not include expendable parts such as lamps, batteries, bits, or blades.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Hoffman Estates IL 60179

## **INTRODUCTION**

### **SAVE THESE INSTRUCTIONS!**

This cordless Impact Wrench has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product, making it easy to maintain and operate.

**▲ WARNING:** Some dust created by using power tools contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

## SAFETY SYMBOLS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols and the explanations with them deserve your careful attention and understanding. The symbol warnings do not, by themselves, eliminate any danger. The instructions and warnings they give are no substitutes for proper accident-prevention measures.

**⚠ WARNING:** Be sure to read and understand all safety instructions in this manual, including all safety-alert symbols such as “DANGER,” “WARNING,” and “CAUTION,” before using this Impact Wrench. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

### SAFETY SYMBOL MEANNING

**⚠ DANGER:** Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

**⚠ WARNING:** Indicates a imminently hazardous situation, which, if not avoided, could result in death or serious injury.

**⚠ CAUTION:** Indicates an potentially hazardous situation, which, if not avoided, may result in death or serious injury.

**NOTE:** (Without Safety Alert Symbol) Indicates a situation that may result in property damage.

**⚠ WARNING:** To ensure safety and reliability, all repairs should be performed by a qualified service technician at a Sears Service Center.



**⚠ WARNING:** The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and a full-face shield when needed. We recommend a Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection that is marked to comply with ANSI Z87.1

### SAVE THESE INSTRUCTIONS

Some of these following symbols may be used on this tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

<b>SYMBOL</b>	<b>NAME</b>	<b>DESIGNATION/EXPLANATION</b>
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
	Alternating Current	Type of current
	Direct Current	Type or a characteristic of current
$n_0$	No Load Speed	Rotational speed, at no load
	Class II Construction	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits, etc., per minute
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read The Operator's Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear safety goggles or safety glasses with side shields and a full face shield when operating this product.
	Safety Alert	Precautions that involve your safety.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Hot Surface	To reduce the risk of injury or damage, avoid contact with any hot surface.

# SAFETY 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. The term “power tool” in all of the warnings listed below refers to corded power tools or battery-operated (cordless) power tools.

## 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 your 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

- 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.
- 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.
- 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 residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock.
- Use the battery only with the charger listed:

BATTERY PACK	CHARGER
320.25708	320.25709

## 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 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 jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.
- 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 leaves it unstable and may lead to loss of control.
- Do not use on a ladder or unstable support. Stable footing on a solid surface enables better control of the power tool in unexpected situations.
- Keep handles dry, clean, and free from oil and grease. Slippery hands cannot safely control the power tool.
- Always wear safety glasses with side shields. Everyday glasses may have impact-resistant lenses, but they are NOT safety glasses. Following this rule will reduce the risk of eye injury.
- Protect your lungs. Wear a face or dust mask if the operation is dusty. Following this rule will reduce the risk of serious personal injury.
- Protect your hearing. Wear hearing protection during extended periods of operation. Following this rule will reduce the risk of serious person injury.

## 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 designated.
- 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 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.
- Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
- Know your power tool. Read the product manual carefully. Learn the applications and limitations, as well as the specific, potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire or serious injury.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you lend this tool to someone else, also lend them these instructions.

## BATTERY TOOL USE AND CARE

- Make sure that the switch is in the OFF position before inserting the battery pack. Inserting the battery pack into power tools that have the switch ON invites accidents.
- 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 the 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.
- Battery tools do not have to be plugged into an electrical outlet; therefore, they are always in operating condition. Be aware of possible hazards when not using your battery tool or when changing accessories. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- Do not place battery tools or their batteries near fire or heat. This will reduce the risk of explosion and possible injury.
- Do not crush, drop or damage the battery pack. Do not use a battery pack or charger that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Batteries vent hydrogen gas and can explode in the presence of a source of ignition, such as a pilot light. To reduce the risk of serious personal injury, never use any cordless product in the presence of open flame. An exploded battery can propel debris and chemicals. If exposed to such debris or chemicals, immediately flush the exposed area with water.
- Do not charge a battery tool in a damp or wet location. Following this rule will reduce the risk of electric shock.
- Under extreme usage or temperature conditions, battery leakage may occur.
- If contact accidentally occurs, flush with water. If liquid contacts eyes, seek medical help. Liquid ejected from the battery may cause irritation or burns.
- If liquid from the battery comes in contact with your skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar.

- If liquid from the battery gets in your eyes, flush them with clean water for at least 10 minutes, and then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.

## **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.
- When servicing a power tool, use only identical replacement parts.
- Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of shock or injury.

## **SPECIFIC SAFETY RULES FOR CORDLESS IMPACT WRENCH**

- Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.
- Use clamps or other 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 supplying 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.
- 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 hammer-drill or 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 the forward/reverse switch is in the OFF position before inserting a 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 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 bit rotation when “seating” or removing a fastener, depending on the torque setting of the tool.

- 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 driver tools can slide off the fastener.
- 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 run-down 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.
- For best results, your battery tool should be charged in a location where the temperature is more than 32° F (0° C) but less than 104°F (40°C). Do not store outside or in vehicles.

## SAFETY RULES FOR CHARGER

**⚠ WARNING:** Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

- Before using the battery charger, read all instructions and cautionary markings in this manual and on the battery charger, the battery and the product using the battery to prevent misuse of the products and possible injury or damage.

**⚠ CAUTION:** To reduce the risk of electric shock or damage to the charger and battery, charge only those lithium-ion rechargeable batteries specifically designated on your charger's label. Other types of batteries may burst, causing personal injury or damage.

- Do not use the charger outdoors or expose it to wet or damp conditions. Water entering the charger will increase the risk of electric shock.
- Use of an attachment not recommended or sold by the battery-charger manufacturer may result in a risk of fire, electric shock or injury to persons.
- Do not abuse the cord or charger. Never use the cord to carry the charger. Do not pull the charger cord to disconnect the plug from the electrical receptacle. Damage to the cord or charger could occur and create an electric shock hazard. Replace damaged cords immediately.
- Make sure that the cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts, or otherwise be subjected to damage or stress. This will reduce the risk of accidental falls, which could cause injury and damage to the cord and could then result in electric shock.
- Keep the cord and charger from heat to prevent damage to housing or internal parts.

- 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.
- An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure that:

The pins on plug of extension cord are the same number, size and shape as those of the plug on charger.

The cord is properly wired and in good electrical condition

The size is large enough for AC ampere rating of charger as specified below:

The Cord Length (Feet)	25'	50'	100'
Cord Size (AWG)	16	16	16

**NOTE:** AWG = American Wire Gauge

- Do not operate the charger with a damaged cord or plug, which could cause shorting and electric shock. If damaged, have the charger repaired or replaced by an authorized service technician at Sears Service Center.
- Do not operate the charger if it has received a sharp blow, been dropped, or has otherwise been damaged in any way. Take it to an authorized service technician at Sears Service Center for an electrical check to determine if the charger is in good working order.
- Do not disassemble the charger. Take it to an authorized service technician at a Sears Service Center when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- Unplug the charger from the electrical outlet before attempting any maintenance or cleaning to reduce the risk of electric shock.
- Disconnect charger from the power supply when not in use. This will reduce the risk of electric shock or damage to the charger if metal items should fall into the opening. It will also help prevent damage to the charger during a power surge.
- Risk of electric shock. Do not touch the uninsulated portion of output connector or uninsulated battery terminal.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you lend this tool to someone else, also lend these instructions to them to prevent misuse of the product and possible injury.

## IMPORTANT SAFETY INSTRUCTIONS

- Save these instructions. This manual contains important safety and operating instructions for 20.0V Impact Wrench 320.66810.
- Before using battery charger, read all instructions and cautionary markings on battery charger, the battery and the product using battery, as well as the operator's manuals for these products.

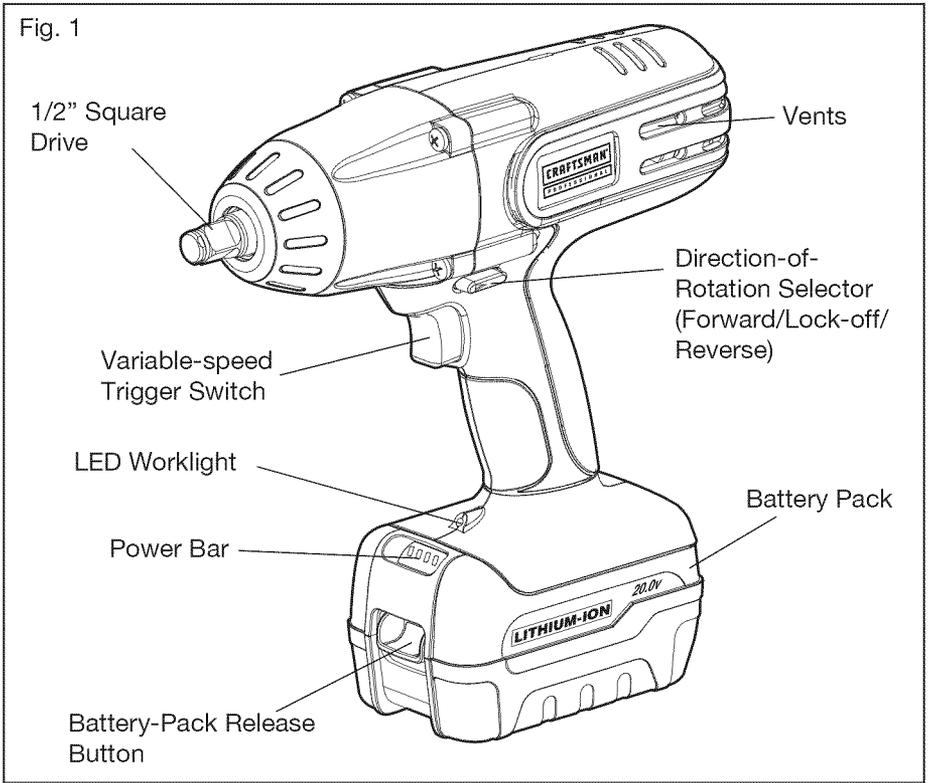
**⚠ CAUTION:** To reduce the risk of injury, charge only lithium-ion rechargeable batteries. Other types of batteries may burst, causing personal injury or damage.

**⚠ WARNING:** When using electric appliances, basic precautions should always be followed, including the following.

- a) To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- b) Only use attachments recommended or sold by manufacturer.
- c) Do not use outdoors.
- d) For a portable appliance – To reduce the risk of electrical shock, do not put the Impact Wrench and Battery Pack in water or other liquid. Do not place or store appliance where or can fall or be pulled into a tub or sink.

## DESCRIPTION

### KNOW YOUR IMPACT WRENCH (Fig.1)



### PRODUCT SPECIFICATION

Motor	20 Volt DC
Switch	VSR (Variable Speed Reversible)
No Load Speed	0-1900 RPM
Impacts per minute	0-2100 BPM
Torque	300 ft-lbs
Wrench Weight (with battery)	7.0 lbs
Battery Type	Lithium-Ion
Battery Voltage	20 Volt DC
Charger Input	120-Volts, 60 Hz AC only
Optimum Charging Temperature	32°F (0° C) -104°F (40°C)

**⚠ WARNING:** The safe use of this product requires an understanding of the information on the tool and in this operator's manual, as well as knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

### **VARIABLE SPEED**

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

### **FORWARD/LOCK-OFF/REVERSE**

The direction-of-rotation selector located above the trigger switch changes the direction of bit rotation. Setting the trigger switch in the OFF (center lock) position helps to reduce the possibility of accidental starting.

### **LED WORKLIGHT**

Pressing the trigger switch illuminates the LED worklight, located on the base of the Impact Wrench. This feature provides extra light for increased visibility.

## **ASSEMBLY**

**⚠ WARNING:** If any parts are broken or missing, do not attempt to plug in the power cord or operate the Impact Wrench until the broken or missing parts are replaced. Failure to do so could result in possible serious injury.

**⚠ WARNING:** Do not attempt to modify this Impact Wrench or create accessories not recommended for use with this tool. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury.

**⚠ WARNING:** To prevent accidental starting that could cause serious personal injury, always remove the battery pack from the Wrench when assembling parts.

### **UNPACKING**

This product has been shipped completely assembled.

- Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- If any parts are damaged or missing, please refer to the numbers listed on the back page of operator's manual.

### **PACKING LIST**

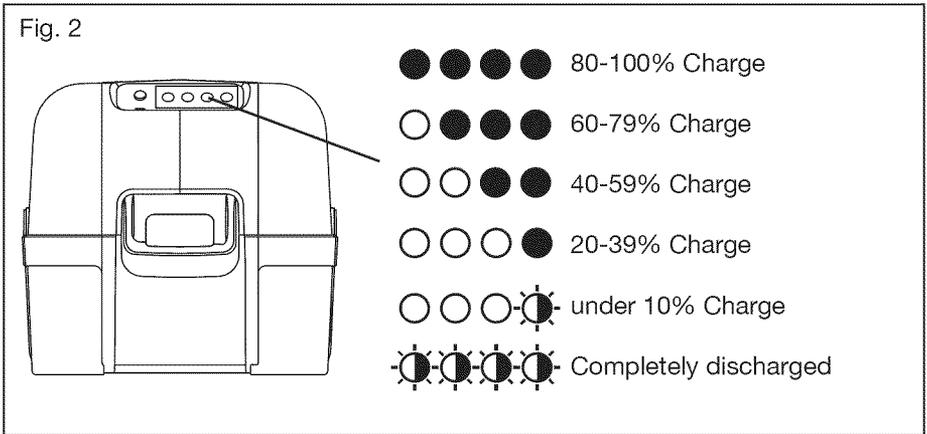
Impact Wrench, Operator's manual

## OPERATION

### POWER BAR

This Lithium-Ion battery pack is equipped with a POWER BAR, which is used to display the battery pack's remaining run time. Press the POWER BAR button to display the LED lights. The LED lights will remain lit for approximately 4 seconds.

**NOTE:** The POWER BAR can be used whether the battery is attached or removed from tool.



### LOW-BATTERY CAPACITY INDICATOR

- If one LED light on the POWER BAR begins to rapidly and continuously flash when the trigger switch on the wrench is depressed, the battery pack's power has run out, and the battery pack should be recharged.
- Unlike other battery pack types, Lithium-Ion battery packs deliver fade-free power for their entire run time. The tool will not experience a slow, gradual loss of power as you work. To signal that the battery pack is at the end of its run time and needs to be charged, the power to the tool will drop quickly. The POWER BAR will begin to display four flashing LED lights when the battery is completely discharged. When this happens, remove the tool from the workpiece, and charge the battery pack as needed.

**NOTE:** The POWER BAR may also display four flashing LED lights due to an overload or high temperature situation (see SmartChip™ Battery protection).

## SmartChip™ BATTERY PROTECTION

SmartChip™ intuitive circuitry protects the battery pack from extreme temperature, over-discharge and over-charge. To protect the battery from damage and prolong its life, the battery pack's SmartChip™ circuitry will turn off the battery pack if it becomes overloaded or if the temperature becomes too high during use. This may happen in extremely high torque, binding and stalling situations. This intelligent system will shutdown your battery pack if its operating temperature exceeds 176°F (80°C) and will begin normal operation when it returns to 32°F (0°C) - 122 °F (50°C).

- The POWER BAR will display four flashing LED lights if the SmartChip™ circuitry detects a momentary overload. You can conveniently reset the battery pack by pressing the POWER BAR button. Press the POWER BAR button again to display the remaining charge.

**NOTE:** The POWER BAR continues to flash four LED lights after reset, place the battery pack on the charger, charger to evaluate the battery condition (Fig.4)

**NOTE:** A significantly reduced run time after fully charging the battery pack indicates that the batteries are near the end of their usable life and must be replaced.

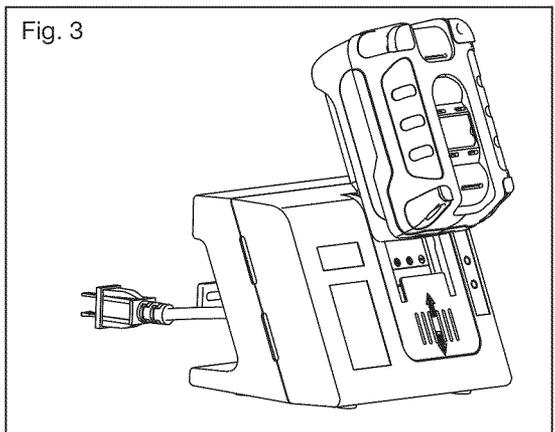
## COLD WEATHER OPERATION

This Lithium-Ion battery pack will provide optimal performance in temperatures between 32°F (0°C) and 104°F (40°C). When the battery pack is very cold, it may “pulse” for the first minute of use to warm itself. Put the battery pack on a tool and use the tool in a light application. After about a minute, the battery pack will have warmed itself and will operate normally.

## WHEN TO CHARGE THE BATTERY PACK

The Lithium-Ion battery can be charged at any time and will not develop a “memory” when charged after only a partial discharge. It is not necessary to run down the battery pack charge before recharging. Remove the battery pack from the tool when convenient for you and your job.

- Use the POWER BAR to determine when you need to recharge the battery pack.
- You can “top-off” your battery pack's charge before starting a big job or long period of use.



- Due to Lithium-Ion's fade-free properties, the only time it is necessary to charge the Lithium-Ion battery pack is when the pack has reached the end of its charge. To signal the end of charge, power to the tool will drop quickly. Charge the battery pack as needed.

## HOW TO CHARGE THE BATTERY PACK

**NOTE:** This Lithium-Ion battery pack is shipped partially charged. Before using it the first time, fully charge the battery pack.

A fully discharged battery pack will charge in about 50 minutes in a surrounding temperature between 32° F (0° C) and 104° F (40° C).

1. Charge the Lithium-Ion battery pack with the correct charger.
2. Connect the charger to a power supply.
3. Align the raised ribs of the battery pack with the slot in the charger.
4. Slide the battery pack onto the charger (Fig. 3).
5. The charger will communicate with the battery pack to evaluate the condition of the battery pack.
6. The POWER BAR LED lights will cycle from right to left during charging. This is part of the normal charging operation.
7. After charging is complete, the green LED on the charger will come on and the POWER BAR LED lights will go displayed when the POWER BAR button is pressed while the battery pack is on the charger.
8. The battery pack will fully charge if left on the charger, but it will not overcharge.

**NOTE:** For your convenience, the charger can operate with most generators and inverters rated at 300 watts or higher.

## LED FUNCTIONS OF CHARGER (Fig. 4)

LED INDICATOR	BATTERY PACK	RED LED	GREEN LED	ACTION
 <b>HI/LO TEMP.</b> (SEE MANUAL) 	Hot/Cold battery	On	Off	Charging will begin when battery returns to 32°F (0°C)-104°F (40°C)
 <b>DEFECTIVE BATTERY</b> 	Defective	Flashing	Off	Battery pack or Charger/Adapter is defective
 <b>BATTERY CHARGING</b> 	Charging	Off	Flashing	Charging
 <b>BATTERY FULL</b> 	Fully charged	Off	On	Charging is complete Maintenance charging

## **CHARGING A HOT BATTERY PACK**

If the battery pack is above normal temperature range, the red LED will illuminate and the green LED will be off. When the battery pack cools down to approximately 104°F (40°C), the charger will automatically begin charging.

## **CHARGING A COLD BATTERY PACK**

If the battery pack is below the normal temperature range, the red LED will illuminate and the green LED will be off. When the battery warms to a temperature of more than 32°F (0°C), the charger will automatically begin charging.

## **DEFECTIVE BATTERY**

If the charger detects a problem, the red LED will begin flashing and the green LED will be off.

1. If registering as defective, remove and reinsert the battery pack in the charger. If the LED status reads “defective” a second time, try charging a different battery pack.
2. If a different battery pack charges normally, dispose of the defective battery pack (see Maintenance section).
3. If a different battery pack also indicates “defective,” the charger may be defective.

## **BATTERY CHARGING**

If the battery pack is within normal temperature range, the green LED will begin flashing and the red LED will be off. The battery pack will reach a full charge in 50 minutes. The POWER BAR LED lights will cycle right to left during charging. This is part of the normal charging operation. The POWER BAR LED lights will not be displayed when the POWER BAR button is pressed while the battery pack is on the charger.

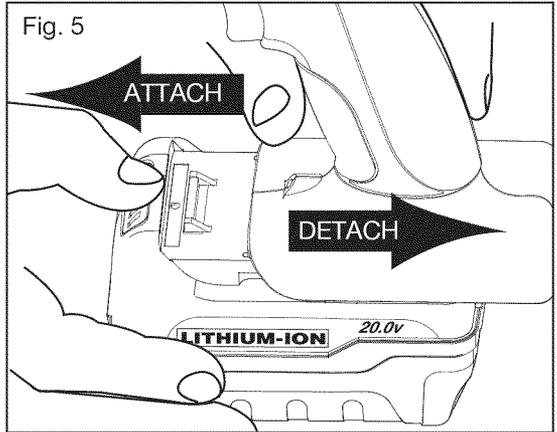
## **BATTERY FULL**

If the battery pack is within normal temperature range, the green LED will be lit and the red LED will be off. The battery pack is fully charged and ready to use. The battery pack will fully charge, but will not overcharge, if left on the charger. The POWER BAR LED lights will not be displayed when the POWER BAR button is pressed while the battery pack is on the charger.

**NOTE:** Charger may warm with several continuous charge cycles. This is part of the normal operation of the charge. Charge in a well ventilated area.

## TO ATTACH BATTERY PACK (Fig. 5)

1. Lock the trigger switch on the Impact Wrench by placing the direction of rotation (forward/reverse/center lock) selector in the center position.
2. Align the raised rib on the battery pack with the grooves on the bottom of the Wrench, and then attach the battery pack to the Wrench.



**NOTE:** Make sure that the latch on the battery pack snaps into place and the battery pack is secured to the tool before beginning operation.

## TO DETACH BATTERY PACK (Fig. 5)

1. Lock the trigger switch on the Impact Wrench by placing the direction of rotation (forward/reverse/center lock) selector in the center position.
2. Depress the battery-release buttons 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 tool.

**⚠ CAUTION:** when placing the battery pack on the tool, be sure that the raised rib on the battery pack aligns with the groove on the Impact Wrench and that the latches snap into place properly. Improper assembly of the battery pack can cause damage to internal components.

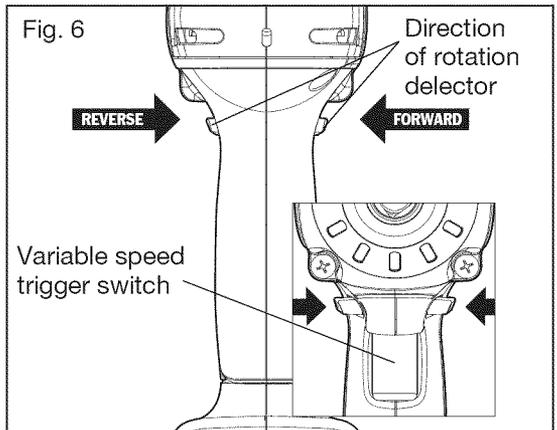
**⚠ WARNING:** Battery tools are always in operating condition. Therefore, the direction-of-rotation selector should always be locked when not in use or carrying at your side.

## TRIGGER SWITCH (Fig. 6)

To begin rotation, depress the trigger switch. To turn stop rotation, release the trigger switch.

## VARIABLE SPEED (Fig.6)

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



## DIRECTION-OF-ROTATION SELECTOR (FORWARD/REVERSE/CENTER LOCK) (Fig. 6)

The direction of bit rotation is reversible and is controlled by a selector located above the trigger switch. With the Impact Wrench held in normal operating position:

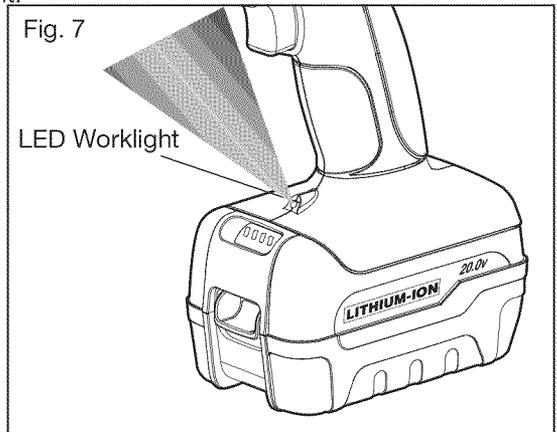
1. Position the direction-of-rotation selector to the left of the tool for forward rotation.
2. Position the direction-of-rotation selector to the right of the tool for reverse rotation.
3. Setting the switch in the OFF (center lock) position helps reduce the possibility of accidental starting when not in use.

**⚠ CAUTION:** To prevent gear damage, always allow the Impact Wrench to come to a complete stop before changing the direction of rotation.

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

## LED WORKLIGHT (Fig.7)

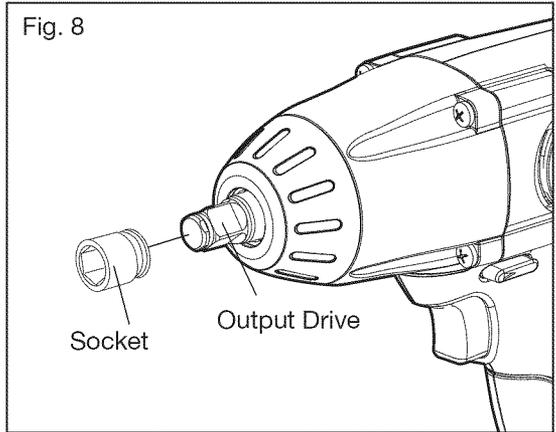
The LED worklight, located on the base of the Impact Wrench, will illuminate when the trigger switch is depressed. This provides additional light on the surface of the workpiece for operation in lower-light areas. The LED worklight will turn off when the trigger switch is released.



## INSTALLING AND REMOVING SOCKET (Fig.8)

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

**▲ WARNING:** DO not use regular socket-wrench type sockets; use only those sockets designed for impact wrenches. Impact-wrench sockets are black in color, specially hardened, and designed to not strip the corners off the nuts and bolts you will be driving. Sockets not designed for impact wrenches could break and result in personal injury. Inspect sockets prior to use to ensure that they have no cracks or other visible damage.



## INSTALLING FASTENERS

### To fasten:

1. Start 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 Impact Wrench, slide the impact socket onto the nut or bolt head.
3. Hold the tool securely with both hands and squeeze the trigger switch. The impact socket will turn the fastener and the impact action will begin when the fastener encounters resistance.

### To loosen:

1. With proper impact socket securely mounted to the Impact Wrench, slide the impact socket onto the bolt head (be sure the rotational direction is "reverse").
2. Hold the tool securely with both hands and squeeze the 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 the other threaded part, as it may be thrown out of the socket.

**▲ WARNING:** Do not over tighten, as the force of the Impact Wrench can break the fastener. Keep the Impact Wrench at a right angle to the fastener to avoid damaging the fastener head.

## TIGHTENING TORQUE

The tightening torque depends on the duration of the impacting/tightening action. The highest tightening torque is achieved after approx. 3 to 5 seconds of impacting/tightening action.

The torque build-up depends on the following factors:

- The hardness of the material in the bolts/nuts.
- The type of washer (disk washer, spring washer, seal).
- The hardness of the material (s) to be joined by the fastener.
- The lubricants (if any) at the surface of the junction.

Examples:

The maximum torque is reached after a relatively short impacting/tightening interval when joining metal to metal with a disk washer.

A moderate interval of impacting/tightening action is required when joining metal to metal where a spring-ring washer, disk-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.

## MAINTENANCE

**⚠ WARNING:** To avoid serious personal injury, always remove the battery pack from the tool when cleaning or performing any maintenance.

**⚠ WARNING:** When servicing, use only identical Craftsman replacement parts. Use of any other parts may create a hazard or cause product damage.

**⚠ WARNING:** It is not recommended to use compressed dry air as a cleaning method for the Impact Wrench. If cleaning with compressed air is the only method available, always wear safety goggles or safety glasses with side shields when using compressed air to clean the tool. If the operation is dusty, also wear a dust mask.

### GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

**⚠ WARNING:** Do not at any time allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

**⚠ WARNING:** When servicing, use only identical Craftsman replacement parts. Use of any other parts may create a hazard or cause product damage. To ensure safety and reliability, all repairs should be performed by a qualified service technician at a Sears Service Center.

## BATTERIES:

The battery pack for this tool is equipped with Lithium-Ion rechargeable batteries. The duration of use from each charge will depend on the type of work performed.

The batteries for this tool have been designed to provide maximum trouble-free life. Like all batteries, they will eventually wear out. Do not disassemble the battery pack or attempt to replace the batteries. Handling of the batteries, especially when wearing rings and jewelry, could result in a serious burn.

To obtain the longest possible battery life, read and understand the operator's manual.

- It is good practice to unplug the Charger/Adapter and remove the Lithium-Ion battery pack when not in use.

For Lithium-Ion battery pack storage longer than 30 days:

- Store the Lithium-Ion battery pack where the temperature is below 80°F (26°C) and free of moisture.
- Store Lithium-Ion battery packs in a 30%-50% charged condition.
- Every six months of storage, fully charge the Lithium-Ion battery pack.
- Exterior may be cleaned with a cloth or soft non-metallic brush.

## BATTERY PACK REMOVAL AND PREPARATION FOR RECYCLING

To preserve natural resources, please recycle or dispose of batteries properly. This battery pack for this product contains lithium-ion batteries. Local, state, or federal laws may prohibit disposal of lithium-ion batteries in ordinary trash. Consult your local waste authority for information regarding available recycling and/or disposal options.

**⚠ WARNING:** Upon removal of the battery pack for disposal or recycling, cover the battery pack's terminals with heavy-duty adhesive tape. Do not attempt to destroy or disassemble battery pack or remove any of its components. Lithium-Ion batteries must be recycled or disposed of properly. Also, never touch both terminals with metal objects and/or body parts as short circuit may result. Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.



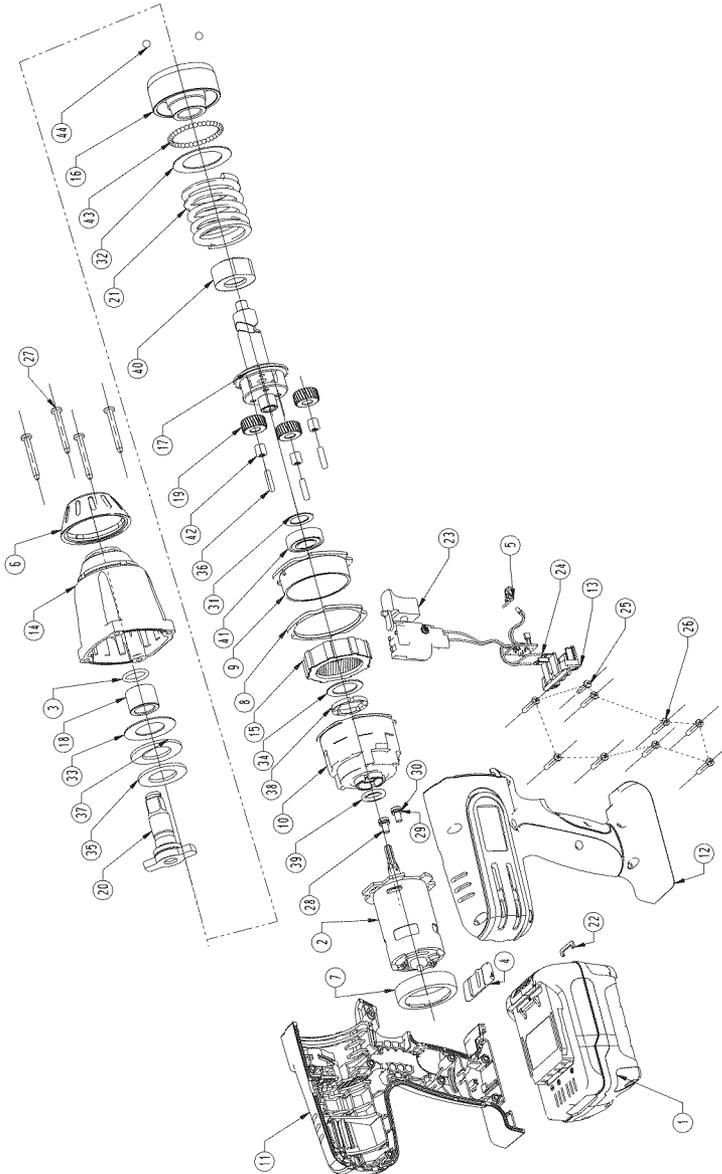
## TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The Impact Wrench does not work	Battery is depleted	Charge the battery
Bits can not be installed	Does not use the proper adapter	Use suitable adapter
Motor overheating	Be sure cooling vents are free from dust and obstacles	Clean, clear vents. Do not cover with hand during operation

## PARTS LIST

### 20.0 VOLT LITHIUM-ION CORDLESS 1/2-IN. IMPACT WRENCH MODEL NO. 320. 66810

The Model Number will be found on the Nameplate attached to Impact Wrench. Always mention the Model Number when ordering parts for this tool.



## PARTS LIST

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No	Part No	Part Name	QTY
1	2770182000	5126 Power Pack	1
2	2790163000	Motor And Gear Assy	1
3	3123112000	O Ring	1
4	3123133000	F/R Button	1
5	3123141000	Bracket	1
6	3123845000	Cover	1
7	3124548000	Rubber Ring	1
8	3124556000	Rubber Ring	1
9	3124558000	Bracket	1
10	3124625000	Ring Gear Housing	1
11	3320471000	Left Housing ASSY	1
12	3320532000	Right Housing ASSY	1
13	3402175000	Contact Receptacle ASSY	1
14	3420832000	Gear Case Cover	1
15	3520409000	Ring Gear	1
16	3551159000	Impact Block	1
17	3551160000	Spindle	1
18	3551253000	Bush	1
19	3551270000	Planet Gear	3
20	2822612000	Spindle	1
21	3660384000	Spring	1
22	3700960000	Handle Hoop	1
23	4870303000	Switch	1
24	4890301000	PCB Assembly	1

No	Part No	Part Name	QTY
25	5610024000	Tapping Screw	1
26	5610106000	Tapping Screw	8
27	5610228000	Tapping Screw	4
28	5620049000	Screw	2
29	5650014000	Plain Washer	2
30	5650015000	Spring Washer	2
31	5650272000	Washer	1
32	5650273000	Washer	1
33	5650275000	Washer	1
34	5650276000	Washer	1
35	5650296000	Washer	1
36	5670239000	Pin	3
37	5690170000	Rubber Ring	1
38	5690171000	Rubber Ring	1
39	5690172000	Rubber Ring	1
40	5690188000	Rubber Ring	1
41	5700018000	Ball Bearing	1
42	5700022000	Needle Bearing	3
43	5700045000	Steel Ball	35
44	5700204000	Steel Ball	2

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