

# Clarke®

*air*



## IMPACT WRENCH

MODEL NO: CAT231

PART NO: 3120232

### OPERATING & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC0224

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## INTRODUCTION

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Thank you for purchasing this CLARKE Impact Wrench.

Please read all of the safety and operating instructions carefully before using this product. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

**Please keep these instructions in a safe place for future reference.**

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## SPECIFICATION

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Model Number	CAT231
Part Number(s)	3120532
Max Operating Pressure	90 psi (6.2 bar)
Air Consumption	7 cfm
Drive size	1/2" square
Max No Load Speed	8000 rpm @ 90psi
Speed settings	3 forward / 1 reverse
Torque rating	850Nm (working) 1350Nm (max)
Air Inlet Size	1/4" BSP female (supplied with male adaptor)
Sound Pressure Level (LpA dB)	90.55 dB(A)
Sound Power Level (LwA dB)	101.55 dB(A) Uncertainty factor 3dB(A)
Guaranteed sound power	110.12 dB(A)
Vibration Levels	6.1 m/s <sup>2</sup> Uncertainty factor 1.5 m/s <sup>2</sup>
Weight	2.12 kg
Dimensions (L x W x H)	184 x 185 x 68 mm

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## GENERAL SAFETY RULES

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CAUTION: FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY.

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### WORK ENVIRONMENT

1. **ALWAYS** keep the work area clean and tidy.
2. **ALWAYS** Dress appropriately - **DO NOT** wear loose clothing or jewellery. Tie long hair out of the way.
3. **ALWAYS** Keep children and visitors away - **DO NOT** let children handle the air tool.
4. **DO NOT** operate the air tool where there are flammable liquids or gases.

### USE OF AIR POWERED TOOLS

1. **ALWAYS** stay alert and use common sense - **DO NOT** operate the tool when you are tired or under the influence of alcohol, drugs or medication.
2. **ALWAYS** wear eye and ear protectors when using the tool. Eye protectors must provide protection from flying particles from the front and the side. Ear protectors should also be worn.
3. **DO NOT** overreach - Keep proper footing and balance at all times.
4. **DO NOT** use oxygen, CO<sup>2</sup>, combustible gases or any type of bottled gas as a source of power for this tool.
5. **DO NOT** connect the air supply hose with your finger on the trigger.
6. **DO NOT** carry the air tool by the air hose.
7. **DO NOT** exceed the maximum pressure for the tool of 90 psi / 6.2 bar.
8. **ALWAYS** keep the air supply hose away from heat, oil and sharp edges.
9. **DO NOT** fit the tool to any stand or clamping device that may damage it.
10. **ALWAYS** Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
11. **DO NOT** use the tool for any purpose than that described in this manual.
12. **DO NOT** carry out any alterations or modifications to the tool.
13. **ALWAYS** disconnect from the air supply when:
  - Performing any maintenance.

- The tool is not in use.
  - The air tool will be left unattended.
  - Moving to another work area.
14. **DO NOT** use the tool if it is defective or operating abnormally.
  15. **DO NOT** damage the air tool by applying excessive force.
  16. **ALWAYS** maintain the tool with care for the best and safest performance.
  17. Quick change couplings should not be located at the tool. They add weight and could fail due to vibration.
  18. **DO NOT** force or misuse the tool. It will do a better and safer job at the rate for which it was designed.
  19. This tool vibrates with use. Vibration may be harmful to your hands or arms. Stop using the tool if discomfort, a tingling feeling or pain occurs. Seek medical advice before resuming use.
  20. When not in use the air tool must be disconnected from the air supply and stored in a dry place out of the reach of children.

## **IMPACT WRENCH SAFETY INSTRUCTIONS**

1. **ALWAYS** use the impact wrench as described in these instructions.
2. **ALWAYS** ensure the wrench is not moving and disconnected from the air supply when changing sockets etc. Use only Impact Wrench sockets....**DO NOT** use standard sockets.
3. **ALWAYS** finish tightening wheel nuts or engine parts with a torque wrench or suitable spanner to the correct torque as recommended by the vehicle manufacturer.
4. **ALWAYS** avoid excessive use of the wrench. When tightening a nut or bolt, only allow the wrench to impact briefly to avoid over tightening.
5. **ALWAYS** ensure that the socket is correctly installed before switching on.
6. **ALWAYS** use sockets which are specified for impact wrench use.
7. Due to the possible presence of asbestos dust from brake linings, always wear suitable respiratory protection.
8. **ALWAYS** disconnect from the air supply when changing sockets or when the wrench is not required for immediate use in order to avoid accidental starting.
9. **ALWAYS** use both hands to control the impact wrench.
10. **ALWAYS** ensure the wrench has stopped before putting it down after use.

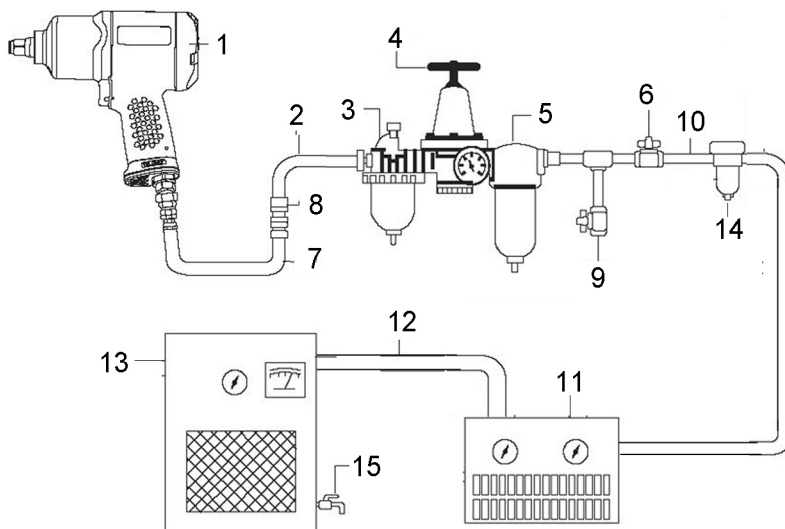
# COMPRESSED AIR REQUIREMENTS



**WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF COMPRESSORS AND COMPRESSED AIR SUPPLY.**

A typical air line layout is shown below. If an automatic in-line filter/regulator is used, it will keep the tool in good condition, but should be regularly checked and topped up with oil. CLARKE airline oil should be used and the lubricator adjusted to approx 2 drops per minute.

Use only clean, dry, regulated compressed air as a power source.



## AIR SYSTEM LAYOUT :

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Air Tool                   | 9. Drain Valve                      |
| 2. Air Hose 3/8" (I.D.)       | 10. 1/2" or larger pipe and fitting |
| 3. Oiler                      | 11. Air Dryer                       |
| 4. Pressure Regulator         | 12. 1" or larger pipe and fitting   |
| 5. Filter                     | 13. Air Compressor                  |
| 6. Shut Off Valve             | 14. Auto Drain                      |
| 7. Whip Hose                  | 15. Drain Valve                     |
| 8. Coupler Body And Connector |                                     |

A build-up of moisture or oil in the air compressor will accelerate wear and corrosion in the tool. Ensure any moisture is drained from the compressor daily and the inlet filter is kept clean.

If an unusually long air hose is required, (over 8 metres), the line pressure or the hose inside diameter may need to be increased.

The air hose must be rated at least 150% of the maximum operating pressure of the tool. For best performance it is recommended that a 3/8" ID hose is used.

Never exceed the maximum operating pressure for the tool. It is recommended that air pressure to this tool does not exceed 90 psi at the tool when running. Higher pressures and dirty air will shorten the life of the tool due to faster wear and is a possible safety hazard.

## PRODUCT OVERVIEW



1. Torx key wrench
2. Oil Bottle
3. Stubby type inlet adaptor (male)
4. Square drive
5. Lubrication point
6. Trigger
7. Speed/direction control regulator
8. Air exhaust
9. Air inlet connector

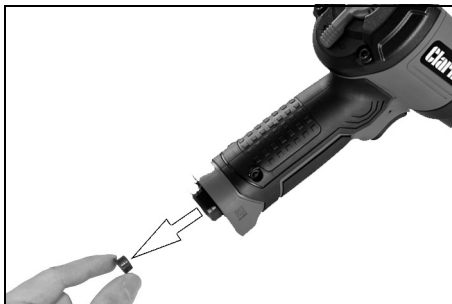
## BEFORE USE



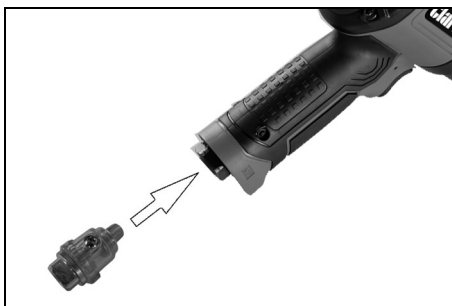
**WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF AIR COMPRESSORS AND COMPRESSED AIR SUPPLY.**

**NOTE:** Ensure the compressor is turned off.

1. Remove the plastic blanking plug from the air inlet connection.
2. Pour 2-3 drops of CLARKE airline oil into the oil filling port. This should be done regardless of whether or not a lubricated air supply is to be used.



3. If required, connect a CAT150 in-line mini oiler to the tool.
  - A mini oiler helps to prolong the life of any air tool.



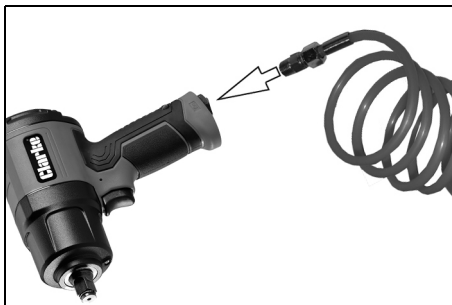
4. Connect a suitable hose as shown or use the snap connector supplied to connect directly to the hose.

5. Connect the other end of the hose to the compressor.

6. Turn on the air supply and check for air leaks. Rectify any found before proceeding.

- PTFE tape may be useful for sealing threaded connections.

7. If using a mini oiler, place a sheet of paper next the exhaust port and hold the throttle open for approximately 30 seconds. The oil volume is correctly set when a light stain of oil can be seen on the paper. Excessive oil should be avoided.



Your impact wrench is now ready for use.



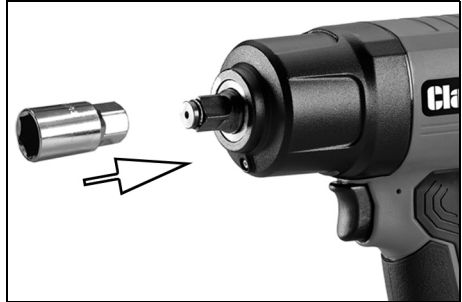
# OPERATION

## FITTING THE IMPACT SOCKET



**WARNING: NEVER USE STANDARD SOCKETS. THESE MAY SHATTER WITH SERIOUS CONSEQUENCES. ONLY USE IMPACT SOCKETS DESIGNED FOR USE WITH IMPACT TOOLS.**

1. Select the impact socket you require which must be in good condition and fit the tool exactly.
2. Push the socket onto the square drive shaft.



## SETTING THE DIRECTION AND SPEED

1. To adjust the speed, move the switch left or right until the desired output is achieved.
  - The embossed dots give an indication of the power and the embossed arrows indicate the direction. (3 speed forward and 1 speed reverse)
  - For normal tightening, the wrench should be operated in the forward direction.
  - For loosening, the wrench should be operated in the reverse direction.



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## OPERATION

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1. Locate the socket over the nut to be tightened or loosened.
2. Squeeze the trigger to start the wrench.
3. Release the trigger to stop the wrench.
  - The anvil will continue to rotate briefly after the trigger has been released.



**NOTE:** Where the torque setting is critical, the final tightening must be by hand using a correctly calibrated torque wrench.



**WARNING: WAIT UNTIL THE WRENCH HAS STOPPED ROTATING BEFORE OPERATING THE FORWARD/REVERSE SWITCH.**

**WARNING: ENSURE THAT THE CORRECT SOCKET IS BEING USED FOR THE NUTS/BOLTS ON YOUR PARTICULAR VEHICLE. USING AN INCORRECT SOCKET SIZE IS LIKELY TO DAMAGE THE HEADS OF THE BOLTS/NUTS.**

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### LOOSENING A WHEEL NUT/BOLT

1. Remove any wheel trim, before selecting the appropriate socket and placing firmly on the square drive of the wrench.
2. With the control switch in the REVERSE running position (anti-clockwise) and holding the wrench firmly in BOTH HANDS, squeeze the trigger. The nut will be impacted repeatedly until it is loosened. **IMPORTANT!** Release the trigger as soon as the nut begins to loosen.
3. Jack up the vehicle according to the vehicles handbook so that the wheel is clear of the ground, then fully undo the wheel nuts.
4. Soak rusted nuts in penetrating oil, and break any rust seal before twisting off with the wrench.

### TIGHTENING A NUT

1. Start the nut/bolt by hand, ensuring it is not cross threaded, then with the appropriate socket installed on the wrench, place it on the nut/bolt.
2. With the selector switch in the clockwise (forward running) position and holding the wrench firmly in BOTH HANDS, squeeze the trigger.
3. Run each nut/bolt up in turn until it is 'nipped' up only - do not tighten. When all nuts/bolts are nipped up, tighten progressively by squeezing the

trigger fully and allowing the action to operate briefly to prevent overtightening.

4. **ALWAYS** finish tightening nuts and bolts with a torque wrench. The weight of the vehicle will need to be placed on the wheel to prevent it from rotating while the nuts/bolts are tightened. Ensure the final torque applied to the nuts/bolts meets the vehicle manufacturer's recommendations.

## DISCONNECTING THE AIR SUPPLY

1. **DO NOT** disconnect the air hose until the supply is isolated at a shut-off valve.
2. Once the pressure has been isolated, disconnect the air supply hose from the air tool.
3. Shut down the compressor at the end of the work session.

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## MAINTENANCE

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**WARNING: MAKE SURE THAT THE WRENCH IS DISCONNECTED FROM THE AIR SUPPLY BEFORE STARTING ANY CLEANING OR MAINTENANCE PROCEDURES.**

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## DAILY

1. Before use, drain water from the airline filter and compressor.
2. If no line lubricator or mini oiler is used, ensure that oil is applied to the tool on a daily basis through the air inlet connection. Run a few drops of oil through the tool before use. It may be entered into the tool air inlet, (ensuring the strainer is clear), or into the hose at the nearest connection to the air supply. After this you can operate the tool.
3. This procedure should be repeated after every two to three hours of use, or at the start of the working day.

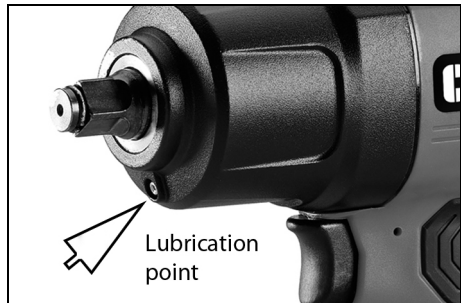
## WEEKLY

1. Check the air inlet screen filter and exhaust vent for blockage and clean out if necessary.

## CLEANING & OVERHAUL

1. Grit or gum deposits in the tool may reduce efficiency.
2. After extensive use, remove the inlet screen filter and flush out the mechanism with gum solvent oil or an equal mixture of CLARKE air-line oil and paraffin. Allow to dry before use.
3. If the tool still runs erratically or becomes inefficient, and the air supply is of good quality, it may be necessary to dismantle the air motor and replace worn or damaged parts. You may prefer to take the tool to your CLARKE dealer if internal maintenance is required.
4. The air tool may be dismantled by unfastening the bolts and removing the rear cover prior to replacing any worn or damaged parts.
5. While is a dismantled state, it will be desirable to grease the hammer mechanism with a small amount of good quality bearing grease.

This may be better left to your CLARKE dealer.



## TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Tool runs at normal speed but slows down under any load.	<ol style="list-style-type: none"> <li>1. Motor parts worn.</li> <li>2. Worn or sticking mechanism due to lack of lubricant.</li> </ol>	<ol style="list-style-type: none"> <li>1. Return to CLARKE dealer for repair.</li> <li>2. Drip air tool lubricating oil into air inlet. Allow oil to soak moving parts before using.</li> </ol>
Tool runs slowly. Air flows weakly from exhaust.	<ol style="list-style-type: none"> <li>1. Motor parts jammed with gum/dirt.</li> <li>2. Air-line regulator in closed position.</li> <li>3. General airflow blocked by dirt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Examine inlet air filter for blockage and clean if necessary. Drip a few drops of air tool lubricating oil into air inlet.</li> <li>2. Adjust in-line regulator to open position.</li> <li>3. Operate tool in short bursts.</li> </ol>
Tool will not run. Air flows freely from exhaust.	<ol style="list-style-type: none"> <li>1. Motor vanes stuck due to buildup of foreign material.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect air supply and rotate tool assembly manually.</li> <li>2. Try operating tool in short bursts.</li> <li>3. Tap motor housing gently with a rubber mallet.</li> <li>4. Drip a few drops of air tool lubricating oil into air inlet to soak moving parts.</li> </ol>
Tool will not shut off.	<ol style="list-style-type: none"> <li>1. Throttle O-rings damaged or ill-fitting in seat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Return to CLARKE dealer for repair.</li> </ol>

## PERFORMANCE

Please note that outside factors may affect the operation and efficiency of the air tool.

These include reduced compressor output, excessive drain on the airline, moisture ingress, restrictions in the air-line such as the use of connectors of incorrect size or poor condition which will reduce the air supply.

Your air tool has been designed to give long & trouble free service. If, however, having followed the instructions in this booklet carefully you encounter problems, take the unit to your local CLARKE dealer.

Any major servicing and repairs should be carried out by your local CLARKE dealer or a qualified service technician.

## **STORAGE**

If the tool is to be stored, or is idle for longer than 24 hours, run a few drops of CLARKE air line oil into the air inlet, and run the tool for 5 seconds in order to lubricate the internal parts. Store the tool safely in its box in a dry, secure place.

When not in use, disconnect from the air supply, clean and store in a safe, dry place. When storing, replace the blanking plug to the airline inlet.

Avoid storing the tool where the temperature is below 0°C.

## **ACCESSORIES**

A wide range of accessories is available including filter/regulators, lubricators, high-pressure hoses (5 to 50 metres) etc.

CLARKE Airline Oil (part no. 3050825) is available from your CLARKE dealer.

Contact your CLARKE dealer for further information or the CLARKE International Service Department.

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## **GUARANTEE**

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This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.


This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not affect your statutory rights.

DECLARATIONS OF CONFORMITY





**Clarke<sup>®</sup>**  
**INTERNATIONAL**  
Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

**DECLARATION OF CONFORMITY**

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following legislation:

2006/42/EC      *Machinery Directive*


The following standards have been applied to the product(s):

EN ISO 11148-6:2012

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2024


Product Description:	Impact Wrench
Model Number(s):	CAT231
Serial/Batch Number:	Refer to product/packaging label
Date of Issue:	15/01/2024


Signed: 

J.A. Clarke  
Director

CAT231 CE Clarke DOC 011524

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**Clarke<sup>®</sup>**  
**INTERNATIONAL**  
Hemnal Street, Epping, Essex, CM16 4LG

**DECLARATION OF CONFORMITY**

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following legislation:

*The Supply of Machinery (Safety) Regulations 2008*


The following standards have been applied to the product(s):

EN ISO 11148-6:2012

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

The UKCA mark was first applied in: 2024

Product Description:	Impact Wrench
Model Number(s):	CAT231
Serial/Batch Number:	Refer to product/packaging label
Date of Issue:	15/01/2024

Signed: 

J.A. Clarke  
Director

CAT231 UKCA Clarke DOC 011524

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# A SELECTION FROM THE VAST RANGE OF

# Clarke®

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## PARTS & SERVICE: 0208 988 7400

### Parts Enquiries

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SALES: UK 01992 565333 or Export 00 44 (0)1992 565335

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