

# CLAMPBRO®

## air



## RATCHET WRENCH

MODEL NO: CAT108 & CAT109

PART NO: 3120110 & 3120116

## OPERATING & MAINTENANCE INSTRUCTIONS

UK  
CA | CE

ORIGINAL INSTRUCTIONS

DL1122 Rev 2

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## INTRODUCTION

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Thank you for purchasing this CLARKE Ratchet Wrench which is ideally suited to quick removal and installation of nuts, bolts, and other fasteners where space is limited.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. 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	CAT108	CAT109
Part Number	3120110	3120116
Drive Type	1/2" Square	3/8" Square
Max Torque	50 ft/lb (68 Nm)	50 ft/lb (68 Nm)
Dimensions (L x W x H)	265 x 48 x 42 mm	265 x 48 x 42 mm
Weight	1.2 kg	1.2 kg
Max Operating Pressure	90 psi (6.2 bar)	90 psi (6.2 bar)
Average Air Consumption	Average 4 cfm	Average 4 cfm
Max No Load Speed	160 rpm	160 rpm
Air Inlet Size	1/4" BSP female	1/4" BSP female
A-weighted Sound Pressure Level	92.1 dB(A)	91.5 dB(A)
Sound power level	103.1 dB(A)	102.5 dB(A)
Uncertainty Factor	K = 3	K = 3
Vibration at the handle	0.8 m/s <sup>2</sup>	0.8 m/s <sup>2</sup>

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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

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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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## **THE WORK ENVIRONMENT**

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

## **USE OF AIR POWERED TOOLS**

1. 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 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. Never 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 exceed the maximum pressure for the tool of 90 psi / 6.2 bar.
7. Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
8. Keep the air supply hose away from heat, oil and sharp edges.
9. DO NOT use the tool for any purpose than that described in this manual.
10. DO NOT fit the tool to any stand or clamping device that may damage it.
11. DO NOT carry out any alterations or modifications to the tool.
12. ALWAYS disconnect from the air supply when:
  - Performing any maintenance.
  - The tool is not in use.
  - The tool will be left unattended.
  - Moving to another work area.
  - Passing the tool to another person.
13. NEVER use the tool if it is defective or operating abnormally.
14. This tool should be serviced at regular intervals by qualified service personnel.
15. Avoid damaging the tool for example by applying excessive force of any kind.
16. ALWAYS maintain the tool with care. Keep it clean 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. DO NOT remove any labels. Damaged labels should be replaced.
20. 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.

## **TRANSPORT & STORAGE**

1. DO NOT carry the tool by the air hose.
2. Never carry an air tool with your finger on the trigger.
3. 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.

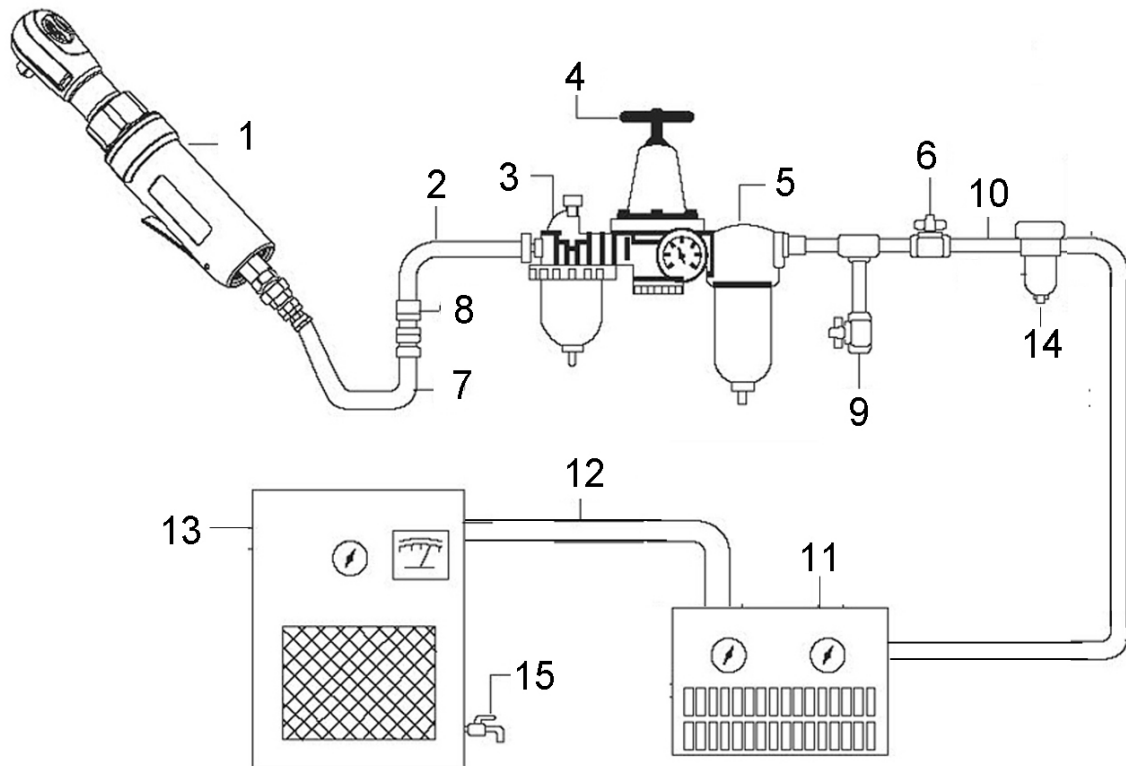
# COMPRESSED AIR REQUIREMENTS



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

A typical air line layout is shown below. If an automatic in-line filter/regulator is used, it will keep air tools in good condition but should be regularly checked and topped up with oil. CLARKE airline oil should be used and the lubricator be 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 Daily                      |
| 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 Daily                     |
| 8. Coupler Body And Connector |                                     |

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

Air compressors used with the tool must comply with the appropriate European Community Safety Directives.

The air hose must be rated at least 150% of the maximum operating pressure of the tool.

For optimum performance it is recommended that a 3/8" ID airline hose is used.

Set the tool in the OFF position before connecting it to the air supply.

A build-up of moisture or oil in the air compressor will accelerate wear and corrosion in the air 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 by up to 15 psi to maintain air pressure at the tool.

Never exceed the maximum operating pressure for the air tool. It is recommended that air pressure to this tool does not exceed 90 psi at the air 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.

Check hoses for wear or damage before use.

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## **USEFUL ACCESSORIES**

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A wide range of accessories are available including filter/regulators, lubricators, high pressure hoses, etc. Contact your CLARKE dealer for further information, or call CLARKE International on 01992 565333.

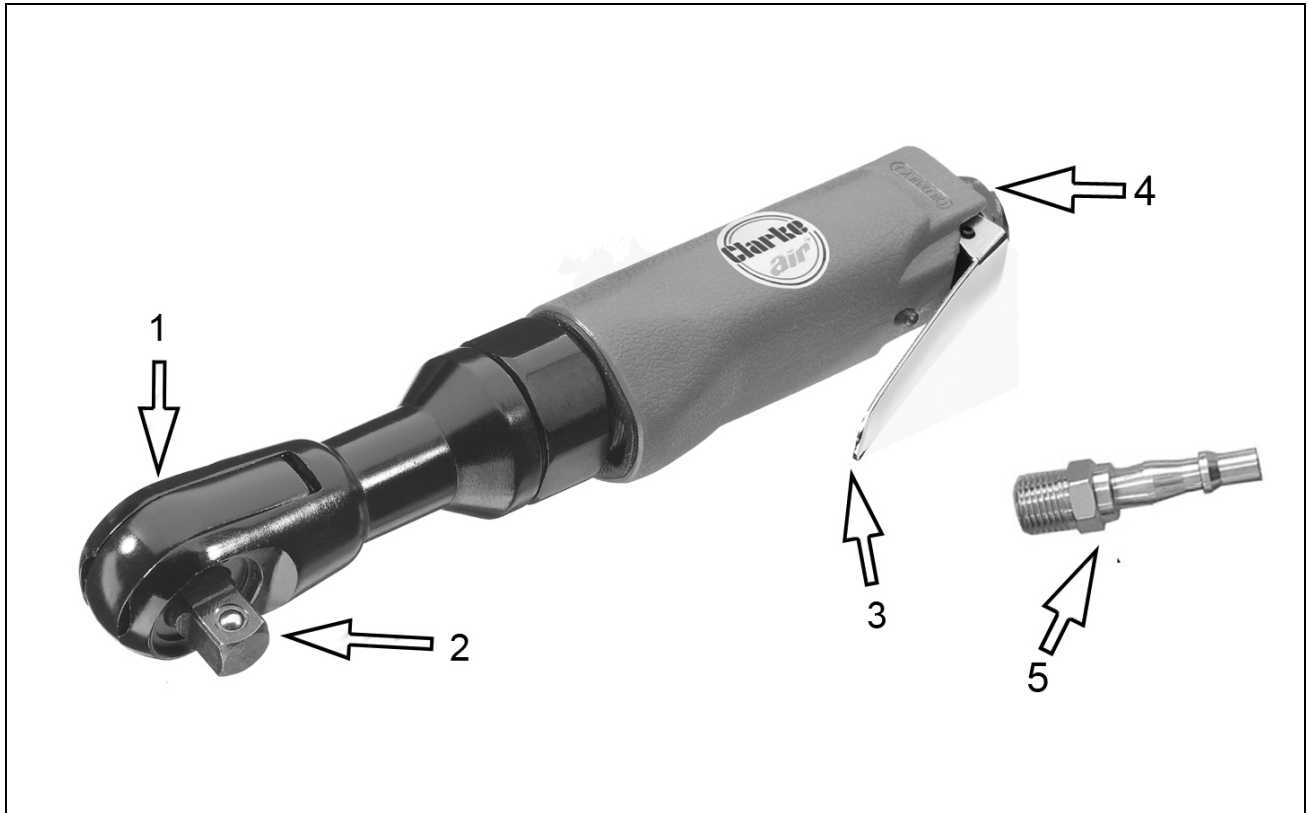
Suitable Ratchet Wrench compatible socket sets include the following are available in the CLARKE catalogue

- 1700431 PRO31 10 piece 1/2" drive AF socket set
- 1700432 PRO32 10 piece 1/2" drive metric socket set
- 1700437 PRO37 7 piece 1/2" drive deep AF socket set
- 1700438 PRO38 9 piece 1/2" drive deep metric socket set
- 1700452 PRO52 6 piece 1/2" drive hex bit socket set
- 1700429 PRO29 9 piece 3/8" drive AF socket set
- 1700430 PRO30 9 piece 3/8" drive metric socket set
- 1700435 PRO35 8 piece 3/8" drive deep AF socket set
- 1700436 PRO36 8 piece 3/8" drive deep metric socket set
- 1700451 PRO51 6 piece 3/8" drive hex bit socket set

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

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

## PRODUCT OVERVIEW



1	Forward/Reverse Switch	3	Trigger
2	1/4" Square Drive Shaft	4	Air Inlet
		5	Airline connector

The pack should include the following items:

- Reversible ratchet
- Male Snap Connector
- Bottle of Airline Oil

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## BEFORE USE

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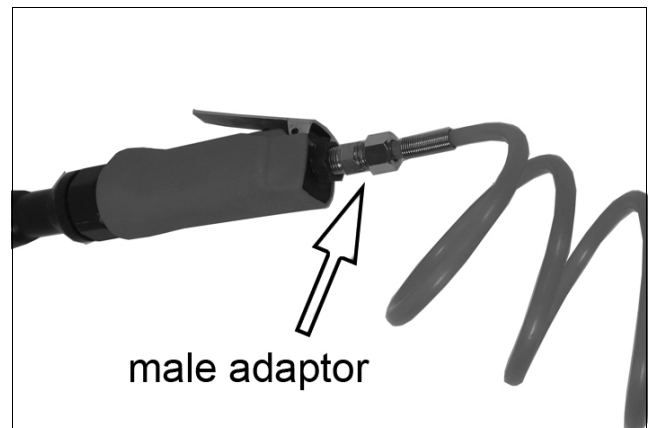
**WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF AIR COMPRESSORS AND A COMPRESSED AIR SUPPLY.**

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### CONNECTING THE AIRLINE

**NOTE:** Ensure the air supply is turned off.

1. Remove the travel plug.
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 an in-line mini oiler to the tool. Refer to the instructions supplied with the mini-oiler before use.
  - A mini oiler helps to prolong the life of any air tool.
4. Connect a suitable hose. This can be done using either the male adaptor supplied or using a mini oiler from your CLARKE dealer.
5. If a mini-oiler is not being used, run a few drops of oil through the tool before use. It can be entered through the airline connector or via the hose at the nearest connection to the air supply.
6. Connect the other end of the hose to the compressor.
7. Turn on the air supply and check for air leaks. Rectify any found before proceeding. Set the working pressure to 90psi/6.2 bar for best performance.
  - PTFE tape may be useful for sealing threaded connections.
8. 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 air tool is now ready for use.

You can fit a whip hose with a quick fit coupling if required (available from your CLARKE dealer).



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# OPERATION

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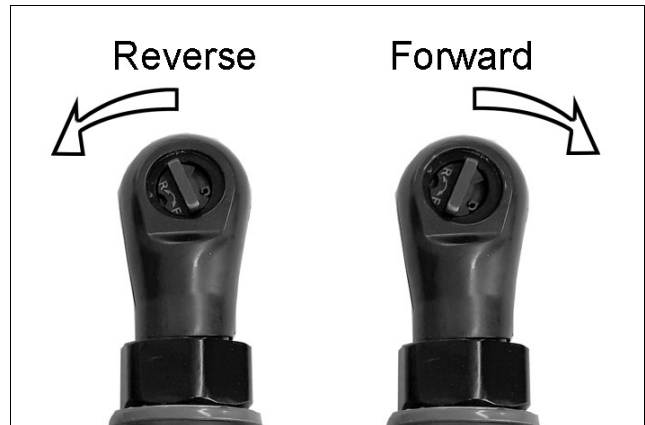
## SETTING THE DIRECTION OF ROTATION



**WARNING: ALWAYS WAIT UNTIL THE DRIVE SHAFT HAS STOPPED ROTATING BEFORE SETTING THE DIRECTION CONTROL.**

To select the direction of rotation turn the direction control as follows.

- For tightening bolts/nuts, turn the direction control anti-clockwise to F (Forward).
- For loosening bolts/nuts, turn the direction control clockwise to R (Reverse).



## FITTING SOCKETS AND USING THE AIR RATCHET

**IMPORTANT: Only use sockets designed for use with a ratchet wrench;- either 3/8" (10mm) for the CAT109 or 1/2" (13mm) for the CAT108.**

1. Select the socket you require and push it onto the square drive shaft.
  - It clicks into place when secure.
2. Place the socket over the nut.
  - Take care that the socket is firmly engaged.
3. Squeeze the trigger against the body of the tool to start.
4. Release the trigger to stop the tool.
5. ALWAYS ensure the tool has stopped before putting it down.
6. When releasing very tight fastenings initially break loose by hand. Squeeze the trigger and the air tool will complete the job.
7. If necessary, use penetrating oil to assist in freeing off rusted fasteners.
8. When assembling, start turning fasteners by hand, then set the rotation forward or reverse. Apply the tool gently and squeeze the trigger to tighten with power.



9. Final tightening should be completed by hand to the required torque settings.

## **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 and drain daily as recommended.

## **STORAGE**

When not in use, disconnect from the air supply, clean & store in a safe, dry place.

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. When storing, replace the blanking plug on the airline inlet.

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

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# MAINTENANCE

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

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## DAILY

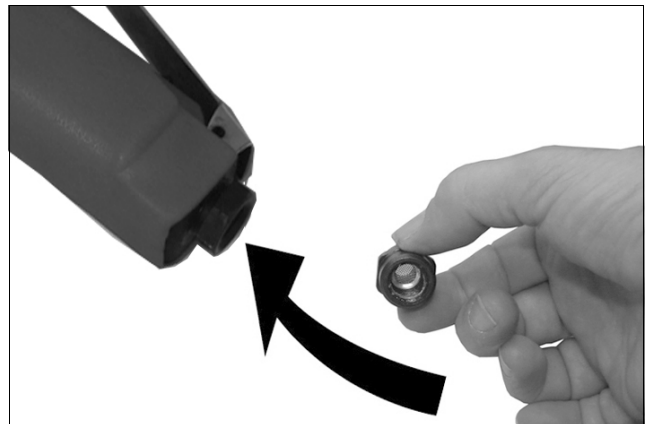
1. Before use, drain water from the compressed air supply.
2. If no line lubricator or mini oiler is used, ensure that oil is applied to the tool on a daily basis through the air inlet connection. Run a few drops of oil through the tool before use. It may be entered into the tool air inlet, (ensuring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

## WEEKLY

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

## CLEANING

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.



## PERFORMANCE

Please note that outside factors may effect the operation and efficiency of the tool, such as reduced compressor output, excessive drain on the airline, moisture or restrictions in the air-line, or the use of connectors of improper size or poor condition which will reduce air supply.

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

# DECLARATION OF CONFORMITY



Hennell 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 statutory requirement(s):

*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: 2022

**Product Description:** 3/8" Reversible Air Ratchet  
**Model number(s):** CAT109  
**Serial / batch Number:** N/A  
**Date of Issue:** 06/10/2022

Signed:

J.A. Clarke  
Director



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 directive(s):

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 directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

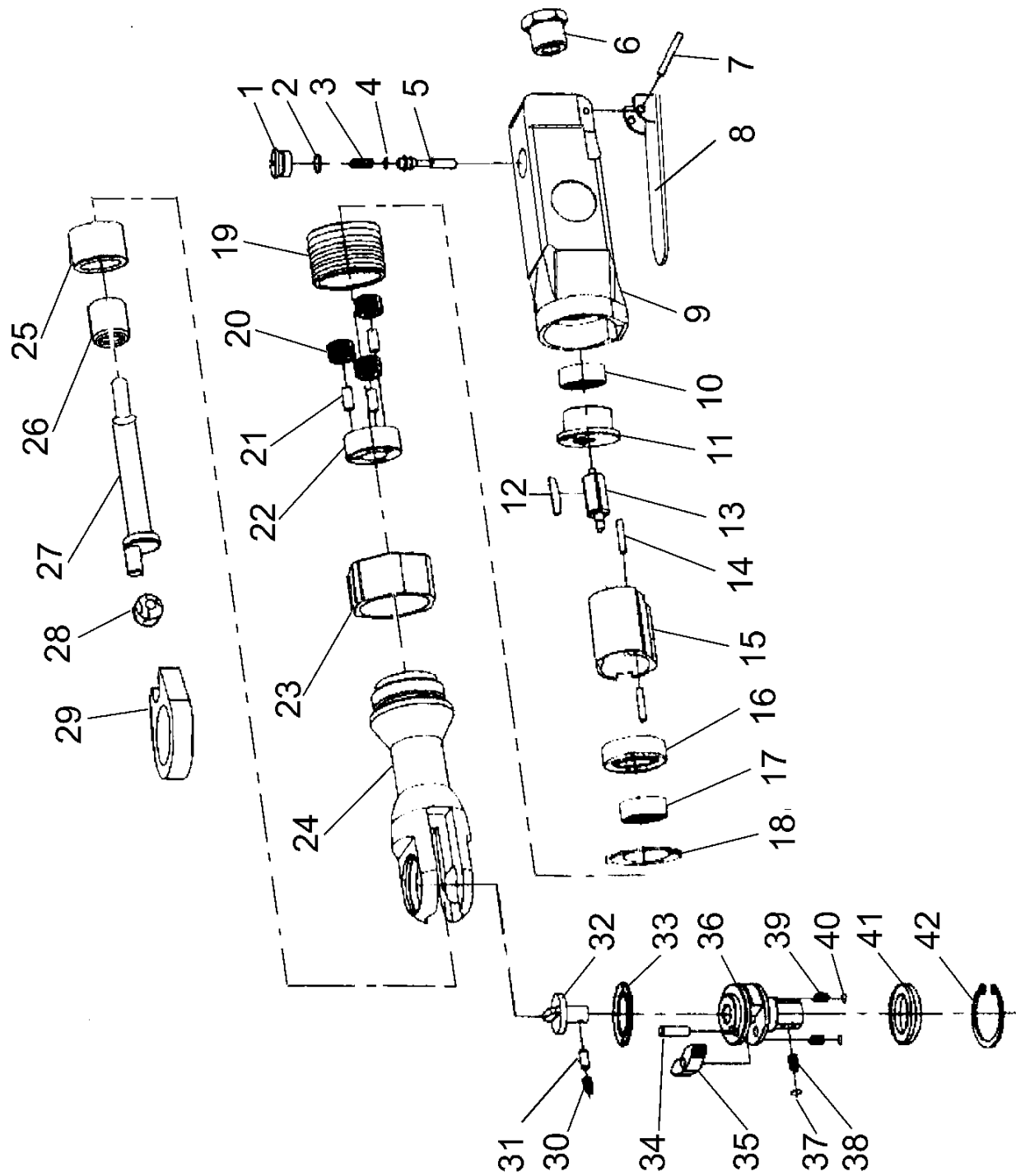
The CE mark was first applied in: 2007

**Product Description:** 3/8" Reversible Air Ratchet  
**Model number(s):** CAT109  
**Serial / batch Number:** N/A  
**Date of Issue:** 06/10/2022

Signed:

J.A. Clarke  
Director

# COMPONENT PARTS DIAGRAM



## COMPONENT PARTS LIST

No	Description
1	Screw cap
2	O-ring
3	Spring
4	O-ring
5	Valve stem
6	Air inlet plug
7	Pin
8	Trigger
9	Housing
10	Rear bearing
11	Rear plate
12	Rotor blade
13	Rotor
14	Pin
15	Cylinder
16	Front plate
17	Bearing
18	Washer
19	Gear housing
20	Idler gear
21	Idler gear pin

No	Description
22	Idler gear seat
23	Clamp nut
24	Nose section
25	Needle bearing
26	Bearing shell
27	Crankshaft
28	Drive bush
29	Ratchet yoke
30	Spring
31	Locking pin
32	Reverse switch
33	Washer
34	Pin
35	Ratchet pawl
36	Ratchet anvil
37	Steel ball
38	Spring
39	Spring
40	Steel ball
41	Washer
42	Retaining ring

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