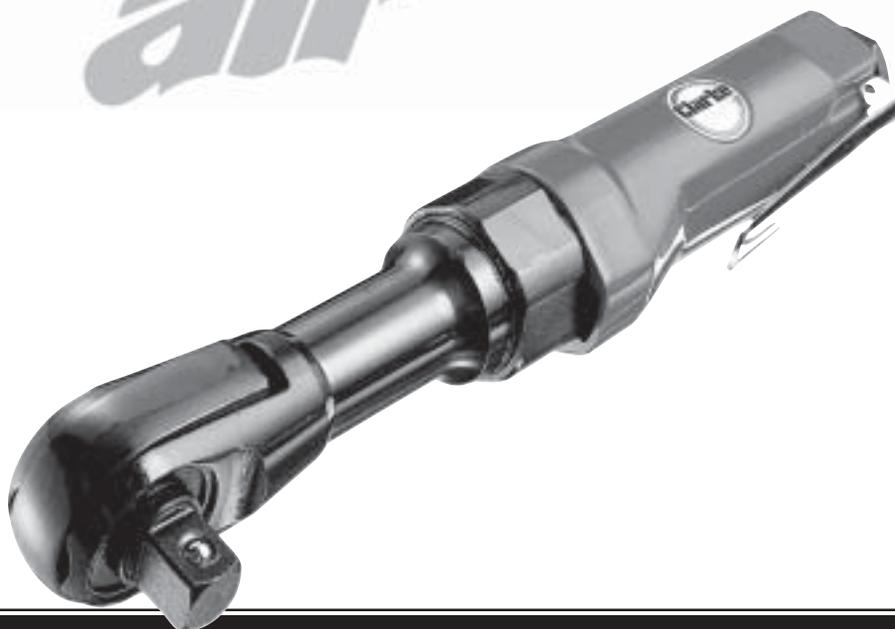


ClarkeTM

air



1/2" REVERSIBLE RATCHET SET

MODEL NO: CAT221B

PART No: 3110424

**OPERATION & MAINTENANCE
INSTRUCTIONS**



0602

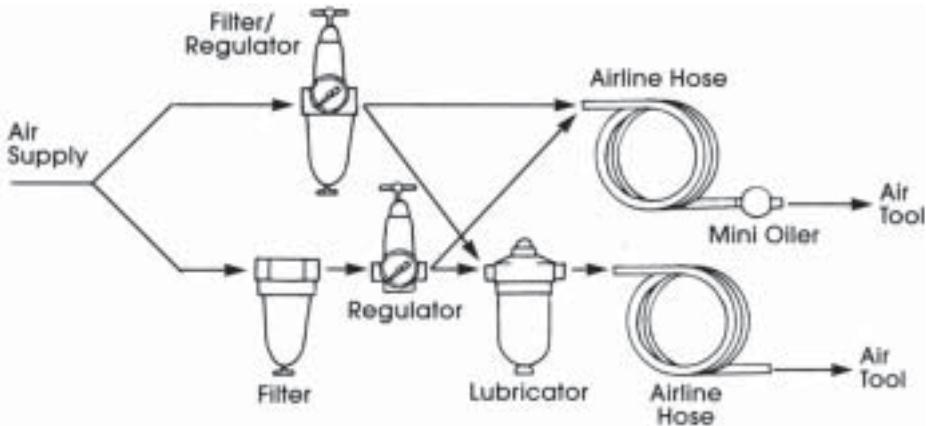


Fig.1

SPECIFICATIONS

- Model:.....CAT221B
- Part No:.....3110424
- Square Drive:.....1/2"
- Max Speed:.....160 RPM
- Max Torque:.....60 lbs/ft
- Air Inlet:.....1/4" BSP
- MIn Hose Size:.....5/16" (8mm) ID
- Air Consumption:.....8 CFM
- Max Air Pressure:.....90 PSI (6.2 bar)
- Weight:.....1.2 kg

Please note that the details and specifications contained herein are correct at the time of going to print. However CLARKE International reserve the right to change specifications at any time without prior notice. Always consult the machines data plate

IMPORTANT:
 The use of parts other than CLARKE replacement parts may result in safety hazards, decreased tool performance and may invalidate your warranty.



Please read these instructions carefully before operating the tool

Thank you for purchasing this **CLARKE** Air 1/2" Reversible Ratchet. Before using the device, please read this manual thoroughly and carefully follow all instructions given. This is for your own safety and that of others around you, and is also to help you achieve long and trouble free service from your new tool.

CLARKE GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt 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.

PARTS & SERVICE TEL: 020 8988 7400

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

ACCESSORIES

A wide range of Airline accessories is available, including Filter/Regulators, Lubricators, High Pressure Hoses from 5 to 100 Metres, etc. Contact your CLARKE dealer for further information, or CLARKE International Sales Department on 01992 565300

SAFETY PRECAUTIONS

IMPORTANT

Failure to follow these precautions could result in personal injury, and/or damage to property.

- ❑ When operating this tool, ALWAYS wear:
 - a. approved impact resistant SAFETY GOGGLES. (Eye glasses are NOT safety glasses)
 - b. a DUST MASK
 - c. EAR DEFENDERS
 - d. a good pair of INDUSTRIAL GLOVES
- ❑ **ALWAYS** disconnect the tool when not in use, and before carrying out any maintenance
- ❑ **ALWAYS** keep a safe distance between yourself and other people when using the tool.
- ❑ **ALWAYS** maintain the tool with care. Keep it clean for best and safest performance.
- ❑ **NEVER** wear ill fitting clothing, remove watches and rings.
- ❑ Quick change couplings should not be located at the tool. They add weight and could fail due to vibration.
- ❑ **DO NOT** over-reach. Keep your proper footing and balance at all times.
- ❑ **DO NOT** force or misuse the tool. It will do a better and safer job at the rate for which it was designed.
- ❑ **DO NOT** abuse hoses or connectors. NEVER carry a tool by the hose, or yank it to disconnect from the air supply. Keep hoses away from heat, oil and sharp edges. Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
- ❑ **DO NOT** exceed 90 PSI at the tool.
- ❑ **DO NOT** modify the tool in any way.
- ❑ **DO NOT** remove any labels. Damaged labels should be replaced.
- ❑ 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.
- ❑ **ALWAYS** use screens to protect people in the vicinity from flying debris.
- ❑ **NEVER** point the tool at anyone.

AIR SUPPLY

Tools of this type, operate on a wide range of air pressures. It is recommended that air pressure to this tool does not exceed 90 PSI (6.1bar), at the tool when running. Higher pressure and unclean air, will shorten the tools' life because of faster wear, and could be a safety hazard.

Water in the air line will cause damage to the tool, ensure it is properly maintained at all times.

The recommended procedure to connect this tool to an air supply, is shown at fig. 1 on inside front cover.

The air inlet used for connecting air supply, has a standard 1/4" BSP thread.

Line pressure, or hose inside diameter, should be increased to compensate for unusually long air hoses (over 10m). Minimum hose diameter should be 6mm (1/4") ID., and fittings should have the same inside dimensions.

ASSEMBLY

Connect a suitable hose to the Ratchet using a 1/4" hose adapter, (A whip hose with Quick Fit coupling is available from your CLARKE dealer), then connect the other end to the airline.

NOTE: ensure the airline is turned off.

Your Ratchet is now ready for use.

⚠ WARNING ⚠

Compressed air can be dangerous. Ensure that you are thoroughly familiar with all precautions relating to the use of compressors and compressed air supply.



OPERATING INSTRUCTIONS

Before starting work drain any water from the air tank and blow condensation from the air line. Drain compressor more frequently in hot humid weather.

Turn ON the air supply, and check for air leaks. If any are apparent, rectify before proceeding. Ensure the operating pressure is set to 6.2bar

The speed ratchet was designed, and is ideally suited for quick removal and installation of nuts, bolts, spark plugs and other fasteners where space is limited.

For removal, set direction of rotation, forward or reverse, choose correct socket etc to fit fastener, place Speed Ratchet on fastener and break loose by hand. Depress throttle lever, the air power tool will complete the job. Use penetrating oil for rusted fasteners if necessary.

When assembling, start fasteners by hand, again set rotation forward or reverse, apply Speed Ratchet gently depress throttle lever, and run down with power.

Since torque is deliberately limited, it is virtually impossible to overtighten or damage smaller threads. Final tightening is completed by hand.

NOTE:

When critical torque values are not required, turn the nut or bolt one quarter to one half a turn until it fits snugly - slightly more if gaskets are used between surfaces.

For additional power on disassembly work turn regulator out to it's highest setting, (maximum pressure).

IMPORTANT

Where torque settings are critical, the final tightening of nuts or bolts must be by hand, using a calibrated torque wrench.

WARNING

NEVER use standard hand sockets, as these could shatter with serious consequences, use only impact sockets, which must be in good condition.

MAINTENANCE

Daily before use.

1. Drain water from air tank, air line and compressor.
2. Check and clean, if necessary, the air inlet gauze filter .
3. Pour a few drops of CLARKE Air Line Oil (approx 3cc), into the air inlet. This should be carried out regardless of whether or not an air line lubricator is used. If an Air line lubricator is NOT used, this procedure should be repeated after every two to three hours of use.

If the Ratchet 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.

For lubricating the air motor when in operation, an air line lubricator should be used, with Clarke Air Line Oil, adjusted to 2 drops per minute.

Clarke Air Line Oil is available from your CLARKE dealer, part no. 3050825.

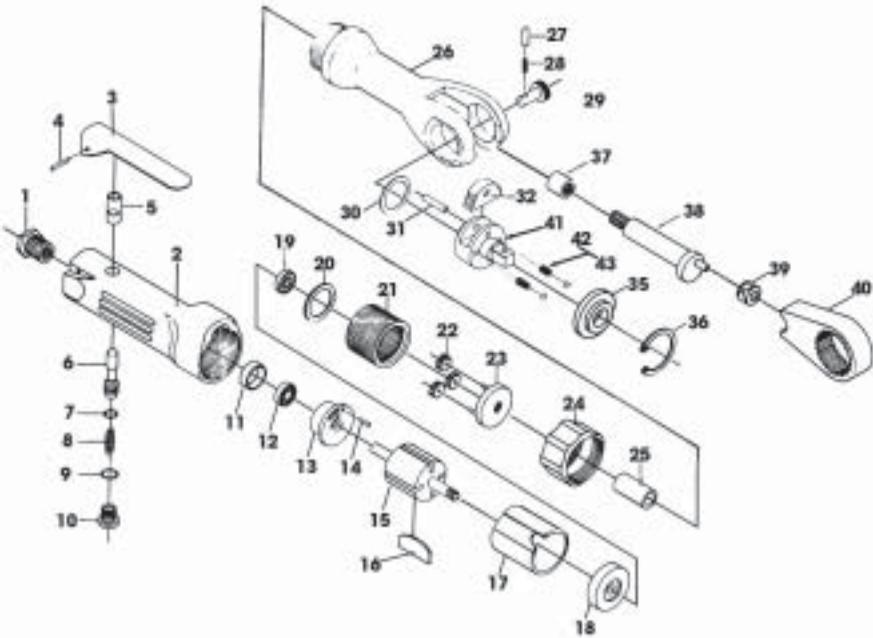
Be aware that factors other than the tool may effect its operation and efficiency, such as reduced compressor output, excessive drain on the airline, moisture or restrictions in the line, or the use of connectors of improper size or poor condition which will reduce air supply.

Grit or gum deposits in the tool may also reduce efficiency. This condition can be corrected by cleaning the air strainer and flushing out the tool with gum solvent oil, or failing this, the tool should be disassembled, thoroughly cleaned, dried and reassembled.

If the tool runs erratically or becomes inefficient, and the air supply is sound, dismantle the air motor and replace worn or damaged parts, or take the tool to your CLARKE dealer.

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PARTS DIAGRAM



PARTS LIST

Index No.	Part No.	Description	Qty	Index No.	Part No.	Description	Qty
1	106301	Bushing - Air Inlet	1	22	106322	Gear	3
2	106302	Handle	1	23	106323	Gear Plate	1
3	106303	Throttle Lever	1	24	106324	Clamp - Housing	1
4	106304	Pin	1	25	106325	Bearing	1
5	106305	Throttle Bushing	1	26	103326	Ratchet Housing	1
6	106306	Valve - Throttle	1	27	106327	Pin - Lock	1
7	106307	'O' Ring	1	28	106328	Spring - Ratchet	1
8	106308	Spring - Throttle	1	29	106329	Button - Reverse	1
9	106309	'O' Ring	1	30	106330	Washer	1
10	106310	Plug - Throttle Valve	1	31	106331	Pin	1
11	106311	Bearing Cap	1	32	106332	Pawl - Ratchet	1
12	106312	Bearing	1	35	106335	washer	1
13	106313	Plate - Front End	1	36	106336	Retaining Ring	1
14	106314	Pin	1	37	106337	Bearing	1
15	106315	Rotor	1	38	106338	Shaft - Crank	1
16	103316	Rotor Blade	4	39	103339	Bushing - Drive	1
17	106317	Cylinder	1	40	106340	Yoke - Ratchet	1
18	106318	Plate - Rear End	1	41	106341	3/8" Shank - Ratchet	1
19	106319	Bearing	1	42	106342	Spring	2
20	106320	Bearing Cap	1	43	106343	Steel ball	2
21	106321	Spindle Housing	1				

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This is an important document and should be retained

DECLARATION OF CONFORMITY



We declare that this product complies with the following standards/directives:

- 89/392/EEC
- 91/368/EEC
- 92/68/EEC
- 93/44/EEC

Description: **AIR TOOL RANGE**

Model No: **CAT221B**

Serial (Batch) No: **See Product Date Plate**

Signed: 

Clarke INTERNATIONAL

Hemnal Street, Epping, Essex CM16 4LG

A SELECTION FROM THE VAST RANGE OF

ClarkeTM

QUALITY PRODUCTS

AIR COMPRESSORS

From DIY to industrial. Plus air tools, spray guns and accessories.

GENERATORS

Prime duty or emergency standby for business, home and leisure.

POWER WASHERS

Hot and cold, electric and engine driven - we have what you need.

WELDERS

Mig, Arc, Tig and Spot. From DIY to auto/industrial.

METALWORKING

Drills, grinders and saws for DIY and professional use.

WOODWORKING

Saws, sanders, lathes, mortises and dust extraction.

HYDRAULICS

Cranes, body repair kits, transmission jacks for all types of workshop use.

WATER PUMPS

Submersible, electric and engine driven for DIY, agriculture and industry.

POWER TOOLS

Angle grinders, cordless drill sets, saws and sanders.

STARTER/CHARGERS

All sizes for car & commercial use.



Clarke INTERNATIONAL

For spare parts and servicing, please contact your nearest dealer, or Clarke International on

020 - 8988 - 7400

e-mail: Parts@clarkeinternational.com e-mail: Service@clarkeinternational.com