

# Chamiko®

## air



## NEEDLE SCALER

MODEL NO: CAT51

PART NO: 3110565

## OPERATING & MAINTENANCE INSTRUCTIONS

GC0315

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## INTRODUCTION

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Thank you for purchasing this CLARKE Needle Scaler.

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.

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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 effect your statutory rights.

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## SPECIFICATION

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Model Number	CAT51
Min. Hose Size (ID)	8mm (5/16" BSP)
Max Operating Pressure	90 psi (6.2 bar)
Max Air Consumption	5 cfm (average)
Blows per minute	4500 (@ 6.2 bar)
Piston Stroke	27 mm
Air Inlet Size	1/4" BSP Female
Sound Pressure Level (LpA dB)	95.1 dB(A)
Sound Power Level (LwA dB)	106.1 dB(A)
Vibration Levels	18.2 m/s <sup>2</sup>
Weight	2.8 kg

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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. 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 POWER 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 gasses 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. Keep the air supply hose away from heat, oil and sharp edges.
8. Do not fit the tool to any stand or clamping device that may damage it.
9. Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
10. Do not use the tool for any purpose than that described in this manual.
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 personnel.
  15. Avoid damaging the tool f by applying excessive force.
  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. Never carry the tool by the air hose or with your finger on the trigger.
2. Always disconnect from the air supply when changing bits or when the tool is not required for immediate use in order to avoid accidental starting.
3. Always use both hands to control the tool.
4. Always ensure the tool has stopped before putting it down after use
5. When not in use the tool must be disconnected from the air supply and stored in a dry place out of the reach of children.
6. Avoid storing the tool where the temperature is below 0°C.

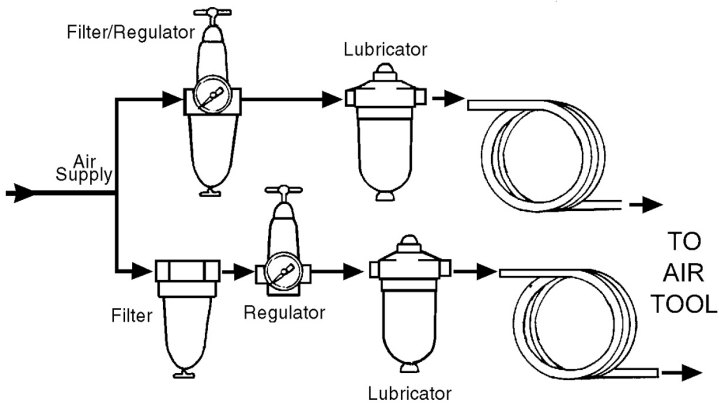
**Please keep these instructions in a safe place for future reference.**

# 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.**

- 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.
- 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.



- A typical air line layout is shown above. 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.
- For optimum 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.

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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 COMPRESSED AIR SUPPLY.**

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

1. If required, connect an in-line mini oiler to the tool.
  - A mini oiler helps to prolong the life of the air tool.
2. 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.
3. Connect a suitable hose as shown.
4. Connect the other end of the hose to the compressor.
5. Turn on the air supply and check for air leaks. Rectify any found before proceeding.
  - PTFE tape may be useful for sealing threaded connections.

Your air tool is now ready for use.

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## OPERATION

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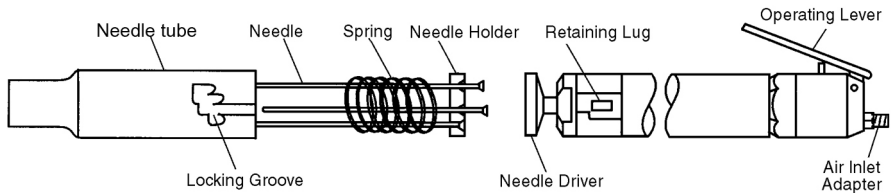
### FITTING THE NEEDLE HOLDER

The Scaler is packed in two halves.

1. The main body and hammer assembly
2. The needles with needle holder, needle tube and spring

The needles, needle holder and spring, are inserted in the Needle Tube in the manner shown in fig. 1, ensuring the Needle Holder is the correct way round, so that the heads of the Needles sit snugly in the recesses provided in the Holder.

Push the needle tube, complete with needles, needle holder and spring, on to the main body so that the retaining lug, in the body, enters the slot in the side of the tube, shown in fig. 1. Continue to push against spring pressure until the body may be twisted, and thereby locked, into one of three positions.



The first position, achieved by turning the body and the retaining lug anticlockwise, creates the greatest needle force, the second position, achieved by pushing harder against spring pressure and turning the body clockwise, creates a slightly lesser force, and the third position, achieved in a similar manner, creates even less. A position should be selected depending upon your requirements, dictated by the finish required and the type of material being worked.

A gauze filter is fitted within the air inlet adapter. Ensure this filter is always in place and clean. An air line is connected to the adapter, preferably via a quick release coupling (not supplied).

Ensure the operating lever is NOT depressed when connecting the air line.

## USING THE TOOL

Hold the tool with the fingers of one hand wrapped around the operating lever, and bring towards the work at an angle of approx.60-70°. With the airline pressure set to 90 lbf/in<sup>2</sup> (6.1bar), pull the operating lever and allow the needles to come into contact with the work.

Moving slowly across the work surface, proceed to remove scale, rust or other contaminants.

Release the trigger to stop operation, noting that the tool may impact briefly after the trigger is released.

## DISCONNECTING THE AIR SUPPLY

1. Do not disconnect the air supply hose until the compressor has been shut down and the compressed air released.
2. Refer to the compressor instruction manual for the procedure to shut down and vent the compressed air.
3. Once the pressure has been released, disconnect the air supply hose from the air tool.

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# MAINTENANCE

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**WARNING: MAKE SURE THAT THE AIR TOOL 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. Pour a few drops of Clarke air-line oil, into the tool air inlet. This should be carried out regardless of whether or not an in-line mini oiler is used. If an in-line mini oiler is not used, this procedure should be repeated after every two to three hours of use, or at the start of the working day.
3. Keep the body of the tool clean and free from debris.

## CLEANING

1. Keep the body of the tool clean and free from debris.
2. 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.
3. After extensive use, remove the inlet screen filter and flush out the mechanism with gum solvent oil or an equal mixture of SAE No10 oil and paraffin. Allow to dry before use.
4. If the tool 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.

## STORAGE AND SPARE PARTS

1. 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 environment.
2. A wide range of accessories is available including filter/regulators, lubricators, high-pressure hoses (5 to 50 metres) etc. Contact your Clarke dealer for further information or the Clarke International Service Department.
  - Replacement needle set;- Clarke part no; 3110566.



## TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Tool runs at normal speed but slows down under any load.	<ol style="list-style-type: none"> <li>1. Piston 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. Moving 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. 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. Piston 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>

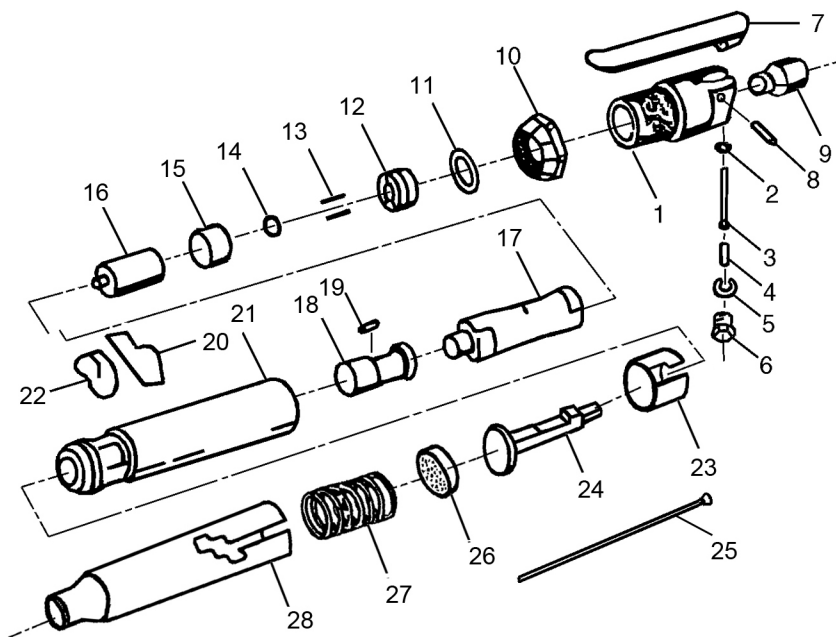
## PERFORMANCE

Please note that 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 air-line, or the use of connectors of improper size or poor condition which will reduce air supply.

\*\*Clarke Air Line Oil (part no. 3050825) is available from your Clarke dealer.

Your Clarke 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.

## COMPONENT PARTS



No	Description
1	Main Body
2	O-Ring
3	Throttle Valve
4	Spring
5	Gasket
6	Valve Cap
7	Lever
8	Pin
9	Hose Adaptor
10	Locking Ring
11	Alignment Shim
12	Rear Valve Block
13	Pin (2)
14	Valve

No	Description
15	Front Valve Block
16	Piston
17	Barrel Sleeve
18	Nose
19	Key
20	Driver Retainer
21	Retainer Buffer
22	Barrel Assembly
23	Retainer Clip
24	Needle Driver
25	Needle (19)
26	Needle Holder
27	Spring
28	Needle Tube

# DECLARATION OF CONFORMITY

**Clarke**<sup>™</sup>  
INTERNATIONAL



## CERTIFICATE OF CONFORMITY

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

- 89/392/EEC
- 91/368/EEC
- 93/44/EEC
- 93/68/EEC
- EN 292

Product Description: **NEEDLE SCALER**

Model Number: **CAT 51**

Serial (Batch) No:

Signed 

**Clarke** INTERNATIONAL  
Hemnal Street, Epping, Essex CM16 4LG

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