

Clarke®



1500W INDUCTION HEATER

MODEL NO: IT1500

PART NO: 3400765

OPERATION & MAINTENANCE INSTRUCTIONS

UK
CA | CE

ORIGINAL INSTRUCTIONS

DL0124 Rev 2

INTRODUCTION

Thank you for purchasing this CLARKE IT1500 Induction Heater.

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.

GUARANTEE

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.

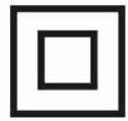
Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

SPECIFICATION

IP Rating	IP20
Operating Voltage	230V ~ 50Hz
Electrical Insulation Class	Class II
Rated Input Wattage	1500W
Rated Input Ampage	10A
Instrument Protection Temp.	120°C
Weight	2.40kg
Dimensions (LxWxH)	296mm x 110mm x 167.5mm

SAFETY SYMBOLS

	Read and understand this instruction manual before use		Wear Eye Protection
	Wear Protective Gloves		Wear a Dual Filter Protective Mask
	Class 2 Appliance		DO NOT use if you have an Active Implant
	DO NOT touch hot components		Warning: Risk of Fire
	Warning: Risk of Explosion		Warning: Magnetic Field
	Warning: Hot Surface		DO NOT use in the Rain
	WEEE Directive		

OVERVIEW

When unpacking, check for damage or shortages etc. Any found should be reported to your CLARKE dealer where the product was originally purchased.

This Induction Heater Kit is supplied with the following components:



1	Induction Heater	5	26mm Tubular Heating Coil
2	U Shaped Heating Coil	6	32mm Tubular Heating Coil
3	Flat Heating Coil	7	Flexible Heating Coil
4	20mm Tubular Heating Coil	8	Hard Storage Case

ELECTRICAL CONNECTIONS



WARNING! Read these electrical safety instructions thoroughly before connecting the product to the mains supply.

This product is provided with a standard 10 amp, 230 volt (50Hz), BS 1363 plug, for connection to a standard, domestic electrical supply. Should the plug need changing at any time, ensure that a plug of identical specification is used.

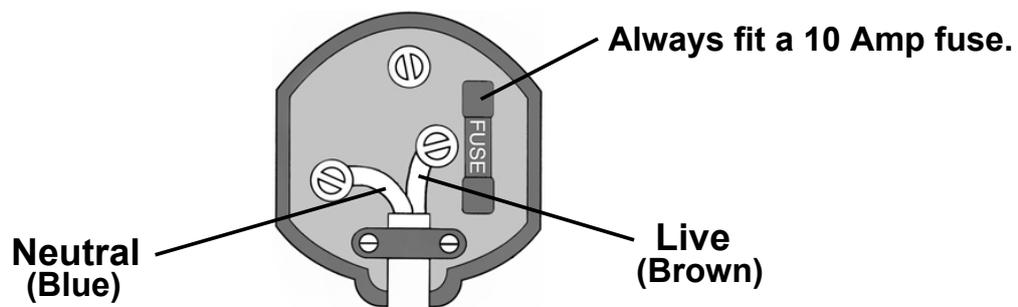


**WARNING! The wires in the power cable of this product are coloured in accordance with the following code:
Blue = Neutral Brown = Live**

If the colours of the wires in the power cable of this product do not correspond with the markings on the terminals of your plug, proceed as follows.

- The wire which is coloured **Blue** must be connected to the terminal which is marked **N** or coloured **Black**.
- The wire which is coloured **Brown** must be connected to the terminal which is marked **L** or coloured **Red**.

Plug must be BS1363/A approved.



Ensure that the outer sheath of the cable is firmly held by the clamp

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD)

If in any doubt, consult a qualified electrician. **DO NOT** attempt any repairs yourself.



This symbol indicates that this is a Class II product, and does not require an earth connection.

SAFETY PRECAUTIONS



WARNING: THE OPERATOR MUST FOLLOW ALL INSTRUCTIONS WITHIN THIS INSTRUCTION MANUAL

WORK AREA

1. Keep the work area clean and well lit. Cluttered and dark areas invite accidents.
2. Keep all flammable materials away from the work area.
3. Keep children and bystanders away while working. Distractions can cause you to lose control and bystanders should be kept at a safe distance from the working area especially when work is in progress.
4. When using the heater, **ALWAYS** keep a fully charged fire extinguisher ready on hand.

PERSONAL SAFETY

1. If you have a cardiac pacemaker or any other kind of electronic or metal surgical implant, consult your doctor before using this induction heater.
2. Before operating the heater, remove all loose coins, metallic tokens, keys, chains, pocket knives, miniature tools or any other metallic objects in or on your clothing. **DO NOT** replace these items until you have finished using the heater. This heater can heat these metal articles very quickly, causing serious burn injuries or even ignite clothing.
3. **STAY ALERT**, watch what you are doing and use common sense when using this equipment. **DO NOT** operate the heater while tired, ill or under the influence of drugs, alcohol or any medication.
4. **DO NOT** use the heater within 10cm of any airbag component. The heat generated by the induction heater can ignite the airbag propellant, causing it to explode without warning. Before operating the heater, check the vehicles service manual for precise airbag locations.
5. **DO NOT** over-reach. Keep your proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
6. Concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
7. **ALWAYS** wear safety goggles while using the heater.
8. Fumes and smoke from hot/burning adhesives are toxic. **ALWAYS** wear a dual filter respirator mask. Make sure the mask fits. Beards and facial hair

may hamper a proper seal of the mask. **DISPOSABLE PAPER MASKS ARE INADEQUATE.**

9. **ALWAYS** wear heat resistant gloves when using the heater. You can burn your hands/fingers when trying to remove parts from hot metal surfaces.
10. Before working on a vehicle with this heater, ensure the vehicle is well supported and completely stable. Remember that during body repair, there is always the possibility of a fixture slipping or a body part failing, which could cause the vehicle to jolt suddenly. If the vehicle is not adequately supported, it could fall with possibly serious consequences.
11. **NEVER** modify this equipment in any way.
12. Check the equipment for damage before use. Any damaged part should be discarded and replaced. Check for alignment of parts, breakage of parts, and any other condition that may affect the operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use. Consult your local CLARKE dealer.
13. Store out of the reach of children and **DO NOT** allow persons unfamiliar with these instructions to use this product.
14. **DO NOT** use the heater in the rain, moisture and **DO NOT** immerse it in water. Exposing the heater to water or other liquids may cause electrical shock.
15. Disconnect the power supply cord of the heater before changing any of the applicators.
16. **DO NOT** twist or bend the electrical cord sharply as it could damage the internal wiring.
17. **DO NOT** abuse the electrical cord. **NEVER** use the cord to carry the heater. Keep the cord away from heat, oil, sharp edges and/or moving parts. **DO NOT** use the heater if the cord is damaged.
18. Unplug the heater from the power supply outlet when not in use.
19. Only use one extension cord with the correct specifications to work with power tools. **DO NOT** connect two or more extension cords in series with each other. Fully unwrap extension cords. Tightly wrapped extension cords can overheat and cause a fire.

FIRE HAZARD SAFETY

1. **DO NOT** attempt to heat aerosol cans, paint cans or any pressurised containers used for storing fuels, compressed gases and liquids. The heat generated by the induction heater can cause these containers to explode and ignite the contents.
2. **DO NOT** use any heating coil if the insulation has been breached, as it may cause sparks when contacting with a vehicle. This will be a fire hazard especially when working on or near fuel lines and/or fuel tanks.

WORK SAFETY

1. **ALWAYS** make sure the power unit has enough air supply for cooling. Ensure that the vents of the heater power unit are clean and free of dust and debris allowing the unit to have an unimpeded flow of cooling air.
2. **DO NOT** block the power unit fan. The fan is always running when the induction heater is plugged in. It is always cooling the heater to avoid overheating.
3. **DO NOT** leave the heater unattended when plugged in and switched on.
4. **DO NOT** attempt to repair or service the induction heater yourself.
5. LED illumination: When plugging in the device, the LED light will switch on too.
6. Overheat Protection: The heater will automatically stop working after approximately ten minutes of continuous operation due to the overheating protection device. The LED light will start blinking when the overheating protection device is becoming active. When the LED light stops blinking you can continue to work.
7. **DO NOT** touch the heating coil by hand before the equipment and coil are not completely cooled off. Coils with high temperatures should be removed from the heater by means of tools. After the hot coil is removed from the heater, keep it in a safe place until cold.

PREPARATION FOR OPERATION

Before operating the heater, please read carefully and understand all the safety warnings and precautions in this manual.

- **ALWAYS** use a stable output power supply.

USE OF GENERATORS AND INVERTERS

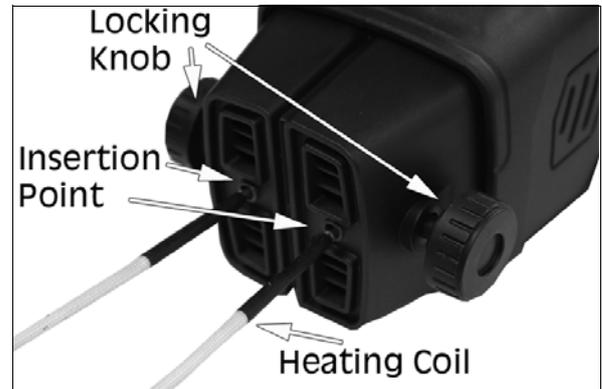
1. Generators: Some portable generators, especially low cost ones with power of 4kW or less are unregulated and may generate voltages exceeding 260V, which can damage the heater and invalidate the guarantee.
2. Inverters, DC to DC converter operation: Use only 3kW or larger sinusoidal inverters.

OPERATION

SET UP

1. Evaluate the maximum size of the object to be heated and select the appropriate heating coil.

2. Making sure the heater is not connected to a power supply, insert the heating coil into the heating coil insertion ports and rotate the locking knobs clockwise on both sides of the heating coil to ensure that the coil is locked in to position.



3. Connect the power plug to a standard 230V AC outlet. The fan will automatically start.



4. Place the heating coil to the required position on the workpiece to be heated, making sure it **DOES NOT** touch the workpiece. Press and hold down the red heating switch and the LED indicator lamp will turn on and the heater will start to heat the coil.



5. When the heated workpiece meets the required temperature, release the heating switch (the LED lamp will go off). Place the heater on a flat secure area away from any flammable materials and leave to cool for approximately 15 minutes before unplugging the heater.

CAUTION: PLEASE SELECT AND INSTALL THE HEATING COIL IN STRICT ACCORDANCE WITH THESE OPERATING PRINCIPLES AND PROCEDURES BEFORE IT IS ENERGISED. AFTER THE HEATER HAS BEEN SWITCHED ON, THE HEATING COIL

INSERTION PORT AND COIL SHOULD NOT BE TOUCHED BY HAND UNTIL COMPLETELY COOLED DOWN.

USE OF THE TUBULAR HEATING COILS

- Function: The tubular heating coils (4,5 & 6 in the Overview on page 4) are used to heat nuts, mechanical bolts, fasteners, frozen door hinges, exhaust manifold bolts, truck bed bolts, sensors (O₂) etc.

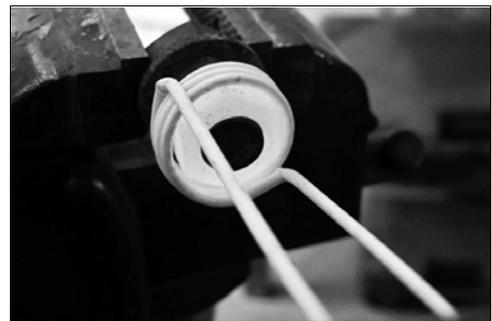
NOTE: The service life of the tubular heating coils can be prolonged by heating the workpiece enough to disassemble without excessive heating. During the heating process, the heating coils **SHOULD NOT** touch the workpiece and heated object. If the temperature of the workpiece is too high, the insulation layer of the coil may burn out.



CAUTION: TO PROTECT THE FIBREGLASS INSULATION ON THE COILS DO NOT HEAT UP THE WORK PIECE TO THE POINT IT IS GLOWING RED.

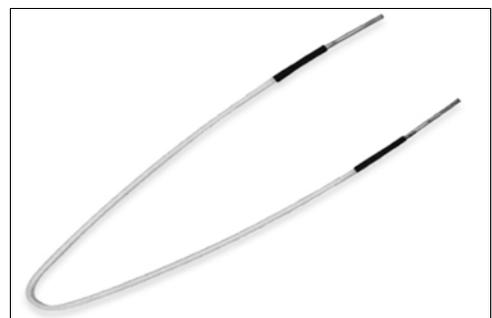
Loosening frozen, rusty, corroded screws and nuts:

1. Follow the instructions for preparation of operation and set up on page 8.
2. Press the heating switch to start the heater.
3. Place the related coil around the nut, initially for two seconds only, pull it back and try to remove the nut with a wrench or socket set. If it is still tight, apply the coil for another two seconds and then try to unscrew again. Usually, there is no reason to heat a screw/nut/bolt up to red hot condition in order to remove the corrosion from the bolt.



USE OF THE U SHAPED HEATING COIL

- Function: The U shaped heating coil (2 in the Overview on page 4) can perform any work of the other coils and can be customised to remove and repair dents.

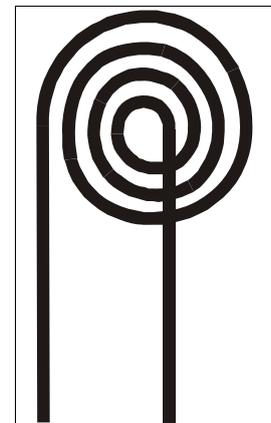


Remove and repair of dents:

1. Follow the instructions for preparation of operation and set up on page 8.

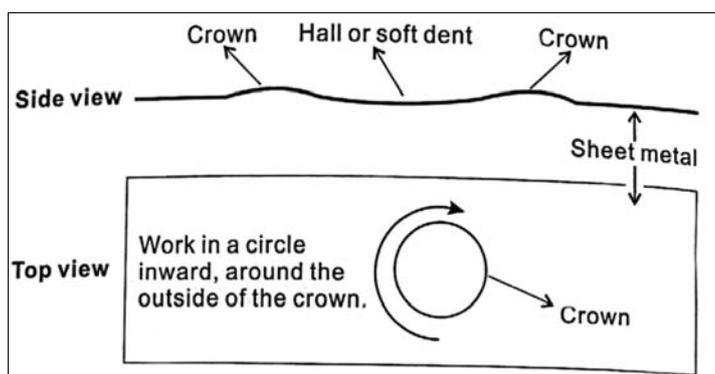


2. Bend the coil in the way that looks like the drawing on the right and relevant to the size of the dent.



3. Press the heating switch to start the heater.

4. Place the coil 12 to 25 mm above a dent and move the coil in small circular motions inward around the outside of the crown of the dent. If the dent shrinks, pull the heating coil back quickly and cool the dent with a damp cloth. If the dent sucks in, then you are heating the crown, or you are not far enough from the outside of the crown of the dent.



5. Repeat the procedure until the dent is removed to your satisfaction.

NOTE: Should smoke appear from the dent, immediately remove the coil. At this point, the paint will start to bubble. Also pay attention that white and light colours tend to become yellowish earlier than dark colours.

NOTE: In case the dent does not seem to shrink, it may be caused by a crease in the metal or the metal has been distorted too much.

USE OF THE FLEXIBLE HEATING COIL

- Function: The flexible heating coil (7 in the Overview on page 4) is used to clear a bearing from an axle housing, frozen O2 sensors, remove ball joints and tie rod ends.



Expanding a piece to remove an interlocking piece:

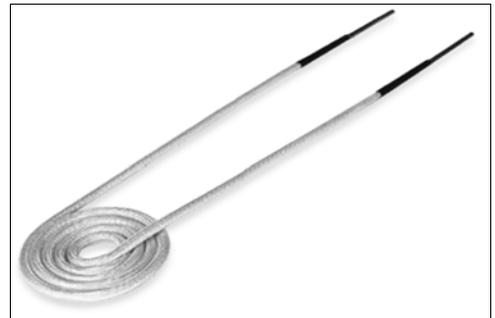
1. Follow the instructions for preparation of operation and set up on page 8.
2. Insert one end of the flexible coil into the one of the heating coil insertion ports and tighten the locking knob.
3. Wind the coil at least 3 times around the work piece to be expanded, making sure that the coil **DOES NOT** touch the work piece.

NOTE: It will heat faster as more coil is wound round the workpiece.

4. Insert the other end of the flexible heating coil into the remaining insertion port and tighten the locking knob.
5. Press the heating switch to start the heater.
6. Heat until the workpiece has expanded enough to remove the bearing.
7. Release the heating switch and loosen both coil locking knobs to release the heating coil.

USE OF THE FLAT HEATING COIL

- Function: The flat heating coil (3 in the Overview on page 4) is used for removing stickers, graphics, decals, emblems, small body side mouldings and pin striping.



Removing graphics:

1. Follow the instructions for preparation of operation and set up on page 8.
2. Press the heating switch to start the heater.
3. Apply the flat heating coil near the end of the related piece to be removed for a few seconds, making sure the coil **DOES NOT**



touch the work piece. Once you can peel off the end of the piece, you will have an area to pull on. Reapply the flat coil to the piece, working it down

the piece while keeping outward pressure until the piece is completely removed.

TROUBLESHOOTING

1. If the heater is overheated or overloaded during the heating process, the heater will automatically stop heating and enter the protection mode. At this moment, the LED light will start blinking. Release the heating switch, the cooling fan will continue to work. Place the heater in a safe place and wait a few minutes until the LED light is constantly on. The state of the LED light is controlled and can be followed by the heating switch.
2. If there is a lack of power output, this might be from using an improper or damaged extension cord. Use only one extension cord at a time.
3. During heating up, smoke may occur at the head of the heating coil due to high temperature. This is a normal phenomenon.
4. The heating coils are consumables. If the outer skin of the coil falls off in a large area after use, it is recommended to replace the heating coil by a new one. **DO NOT** use external or self-made coils to avoid damage of the equipment and prevention of accidents.

DISASSEMBLY AND STORAGE

After releasing the heating switch, leave the fan to cool for at least 15 minutes until all components and the working coil are completely cooled down.

1. When the work is completed, release the heating switch to ensure the continuous operation of the fan.
2. Place the heater on a solid flat surface, well away from any flammable materials as coil and heater will still be hot.
3. After the heater has cooled down (approximately 15 minutes), unplug from the mains power, release the locking knobs and remove the coil, making sure the coil is cool to the touch.
4. Replace heater and heating coils back in the storage case and store in a safe place.
5. While disassembling, if necessary, replace any damaged heating coils immediately after a heating operation to be ready for the next heating operation.

CLEANING GUIDANCE

PROPER CLEANING AND CARE

1. When cleaning, make sure that the unit is switched off and unplugged. Use a dry, clean, non-abrasive cloth or paper towel to remove grease, oil and other dirt from the housing, tools and electrical cords before returning them into the storage case.
2. For more stubborn grease, oil and dirt, use a generally available non-volatile automotive interior cleaning product. Allow all components to dry completely before using the heater.

IMPROPER CLEANING AND CARE

1. **DO NOT** immerse any components of the unit in water or cleaning solutions.
2. **DO NOT** spray the unit with a stream of water from a hose or wash any parts under a stream of water from a tap, hydrant or shower.
3. **DO NOT** clean any components with volatile organic compounds such as petrol, benzene, kerosene, vanish remover, fuel oil, methyl ethyl ketone (MEK), brake part cleaner, plastic adhesive solvents, paint remover and thinners, etc. These substances are fire hazards and will harden or dissolve the polymer materials used in the components of the heater.
4. **DO NOT** use torches, space heaters, heat guns, gas ovens or microwave ovens, etc. to dry the components of the heater after cleaning.

DECLARATION OF CONFORMITY



Clarke[®]
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 directive(s):

2006/42/EC Machinery Directive
2014/30/EU Electromagnetic Compatibility Directive
2011/65/EU Restriction of Hazardous substances (2015/863/EU RoHS Amendment)

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

EN 62233:2008, EN 60335-2-45:2002+A1:2008+A2:2012,
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019, EN IEC 61000-6-4:2019,
EN IEC 61000-6-2:2019, IEC 62321-5:2013, IEC62321-4:2013+AMD1:2017, IEC 62321-7-2:2017,
IEC C62321-7-1:2015, IEC 62321-6:2015, IEC 62321-8:2017

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: 2021

Product Description: 1500W Induction heating tool
Model number(s): IT1500
Serial / batch Number: N/A
Date of issue: 18/08/2021

Signed:

J.A. Clarke
Director

IT1500 CE Clarke DOC 081821

Page 1 of 1



Clarke[®]
INTERNATIONAL
Hemmill Street, Epping, Essex CM16 4LQ

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
Electromagnetic Compatibility Regulations 2016
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

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

EN 62233:2008, EN 60335-2-45:2002+A1:2008+A2:2012,
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019, EN IEC 61000-6-4:2019,
EN IEC 61000-6-2:2019, IEC 62321-5:2013, IEC62321-4:2013+AMD1:2017, IEC 62321-7-2:2017,
IEC C62321-7-1:2015, IEC 62321-6:2015, IEC 62321-8:2017

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: 2021

Product Description: 1500W Induction heating tool
Model number(s): IT1500
Serial / batch Number: N/A
Date of issue: 18/08/2021

Signed:

J.A. Clarke
Director

IT1500 UKCA Clarke DOC 081821

Page 1 of 1

A SELECTION FROM THE VAST RANGE OF

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