



Induction heater K 12130



Thank you for purchasing the Kamasa Tools hand held induction heater. This tool is designed to loosen seized bolts and nuts. It is a precision instrument and to ensure safe and proper use and ensure a long service life, please read through the following instructions.

**CONTENT**

- Safety and precaution
- Product specification
- Components and features
- Operation instructions
- Maintenance
- Troubleshooting
- Spare coils

**IMPORTANT:**

Please ensure you have read and understood these operating and safety instructions before using the induction heater.

## **SAFETY AND PRECAUTION**

- Keep bystanders and children away while operating the induction heater.
- Keep a fully charged fire extinguisher or fire blanket at hand at all times when using the induction heater.
- Ensure no flammable products are near the work area while using the induction heater.
- If you have a cardiac pacemaker or any other kind of electronic or metal surgical implant DO NOT operate the tool, and always stay at least 1 meter away from anybody operating a induction heater.
- Although the magnetic fields emitted by the tool only travel a few inches, they pose a dangerous risk to the proper operation of all implanted medical electronic devices in the user and any bystanders.
- Do not use the induction heater within 150mm of any air bag component. The heat created by the induction heater can ignite the air bag squib propellant causing it to explode without warning. Refer to the vehicles service manual for precise air bag location before operating.
- Do not operate the induction heater while under the influence of drugs, alcohol or any medication.
- Do not operate the induction heater while wearing any metallic items such as jewellery, (including rings, watches, chains, identification tags, body piercing) or belt buckles.
- Remove all loose coins, keys, chains, pocket knives, miniature tools, or any other metallic object in, or, on your clothing before operating the induction heater.
- Do not wear clothing that contains metallic rivets, waistband buttons, pocket buttons or zips when operating the induction heater.
- The induction heater can heat these metallic objects very quickly and cause serious burns or even ignite clothing.
- Always wear safety goggles when using the induction heater.
- Fumes and smoke from hot/burning adhesives are toxic. Wear an appropriate dual filter (dust and fume) mask.
- Wear heat-resistant gloves when using the induction heater as it heats metal very quickly. You can easily burn your hands and fingers when trying to remove parts from hot metal surfaces.

Do not fit or remove a coil or rope coil with the induction heater plugged into the mains.

- Before plugging in the induction heater, make sure that the outlet voltage supplied is compatible with the voltage marked on the label and within 10% of the stated voltage. An outlet voltage incompatible with that specified on the label can result in serious hazards and damage to the induction heater.
- Ensure the induction heater is connected to a supply that is adequately earthed. (Grounded)
- Do not use the induction heater in rain, moisture or immersed in water. Exposing the induction heater to water or other liquids can cause an electrical shock hazard.
- Do not use any attachments except for those supplied by Kamasa Tools, use of non approved attachments may cause damage to the induction heater and invalidate your warranty.
- Do not leave the induction heater plugged into the mains when not in use.
- Damaged cords create electric shock hazards - Do not kink, bend, crush or cut the mains electrical lead. Never carry the induction heater by the mains electrical lead.
- Keep the lead away from heat, oil, sharp edges and/or moving parts.
- Do not use the induction heater if the lead is damaged. Leads cannot be repaired, only replaced.  
Do not use any attachment with damaged insulation, use of damaged attachments can result in sparking and can cause a fire hazard. Use of damaged attachments will invalidate the warranty.

**INDUCTION HEATER SHOULD NOT BE USED CONTINUOUSLY FOR MORE THAN 3 MINUTES ON ANY MATERIAL**

The heat generated by the induction heater can cause paint/ aerosol cans, or any other pressurised or sealed containers used for storing fuels or gas to explode and their contents to ignite.

- Do not use an attachment if the insulation has been breached. If insulation has been breached it can cause sparking when contacting with a vehicle. This could be a fire hazard especially when working on, or near fuel lines and/or fuel tanks.

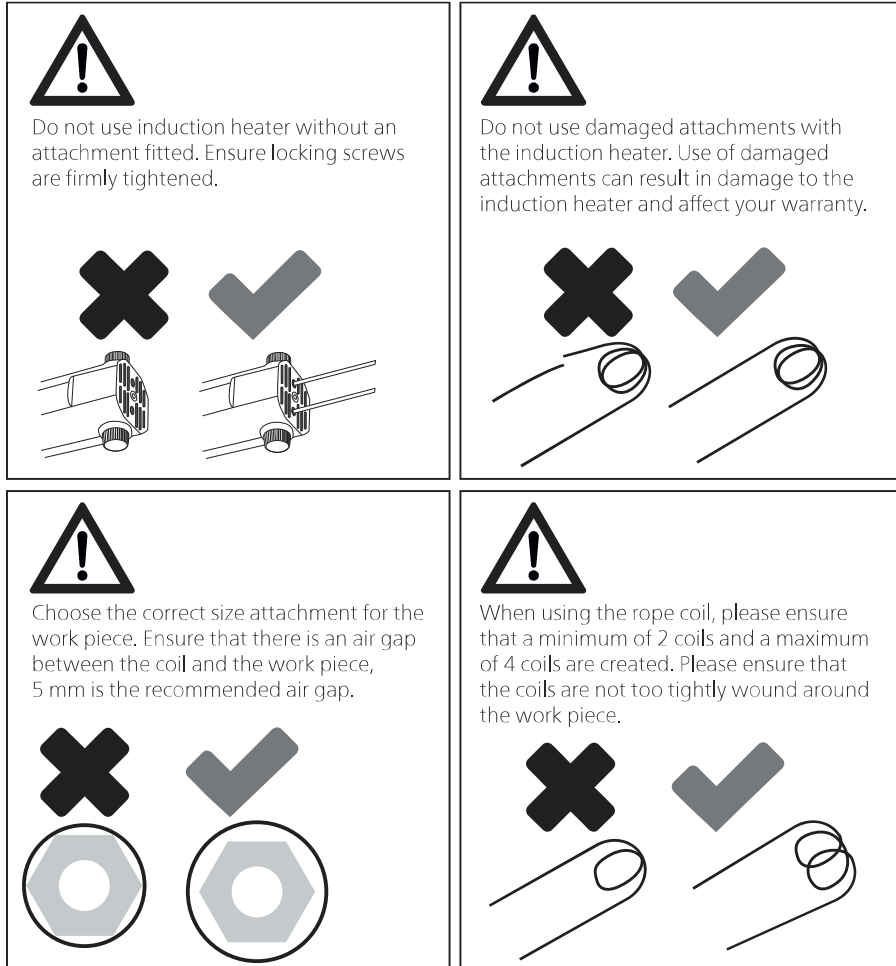
- Use of damaged attachments will invalidate the warranty.

Do not use the induction heater without an attachment fitted. Ensure attachment is securely located and locking screws are firmly tightened. Do not use the induction heater for longer than the stated duty cycle: THREE minutes on followed by THREE minutes off.

- The main circuit board has an overheat protection device, however the attachments do not have overheat protection so should not be used for more than THREE minutes of continued use.
- Please ensure that the cooling fan is running when the power switch is operated, if the fan does not run DO NOT use the induction heater.

Do not attempt to create more than 4 coils, a minimum of 2 coils and a maximum 3 to 4 coils is the optimum number needed for best operation. The induction heater should not be left unattended whilst switched on.

- In order to cool effectively, and prolong the life of your induction heater, always make sure that the vents of the induction heater are clean and free of dust and debris so that the power unit has an unimpeded flow of cooling air.
- Do not attempt to repair or service the induction heater. There are no serviceable parts besides replacing the coil attachments.



**WARNING AND DISCLAIMER OF USE**

While Kamasa Tools has made every effort to ensure the accuracy of the information contained herein, such information is subject to change without notice. Kamasa Tools provides no warranty with regard to this manual or any information contained herein.

Kamasa Tools assumes no liability or responsibility to any person or entity with respect to any loss or damages, direct or indirect, arising from use of the information contained in this document.

## PRODUCT SPECIFICATION

Power supply: 230V AC – 50Hz

Out put: 1500W

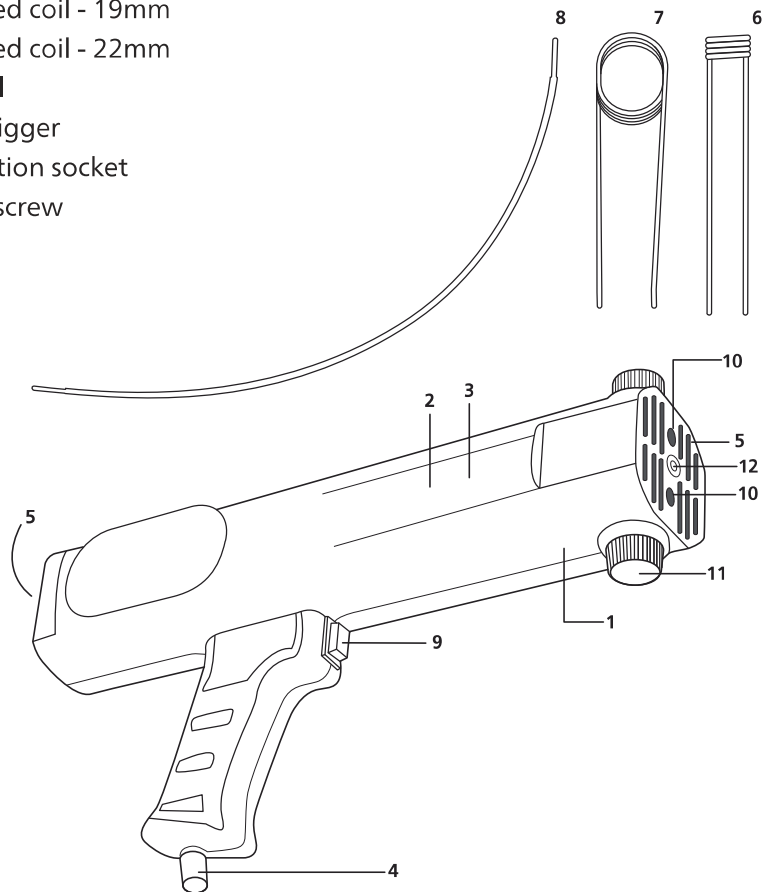
Cooling: fan

Length: 340 mm

Weight: 1820 g

## COMPONENTS

- 1 Power unit
- 2 Serial number
- 3 Model number
- 4 Cord and plug 230V AC
- 5 Vent (end)
- 6 Preformed coil - 19mm
- 7 Preformed coil - 22mm
- 8 Rope coil
- 9 Power trigger
- 10 Coil location socket
- 11 Locking screw
- 12 L.E.D.



## **OPERATION INSTRUCTIONS**

### **Principles of operation**

A preformed coil (6, 7), the rope coil (8), is inserted into the coil location sockets (10) and then secured into place with the locking screws (11). The coil then converts the current to a high frequency alternating magnetic field. This magnetic field crosses the metallic, conductive work surface (e. g., the nut/bolt) and vibrates the electrons in the metal through the principle of electromagnetic induction. The kinetic energy of the moving electrons is dissipated as heat, which rapidly heats metal within the tool's working range.

The induction heater heats ferrous metals and their alloys readily, but has no effect on non ferrous materials, glass, plastics, wood, cloth and other non conducting materials. The power trigger (9) is used to turn the power unit on and off. Push it in to turn on power to the unit. The unit will remain on as long as pressure is applied to the switch. Remove pressure from the switch to turn the power off. Unplug the induction heater when not in use.

### **Preparation for use**

Carefully read and understand all safety warnings and instructions in this manual before operating the induction heater. Pay particular attention to the safety rules in section SAFETY AND PRECAUTION instructions.

The induction heater is designed to operate from a normal 230V AC, 50 Hz mains outlet, and will operate without suffering damage on voltages of up to 250V AC.

### **Generator use**

Some portable generators, particularly low-cost units producing 4kW or less, are unregulated and can produce in excess of 250 V AC which will damage the unit and void the warranty. If you are in any doubt concerning the generator that will be supplying power to the induction heater, have a professional electrician measure the generator voltage with a digital voltmeter. Measure the voltage with the generator engine warm and under no load. With some generators the voltage may be reduced by decreasing the engine speed.

### **Inverter use**

DC to AC Inverter operation; Use only 2kw or larger sine wave inverter. The use of square or quasi-sine wave inverter will void the warranty.



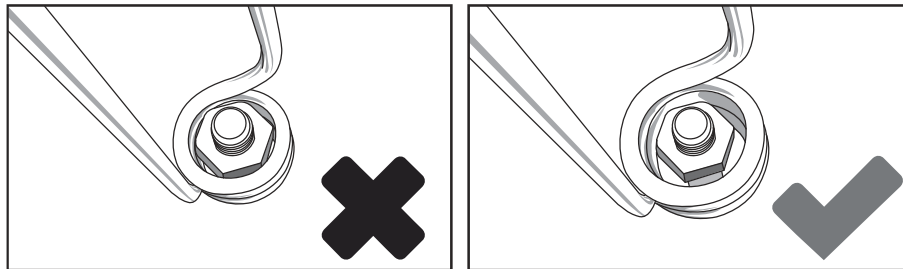
### **SAFETY SELF-PROTECTION**

The induction heater has a unique safety self-protection feature: under a number of conditions it will enter self-protection mode to protect the internal circuitry of the induction heater; in this mode the current is cut, the internal fan slows right down and the white LED at the front of the instrument flashes.

Release the power trigger immediately the inductor enters the self-protection mode. Once the cause or fault is established and then rectified, the inductor will function normally again.

### **Common reasons for the inductor to enter self-protection mode:**

- Attachment or coil contacts loose: Securely locate coil ends in their sockets and tighten the locking screws.
- Braid coil covering is torn, damaged or missing: Fit new, undamaged coil.
- Fitting a coil that is too small, heat damages braid covering (see diagram below): The coil must not touch the fastener or object being heated, there must be an adequate air gap — 5mm minimum. No (or too small) air gap will damage the braid covering as the object heats up.



Coil too small – no air gap

Larger coil – adequate air gap

### **USING THE PREFORMED COILS**

The preformed coil is used to heat nuts, fasteners, caulking removal, door hinges, exhaust manifold bolts, oxygen sensors, etc. The working life of the preformed coil can be maximised by only heating objects enough to break the rust bond. Leaving an air gap between the coil and the work piece is recommended as the insulation of the coil will eventually burn through if held directly to hot material.

- 1 Carefully follow the "Preparation for use" instructions.
- 2 Choose the appropriately sized coil to give the closest fit to the work piece (nut/bolt etc.) ensuring an air gap of 5 mm.
- 3 Insert both ends of the coil into the coil location socket and tighten the locking screws securely.
- 4 Place coil centrally over the work piece.
- 5 Activate the power trigger to run the induction heater until enough heat has been applied to the work piece to break the rust/corrosion bond.

**Tip:**

There is usually no reason to heat a nut to a red-hot condition in order to free it from the corrosion holding it to the bolt.

- 6 Release the power switch to turn off the power.

### **USING THE ROPE COIL**

The rope coil can be used to free a bearing race from an axle housing/hub, remove rusted oxygen sensors, remove ball joints & track-rod ends, heat exhaust pipe joints etc.

- 1 Carefully follow the "Preparation for use" instructions.
- 2 Insert one end of the rope coil into one of the coil location sockets and tighten the locking screw securely.
- 3 Wrap the coil at least 3 times around the work piece to be expanded.
- 4 Insert the other end into the remaining open coil location socket and tighten the locking screw.
- 5 Activate the power switch to run the induction heater until enough heat has been applied to the work piece to break the rust/ corrosion bond.
- 6 Release the power switch to turn off the power.

## **MAINTENANCE**

### **Disassembly and storage**

- 1 Turn unit off and allow it and all attachments to cool for at least 30 minutes before disassembly, cleaning or storage. Handling the unit or parts before they have cooled may result in injury; storage of unit while still hot may result in damage to equipment or pose a fire hazard.
- 2 When you are finished working, turn the power off by releasing the power trigger and make sure that the internal fan stops.
- 3 Disconnect the plug (4) from the mains outlet or extension cord.
- 4 Once cooled sufficiently place unit and coils into foam cut outs in storage case.

**NOTE:** Never disassemble the induction heater. If the sticker covering the screw that holds the chassis together is removed, the warranty is not valid.

### **Cleaning instructions**

- Make sure the unit is turned off and unplugged. Use a dry, clean, non-abrasive cloth or paper towel to remove grease, oil, and other dirt from the induction heater and electrical lead before returning them to the storage case.
- For grease, oil and dirt that is more difficult to remove use a non volatile cleaning product. Allow all components to dry completely before using the induction heater.
- Do NOT immerse any components of the unit in water or a cleaning solution.
- Do NOT spray the unit with water from a hose, or wash any parts under a stream of water from a tap or shower.
- Do NOT clean any components with volatile organic compounds such as petrol, benzene, kerosene, methyl ethyl ketone (MEK), fuel oil, brake part cleaner, paint remover and thinners, varnish removers, plastic adhesive solvents, etc. These substances are fire hazards and will harden or dissolve the polymer materials used in the induction heater components.
- Do NOT use heat guns, microwave or gas ovens, etc. to dry the components of the induction heater



## **TROUBLESHOOTING**

The induction heater is designed to stop running if the internal components become overheated, however, the attachments DO NOT have an overheat shutoff. We recommend a 3 MINUTE duty cycle with the induction heater. (3 minutes on – 3 minutes off).

If the unit stops suddenly: check to ensure unit is still plugged into a functioning AC power outlet. Also be sure if using an extension cord that there are no cuts in the cord. Allow the unit to cool off for at least 30 minutes and then retry.

If there is a lack of power output, this may be from using an improper extension lead or a damaged attachment. Do not use more than one extension cord at once.

## **SPARE COILS**

K 12131	Preformed 15 mm heating coil
K 12132	Preformed 19 mm heating coil
K 12133	Preformed 22 mm heating coil
K 12134	Preformed 26 mm heating coil
K 12135	Rope coil

K 12130

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