Rhino TQ3 Infrared Heater

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IMPORTANT SAFETY INSTRUCTIONS

This instruction booklet contains vital information for the safe use and efficient operation of the *Rhino TQ3*. Carefully read and understand all instructions before operating, maintaining or cleaning the heater. Failure to adhere to the instructions could result in fire, electric shock, serious personal injury or property damage.

KEEP THIS BOOKLET FOR FUTURE REFERENCE.

HEATER IDENTIFICATION



1) Heater Cassette
2) Safety Guard
3) Wheels for easy mobility
4) Heater Body
5) Handle
6) Switch Plate

GENERAL SAFETY INFORMATION

1. **Ensure** power supply is correct voltage for heater by checking the Rating Plate on the rear of the heater cassette.
2. **Ensure** infrared lamps are correct voltage, i.e. 110V power input – 110V lamp, 230V power input – 230V lamp (check Rating Plate as above).
   NOTE: Using infrared halogen lamps of different voltage to the heater can increase risk of damage to heater or personal injury.
3. **Replace** damaged power cord immediately.
4. **Replace** damaged reflectors or safety guard immediately.
5. **Refer** all servicing of electrical parts to a qualified electrician.
6. **Protect** power cord from contact with sharp objects, chemicals or hot surfaces.
7. This product is designed for **indoor** usage only and should not be used outdoors, near or immersed in water.
8. Ensure no object/material/surface is within the minimum safe distance (see *'General Operational Information'*).
9. If an extension power cord is required, use maximum of one only, 14 Metre 3G 4.0mm² for 110V or 3G 1.5mm² for 230V. The extension power cable must be fully unwound. Ensure that correct variant is used.

CAUTION

1. **Ensure** that heater body is positioned on a firm, horizontal dry surface.
2. **Keep away** from flammable objects/materials/surfaces. This product gets very hot during use. Mount or use in a location where accidental contact (particularly by children) is unlikely.
3. **Ensure** on/off switches are set to *'off'* before connecting power cord to power supply.
4. **Do Not** move heater whilst switched on.
5. **Do Not** move heater by pulling on power cord.
6. **Do Not** remove plug from mains supply by pulling on power cord.
7. **Always** switch off heater, disconnect from power supply and allow cooling for at least **one** hour before attempting to touch heater cassette or lamps.
8. **Do Not** remove safety guard whilst heater is switched on. Turn off and allow cooling (as above) before servicing.
9. **Do Not** operate heater without safety guard.
10. **Do Not** operate heater without lamps.
11. **Do Not** operate heater if cassette is not locked in one of the three pre-set directional positions (see *'Adjusting Heater Cassette Direction'*)
12. **Do Not** look directly at illuminated lamp(s).
13. **Do Not** place any object on the safety guard of the heater cassette at any time.
14. **Do Not** use this heater with a thermal/programme control, timer or any other device that switches the heater on automatically as a fire risk exists if the heater is accidentally moved or covered.
15. **Do Not** leave the heater unattended at any time whilst switched on.

INSPECT YOUR NEW HEATER

The package should include the following items which should be removed from the packaging carefully and inspected for damage;

Rhino TQ3 Radiant Halogen Heater

(*with power cord, plug & 2 x 1.4kW infrared halogen heater lamps*)

GENERAL OPERATIONAL INFORMATION

The *Rhino TQ3* may be used with an electrical supply of 110V or 230V dependant on the model (see Rating Plate).

If your model is the 110V variant, *Rhino* recommend the use of the *Defender* 3.0kVA Heater Transformer with 32A outlet (*Part No. E205062*).

The maximum permitted lamps are 2 x 1.4kW. For lamp fitting refer to *'Installation of Infrared Halogen Lamp '* on page 2.

The heater can be operated with either one lamp or both lamps illuminated as desired, but ensure two lamps are fitted at all times.

IMPORTANT: DURING RELOCATION, THE HEATER SHOULD REMAIN SWITCHED OFF AND DISCONNECTED FROM THE POWER SUPPLY.

The **110V** heater is designed for **industrial** use only. Should the heater be knocked over;

- switch *'off'* the heater at the on/off switches
- disconnect the power cord from the power supply
- return the heater to a standing position as described in the *'Caution'* section
- check lamps are inserted correctly into lamp holders ensuring cooling time has been adhered (you may need to remove the safety guard, see *'Installation of Infrared Halogen Lamp'*)
- if no damage has occurred to lamps or lamp holders, replace safety guard if applicable, re-connect power cord to the power supply and switch the heater back on.

In the event of the **230V** heater being knocked over, a safety cut-out switch, which activates at an angle of 35º (±10º), will disable the heater. Follow above steps to re-start the heater.

Should the power cord require replacement, a complete wiring loom should be purchased and fitted by the manufacturer, his agent or a suitably qualified person in order to avoid a hazard.

IMPORTANT: THE MINIMUM SAFE DISTANCE FOR THE HEATER FROM ANY OBJECT, MATERIAL OR SURFACE IS 2M. THIS MUST BE ADHERED TO AT ALL TIMES.

INSTALLING INFRARED HALOGEN HEATER LAMPS

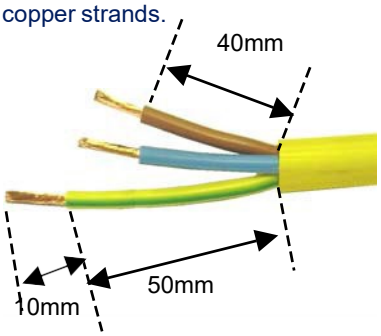
1. Ensure that the lamps are;
   - the correct voltage rating for the power input, i.e. 110V power input – 110V lamp
   - maximum of 1.4kW
2. Remove safety guard on front of heater cassette by loosening and removing all 5 screws and lifting guard in an upward direction.
3. Remove tube from outer packaging carefully leaving it in its protective wrapping (*see 'About The Infrared Halogen Lamps'* on page 2). Expose the end caps of the tube and insert one end into one of the lamp holders. Push tube carefully against lamp holder until other end of tube can be lowered into other lamp holder.
4. Remove protective wrapping from lamp.
5. Repeat steps 4 and 5 for other lamp.
6. Replace safety guard by locating the 3 slots on the bottom of the guard and secure all 5 screws. ***Do not over tighten.***

REPLACEMENT PLUG WIRING INSTRUCTIONS

In the event of the plug requiring re-wiring or replacing, please follow these instructions;

110V – *Rhino* recommend the use of a 32Amp Yellow Plug that conforms to BS 60309.

1. Unscrew the screws holding the plug rear cover with the yellow plug housing and pull apart.
2. Insert a suitable power cord (as recommended in *'General Operational Information'* on page 1) through the rear cover.
3. Loosen the two screws on the strain relief (situated on the rear of the yellow plug housing) and remove it.
4. Strip the outer power cord insulation approx. 50mm to expose the three cores.
5. Reduce the live and neutral cores by 10mm to ensure the earth core is 10mm longer.
6. Strip the insulation of the three cores approx. 10mm to expose the copper strands.



   - Insert the ***BROWN*** (live) core into the correct terminal (manufacture symbols may differ) and loosely tighten both screws.
   - Insert the ***BLUE*** (neutral) core into the correct terminal (manufacture symbols may differ) and loosely tighten both screws.
   - Insert the ***YELLOW/GREEN*** (earth) core into the correct terminal (manufacture symbols may differ) and loosely tighten both screws.
7. Ensure all copper wire is fully inserted into correct terminal positions before fully tightening all terminal screws.
8. Clamp the strain relief over the outer insulation of the power cord (leaving at least 5mm of insulation above the strain relief on the exposed three cores side) and then fix it in place with the two screws.
9. Push the plug rear cover together with yellow plug housing and fully tighten with the 2 screws. ***Do not over tighten***.

230V – *Rhino* recommend the use of a 13Amp UK 3 Pin Fused Re-wireable Plug that conforms to BS 1363/A.

IMPORTANT: IF USING THE 13AMP FUSED PLUG, A 13AMP FUSE, CONFORMING TO BS 1362, MUST BE USED.

1. Unscrew the single centre screw holding the plug rear cover with the plug housing and pull apart.
2. Loosen the two screws on the strain relief (situated on the rear of the plug housing) and remove it.
3. Using a suitable power cord (as recommended in *'General Operational Information'* on page 1), strip the outer power cord insulation as recommended on the plug wiring card or on the underneath of the plug housing itself to expose the three cores.
   IMPORTANT: Ensure that the ***YELLOW/GREEN*** (earth) core is the longest of the three cores to ensure that it will be the last to be 'pulled out' in the case of excessive force applied to power cord.
4. Strip the insulation of the three cores approx. 6mm to expose the copper strands.
   - Insert the ***BROWN*** (live) core into the terminal connected to the fuse housing and finger tighten screw.
   - Insert the ***BLUE*** (neutral) core into the terminal to the bottom left of the live terminal and finger tighten screw.
   - Insert the ***YELLOW/GREEN*** (earth) core into the top centre terminal and finger tighten screw.
5. Ensure all copper wire is fully inserted into correct terminal positions before fully tightening all terminal screws.
6. Clamp the strain relief over the outer insulation of the power cord (leaving at least 3mm of insulation above the strain relief on the exposed three cores side) and fix in place with the two screws.
7. Push the plug rear cover together with plug housing and fully tightened the single centre screw.

If requirement is for a 230V 16Amp or 32Amp Blue Plug, ensure conformity to BS 60309. For wiring instructions, please follow 110V wiring instructions where relevant.

ABOUT THE INFRARED HALOGEN HEATER LAMPS

Rhino recommends the use of *Toshiba* Infrared Halogen Heater Lamps (Slim Ruby type) with this product (obtainable from *Rhino*).

Do Not touch halogen lamp quartz glass with bare hands. Quartz tube material could deteriorate by salt to lose mechanical strength. Sweat on fingers contain salt components and have unfavourable influence on quartz tubes.

Hold the tube using the protective wrapping provided in its package or with a piece of clean dry cloth. If the tube glass surface is touched, clean cold tube with alcohol and a soft cloth.

Do Not touch a lamp just after switching *'off'* its power supply. Temperature of a halogen lamp surface can exceed 600ºC during its operation.

ELECTRICAL TEST, MAINTENANCE & STORAGE

WARNING: THIS IS A CLASS 1 TESTED APPLIANCE

- When earth bond testing, the readings should be 0.10MΩ and below.
- **Do Not** perform a flash test, as this will reduce the life of the lamps.
- **Do Not** use abrasive cleaners or polishes.
- Always switch *'off'*, disconnect the heater from the power supply and allow cooling for recommended time before cleaning. Clean the heater with a damp cloth.
- When not in use, store in a dry suitable environment (preferably in the original carton to prevent damage).

TROUBLE SHOOTING

FAULT DESCRIPTION	SUGGESTED SOLUTION
HEATER DOES NOT OPERATE	• Check power supply. • Check lamp(s) for damage or misalignment. • Check all wiring connections.
OTHERS	Consult a qualified electrician or contact *Rhino* (*contact details opposite*).

SPECIFICATION DATA

PART NUMBER	110V - H029300 230V - H029400
POWER REQUIREMENT	110V~ or 230V~, 50Hz
INFRARED HALOGEN LAMP (***110V & 230V***)	Wattage - 2 x 1.4kW (± 5%) Overall Length - 349mm Average Life - 5000Hrs
POWER CORD LENGTH	3 Metres
PLUG	110V - 32A (*BS 4343/ BS 60309*) 230V - 13A UK 3 pin (*BS 1363/A*) with 13A fuse (*BS 1362*)
POWER CORD	110V - Yellow 3G 4.0mm² H07 VV-F 230V - Black 3G 1.5mm² H07 RN-F
DIMENSIONS (***LxWxH – Heater cassette in upright position, inc. wheels & cass. adj. knob***)	500 x 460 x 1000mm
WEIGHT	14.3Kg
OPERATING TEMPERATURE	-20ºC to +40ºC