

## Troubleshooting Guide

<p>Out of Fuel</p>	<p>If you run out of fuel, the fuel line will fill with air and the heater will need to be re-primed.</p> <p>1- Turn the heater on and wait 6 minutes while it makes two attempts to start. 2- Once the red LED starts to flash slowly, remove the fuse to reset it and then replace the fuse and turn it on again. 3- Repeat steps 1 and 2 up to 6 times to allow the heater to re-prime.</p>
<p>Heater starts, ignites and blows white smoke from the exhaust</p>	<p>This may be due to either residual fuel in the exhaust system from failed starts in the past or some obstruction in the air inlet or exhaust causing incomplete combustion, or it may mean that the heater needs servicing.</p> <ul style="list-style-type: none"> <li>• Check whether the air inlet or exhaust are partially obstructed. Mud, dust and wasp nests are common causes of obstruction.</li> <li>• Run the heater for 20 to 25 minutes and see if the smoke clears. If the exhaust has unburnt fuel in it from failed start attempts, there will be a lot of smoke as it burns off.</li> <li>• If the smoke continues after 25 minutes and the inlet and exhaust are not obstructed, the heater probably needs to be serviced.</li> </ul>
<p>Heater starts, tries to ignite but cannot ignite and blows smoke from the exhaust</p>	<p>Smoke normally indicates the appliance is getting fuel but is not igniting.</p> <ul style="list-style-type: none"> <li>• Check whether the air inlet or exhaust are partially obstructed. Mud, dust and wasp nests are common causes of obstruction.</li> <li>• Check batteries and power to the heater. Measure the voltage at the heater using a multimeter. It should be at least 12.5V or voltage drop between the batteries and the heater should be less than around 0.3V as it starts (with the glow plug on). If it exceeds this, check power wiring.</li> <li>• Check the heater is wired directly to the batteries with no kill switches, fuse boxes or skinny wiring to cause voltage drop.</li> <li>• Plug into power. If this helps, check batteries and wiring.</li> <li>• If none of the above works, the heater probably needs to be serviced.</li> </ul>
<p>Heater tries to start but will not ignite. No smoke, fuel pump ticking.</p>	<p>This would indicate a fuel supply issue.</p> <ul style="list-style-type: none"> <li>• Follow the Out of Fuel procedure (see above).</li> <li>• Use a torch on the fuel line to see if fuel can be seen or is advancing up the fuel line.</li> <li>• If fuel is not advancing up the fuel lines check the fuel lines and fuel tank. Look for blockages, improperly closed quick disconnect fittings, damaged fuel line, split or damaged fuel filter, loose connections.</li> </ul>
<p>Heater flashes an error code when turning on</p>	<p>If the red LED makes a series of flashes immediately after the heater is turned on, count the flashes and check the error codes below. The LED will flash a number of times then pause, then repeat the sequence again.</p>



# Belief



## BELIEF DIESEL AIR HEATER USER MANUAL



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## Belief Diesel Air Heater Quick Reference Guide



You can start the heater in either Power Control or Temperature Control mode. Starting takes 2-3 min per start attempt and the heater will attempt to start twice before an error is shown.

### Power Control Mode

To turn on in Power Control mode, press the  button. The red light will illuminate and the heater will start (takes 2-3 mins). Regulate the heat output manually by rotating the rotary knob. Turn off with the  button. In this mode, the heater runs continuously and will not cycle on and off. This can be advantageous, as cycling on and off can consume more battery power.



### Temperature Control Mode

To turn on in Temperature Control mode, press the  button. The green light will illuminate and the heater will start (takes 2-3 mins). In this mode, the heater is thermostatically controlled and maintains a target temperature set using the rotary knob. Regulate the target temperature by rotating the knob. Set the knob in the middle to start, then adjust up and down to achieve the desired target temperature. Turn off with the  button. In this mode, the heater can cycle on and off, which can consume more battery power, particularly if heating a small space or when it is not very cold.

### Fan Mode

Fan mode turns on the fan with no heat.



**Heater Care:** All diesel air heaters need to be run at a high power setting for around 15-20 minutes every 6-8 hours to prevent carbon build up.

### Troubleshooting

When you turn on the heater, it does a self test. If any faults are found, the red LED will immediately flash an error code. There will be a series of flashes followed by a pause, then the series of flashes will be repeated. If this happens, count the flashes and refer to the error codes below. If there are no errors found when you turn on the heater, the heater will go through 2 start attempts over a period of about 6 minutes. If the heater cannot ignite, the red LED will flash slowly and continuously. See the trouble shooting guide over the page.

### Belief Error Codes

- |    |   |
|----|---|
| 1  | Second start failure  |
| 2  | Heater has flamed out and tried to restart. Core temp too low. Check fuel and fuel supply                               |
| 3  | Voltage too high or too low - normally means flat batteries or poor connection to the battery                           |
| 4  | Furnace is too hot to start. Wait 10 mins and try again   |
| 5  | Flame or hot air sensor failure - get service   |
| 6  | Air sensor failure - get service  |
| 7  | Fuel pump not connected or fuel pump wires short circuited - check fuel pump wiring                                     |
| 8  | Blower fan broken or jammed   |
| 9  | Glow plug broken or short circuited   |
| 10 | Heater has overheated during operation or start process. Check ducting, vents and heater air flow. Let cool and restart |
| 11 | Shell sensor failure - get service  |

