
DIAGNOSTICS



9

9 DIAGNOSTICS

DEEP GREEN

Here we highlight a few issues you may encounter while using your cabin and give solutions on how to remedy them.

If at any point you have any questions or doubts, please do not hesitate to contact our Service Department.

To contact Boss Cabins Service Department, call 01778 300475 or email aftercare@bosscabins.co.uk

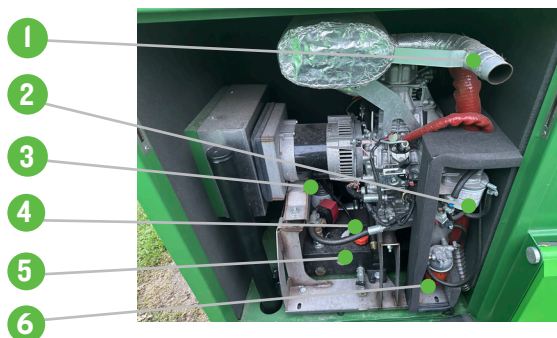
REFERENCES

While carrying out diagnostics on your cabin, you may need to refer to:

REDBOX INFINITY GENERATOR

Your RedBox Infinity generator is located in the compartment on the front of cabin. Key features are:

1. Exhaust outlet
2. Canister secondary fuel filter
3. Oil filter
4. Oil filler hole (orange cap)
5. Oil min/max gauges located on extended sump
6. Fuel filter



GENERATOR CONTROL PANEL

The main generator control panel is located in the Canteen on the wall under the sink. This contains:

1. An RCD panel
2. The DSE generator control device
3. Fuel pump prime button
4. The blue generator alarm reset button
5. Circuit breakers for the 12V DC 2A and 20A systems and for the 220V AC 1 A system

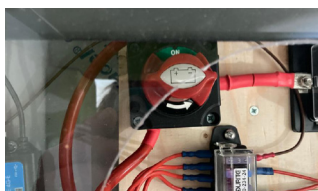


WARNING

- Never work beneath any unsupported load or structure.
- Always move the vehicle to a safe place away from traffic or site equipment before attempting maintenance.
- Never climb on or work over or above any device without suitable fall restraint equipment.
- Ensure the unit is parked on firm level ground before changing wheels.
- Always take care when working with or connecting any electrical equipment. Damaged or inadequately insulated equipment can lead to electrocution causing fire, burns, serious injury or death.
- Always follow instructions.
- If in doubt ask for assistance from suitably qualified personnel.
- Always abide by the work site's published Safety Policy.

9.1 NO ELECTRICITY IN CABIN

9.1.1 CHECK HIBERNATION SWITCH IN CANTEEN – IS IT ON?



YES – Go to Point 9.1.2.

NO – Turn Hibernation Switch on.

Is there electrical supply now?

YES – CONGRATULATIONS!

NO – Go to point 9.1.2.

9.1.2 ON THE GENERATOR CONTROL PANEL, IS THE GENERATOR EMERGENCY STOP BUTTON PUSHED IN?



NO – Go to point 9.1.3.

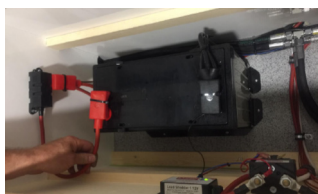
YES – Twist the E-Stop button clockwise to release and it will pop out. Next press the blue button to reset the generator. If there is insufficient battery, the generator can now start up to power the cabin and recharge the battery.

Does generator start now and have the electrics started to work?

YES – CONGRATULATIONS!

NO – Go to point 9.1.3.

9.1.3 IS THERE SUFFICIENT FUEL IN THE TANK TO ALLOW THE GENERATOR TO START?



Check the manual fuel gauge near the filler cap either in the fuel compartment (20ft) or on the side of the cabin (24ft). The cabin owner can also check the fuel remotely using the SOLARTrack™ system. Is there fuel in the tank?

YES – Go to Point 9.1.4.

NO – Fill the tank with suitable fuel - HVO biofuel or diesel. Do not use bio diesel. Press the Fuel Pump Prime button on the Generator Control Panel for 5-10 seconds to send fuel to the engine. You can try this more than once if it does not work first time.

Does generator start now and are the electrics running?

YES – CONGRATULATIONS!

NO – Go to Point 9.1.4.

Fuel Pump Prime button



9.1.4 CHECK CABLES ON GENERATOR START BATTERY – ARE THEY SECURE?



The generator start battery is found in the Canteen bench. Check the cables connected to it - are they secure?

YES – Go to point 9.1.5.

NO – Tighten the cables.

Does generator start now and are the electrics running?

YES – CONGRATULATIONS!

NO – Go to point 9.1.5.

9.1.5 CHECK THE GENERATOR START BATTERY VOLTAGE ON THE DSE PANEL ON THE GENERATOR CONTROL PANEL



Press ▼ four times until you reach the Battery Voltage display. Is the battery voltage showing as <12.2?

NO – Go to point 9.1.6.

YES – Plug in an external power source. Make sure Internal/External Power switch is in position for external power. The battery should now charge. If no external power source is available, remove and charge the battery for 1 hour. Is battery voltage now showing as >12.2?

NO – Replace the battery with a new one.

Once battery is charged or replaced and voltage is showing as >12.2, does generator start now?

YES – CONGRATULATIONS!

NO – Go to point 9.1.6.

9.1.6 CHECK STARTER MOTOR CABLES AT REAR OF ENGINE INSIDE GENERATOR – ARE THEY SECURE?



YES – Go to point 9.1.7.

NO – Tighten the cables.

Does generator start now and is there electrics in the cabin?

YES – CONGRATULATIONS!

NO – Go to point 9.1.7.

9.1.7 USE EMERGENCY GENERATOR RESTART BUTTON.



CAUTION: THIS STEP MUST ONLY BE CARRIED OUT BY AUTHORISED PERSONNEL. CALL BOSS CABINS' SERVICE DEPARTMENT TO ARRANGE FOR A SERVICE ENGINEER TO ATTEND SITE.

The pneumatic emergency generator restart button is located inside the bench on the door side of the Canteen. If there is ever a situation, either through user error or equipment failure, in which the battery charge level dips below the amount needed to restart the generator, it is possible to press this Emergency Generator Restart button to get the generator running again and start charging the battery.

9.2 GENERATOR ISSUES

If you have any problems with your back up generator, first Check DSE display on the Generator Control Panel in the Canteen to see what if any error symbols are showing.

9.2.1 IF DSE DISPLAY SHOWS:



E STOP SYMBOL



If E-STOP is OUT – Contact Boss Cabins Service Department.

If E-STOP is IN – Release the E-STOP by twisting it clockwise. Press blue RESET button on generator.

Does generator start now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.2.2 IF DSE DISPLAY SHOWS



FUEL SYMBOL



Top up with fuel. Use HVO biofuel or diesel only. Do not use bio diesel.

Press blue **RESET** button on generator and press the Fuel Pump Prime button if necessary.

Does generator start now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.2.3 IF DSE DISPLAY SHOWS: LOW V LOW HZ ICONS (FLASHING ALTERNATELY)



a) Check fuel filters – are they dirty?

NO – See b) below.

YES – Replace filters.

Press blue RESET button on generator. Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – See b) below

b) Check fuel feed pipes / fuel tank for blockage – are they blocked?

NO – See c) below

YES – Clear blockage

Press blue RESET button on generator. Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – See c) below

c) Check fuel quality – is the correct specified fuel being used?

YES – Contact Boss Cabins Service Department.

NO – Change fuel to correctly specified quality fuel.

Press blue RESET button on generator. Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department

9.2.4 IF DSE DISPLAY SHOWS: V ↑



Press blue RESET button on generator.
Press ▼ once on DSE control panel and check generator voltage.
Are the volts showing as >259?

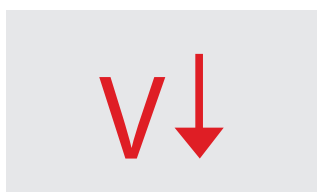
YES – Adjust idle speed to 3100 +10/-30.

Recheck the voltage.
Is it within accepted parameters (check RedBox manual for parameters)?
Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.2.5 IF DSE DISPLAY SHOWS: V ↓



Press blue RESET button on generator.
Press ▼ once on the DSE panel and check generator voltage.
Are the volts showing as <190?

YES – Adjust idle speed to 3100 +10/-30.

Recheck voltage – is it correct?

NO – Contact Boss Cabins Service Department.

YES – Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.2.6 IF DSE DISPLAY SHOWS: OIL CAN



Check oil level in generator. For instruction on how to do this, go to Manual Section 4.3.

Is the oil level correct?

YES – Contact Boss Cabins Service Department.

NO – Top up the oil as described in Section 4.3 of the Operations Manual.

Press blue RESET button on generator. Does generator start and continue running now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.3 NO 230V POWER TO CABIN

9.3.1 IS IT JUST THE KETTLE OR MICROWAVE AFFECTED?



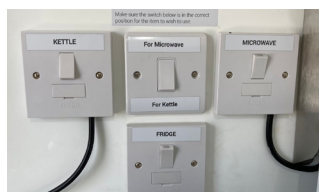
NO – Go to 9.3.2.

YES – To save energy, the kettle and microwave must be used individually. Power is directed to one or the other using the Kettle/Microwave Selector Switch. Make sure this is in the correct position for the appliance you wish to use. Do the kettle and microwave work correctly now?

YES – CONGRATULATIONS!

NO – Go to 9.3.2.

9.3.2 HAVE YOU CHECKED THE INDIVIDUAL APPLIANCE ISOLATORS?



YES – If all isolator switches are already on, go to 9.3.3.

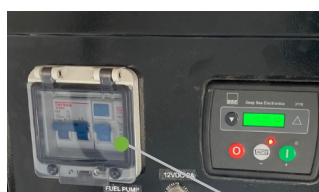
NO – A number of electrical items in the cabin have individual isolator switches which must be on for the to operate - kettle, microwave, water heaters, electric hand dryers and in some models UV sterilisation system. Make sure all these are switched on.

Do the electrical items work now?

YES – CONGRATULATIONS!

NO – Go to 9.3.3.

9.3.3 CHECK BREAKER SWITCH UNDER THE FLAP ON THE GENERATOR CONTROL PANEL – IS IT ON?



YES – Go to 9.3.4.

NO – Turn it on

Is there 230V power now?

YES – CONGRATULATIONS!

NO – Go to 9.3.4.

Breaker switch

9.3.4 CHECK THE INTERNAL/EXTERNAL POWER SWITCH INSIDE THE BENCH IN THE CANTEEN – IS IT IN THE CORRECT POSITION FOR INTERNAL POWER?



NOTE

You may have one of two types of Internal/External Power Selector switch in your cabin.

Type A positions are:

0 - OFF

1 - External power source

2 - Internal solar, battery or generator power.

Type B positions are:

0 (centre) - OFF,

I (up) - Internal solar, battery or generator power

II (down) - External power source.

YES – Go to 9.3.5.

NO – Turn switch to the correct position for INTERNAL POWER

Is there 230V power now?

YES – CONGRATULATIONS!

NO – Go to 9.3.5.

9.3.5 CHECK SWITCHES ON RCD BOARD ARE ON (UP POSITION) –ARE THEY ON?



YES – Contact Boss Cabins.

NO – Make sure all the RCD paddle switches are ON (up position).

Is there 230V power now?

YES – CONGRATULATIONS!

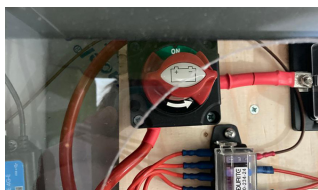
NO – Contact Boss Cabins.

Main Power Outlet Switch



9.4 NO 24V POWER IN CABIN

9.4.1 CHECK HIBERNATION SWITCH IN CANTEEN – IS IT ON?



YES – Follow the steps in 9.1 to try to get electrics working.

NO – Turn Hibernation switch on.

Do the 24V electrics work now?

YES – CONGRATULATIONS!

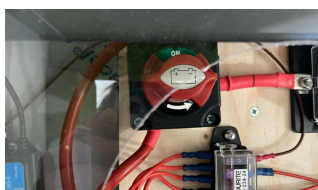
NO – Are any electrics working?

YES – Contact Boss Cabins Service Department.

NO – Follow the steps in 9.1 to try to get electrics working.

9.5 ELECTRIC HYDRAULIC SYSTEM NOT WORKING – NO POWER TO RAMS

9.5.1 CHECK HIBERNATION SWITCH IN THE CANTEEN – IS IT IN ON POSITION?



YES – Check cabin electrics using Section 9.1.

NO – Turn on the Hibernation Switch.

Do the electric rams operate now?

YES – CONGRATULATIONS!

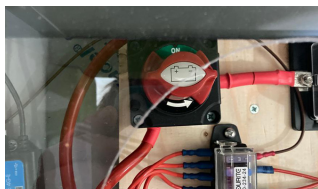
NO – Check cabin electrics using Section 9.1.

9.6 WATER HEATER NOT WORKING

Is there water coming out of the taps? If no water is coming out, go to 9.6.3.

If there is water coming out but it is cold, go to 9.6.1.

9.6.1 IS THE HIBERNATION SWITCH ON?



YES – Go to 9.6.2.

NO – Turn Hibernation switch on. Is the water hot now?

YES – CONGRATULATIONS!

NO – Go to 9.6.2.

9.6.2 ARE THE INSTANT WATER HEATER ISOLATORS ON?



Each instant water heater has its own isolator switch located near the unit. Is the isolator for the unit you are trying to use switched on?

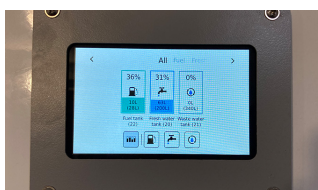
YES – Are all the other electrics in the cabin working? If yes, contact Boss Cabins Service Department. If no, go to section 9.1 to diagnose why the electrics aren't working.

NO – Turn the water heater isolator on. Is the water hot now?

YES – CONGRATULATIONS!

NO – Are all the other electrics in the cabin working? If yes, contact Boss Cabins. If no, go to section 9.1 to diagnose why the electrics aren't working..

9.6.3 CHECK IF THERE IS SUFFICIENT WATER IN THE CLEAN WATER TANK?



To check the level of the fresh water tank, check the gauge on the wall of the Canteen. Is there sufficient water in the tank?

YES – Your water pump may be broken. Contact Boss Cabins.

NO – Fill the tank with clean water (see Manual Section 6.2 for instructions).

Do the hot water taps work now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins.

9.7 HEATER NOT WORKING

9.7.1 IS THE HEATER SWITCH ON?



YES – Go to 9.7.2.

NO – Turn Heater switch on.

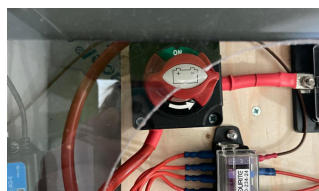
Is the heater working now?

YES – CONGRATULATIONS!

NO – Go to 9.7.2.

NOTE: To save energy in this Deep Green cabin the heater will turn off automatically after 4 hours. To restart, press the ON button again.

9.7.2 IS THE HIBERNATION ISOLATOR SWITCH ON?



YES – Go to 9.7.3.

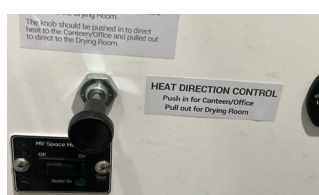
NO – Switch on.

Is the heater working now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.7.3 IS THE HEAT DIRECTED TO THE CORRECT AREA OF THE CABIN?



If your cabin has a drying room, the heater in this cabin is designed to direct warm air to one of two areas - either the Canteen and Office or to the Drying Room. When warm air is being blown into the Drying room, none will be blown into the Canteen and Office and vice versa. Do you have the Heat Direction handle in the correct position for where you wish the heat to be blown?

Push IN for Canteen and Office. Pull OUT for Drying compartment.

YES – Contact Boss Cabins Service Department.

NO – Put the handle in the correct position for where you wish the heat to be directed to.

Is the heater working now?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.

9.8 WATER TANK NOT FILLING WITH RAIN WATER

9.8.1 CHECK RAIN WATER VALVE - IS IT IN THE OPEN POSITION ALLOWING RAIN TO FLOW TO TANK?



NO – Turn to the open position.

YES – Go to 9.8.2.

Is the rain water filling the tank now?

YES – CONGRATULATIONS!

NO – Go to 9.8.2..

9.8.2 CHECK ROOF DRAIN – IS IT BLOCKED BY FALLEN LEAVES AND DEBRIS?



NO – Go to 9.8.2.

YES – Clear away all the leaves and debris.

Is the rain water filling the tank now?

YES – CONGRATULATIONS!

NO – Go to 9.8.2.

9.8.3 CHECK RAIN WATER FILTERS – ARE THEY BLOCKED?



NO – Call Boss Cabins Service Department.

YES – Clean out the filters and remove any debris and particles (see Section 7.1 for instructions).

Is the rain water filling the tank now?

YES – CONGRATULATIONS!

NO – Call Boss Cabins Service Department.

9.9 BATTERY NOT BEING CHARGED BY SOLAR PANELS

9.9.1 CHECK WHERE YOUR CABIN IS POSITIONED - IS IT RECEIVING SUNLIGHT?



To ensure the optimum performance of the solar-powered Deep Green cabin, the unit should be parked in an open exposed area with as little shade as possible over the solar panels. Avoid areas under trees, tunnels or close to tall buildings if at all possible. Is your cabin parked in the sunlight?

YES – Got to 9.9.2.

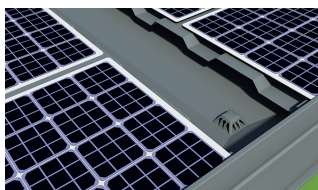
NO – Move your cabin to a location where it receives as much natural daylight as possible.

Is solar energy now being produced in reasonable quantities?

YES – CONGRATULATIONS!

NO – Go to 9.9.2.

9.9.2 ARE THE SOLAR PANELS CLEAN?



To ensure the maximum solar gain, the solar panels should be kept clean and clear of debris. Are the solar panels on this unit clean and clear?

YES – Go to 9.9.3.

NO – Clean the solar panels using a soft brush or cloth. Do not use detergents. Do not lean on the solar panels while cleaning them. See Section 5.5.3 for more information on how to clean your solar panels.

Is sufficient solar energy now being produced during daylight hours?

YES – CONGRATULATIONS!

NO – Go to 9.9.3..

9.9.3 CHECK SOLAR PANEL ISOLATOR SWITCH – IS IT IN ON POSITION?



YES – Contact Boss Cabins Service Department.

NO – Turn on the Solar Panel Isolator.

Can you now see acceptable levels of solar energy being produced during daylight hours?

YES – CONGRATULATIONS!

NO – Contact Boss Cabins Service Department.