Craft A' Camper

DIESEL HEATER (1.0)

USER MANUAL 2KW (OCT-24)

THE BASICS!

WHAT YOU NEED TO KNOW:

This page should go through the basics of what the install engineer would have explained plus some additional numbers and info. We would recommend reading the dos and don'ts on the next page (2) too. For self installs, please also complete the blue sections on page (7) if your heater wasn't installed by Craft'A'Camper - this setup may have already been complete by your third party installer.

Firstly, to turn the heater on, simply press the power button on your wall mounted controller or the same button on the little remote fob included. The display should light up and display "ON". This will now begin a start up procedure of the heater, it may take 5 or so minutes to start heating. Please note, as with anything diesel, on start up you will always notice a fumes smell, this will clear once at temperature.

There are 2 different settings you can run your heater on, see page 4 for more details. The default fan speed setting (section 4:1) will display as the bars at the bottom of the display, the higher level being a more powerful setting. The other mode runs as a thermostat (section 4:2). To change between the thermostat and fan speed setting, all you have to do is press the turn knob in and it'll change. You'll notice the yellow square change, this will show which setting you're on.

On the thermostat mode, the heater will start to slow down before it reaches your set temperature. It will drop 1 bar of power (displayed along the bottom) for ever 2°c it is below your set temperature. Meaning, if your set temperature is 36°c it will drop one bar every 2°c after 16°c. To get the van up to a set temperature fastest, you'll maybe want to use the manual power mode.

To turn the heater off, press the same power button and you will see OFF appear on the LCD screen. The fan will remain on for 5 minuets or until the unit is cool enough. You CAN turn the heater back on during this cooldown cycle but there may be a slight delay in start up. Once the heater has fully turned off, the fan will stop, and the display will go off too.

On your remote fob, you will have 4 buttons. These are all labelled and should do as they say - (see section 9:1). If your key fob isn't linked to the controller please see (section 9:2) below.

You may hear a small ticking noise under the van, this is the fuel pump for the heater and is a normal function and nothing to worry about. All heaters that Craft'A'Camper install with this controller type will come standard with the ultra quiet fuel pump - these dampen the ticking noise massively and you'll likely only hear the pumps operation if there is air trapped in the pump cylinder, or on the rare occasion the mounting brackets perishes. If you suspect there's air trapped, the best thing you can do to quickly fix this is to use the diesel heater on full power while driving, the vibrations and stop/starting of your vehicle will move on any trapped air. These diesel heaters are very efficient on fuel, you could leave it running all night and notice little to no movement on the fuel tank needle. The heaters should pick up fuel all the way into the reserve but will always run out of fuel before the vans engine. For the reliability of the heater, try keep the tank above 1/4. (If you run below the level of fuel for the heater, please see section 8:1).

Please make sure you always have a functioning carbon monoxide alarm in your vehicle, even when not using the heater.

DOS & DON'TS!

PRECAUTIONS & MAINTENANCE:

2:1 Monitor Start Up Procedure: After every drive of the vehicle, you must monitor the heater for at least 15 minuets on its first startup. Due to conditions out of our control, things might become damaged or loose under the vehicle which could cause various problems on startup. If you hear or smell anything irregular the heater must be inspected further. In the event of dense white smoke please follow step 8:1 below. It's common to fail startup on the first use in a while and the smoking will be a cause of the heater hitting air pockets in the fuel line - this will clear.

2:3 Use regularly: We recommend running the heater on full blast once a month for at least 30 minuets. This will help clear any condensation, soot issues and help keep the unit lubricated. This will also help catch any age-related issues now rather than your first trip away in the next cold season. Prolonged non-usage is the leading cause to faulty units.

2:4 Safe Usage: Do not use the heater while your vehicle is parked inside a garage, building or other unventilated space. It is not advised to use the heater while having an awning rolled out. Carbon monoxide alarms must be used in any unventilated area of living. Do not use the heater while parked on steep inclines of more than 15%, this includes driveways but is nothing to worry about while driving. Use extra care when using the heater in areas with little to no wind - gases may become trapped under the vehicle and build up to enter through gaps outside of our control - this is more of an issue on older vehicles but no road going vehicle is completely airtight.

2:5 Keep Vents Clear: Do not block any heater vents while in use. It's important the intake vent at the back of the heater is kept clear and the heater vent also be allowed free flow. Do not block vents to dry/warm things like clothing, shoes or body parts etc.

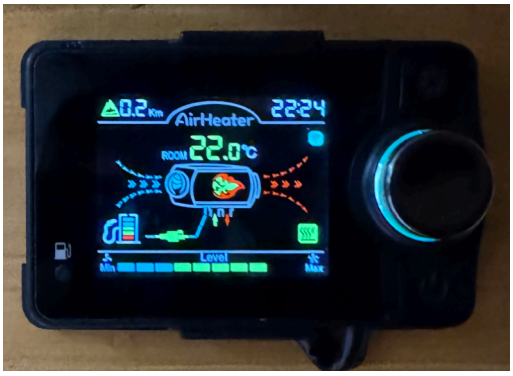
2:6 Do Not Disconnect Power: The most important rule is to keep power to the heater unit. Never disconnect the fuse, battery or any part of the heater while running. When the heater turns off, it's a must to allow it to run a cooldown cycle, this can take 5+ minutes. You WILL damage and/or melt internal parts if this cycle is not performed. If the heater becomes faulty during use, turn off using the display and still wait for the unit to cool before disconnecting power.

2:7 Monitor Battery Level: Do not use the heater on low, discharged, or damaged batteries. If the heater displays "E03" during startup or usage, you will need to get more charge in your battery before using the heater. The heater does have a built in cut off if the battery level gets too low (under 8v) but factors with the battery can still prevent an adequate cool down of the heater when this cutoff is triggered.

2:8 Refuelling: The heaters can be used while driving in most scenarios, but law prohibits the usage while refuelling the vehicle, this won't damage the unit.

USING THE HEATER: KEEPING IT SIMPLE!

Step 1: Turning the heater on - This is easy, just tap the power button in the bottom right of your wall mounted controller. You should see the controller light up and display "ON".



Step 2: The heater will now begin a start up procedure. This may take 5 minuets to generate any noticeable heat.

Step 3: Choosing your heating mode - **See section 4 below for more details on this:** There's two main modes to run the heater on. First is a Fan Speed setting and the other is a Thermostat. If you turn the dial, it'll either change the "Set" temperature OR you'll notice the fan speed bars at the bottom of the display changing. To change between these 2 settings, just press the turn knob in. Then to change the temperature or fan speed, just turn the knob and it will confirm your input automatically - pressing the dial in again will just turn back to the other heater mode.

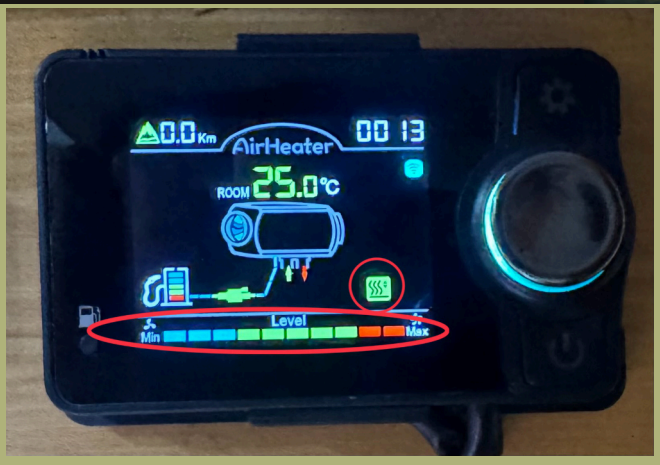
Step 4: Turning the heater off - To turn the heater off, press the Power Button and the display will show "OFF". The fan will remain on for 5 minuets or until the unit is cool enough. You CAN turn the heater back on during this cooldown cycle but there may be a slight delay in start up.

Step 5: Once the heater fully turns off, the display will turn off too.

If the heater isn't running but the room temperature is flashing with the display still on (as above), the heater has turned off on the thermostat and is actively ready to turn one again if the temperature drops. **See section 4 below for more details.**

HEATER MODES:

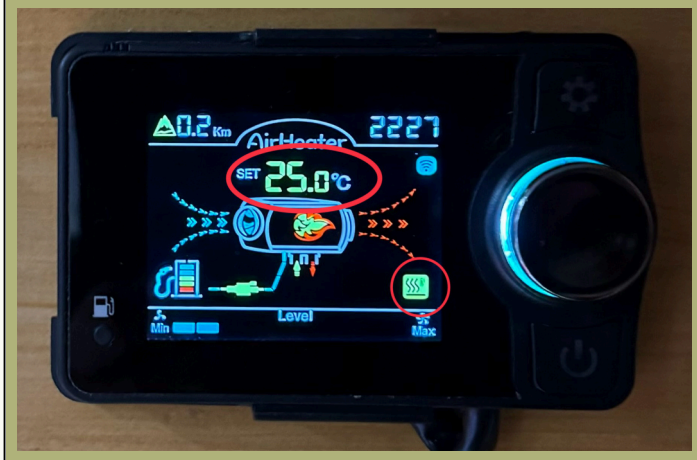
4:1 FAN OPERATION



The default setting on your heater will be a fan speed operation. Once you turn the heater on it'll display a yellow square near the bottom right corner (circled on the picture to the left). The square with the 2 arrows in shows the heater running on the "Fan Speed" mode and the square with the little thermometer shows the thermostat mode. Another way of knowing is by simply turning the dial: If when you turn the dial it's changing the "Set" temperature, it'll be on a thermostat. If turning the dial changes the bar at the bottom (circled in red), it'll be the fan speed setting as these bars are what represent the heaters speed setting.

4:2 THERMOSTAT OPERATION

On both settings, the heater will always display a temperature in the centre. This is usually labelled as the "Room" temperature. To change between the thermostat mode and fan speed, simply press the turn knob in. Now, when you turn the dial, instead of changing the fan speed, you'll be changing the desired target temperature in the van. When you turn the dial on the thermostat mode, it'll change the "Set" temperature (circled in red) and then after a few seconds it'll automatically confirm your input and flick back to showing the "Room" temperature. When turning the dial, you don't need to press the knob in to confirm a change, this'll just force the heater back onto the other setting. The thermostat range is 8°c to 36°c. (See 7:1 F8 for more)



There's 2 different thermostat modes on your heater. If your heater was installed by Craft'A'Camper, it'll be preset by us to the "AUTOMATIC" mode. This will automatically turn the heater on and off as the temperature fluctuates at your preset. By default, for third party installs (unless your install engineer changed it), the heater will run as an always on system: What this means is the heater WON'T turn itself on/off automatically but it will instead speed up and slow down as the temperature fluctuates inside the vehicle. Once the heater reaches the temperature you set, it wont turn off but it will start to slow down and basically idle at the very lowest setting until the temperature falls below your preset where it will then slowly speed up again. In the warmer months or even on the warmer winter nights, you might find that even when the heater has reached the set temperature and is running at the lowest setting it may still be generating more heat than the vans losing. This thermostat mode will function better the colder it is outside and will perform best in the larger vehicles. Smaller vehicles may not lose heat quick enough for the heater to reasonably control so the physical ON/OFF (AUTOMATIC) mode may suit best. The advantage of the automatic mode is a better controller temperature but the two main downside to the automatic mode is a slight increase in battery use and the noise changes as the unit turns on and off more frequently - those users who are more sensitive to noise changes may want to turn the automatic mode off. **To turn the thermostat to "AUTOMATIC" please see section 7:1 F8).**

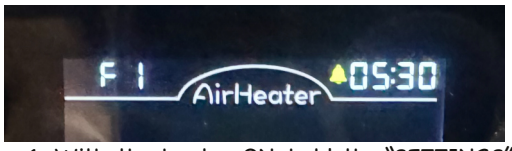
FOR FASTER WARMUP:

On the thermostat mode, the heater will start to slow down before it reaches your set temperature. It will drop 1 bar of power (displayed along the bottom) for ever 2°c it is below your set temperature. Meaning, if your set temperature is 36°c it will drop one bar every 2°c after 16°c. To get the van up to a set temperature fastest, you'll want to use the manual power mode.

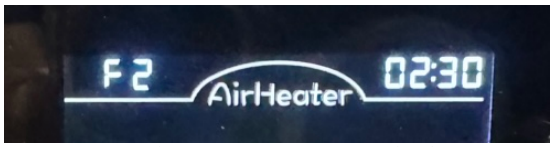
TIMER FUNCTION:

5:1 Setting A Turn On Timer:

The timer function on these heaters can be tricky to understand. It might not be valuable for everyone but perfect for users who use their vans regularly and want the vehicle to be warm before they wake up in the morning without the need to run the heater overnight or wake up to turn it on. The step by step guide below will make more sense in understanding the timer. Be aware, if you see the little yellow bell icon in the top right of the display then the heater is currently set to turn on at a currently active set time - you'll need to turn the heater on to see if the bell is visible.



Step 1: With the heater ON, hold the "SETTINGS" button to enter the "F SETTINGS" (See page 7 below for this and time inputting). Cycle through to "F1", press the turn knob key in and it will allow you to change the time. This input time in is the exact time you want the heater to turn on at, example above shows setting the heater to turn on at 5:30am. Press the turn knob in once to confirm and it will then let you turn the dial to setting "F2".



Step 2: Once you've cycled through to "F2" press the turn knob in again and turn to change the time here. This will be in intervals of 30 minuets. This input in the length of time you want the heater to run for in HH:mm AFTER its set time to come on. Above is an example of setting the heater to run for 2 hours and 30 minutes. So this, with the previous step, will turn the heater on at 05:30, run for 2.5 hours and subsequently turn off at 08:00.

Step 3: Cycle through to "F3", press the turn knob in again and turn to change the "t - on/off". "On" will activate the timer and "Off" will deactivate. Once you've confirmed input, hold the "SETTINGS" button to go back to the home screen. You should see the little yellow bell in the top right corner if your timer is active. The heater will continue to do this exact turn on setting every day until you turn the timer function off. You wont see the bell with the heater off but it may still be active!

To turn the heater timer function off, enter the "F settings" again, cycle through to "F3" and change to "t - oF" You should notice the Yellow Bell turn off when you return to the home screen.

Remember: If you see the little yellow bell, circled in RED above, this means the heater is configured to run on a timer and will turn on at your set time, you wont see the yellow bell if the heater is off.

Note: the heater will remember your inputs and will continue to repeat to turn on at your set time every day until you turn the timer off. Its important to ensure nothing is blocking the vents for when the heater turns on.

APP FUNCTION:

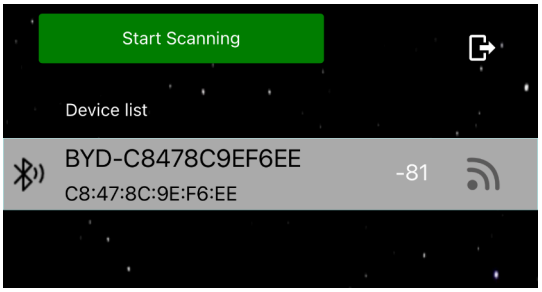
Bluetooth®

Apple

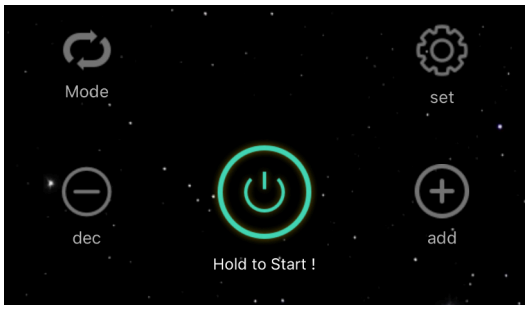
To download the app on device, search "AirHeaterBLE" in the iOS App Store on iPhone or "AirHeaterByBLE" in the Google Play Store on Androids. We don't guarantee compatibility with all devices. Scan the QR codes for direct link to apps.

Craft'A'Camper diesel heaters are not affiliated with this or any other Bluetooth apps. compatibility may be withdrawn without notice. The app is developed by a third-party.

Android



Step 1: Upon opening the app, click the scan device button in the top right corner. This should show your heater listed.



The app button layout will mimic in the same way as the little wireless remote (section 5:2) The "set" button will allow for language change and a Bluetooth password setup.

The app should be easy enough to understand. HOLD the power button to register your input for on/off, the up and down will change your fan speed or set temperature and the display will show what mode you're running, you can use the mode button to change. Under the power run bar you'll be able to view the battery voltage at the heater, the internal temperature (which can raise to 220°c) and also your set temperature or run level in the bottom right corner.

7:1 ”F” SETTINGS:

The “F settings” menu allows from more configurable advanced settings. We recommend reading through the blue highlights especially if your heater was self installed or by a third party other than those listed on our website.

To get into the “F settings”, first turn the heater on and then hold the “Settings Button” in the top right. The settings are labelled from F0 to F8. You can turn the knob to cycle through these.

F0: Setting the current time - The F0 is the current time setting, to set this, press in the turn knob until the digits flash and it’ll allow you to turn to change the current hour, press the turn knob again to change the minuets and press again for a last time to confirm. This is a 24 hour clock.

F1: Timer Function (See section 6:1-6:3 for more details) - The F1 is the time you’re setting to turn the heater on, change this the same way detailed in F0 above.

F2: Timer Function (See section 6:1-6:3 for more details) - The F2 is the amount of time you want the heater to run after the input from F1 above. This is in HH:MM and can only be set in intervals of 30 minutes.

F3: Timer Function (See section 6:1-6:3 for more details) - The F3 is activating or deactivating the timer. Press the dial in and turn to change between “ON” and OFF”. If the timer is active, you’ll see a little alarm clock symbol when you return to the home screen.

F4: Language Speaker - Possibly the most irritating and unnecessary feature of these heaters! If you press the dial in you can change between the languages or turn it off.

E = English : C = Chinese : R = Russian : - = SPEAKER OFF.

You will also see this preset in the top left of the home screen if you have a language selected.

F5: Temperature Calibration - All our heaters are accurately temperature calibrated from factory but this setting allows you to adjust the heaters measurement temperature.

F6: Fuel Tank Capacity - Our heaters have the ability to run on separate fuel tanks when either main tank connections aren’t preferred or possible. The heater will turn off when it uses a set amount of fuel and this setting allows you to set a capacity in litres. Press the turn knob in as like every other setting and you can choose the litre for you tank capacity. If your heater was installed by Craft’A’Camper, this will have been disabled and set to “- -” (unlimited).

F7: Fuel Pump - This setting allows you to change the pump ratio of fuel - it shouldn’t be changed unless changing the model of fuel pump. Tampering with this setting will void warranty.

F8: Intelligent Thermostat - as detailed on page 4 this is where you can turn on/off the intelligent thermostat mode. Press the turn knob in and you can then turn to change. “AUoF” = Intelligent mode off, the heater will run on a thermostat but WONT turn itself on and off automatically. “AUoN” = Intelligent mode on, the heater will now turn off once it reaches your set temperature and turn on again once the temperature drops.

FUEL PUMP INFORMATION:

The fuel pump is a little cylindrical silver component under the vehicle - it'll have green end caps on 12v systems or black for 24v. The heater communicates to the pump to provide the correct amount of fuel for the setting you're currently running on. You may hear a ticking noise from this, this is a normal function but may be more noticeable when the heaters running on a low setting. The ultra quiet fuel pumps are fitted as standard on these heaters, meaning the ticking noise shouldn't be noticeable inside the vehicle, If you do hear a louder than usual ticking noise, its likely air trapped in the pump - this is rare.

8:1 Priming the fuel pump:

If you're having an E:4 fault with the heater, it's likely the heater has air in the fuel line. The best way to prime the fuel lines would be to make sure the vans parked flat, you have enough fuel and then turn the heater on 4-5 times and let the start up cycle prime the fuel itself. You might get some white smoke from the exhaust, but this will clear. You can manually prime the fuel by first disconnecting the power for at least 15 seconds (IMPORTANT: make sure the heater is in its off state) then, before turning the heater on, hold the little Fuel Button in the bottom left and the display should show "-P-" and the heater will begin to start on a fast pump mode - you still might need to repeat this multiple times. Please note: this is never advised. Doing this can risk over priming the heater resulting in flooding the unit with fuel making it difficult to restart. The prime mode has no automatic cut off. If the previous advice doesn't work, please just get in touch with us directly.

8:2 Replacing the fuel pump:

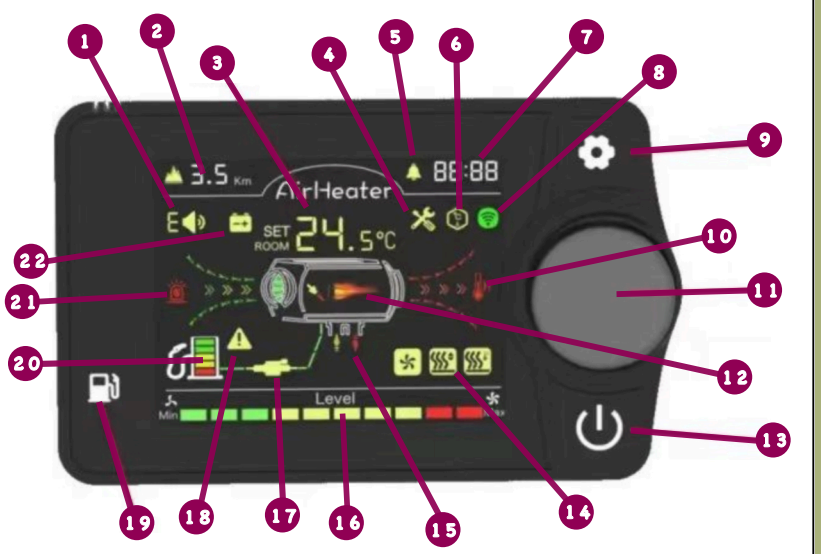
The fuel pumps are very reliable and rarely need replacing. They're held on (on most vans) with a rubber bracket which will likely need to be replaced before the pump itself. This is easy to replace. Undo the rubber hose connectors to the fuel pump with a 7mm socket or flat screwdriver and press the metal spring to release the electrical plug connector. You should then be able to slide the pump out the bracket. There will also be a 10mm nut and large washer holding the rubber bracket in place.

8:3 Fuel Pickup and Usage:

These heaters are very efficient when it comes to their fuel consumption. Most users won't even notice the fuel needle drop after usage and they can easily run all night using as little as 1 litre of diesel, even with the price of fuel at the time of writing this, that's good. To go through more detailed numbers: The heater would use around 100ml fuel an hour on its lowest setting, climbing to around 450ml on the highest.

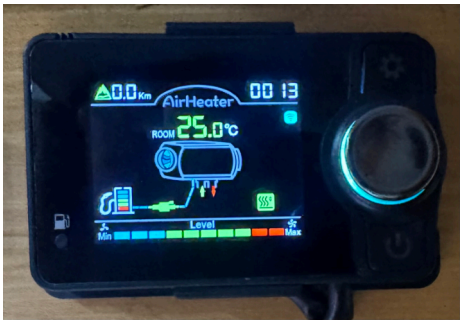
(CRAFT'A'CAMPER INSTALLS) The heaters are connected to the vehicles fuel tank with a separate pickup pipe (on most vans), keeping it completely separate to any feeds or return from the vehicle's engine. The heaters should pick up fuel all the way into the red but will always run out of fuel before the van - giving you the peace of mind it won't run the tank dry and you'll still be able to start the van after any use! If the van isn't parked flat, the level of fuel pickup may differ, obviously when you're sleeping in the vehicle, you're going to try be on a flat surface anyway. For those keeping their vehicles on sloped driveways, it's advised to park flat or facing uphill if you're wanting to use the diesel heaters while low on fuel.

9:1 DISPLAY LABELS:



1.	Speaker (ON/OFF) Language	12.	Glow Plug/Burner ON
2.	Estimated Altitude	13.	Power Button
3.	Set/Room Temperature	14.	Run Mode
4.	Service Light	15.	Air In / Exhaust Out
5.	Timer ON	16.	Power Level
6.	Thermostat Mode ON	17.	Fuel Pump
7.	Time	18.	Error Stored
8.	Remote Linked	19.	Fuel Button (Reset)
9.	Settings Button	20.	Fuel Level
10.	Overheat Warning	21.	Error
11.	Turn Knob	22.	Battery Fault

Turning On

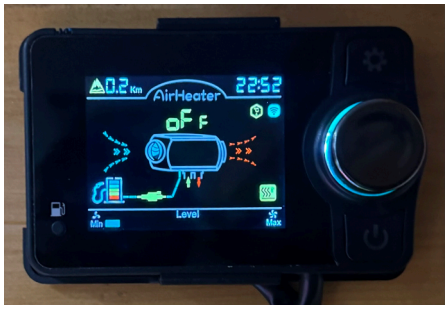


Running On Fan Speed

Turning Off Screen (Cooling down)

Heater Off

Running On Thermostat



Turning Off Screen (Thermostat)

9:2 REMOTE FOB:

Linking new fobs: While the heater is turned on. Hold the "Power Button" and "Settings Button" simultaneously until "En##" appears in the top right. These are back office settings which you SHOULDN'T change! Turn the dial through to "En08" and then hold the dial in until you should see "P- 1". Use the dial again to cycle through 1-4. Each number represents a button on the remote. If using the standard remote: P- 1 is the "+", P- 2 is the "-", P- 3 is the "M" and P- 4 is the "Power Button" Hold the settings button again until you're back at the home screen and everything should be saved. Unfortunately, you cannot have more than one controller linked at a time.

10:1 FAULT CODES:

CODE	ERROR MESSAGE	POSSIBLE FIX
E01	Fuel	The heater isn't receiving fuel, please see section 8:1 on a previous page.
E02	Fuel Tank	This fault will appear if you're using the secondary tank option and it has ran out of fuel, this isn't a fault that'll show if using the vehicles main tank to supply fuel - please see E01.
E03	Battery Issue	Your battery is likely too low to safely run the heater. Try again with the engine running if you have a split charger or charge/replace the battery by other means.
E04	Outlet Sensor	Will either be a loose or faulty sensor into the control board, check connection plugs and replace as a next step.
E05	Inlet Sensor	Will either be a loose or faulty sensor into the control board, check connection plugs and replace as a next step.
E06	Fuel Pump	Possible corrosion to fuel pump plug under the vehicle, check connections and replace fuel pump as a next step.
E07	Fan	If the fan doesn't turn on at all, it's either jammed on the heater housing or a replacement control board is needed. If the fan does turn it may be a faulty temperature sensor. W
E08	Glow Plug	Sometimes relates to a low battery but if not will either be a glow plug or heater control board fault. Unlikely to be an immidiate fix without replacement parts. Worst case, you'll need a new fan motor.
E09	Overheating	Make sure heater vents are free for air flow, don't block any outlet or inlet vents and clean any visible dust if possible. If problem persists, it may be a faulty heat sensor.
E10	Heat Sensor	Temperature reading inaccurate and may need replacing. Advised no unsupervised heater usage until sensor replacement.
- - -		

10:2 FAULTS:

E01 (FUEL ISSUE): By far the most common fault this is usually easily fixed (See section 8:1). This error can be caused by a handful of reasons but more often than not its due to recent low fuel or prolonged driving without usage of the heater. Air can get trapped in the heaters fuel line as the fuel sloshes around in the fuel tank, this isn't something to worry massively about but can be prevented by keeping the fuel tank above 1/4 at all times. The heaters fuel pickup pipe is cut to length and reaches to about 1cm from the bottom of your fuel tank. As the fuel in the tank sloshes around, if the pickup pipe isn't in diesel it will lose its vacuum and fuel will slowly fall back in the tank. This fault code can also be caused by a faulty fuel pump, blocked fuel lines or low voltage.

E08 (GLOW PLUG ISSUE): Less common but more so with age, the glow plugs inside the unit can become old and trigger a fault due to low performance. These are required to start the heater up. These can also be caused by electrical faults with the heater control board due to power surges or extreme low voltage. They're easily replaced but do require a special tool - sometimes its just a faulty control board and not a faulty glow plug.

E06 (FUEL PUMP FAULT): The fuel pumps are normally pretty invincible, they're mounted externally and are designed to withstand the road elements. This is most commonly caused by bad fuel quality or loose wiring. For a possible quick fix, disconnect the fuel pump plug by pressing in on the metal spring and blowing into the connections in an attempt to clean.

E09 (OVERHEATING ISSUE): This rarely does any prolonged damage to the unit but is triggered due to a lack of air flow, blocked or dusty intake fan or its simply too hot inside the vehicle.

E10 or FAN RUNNING CONSTANTLY: If your heaters fan is running constantly, even while not in use, this will be a fail safe from a faulty temperature sensor. These can be replaced with ease with a pair of pliers. Even though the sensor is faulty, it may not always throw a error code. It's suspected that low battery voltage causes this to trigger, the only fix is a replacement sensor.

FUSE BLOWING: This is extremely rare and most likely caused by bear wiring from the heater catching the vehicles chassis. Other causes are faulty fuel pumps, glow plugs or circuit boards.

Craft 'A' Camper

CRAFT'A'CAMPER CONTACT INFO

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Vist website for full t&c's, updates, FAQs and our lastest work.

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