



**GAH Transport Refrigeration**  
Setting the standard from  
design to installation and  
after-sales service

# REFRIGERATION HANDBOOK INFORMATION SERVICING WARRANTY



**One-Call**  
01 394 421 140

Support and servicing  
all in one place



# GAH REFRIGERATION BETTER BUSINESS ALL ROUND

## **GAH**

GAH are the UK's leading provider of refrigeration systems for light commercial vehicles. With over 30 years of experience in the industry, we are ideally placed to tackle the issues of driving down emissions with not only traditional, direct drive systems, but now with electrically driven systems, reducing the impact that vital refrigerated deliveries have on our environment.

## **Innovative Systems**

We continually develop our range of systems, so that they meet these challenges and reflect the varying nature and size of our customers' businesses.

## **Built in Britain**

We are proud of our reputation for providing exceptional build standards from our factory in East Anglia where we oversee quality control and have built up an experienced and highly skilled production team.

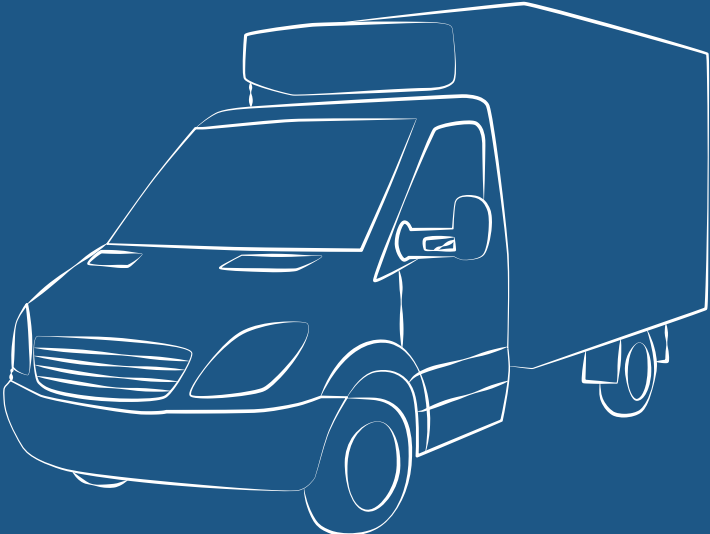
## **Maintenance and Aftersales**

We provide an unparalleled maintenance and aftersales service with a call centre in East Anglia, which supports a nationwide fleet of engineers.

## **Find out more**

To learn more about our products visit [www.gah.co.uk](http://www.gah.co.uk) or call us on 01394 421140.

# HEALTH AND SAFETY



# HEALTH, SAFETY AND GETTING THE BEST FROM YOUR GAH SYSTEM

**⚠ Danger - Indicates an imminently hazardous situation which, if not avoided, will result in severe injury or death.**

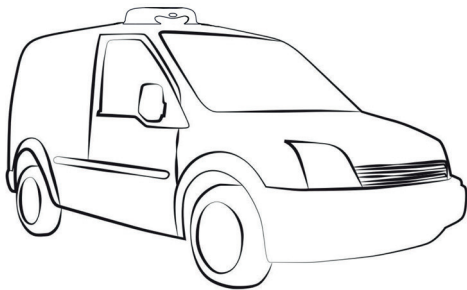
- Danger: Potential high voltage present in Electrics box, standby compressor, plug and socket.
- Danger: Capacitors in the Electrics box and inverters (if fitted) can hold a charge after the system has been turned off. Use a multi-meter to make sure there is no charge before working on the capacitors or components connected to the capacitors.
- Danger: Cables in orange conduit on fridges are high voltage DC. Only qualified persons with EV isolation should work on these systems.
- Danger: Use correct PPE adjusting and maintaining units

**⚠ Warning - Indicates a potentially hazardous situation which, if not avoided, could result in injury or death.**

- Warning: Covers must be fitted at all times when the unit is running. Potential risk of shock, burns, cutting, severing and unit breakdown if not followed.
- Warning: When servicing drive belts ensure engine is off and the key is removed.
- Warning: Refrigerant is an asphyxiant. Symptoms include loss of mobility/ consciousness. Remove victim to uncontaminated area wearing self-controlled breathing apparatus. Call a doctor. Apply artificial respiration if breathing stopped. If a large leak is detected inside a compartment leave the area immediately, open the doors to ventilate the area and do not enter.

**⚠ Caution - Indicates a potentially hazardous situation which, if not avoided, could result in minor injury or property damage.**

- Caution: Refrigerant contact with skin could cause frostbite.
- Caution: if Refrigerant makes contact with eyes rinse eye with water immediately. Remove contact lenses if present and possible. Flush eye with water for 15 minutes and get immediate medical assistance. If medical assistance not immediately available, flush an additional 15 minutes.
- Caution: Slip hazard from ice/ water inside compartment(s) and under the vehicle from defrosts.
- Caution: Cutting risk from fins on Evaporator and Condenser.



## System operation

- Ensure that the thermostats are set to the correct temperature.
- Pre cool the refrigerated compartment prior to use.
- Ensure the product is loaded at the correct temperature.
- Do not run the system while loading the refrigerated compartment.
- Keep the duration of the door opening times to a minimum.
- Do not restrict the air circulation around the loadspace evaporator.
- Do not restrict the air circulation around the load.
- Keep strip curtains and moveable bulkheads (if fitted) in their correct positions.
- Park on level ground.

## Routine checks and recommendations

- Make sure the condenser and evaporator fan blades are not obstructed.
- Make sure the drive belt(s) are in good condition free from damage or sign of wearing, chaffing, and the adjustment is correct. (Please note that it is the customers responsibility to regularly inspect the drive belt(s).
- Road compressor drive belts should be changed every 25,000 miles.
- Carry out a manual defrost during the last return journey of each day.
- It is recommended that a spare drive belt should be carried as it may differ to the original manufacturers drive belt.
- GAH refrigeration units should not be run in confined areas where the ambient temperature can exceed 35°C as this would exceed the design criteria or certain components and could cause serious damage to the unit
- We recommend like for like parts to be used for replacements / spares to ensure correct operation of fridge and health and safety requirements.
- The unit is designed to work in ambient temperatures of minus 25°C to 35°C and up to a height of 1000m above sea level on standby.

## Safety advice and important information

- Please check that no personnel are locked into the loadspace at any time.
- Please ensure that the internal lighting system is operative.
- Periodical maintenance is required on GAH Refrigeration systems (please see the Service Options sheet).
- Maintenance should only be carried out on your GAH system by a competent and suitably qualified refrigeration engineer.
- Refrigerant gas and oil should only ever be handled, collected or disposed of by a suitably qualified refrigeration engineer.
- A schematic wiring diagram and refrigeration circuit diagram are provided when the unit is installed and copies can be obtained by calling GAH and quoting the unit serial number.
- Do not wash or clean any part of the system whilst the unit is running.
- In the event of a fire, we recommend using a dry chemical extinguisher. Toxic and/or corrosive fumes may be produced in the event of a fridge fire.
- A sheet to help with decommissioning is available at request (015-28994).

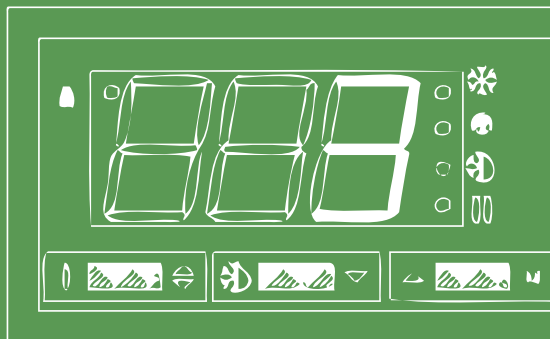
## Standby leads safe working practice

- Do not use standby leads that are in a poor condition i.e. showing exposed wires, or that have damaged plugs or sockets.
- A PAT (portable appliance test) tested standby lead should be used (available from GAH) (this is the responsibility of the operator).
- Do not use leads that are not protected by an Earth Leakage Circuit Breaker (ELCB) or a Residual Circuit Detector (RCD).
- Turn the system off and disconnect from the mains supply before attempting to re-set any safety devices.
- Do not plug a lead that is switched on into the refrigeration system, it will cause damage.
- GAH recommend that the standby lead should be a maximum of 8 meters in length, have cables with a CSA of 2.5mm and has a steel braided sheath for protection (please consult a qualified electrician for clarification).
- Connect system to a suitable 16 or 32A supply compliant with local regulations.

### REMEMBER:

Before you re-set any of the safety systems, please make sure the unit is switched OFF.

# UNIT OPERATING INSTRUCTIONS



# UNIT OPERATING INSTRUCTIONS

## Chiller, Freezer and Heat Cool Systems

### IMPORTANT:

The mains cable must be isolated when plugging in to or unplugging from the unit.

### Refrigeration Controller Operation

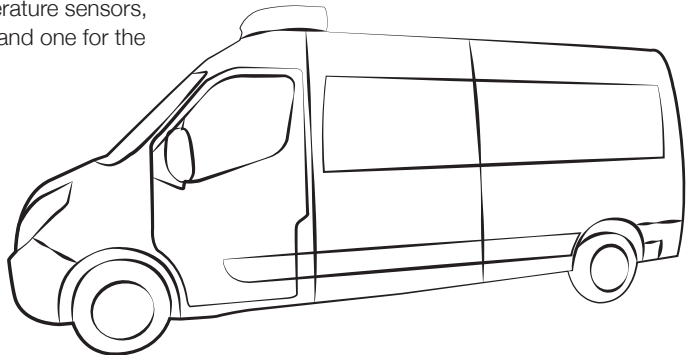
The end user can alter the set point of the GAH Controller over a pre-set range and initiate a manual defrost with the unit in normal operating mode.

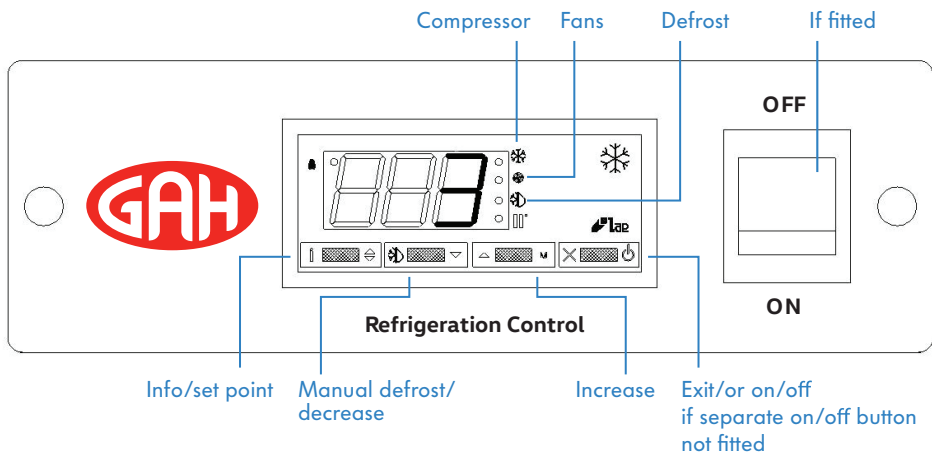
The control parameters are pre-set at the factory to suit normal operation for chill, mid temp, freeze or heat/cool operation. They can only be altered by entering the programming mode and, as such, should only be altered by a competent and authorised service engineer in the event of extraordinary operation requirements or conditions.

The controller has two temperature sensors, one for the box temperature and one for the Evaporator coil temperature.

The controller also has an internal timer that operates whilst the unit is switched on providing timing for defrosts and it has an internal memory to store all of the factory defined and user defined parameters.

In normal use the display will show the internal loadspace temperature. There are also indicator lights to advise when the compressor is running, when the fans are running and when the defrost is in operation.





## To Start the Unit

Start the vehicle engine and push the unit switch to the ON position. For units running on mains electric standby plug the unit into the mains supply and then push the unit switch to the ON position. If a separate on/off button is not fitted, press and hold the integral on/off button for 5 seconds.

## To Stop the Unit

To stop the unit from operating push the unit switch to the OFF position. For units running on mains electric standby always push the unit switch to the OFF position before disconnecting the mains supply. If a separate on/off button is not fitted, press and hold the integral on/off button for 5 seconds.

**Note:** If you will be making deliveries continuously throughout the day leave the unit switched on.

**Note:** Old style controller display is red, new style controller display is blue. To dim or brighten the blue display tap the increase button.

## To Change the Thermostat Settings

Press and HOLD the **Info/Set Point** button for at least 1/2 a second and the current temperature set point will be displayed. With the **Info/Set Point** button still depressed raise or lower the setting by pressing the **increase** or **decrease** buttons. By releasing the **Info/Set Point** button you will automatically store the setting.

**Note:** The thermostat setting will only change within the limits in which the unit was designed to operate.

## To Defrost the Unit

Defrosting is an automatic function built into the control system. The unit will defrost 30 minutes after being switched on and every hour thereafter. A manual defrost can be initiated by pressing and HOLDING the **Manual Defrost/Decrease** button for 2 seconds.

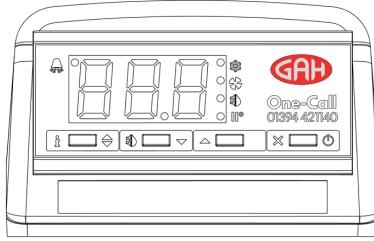
## Additional Information

In event of a collision turn fridge off. If compartment(s) loaded keep doors closed to maintain temperature as long as possible.


In the event of a breakdown if compartment(s) loaded the fridge can be left on and may continue refrigerating if it is an electric fridge. This will drain the unit power source.



# ADDITIONAL BLUE DISPLAY FUNCTIONS



**During normal operation the display will show the air temperature for the given compartment. The display may also show the following:**

- dEF - Defrost in progress (F units only)
  - rEc - Recovery after defrost (F units only)
  - do1 - Door switch 1 activated (If fitted)
  - do2 - Door switch 2 activated (If fitted)
- For any other fault codes refer to GAH for solution. These can be flashing, always on or hidden, either way the LED on the left hand side of the display next to  will be illuminated.

## Display brightness

The brightness of the display can be adjusted in two stages by pressing the UP button briefly.

**Pressing/holding/releasing the INFO/SET button will display a description, then on release of the button the value for that will be displayed. This is referred to as the INFO menu. The menu scrolls through as follows:**

- t1 - Instant return air temperature value
- t2 - Instant coil temperature value
- t3 - Instant return air temperature value  
Compartment 2 (Dual system only)
- t4 - Instant coil temperature value  
Compartment 2 (Dual system only)
- t5 - Instant temperature value for probe #5 (If fitted)  
Loc - Keypad lock state \*\*FCR – Fault Code Reset

## Keypad Lock

The keypad lock avoids undesired tampering, which might be attempted when the controller is operating in a public place for example. In the INFO menu, set parameter Loc=YES to inhibit all functions of the buttons. To resume normal operation of the keypad, adjust setting so that Loc=NO.

## Check

Run the unit for 30mins to allow system to establish its cooling cycle. The Cooling Light and Evaporator Fan Light should be illuminated.

- 1 Note the box temperature then press the "Set" button 3 times, to display the coil temperature. This should be several degrees LOWER than the noted box temperature. If this is the case, then the unit is cooling. Please also check the following:
- 2 With the cooling light "On" make sure the Condenser Fan (outside) can be heard or seen running and a make visual check of the compressor to ensure it is turning.
- 3 With the Evaporator Light "On" make sure the Evaporator Fan (inside) can be heard or seen running and a make a visual check of the Evaporator coil to make sure it is not covered in ice.

## Solutions

- 1 If the Evaporator coil is covered in ice, press and hold the Defrost button to activate a manual defrost. The Defrost Light will come on, DEF is displayed and the Evaporator Fan Light will go out. REC will then be displayed. Once the defrost is complete, restart the check list.
- 2 If the unit is not operational on standby turn off mains power to reset unit. If unit continues to trip call for assistance
- 3 If there is an HP fault check condenser coil is free from debris and check fan is running if safe to do so.

## Before calling out an engineer, please check the following (where safe to do so)

- Is the mains supply working?
- Is the unit switched on?
- Is the temperature set point correct?
- Does the unit need to be defrosted?
- Complete an FCR as described in point 5 in solutions.

- 4 If everything appears to be working but there is no difference between the displayed box temperature and the coil temperature (as carried out in check list number 1), call for assistance.
- 5 If an error code shows on the blue display. Complete an (FCR) fault code reset by pressing the i button until Fcr is shown. Hold down the i button and the display will change to non. Keep the button held down and press the up arrow once to read YES. Release all buttons and the unit is reset.

# SERVICE AND WARRANTY

Have your unit maintained by the experts that built it



# SERVICING OPTIONS

What sets GAH apart from other transport refrigeration service operations? We care! Don't take our word for it, ask our customers. We have a range of maintenance options, which have been designed to suit the diversity of our customers' applications, but all aim to provide the reassurance you need and help to control the budget. In most cases, GAH recommend units are serviced every 6 months, however the frequency can be adjusted depending on usage. So you have one less thing to worry about, GAH will contact you when a service is due. These service packages can be tailored to your specific requirements as appropriate. Please give us a call on 01394 421140 to discuss.

## SERVICE PLAN 1

### Complete Service Cover 24 hours per day, 365 days per year

The monthly charge covers parts, labour, travel and all servicing work carried out between 08:00 to 17:30 hours Monday to Friday, excluding Bank holidays plus a 24-hours per day, 365 days per year breakdown cover for the duration of the contract (minimum two years, maximum five).

## SERVICE PLAN 2

### Full Service Cover

The monthly charge covers parts, labour, travel, all breakdown and all servicing work carried out between 08:00 to 17:30 hours Monday to Friday, excluding Bank holidays, for the duration of the contract (minimum two years maximum five years)

## SERVICE PLAN 3

### Service only

The monthly charge covers service and travel to & from site only. Discount on GAH parts 25%.

## WARRANTY ONLY

### Full Service Cover

We strongly recommend that servicing options be taken up with GAH. However, if you do not wish for your refrigeration unit to be serviced, the unit has six months warranty whereby all the parts, labour and travelling is covered and a further six months warranty for manufacturing defects only.

## PAY AS YOU GO

### 1 Year Warranty

GAH warrant their refrigeration systems free from defects in material or workmanship under the conditional warranty of one year which includes parts, travelling and labour, provided the refrigeration system has been serviced by GAH or an approved subcontractor.

A minimum of one service per year is required on units, the 1st service due 6 months from the date of commissioning. Failure to demonstrate that the refrigeration system has been serviced in accordance with the GAH Limited Service Schedule will result in the warranty being terminated. Copies of service sheets may be required. Warranty work will be carried out in normal working hours (08:00 to 17:30 hours Monday to Friday excluding Bank holidays). Work carried out at other times will be charged at the prevailing rate. A 10% discount is available on GAH parts.

# NOTES

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# WARRANTY REGISTRATION

Call 01394 421 140 to activate your warranty

## Purpose of this Form

To aid in the continued efficiency of your equipment GAH (Refrigeration) Ltd request you complete and return this form to:

### GAH (Refrigeration) Ltd

Building 846  
Bentwaters Parks  
Rendlesham  
Woodbridge  
Suffolk IP12 2TW

The details provided by you will be entered onto the GAH database to enable swift retrieval of your equipment information.

This will help us ensure a minimal delay should the need for a service or spare part arise. By completing this form you are in no way committing to any kind of agreement, although you will be contacted regarding your refrigeration equipment maintenance.

This information provided will be for the sole use of GAH (Refrigeration) Ltd and will under no circumstance be provided to a third party.

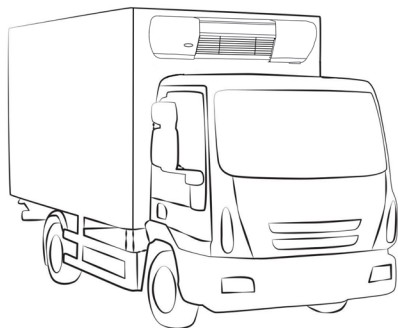
GAH (Refrigeration) Ltd would like to take this opportunity to thank you for your assistance and assure you of the continued high service all GAH customers have become accustomed to.

The unit's serial number, required on the form, can be found either on the commissioning report or near the fan motors on the evaporator in the back of the vehicle.

## Register online

You can also register online by visiting the Maintenance and Aftersales page on our website.

Please see full condition warranty terms and conditions.



# Terms and Conditions

## All Contract Terms

- All maintenance cover must be in place within 60 days from the date the unit enters into service. This date may vary from the commissioning date by a maximum of one calendar month.
- Units will be serviced a minimum of once per year (dependent on mileage or customer requirements).
- If the unit breaks down out of normal working hours (08:00 to 17:30 hours Monday to Friday), and the customer is not on Service Plan 1, the customer will be invoiced an additional charge, (for up to date prices please see the GAH Service price guide). Customers who do not have Service Plan 1 may be asked to provide an order number or reference number before any work is commenced.
- If the customer should cease payments during warranty or contract term the warranty or contract will end after two months of arrears.
- Full Service History will be kept by GAH to demonstrate due diligence for all service contracts.
- Failure to comply with the above terms will result in the warranty being terminated.

## Please note:

- Either party can terminate the contract by submitting three months written notice.
- Normal working hours are 08:00 to 17:30 hours Monday to Friday excluding bank holidays.
- The customer should make the unit available during normal working hours. Outside of these hours will incur charges at the prevailing rates.
- A single point calibration will be carried out as part of a contract service.
- All standard service and warranty work is carried out during normal working hours.
- GAH Refrigeration or an approved service provider must carry out all work. Authorisation must be obtained before any work is carried out.
- GAH reserve the right to review prices on a six monthly basis.
- Any prices quoted are for Mainland UK only.
- For full contract terms and conditions, please contact the GAH Service department.

Please see full warranty and contract terms and conditions plus full service details, which are available upon request.

GAH reserves the right to alter or amend terms and conditions without prior notice.

**GAH (Refrigeration) Ltd.** Building 846 Bentwaters Parks,  
Rendlesham, Woodbridge, Suffolk IP12 2 TW  
Tel: 01394 421140 Fax: 01394 421151 Email: [info@gah.co.uk](mailto:info@gah.co.uk)

Find out more at [www.gah.co.uk](http://www.gah.co.uk) or call **01394 421140**





# WARRANTY REGISTRATION FORM

If you require any assistance in completing this form please contact us and we will be pleased to help.

## Contact Information

Contact Name .....

Company Name .....

Address .....

.....

Postcode..... Telephone Number.....

Mobile Number..... Fax Number .....

E-mail .....

## Equipment details

Vehicle Make..... Vehicle Model .....

Vehicle Registration .....

Unit Model .....

Unit Serial Number.....

Please moisten gummed edges, fold, seal and post.

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Freepost Plus RLZZ-CUKR-RAAK  
GAH Refrigeration Ltd  
Building 846  
Bentwaters Parks  
Rendlesham  
WOODBIDGE  
IP12 2TW