



## INTRODUCTION

The 2012 edition of the Atwood Refrigerator Service Manual is a resource created to help service technicians identify Atwood products by serial number, diagnose service problems, and efficiently and effectively process warranty claims. This manual offers a general overview of the product as well as more specific product information.

For the refrigerator product within this manual, you will find model identification, sequence of operation, part identification and troubleshooting guides, warranty procedures, flat rate schedules, and replacement part reference chart.

Additional information is available on our website. Visit [www.askforatwood.com](http://www.askforatwood.com) to download brochures, review trouble shooting guides, and read the latest information bulletins. All Atwood Authorized Service Centers are listed on our site as well, accessible via an easy-to-use search system.

Service for all Atwood products is handled out of our Elkhart, IN location. Should you have any questions, please contact service toll-free at 1-866-869-3118, or by e-mail at [service@atwoodmobile.com](mailto:service@atwoodmobile.com). Please be sure to have the Model and Serial Numbers when you call.

Thank you for your business,

Atwood Service Team

# Refrigerators

## Flat Rate Schedule

07/10/12

<b>TIME ALLOWANCE SCHEDULE in hours:</b>	<b>Single Door Models</b>	
Freezer/Refrigerator Door Changed	.50	
Door Lock/Handle Broken	.20	
Door Hinge Broken	.20	
Heating Element	.50	
Burner Replaced	.50	
Gas Solenoid Replaced**	.50	
Interior Light Assembly	.50	
Thermistor Replaced	.50	
Circuit Board Replaced**	.70	
Front Display Board Replaced**	.50	
Side Vent Broken	.20	
Ventilator Fan Replaced	1.00	
Cooling Units Performance**	Call	
Refrigerator Replaced**	1.00	

Before a cooling unit is replacement you must call for prior authorization to 866-869-3118

\*\*\* All parts must be returned to Atwood Mobile Products

**Note:** Warranty claims must be filed and received within six months from the date of repair. Claims received beyond this time frame will not be considered for warranty payment. All flat rates include diagnostic time and when applicable, gas leak test.

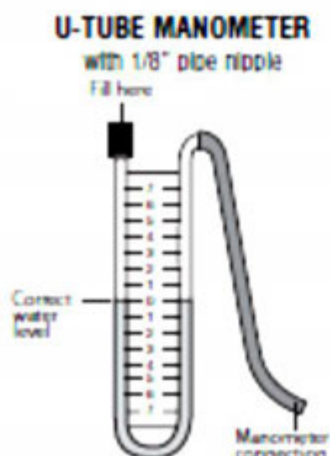
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## Recommended Tools and Equipment

**U-Tube Manometer** - This is the most accurate device for measuring gas pressure. If you use a dial-type manometer, calibrated it periodically.

**Multi-meter** - This is the most versatile meter and will test continuity and 12VDC. These tests will allow one to verify voltage problems or faulty components. The entire electronic system can be tested with this meter.



**MULTI-METER TO TEST  
CONTINUITY & VOLTAGE**



**Common Hand Tools** - 1/8" and 1/4" nut drivers, open end wrenches, flat blade and Phillips screw drivers.

**Leak Test Solution** - A solution that bubbles when applied to gas fittings or connections showing where a gas leak is present.

## Review Questions

After reviewing this manual, you will be able to answer the following questions:

- What is the refrigerator's AUTO mode and how does it choose the power source?
- How does the temperature setting affect the refrigerator's internal temperature?
- What is the Backup Temperature Control system? How is it connected to the thermistor?
- What are the pinouts for the Powerboard connectors?
- How to handle a "poor cooling" complaint?
- What are all of the fault conditions which the control can display?
- How can the tilt feature be verified if it is working properly?

## Model Number Description

**HE-0801 RF**

### Configuration

"Blank" – Standard Configuration

F - Fan Slideout Configuration

### Hinge Configuration

R - Right Hinged Doors

L - Left Hinged Doors

### Cabinet Volume

06 - 6 cu ft model

08 - 8 cu ft model

### Appliance Type

HE – Helium Charged RV Refrigerator

## Serial Number Description

Atwood Part Number

Date Code

Cabinet Number

Year

Month

Date

ATWOOD SERIAL NUMBER

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Constructed based on  
Model Number, door  
hinge, fan

11001	HE-0601R
11002	HE-0601L
11003	HE-0601RF
11004	HE-0601LF
11005	HE-0801R
11006	HE-0801L
11007	HE-0801RF
11008	HE-0801LF

The cabinet number starts at "0001" for each new model number, for example: if on Oct 16, 2011 the first 3 cabinets are HE-0601L and the next 3 cabinets are HE-601R, and the following 2 cabinets are HE-801LF they would have the following Atwood serial numbers:

110021110160001

110021110160002

110021110160003

110011110160001

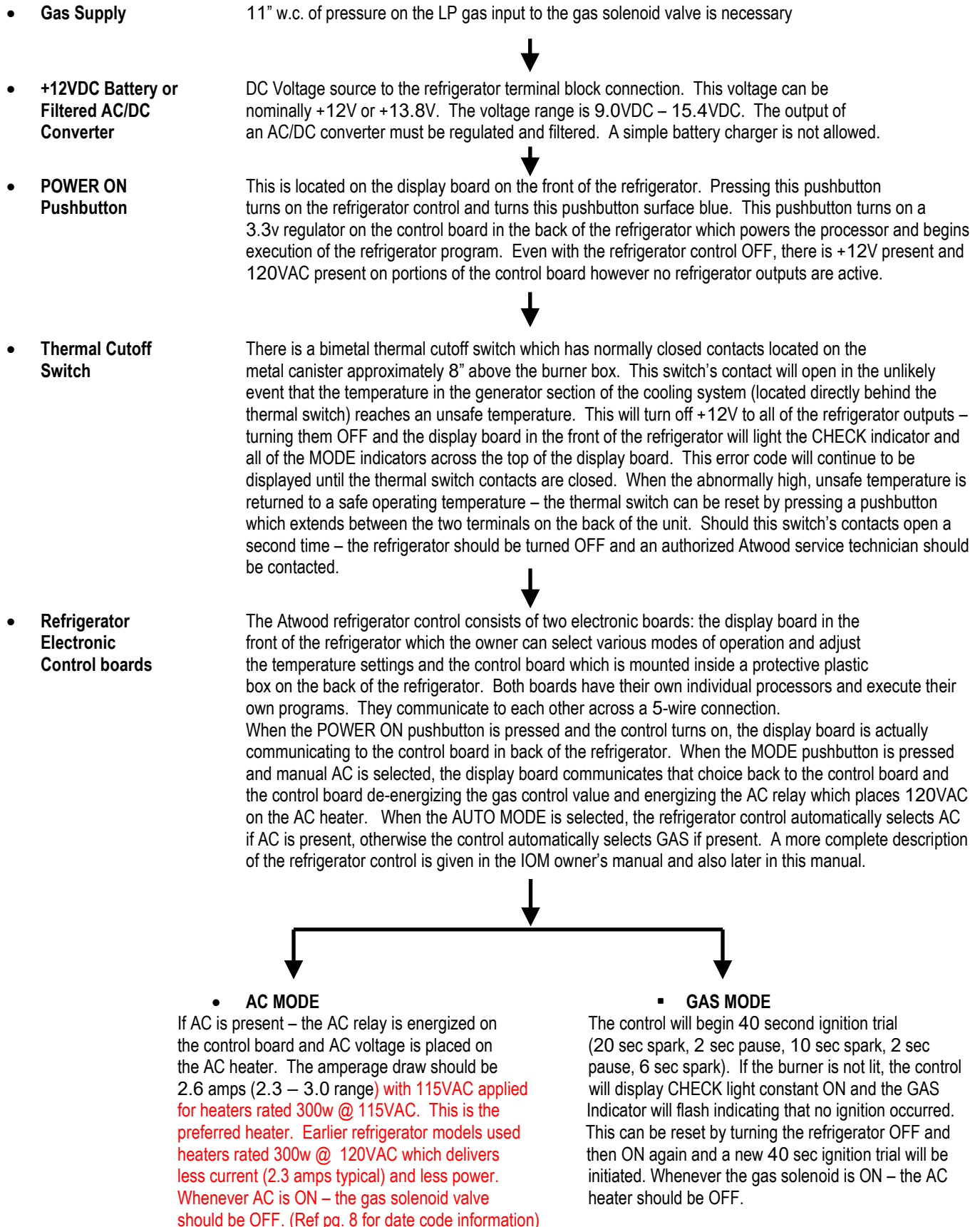
110011110160002

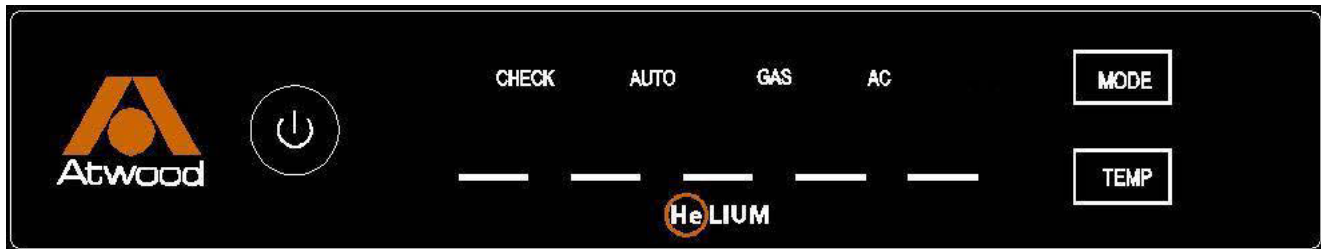
110011110160003

110081110160001

110081110160002

# Refrigerator Sequence of Operation





## CONTROL PANEL

The refrigerator control panel is located between the fresh food and freezer compartments of your refrigerator. The refrigerator control requires +12 volts DC to operate. There are three pushbuttons.

**POWER ON** – Pressing this pushbutton turns the refrigerator on and off.

**MODE** – Pressing and holding this pushbutton cycles the mode selections from AUTO, manual GAS, and manual AC. Releasing the pushbutton selects the last mode displayed. The selected mode will be displayed for approx 5 seconds before all the mode indicators are turned off. The active mode can be displayed at any time by pressing and releasing the MODE pushbutton.

**TEMP** – Pressing and holding this pushbutton cycles the temperature settings from 1 through 5 with 5 being the maximum cool setting. Releasing the pushbutton selects the last temperature setting displayed. The selected temperature setting will be displayed for approx 5 seconds before all the temperature indicators are turned off. The active temperature setting can be displayed at any time by pressing and releasing the TEMP pushbutton.

### AUTO MODE

When the refrigerator is in the AUTO mode, the control automatically selects the best energy source which is available. When a more efficient energy source becomes available, the refrigerator automatically switches to the more efficient source. AC energy is considered the more efficient energy source and is the first choice selected by the control. Propane gas is the second choice and is selected in the AUTO mode only when AC energy is not available.

### GAS MODE

The GAS mode can be selected either automatically or manually. When switching to gas operation, the refrigerator control begins a 40 second trial ignition cycle. During this period, the control opens the gas safety valve and begins sparking the burner. If after 40 seconds the control fails to detect the presence of a flame, the control shuts off the gas safety valve and stops sparking the burner. The CHECK indicator on the control panel turns on indicating that the burner failed to ignite. The CHECK indicator can be reset by turning the refrigerator off and then back on again and a new 40 second trial ignition cycle begins. On initial start up or after changing a propane tank, it is possible that air in the gas supply lines will require 2 or 3 ignition trials before successfully lighting the burner. If after repeated attempts, the burner fails to ignite, stop and consult your local dealer or an authorized Atwood Service Center.

### MANUAL MODES

The manual modes allow for selection of either the AC or GAS modes directly. If the selected mode's energy source is not available, the refrigerator is turned off, the CHECK is turned on and the selected mode indicator flashes on and off indicating which energy source is not available.

## DOOR HANDLES

The door handles latch when closed to prevent the doors from opening during travel. When closing the doors, push each door into the refrigerator cabinet until you hear a distinct "click" sound which will indicate that the door is latched. To open a door, pull the handle away from the refrigerator cabinet to unlatch the handle.

During off-season storage, the handle has a storage latch which prevents the door from completely closing. Keeping the doors partially opened during long term storage prevents odors from building up in the cabinet. To engage the storage latch, open each door about 1/2 inch, hold the door handle in the open position, and push the storage latch into the cutout of the strike plate. Never use the storage latch as a travel latch because the doors will not be fully closed.

## DOOR AJAR ALARM

This refrigerator has an alarm to alert you if the fresh food compartment door is not fully closed. If the door is left open for more than 2 minutes, the CHECK light will be lit and a beeper will sound a chirp approx every 5 seconds until the door is closed.

The refrigerator will continue to operate normally throughout the door ajar alarm sequence.

## MOISTURE DIVIDER HEATER

This refrigerator has a heater which is automatically controlled and prevents moisture from forming on the center divider located between the freezer and fresh food compartments.

## BACKUP TEMPERATURE CONTROL SYSTEM

This refrigerator has a backup temperature control system which allows the owner to have variable temperature control of the refrigerator even if the temperature sensor should fail.

If the control cannot read the temperature sensor, the control uses the last selected temperature setting to control the refrigerator duty cycle and adjust the temperature accordingly.

## THERMAL SWITCH MONITOR

This refrigerator has a thermal switch which serves as an overheating monitor.

## TILT SENSOR TECHNOLOGY

This refrigerator control incorporates a patent pending tilt sensor which enables the control to constantly monitor the angle at which the refrigerator is operated. This feature protects the user from potential hazards attributed to prolonged operation at severe angles of inclination. This monitoring function is completely invisible to the user and only becomes apparent to the user in the rare event that the refrigerator has been operated for prolonged periods of time at severe tilt angles. Normal care in leveling of your vehicle will prevent this feature from ever being noticed.

# Troubleshooting Guide

## Control Display Panel Fault Table

The refrigerator's electronic control provides "fault codes" for a variety of fault conditions.

For example, if the thermal switch located on the canister just above the burner box reaches an abnormally high temperature, the thermal switch "opens" and the control display panel lights up the following indicators: CHECK, AUTO, GAS, AC, DC and they remain ON when the control is powered ON. In addition, all the power source outputs (the AC relay and the GAS valve relay output) are all disabled.

Another example, if the refrigerator is in GAS mode and the burner fails to ignite in the 45 seconds allowed, the control display panel turns on the CHECK indicator, it flashes the GAS indicator, and the beeper sounds a beep lasting 240ms.

A third example, if the door is left open for longer than 2 minutes, the CHECK indicator flashes and the beeper sounds a very short beep approximately every 2 seconds.

The table below provides a complete listing of all of these fault codes.

Condition	Beeper	CHECK	AUTO	GAS	AC	DC	NOTE
1. Open fuse F3 on Control board 2. Open thermal switch on canister 3. Undervoltage condition ((<8V) 4. Old control board with orig Q17	OFF	ON	ON	ON	ON	ON	All Heat Sources OFF
AC Mode and No AC Supply	250ms	ON	OFF	OFF	FLASH	OFF	
DC Mode and No DC Supply	250ms	ON	OFF	OFF	OFF	FLASH	
GAS Mode and no Ignition	240ms	ON	any	FLASH	OFF	OFF	Latched after 33 sec
Door Open > 2 minutes	80ms	ON	any	any	any	any	beeps once every 2 sec
Thermister Open or Short (Backup Operating Mode Active)	OFF	FLASH	any	any	any	any	flashes once every 10 sec
Stress Monitor Fault (initial)	720ms	ON	OFF	OFF	OFF	OFF	Latched Nonvolatile
Stress Monitor Fault (after power cycle)	OFF	ON	OFF	OFF	OFF	OFF	Latched Nonvolatile
Flame Detect circuit offset too high (Faulty or Wet Electrode)	240ms	ON	any	FLASH	OFF	OFF	Detected at power up
Condition	Beeper	CHECK	AUTO	GAS	AC	DC	NOTE
Thermister Open or Short (Backup Operating Mode Active)	OFF	FLASH	any	any	any	any	flashes once every 10sec
		TEMP1	TEMP2	TEMP3	TEMP4	TEMP5	NOTE
		FLASH	FLASH	FLASH	FLASH	FLASH	IF TEMP switch pressed
Enter Diagnostic Display Mode by pressing MODE and TEMP simultaneously for 5 sec during NORMAL operation							
Condition	Beeper	CHECK	AUTO	GAS	AC	DC	NOTE
Diagnostic Mode Active	OFF	ON	STR2	STR1	STR0	OFF	Stress Monitor value
		TEMP1	TEMP2	TEMP3	TEMP4	TEMP5	
		ON	OFF	TILT2	TILT1	TILT0	Tilt Monitor value
Condition	Beeper	CHECK	AUTO	GAS	AC	DC	NOTE
No Communication from Display Board	any	any	any	any	any	any	All Heat Sources OFF
		TEMP1	TEMP2	TEMP3	TEMP4	TEMP5	
		any	any	any	any	any	



# Troubleshooting Guide

## Temperature Setting Setpoints

There is a high temperature TURN ON setpoint and a low temperature TURNOFF setpoint associated with each temperature setting. The corresponding voltage at the input pin (J10-1) is listed for each temperature point. This results in an average temperature for each setting given in the small table on the right. Please note that this is the average temperature for the FIN - the average CABINET AIR temperature will be approximately 6-8 degrees warmer than the FIN temperature.

Cooling Level	High Temp to Turn ON	Volts @ High Temp for ON	Low Temp to turn OFF	Volts @ Low Temp for OFF	Temp for Strip to Turn ON	Volts for Strip to Turn ON	Avg Temp Targ	Volts @ Temp Targ
1	36	1.21	28	1.39	42	1.09	32	1.30
2	34	1.26	26	1.43	40	1.13	30	1.34
3	32	1.30	24	1.48	38	1.17	28	1.39
4	30	1.34	22	1.53	36	1.21	26	1.43
5	26	1.43	18	1.63	32	1.30	22	1.53

Note: Lower Voltage = WARMER

The table above is for troubleshooting the thermistor circuit with in-circuit voltage measurements (ie. with the connectors installed and with power on).

The thermistor circuit can also be troubleshoot by measuring the resistance on the thermistor directly across pins 1 and 2 on the J10 connector with power off and with the J-10 connector disconnected from the control board. For the following fin temperatures – the thermistor should have the following resistance measurements:

Fin Temperatures between	Thermistor Resistance between
23°F and 32°F	6.2KΩ and 8.7KΩ
32°F and 50°F	3.8KΩ and 6.8KΩ
50°F and 70°F	2.3KΩ and 4.2KΩ
70°F and 90°F	1.4KΩ and 2.5KΩ
90°F and 100°F	1.1KΩ and 1.6KΩ



## Condition Poor Cooling

### INFORMATION GATHERING

First – we need to define what is meant by “poor cooling”.

- 1) What are the outside ambient conditions? Direct sunlight on vehicle?
- 2) What are the temperatures in the freezer air and the cabinet air?
- 3) Is there reported frost buildup in cabinet or freezer?
- 4) Is the cabinet level?
- 5) What is power source? Does problem happen with AC and GAS?
- 6) Is there evidence of “frosted elbow” (ie. cooling not being used up)
- 7) Is there adequate ventilation? (ie, no blockages, etc)

Verify: In AC mode, verify AC heater is energized with 2.6amps. **If not replace with a heater rated 300w @ 115VAC. Refrigerators with date codes after 131210 (Dec 10, 2013) should already have heaters rated 300w @115VAC.**

**HEATER NOTE: Heaters installed prior to Dec 10, 2013 were rated to be 300 watts @ 120VAC. The resistance of these older heaters when disconnected from the control board and measured directly should be 48 ohms (+/- 4 ohms). Heaters installed after Dec 10, 2013 are rated to be 300 watts @ 115VAC. The resistance of these newer heaters when disconnected from the control board and measured directly should be 44 ohms (+/- 4 ohms).**

Verify: In GAS mode, that burner is being ignited and flame has good shape and color

Next: Attempt to get accurate temp data

- 1) Suggest running cabinet overnight with thermometers placed
- 2) Get thermocouple data if possible
- 3) Have dealers/service centers run cabinet outside of RV overnight

## Poor Cooling

- 1) Refrigerators perform poorly in 100-110°F; especially in direct sunlight  
These refrigerators may perform normally in 90°F
- 2) Door gasket leakage can lead to abnormal high internal temperatures
- 3) Leakage generally caused by door mis-alignment or poor gaskets
- 4) Off level cabinets inhibit good absorber/condenser function (3° angle)
- 5) If one power source is worse – focus on that power source
- 6) Suggests poor evaporator tube contact in freezer and/or cabinet fin
- 7) Poor ventilation directly affects cooling performance
- 8) AC heater may not be delivering full power (ie damaged, open circuit)
- 8a) Incoming AC power may be below 110VAC (90-100 VAC problematic)
- 9) Gas pressure may not be 11”wc; burner may be misaligned if the flame wicks up along the side of the flue

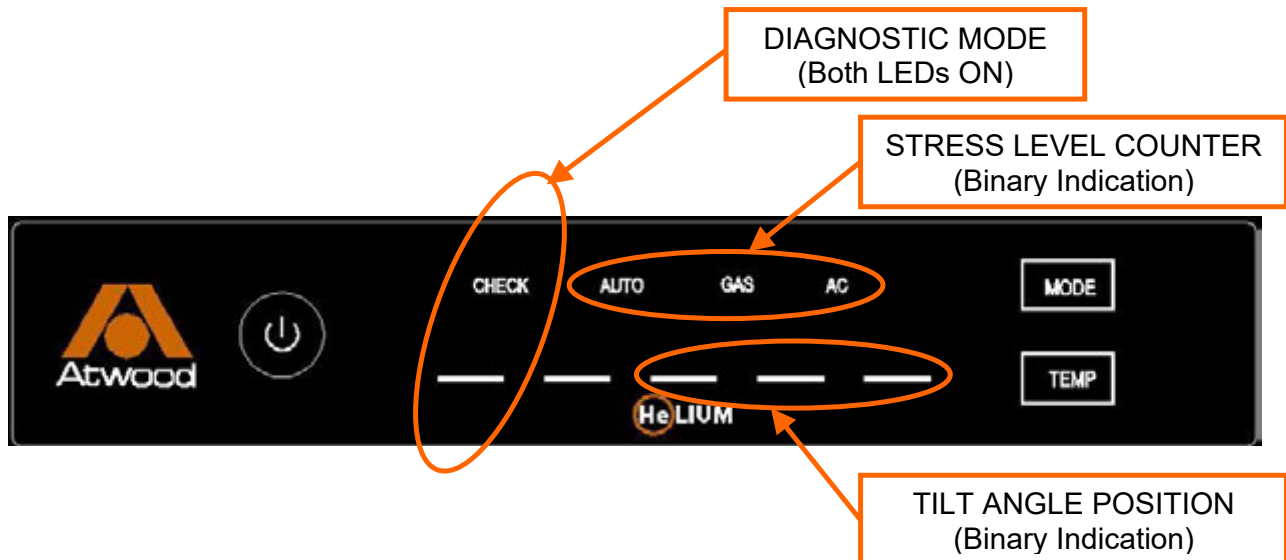
# DIAGNOSTIC MODE WORK INSTRUCTION OF REFRIGERATOR rev 1

(NOTE: The diagnostic mode is only accessible from a normal, power on condition)

## **1. Make sure the refrigerator is powered on and functioning normally.**

## **2. To enter the Diagnostic Mode, perform the following steps:**

1. Press and hold both the TEMP and MODE pushbuttons together while watching the LEDs on the left hand side of the display board;
2. After about 2 seconds of holding both pushbuttons down, both the CHECK LED and the leftmost bar indicator on the temperature setting LEDs will turn on.
3. Release both the TEMP and MODE pushbuttons within 1 second of the two LEDs becoming lit and the display will be in the diagnostic mode.
  - a) The CHECK and the leftmost bar both ON indicates that the display is in diagnostic mode
  - b) The AUTO, GAS, and AC LEDs indicate the contents of the stress level counter in binary with the AC indicator being the least significant bit and the AUTO indicator being the most significant bit
  - c) The 3 LEDs on the right-hand side of the temperature setting LEDs indicate the tilt position angle of the power board in binary with the rightmost LED being the least significant bit.
4. To exit the diagnostic mode and return to normal operation, press either the MODE or TEMP buttons.



4. Normally the tilt angle position is zero (all LEDs OFF) when the powerboard is mounted on the refrigerator and the refrigerator is standing vertical. As the powerboard is tilted approximately 5 degrees either to the right or the left, one rightmost LED will light. As the powerboard is tilted to 10 and 15 degree angles off of vertical, the tilt position will count up in binary to "010" and "011" respectively. When the refrigerator is returned to the vertical position, all three LEDs should again be OFF. This indicates that the tilt sensor is performing normally. If none of the LEDs turn on as the refrigerator is tilted thru these angles – you should contact an authorized service center immediately. If when the refrigerator and the powerboard are standing vertical and all three of the LEDs are not OFF – this indicates that the tilt calibration procedure may need to be performed. Please contact an authorized service center.
5. Normally the stress level counter is zero (all LEDs OFF) indicating that the control has not been operated at severe position angles for any length of time. It is possible that the counter might display "001" or a "010" – this indicates that the refrigerator had been operated at a severe angle for short periods of time. The owner should be alerted that better care of leveling needs to be taken when operating his refrigerator particularly during long-term storage. If the counter displays "110" or "111" - the owner should contact an authorized service center immediately as the refrigerator has been operated for long periods of time at severe position angles.

**HE-0601**  
**HE-0801**

# **GAS ABSORTION RV REFRIGERATORS**

## **SERVICE PARTS**

**Alphabetical Order**

<b>Atwood PN</b>	<b>Description</b>	<b>Picture ID</b>
14044	AC Heater	49
14051	Aluminum Fin	14
14020	Balcony (Bin) Spacer	10
14058	Bottom Back Bracket	68
14039	Burner Bracket Assy	61, 59, 62
14038	Burner Tube	Part of 61
14008	Cabinet Door Foamed Assy, HE-0601	6, 7, 3
14009	Cabinet Door Foamed Assy, HE-0801	6, 7, 3
14052	Cabinet Hinge Kit (Set for 1 door)	6, 17, 18, 19, 20, 21
14014	Cabinet Hinge, Bottom	18, 19, 20
14013	Cabinet Hinge, Top	16, 17, 18
14043	Canister Assy, 6 cuft	44, 45, 46, 47, 48, 80
14053	Canister Assy, 8 cuft	44,45,46,47,48,49,80
14070	Caps, Freezer Evaporator Bolts	not shown
14049 *	Cooling System Replacement, 6cuft	43, 44, 45, 46, 47, 48, 49, 80 } * not available under warranty
14050 *	Cooling System Replacement, 8cuft	
14031	Crisper Bins (2)	28
14055	DC connection wire	64
14004	Display Board Panel Assy	32, 33, 34, 35, 36, 31, 17
14003	Display Board PCB	32
14018	Door Bin Cabinet Assy	9, 10
14019	Door Bin Freezer	4
14006	Door Handle Assy, Lower	8
14005	Door Handle Assy, Upper	5
14062	Door Panel, Cabinet 6 cuft, Black	not shown
14064	Door Panel, Cabinet 8cuft, Black	not shown
14063	Door Panel, Freezer, Black	not shown
14065	Door Panel Set, 6 cuft, Black	not shown
14067	Door Panel Set, 8 cuft, Black	not shown
14045	Door Switch	37
14027	Drip Tray Assy	15
14015	Egg Tray	30
14069	Electrode Service Kit (new style mtg)	67
14068	Electrode Service Kit (old style mtg)	67
14046	Fan	77
14047	Fan Kit Assy	75,76,77,78
14041	Flue Cap	not shown
14007	Freezer Door Foamed Assy	1, 2, 3
14035	Gas Valve Assy, 6 cuft	54,55,57,58
14074	Gas Valve Assy, 8 cuft	54,55,57,58
14016	Gas Valve Bracket	60
14057	Gas Valve connection wire	66
14037	Grounding Wire	79
14033	Ice Cube Tray	29
14028	Lamp Assy Kit	38, 39, 40
14017	Latchplate	13
14048	Orifice Adaptor Assy (Jet)	58
14011	Panel Retainer, Cabinet Door, HE-0601	7
14012	Panel Retainer, Cabinet Door, HE-0801	7
14010	Panel Retainer, Freezer Door	2
14056	Power Cord	65
14002	Powerboard PCB	52
14034	Powerboard Box	51, 53
13006	Roof Vent Assy, Black	71, 72
13005	Roof Vent Assy, Grey	71, 72
13004	Roof Vent Assy, White	71, 72

**HE-0601**  
**HE-0801**

# **GAS ABSORTION RV REFRIGERATORS**

## **SERVICE PARTS**

### **Alphabetical Order**

<b>Atwood PN</b>	<b>Description</b>	<b>Picture ID</b>
14026	Shelf Clips	not shown
14023	Shelf, Bot Cabinet Deep	26
14025	Shelf, Freezer	22
14030	Shelf, Mid Cabinet	25
14022	Shelf, Mid Cabinet Notched	24
14024	Shelf, Plastic Crisper	27
14021	Shelf, Top Cabinet Narrow	23
14059 *	Side Trim Protectors, 6 cuft (2)	not shown
14061 *	Side Trim Protectors, 8 cuft (2)	not shown
13003	Side Vent Assy, Black	73, 74
13002	Side Vent Assy, Grey	73, 74
13001	Side Vent Assy, White	73, 74
14036	Spark Electrode Wire	67
14054	Terminal Block, +12VDC	63
14042	Thermal Cutoff Switch (TCO)	50
14029	Thermister Kit	41, 42
14032	Top/Bottom Trim Cap Kit (2)	not shown
14040	Windshield, Burner Box	70
14060	Wire Bottle Holder (Bottom Door Bin)	11

\* not available  
during warranty

## **SERVICE PARTS**

### **Numerical Order**

<b>Atwood PN</b>	<b>Description</b>	<b>Picture ID</b>
13001	Side Vent Assy, White	73, 74
13002	Side Vent Assy, Grey	73, 74
13003	Side Vent Assy, Black	73, 74
13004	Roof Vent Assy, White	71, 72
13005	Roof Vent Assy, Grey	71, 72
13006	Roof Vent Assy, Black	71, 72
14002	Powerboard PCB	52
14003	Display Board PCB	32
14004	Display Board Panel Assy	32, 33, 34, 35, 36, 31, 17
14005	Door Handle Assy, Upper	5
14006	Door Handle Assy, Lower	8
14007	Freezer Door Foamed Assy	1, 2, 3
14008	Cabinet Door Foamed Assy, HE-0601	6, 7, 3
14009	Cabinet Door Foamed Assy, HE-0801	6, 7, 3
14010	Panel Retainer, Freezer Door	2
14011	Panel Retainer, Cabinet Door, HE-0601	7
14012	Panel Retainer, Cabinet Door, HE-0801	7
14013	Cabinet Hinge, Top	16, 17, 18
14014	Cabinet Hinge, Bottom	18, 19, 20
14015	Egg Tray	30
14016	Gas Valve Bracket	60
14017	Latchplate	13
14018	Door Bin Cabinet Assy	9, 10
14019	Door Bin Freezer	4
14020	Balcony (Bin) Spacer	10
14021	Shelf, Top Cabinet Narrow	23
14022	Shelf, Mid Cabinet Notched	24

**HE-0601**  
**HE-0801**

# **GAS ABSORTION RV REFRIGERATORS**

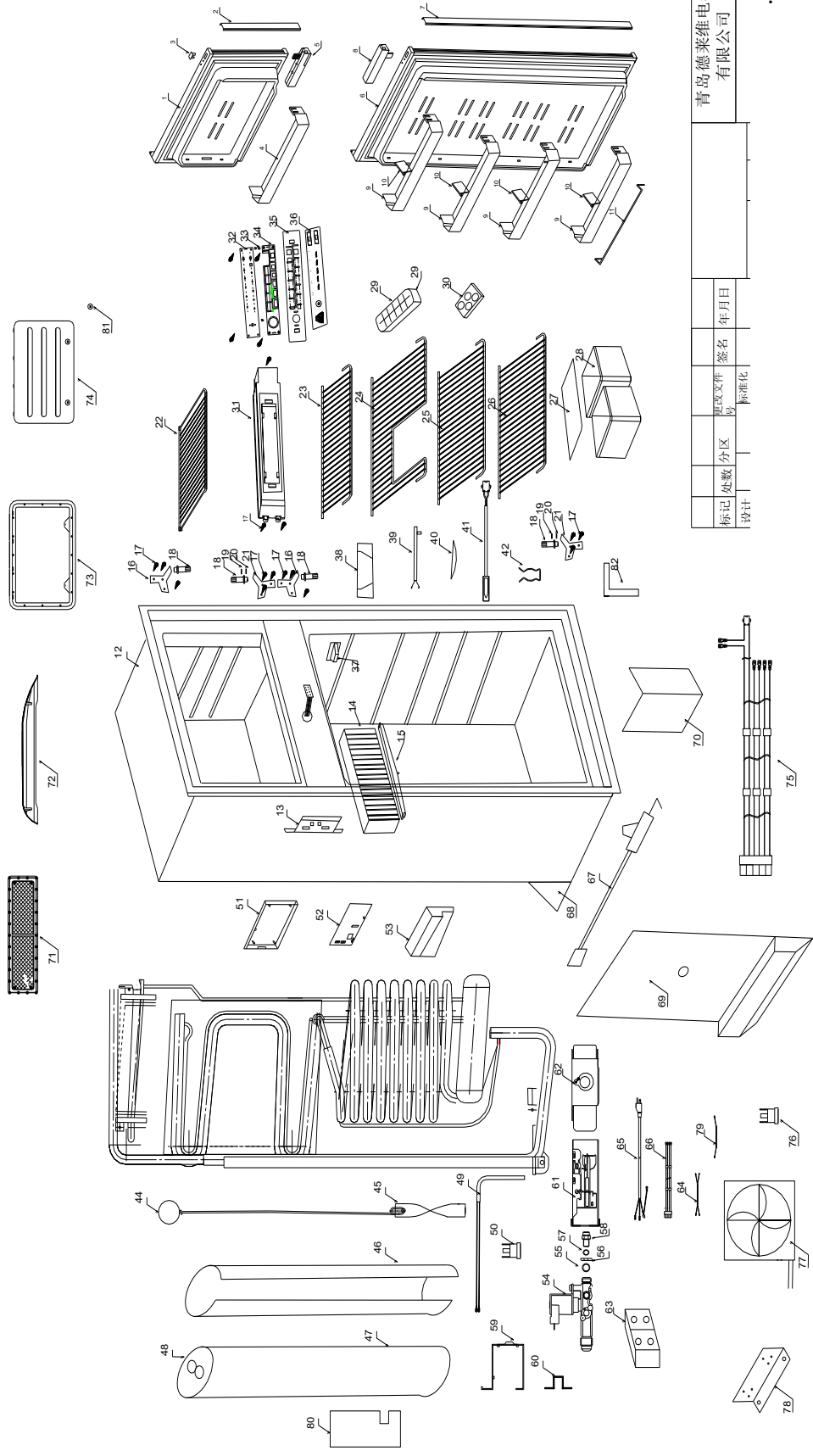
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### **Numerical Order**

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14025	Shelf, Freezer	22	
14026	Shelf Clips	not shown	
14027	Drip Tray Assy	15	
14028	Lamp Assy Kit	38, 39, 40	
14029	Thermister Kit	41, 42	
14030	Shelf, Mid Cabinet	25	
14031	Crisper Bins (2)	28	
14032	Top/Bottom Trim Cap Kit (2)	not shown	
14033	Ice Cube Tray	29	
14034	Powerboard Box	51, 53	
14035	Gas Valve Assy, 6 cuft	54, 55, 57, 58	
14036	Spark Electrode Wire	67	
14037	Grounding Wire	79	
14038	Burner Tube	Part of 61	
14039	Burner Bracket Assy	61, 59, 62	
14040	Windshield, Burner Box	70	
14041	Flue Cap	not shown	
14042	Thermal Cutoff Switch (TCO)	50	
14043	Canister Assy, 6 cuft	44, 45, 46, 47, 48, 80	
14044	AC Heater	49	
14045	Door Switch	37	
14046	Fan	77	
14047	Fan Kit Assy	75,76,77,78	
14048	Orifice Adaptor Assy (Jet)	58	
14049	Cooling System Replacement, 6cuft	43, 44, 45, 46, 47, 48, 49, 80	} * not available under warranty
14050	Cooling System Replacement, 8cuft	43, 44, 45, 46, 47, 48, 49, 80	
14051	Aluminum Fin	14	
14052	Cabinet Hinge Kit (Set for 1 door)	16, 17, 18, 19, 20, 21	
14053	Canister Assy, 8 cuft	44, 45, 46, 47, 48, 49, 80	
14054	Terminal Block, +12VDC	63	
14055	DC connection wire	64	
14056	Power Cord	65	
14057	Gas Valve connection wire	66	
14058	Bottom Back Bracket	68	
14059 *	Side Trim Protectors, 6 cuft (2)	not shown	* not available under warranty
14060	Wire Bottle Holder (Bottom Door Bin)	11	
14061 *	Side Trim Protectors, 8 cuft (2)	not shown	* not available under warranty
14062	Door Panel, Cabinet 6 cuft Black	not shown	
14063	Door Panel, Freezer Black	not shown	
14064	Door Panel, Cabinet 8cuft, Black	not shown	
14065	Door Panel Set, 6 cuft, Black	not shown	
14067	Door Panel Set, 8 cuft, Black	not shown	
14068	Electrode Service Kit (old style mtg)	67	
14069	Electrode Service Kit (new style mtg)	67	
14070	Caps, Freezer Evaporator Bolts	not shown	
14074	Gas Valve Assy, 8 cuft	54,55,57,58	

# GAS ABSORPTION RV REFRIGERATORS

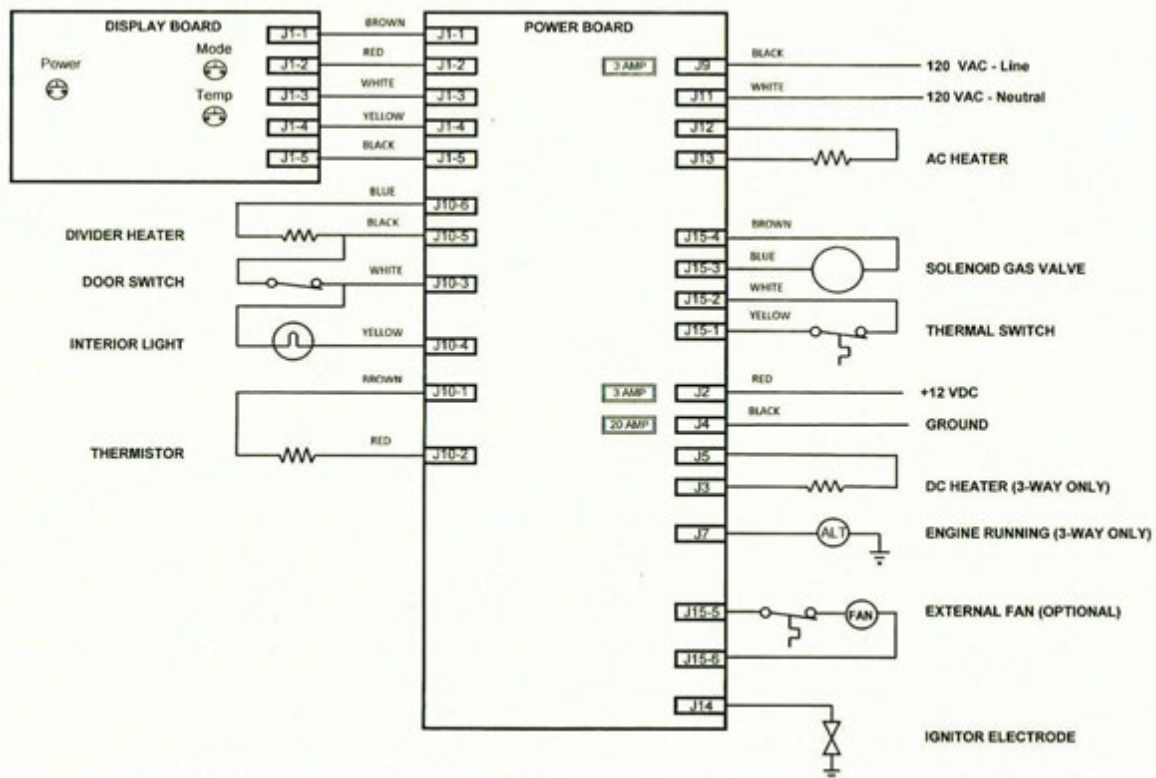
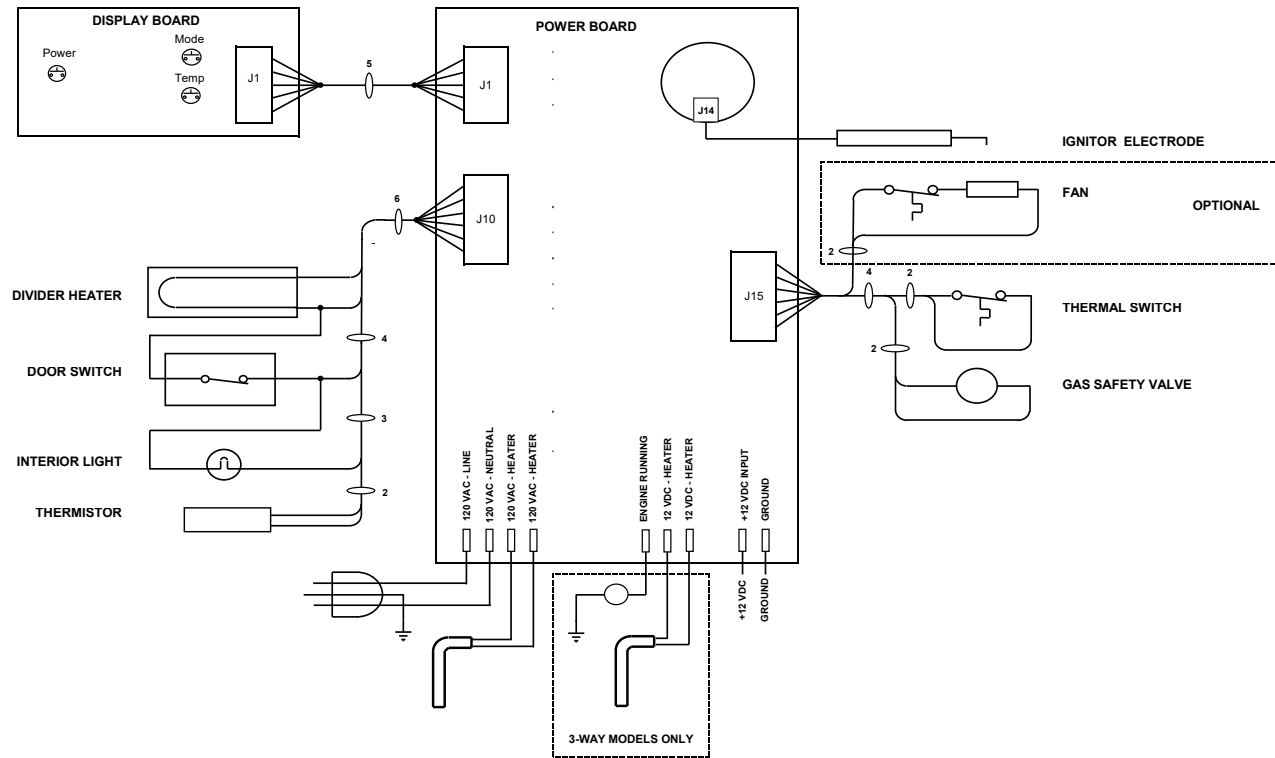
HE-0601  
HE-0801



标记	处数	分区	更改文件	签名	年月日	青岛德莱维电器有限公司
设计			设计			

# HE-0601 HE-0801

# GAS ABSORPTION RV REFRIGERATORS







## Control Sequence of Operation

The ON/OFF pushbutton allows the refrigerator control to power up. The indicator lights on the display board will light up and display the MODE and the current TEMP SETTING.

The refrigerator will be in one of three modes: AC manual mode, GAS manual mode, AUTO mode

### AC Manual Mode

If the cabinet temperature is higher than 60°F, then 110VAC is applied to the AC heater and 110VAC can be read across terminals J11 and J13. The AC heater creates heat inside the generator portion of the cooling system (inside the canister) which causes the cabinet fin to get colder which in turn lowers the temperature in the freezer and the refrigerator cabinet. The cabinet will continue to get colder until it reaches the LOW TEMP to TURN OFF thermostatic setpoint determined by the TEMP SETTING 1 thru 5 as detailed on the table on page 7.

When the cabinet fin temperature reaches the lowest point for the selected TEMP SETTING – 110VAC is removed from the AC heater resulting in a reading of 0 VAC across the terminals J11 and J13. The AC heater remains OFF until the cabinet fin temperature rises to the HIGH TEMP to TURN ON thermostatic setpoint determined by the TEMP SETTING 1 thru 5 as detailed on the table on page 7.

There is a high temperature cut-off switch which is located on the canister several inches above the burner box. This switch is normally CLOSED. The +12VDC power for the output drivers on the control board is routed thru this switch. If the cooling system has an abnormally high generator temperature the high temperature cut-off switch OPENS and +12VDC is removed to the output drivers – disabling and turning OFF both the AC heater and the gas solenoid valve. The display board will light the CHECK light and all of the mode indicator lights across the top of the display board.

### GAS Manual Mode

If the cabinet temperature is higher than 60°F, the GAS solenoid valve is energized and the control begins a 40 second ignition trial period. During this 40 second time period, the control attempts to ignite the burner. During this 40 second time period there are 3 separate bursts of ignition tries, specifically a 20 sec burst followed by a short pause followed by a second 10 sec burst followed by a short pause followed by a third 8 sec burst. If after 40 seconds the control cannot ignite the burner, then the control enters a CHECK mode with the CHECK indicator light being lit, the GAS indicator light flashes, and the gas solenoid valve is de-energized. This can be reset by turning OFF the refrigerator for 5 seconds and then turning the refrigerator back ON and the 40 second ignition trial begins again.

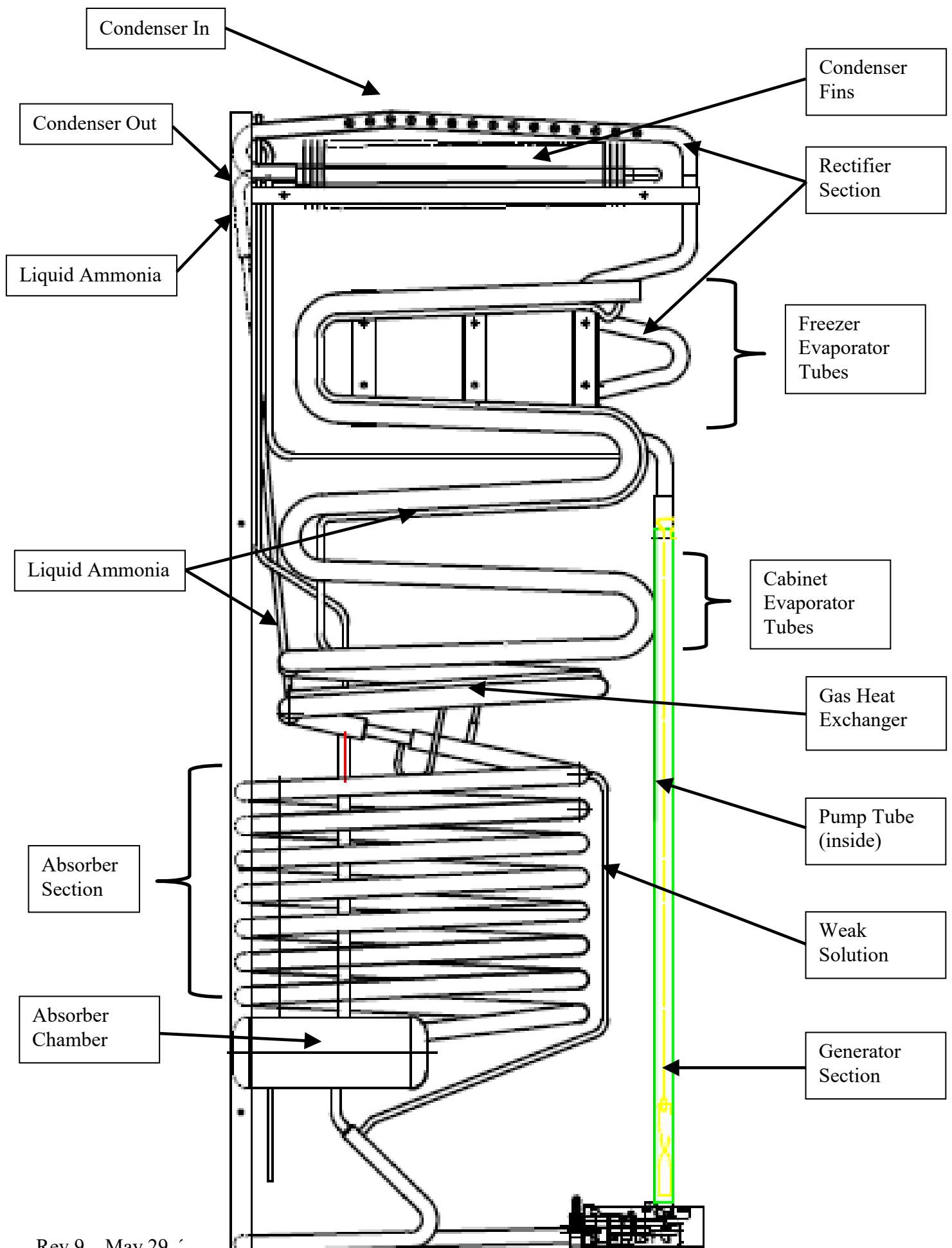
Once the burner is ignited, the gas burner creates heat inside the generator portion of the cooling system (inside the canister) which causes the cabinet fin to get colder which in turn lowers the temperature in the freezer and the refrigerator cabinet. The cabinet will continue to get colder until it reaches the LOW TEMP to TURN OFF thermostat setpoint determined by the TEMP SETTING 1 thru 5 as detailed on the table on page 7.

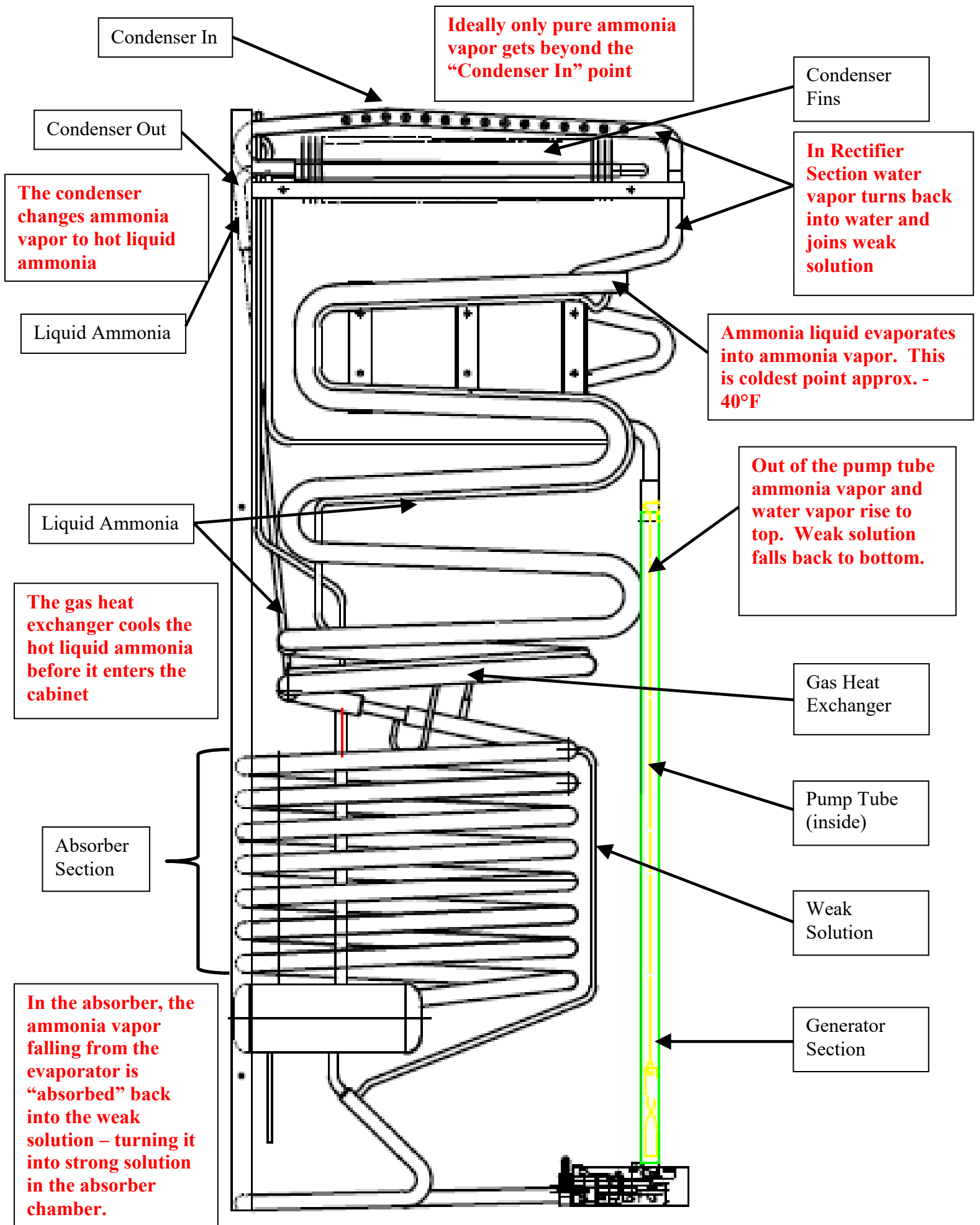
When the cabinet fin temperature reaches the lowest point for the selected TEMP SETTING – the gas solenoid valve is shut off and the flame at the burner is extinguished. The gas burner remains OFF until the cabinet fin temperature rises to the HIGH TEMP to TURN ON thermostatic setpoint determined by the TEMP SETTING 1 thru 5 as detailed on the table on page 7.

There is a high temperature cut-off switch which is located on the canister several inches above the burner box. This switch is normally CLOSED. The +12VDC power for the output drivers on the control board is routed thru this switch. If the cooling system has an abnormally high generator temperature the high temperature cut-off switch OPENS and +12VDC is removed to the output drivers – disabling and turning OFF both the AC heater and the gas solenoid valve. The display board will light the CHECK light and all of the mode indicator lights across the top of the display board.

### AUTO Mode

In the Automatic mode, if AC is present and available to the control board – the control goes into AC mode and energizes the AC heater in the same manner as in the AC Manual mode. If AC is not available, the control automatically switches into GAS mode and energizes the gas solenoid valve and begins a 40 sec ignition trial in the same manner as the GAS Manual Mode. The only difference is that if AC becomes available while the refrigerator is in AUTO GAS, the control switches automatically to AUTO AC mode.





## **ATWOOD REFRIGERATOR LIMITED WARRANTY**

Atwood Mobile Products warrants to the original owner and subject to the below mentioned conditions, that this product will be free of defects in material or workmanship for a period of two years from the original date of purchase. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of the manufacturer. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material workmanship.

This warranty extends to the original owner of the product only and is subject to the following conditions:

1. For a period of two years from the date of purchase, Atwood will replace any defective part in material or workmanship. This warranty includes reasonable labor charges required to remove and replace the defective part.
  2. For two years from the date of purchase, Atwood will repair or replace any part defective in material or workmanship. This warranty includes reasonable labor charges, required to remove and replace the part.
- Service calls to customer's location are not considered part of these charges and are, therefore, the responsibility of the owner.
3. This warranty does not cover the following items classified as normal maintenance:
    - a. Adjustment of gas pressure
    - b. Cleaning or replacement of burner orifice
    - c. Cleaning or adjustment of burner assembly
    - d. Cleaning or defrosting of refrigerator
  4. In the event of a warranty claim, the owner must contact, in advance, either an authorized Atwood Service Center or the Atwood Service Department. Warranty claim service must be performed at an authorized Atwood Service Center (can be found online @ [www.atwoodmobile.com](http://www.atwoodmobile.com)) or as approved by the Consumer Service Department, Atwood Mobile Products, 1120 North Main St., Elkhart, IN 46514 USA. Phone: (866-869-8116).
  5. Return parts (or refrigerator) must be shipped to Atwood "Prepaid". Credit for shipping costs will be included with the warranty claim. The defective parts (or refrigerator) become the property of Atwood Mobile Products and must be returned to the Consumer Service Department, Atwood Mobile Products, 301 E. Simonton Elkhart, IN 46514 USA.
  6. This warranty applies only if the unit is installed according to the installation instructions provided and complies with local and state codes.
  7. The warranty period on replacement parts is the unused portion of the original warranty period or ninety (90) days, whichever is greater.
  8. Damage or failure resulting from misuse (including failure to seek proper repair service), misapplication or alterations are the owner's responsibility.
  9. Atwood does not assume responsibility for any loss of use of vehicle, loss of time, inconvenience, expense for gasoline, telephone, travel, lodging, loss or damage to personal property or revenues. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.
  10. Any implied warranties are limited to two (2) years. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.
  11. Replacement parts (components) purchased outside of the original refrigerator warranty carries a 90 day warranty. This includes the part at no charge and reasonable labor charges to replace it. This Atwood appliance is designed for use in recreational vehicles for the purpose of food preservation as stated in the "serial plate" on the refrigerator. Any other use, unless authorized in writing by the Atwood Engineering Department, voids this warranty.

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My RV Works, Inc.

[www.myrvworks.com](http://www.myrvworks.com)



You can find more RV service manuals here:

[www.myrvworks.com/manuals](http://www.myrvworks.com/manuals)

Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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