

Please see attached.

AIR LEAKS - CHECK THE DOOR GASKET TO BE SURE OF A POSITIVE SEAL - IF THERE IS A BAD SEAL, REPLACE THE SEAL OR THE DOOR. ALSO CHECK THAT THE COOLING UNIT IS INSTALLED PROPERLY. THE COOLING UNITS FOAM BACK, THE PORTION THAT SURROUNDS THE EVAPORATOR COILS, MUST BE LUSH TO THE CABINET AT THE BACK OF THE REFRIGERATOR AND HAVE A POSITIVE SEAL. IF THE COOLING UNIT IS NOT INSTALLED PROPERLY, CORRECT. MAKE SURE THE CAP AT THE END OF THE DRAIN TUBE IS IN PLACE. MAKE SURE THERE ARE NO CRACKS IN THE LINER.

AMBIENT TEMPERATURE - THIS IS THE TEMPERATURE SURROUNDING THE RV AS WELL AS THE TEMPERATURE OF AIR AT THE BACK OF THE REFRIGERATOR. AS THE AMBIENT TEMPERATURE INCREASES, THE AIR TEMPERATURE IN THE AREA OF THE COOLING UNIT INCREASES. THE DOUBLE DOOR REFRIGERATORS SHOULD MAINTAIN APPROX. 43 DEGREES FOOD STORAGE TEMP AT 110 DEGREES AMBIENT TEMP. AS THE AMBIENT TEMPERATURE INCREASES IT IS POSSIBLE FOR THE INTERIOR TEMP OF THE REFRIGERATOR TO INCREASE. AFTERMARKET FANS CAN BE ADDED TO ASSIST WITH THIS IF NECESSARY. PROPER INSTALLATION, VENTILATION AND LEVELING ARE IMPORTANT FOR PROPER OPERATION.

COOLING UNIT - TO CHECK THE COOLING UNIT, FIRST VERIFY THE AC HEATING ELEMENT AND THERMISTOR ARE GOOD. PLACE A CUP OF WATER INSIDE THE REFRIGERATOR AND PLACE A THERMOMETER INSIDE THE WATER. DISCONNECT THE THERMISTOR FROM THE CONTROL BOARD AT THE P2 CONNECTOR IN THE UPPER LEFT HAND CORNER. WITH THE THERMISTOR UNPLUGGED, NO TEMPERATURE CAN BE SENSED AND THE REFRIGERATOR WILL RUN CONTINUOUSLY. ALLOW THE UNIT TO RUN WIDE OPEN FOR A MINIMUM OF 6 HOURS. AFTER 6 HOURS THE TEMPERATURE SHOULD BE IN THE LOWER 30'S. IF NOT AND THE VENTILATION HAS BEEN CONFIRMED AND THERE IS NO EXCESSIVE HEAT, REPLACE THE COOLING UNIT. DO NOT DIRECT WIRE THE HEATING ELEMENT. PERFORMING THE BYPASS TEST ABOVE WILL YIELD THE SAME RESULT AND LEAVE ALL SAFETY DEVICES IN PLACE.

LEVELING - LEVELING IS ONE OF THE REQUIREMENTS FOR PROPER OPERATION WITH ABSORPTION REFRIGERATORS. THE ABSORPTION DESIGN UTILIZES NO MECHANICAL PUMPS OR COMPRESSORS TO CIRCULATE THE REFRIGERANT

WITHIN THE SYSTEM, SO PROPER LEVELING MUST BE MAINTAINED TO PROVIDE THE CORRECT REFRIGERANT FLOW. WITHOUT PROPER LEVELING REFRIGERANT WITHIN THE COOLING UNIT WILL COLLECT AND STAGNATE AT CERTAIN AREAS. WITHOUT PROPER REFRIGERANT FLOW THE COOLING PROCESS WILL STOP. REFRIGERATORS HAVE A TYPE OF COOLING UNIT THAT UTILIZES AN ENCLOSED PUMP TUBE SURROUNDED BY SOLUTION TO PROTECT THE ASSEMBLY. TO ENSURE PROPER LEVELING WITH THESE MODELS THE VEHICLE NEEDS TO BE LEVELED SO IT IS COMFORTABLE TO LIVE IN (NO NOTICEABLE SLOPING OF FLOOR OR WALLS). WHEN THE VEHICLE IS MOVING, LEVELING IS NOT CRITICAL AS THE ROLLING AND PITCHING MOVEMENT OF THE VEHICLE WILL PASS EITHER SIDE OF LEVEL, KEEPING THE REFRIGERANT FROM ACCUMULATING IN THE PIPING. FOR SPECIFIC LEVELING SPECIFICATIONS THE UNIT SHOULD NOT EXCEED: 3 DEGREES LEFT TO RIGHT & 6 DEGREES FRONT TO REAR .

THERMISTOR -REMOVE THE COVER FROM THE CIRCUIT BOARD. DISCONNECT THE THERMISTOR HARNESS FROM THE LOWER CIRCUIT BOARD. (P2 ON MOST). PLACE THE THERMISTOR IN A GLASS OF ICE WATER AND WAIT 2-3 MINUTES. USING A PROPERLY CALIBRATED OHM METER, PLACE A PROBE ON EACH TERMINAL POINT. YOU SHOULD GET A READING OF APPROXIMATELY 8,500-9,500 OHMS +/- 10%. NOTE: FOR AN NDA 1402 YOU WILL READ APPROX 5,000-6,000 OHMS. NOTE: FOR AN 8 SERIES REFRIGERATOR (RML 8555, RM8501,ETC.). YOU WILL READ APPROXIMATELY 27,000 OHMS. WHEN REPLACING A THERMISTOR ALWAYS USE THE PART NUMBER SPECIFIC TO YOUR REFRIGERATOR. USING THE INCORRECT THERMISTOR CAN CAUSE AN OVER COOLING OR UNDER COOLING SITUATION. IN ADDITION TO CHECKING OHMS READINGS ALSO CHECK EACH WIRE TO CHASSIS GROUND TO VERIFY THAT THERE ARE NO SHORTS IN THE WIRING.

VENTILATION - Ventilation is one of the requirements for proper cooling unit operation. The coach vent system must be able to provide a way to direct the hot air, produced by the action of the cooling unit, out away from the installation of the refrigerator. The refrigerator extracts heat from the interior of the refrigerator cabinet and dissipates the heat out through the vent system. In a proper installation there should be 0 clearance surrounding the sides and top of the refrigerator to achieve proper air flow. All potential dead air pockets should be blocked or baffled to ensure that heat will not be trapped in these spaces and reduce efficiency. NOTE: Refrigerators should be installed in accordance with appropriate installation instructions received with the refrigerator.

DC VOLTS - FOR THE REFRIGERATOR TO OPERATE ON ANY MODE, DC VOLTAGE MUST BE SUPPLIED TO THE TERMINAL BLOCK AT THE BACK OF THE REFRIGERATOR. CLEAN DIRECT CURRENT (DC) POWER IS MANDATORY FOR HIGH TECH CIRCUITS TO OPERATE AS DESIGNED. THE SOURCES FOR DC POWER ARE A BATTERY AND A CONVERTER. A BATTERY WILL PROVIDE STRAIGHT LINE DC POWER BUT EXTENDED OPERATION WILL REQUIRE RECHARGING OF THE BATTERY BY THE CONVERTER OR ALTERNATOR. THE OPERATIONAL RANGE OF THE UNIT IS A MINIMUM OF 9.6 VDC TO A MAX OF 22 VDC. AT 22 VDC THE UNIT WILL AUTOMATICALLY SHUT DOWN UNTIL VOLTAGE HAS DECREASED TO 18 OR LESS FOR PROPER OPERATION, HOWEVER, PANEL LIGHTS WILL CONTINUE TO ILLUMINATE UNTIL VOLTAGE HAS DROPPED TO 4 VDC OR BELOW. CHECK FOR PROPER DC VOLTAGE AT THE POSITIVE AND NEGATIVE TERMINALS ON THE BACK OF THE REFRIGERATOR. IF THE VOLTAGE IS OUTSIDE THE OPERATIONAL RANGE, CORRECT THE POWER SUPPLY PROBLEM. NOTE: A BRIEF INTERRUPTION OF THE DC POWER SUPPLY WHILE THE REFRIGERATOR IS OPERATING CAN CAUSE A CHECK LIGHT. A MAXIMUM OF 6 VOLTS OF AC RIPPLE IS ACCEPTABLE. AC RIPPLE CAN BE MEASURED BY A DIGITAL VOLT METER SET ON THE AC SCALRE AT THE MAIN TERMINAL BLOCK DC CONNECTIONS. CONNECTING THE REFRIGERATOR TO AN UNREGULATED CONVERTER CAN RESULT IN IMPROPER OPERATION OF THE UNIT. DO NOT USE THE BODY OR CHASSIS OF THE RV AS A SUBSTITUTE FOR EITHER OF THE TWO CONDUCTORS. PROPER POLARITY IS CRUCIAL FOR OPERATION.

FUSES -The fuses are to protect the circuit board and the integrity of the heater

circuit(s) against shorts. The 3 amp DC fuse is designed to protect the circuit board from internal shorts. The 5 amp AC fuse is designed to protect the integrity of the AC heater circuit from shorts. To check a fuse, remove from the holder and do a continuity check. If no continuity, replace with a proper ampere fuse. NOTE:Determine the cause of the fuse failure and correct before replacing the fuse.

LOWER CIRCUIT BOARD - ALL TESTS ARE TO BE DONE WITH THE REFRIGERATOR IN THE COOLING MODE. FOR AC HEATING ELEMENT OPERATION, CHECK THAT INCOMING AC VOLTAGE IS PRESENT AT TERMINALS J5 AND J6 ON THE CIRCUIT BOARD. IF VOLTAGE IS BELOW OPERATING RANGE 100-132 VAC CORRECT THE INCOMING AC SUPPLY ISSUE. CHECK FOR VOLTAGE AT THE HEATING ELEMENT CONNECTION TERMINALS J7 AND J8 ON THE CIRCUIT BOARD. IF NO VOLTAGE IS PRESENT, CHECK THE FUSES. IF THE FUSE IS DEFECTIVE, REPLACE THE FUSE. IF FUSES ARE GOOD, REPLACE THE CIRCUIT BOARD. IF VOLTAGE IS PRESENT, DO NOT CHANGE THE CIRCUIT BOARD. MOVE ON TO THE HEATING ELEMENT.

VERIFY THE UNIT IS WIRED CORRECTLY BEFORE CONDEMNING THE CIRCUIT BOARD. NOTE: TERMINALS FOR INCOMING POWER AND HEATING ELEMENT MAY VARY DEPENDING ON

THE MODEL. ALWAYS FOLLOW THE SPECIFIC WIRING DIAGRAM ON THE UNIT.

THERMO FUSE - SOME MODELS UN AND ADDITIONAL THERMO FUSE FOR OVER HEATING PROTECTION. THIS IS LOCATED ON THE BACK WALL BEHIND THE BURNER. IT IS IN LINE WITH THE THERMO DISC AND IF EITHER DEVICE IS TRIPPED THE COOLING CYCLE IS STOPPED. THIS WILL RESULT WITH AN E3 CODE ON THE UPPER DISPLAY FOR ANY UNITS OPERATING WITH A HYDRA BOARD (RM3762, RM3962, RM1350, DMR702). FOR MODELS WITHOUT A DIGITAL DISPLAY YOU WILL GET NO OPERATION. THE FUSE CAN BE CHECKED FOR CONTINUITY. THE FUSE IS NORMALLY CLOSED (HAS CONTINUITY) AND OPENS (NO CONTINUITY) WHEN OVER HEATED.

Thank you,

Lisa

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