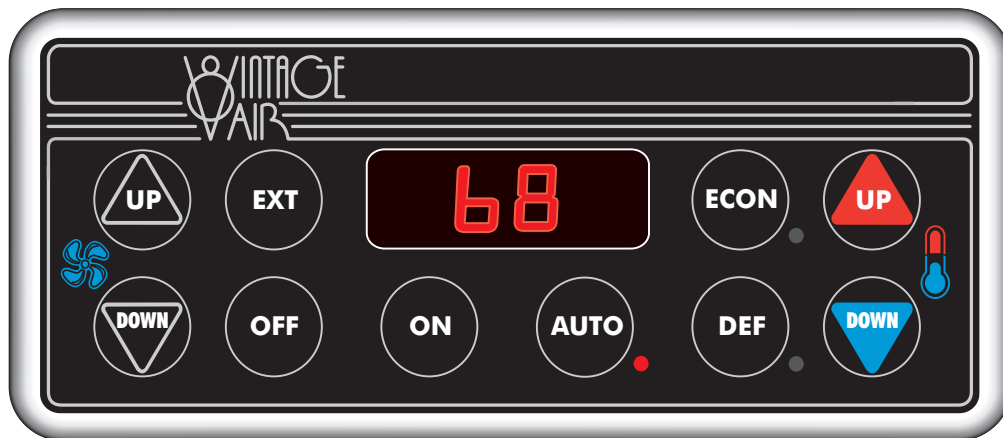


VINTAGE
AIR

COMFORT CONTROL SYSTEM OPERATING INSTRUCTIONS

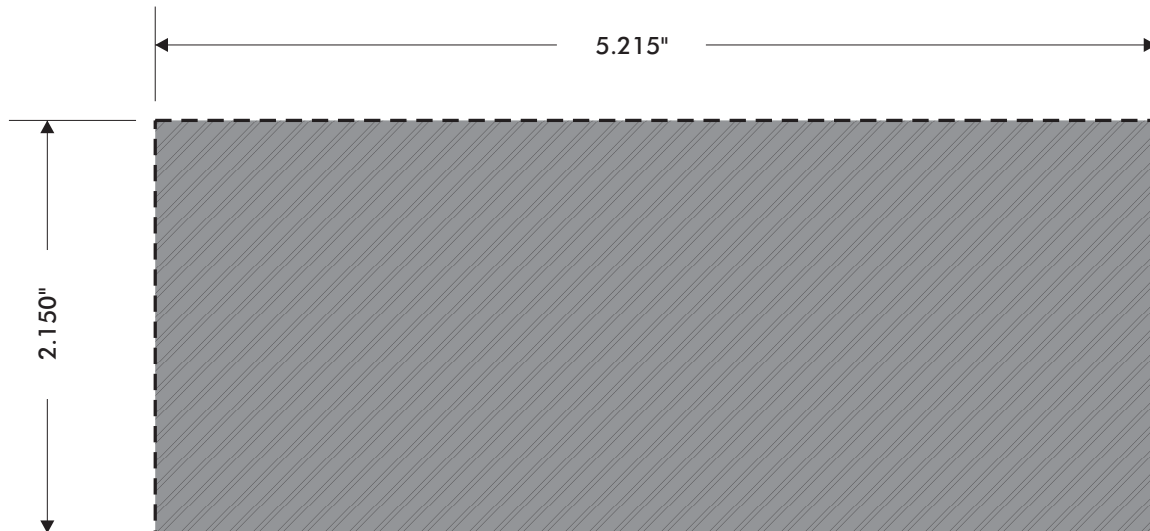
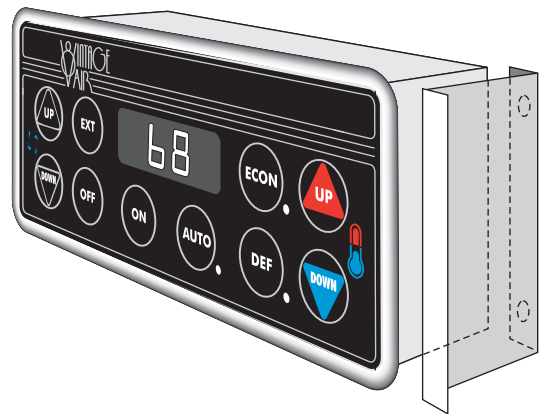
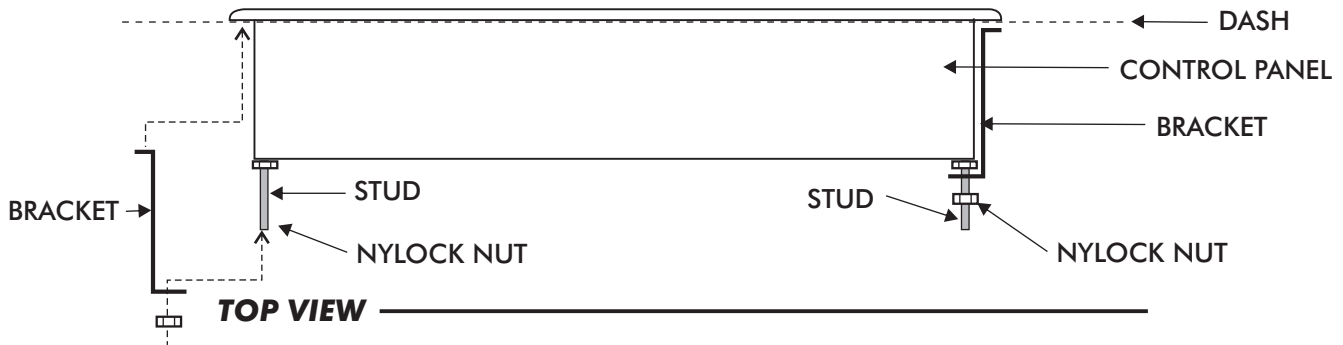
READ ALL INSTALLATION AND OPERATING INSTRUCTIONS
BEFORE ATTEMPTING TO INSTALL THIS PRODUCT.



THE VINTAGE AIR COMFORT CONTROL SYSTEM IS A
FULL CLIMATE CONTROLLING SYSTEM.
IT PROVIDES THE VEHICLE OPERATOR WITH
AUTOMATIC CONTROL OF
THE HEATING AND A/C SYSTEMS.
THE INSIDE TEMPERATURE WILL REMAIN RELATIVELY
CONSTANT EVEN UNDER CHANGING
DRIVING AND WEATHER CONDITIONS.

TEMPLATE

CUT OUT GRAYED AREA (2-1/16" x 5-1/8") ON DOTTED LINE.
 TAPE TEMPLATE TO DASH WITH MASKING TAPE.
 MARK DASH WITH MARKER OR SCRIBE.
 CUT OPENING FOR PANEL.
 INSERT PANEL FROM FRONT OF DASH.
 INSTALL MOUNTING BRACKETS TO PANEL WITH FOUR (4) 4/40 NYLOCKS NUTS.
 THIS WILL SECURE PANEL IN PLACE. **DO NOT OVERTIGHTEN THE NUTS.**



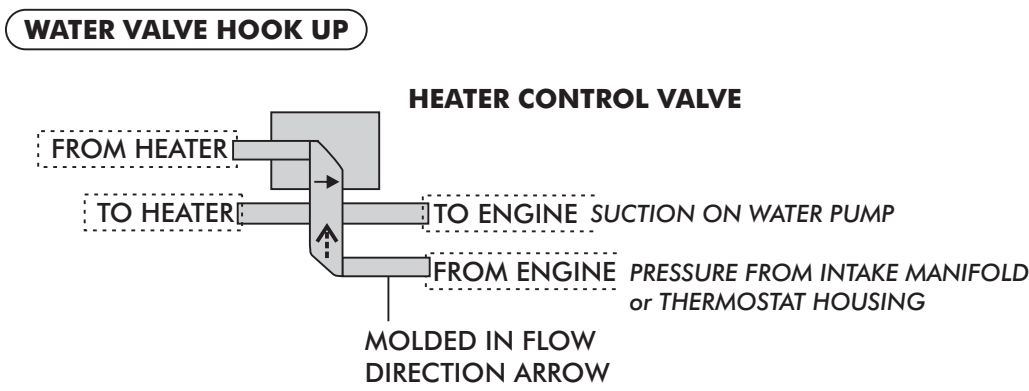
VACUUM SOLENOID CONTROL FUNCTIONS:

THE VINTAGE AIR AUTOMATIC TEMPERATURE CONTROL SYSTEM HAS TWO VACUUM SOLENOIDS WHICH CONTROL ACTUATORS FOR THE DEFROST AND HEATER DOORS. IN THE AT REST OR FAIL SAFE MODE, THE UNIT AIR DISCHARGES THROUGH THE A/C OUTLETS. FOR HEAT, SOLENOID #1 (HEATER DOOR) IS ENERGIZED. FOR DEFROST, SOLENOID #1 AND SOLENOID #2 (DEFROST DOOR) ARE BOTH ENERGIZED.

PLEASE NOTE: THAT THE CONTROL SIGNALS FOR THE SOLENOIDS AS WELL AS THE A/C RELAY ARE LOGIC LOW. THIS MEANS THE ELECTRONICS ARE SWITCHING GROUND. +12 VOLTS MUST BE APPLIED TO THE OTHER SIDE OF THE DEVICE IN ORDER TO FUNCTION. THE CONTROL USES LOGIC LOW VERSUS LOGIC HIGH TO KEEP THE ELECTRONICS FROM DIRECTLY DRIVING DEVICES SUCH AS THE A/C CLUTCH OR OTHER DEVICES WHICH THE CONTROL IS NOT DESIGNED TO SUPPORT.

INSTALLATION NOTES:

INSTALLING OR REPLACING THE HEATER CONTROL VALVE - THIS SYSTEM UTILIZES AN ELECTRONIC FOUR (4) PORT WATER VALVE. THE VALVE DIVERTS ENGINE COOLANT FLOW VERSUS SHUTTING IT OFF. THE VALVE WILL ALLOW COOLANT TO FLOW THROUGH THE HEATER CORE OR SIMPLY RETURN BACK TO THE ENGINE. THIS TYPE VALVE HAS TWO ADVANTAGES. FIRST, QUICK TEMPERATURE RESPONSE, SINCE IT DOESN'T HAVE TO PURGE THE COOLANT LINES OF COLD COOLANT WHEN THE VALVE IS FIRST OPENED. SECOND, IT DOESN'T HAVE TO SEAL OR WITHSTAND HIGH PRESSURES SINCE THE COOLANT IS ALWAYS FLOWING.

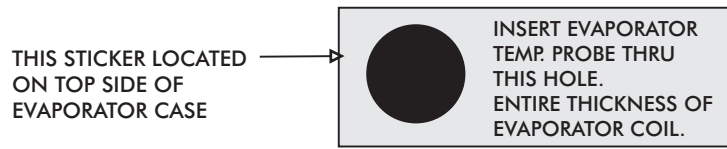


SENSOR LOCATIONS:

CAB SENSOR - THIS SENSOR DETERMINES THE TEMPERATURE IN THE VEHICLE AND COMPARES IT TO THE SETPOINT TEMPERATURE. THE BEST LOCATION FOR THIS SENSOR IS IN THE BLOWER INTAKE AIR STREAM.

AMBIENT SENSOR - THIS SENSOR CAN BE LOCATED ANYWHERE ON THE VEHICLE WHERE IT CAN MEASURE THE OUTSIDE TEMPERATURE, FREE FROM VEHICLE ENGINE HEAT, EXCESSIVE DIRT/DEBRIS OR DIRECT SUNLIGHT.

EVAPORATOR TEMP. PROBE -



REFER TO WIRING DIAGRAM FOR GENERAL WIRING INFORMATION.



COMFORT CONTROL INSTRUCTIONS

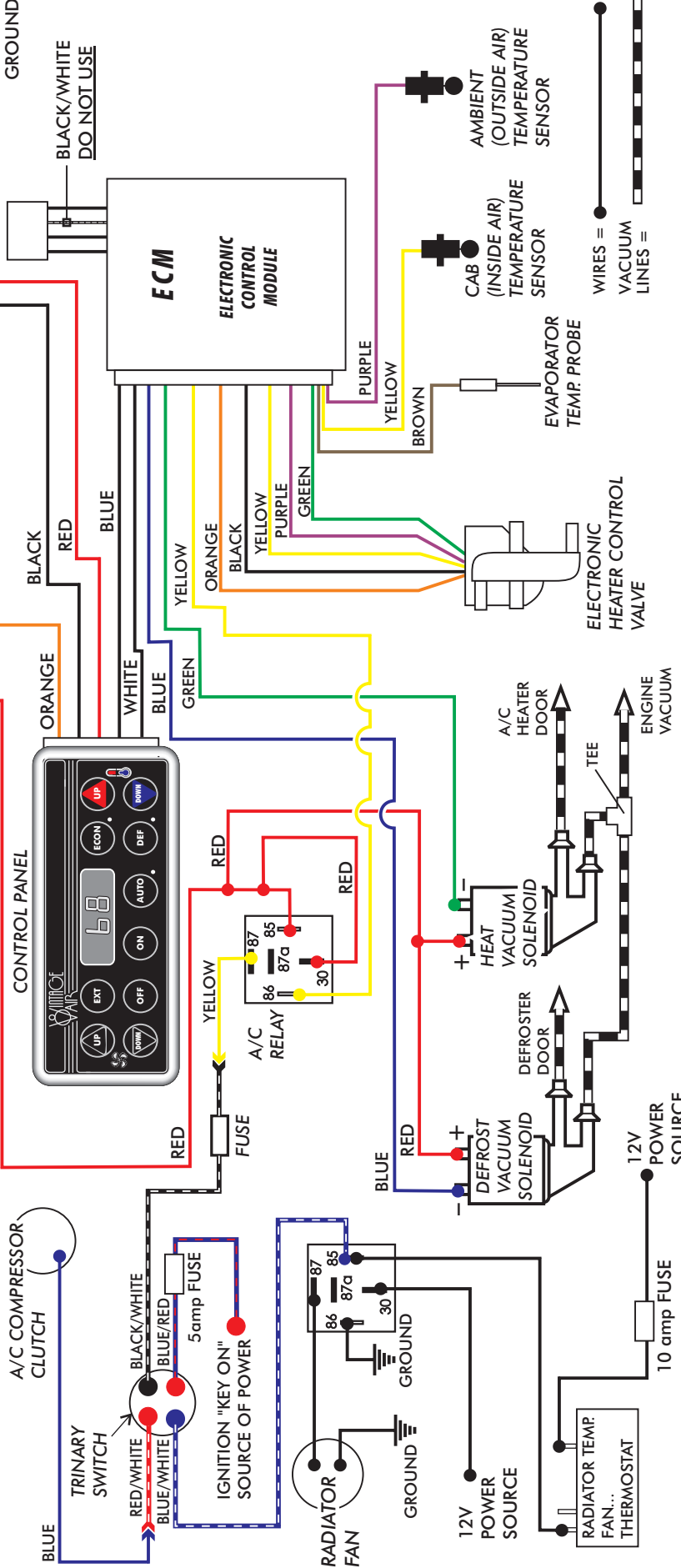
10305 I.H. 35 N. - SAN ANTONIO, TX. - 78233 - ph.210-654-7171 - fax 210-654-3113

WARNING!
FAILURE TO FOLLOW THE
RECOMMENDED WIRING DIAGRAM
COULD RESULT IN ECM FAILURE
AND MAY VOID YOUR WARRANTY.

"KEY ON"
12 VOLT
POWER SOURCE
RECOMMENDED

30 amp
CIRCUIT BREAKER
(MANUAL RESET)

CHASSIS
GROUND



- 1 INSTALL #6 SPLICER WITH SERVICE PORT IN THE HIGH PRESSURE LINE BETWEEN THE CONDENSER AND DRIER OR BETWEEN THE DRIER AND THE EVAPORATOR. SEE FIGURE 2.
- 2 TRINARY FUNCTION SWITCH WILL SPLICE INTO THE YELLOW WIRE WHICH RUNS FROM THE A/C RELAY (POLE #87) TO THE A/C CLUTCH. CONNECT TRINARY FUNCTION SWITCH BLACK/WHITE TO THE YELLOW WIRE CONNECTED TO THE POLE ON THE A/C RELAY. CONNECT TRINARY FUNCTION SWITCH RED/WHITE TO BLUE WIRE WITH BULLET PLUG RUNNING TO A/C COMPRESSOR. CONNECT TRINARY FUNCTION SWITCH BLUE/RED WIRE TO 12 VOLT IGNITION "KEY ON" SOURCE. IT MUST BE PROTECTED WITH A 5 amp FUSE. CONNECT TRINARY FUNCTION SWITCH BLUE/WHITE WIRE TO PIN #85 ON RELAY FOR ELECTRIC FAN.
- 3 WIRE ELECTRIC FAN AS SHOWN IN FIGURE 1.

INDICATOR LIGHTS

POWER ON LIGHT (ECONO MODE)

ILLUMINATES TO INDICATE ECONOMY MODE (NO A/C) HAS BEEN ACTIVATED.

TEMPERATURE / SYSTEM STATUS

DISPLAYS YOUR SET TEMPERATURE AND WILL ALSO REVEAL SYSTEM STATUS INFORMATION.

AUTO ON LIGHT

ILLUMINATES TO INDICATE WHEN THE SYSTEM IS IN THE AUTOMATIC MODE.

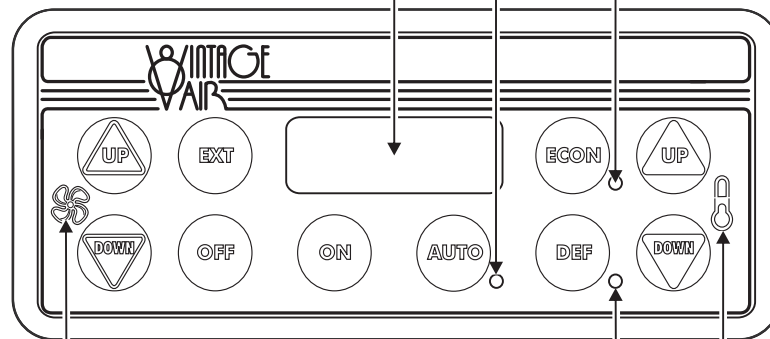


FIGURE 1

DEFROST ON LIGHT

ILLUMINATES TO INDICATE WHEN THE CONTROLLER IS IN THE DEFROST MODE.

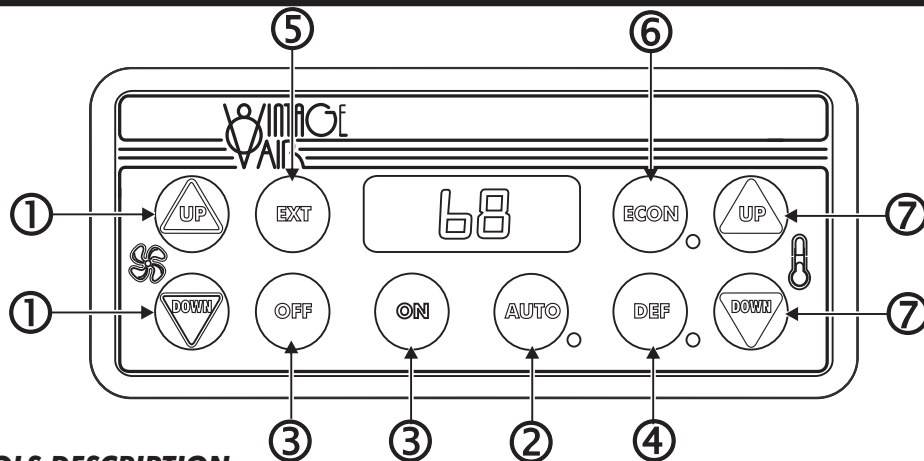
NON-ILLUMINATED INDICATORS

FAN SYMBOL

INDICATES FAN SPEED ADJUSTMENT PORTION OF CONTROL PANEL.

THERMOMETER SYMBOL

INDICATES TEMPERATURE ADJUSTMENT PORTION OF CONTROL PANEL.



OPERATOR CONTROLS DESCRIPTION:

- ① **FAN UP / FAN DOWN** -
OVERRIDES THE AUTOMATIC FAN SPEED CONTROL FEATURE. INCREMENTS FAN SPEED UP OR DOWN IN ELEVEN (11) STEPS. THE DIGITAL DISPLAY INDICATES FAN SPEED SETTING AS A PERCENTAGE OR "HI" WHEN MAXIMUM FAN SPEED IS REACHED OR "LO" WHEN MINIMUM FAN SPEED IS REACHED THEN RETURNS TO NORMAL DISPLAY FIVE (5) SECONDS AFTER EITHER KEY IS DEPRESSED. THE SETPOINT FAN SPEED IS MAINTAINED UNTIL IT IS CHANGED OR THE AUTO KEY IS DEPRESSED.
- ② **AUTO** -
PLACES THE SYSTEM IN A FULLY AUTOMATIC TEMPERATURE CONTROL MODE INCLUDING FAN SPEED. A PANEL INDICATOR LIGHT INDICATES WHEN THIS MODE IS ACTIVE.
- ③ **OFF / ON** -
POWERS UP OR DOWN THE VEHICLE HVAC CONTROL SYSTEM.
- ④ **DEF (DEFROST)** -
ENERGIZES THE A/C SYSTEM, NO MATTER WHAT THE SETPOINT TEMPERATURE REQUIRES, TO DE-HUMIDIFY THE CAB. A PANEL INDICATOR LIGHT INDICATES WHEN THIS MODE IS ACTIVE.
- ⑤ **EXT (EXTERNAL TEMPERATURE)** -
WHEN DEPRESSED DISPLAYS THE OUTSIDE TEMPERATURE AS MEASURED BY THE AMBIENT OUTSIDE AIR SENSOR. THE OUTSIDE TEMPERATURE WILL BE DISPLAYED FOR A PERIOD OF FIVE SECONDS THEN RETURN TO DISPLAYING THE SETPOINT TEMPERATURE.
- ⑥ **ECON (ECONOMY MODE / HEAT MODE)** -
WHEN DEPRESSED, LOCKS OUT THE A/C FUNCTION. THE CONTROL USES ONLY RECIRCULATED AIR, FAN SPEED, AND WATER VALVE CONTROL TO MAINTAIN THE SETPOINT TEMPERATURE. DEPRESSING THE AUTO KEY WILL RETURN THE SYSTEM BACK TO NORMAL OPERATION. A PANEL INDICATOR LIGHT INDICATES WHEN THIS MODE IS ACTIVE.
- ⑦ **TEMPERATURE UP / DOWN** - PRESS ONCE FOR A TEMPERATURE CHANGE OF ONE (1) DEGREE OR HOLD DOWN TO SCROLL TO THE DESIRED TEMPERATURE SET POINT.

SPECIAL FUNCTIONS:

TO DISPLAY DIAGNOSTICS DEPRESS THE EXT **KEY** THREE (3) TIMES. THE DIGITAL DISPLAY WILL THEN DISPLAY ANY ACTIVE FAULT CODES.

TO CHANGE THE DISPLAY FROM FAHRENHEIT TO CELSIUS OR BACK, DEPRESS THE **EXT** KEY THEN EITHER THE TEMPERATURE **UP** OR **DOWN** KEY.

PRODUCT FEATURES:

- CUSTOM VINTAGE AIR BACKLIGHTED OPERATOR PANEL.
- EMBOSSED TOUCHPAD WITH TACTILE FEEDBACK.
- 1/2" HIGH, 1 1/2" LONG RED LED DIGITAL DISPLAY.
- DISPLAY IN DEGREES FAHRENHEIT OR CELSIUS (OPERATOR SELECTABLE).
- FOUR WIRE INTERFACE BETWEEN CONTROL PANEL AND POWER INTERFACE MODULE.
- ON-BOARD DIAGNOSTIC.
- RESUME LAST SETTING ON STARTUP MEMORY FEATURE.
- VARIABLE INCREMENT RATE OF TEMPERATURE AND FAN SPEED SETTINGS (THE LONGER A KEY IS DEPRESSED, THE FASTER THE SETPOINT INCREMENTS).
- ELECTRONIC EVAPORATOR FREEZE PROTECTION.

CONTROL OPERATION SPECIFICATIONS:

TEMPERATURE CONTROL RANGE: 55° TO 95° F. (13° TO 35° C.).

FAN CONTROL: PULSE WIDTH MODULATION, MAX CURRENT HANDLING - 25 AMPS.

SENSORS:

TEMPERATURE:

- UNIT FRESH AIR INLET (AMBIENT TEMPERATURE).
- CAB TEMPERATURE.
- EVAPORATOR CORE PROBE.

CONTROLLED DEVICES:

- A/C COMPRESSOR CLUTCH CIRCUIT.
- FAN MOTOR.
- WATER VALVE.

TROUBLESHOOTING

TO DISPLAY DIAGNOSTIC DEPRESS THE EXT. KEY THREE (3) TIMES. THE DIGITAL DISPLAY WILL THEN DISPLAY ANY ACTIVE FAULT CODES.

FAULT CODES:

SYSTEM OK	ERROR=0
CAB SENSOR SHORTED	ERROR=1
CAB SENSOR OPEN	ERROR=2
EVAP. PROBE SHORTED	ERROR=3
EVAP. PROBE OPEN	ERROR=4
OUTLET SENSOR SHORTED	ERROR=5 (NOT CURRENTLY USED)
OUTLET SENSOR OPEN	ERROR=6 (NOT CURRENTLY USED)
AMBIENT SENSOR SHORTED	ERROR=7
AMBIENT SENSOR OPEN	ERROR=8
WATER VALVE SHORTED	ERROR=9
WATER VALVE OPEN	ERROR=10