



INSTALLATION INSTRUCTIONS

FOR

6330A SERIES

6330B SERIES

SPLIT SYSTEM AIR CONDITIONER

**RV Products
A Division of Airxcel, Inc.
P.O. Box 4020
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1. WARNINGS

IMPORTANT NOTICE

These instructions are for the use of qualified individuals specially trained and experienced in installation of this type equipment and related system components.

Installation and service personnel are required by some states to be licensed. **PERSONS NOT QUALIFIED SHALL NOT INSTALL NOR SERVICE THIS EQUIPMENT.**

NOTE

The words “Shall” or “Must” indicate a requirement which is essential to satisfactory and safe product performance.

The words “Should” or “May” indicate a recommendation or advice which is not essential and not required but which may be useful or helpful.

WARNING – SHOCK HAZARD

To prevent the possibility of severe personal injury or equipment damage due to electrical shock, always be sure the electrical power source to the appliance is disconnected before performing service.

CAREFULLY FOLLOW ALL INSTRUCTIONS AND WARNINGS IN THIS BOOKLET TO AVOID DAMAGE TO THE EQUIPMENT, PERSONAL INJURY OR FIRE.

WARNING

Improper installation may damage equipment, can create a hazard and will void the warranty.

The use of components not tested in combination with these units will void the warranty, may make the equipment in violation of state codes, may create a hazard and may ruin the equipment.

2. COMPONENT MATCH-UP

- 6330A875 or 6330B875 Indoor Section (Includes Poster Board Template)
- 6330*610 Condenser Section

* character may be (-) or letter

- 6330A625 Accessory Kit consisting of:

- 1 – Pass Through Grommet
- 2 – 8’ Refrigerant Lines
- 1 – Refrigerant Line Bracket
- 1 – 12’ Long Thermostat Umbilical
- 1 – 6330B335 Wall Thermostat
- 2 – Return Air Grilles
- 2 – Closable Supply Air Louvers
- 1 – Non-Closable Supply Air Louver
- 1 – 25’ of 3” Diameter Flex Duct

- 1 – Small Parts Package consisting of:

- 4 – Lock Nuts For Unit Mounting
- 4 – Washers For Unit Mounting
- 4 – Allthreads For Unit Mounting
- 5 – Keps Nuts For Refrigerant Line Bracket
- 4 – Clamps For Refrigerant Line Mounting And Routing
- 6 – Zip Ties For Flexible Duct
- 8 – Counter Sunk Screws For Closable Louver Flange Mounting
- 8 – Pan Head Screws For Return Grille Mounting

3. UNIT DEPICTION FIGURES

EVAPORATOR SECTION

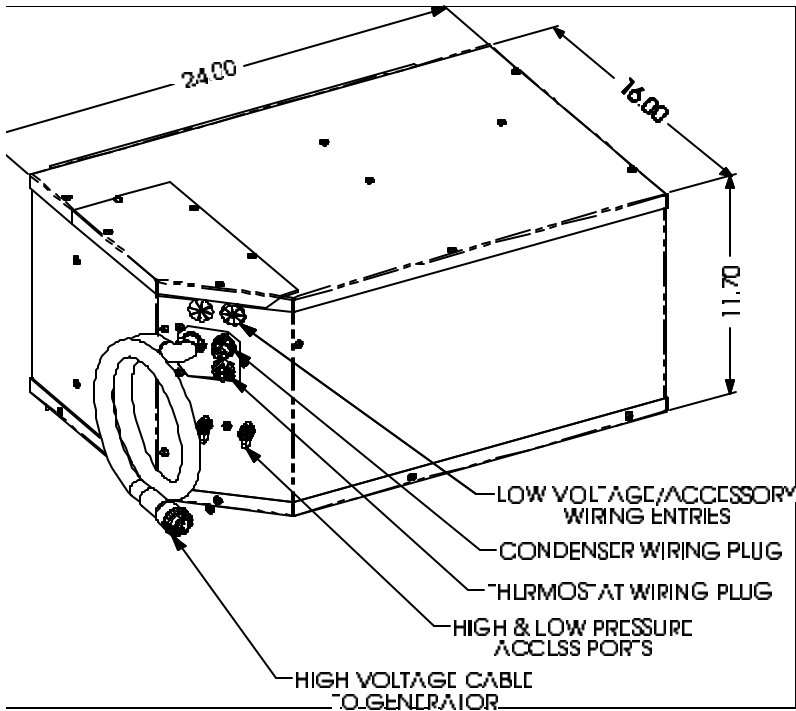


FIGURE 1

SPLIT SYSTEM A/C
THIS EVAPORATOR FOR INDOOR USE ONLY

MODEL NUMBER **6330B875**

FOR USE ONLY WITH: 6330-610 CONDENSER
6330A625 ACCESSORY PACK

MAX. OVERCURRENT PROTECTIVE DEVICE:	25 A
I.D. BLOWER MOTOR H.P.	0.3
BLOWER MOTOR VOLTS/Hz/AMPS	115/60/2.9
O.D. FAN MOTOR H.P.	1/8
FAN MOTOR VOLTS/Hz/AMPS	115/60/1.4
COMPRESSOR VOLTS/Hz/RLA	115/60/9.2
COMPRESSOR BCSC/LRA	10.3/54.0
HEATER VOLTS/AMPS (LOW)	115/10.2
HEATER VOLTS/AMPS (HIGH)	115/20.4
DESIGN PRESSURES LOW SIDE	150 PSIG
HIGH SIDE	300 PSIG
R-22 CHARGE WEIGHT:	28.5 OZ (1.8 LB)
REFLECTS CHARGE WITH 8 FT. HOSE SET.	
IF RE-CHARGING, ADD 1 OZ FOR EACH FOOT OF HOSE SET OVER 8 FEET.	
COMPRESSOR PART NO.	1450-23D

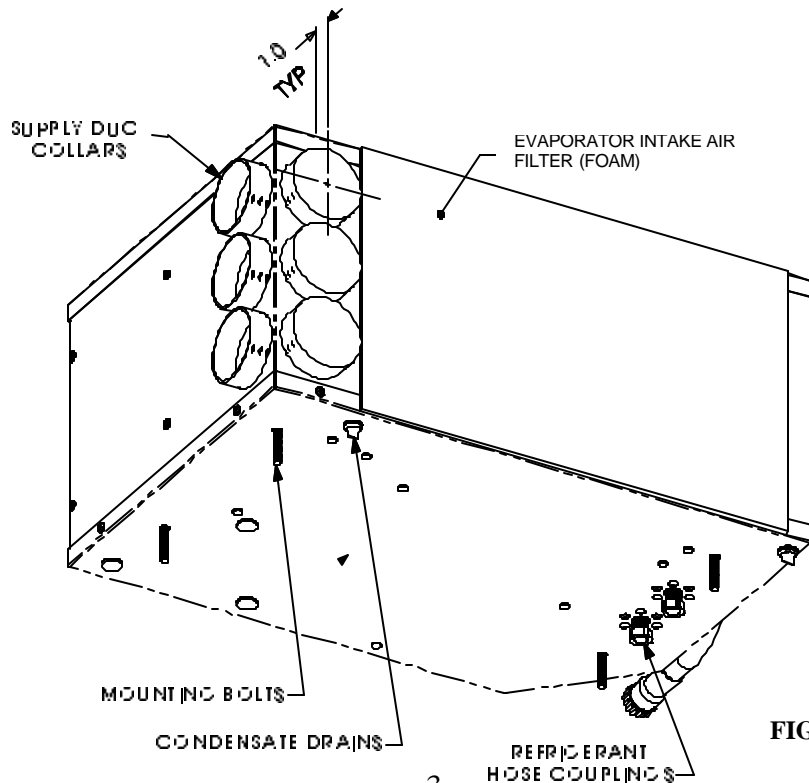


FIGURE 2

EVAPORATOR SECTION INSTALLATION

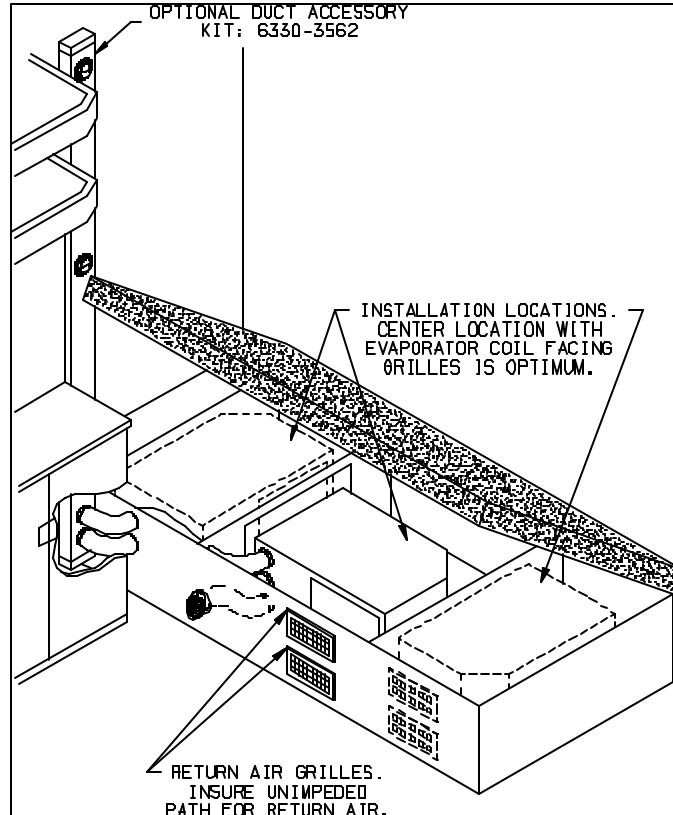
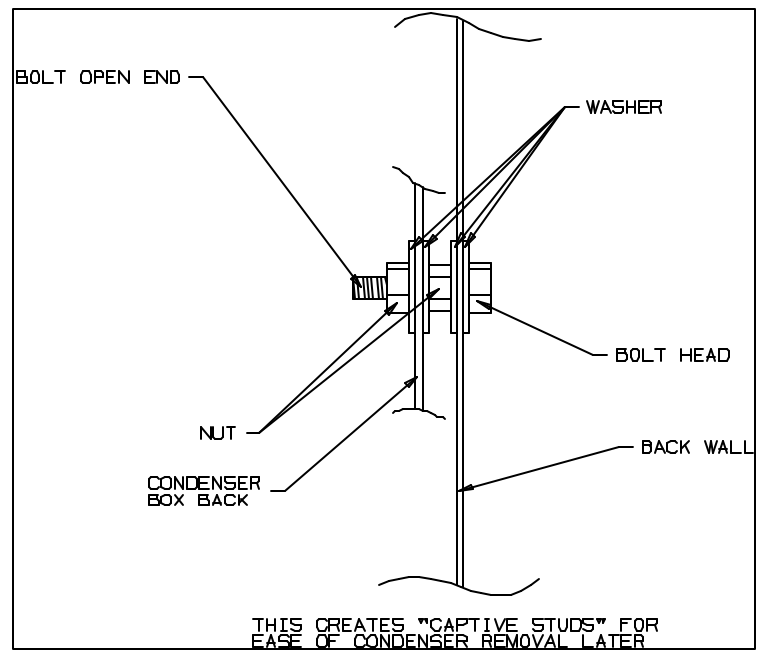
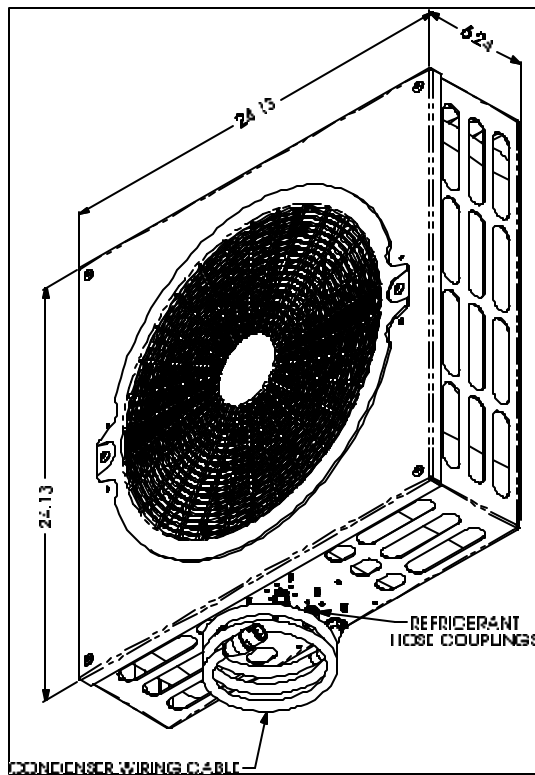


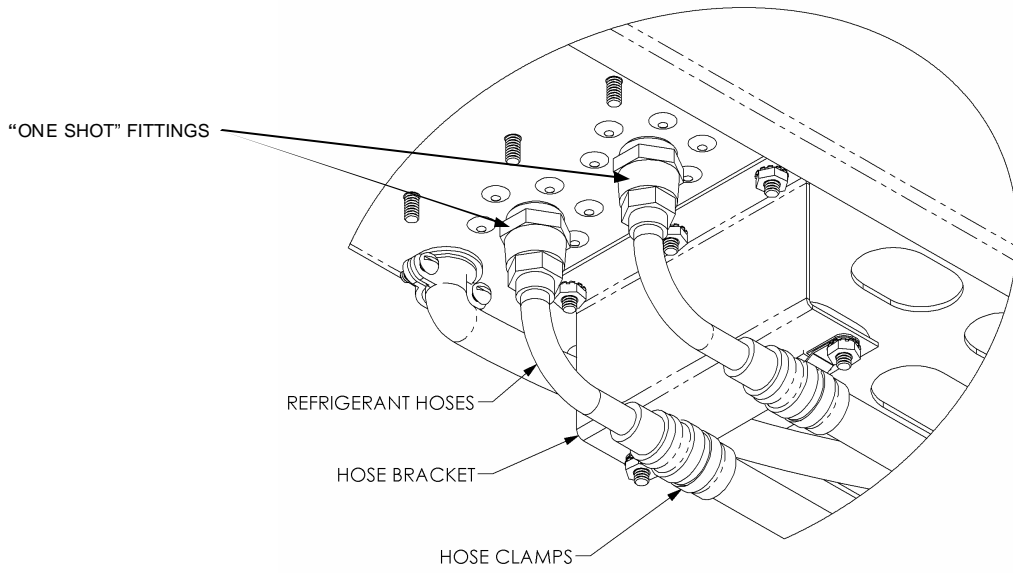
FIGURE 3



RECOMMENDED MOUNTING PROCEDURE

FIGURE 4

CONDENSER DETAIL



DO NOT TIE REFRIGERANT LINES TOGETHER

FIGURE 5

CONDENSER

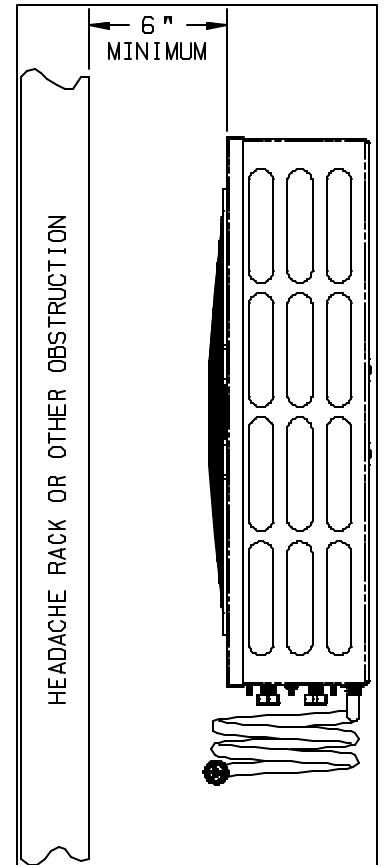
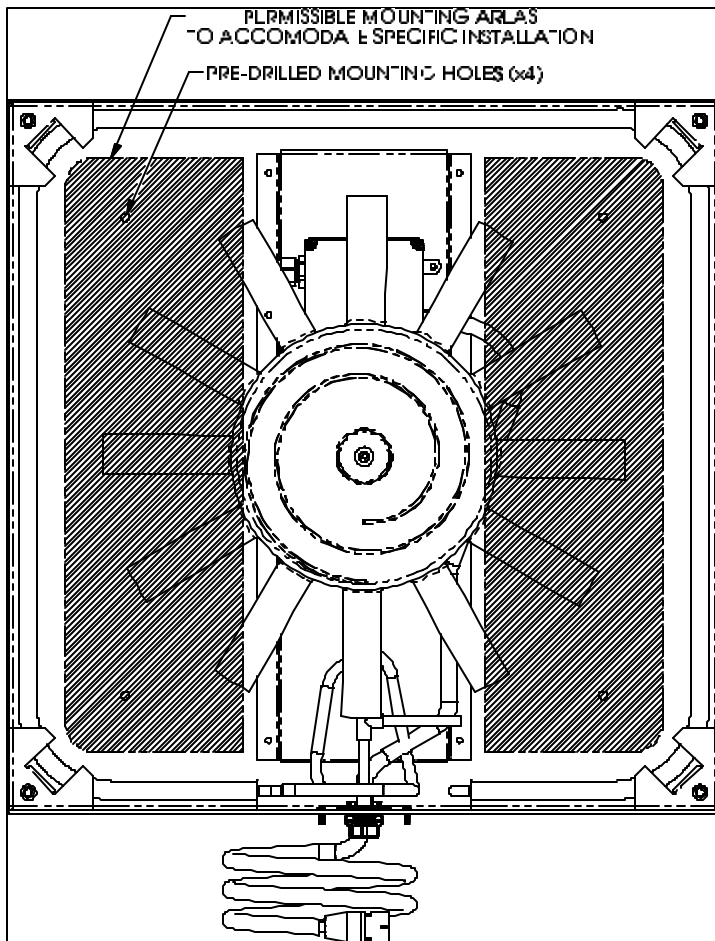


FIGURE 6

4. GENERAL INFORMATION

The 6330 Series Split System air conditioner is intended for use in sleeper cabs, and consists of an evaporator section housing the evaporator, compressor, blower motor assembly, heater coil and controls. A condenser section houses the

condenser and fan motor assembly. A pair of pre-charged refrigerant lines connects the indoor section and outdoor section. When connected to a Cummins ComfortGuard™ system, all electrical wiring is “plug and play.”

5. MOUNTING AND DUCTING CONSIDERATIONS

A. Mounting the Condenser:

While the outdoor section can be mounted in any orientation, it is most accessible for service if mounted on the back wall of the cab. Allow at least 6” air clearance to any vertical obstructions such as a “Headache” Rack for proper condenser performance (See Figure 5). Select a location which will allow mounting to structural members of the cab. It is permissible to mount the exterior section to hat sections, angles, or other forms which are in turn mounted to the structure of the cab. (Note: Refrigerant line set are 8 feet in length and must reach between the evaporator and condenser sections. It is recommended that the condenser section be mounted on the air-bag suspended cab, however, mounting to the truck frame is permissible. Avoid mounting locations with possible road debris impacting condenser section. Never cut any structural members without first consulting with the vehicle manufacturer. A minimum of four 5/16” bolts (or larger) are recommended to mount this unit. 3/16” huck bolts may also be used. Keep in mind that cutting or drilling into the frame is NOT ALLOWED. Use only existing holes or clamps to accomplish the frame mounting. Holes may be drilled in the back of the outdoor condenser section within the cross-hatched area shown in Figure 6. If using bolts, securing the bolts with a nut provides a “captive stud” which makes installation and removal much easier (See Figures 4 & 6). Insure that the cover is replaced after the installation has been completed.

B. Mounting the Indoor Section

Refer to Figure 3 and the full scale template found with the indoor section and select a location inside the cab which will comply with the following requirements:

1. Location will allow all template openings without drilling or cutting any structural components of the cab.
2. Location will allow the refrigerant lines to reach for connection to the outdoor section.
3. Location will allow at least 3” of clearance for air inlet to the evaporator edge of the indoor section.
4. Location will allow condenser umbilical to reach from outdoor section to indoor section.

5. Location will allow for access to **at least three** of the conditioned air outlets for proper air distribution when connected to 3” diameter flex ducts. Any number of outlets from 3 to 6 may be used. If more than 3 are used, an additional kit #6330-3522 may be obtained from RVP. This kit provides additional outlet registers for installations using field fabricated ducting. A kit, #6330-3562, provides a duct as well as connection collars and registers for installation without field fabricated ducting (See Figure 3). If only 3 ducts are installed, all 3 ducts must be in the opened position and no obstructions are allowed for proper system operation.

After selection of the proper location and cutting the template holes is complete, the unit may be placed. Use the four allthreads, mounting nuts and washers found in the small parts package to secure the unit.

C. Refrigerant Line Install

Step 1:

Apply refrigerant oil to the entire surface of diaphragm, o-ring, and threaded area of male coupling assembly. The amount of lubricant used must cover all designated surfaces sufficiently. Ideal application is a small applicator brush saturated with lubricant and applied liberally. An alternate lubricant for this application is a refrigerant compatible silicone grease product like Dow Corning DC200/60, 000cst.

Deviation from Step #1 Results:

1. Increased assembly torque value.
2. Displacing and/or damaging of male coupling o-ring.
 - a. Displacement of the o-ring hinders ability to complete final “Metal to Metal” seal and premature releasing of refrigerant during the connection.
 - b. O-ring damage also allows refrigerant to be released during the connection.

Step 2:

Ensure that the coupling halves are held in proper alignment with each other prior to starting the threads of the female coupling nut onto the male half. The coupling end faces should be parallel with each other and visually in line with

each other; this allows the female coupling nut to be easily threaded on by hand for the initial 2-3 rotations of the union nut. These initial rotations will bring the diaphragm in contact and a sharp increase in torque will be felt when they come into contact.

IF THE NUT WILL NOT START BY HAND, ADJUST THE POSITION OF THE LINE SET TO ENSURE PROPER COUPLING ALIGNMENT AND ELIMINATE/MINIMIZE ALL SIDE-LOAD FORCE ON THE COUPLING DURING ASSEMBLY.

Deviation from Step #2 Results:

1. Displacing and/or damaging of male coupling o-ring.
 - a. Displacement of the o-ring hinders ability to complete final “Metal to Metal” seal and releasing of refrigerant during connection.
 - b. O-ring damage also allows refrigerant to be released during the connection.
2. Deformation of female coupling body and/or male coupling cutter assembly.
 - a. Deformation hinders ability to complete final “Metal to Metal” seal and premature releasing of refrigerant during connection.
3. Improper piercing and opening of male and female coupling diaphragm.
 - a. Restricts system flow

Step #3:

Using appropriate size wrenches, reference table below. On the female coupling body and female union nut, tighten the female union nut while preventing rotation of the female body with respect to the male half. The nut should be tightened until a definite increase in resistance, metal to metal contact occurs, is felt (at this point, the nut will have covered most of the threads on the male body). It is important to ensure the male and female coupling bodies **DO NOT ROTATE** during any portion of the wrench installation.

Deviation from Step #3 Results:

1. Use of “Slip” pliers and/or pipe wrenches is not recommended.
 - a. Above tools limits ability to feel the “Metal to Metal” contact and hampers ability to meet final 1/4 turn/rotation (90 Degree) “Metal to Metal/Leak-Proof” seal.

Step #4:

Using a permanent marker or scribe, mark a line lengthwise from the female coupling body. Then tighten an additional 1/4 turn/rotation (90 Degree); refer to the marking on the union

nut to confirm the 1/4 turn/rotation has occurred. This final 1/4 turn/rotation is necessary to ensure the formation of the leak-proof seal, between the male and female couplings.

Deviation from Step #4 Results:

1. Missing reference mark cannot confirm final “Metal to Metal/Leak-Proof” seal occurred.

Step #5:

Repeat Step #1 through #4 for all connections.

Refer to Figure 5. Always install the 90 degree fittings at the outdoor section **FIRST**. Secure the fittings with the bracket (note that the bracket may be installed either right or left as needed) and clamps. Securely tighten the lines to a minimum of 12 ft/lbs. torque. If a torque wrench is unavailable, tighten until the fittings “Bottom-Out”, then tighten an additional 1/6 turn. **Use a backup wrench on the flats below the swivel nut.** Insure lines are separated or system liquid sub cooling will be compromised.

Route the lines to the indoor section avoiding sharp edges or high temperature components. **Assure a minimum of 2” inside radius on all hose ends.** Do not tie the lines tightly to each other or system liquid sub cooling will be compromised. Allow for the extremes of movement possible with the air bag suspension system. Secure slack lines to prevent contact with sharp edges, high heat or moving parts. Tighten the straight fittings last to prevent twisting of the hoses. All components have been pre-charged with refrigerant and no further evacuation or charging is required. Two extra neoprene lined clamps are provided to aid in routing. Tighten as indicated above.

D. Supply Air Ducting

Select a high outlet, an intermediate outlet, and a low outlet for the supply air registers. An optional kit (6330-3562 is available to help with this installation (See Figure 3). Connect between the selected unit outlets. Insure that any unused outlets are capped by an orange cover. Route the flex duct as directly with as few bends as possible. Cut to length. 25’ of ducting is provided. Secure flex ducting to the collars with the zip ties or worm screw clamps provided. Closable louver flange screws are in the small parts package. **DO NOT ATTEMPT TO TIE INTO EXISTING CAB AIR CONDITIONER DUCTING. RECIRCULATION AND POOR DISTRIBUTION WILL RESULT.**

E. Return Air Grilles

If there is a clear unobstructed path for return air to the interior unit from the cab, the grilles will not be needed. If a return path must be provided, use the two grilles, cut an opening (5” x 11”) in the bunk vertical wall sufficient to mount **each** grille. Two grilles are provided. Grille screws are in the small parts package. As much as practicalities allow, face the evaporator inlet towards the inboard or toward the tractor front (See Figure 3).

6. 115 VAC ELECTRICAL WIRING

Route the high voltage cable (refer to Figure 1) to the Cummins ComfortGuard™ matching umbilical and connect by twisting together the fittings. Insure that the connection

has been properly made. Use the pass through grommet to provide a tight seal for wiring entering from outside of the cab.

7. THERMOSTAT WIRING

Mount the wall thermostat in an accessible area not in the conditioned air stream from any louver and not over any heat producing appliances or exterior wall. Provide an opening sufficient to route the wiring behind the panel or upholstery. Route the low voltage umbilical to connect between the wall thermostat and the evaporator (Refer to Figure 1). Route the Cummins ComfortGuard™ wiring through one of the “finger”

strain reliefs found on the interior section (remove the wire box cover to accomplish this). Push the ComfortGuard™ wire harness into the removed strain relief split before reinstalling into the panel. The small quick connect snaps into the interior section corresponding devise. Replace the wire box cover. The system is now ready for checkout.

8. CHECKOUT

Use the check list found with the thermostat to run through all the functions of the thermostat. Keep in mind that there is a 3-3 1/2 minute delay on start up for the compressor.

Ambient temperature should be at least 80 degrees for this check.

Check the air temperature difference across the evaporator as follows:

1. Start with the air conditioner in High Cool. Allow it to run at least one-half hour, longer if possible (the objective is to saturate the evaporator coil before we begin running a temperature test.
2. With a standard dial type or digital thermometer, measure the temperature of the air immediately entering the return air grille of the air conditioning unit.
3. Subtract from this temperature the temperature of the air immediately leaving the supply air louvers (if it is a ducted air conditioning unit, use the closest discharge register.

4. A properly running air conditioning unit should have a temperature difference of approximately 16 to 22 degrees.
5. Slightly less temperature differences are possible under extremely humid conditions.
6. Temperature differences greater than 22 degrees are possible in warm dry weather.

Restricted air flow over the evaporator may also cause greater than 22 degrees temperature differences. If the evaporator air flow is restricted, a loss of capacity will result even though the air temperature difference may be greater. Restricted air flow may also lead to a freeze -up situation. The compressor will shut down by freeze switch periodically to prevent evaporator freeze-up.