



# **UNDERBUNK INSTALLATION INSTRUCTIONS**

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## INSTALLATION GUIDELINES

Before beginning an install, carefully read this guideline and evaluate the candidate installation to insure that all conditions for a satisfactory installation can be met. Check all dimensions to insure that the air conditioner will place into the available space (See Figure 1) and still allow for air flow into and out of both the indoor coil and outdoor coil.

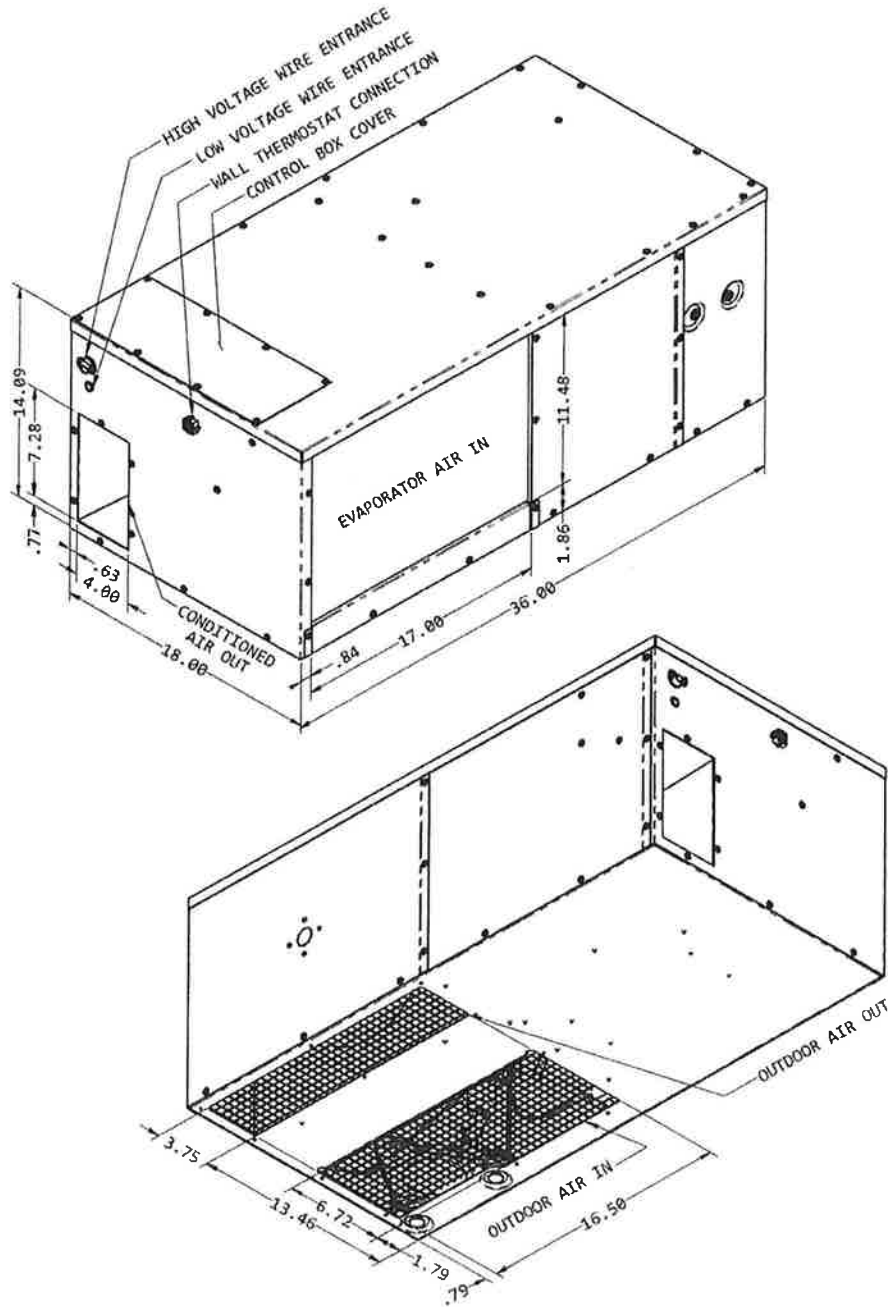


FIGURE 1

The 46111-8114 high efficiency air conditioner or the 46113-8114 high capacity air conditioner is intended for indoor use in over-the-road truck sleeper cabs mounted under the bunk. Conditioned air is ducted into the above-bunk space to provide complete coverage of the interior. In some cases, when duct runs are impractical, it may be necessary to provide an auxiliary fan or blower to project conditioned air from the floor region to the upper regions of the cab (See Item G).

The unit must be secured to the cab floor; the shipping tabs may be used for this purpose. A poster board template is provided with each unit and is representative of the “footprint” of the unit and locates the center points for 1” diameter hole saw cut-outs which are used to define the generally rectangular floor cut-outs. A careful examination of the candidate truck is needed to determine the most effective mounting location. The following checklist details essential elements of an effective installation.

- A. Holes cut in the floor for condenser inlet and outlet must not sever structural members of the cab unless prior approval has been obtained from the cab manufacturer.
- B. The floor cut-outs must allow for as unrestricted air path as possible to and from the unit.
- C. An optional gasket kit 46113-3381 is available to provide a seal from the unit to the floor and to keep the entering and leaving air flows from mingling.
- D. If the optional floor gasket kit is not used, any closed cell foam or quality sealant may be used to accomplish the purposes of Item C.
- E. The interior air path to the evaporator inlet must be as unrestricted as possible. A return air grille 6330-3451 is available to cover an added rectangular opening in the under bunk support to increase the return air pathway.
- F. Supply ducting from the unit is critically important. Ducting may be of duct-board sealed with aluminum tape or sheet metal fabricated ducts. If connecting to an existing duct system, keep in mind that there will be some recirculation occurring between the two types of systems while either is in operation. Ideally, backflow dampers for each system should be provided to prevent any significant recirculation. Duct sizing should be as close to the same area of this unit outlet as possible with as few bends and changes of size as possible.
- G. After installation of the duct system, run the indoor blower to determine the system air flow and to check for excessive duct leakage. Measure blower motor amperage with a clamp-on amp meter. The amperage must be **AT LEAST 1.80** Amps. If the amp reading is less than 1.80, additional outlet registers must be provided. Additional outlets must deliver air to the conditioned space such that there is a minimum of re-circulated air back to the unit return. An auxiliary fan or blower may be required to distribute air up into the conditioned space. It may be necessary to also increase the return air path (See Item E).
- H. The wall thermostat packed with this unit must be installed in the conditioned space so it is not affected by the conditioned airstream or by any heat producing appliances below it.

## PETERBILT INSTALLATIONS

Sheet metal assemblies have been developed to assist in the installation of these systems into several models of Peterbilt tractors. In most cases, the Airxcel unit can be brought into the sleeper cab by first removing any carpet or liner in the installation area and in some cases, temporarily removing the weather seal from the bottom of a side entry door. Also, removal of the retainer pin to allow side door full opening will allow installation into the side door. In some cases, removal and relocation of bunk support rods will be necessary. The unit may be attached directly to the floor using a sealant or by making cut-outs in the pads if space allows. An optional gasket 46113-3381 is available to adhere to the bare floor and allow for the Airxcel unit to sit atop the gasket.

Case 1: See Figure 2 below. This is an install into a bunk having the Factory installed heater/air conditioner under the bunk and behind the passenger closet. Existing factory installed duct must be cut as shown and enclosed by a duct. The duct attaches to the Airxcel unit. There is a backflow damper to prevent Factory air recirculation back to the factory air inlet. All ducting must be sealed to minimize air leaks. A sheet metal kit as shown is available from Wichita Sheet Metal Supply as model UBFC2. Contact Jim Harshfield at 316-942-9412 to order.

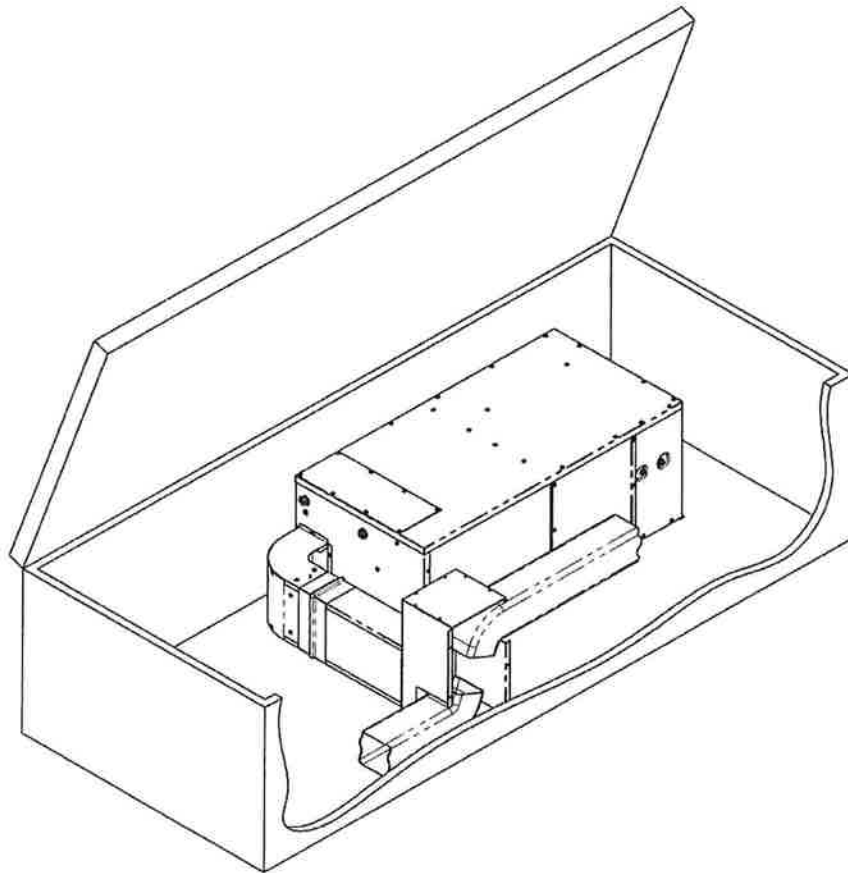
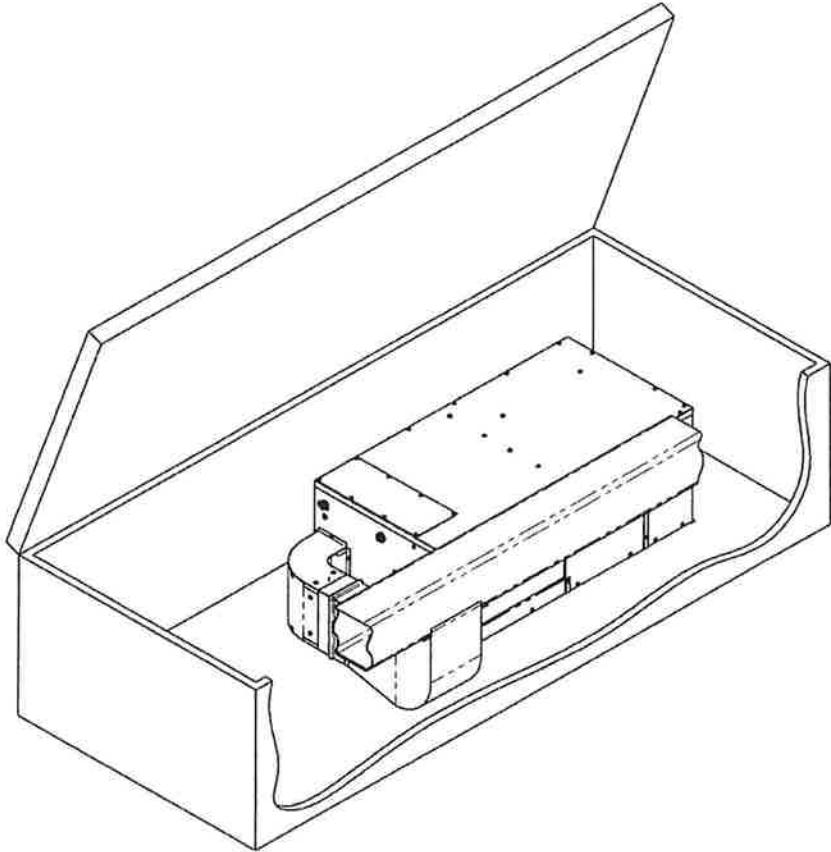


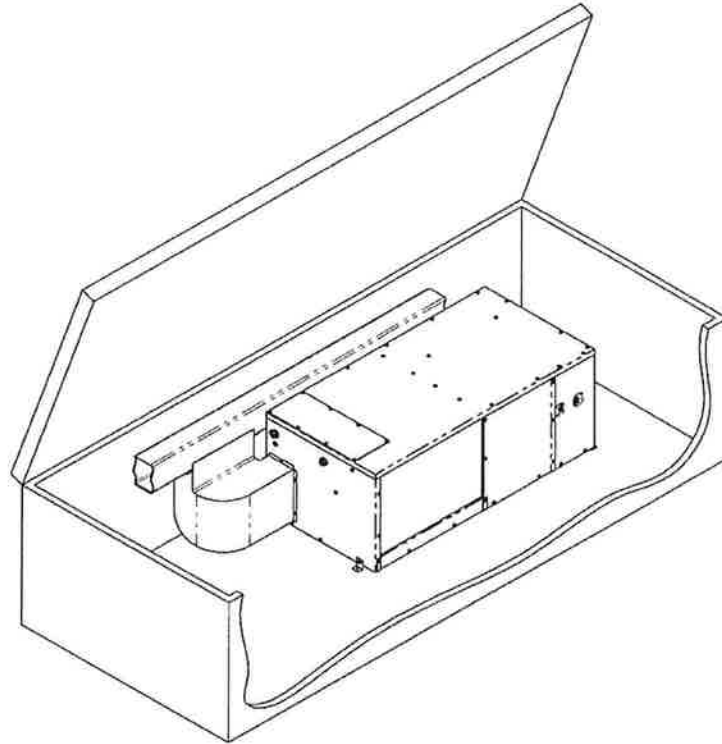
FIGURE 2

Case 2: See Figure 3 below. This is an install in which the Factory installed heater/air conditioner is under the bunk and behind the passenger closet. In 2007 Peterbilt models, a portion of the under bunk divider wall must be permanently removed to install as shown. An opening to align with the added sheet metal duct must be cut out of the Factory installed plastic ducting. The sheet metal kit shown may be obtained from Wichita Sheet Metal supply as model UBFC1. Contact Jim Harshfield at 316-942-9412 to order.



**FIGURE 3**

Case 3: See Figure 4 below. This is an install in which the Factory installed heater/air conditioner is located under the bunk and behind the driver side closet. A sheet metal “sweep” connects the Airxcel unit to the factory plastic duct. An opening to align with the added duct must be cut out of the Factory installed plastic ducting. A sheet metal kit as shown is available from Wichita Sheet Metal Supply as model UBZ1. Contact Jim Harshfield at 316-942-9412 to order.



**FIGURE 4**

### **Electrical Wiring**

Use minimum 12 gauge copper wire to supply the Airxcel unit. An optional distribution box model 46113-5501 is available from Airxcel to provide for a main breaker and a 15 Amp breaker with a duplex receptacle for use by the driver for auxiliary loads. The distribution box provides a means to quickly and safely disconnect generator power and connect to shore power.

If using a breaker on the generator to supply the Airxcel unit, the breaker must be a 25 Amp HACR breaker.

Remove the Airxcel wirebox cover to access System wiring connections. A Black, White and Green stripped wire connects to power using wire nuts or other UL approved insulated wire splices.

The smaller 18 gauge wires connect to the vehicle battery; Red is +12 VDC, Blue is -12 VDC. Connect with wire nuts.

The wall thermostat and 10' umbilical are packed in the conditioned air outlet of the Airxcel unit. Mount the thermostat on a vertical wall where it cannot be affected by conditioned air or heat producing appliances. The thermostat connects by supplied connectors to the umbilical. The umbilical routes to the Airxcel unit and plugs into the matching receptacle.

Follow the instructions found with the thermostat to operate the system through all modes of operation.