

INSTALLATION INSTRUCTIONS

FOR WALL MOUNT A/C

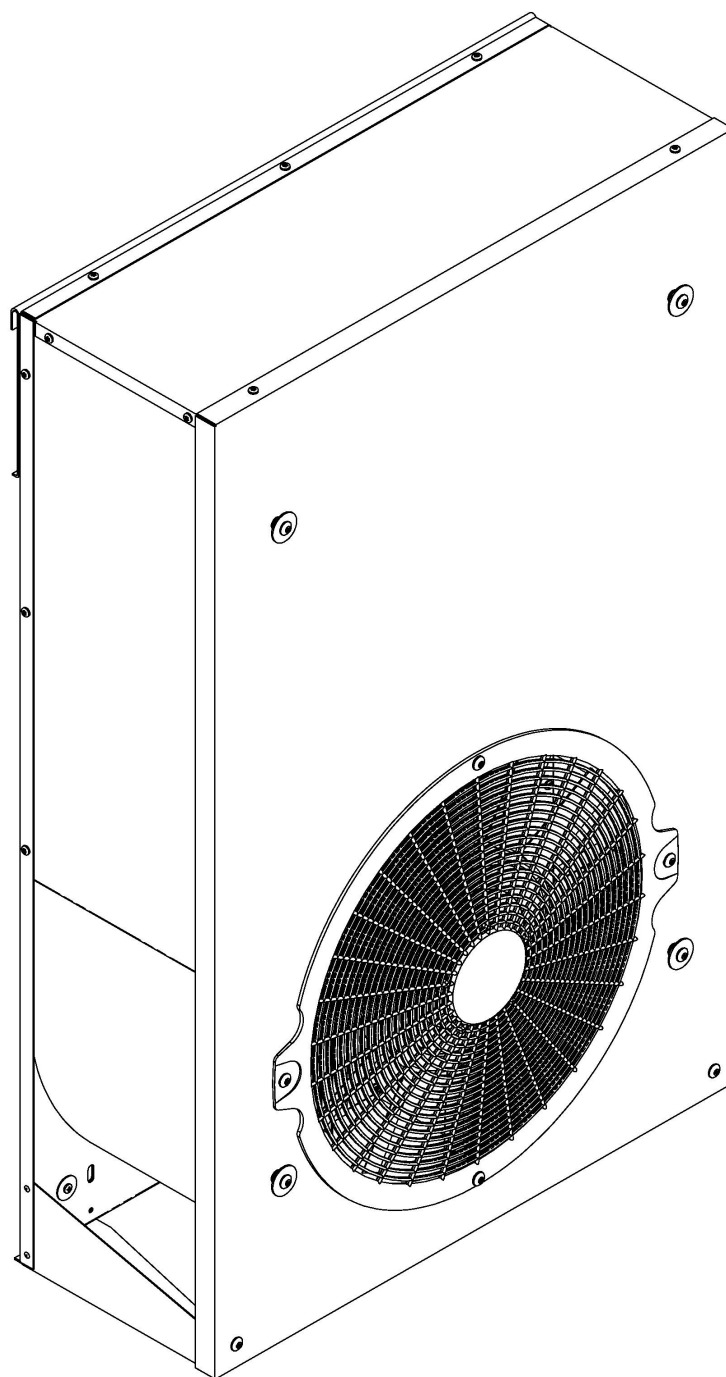


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1. WARNINGS

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

- 4610*-8114 Series Wall Mount Packaged air conditioner with 8000 BTUs of electric heat. Includes a 46103-265 mount plate.
* 46101 is a high efficiency unit; 46103 is a high capacity unit.
- 46103-725 Interior Assembly which includes interior grille assembly, base pan gasket, gasket seal, thermostat, thermostat extension cable, small parts package which contains the mounting hardware.
- 46103-1551 Joggle Plate consists of Joggle Plate and hat section with nuts, washers and stiffener channel.
- 46103-2271 U-Plate consists of U-Plate and hat section with nuts, washers and stiffener channel.
- 6332-3901 Shroud consists of Shroud only. Attachment fasteners are included on wall mount air conditioner.

3. GENERAL INFORMATION

This air conditioner is intended for mounting on a vertical surface within 5 degrees of vertical (although during operation, brief periods beyond this limit are acceptable). The most usual application will be on the rear outer wall of a sleeper cab.

The air conditioner is designed to suspend from a bracket which must be mounted securely to structural members of the cab. Airxcel offers three styles of brackets that are available for variations of sleeper cab styles: Joggle-Plate, U-Bracket, or Mount Plate. The most usual mount will be the mount plate, which is provided as standard equipment.

When using a U-Bracket or Joggle Plate, a hat section is included that secures the unit to the back wall, prevents unit dislocation from the upper mount, and insures proper gasket compression. A stiffener channel is also provided. See illustration for assembly.

The Mount Plate provides a large surface area to secure to cab back wall to bridge over structural members. It includes a channel welded to the plate that will secure the unit to the mount plate to prevent unit dislocation and insure proper gasket compression.

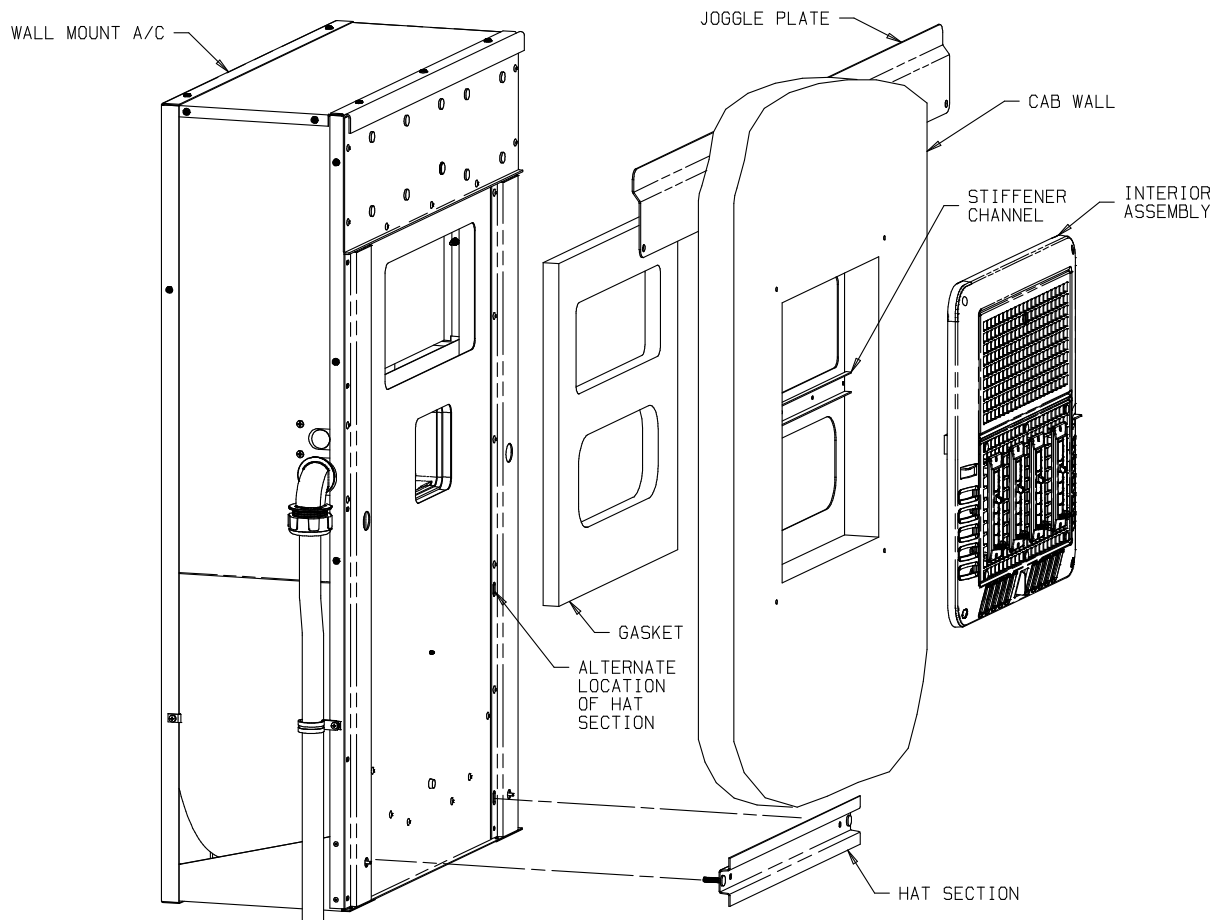
The mount plate is recommended for use on cabs that have multiple depressions formed in the back wall or if there is not sufficient support for the joggle plate or u-plate to be mounted to the back wall structural members such as an all fiberglass back. See illustration for assembly.

A flexible 9 ft. conduit from the unit exterior passes 115 Volt power and the 12 VDC control signals from the interior Airxcel wall mounted thermostat.

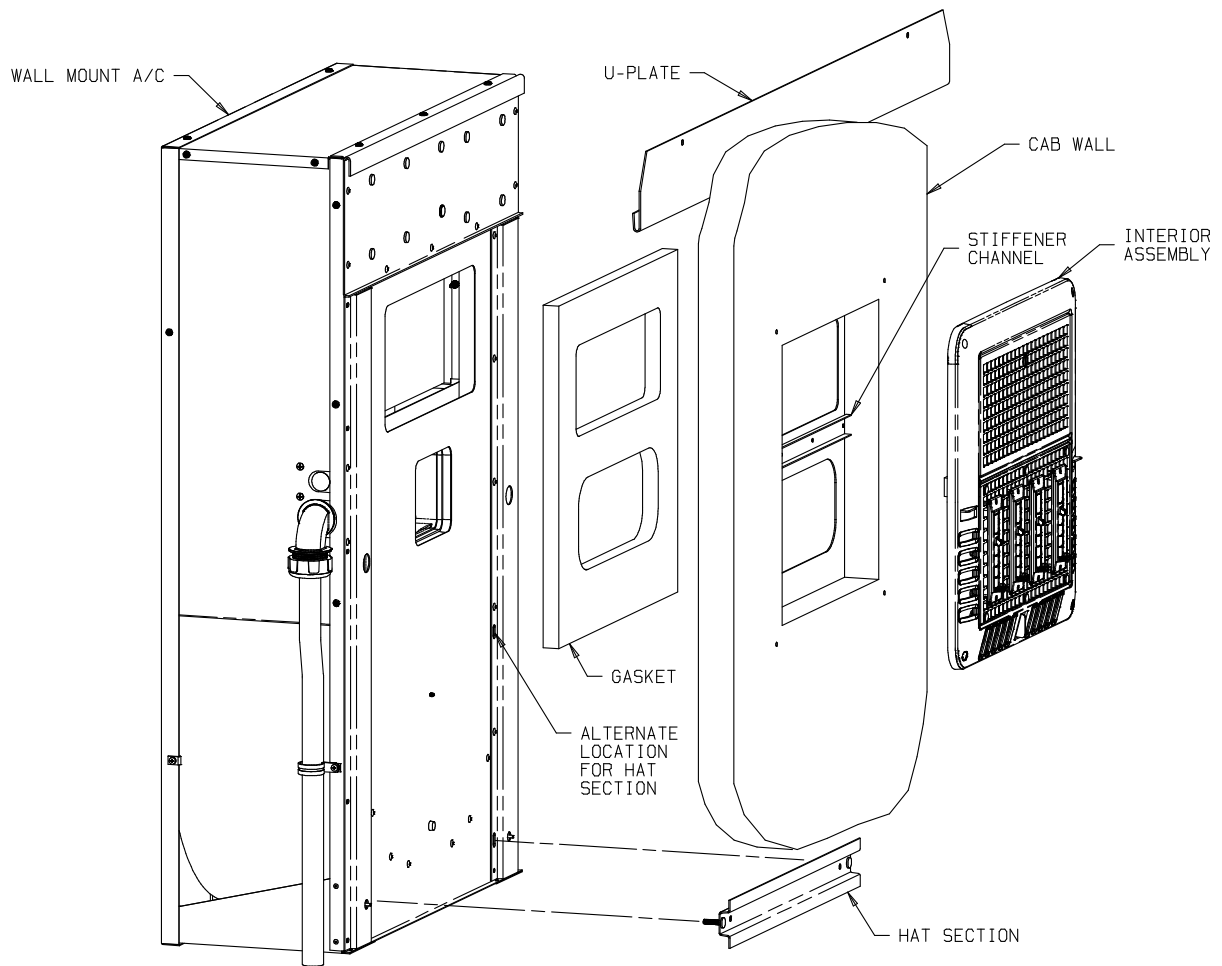
A black powder coat finish covers all exposed parts and is an excellent base for any additional top coat if desired.

A separately packaged interior assembly contains a grille equipped with an easily removed filter door. Three sliding perimeter outlets and four adjustable louvers provide directional control of the conditioned air.

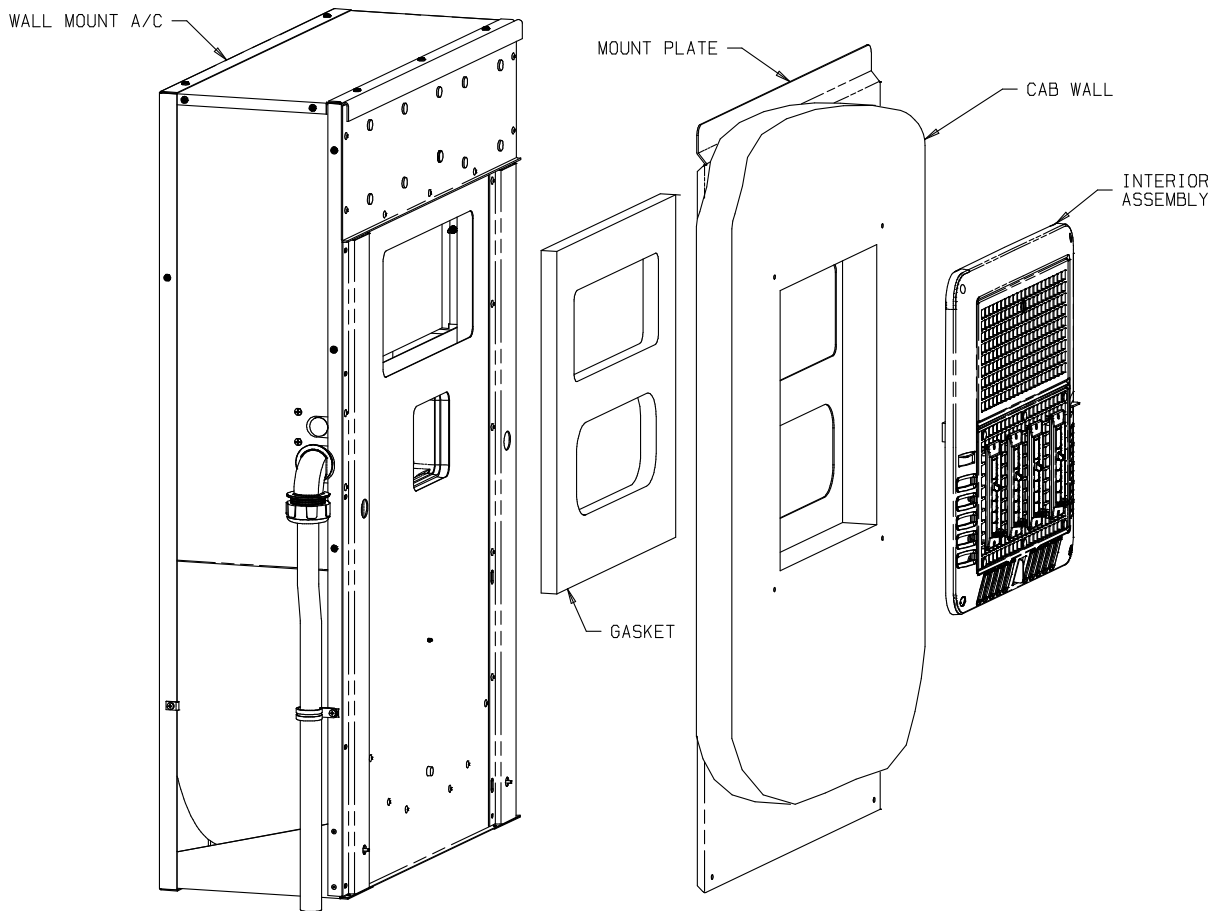
An optional, paintable black ABS plastic cowling creates a customized appearance.



Wall Mount A/C with 46103-725 Interior Assembly and 46103-1551 Joggle Plate



Wall Mount A/C with 46103-725 Interior Assembly and 46103-2271 U-Plate



Wall Mount A/C with 46103-725 Interior Assembly and 46103-265 Mount Plate

This installation method is considered “standard”. The mount plate is provided with the 46101 or 46103 unit.

4. SELECTION OF INSTALLATION LOCATION AND MOUNTING METHOD

Before making any cuts in the interior upholstery or the back wall of the cab, verify that there is adequate open surface area for mounting the interior grille on the back wall of the sleeper cab. See Figure 1.

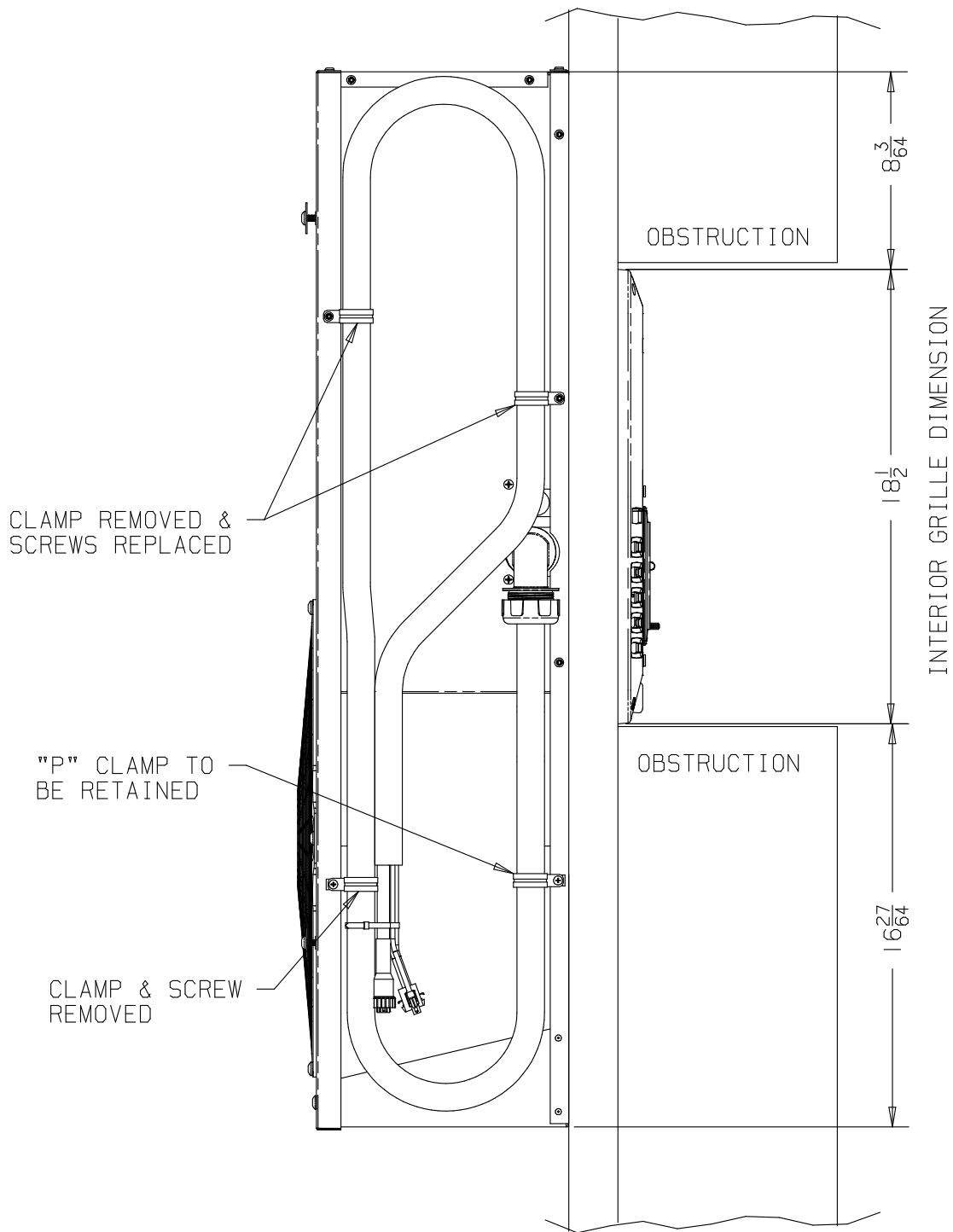


Figure 1

After determining the best location for the interior grille on the back interior wall of the sleeper cab, transfer the location to the exterior of the cab to position the air conditioner. Careful measurement will be required to insure that supports are co-planar and that the openings do not result in cutting of internal wiring, and structural members can be reinforced if interfering with supply air opening.

In some cases, the interior assembly and air conditioner will be mounted off center of the cab to accomplish these objectives. Take particular care to determine if muffler struts, air line towers or “headache racks” will cause interference.

Do not sever any structural members in the cab sub-structure without providing adequate reinforcement.

Only structural members in the supply air side of the unit (lower opening) need to be removed. In most cases, structural members in the return air side will not measurably restrict air flow.

Figure 2 & 3 illustrate the dimensions which must be maintained for proper installation. If using the joggle plate or U-plate, insure that the upper support bracket and the lower hat section are in the same plane. For cabs that have a horizontal break near the cab midpoint, an alternate location for the hat section is provided that will require removing the back panel of the unit to access the mount locations.

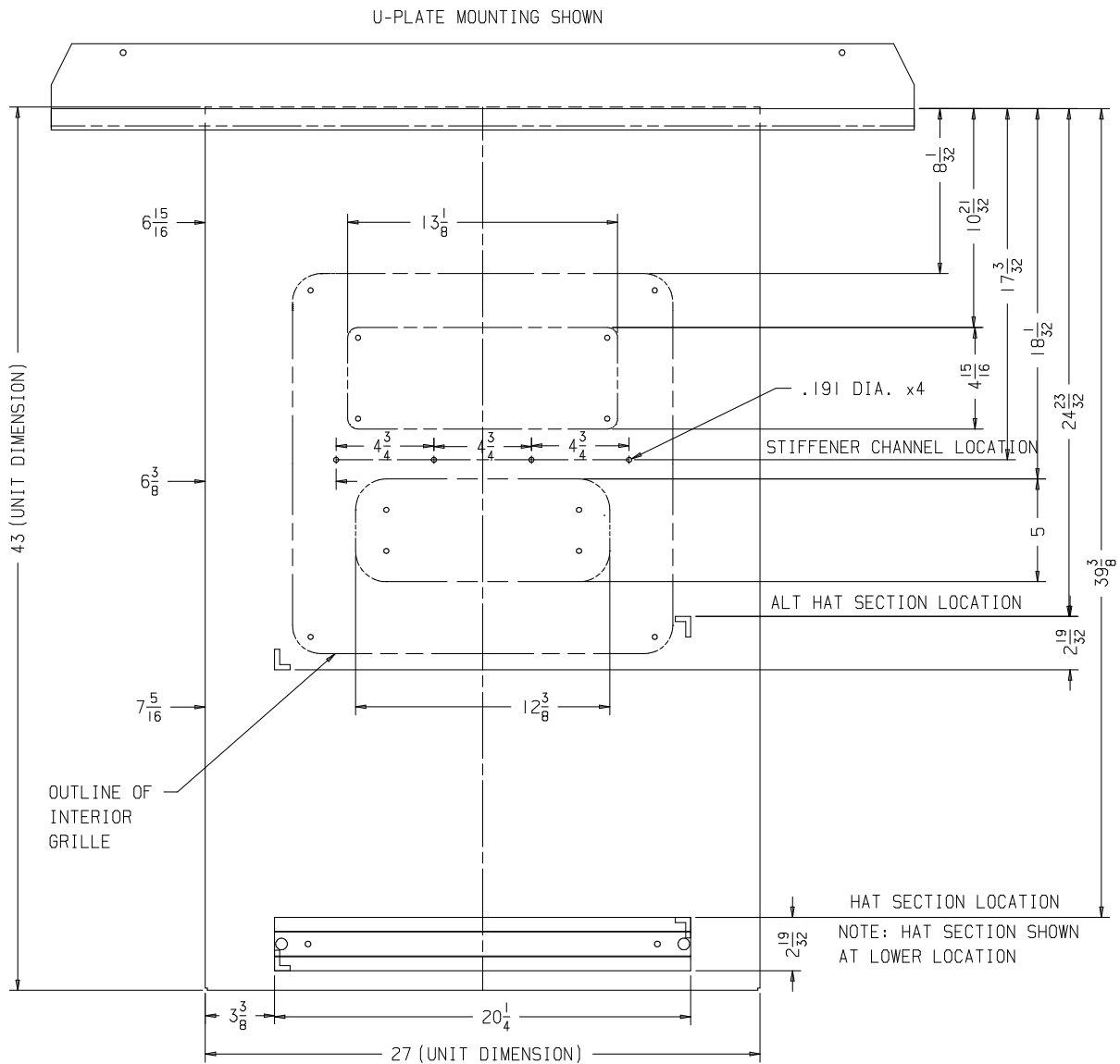


Figure 2

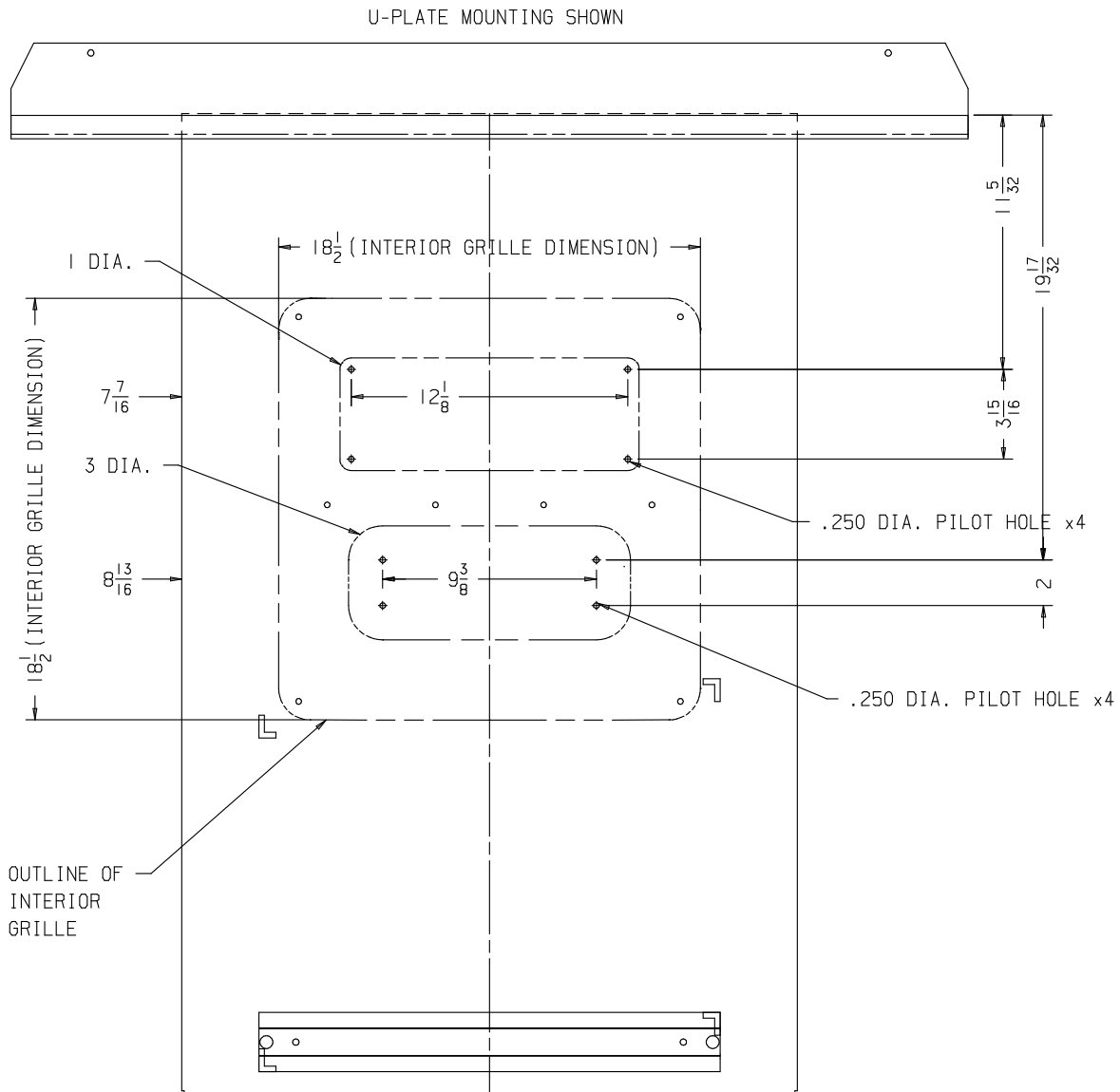


Figure 3

(NOTE: Dimensions for the pilot holes are shown for hole saw locations for 1 inch diameter and 3 inch diameter holes. Scribe a line on the hole edges to mark the cut lines to complete the cutouts.)

Joggle Plate & U-Plate Mounting:

The U-plate and joggle plate are 48" in length which is sufficient span to bridge between at least two vertical structural members of the cab. At least two rivets, "huck" style bolts, or Monobolts on each end must be assembled into the structural members of the cab. Rivets should be stainless steel of minimum $3/16$ " diameter. "Huck" style bolts such as Avdel Maxlok 1901 series, $3/16$ " may be used. It is recommended to use Avdel Monobolts series 2711 (Part No. CCPV-E06-07) if both sides of the wall are not accessible to install "huck" style bolts.

Install intermediate fasteners between the structures on approx. 6" centers for additional stability. These are installer supplied. If sufficient structural support can be found at a span of less than 48", it is permissible to cut the upper support to the required length (never shorter than the unit width). The cut ends should be painted to protect the bare ends of the metal.

The "hat section" may be mounted directly to the exterior skin if it is supported sufficiently to prevent bowing. If "hat section" stability is not achieved, a field fabricated internal stiffener must be installed to bridge between vertical structures. The bridge should be of .047" min. steel or .060" min. aluminum material riveted or screwed to the vertical structures at each end.

Using the same fasteners as used for the "U-plate" or joggle plate, drill holes 1/2" from the ends of each flange and three equidistant intermediate fasteners on each flange. Fasten through to the flanges of any necessary field fabricated stiffener.

Position the stiffener channel as shown in Fig 1. Fasten with screws or "Pop" rivets.

Mount Plate Mounting:

The mount plate is mounted directly to the cab wall skin using rivets, "huck" style bolts, or Monobolts. At least 6 of the fasteners must be inserted into the structural members of the cab. Use as many as possible. It is not unusual to use as many as 24 fasteners. Fasten as close to the upper "joggle" as possible. Rivets should be stainless steel of minimum 3/16" diameter. "Huck" style bolts such as Avdel Maxlok 1901 series, 3/16" may be used. It is recommended to use Avdel Monobolts series 2711 (Part No. CCPV-E06-07) if both sides of the wall are not accessible to install "huck" style bolts. Additional fasteners should be added to fully stabilize the mount plate.

It is recommended to apply a bead of silicone sealant around the sides and the top edge of the mount plate before assembling to the cab wall.

5. INTERIOR ASSEMBLY INSTALLATION

The back wall openings for return air, supply air and grille mounting screws (see Figure 4) must be extended through the interior covering. The return and supply air openings in the insulation and upholstery must be completely open to enable proper air flow. The openings for the interior grille mounting screws will make it easier to attach the grille to the interior wall.

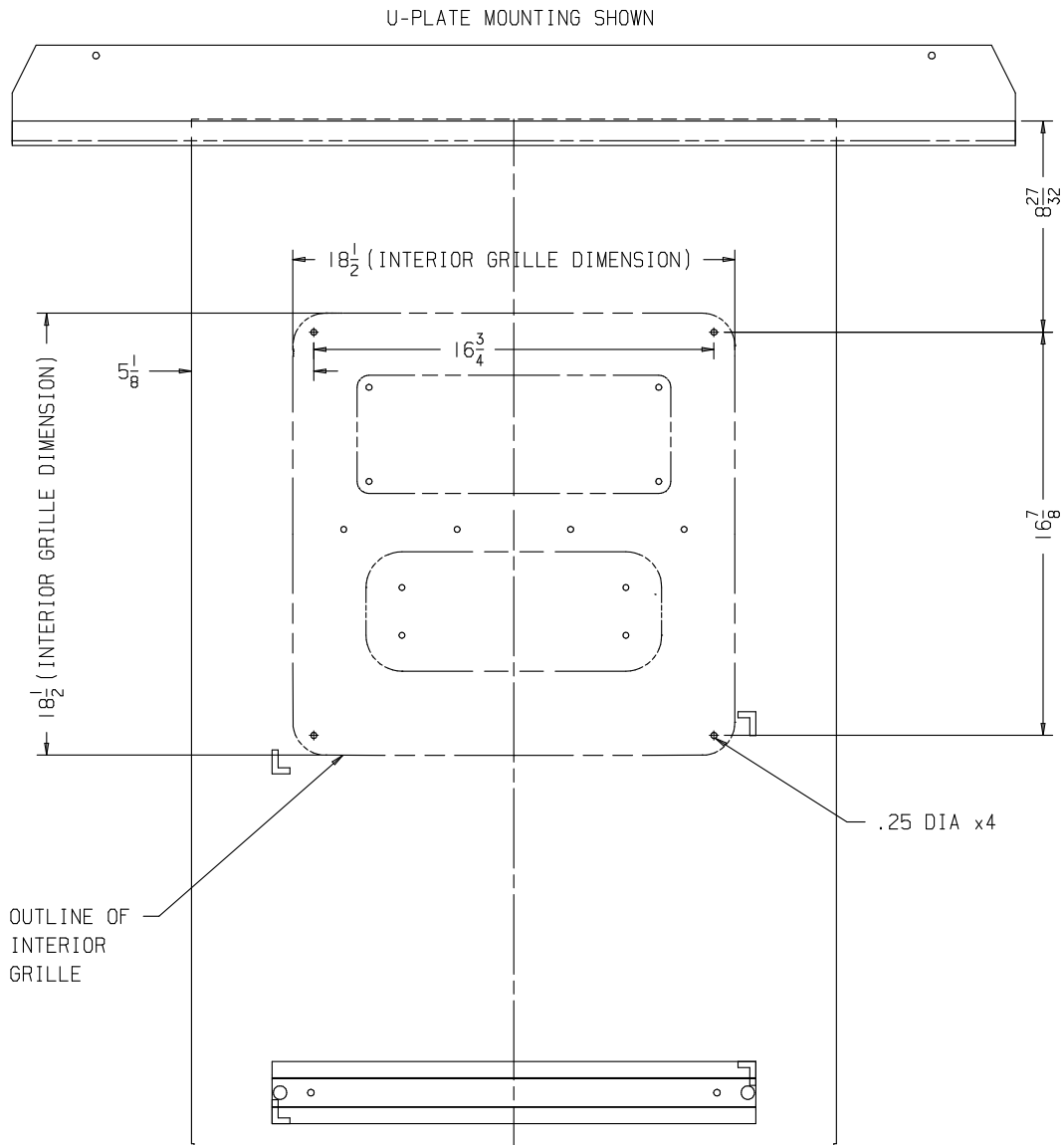


Figure 4

Multiple lengths of screws are included in the small parts package that is intended to accommodate most thicknesses of cab walls. The thickness of the cab wall will determine the combination of screws with splices needed to secure the interior assembly. A cab wall of approx. 1" thickness would only use the splice.

Determine the thickness of the cab wall. Insert the four machine screws through the exterior cab wall. Secure the machine screws to the cab wall skin with the keps nuts or splices, depending on cab wall thickness. If cab wall is thicker than 1", place a keps nut on the screw (which will act as a locknut for the splice), rotate the splice so that it contacts the interior wall, tighten the keps nut to contact the splice to lock the splice in place.

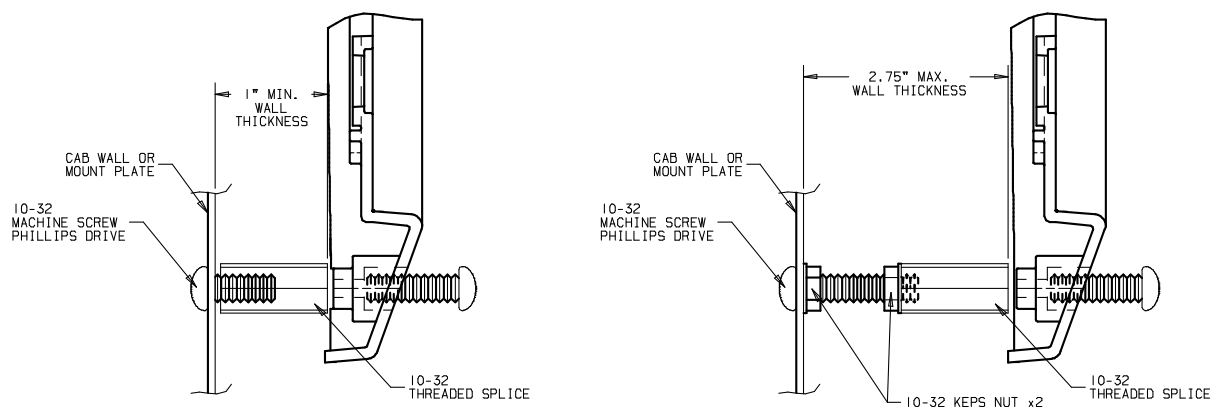


Figure 5

Place the interior grille onto the upholstery and align the grille mount holes with the four splices. Install the four #10 screws provided to secure the grille to the upholstery per Figure 5.

Using the fabric chute attached to the interior assembly, form approx. one inch of the chute material to lie flat on the cab back wall making relief cuts with scissors in the fabric chute as necessary for the chute to lay flat. Tape with 2" wide tape (shown in Figure 6) The base pan gasket will cover this tape.

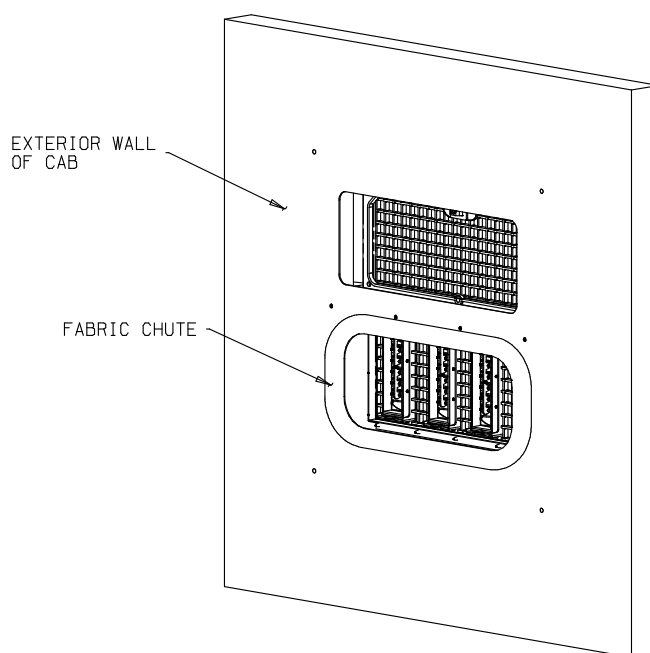


Figure 6

6. INSTALLATION OF WALL MOUNT A/C

Insure that the back wall is free of dirt or grease.

Remove adhesive liner from the base pan gasket and adhere to the back wall of the cab or mount plate as shown in Figure 7 lining up the openings in the gasket with the openings in the back wall of the cab.

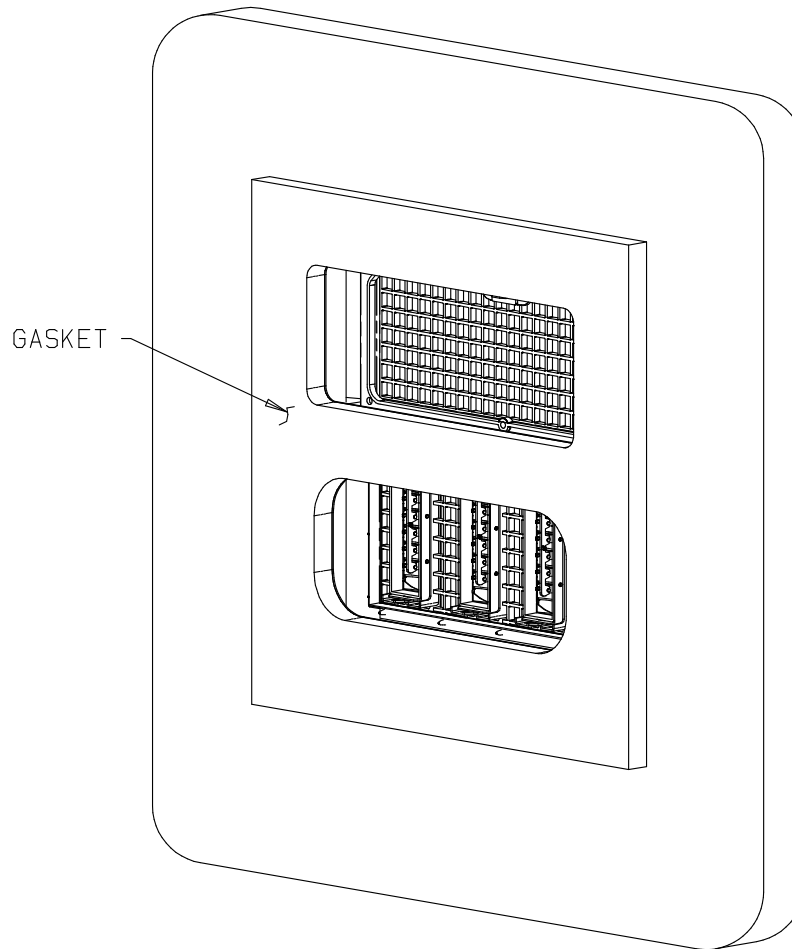


Figure 7

The air conditioner may now be lifted onto the upper bracket.

Adjust so that the “hat-section” bolts or mount plate bolts engage with the openings in the base pan. Secure the air conditioner with two 1/4”-20 nuts and washers.

Apply sealant, such as silicone, to seal any open areas under the mount plate. Remove 3 of the rubber lined “P” clamps as shown in Figure 1. Re-install the two #10-24 panel screws. The three “P” clamps may be used to route the conduit.

Route the conduit under the sleeper cab and up into one of the compartments under the bunk. The required hole diameter is 3”. The gasket seal (which is provided) must be used to prevent exhaust gases from entering the sleeper compartment. The additional holes in the gasket seal openings are available for generator (APU) wiring.

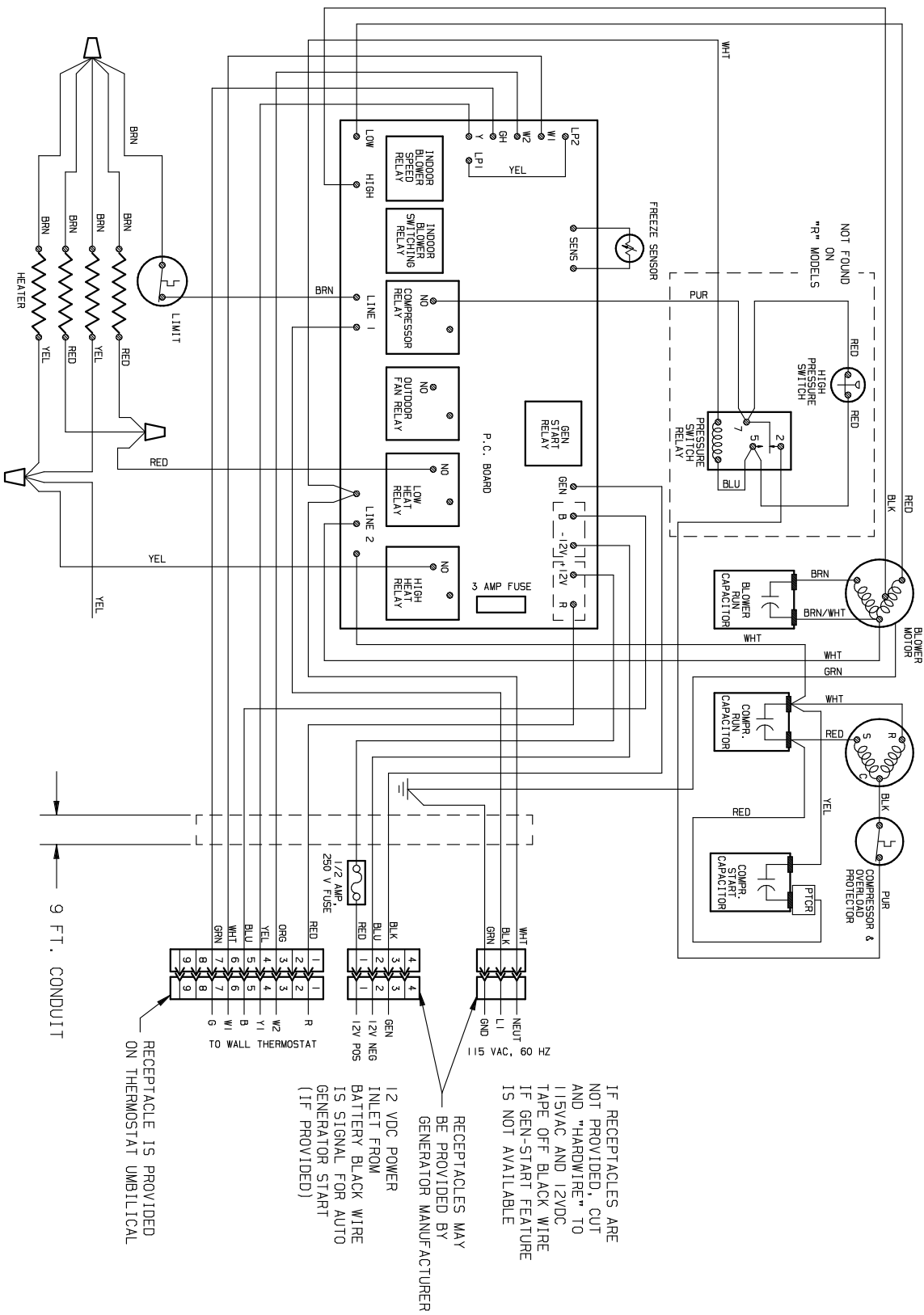
The “swivel” nut connects to the APU distribution box power pigtail receptacle, the 2x2 connector engages with the mating part from the wire loom. The 9-pin connector engages with the wall thermostat extension cable (cable and thermostat supplied with the interior assembly).

The “swivel” nut may be cut-off and the lead wires may be hard wired to your power source.

Additionally, the 2x2 connector may be cut and 12 VDC power may be hard wired to the battery. The red wire is positive (+12 VDC), the blue wire is negative (-12 VDC). Tape off the black wire. The black wire is used for auto generator start (if provided).

The wall thermostat should be mounted on an interior wall where it is not affected by the conditioned air from the air conditioner or any heat producing appliances.

7. SYSTEM WIRING



8. INSTALLING THE OPTIONAL OUTER SHROUD (FIGURE 8)

Remove and retain the 4 stainless steel screws and plastic washers found near the corners of the outer unit back panel. Temporarily remove the four screws and two washers which secure the fan guard and set aside the fan guard, screws and washers for later re-assembly of fan guard.

Position the shroud over the unit lining up the holes in the shroud with the holes in the unit top cover, re-assemble the screws & washers to secure the shroud to the unit. Re-install the fan guard and restore all screws and washers to secure the fan guard.

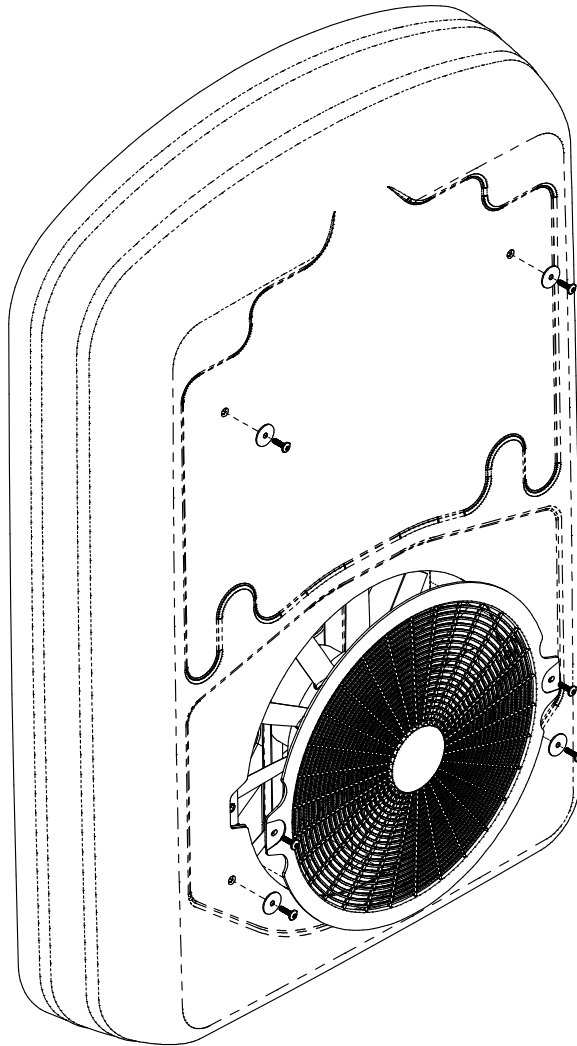


Figure 8



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