



# Ford Transit Low Roof LWB & RWB IT Units

## Assembly/Installation Instructions

**American Aluminum**  
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READ ANY AND ALL  
INSTRUCTIONS BEFORE  
CONDUCTING INSTALL /  
REPLACEMENT

FAILURE TO FOLLOW  
INSTRUCTIONS CAN LEAD  
TO INJURY AND / OR  
DAMAGE OF PRODUCT

USE APPROPRIATE  
PERSONAL PROTECTIVE  
EQUIPMENT WHEN  
CONDUCTING INSTALL /  
REPLACEMENT

CONTACT AMERICAN  
ALUMINUM /CAMLOCKER AT  
(800) 277-0869 WITH ANY  
QUESTIONS BEFORE  
PROCEEDING

## **Required Tools & Material**

### **1, 2 & 3 Compartment Inmate Transport List**

#### **Before You Begin**

The inmate transport will be shipped completely assembled. Some disassembly will be required to install the unit into the van. Please confirm all accessories including rear & side steps, console box with light & fan switches, van door trim panels and any a/c components are inside your transport unit. Please inspect for any shipping damage. If missing components or serious freight damage has been discovered, please call 1-800-277-0869.

## **Materials & Supplies Needed:**

LWB ¼" Plywood 48"Wx120"L Overall- RWB 48"x102 \*Only if the van does not have a rubber matt.

LWB (1- 48x96 1 -48x32 plywood)

RWB (1- 48x96 1-48x6 Plywood)

1 to 2 tubes of silicone caulking

## **Tools Needed:**

Rubber Mallet

Small Pry Bar or Flat Head Screwdriver

4 - C-Clamps or Vise Grips

7/16 Box Wrench

7/16 Deep Well Socket

3/4 Deep Well Socket

3/4 Wrench

3/8 Nut Driver for Self-Tapping Screws

Cordless Impact Driver

13/64 Drill & Bit

Rivet Gun

Screw Driver

## **Important notes:**

**\*Before Installing the IT unit, you must hang the heat and AC manifolds from the ceiling of the van\***

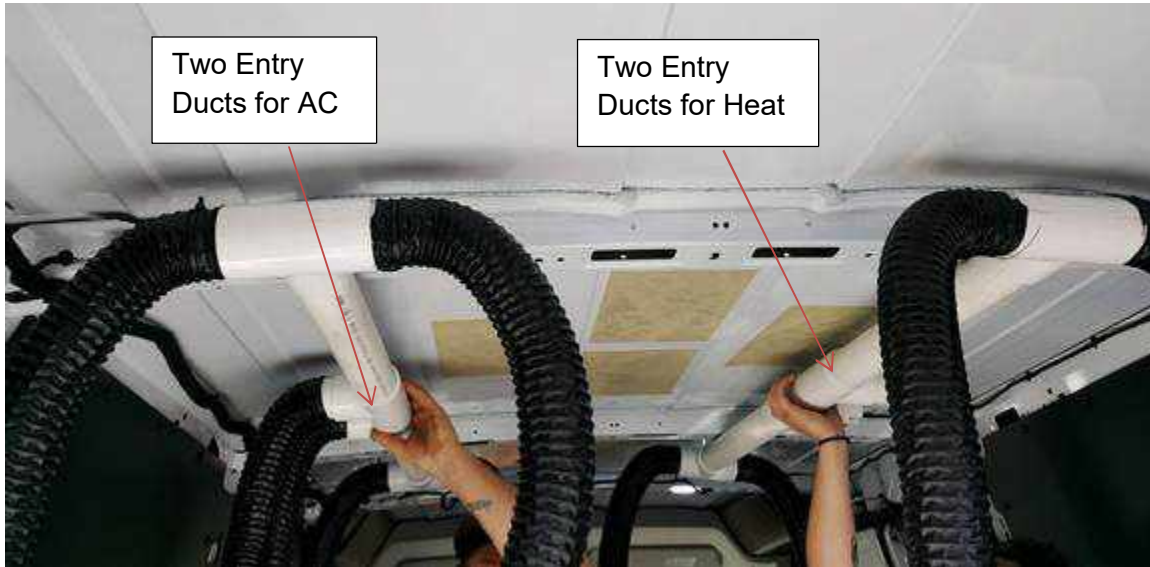
**\*When removing Carriage bolts have someone hold the carriage head side tight against the metal to prevent stripping carriage bolts while they are being removed or reinstalled. In most cases this is a 2-person job\***

## SECTION 1: HEAT AND AC INSTALL

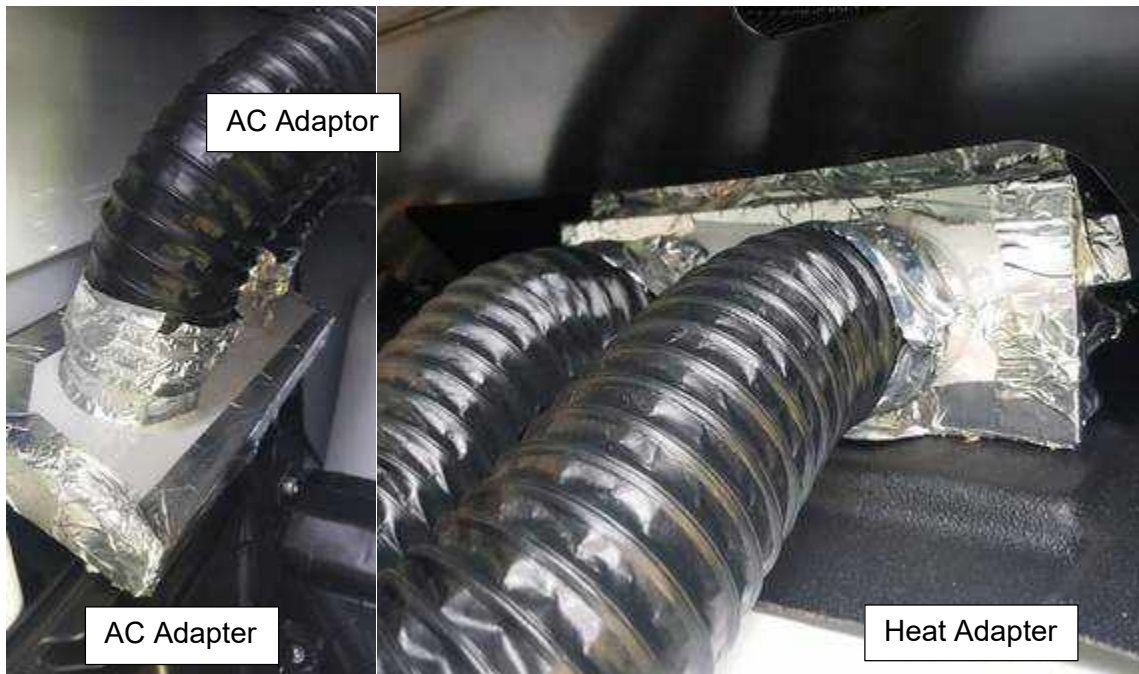
**Step 1:** Hang each manifold approximately 12” from the center of the van in each direction as shown in the following picture. The AC manifold goes on the driver side and the heat manifold on the passenger side. They are both the same, but you have to make sure the entry pipes are towards the outside walls of the van as illustrated. Also, you will need to measure how far back the AC vents on the unit are and make sure that the exit hoses/duct are in line with where the vents will be once the unit is installed in the van. Use the supplied Pipe Tape/hanger and the supplied 1” Self-Tapping Screws.

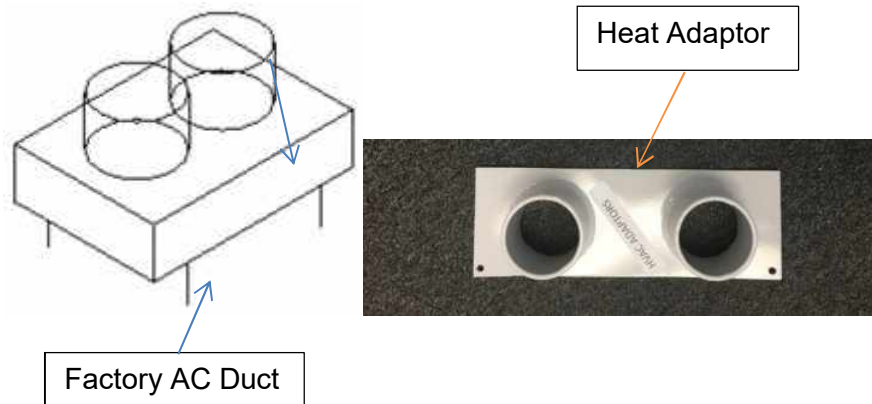


**Step 2:** Connect the AC entry duct work to the entry pipes of the manifold and to the AC Adapter that is installed to the Rear AC. Repeat for the heat side. The heat is under the passenger side seat. **\*ALL Flex Duct to PVC connections use 2 zip ties and foil tape per connection\***



Install the Heat and AC adaptors to the Factory Ac unit by riveting AC adaptor to the AC vent. The heat adaptor installs to the heater duct under the passenger seat. Both use the supplied Self-Tapping Screws and the foil tape to seal the edges of the adaptors. The Duct work attaches to the PVC fittings using the supplied black zip ties and the foil tape.





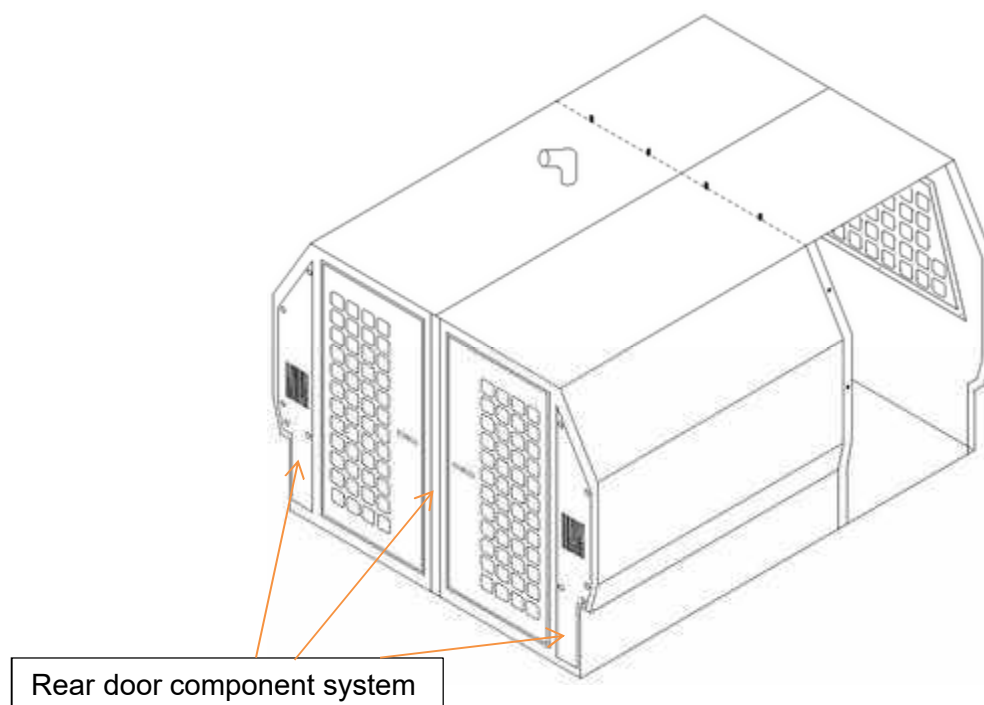
**Once the Manifolds are installed with the entry ducts connected you are ready to install the unit.**

## **Section 2 Installation of the Unit**

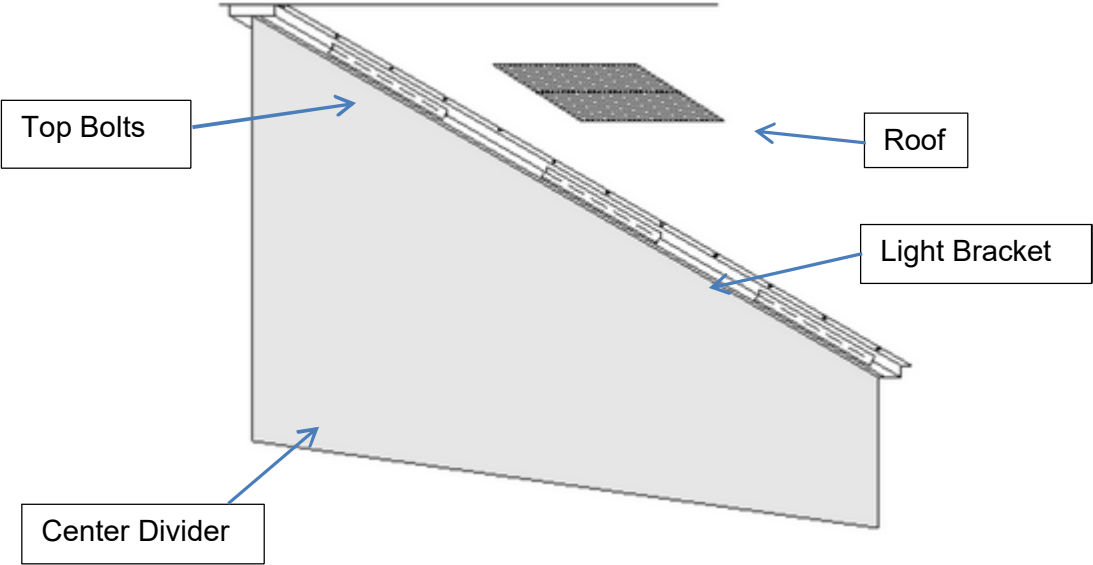
**Step 1:** Gather all necessary tools and materials and then remove all accessory components from the Van. Such as: AC covers and other obstructions that will prevent the transport unit from sliding in properly.

\*Locate wiring harness in the floor of the van and mark before sliding the IT unit in place\*

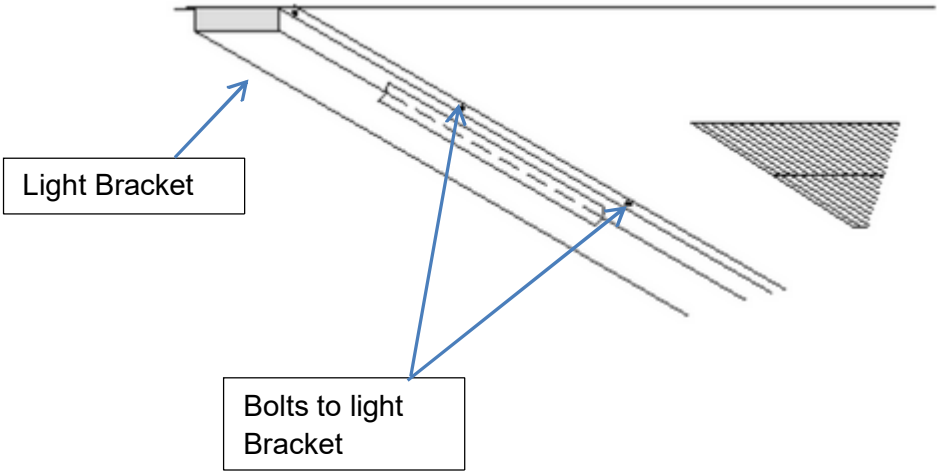
**Step 2:** Place the ¼” Luan in the floor of the van. The PVC/Luan or Plywood will be centered left to right and start approximately at the edge of the spare tire access cover (plastic cap located on the threshold of the rear door jamb) and then fully remove rear door component system. They are attached with 3/4” carriage bolts and self-tapping screws.



**Step 3:** Loosen and remove bolts securing compartment divider (bolts are located on top) remove through rear doors.

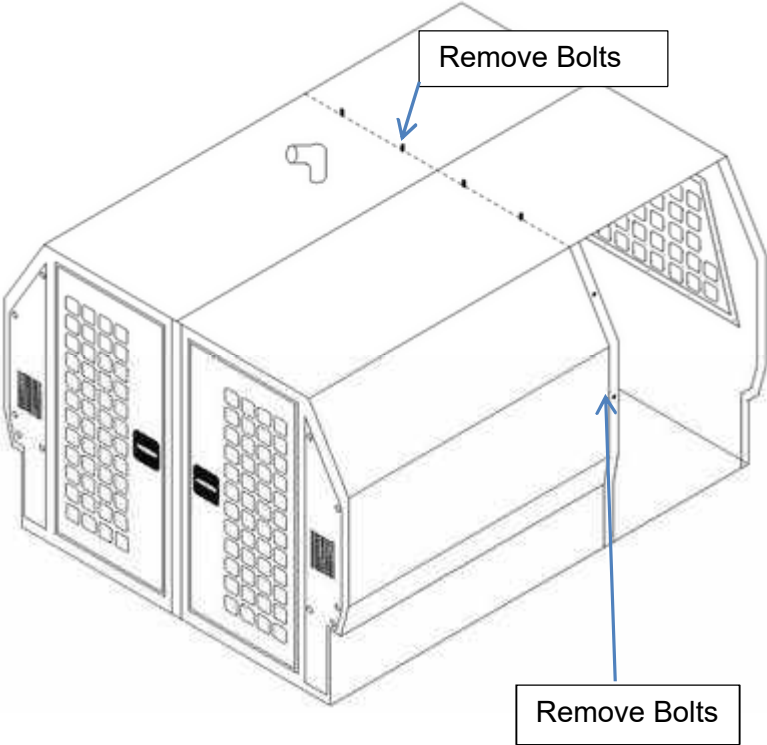


**Step 4:** Prepare to remove overhead light component. Loosen & remove light component from unit.

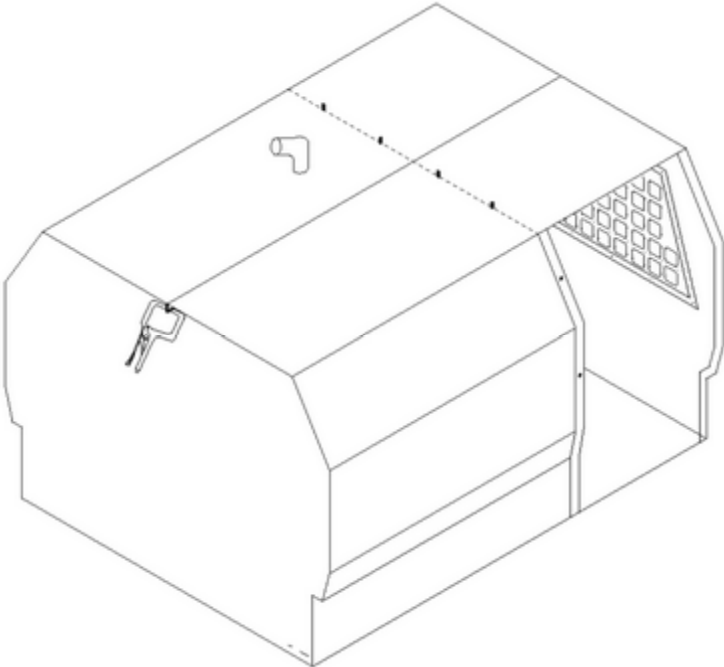




**Step 5:** Note: remove all bolts that attach the center bulkhead (If applicable) as shown below.



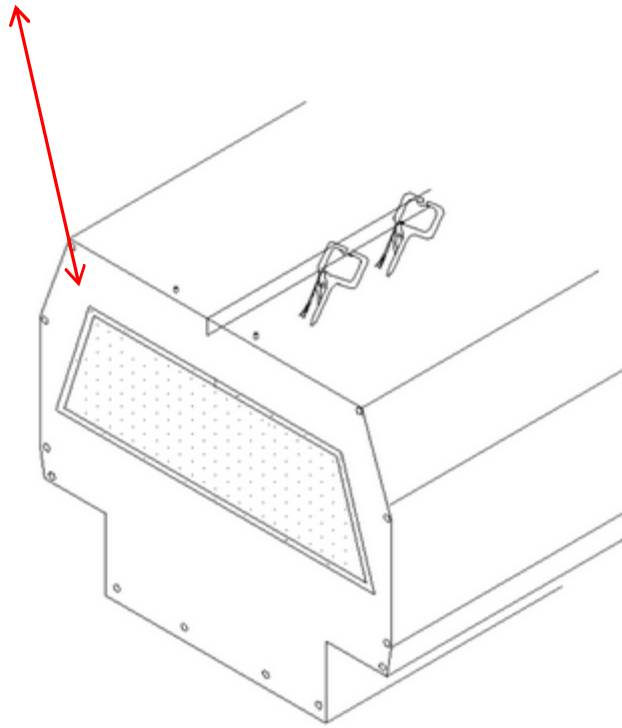
**Step 6:** Secure both roofs tightly together using C clamps before removing the bolts (Do not remove bolts at this time).



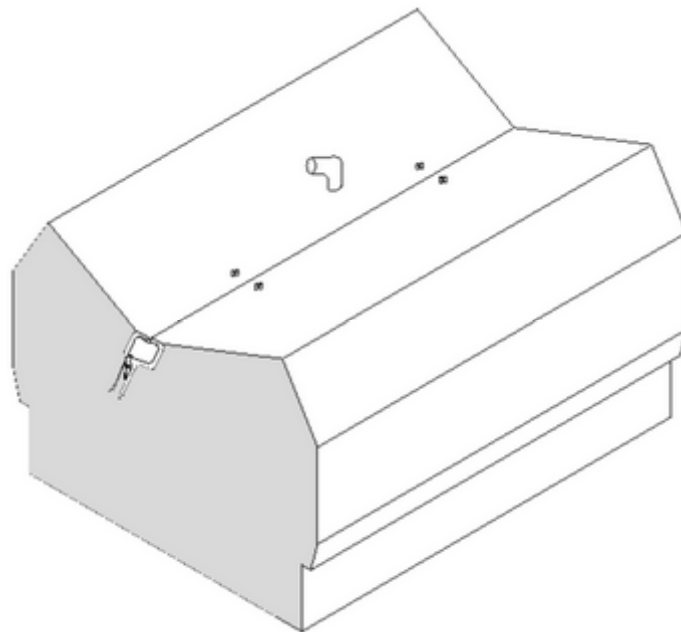


**Step 7:** Once roof assemblies are secured with clamps, loosen bolts on front bulkhead and remove from unit.

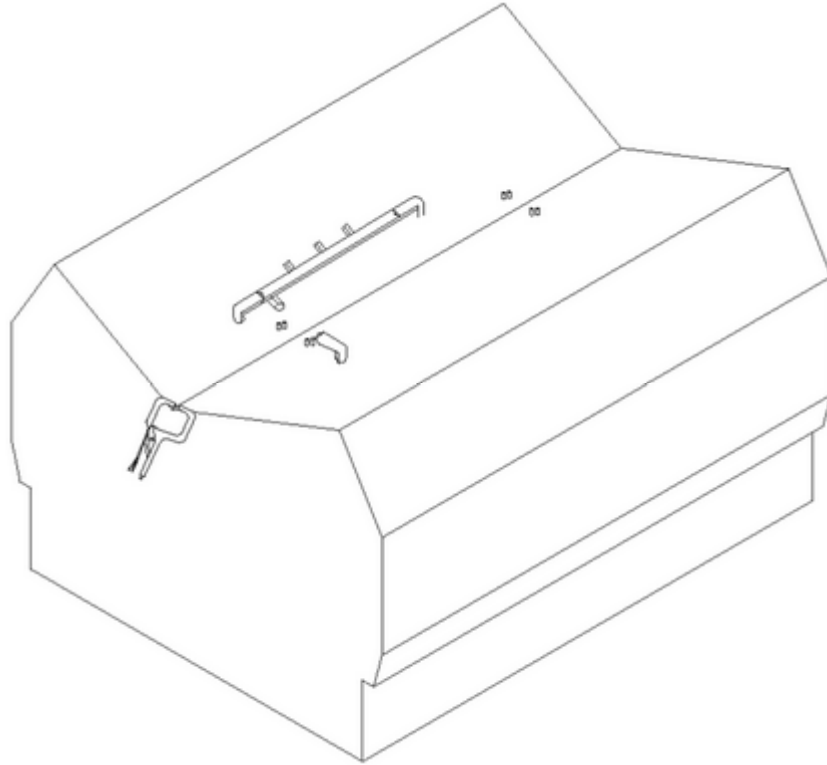
**⚠ WARNING** Failure to secure unit will result in serious injury



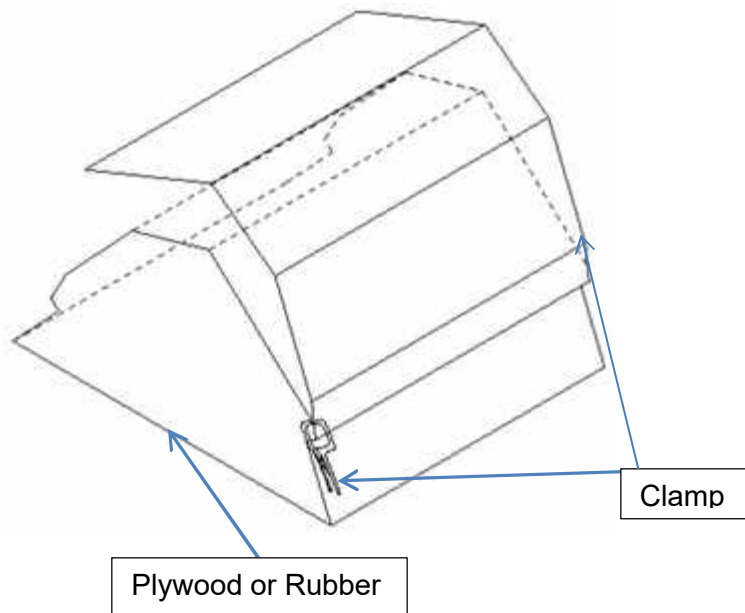
**Step 8:** Remove front bulkhead. Add another clamp to the rear.



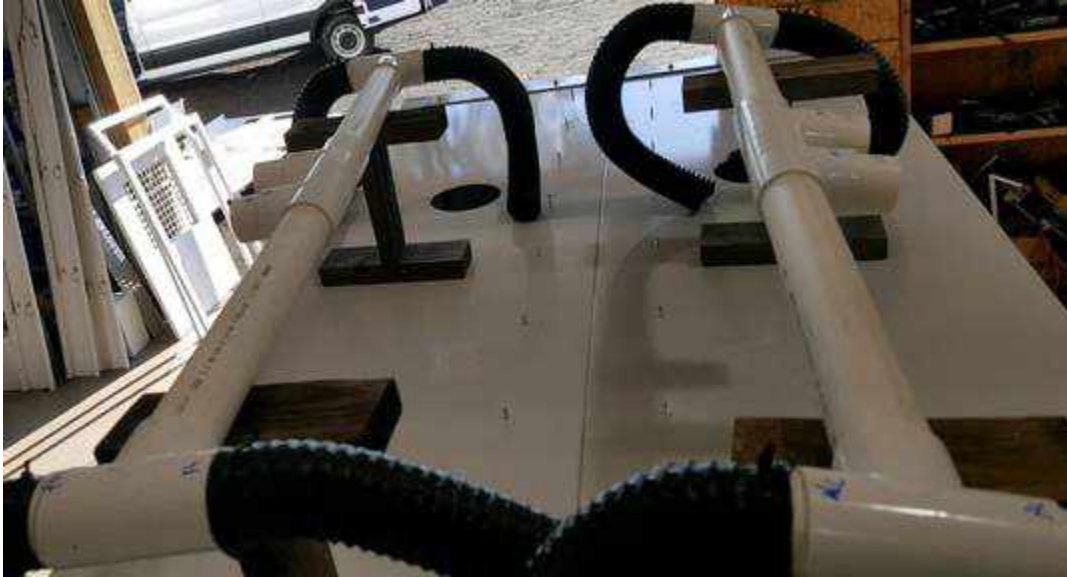
**Step 9:** Attach the supplied air hoses to the top of the Unit to the 3 PVC Pipes facing the Drivers side (Skip this step if they are already installed).



**Step 10:** Remove clamps from roof system CAREFULLY (!!!) Fold passenger side of unit to middle and then fold driver side overlapping passenger side. Secure with clamps. Lift unit carefully and place in van. Attach AC ducts (SEE **STEP11B:**) Release clamps and unfold CAREFULLY (!!!) Lift into place and replace clamps to secure unit.



**\*As you slide the unit in the van make sure to pull the duct work down in each vent hole that is in the roof of the unit. See the following pictures\***



The above picture illustrates what the manifolds would look like if they were hanging from the ceiling.

Each vent has 2 90-degree pipes one for heat and one for AC. On the AC side one duct will go straight down to the vent directly below the T of the manifold while the other flex duct will go straight across the unit to the vent located horizontally towards the passenger side as shown on the following page.

Repeat these steps for each vent and T of the manifolds.

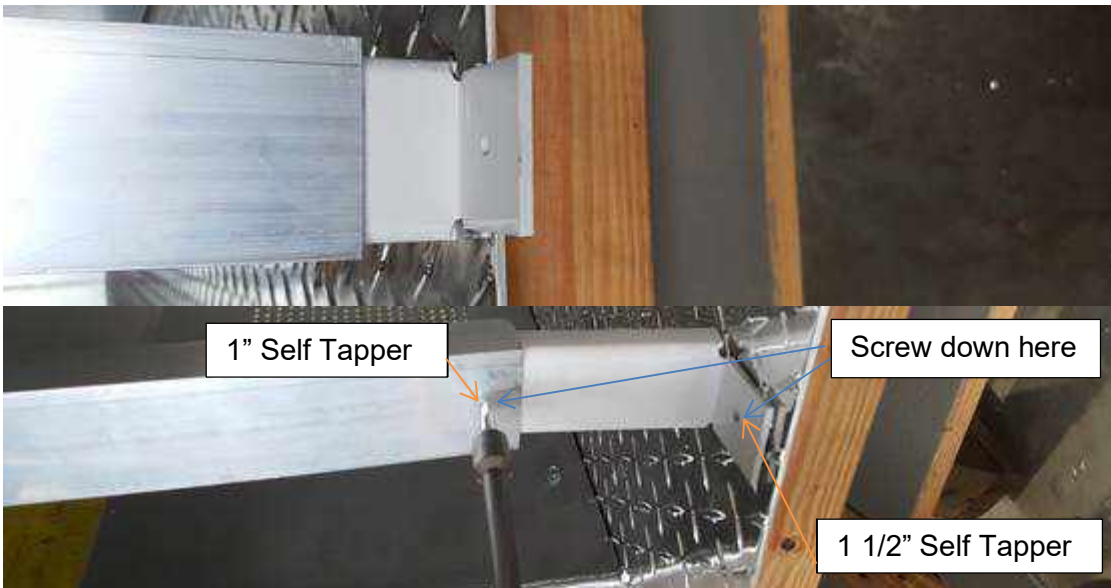
**Remember to use the zip ties and the foil tape at each duct/vent pipe connection.  
(Not Shown)**

**Step 11:** reassemble the IT in reverse order of how it was disassembled.

**\*NOTE\* Side door frame has an adjustable leg for the different styles of side doorsteps that the Transit uses.**



Slide the Adjustable Door Frame Leg into the end of the Door frame on each side of the doorway. Adjust the leg in or out according to the depth of the sidestep.



Once the leg is adjusted to the right level use a supplied Self- Tapping screw to screw the leg and frame together and screw the tab down to the van step.

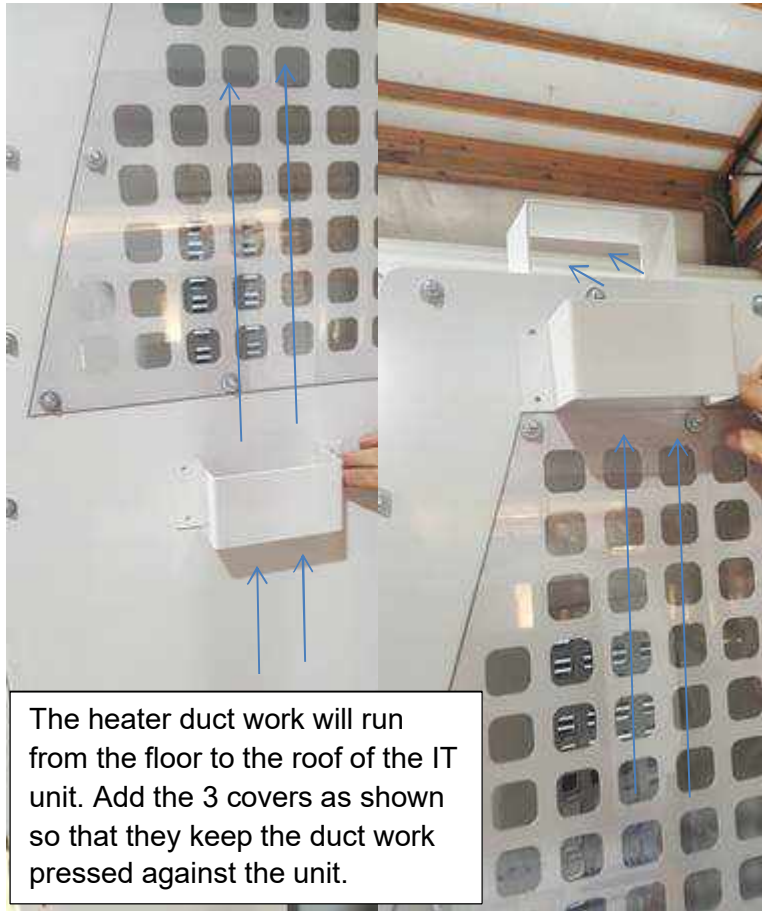
**Step 12:** Installing the light bar cover. The light bar cover is used to fill the gap around the partition and the light bar. It is to be riveted to the partition in the location shown in the following pictures.

**\*Only IT units with a left to right partition need the light bar cover\***



**Step 13:** There are 3 heat duct covers. The following pictures show the approximate location for all 3 covers. The covers are used to hold the heater flex duct to the unit to prevent damage to the flex hose.





**Step 14:** Install the customer supplied pad lock to each pullout escape hatch. The escape hatch is designed for a pad lock with a 1.75" to 2" shackle length with lock in locked position.

**Please ensure the lock is the correct size and can be opened from either side of escape hatch. Also make sure lock can be removed from either side.**





**Step 15:** Install rear and side steps. Both the rear and sidestep mounts bolt directly to the factory step frames underneath the vehicle. Bolt the steps to frames using the supplied step hardware. On the rear step remove the 2 factory 13mm bolts on the outside of the frame. (Detail 1) Line up the holes (not the slots) in the bracket and then reinstall factory bolts. (Detail 2) There is a support brace that bolts on from the step tube to the mounting bracket. See pictures below.

Detail 1



Detail 2





The side step will mount using 18ea 1 1/2" self-tapping screws. It fits tight against the underbody of the vehicle (Details 3 and 4).

Detail 3



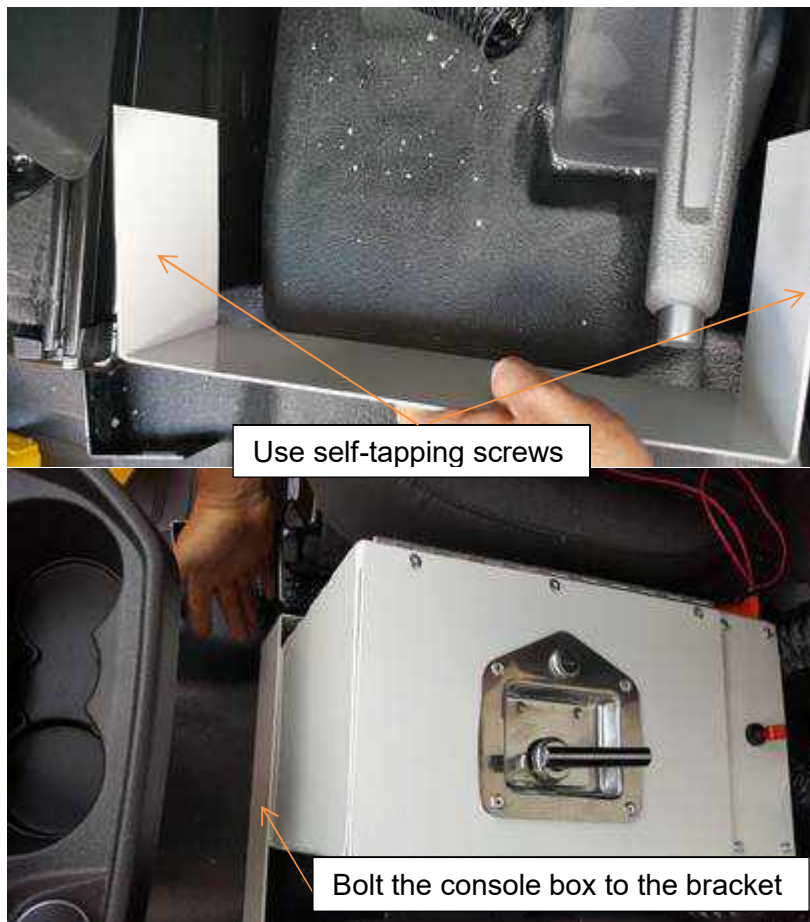
Detail 4



### Step 16: Installation of the console box

The U shape bracket that comes with the console mounts to the metal brackets on the inside of driver and passenger seat near the front of the seats. The bracket will be flush with the front of the seat brackets. The bracket will install with the flanges facing towards the rear of the van. Screw the bracket down to the metal seat brackets using the supplied 1" self-tapping screws. Next mount the console box to the bracket using the 1" self-tapping screws or  $\frac{3}{4}$  x  $\frac{1}{4}$  bolts & nuts.

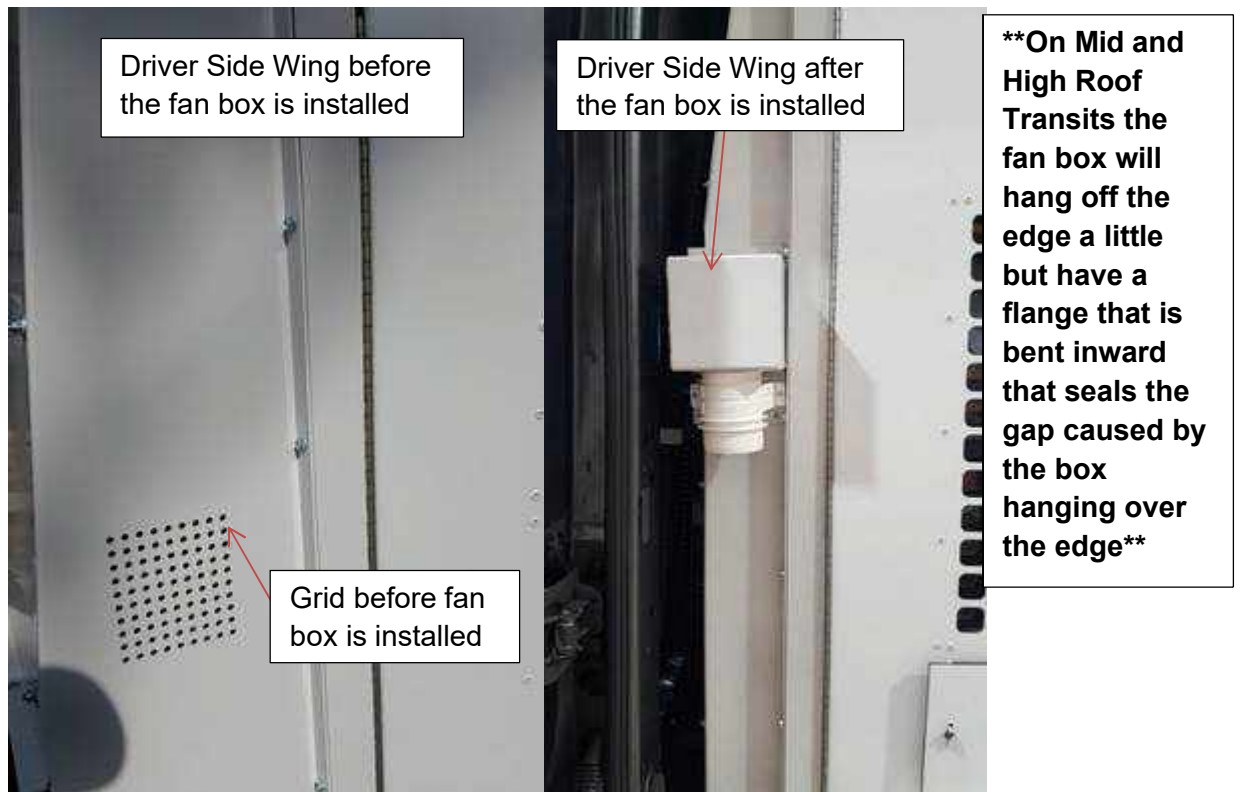
**\*MAKE SURE TO SET THE CONSOLE BOX & BRACKET ARE AT THE CORRECT ANGLE AND MARK WHERE THE BRACKET NEEDS TO BE MOUNTED BEFORE SCREWING IT DOWN\***



### Exhaust Fans

When installing exhaust fans to Rear Wings of IT unit: (Rear Wings are the parts with the vent grid pre-punched in them and are located on each side of the rear doors). They are to be installed with the supplied 1/2" Rivets.

- Place the Fan box over the grid so that it equally covers the grid in wing. Mark and drill the 4 rivet holes using a 13/64" drill bit, unless they are pre-drilled/punched. Rivet the fan box on to the wing.
- Remember these are to pull air out of prisoner transport cage- not to push air in
- When wiring, black is ground and yellow is the wire that needs switched power supplied
- Make sure the air flow arrow is pointed down (to pull air out) and then mount the fan to the box provided



**\*Wording on the exhaust fan housing may be inverted when installed properly, as long as the air flow is pointed away from the box, it has been installed correctly\***



### Installing the Rear Support Braces



The Brackets are in pairs therefore one fits the driver side and one for the passenger side. Place the driver side bracket in place as shown. Transits come with a pre threaded bolt hole on both sides of the van. Use the supplied 3/8-16x3/4 Hex bolt and bolt the bracket to the van but do not tighten yet. Now line the other end of the bracket up with a bolt that is already installed into the rear wing of the IT unit (On some models it may be necessary to drill a .281" hole in the wing where the rear bracket lines up to the wing). Remove the nut and washer from the wing, slide the rear bracket in place and reinstall the washer and nut and tighten both bolts at this time.

Repeat for the Passenger side.