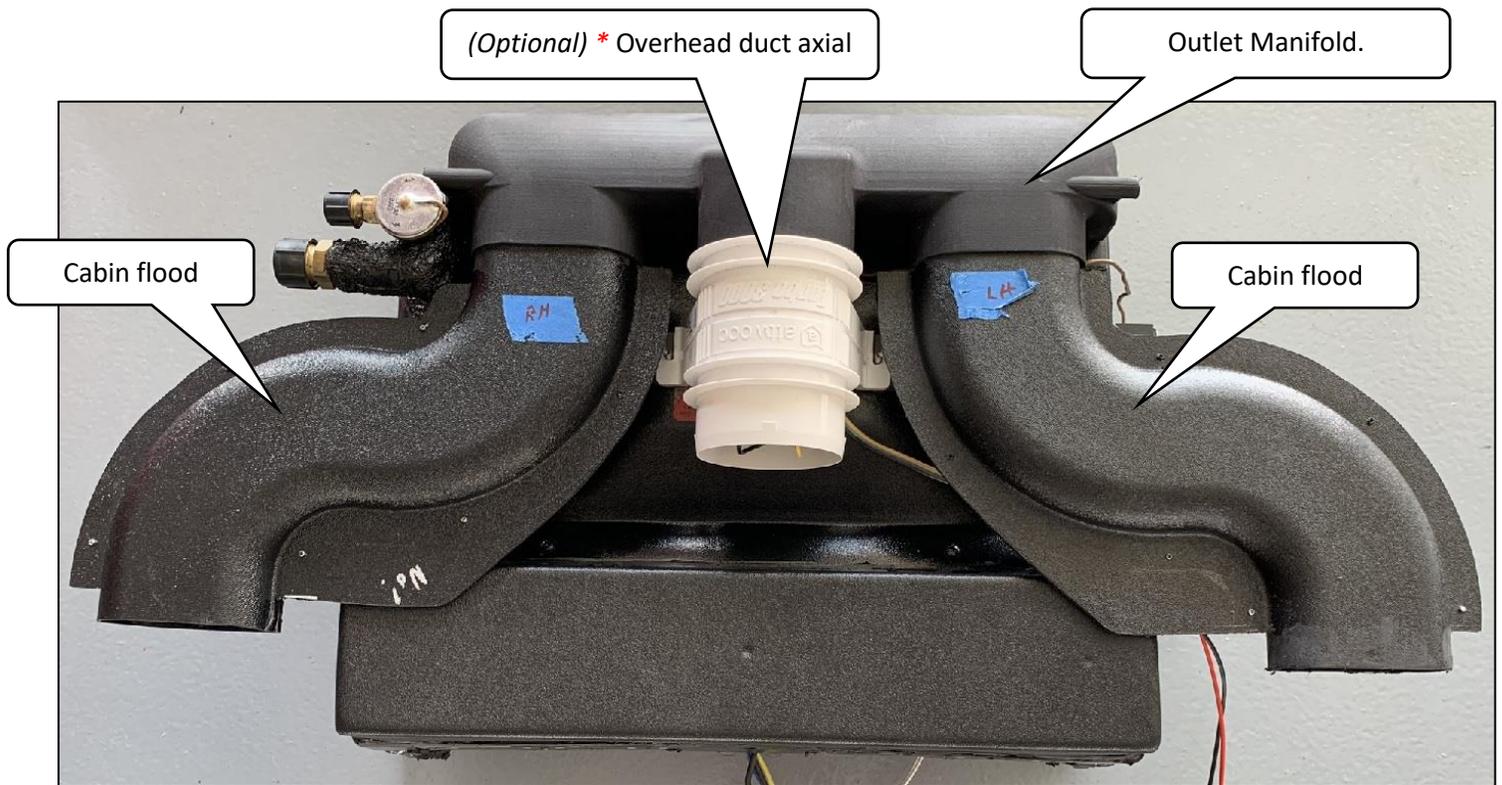


NEW EVAPORATOR / DUCT INSTALLATION

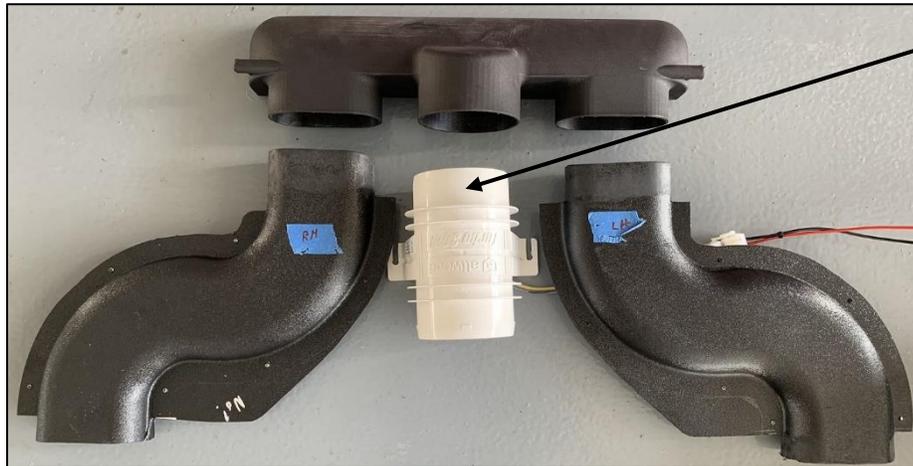
To simplify the installation of the evaporator on the rear shelf and provide better cooling to the cabin, a new duct system was created. The new ducts would replace the hoses required to direct the air to the overhead duct and also include flood vents for the cabin. The entire duct layout and overhead fan are installed on top of the evaporator. The overhead fan is an option and can be replaced with a 3" diameter tube. 3" diameter hose is attached to the flood ducts and axial fan to direct air to the proper vent.

The outlet manifold contains a flapper valve that is moved with a small actuator. This allows ducting air to the overhead duct and flood vents or ducting the air through the overhead duct only.



** The axial fan provides increased airflow in the overhead duct and is highly recommended.*

The new system includes the outlet manifold and two ducts.



Fan is at this end facing outlet manifold

Note: The production duct system parts are black. The brown system shown in the instructions below are the original development system parts. Both systems are the same.

Installation Procedure:

1. **With the evaporator on a bench**

Place the outlet manifold over the two outlet ducts on the evaporator. Scribe a line following the duct's oval opening onto the evaporator duct. Remove the outlet manifold and trim the evaporator outlet as shown. (*If the flapper valve will be used, the entire evaporator outlet duct should be trimmed down to 1/2" height.*)



2. Place the manifold on top of the evaporator and drill a 1/8" hole in each end of the manifold and thru the evaporator outlets. (these are for the attachment screws.)



3. Slide the ducts into the outlet manifold. Drill 1/8" hole in the locations shown for duct attachment.



Duct attach screws. Drill 1/8" hole thru the duct flange and the inlet cover.

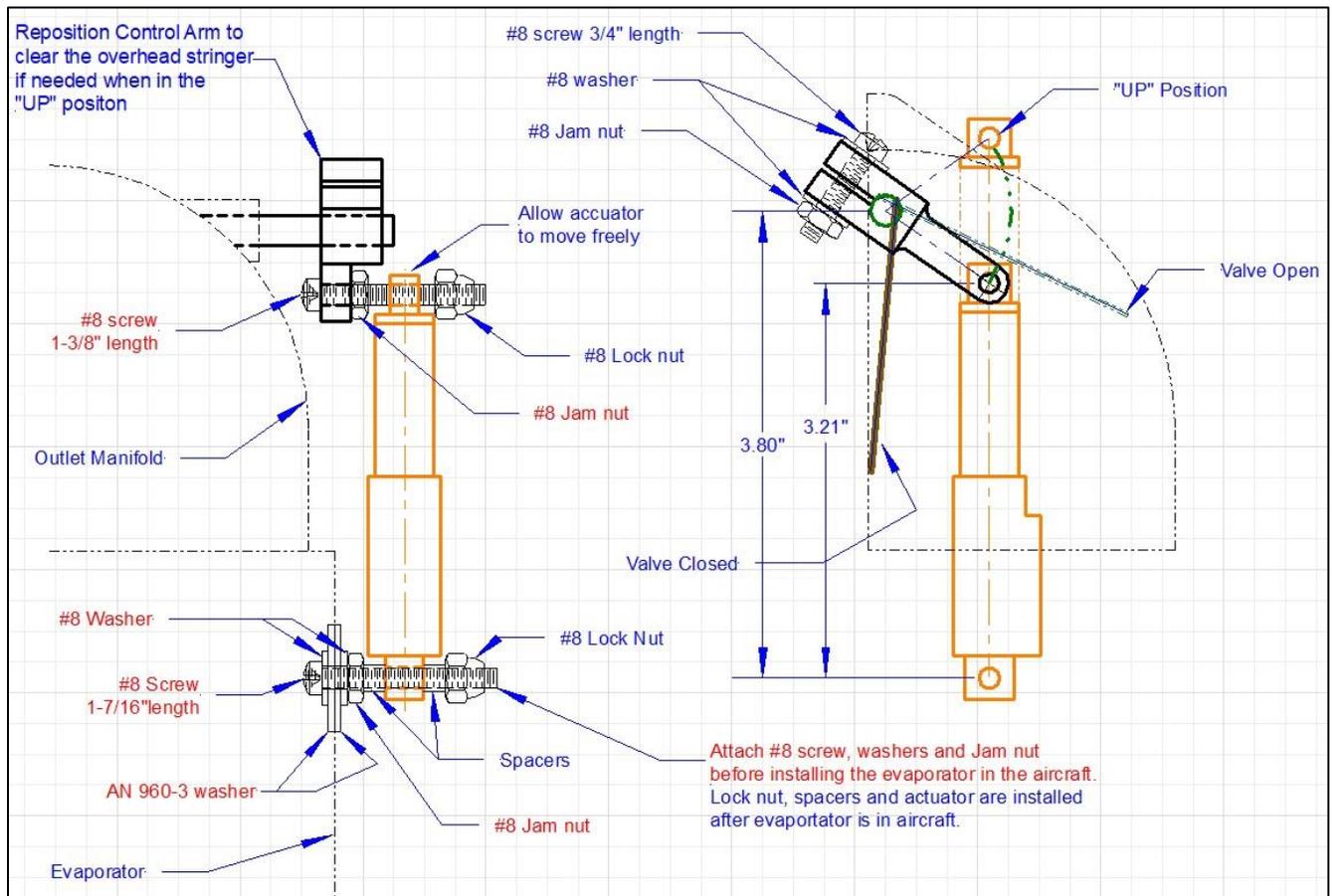
Remove ducts after drilling the holes.

Note: The axial fan and ducts should slide into the outlet manifold without force. If not, adjust the fit by sanding the duct, fan and inside the outlet manifold's mounting holes.

Skip step 4 if you are not installing the outlet manifold's flapper valve.

4. **Mounting actuator and control arm for flapper valve**

This step installs the actuator used to control the outlet manifold's flapper valve. This allows controlling the air to the overhead duct and/or the flood vents.



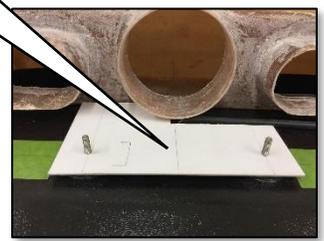
Install actuator mounting hardware to the evaporator.

Attach the lower actuator attachment screw. *The spacers and lock nut will be installed when the installing the actuator after the evaporator is installed in the aircraft.*

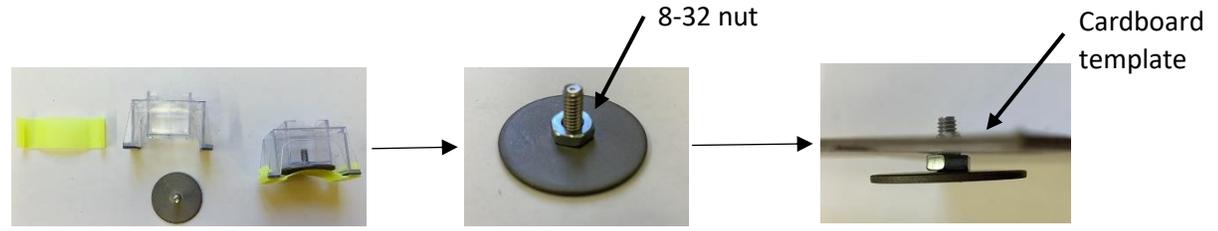
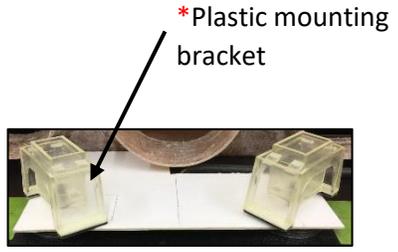
Attach the control arm to the pivot rod.

Fan centerline

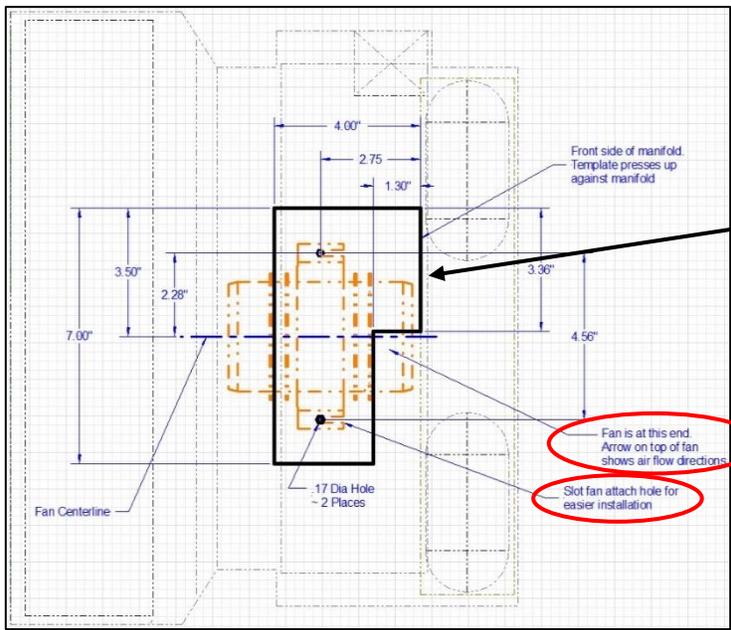
5. (Step #5 not required if duct fan is not used – substitute a 3" thin wall tube)
 Remove the plastic mounting bracket from the studs.
 The fan location template is centered on the 3" center duct and pressed up against the outlet manifold. Using the fan location template, mark the evaporator where the 2 Clickbond cs125 (8-32 thread) studs are located.



- Using a scotch-brite pad, scuff the area on top of the evaporator where the studs will attach.
- Wipe this area with alcohol to clean the surface.
- Place a 8-32 nut on stud and position it next to the stud mounting face. (The nut provides clearance between the stud base and the template so that the adhesive does not contact the template.)
- Place the threaded studs thru the template holes and down to the top of the nut. Screw the stud's plastic mounting bracket* back on the stud down to the cardboard template. This will keep the stud perpendicular to the evaporator.



- Clean the base of the studs with alcohol. Dab J-B Weld adhesive to the bottom of the stud base. Make sure entire base bottom is covered with adhesive.
- Place the template with studs in the location on the evaporator. Place weights on studs while adhesive is curing to keep in contact with evaporator.
- After the adhesive has set for at least 24 hours, carefully remove the cardboard template.
- Slot the fan's mounting holes.



The recommended adhesive is J-B Weld (steel) adhesive to install the Clickbond fasteners to the evaporator.

If the threaded studs are not attached to the evaporator, use these measurements to make the template for positioning the threaded studs.

Remove all duct system plastic parts from the evaporator. For ease of installation, install the bare evaporator on the shelf before re-installing any duct system parts.

- 6. Carefully install the evaporator on the shelf with the freon tubes towards the center of the aircraft.

Freon tubes

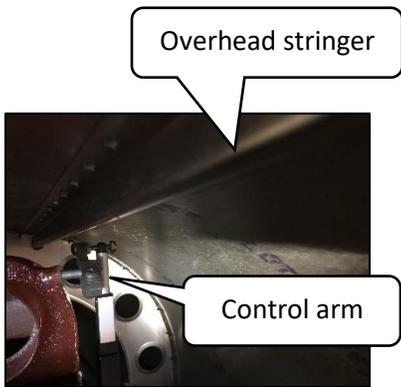


- 7. Position the evaporator and install the outlet manifold over the 2 outlets on the evaporator. Install attachment screws in the 1/8" holes previously drilled at either end of the manifold.



Attachment screw

- 8. Position the evaporator to install the flapper valve control arm. Use the drawing on page 3 for installing the flapper valve actuator.

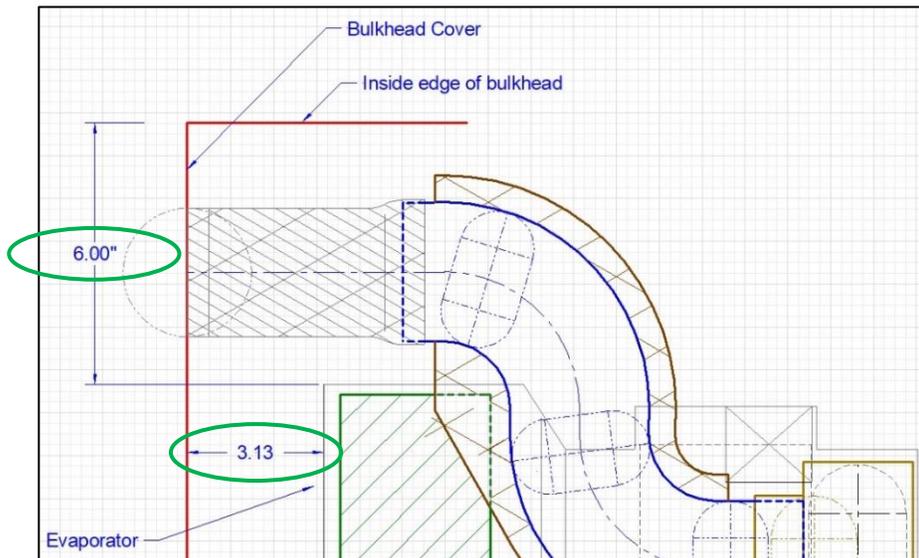


Overhead stringer

Control arm

- 9. Center the evaporator on the shelf and install the freon lines with O-rings.

- 10. Attach the evaporator to the shelf. 6" from inside right bulkhead and 3 - 1/8" from bulkhead cover.



All hose lengths are approximately 8"

11. Attach a 3" hose to the overhead duct.

If installing the axial duct fan, attach the 3" hose to the fan then slide the axial fan into position on the outlet manifold. Attach the fan with a jam nut*, locking washer and washer.

Note: * Using a lock nut is not recommended. The torque from the nut could twist the mounting stud off the evaporator.

Note: The fan blades face the outlet manifold. The hose attaches to the opposite end.

If not using the Axial duct fan, substitute a 3" diameter – 5" long thin walled tube.

12. Attach hose to the flood ducts then slide ducts into outlet manifold and attach ducts with a screw, lock washer and AN970-3 washer.

The axial fan can be tied into the High fan wire of the evaporator for operation. If possible, it is recommended to run a separate power wire to the axial fan controlled by a SPST switch.

Screw, lock washer
and AN970-3 washer



13. Insert flood vents inside the hose and clamp into position. The flood vents will attach to the bulkhead cover.



Completed installation (*custom intake is different than the one provided by Airflow-Systems*)

