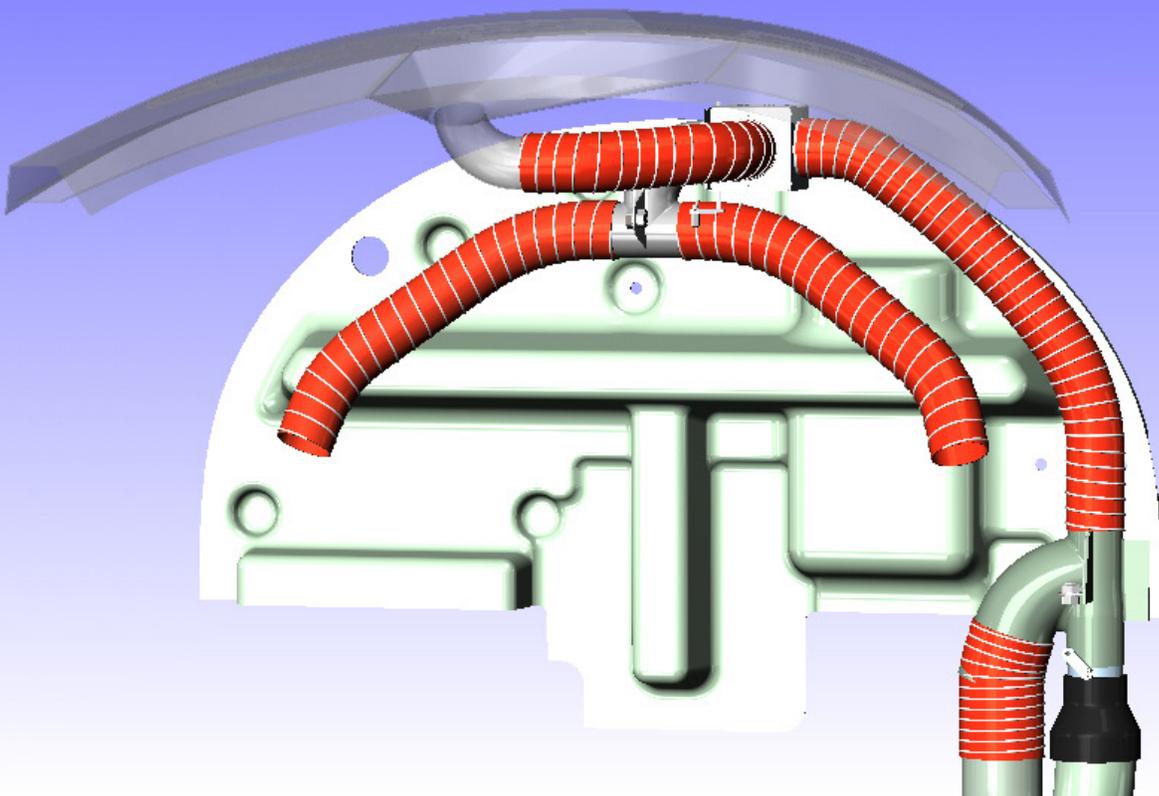


Kit # 218

Hot / Cold Mix and Defrost

6/25/2014



Kit # 218 Components

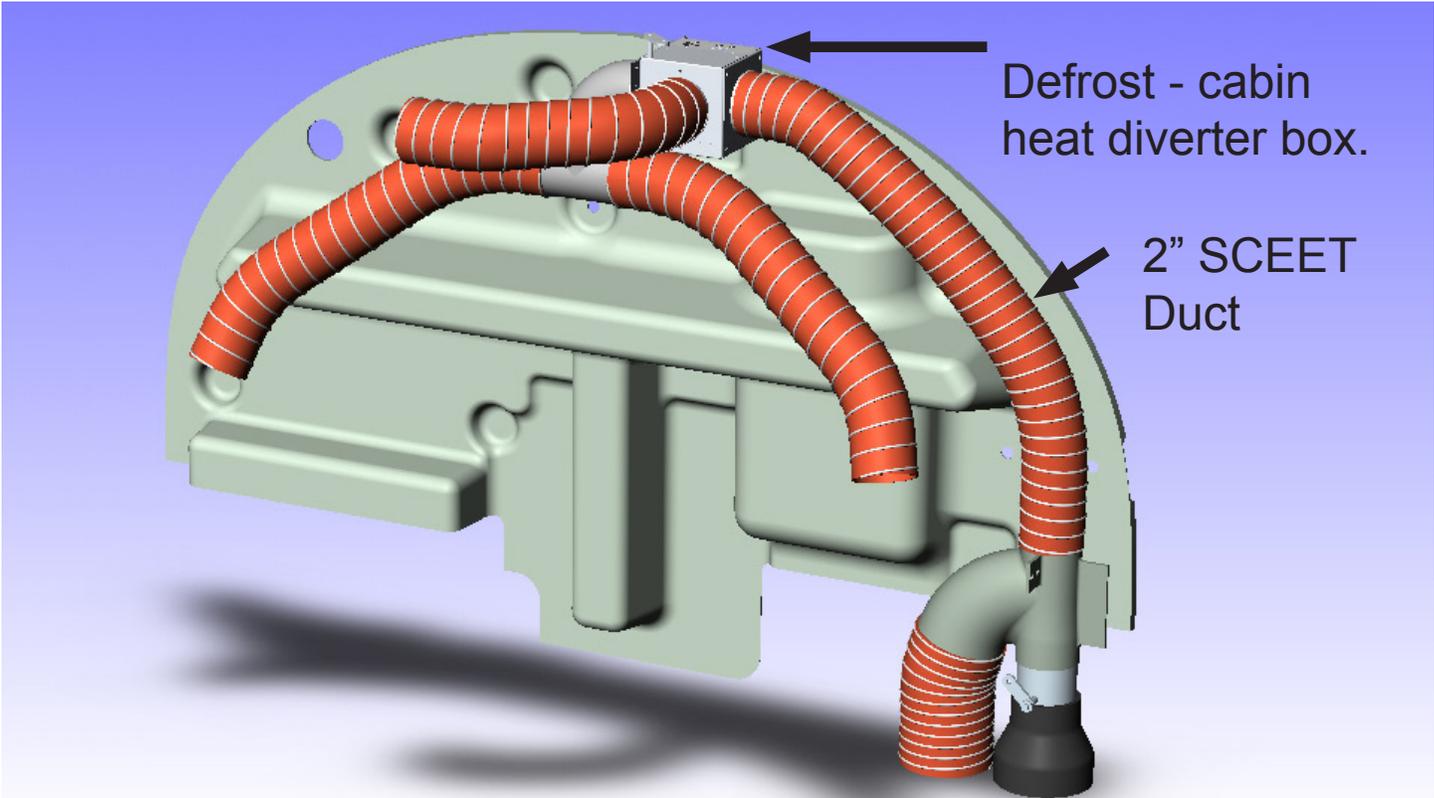


Figure A

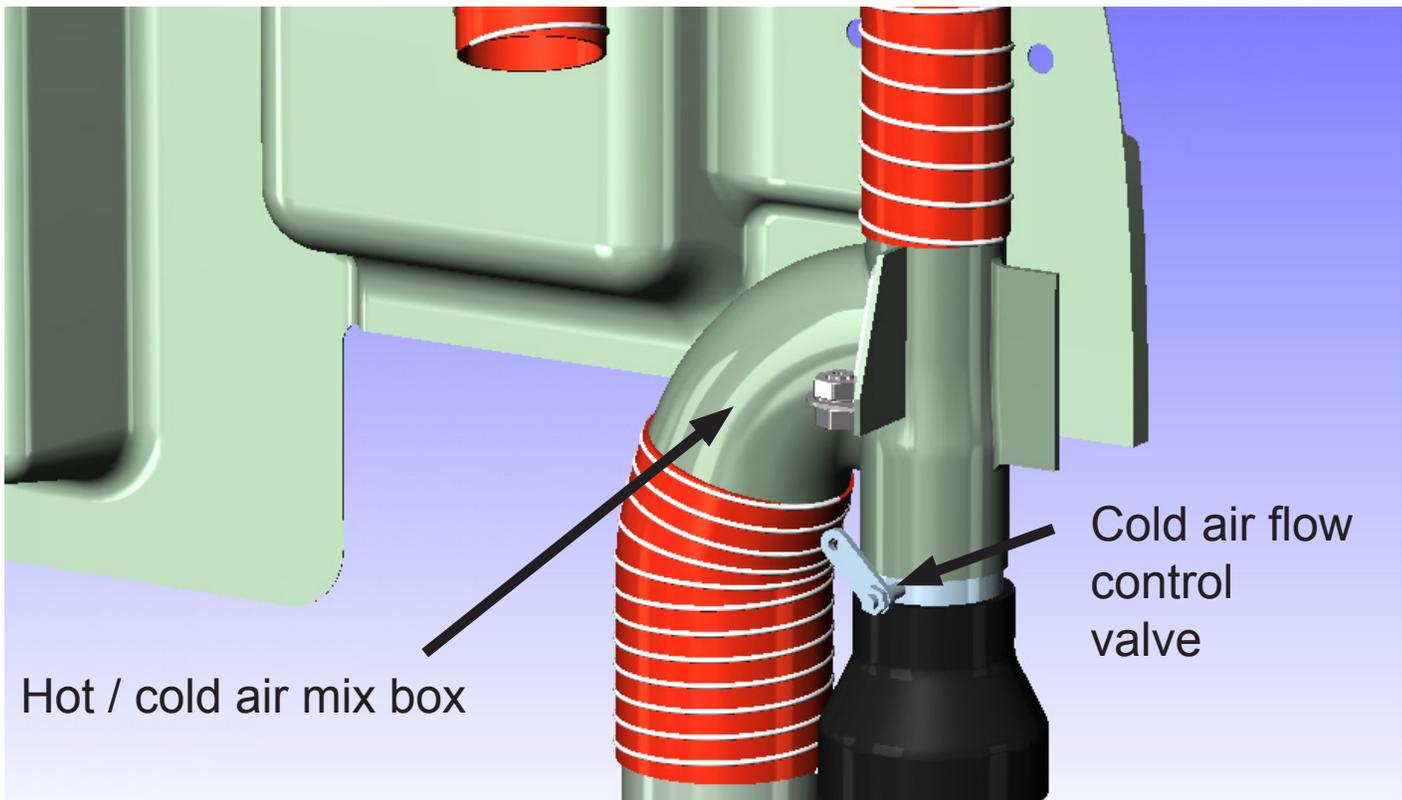


Figure B

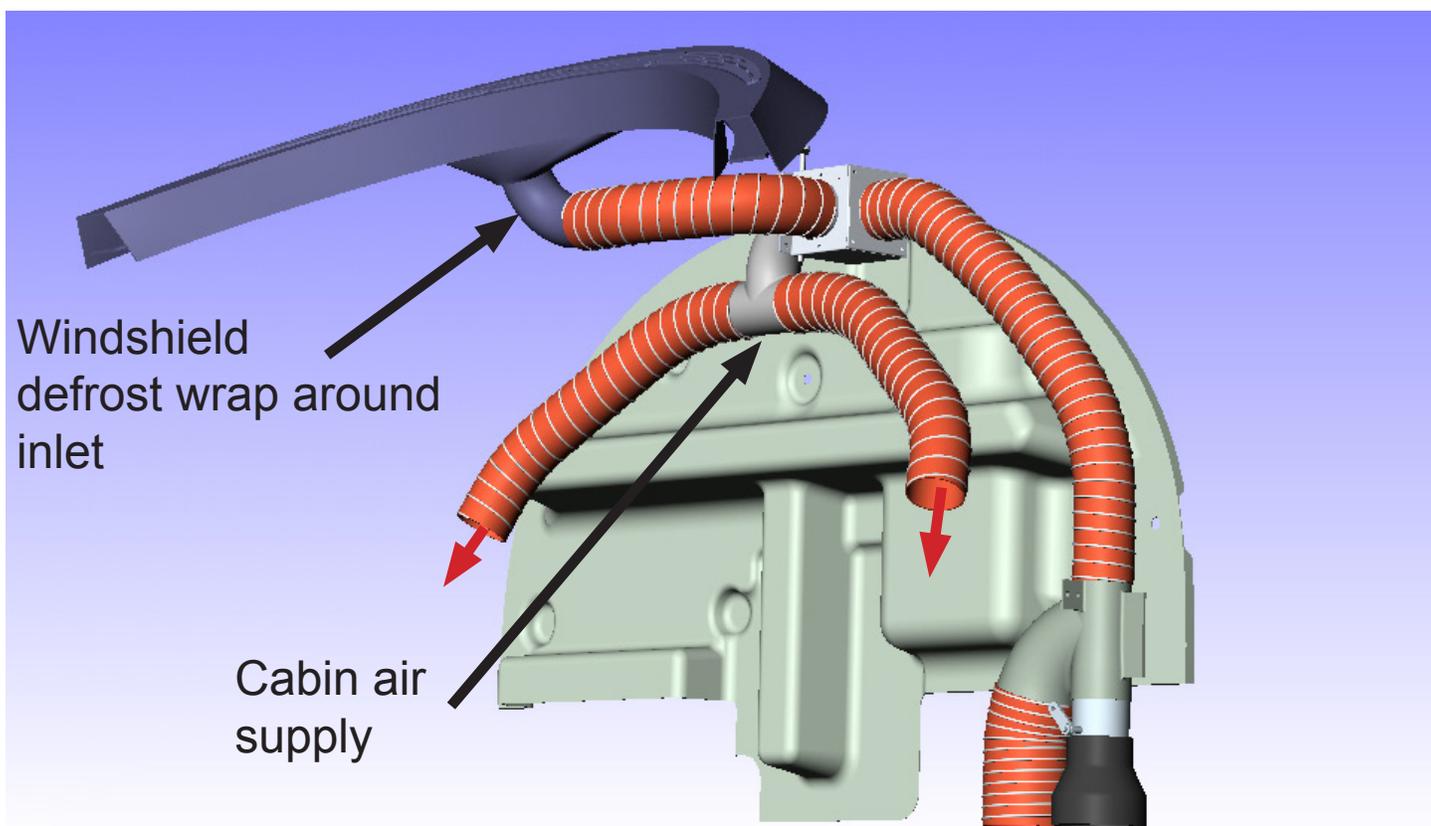


Figure C

Kit # 218 Hot / Cold air mix box and defrost - cabin air diverter.

The hot / cold air mix box and defrost / cabin heat diverter box assembly are mounted on the aft side of the nose bulkhead as shown in fig. a,b,c.

The co pilot NACA scoop supplies cold air to the mix box assembly.

The hot air control box (*Kit # 311 sold separately*) mounted on the engine floor supplies hot air to the mix box assembly by way of SCEET or fiberglass tubes installed under the cabin floor.

The rate of hot air flow is controlled by the hot air control box, Kit 311 under the engine floor.

The rate of cold air flow is controlled by the cold air flow valve, see fig. D page 4.

The hot / cold mix box and the defrost / cabin heat diverter are connected by 2 & 3 inch SCEET duct. The defrost box is connected to the windshield wrap around defroster assembly with 2" SCEET duct, see fig C

The cold / hot air mix box is connected to the defrost box with 2" SCEET duct.(see fig.A, page 2).

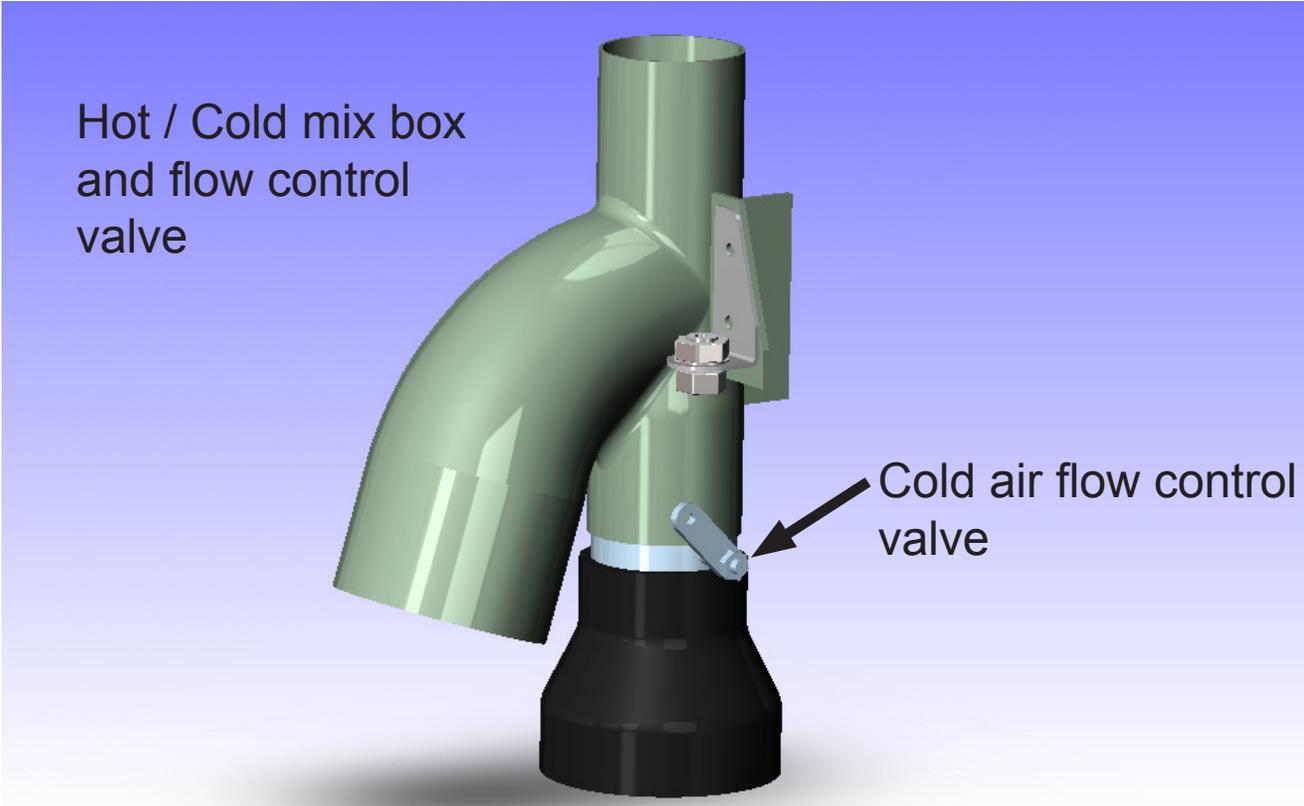


Figure D

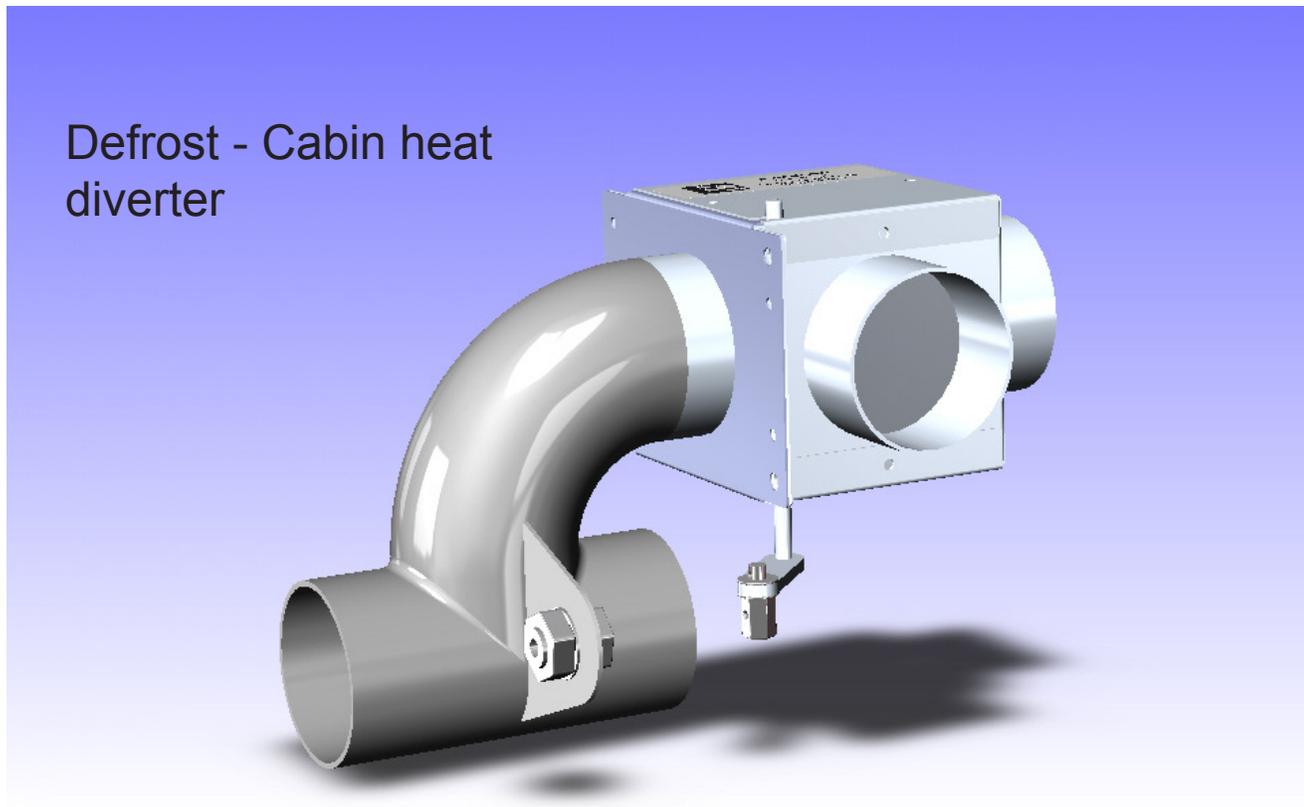


Figure E

Kit # 218 Installation

1. Installing the defrost diverter box fiberglass mount flange.

First locate the center line of the fuselage along the upper fuselage inner skin between the nose bulkhead and the windshield leading edge. Mark a parallel line approximately 2 3/4" to the right of the center line. This line will be the mounting line for the defrost fiberglass flange. (see fig. F&G). Prepare the surface by sanding 2 inches on either side of this line. Also sand along the nose bulkhead 2" either side of the mating surface.

Temporarily mount the defrost box to the fiberglass mount flange using clecos or bolts. Position the defroster assembly as shown in (fig. F) Align the center of the cabin air outlet tube with the center line of the fuselage as shown in fig. F.

Hot glue the fiberglass mount flange and remove the defroster box.

Q-cell the intersection between the defrost mount flange and the fuselage. Add 2 layers of 7781 glass to both sides of the fiberglass flange and onto the fuselage 2" wide seams.

After the glass has cured, trim the cut out for the defrost box. Redrill the mount holes. Mount the defroster with either nut plates or AN-3 nuts washers and bolts.

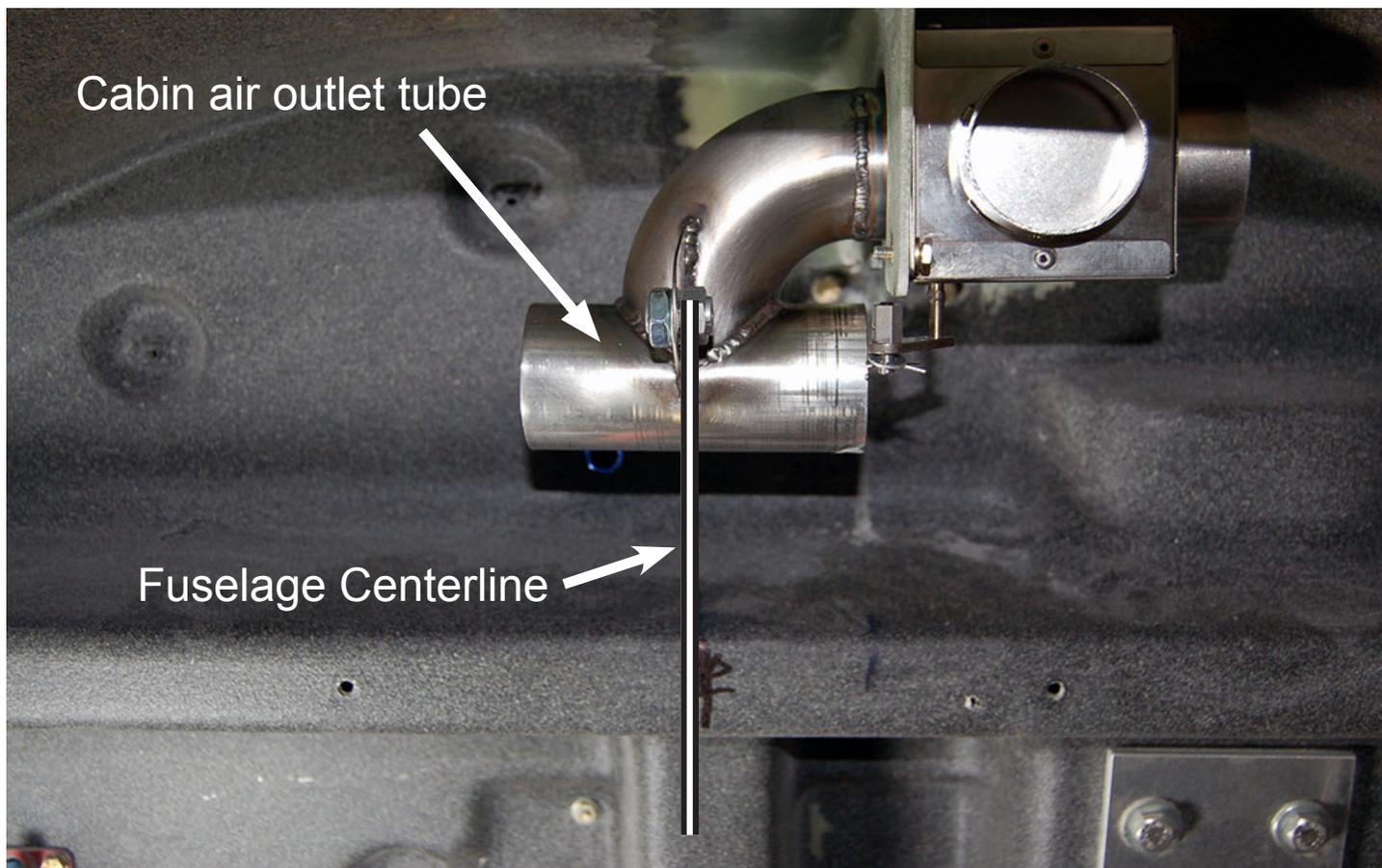


Figure F

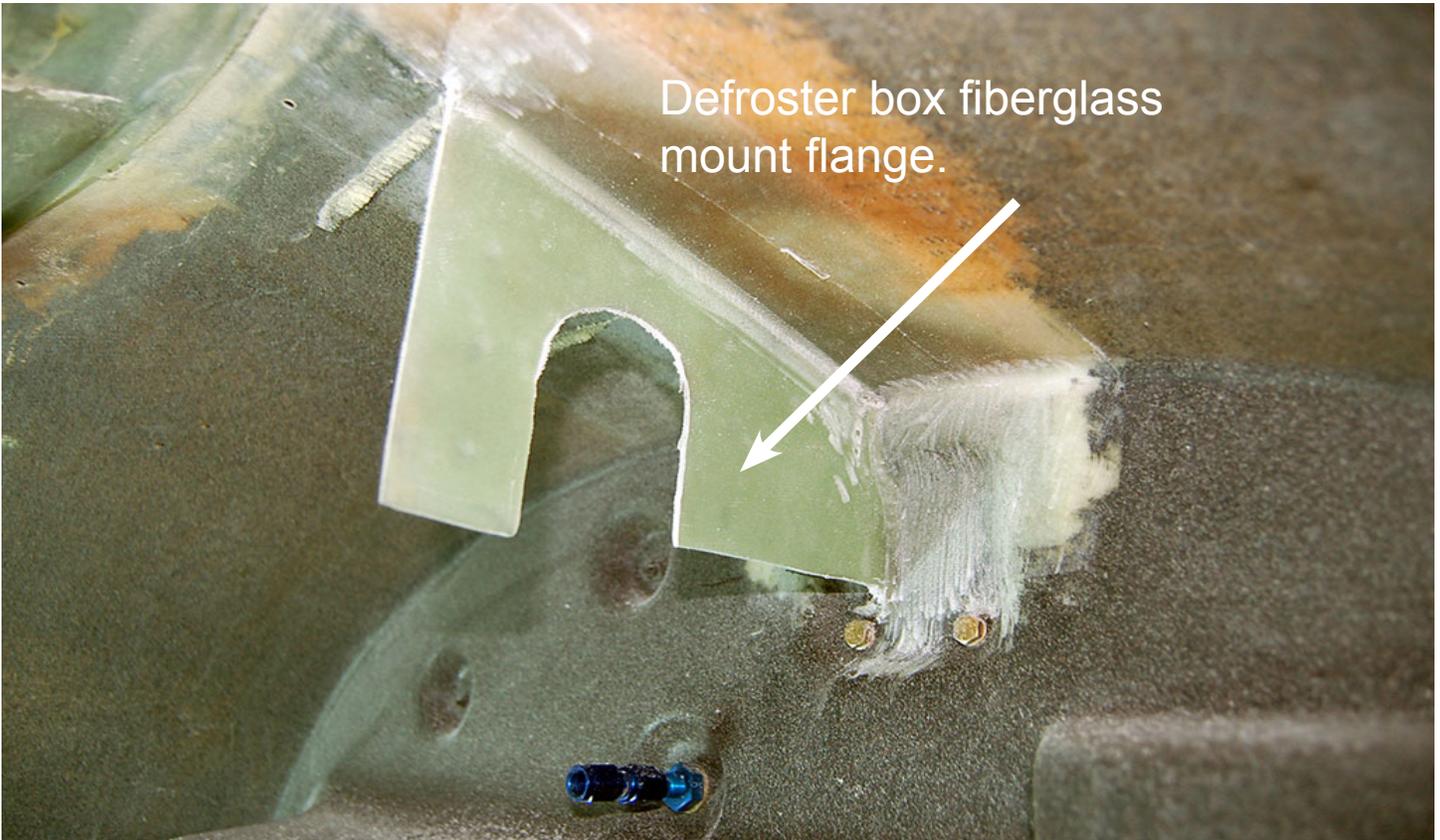


Figure G

2. Installing the hot / cold mix box and cold air flow control valve

Locate the two fiberglass adapter rings, see fig. H & I, page 7. The adapters rings will align the hot / cold mix box with the fiberglass air inlet supply tubes, see fig I.

Temporarily place the adapters on the air inlet tubes as shown in fig. I, they will be glassed in place later, after the hot cold mix box mount flange has been installed.

Position the hot / cold mix box as shown in fig. J page 8.

The top of the fiberglass hot cold mix box should be approximately 1/2 inch below the bottom of the rudder pedal cross support on the nose bulkhead see fig. K, page 8. Make sure you have sufficient room for SCEET tubes to fit both the top and bottom of the hot cold mix box.

You can now make a mount flange from the pre cured sheet supplied with the kit. You should position the hot cold mix box as show in the pictures. Fit the pre cured mount flange to the contour of the fuselage as shown in fig. M page 9. Apply two layers of 7781 glass to both sides of the pre cured flange. Extend the glass 2 inches onto the fuselage.

When the flange has cured, drill mounting holes for nut plates AN-3 bolt, see fig. M, page 9.



Figure H



Figure I



Figure J



Figure K



Figure L



Figure M

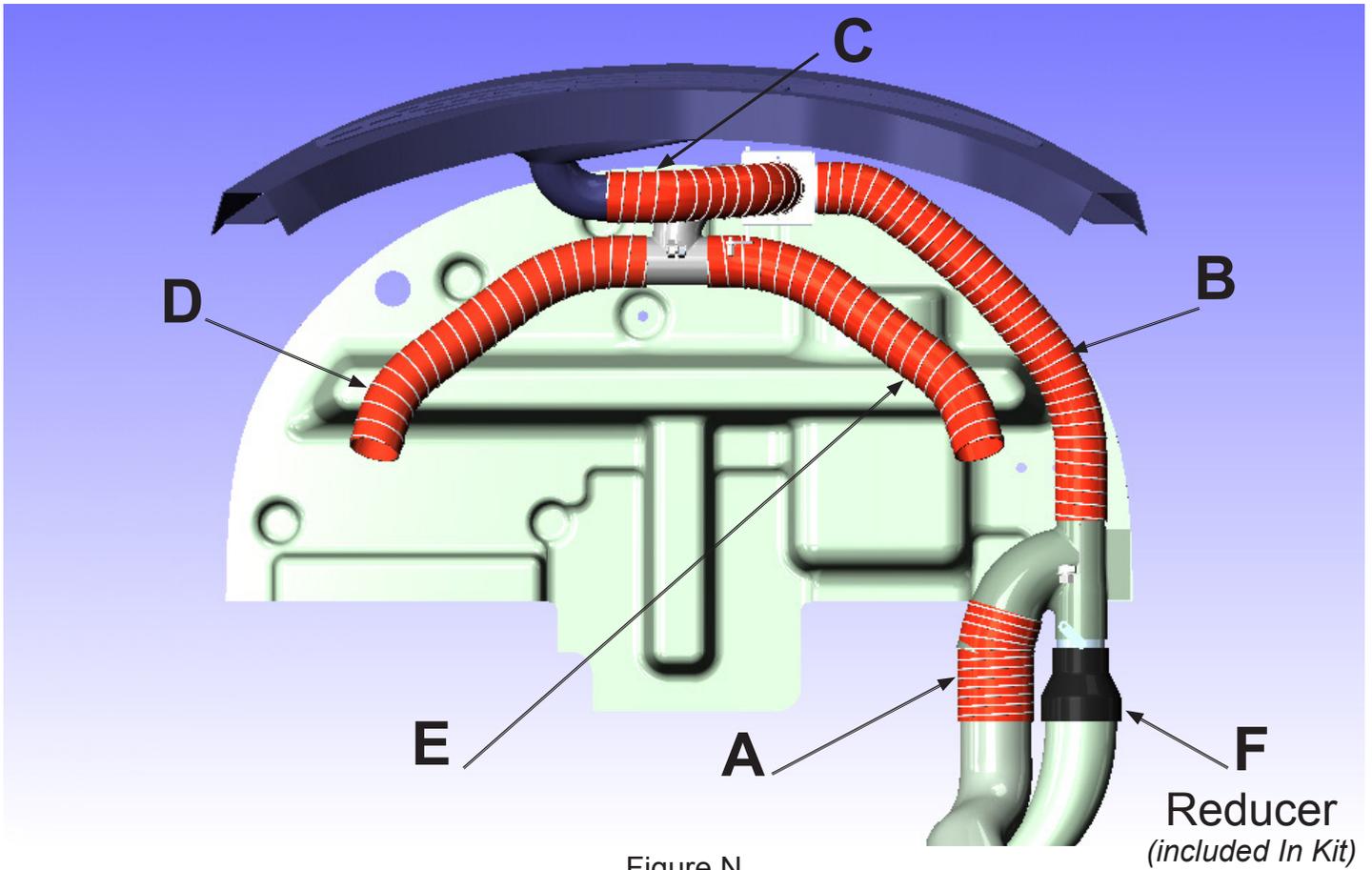


Figure N

Order (**Optional**) Custom SCEET Duct with Cuffs for Kit # 218 From:

CUSTOM DUCT - 179 Beaver Berry Road - Limington, ME - 04049 - PH. 207-637-3000
Owner Jonathan Kinney

RA Mills part number - Custom SCEET Duct

Item - Type - End 1 - End 2 - Length

Item	Type	End 1	End 2	Length
A	SCEET	Cuff 3.0	Cuff 3.0	7.00
B	SCEET	Cuff 2.0	Cuff 2.0	18.0
C	SCEET	Cuff 2.0	Cuff 2.0	18.0
D	SCEET	Cuff 2.0	Cuff 2.0	18.0
E	SCEET	Cuff 2.0	Cuff 2.0	18.0



QS-200 Hose Clamps

Oetiker Stepless Screw Clamps

Figure O

QS-200 Hose Clamps are standard hose clamps used on experimental and general aviation aircraft. Order from Aircraft Spruce 2014 catalog page 108.

Oetiker Clamps are premium quality clamps. They are two times the price of the QS-200 clamp. Be sure to confirm the correct size for your installation. You can order QS-200 or Oetiker clamps from Aircraft Spruce.

A	QS-200 - 52H	(2)
B	QS-200 - 36H	(2)
C	QS-200 - 36H	(2)
D	QS-200 - 36H	(1)
E	QS-200 - 36H	(1)
F	QS-200 - 56H	(1)
F	QS-200 - 36H	(1)

A	085-9	(2)
B	060-9	(2)
C	060-9	(2)
D	060-9	(1)
E	060-9	(1)
F	090-9	(1)
F	065-9	(1)