

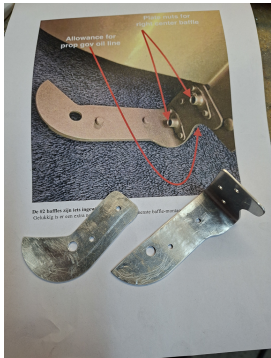
Category: 6.12 Bill Lane Plenum

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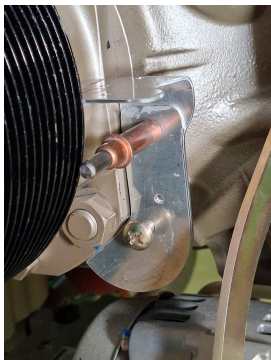
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I bundled the work of the last couple of days in one article. When installing the Bill Lane Plenum, you are required to fabricate some additional custom made angles which do not exist in the standard Vans baffle kit. The primary purpose of these angles is to prevent that the lower front baffle would rotate forward due to vibration. Especially on the passenger side where the propellor governor oil line passes, this could have disastrous consequences. In my case I have no such line as I have a fixed pitch propellor but nevertheless, I'm going by the plans and be a good boy.

On the passenger side, you have to make a bracket like the one below. The manual states you can also try to make this out of one piece but having them constructed out of 2 pieces rivetted together makes the fitting and tight fit on the engine much easier. Yes it's a couple of grams more weight but that's for the weight fetishists. I made the two parts below out of 0.063" sheet, bend the angle and then started grinding away material on the 3M deburr wheel until I got to the desired shape. Getting the holes for the engine bolt and the upper rivet holes in the right location was a bit tricky.



Here is what it looks like when it's installed on the engine. The front baffle will rest on top of this. As you can clearly see, the bottom angle hooks onto the cylinder base, preventing the whole structure from tilting forward.

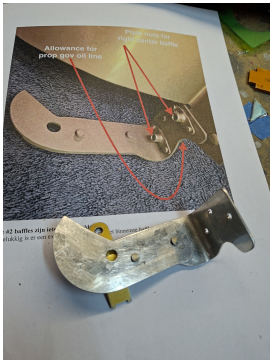


Then I rivetted both parts together with 2 AN426AD4 rivets

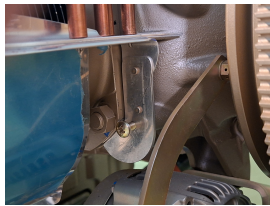
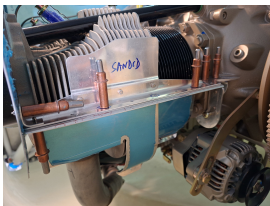
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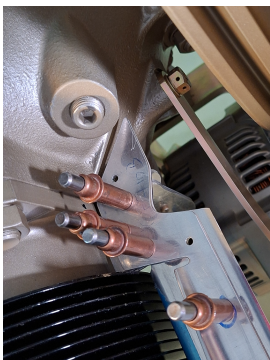
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Reinstalled it in assembly with the front baffle.



The inner corner of the front baffle also has to be re-shaped quite a bit. The inward notch is the provision for the prop governor oil line. As said, I don't have that but I'm making it anyway in case someone ever wants to convert it to a constant speed prop. The 2 cleco's in the center right will be the positions where 2 AN525-8R screws attach the front baffle to the lower baffle. That's what the nutplates will be for.



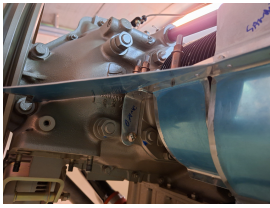
On the pilot side, this is what the Vans Baffle standard kit looks like. A single bracket attaches to the engine case.

08-12/03/26 - Making brackets and angles for plenum - 15h

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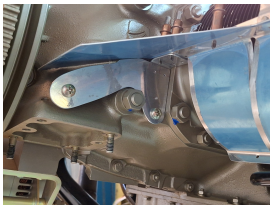
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The Bill Lane plenum installation wants you to keep that bracket and fabricate an additional bracket underneath which will make use of the forward engine attach hole as well. Again to prevent rotation. The rough shape can be seen below.



The little step up will hold an extra aluminum angle that will support the small section of intake ramp that will remain underneath the front baffle.



Rivetted both together with 3 AN426AD4 rivets



Some rivetting on the front baffle after closer trimming of the front diffuser fitting line.



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Another modification from the Vans Baffle kit. Vans has a small angle on the intersection of the lower front baffle and the side baffle to connect the corner.

As the Bill Lane plenum has an epoxy diffuser in that location, you cannot use that angle. Instead, you fabricate a larger angler that will sit on the outside of the corner.

I roughly cut the angle in the image below and placed it next to the small angle from Vans for comparison.

