

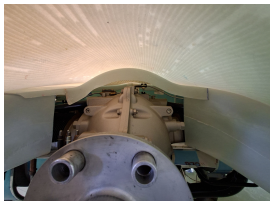
26/03/26 - Trim baffles and plenum cover - 3h

Category: 6.12 Bill Lane Plenum

Published: Thursday, 09 July 2026 11:17

Hits: 182

Some more fitting of the top cowl over the current baffle height which is clearly still way too high. There is hardly any space between the plenum top cover and the top cowling over the entire surface.

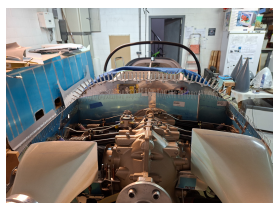


I tried out the paperclip method to find the height to cut. To start, position large paper clips on the sides of the baffles, at least half inch past the baffle top.

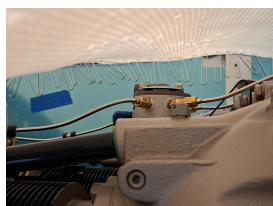
Then put the top cowling on the airplane.

The purpose of all this is to define the height of the plenum roof and drill it to the baffles on each side. To get to that point the height on top of the plenum to cowling needs to be sufficient, the diffusers need to be aligned with the inlet rings.

Once drilling is done, the plenum is locked in and there isn't much you can change later. As with everything when you drill holes in aluminum parts: think twenty times, then drill once.



The paperclips get suppressed on the baffle but indicate the height of the top cowling once it will be removed.



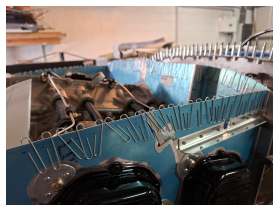
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I wasn't very surprised to see this result... the baffles are everywhere at least 0.400" too high and the paperclip tops almost touch the top of the baffles. I have a lot of trimming to do.



It feels controversial to cut away much of the material but it has to fit under the top cowl without chance of rubbing on engine movement in the engine mount.

The higher the plenum the more cooling, the more air will slow down in the upper plenum chamber which is actually what you ideally want. Air does not need to rush through the cylinder fins, it needs the time to pickup the thermal heat and carry it away. The pressure differential between upper air chamber and lower air chamber defines the speed of the air. In that sense, the traditional baffling with sealing material is the better solution. However, the sealing rubbers are often very leaky and a lot of air gets lost in all kinds of imperfect seals. The plenum chamber - if sealed well with red rtv - takes care of that problem.

The 3M deburring wheel is making overtime today...