18/01/26 - Exhaust interference with cowl - 1h

Category: 6.3 Vetterman Exhaust System
Published: Wednesday, 04 February 2026 19:00
Hits: 328

The Sam James Long Cowl is a bit too thight to fit with a Vetterman exhaust that includes mufflers.

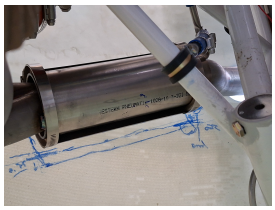
I was aware of that when I took the decisionto go with both anyway.
A fellow builder in the Netherlands (Joop St Jago) had the same issue on his RV7 (PH-YAR) but decided to go with mufflers and SJ as well and modified the SJ cowling.

He cut out a part of the bottom cowl and customized it with small extrusions that allow sufficient spacing between the exhaust and the cowl.
Noise abatement and costs related to noise pollution are a big issue everywhere in Europe.
In principle, the RV7 is aerobatic and therefor free of the obligation of having a noise certificate. However, landing taxes are often related to noise certificate rating and as aerobatic you are always classified in the most noisy class and therefor pay the highest fee.

Therefore, I also decided to go with the mufflers on my exhaust and do the same retrofit on the cowling as Joop did. I visited and saw his cowl during an NVAV gathering and it looked more than doable. Just more of that sticky stuff work.

As my cowl is fitted now, I made some very rough drawings on the bottom cowl to show the location of the mufflers in order to get a better idea of the size of the cutout and modification needed.

The image below shows the left side exhaust. The spacing here is reasonably good. Only the rear of the muffler is too close to the cowl.



A close up picture from the side shows the tiny clearance here. This was expected and is where modifications will need to be done.

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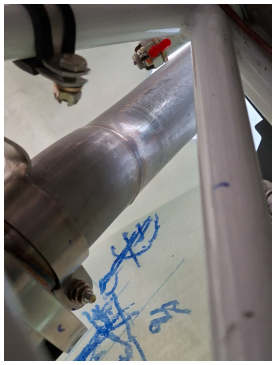
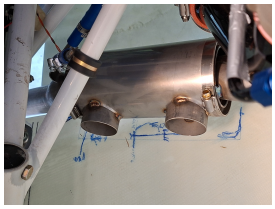
A little futher down the pipe, the exhaust has a joggle that bends it inside towards the center of the fuselage exit point. The spacing between the cowl and bend is close but would be acceptable.
I don't have slip joints and my exhaust is very rigid.



On the passenger side, the story is completely different.



As you can see in the image below, the joggle bend is very close to the cowl. The muffler has nothing to do with this, even without the muffler I would face this issue.
It seems like the angle on the exhaust is slightly different than on the other side. This image shows it from the top.

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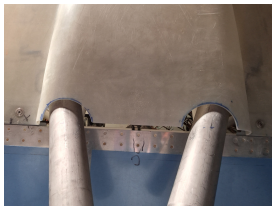
The next image shows the same area from the front towards the firewall.

I asked my technical advisor from NVAV also about the cutout for the exhaust pipes themselves at the exit point. The 2 options given were:

- cut back the rear line of the center part of the cowl to an angle of 30 degrees over the entire length.
- or just cut back the area around the pipes.

The option of just cutting back around the pipes seemed less destructive and leaves more material of the cowl for air guidance. I can still go for the option of cutting back the full length if I wanted to do that later.



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