

# The Preventive Maintenance Series

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## 1964-69 Carburetor Venturi Clusters

For a lot of Corvair owners, having a good idle is an important part of the overall impression your car can make on you and admirers. The following may help you make a minor (or major) improvement.

If you check the GM Corvair Parts Catalog or look in the CORSA Tech Guide you will find that for 1964 there is one casting number (26902) with three part numbers and for 1965-69 there is one casting number (29338) with six part numbers. **Matching casting numbers in your carburetors does not insure identical performance. The clusters could easily have been switched over the years and/or the holes modified.** Buying rebuilt carburetors from a parts store is an almost guaranteed miss-match.

If the clusters are miss-matched or if one of the various holes has been enlarged then no matter how well you balance and adjust, the overall performance will not be optimum. After checking 27 of the 1965-69 clusters and 6 of the 1964 clusters with a set of numbered drill bits up to #80, I have arrived at the following conclusions:

- ❑ "Made in China" small drill bits (61 – 80) need to be verified with a micrometer for accurate work. I measured the shanks before using that end for measurements.
- ❑ **High speed circuit:** looking down on the top of the cluster, the high speed air bleed is the smallest hole and it appears to be very close to the same for all clusters, measuring .045. There is a brass insert in the back of the cluster (at an angle) which is the siphon breaker and this also appears to be the same for all clusters, measuring .056. If yours are different or miss-matched, high speed performance may be suffering.
- ❑ **Idle circuit:** Fuel is metered up the small brass insert tube, mixed with air from the air bleed hole in the top of the cluster (larger of the two holes) and routed back down in to the base and eventually to the idle and off idle circuits. The pickup tube opening and the air bleed are the two that change with part numbers and can only be identified by measurement. You would certainly want these to match between carburetors. The '65 shop manual lists only one pickup tube size (.024) and no mention of the air bleed but here is what I found for the 1965-69 casting number (in thousands):

<u>Clusters Checked</u>	<u>Pickup Size</u>	<u>Air Bleed Size</u>
3	23	78
8	24	74
14	26	74
2	29	74

And For 1964:

4	23	74
2	23	80

- ❑ Any hole could have been drilled out by others but with so many grouped in the two middle listings for 1965, I would come to the conclusion that at least those two are original. But the most important part of this discussion is that they match from side to side. Not everyone has a selection of venturi clusters, so adjusting the holes with the appropriate drill may be necessary. With ethanol infected gas I would think the richer mixture would be best.
- ❑ When checking clusters, you should also straight edge them across the mounting surface as they can be warped. Use a small drill or wire to check all four radial discharge nozzles for dirt and bugs. When you install the cluster make sure the main well insert (aluminum tube with holes) is flush – some times they need to be tapped gently to seat them. Always use anti-seize on the two screws.

One final note, not everyone has sets of the small drill bits. I will be happy to assist anyone interested and you can purchase individual numbered bits at Ace Hardware.

Idle Air Bleed

