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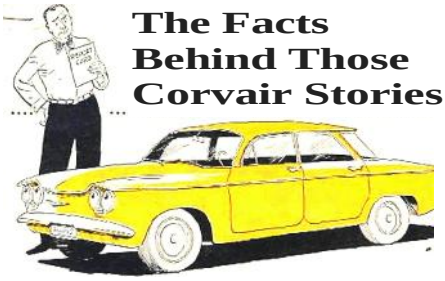


The Facts Behind Those Corvair Stories

by Ken Fermoyle PS Detroit Editor

Behind the rumors is a dramatic sequence of technical troubles and crash-program fixes. Here's the inside on what happened

Early last October the most radical Detroit car in decades went on sale. Quickly the Corvair became a magnet for public attention. Whenever one was left at the curb, curious strangers would hoist the engine-compartment lid to gaze at the unusual aluminum engine in the rear and the oddly sinuous fan belt. Everywhere early Corvair owners were bet by curiosity and questions.

But some weeks later the situation changed. Tales about the Corvair began to circulate on the great American grapevine. In gas stations and barbershops, talk ran that Corvairs were plagued by mechanical bugs. Those odd fan belts were reportedly breaking; the car stalled during warm-up and occasionally quit cold on the road; its heater gave trouble; and gas mileage was often disappointing.

Motor City security. In midwinter, POPULAR SCIENCE told me to get to the bottom of these rumors. This was not, as those who know Detroit can testify, an easy assignment. The official doctrine there, where millions of dollars can hang on public attitudes toward the product, has always been that the new model was perfect on introduction, and has been getting perfecter ever since. Aside from the fact that no one from the lowest engineer to the most awesome member of the brass enjoys admitting a mistake, there is also the credo in the industry that you don't get fired for keeping your mouth shut".

It has been possible, however, to collect some answers. As of now (early spring), the following four-point summary checks out:

1. Corvairs built before December 7, the date of resumed manufacture after the steel-strike shutdown - *did* have a considerable number of bugs.
2. Though many were minor, at least two were real headaches that didn't respond to the first fix.
3. Discounting the minor running changes that all put through on the basis of service analysis, Corvairs chief troubles have been under control since December.
4. Despite Chevy's fast action in remedying the bugs, last fall's troubles were serious enough to afford at least a partial explanation of why Falcon has been whaling the tar out of Corvair in sales.

The sinuous belt. Reports of fan belt breakage-- which, in a blower-cooled engine, hangs up the car almost on the spot, began turning up almost immediately after announcement. The belt broke on PS's test car at 2,500 miles, seven days after purchase, as reported in our January testing. Corvair people are close mouthed about how widespread the belt troubles were. But when the magazine's test car stopped in Detroit in mid-October on its way back from a transcontinental round trip, Chevy boss Ed Cole was wearily familiar with the problem. It was then thought to be a matter of incorrect tensioning.

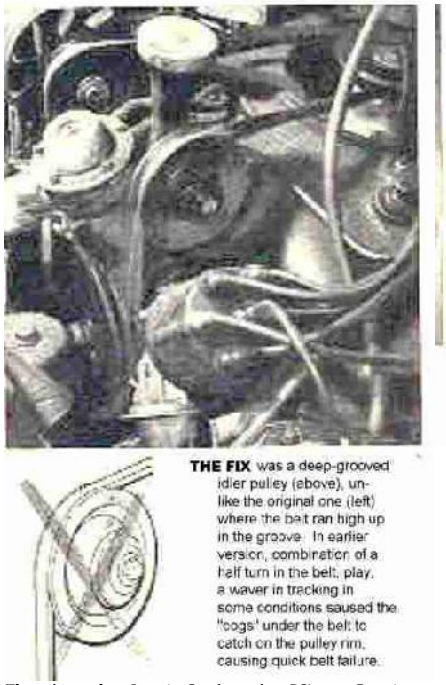
As it turned out, it wasn't. During November, a number of technical bulletins flowed out from Detroit to Corvair dealers. (Such bulletins are, in themselves, nothing new, they're s.o.p. after the introduction of a new model) One bulletin detailed the tension theory and elaborated on how to set the belt just right. It also advised very careful measurement of belt length; they'd found that if a belt was slightly short, though within previous limits, the adjustable idler would be in a position where the belt might rub destructively on a stud.

Then on November 23 an important bulletin went out to all Corvair shops. It announced that a new deep-groove idler pulley, a belt inches longer than before, and a bolt to replace the stud, had been put on the production line about November 3. The bulletin ordered dealers to install new pulleys and belts on all earlier Corvairs that came into the shop.

FRAYED BELTS on the Corvair's unconventional blower drive were the first headache. Typically, the belt didn't break but frazzled (as above) and then jumped off the idler pulley

The background. Working in a crash program in October, engineers made strobe studies of the way the belt tracked on the production cars. First they found that inadequate tension was fatal, but that high tension cut belt life. Then they discovered that under certain conditions enough slack or waver could appear on the belt as it approached the idler. It made bad trouble. The "cogs" serrations on the underside of the belt could catch on the pulley flange. This brought rapid fraying, and could lead to destructive side-running, or to jumping off the pulley.

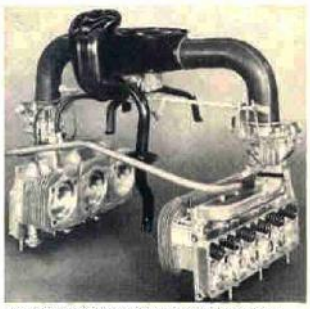
the new pulley evidently took care of the problem. It is noteworthy, however, that more recently Corvair has gone from a cogged to a plain belt. The change is officially for increased belt life, though it must also help keep an improperly slack belt tracking right.



THE FIX was a deep-grooved idler pulley (above), unlike the original one (left) where the belt ran high up in the groove. In earlier version, combination of a half turn in the belt, play, a waver in tracking in some conditions caused the "cogs" under the belt to catch on the pulley rim, causing quick belt failure.

Those icy carbs. Late in October, when PS's test Corvair was racking up miles in New England and Canada, it suffered intermittent engine troubles (see January PS, page 211) The problem was perplexing because it was self-healing. It was finally identified as carburetor ice, forming at brisk speeds in cool, humid weather. Trouble range was 32 to 42 degrees, with humidity around 75 percent. Ice formed in the venturis of the carburetors, building up around the cruciform jets in the throats and choking the engine. (What made it self-healing was that, with the engine stopped, enough heat would rise through the carbs to loosen the rime ice)

A phone call in late October from this magazine to Detroit confirmed that Corvair engineers knew all about it "With aluminum instead of iron", an engineer confided, "we're not getting the manifold-heat characteristics that we're used to. We're going to put through a fix on it - bleed a little warm air from under the shroud to kick up inlet temperatures about 10 degrees."



NEW INDUCTION SYSTEM has a different air scoop with warm-air pipe from under shroud. Earlier, plastic spacers under carbs are shown here.

SUMMER/WINTER valve on hot air pipe prevents power loss in summer. Chevy says cost of these modifications, even on cars past warranty coverage. These are the carb tie, the new belt pulley, and the new one-choke parking brake.

This fix -- a new air sweep with a summer-winter valve and warm-air feeders -- was put on all Corvairs built after December 7. Fix kits for existing cars started out to dealers on December 16 and the bulletin on it went out December 28. One reason for the delay was the distracting discovery that the icing problem was actually two-pronged. Aside from the rime ice at the venturis, ice sometimes was also formed on the throttles. Typically this ice appeared during engine warm-up on a cold morning; symptoms included persistent stalling even on fast idle, and high gas consumption from the choking effect.