

The Preventive Maintenance Series

Mike Dawson

Corvair mechanical issues can be induced by their caretakers. The following article is a good example; I caused a problem during what should have been routine work and then had to spend an inordinate amount of time diagnosing the problem. I will give the history of the work, list the symptoms, and will award a NOS GM set of points, condenser, and cap to the first person who contacts me with the correct diagnosis.

I removed an FC engine and transaxle to replace a torque converter which had bad teeth. With the drive train out of the vehicle, I separated the engine from the transaxle and replaced the torque converter, converter hub seal and due to the age of the starter and bad engagement with the ring gear, I installed one of my rebuilt starters. The flex plate was the correct match with the crankshaft, it had no cracks and I carefully tightened the correct bolts to the specified torque. With the drive train still on the floor, I checked both U-joints, stub axles, yokes and wheel bearings. All were in perfect condition and did not contribute to the ultimate problem.

I replaced the drive train and upon my attempt at start up, the starter solenoid did not pull in. I checked voltage drop and although it was normal for a Corvair, a jumper from the battery to the starter solenoid cranked the engine. I removed the rebuilt starter and found the problem was a new Chinese built solenoid which was lighter (less winding) and had been packaged with a lighter and shorter spring. When I rebuilt the starter I had used the original Delco spring which was heavier and it could not be compressed by the Chinese solenoid with a minimal voltage drop through the Corvair starter wiring circuit. During this discovery process I had three starters off the shelf partially disassembled and lined up for checking. After I diagnosed the solenoid/spring issue, I quickly assembled a starter and bolted it to the engine. The key cranked the engine normally and I completed the project.

The problem: During an initial test drive I heard what I thought was a strange form of detonation. A check of dwell, timing, breaker plate etc. did not show any thing out of specification. A second test drive with the window down produced a definite ping, ping, ping, on acceleration in low gear which was not present before the converter replacement project was started. The following was observed during diagnosis:

- The pinging only occurred in low gear when the vehicle first accelerated. A very slow acceleration did not produce the ping. The noise never occurred in high gear.
- I could not cause the noise to occur when holding the engine at stall speed with the brake on.
- I could not cause the noise to occur with the rear wheels off the ground while accelerating the engine, either loaded or in neutral.
- The ping sounded like only one cylinder might make, not a rattle or jingling; a clear and distinct ping, ping, ping.
- I checked and ruled out U-joints, wheel bearings, axle yokes, lug nuts, hubcaps, flex plate, differential and transmission.
- I removed the covers over the transaxle and engine and used a stethoscope while my assistant drove the vehicle. At this point the noise appeared to be coming from the left side of the differential in the starter area. The starter cranked perfectly and was bolted solidly to the transaxle.
- Some Corvair shop manuals use a full sized Chevy starter instead of a Corvair for illustration which shows an assist spring installed behind the starter drive assembly (and the wrong nose). I do not use those springs in my rebuilt starters; those can cause the drive gear to hit the ring gear and make a similar noise to the one I was trying to find.

What caused the noise??? 816 322-4057 or mdawson1961@sbcglobal.net