THE PREVENTIVE MAINTENANCE SERIES

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Motor Oil Leaks At The Clutch/Converter Housing Area

There are three different fluids that can leak from the clutch/converter housing: gear lube from a manual transaxle, ATF from a Powerglide and motor oil from any Corvair.

This article attempts to address the motor oil issue.

- Over the years the original paper gasket between the clutch or converter housing and the engine disintegrates and the bolts holding the housing to the engine loose their torque. Oil will then leak constantly since the bottom of the gasket is below the level of the oil in the pan. The crankshaft seal, however, will only leak while driving.
- Inspect the aluminum housing after removal. Any collision damage to a vehicle can easily crack the Powerglide housing with its many cooling holes, and even the manual housing should be checked.
- Avoid using an original GM crankshaft seal as the NOS versions sold after Corvair production stopped were apparently outsourced to some new company that did not manufacture them correctly; most leaked.
- The two popular types of seals currently being sold are the Polyacrylate or Nitril (both black) and the Viton (brown). I have removed Viton seals that have had the secondary lip crumbled and stuck to the crankshaft hub, apparently from heat and lack of lubrication. The Viton primary lip does not allow any leakage so you must pack the area between the lips with grease I prefer packing any double lip seal with grease. I have had no problems with the Polyacrylate seals that are currently sold by Clark's.
- Never use the crankshaft seal design that has a metal to metal press fit in the housing; when the aluminum housing gets hot and expands, the steel seal will fall out.
- Use of a liquid sealer in the press fit area also acts as a lubricant. I have seen a seal slowly move back out a significant amount after an hour if it is pressed in dry.
- If you use a hammer for installation rather than a press, make sure the seal frame is not bent or distorted.
- Always check to see that the primary seal lip spring has remained in place after the seal is installed in the housing.
- The sealing area of the crankshaft hub must be polished and free of deep groves. If you have a serious groove, do not press the seal all the way in to the housing by .010 (a thicker spacer is also available) which will move the lip location on the hub. You can also change from late to early or early to late housing to change the seal lip location on the hub (see PMS 28 on the HACOA.org website). Be sure the chamfered area of the hub that the lips move over is also free of any defects. As mentioned above, pack the area between the two lips with grease.
- Be sure the two gasket surfaces are clean and free of damage, use a quality gasket with sealer, use sealer on the bolts, and torque to specifications with no washers on the bottom 4 bolts.

- After the housing is installed on the engine, carefully inspect the visible seal-to-hub contact area to make sure the outer lip is not doubled back in any spots.
- Although I have not experienced it, I have heard references to oil leaking down the keyway in the crankshaft. You might consider careful cleaning and application of a small amount of epoxy or sealer at the keyway area.
- Use sealer on the flex plate/flywheel bolts and use the proper torque.

Crankshaft Seal Installation Tool

Pictured is an inexpensive tool for pressing in the seal. Constructed from PCV fittings purchased at the hardware store, you need the following: 3" x 2" reducer, 2" cap and a short piece of 2" pipe. The two fittings cost less than \$5 plus a short piece of pipe for assembly. You can use this tool in a press or use it carefully with a hammer, just be sure not to cock the seal if using a hammer.

