The Preventive Maintenance Series

Mike Dawson

Sealing Oil Pans, Powerglide Transmission Pans, and Valve Covers

The following are my experiences with sealing some of the problem areas when replacing gaskets. You may have good luck with other methods, and if so please share.

Engine Oil Pans: There were two different pans, two different gaskets and two different bolts used (early & late), with changes made as the models progressed. Both pans can be sealed effectively if you are careful and patient with the process. You have a choice of gaskets and sealing material but that choice is dependent on the condition of your pan. And of course oil is sitting on the gasket line at all times. Cast aluminum pans which work very well also are available from vendors.

If you have a straight pan with no significant damage, you can use a socket and flat head hammer to flatten any bolt holes and then straightedge the pan to get it as close as possible to being flat. If the pan can be straightened, I use the hard paper gasket and ¾" bolts with flat and lock washers in lieu of either of the original bolt designs. My preference for sealer is to use the RTV made by Permatex and **follow the directions on the tube.** Apply a uniform slightly thick amount on the pan side of the gasket and a thinner uniform amount on the crankcase side of the gasket. Don't use such an excessive amount of sealer that it squeezes out into the pan and winds up in the oil pickup. Tighten the bolts finger tight and wait one full hour for initial cure then tighten to 8 ft lbs. Wait 24 hours for a full cure before adding oil. This method will eliminate re-tightening and is a permanent fix.

If you choose to use either a rubber or composite type gasket due to the condition of your pan then use the same preparation and sealing approach as above but the final torque should only be only enough to cause a very minimal bulge of the gasket at the bolt. And you will surely need to re-tighten (or at least check) a couple of times a year.

Powerglide Transmission Pans: Although the fluid level in the pan is below the gasket line when the car is driven regularly, it will rise above the gasket when sitting for a period of time due to the converter leaking down. This is normal.

Recondition your pan as described in the oil pan instructions above and again you have a choice of gasket materials depending on the pan (cast aluminum pans are also available). The original bolt/washer design seems to work fine or you can use replacements and even add a square reinforcement washer that is being sold by some vendors. Use of the RTV mentioned above has worked fine for me **if the instructions are followed**. Again, when tightening against a composite or rubber gasket, watch the gasket next to the bolts and stop when a slight bulge is apparent. Follow up checking of the bolts is necessary as miles accumulate. If you use one of the hard gaskets then 8-10 ft lbs will be adequate and the bolts should maintain their torque.

Valve Covers: There are three part numbers listed for valve covers; early style with 4 bolt holes, early style with 6 bolt holes and late style with 4 bolt holes. The best combination for any engine is using the late style with the wide flange accepting the four reinforcements. Straightedge the head area because they can be warped, make sure the valve cover is not bent, use all four reinforcement strips, use a rubber gasket with no sealer, and tighten the bolts until the reinforcements bend in and just flatten against the cover. This method will not require additional follow up tightening.