

The Preventive Maintenance Series

Mike Dawson

Noland's Cylinder Head Service

In September Sandy and I drove our '65 Monza Sedan out to Breckenridge Colorado for a family gathering. The round trip was 1500 miles and other than driving like a '60 at 11,100 feet there was never a single misfire. However, I did some thinking as we approached the Eisenhower Tunnel. It seemed like we spent half an hour on the up-grade and my Stewart-Warner temperature gauge slowly but surely approached 400 while it took half the accelerator pedal to maintain the minimum speed. After exiting the tunnel we were suddenly on a steep downgrade and the temperature gauge dropped to 200 almost instantly. All that cold clear mountain air rushing across those hot intake seats made me very thankful I had paid a visit to Noland's Cylinder Head Service back in 2003 when I had the heads off.

As I understand it, the original Corvair steel valve seats were heat shrunk into the aluminum heads with a .006 interference fit. Countless cycles of temperature change with valves hammering on the seats along with the occasional detonation from over-advanced timing or low grade fuel can make the seats lose their fit and come out. Sometimes the seats will just go back in (but leaking), sometimes the seats cock and hold the valve open all the time which puts crescent shaped dents in the piston top, and sometimes the seats shatter like safety glass and get sucked back into the intake and in to the two adjacent cylinders, ruining the pistons. The most common time for a valve seat loss is a startup a few minutes after a hot shut down as cold air crosses the intake seat which has just been heat soaked. The most vulnerable engines in order are: any overheated engine, turbo, 140, AIR and engines with air conditioning. Early model non turbo engines are less likely to have the problem than late models (unless they overheat) because of lower everyday operating temperatures.

As old as our engines are, their history is usually a guess, so avoid a preventable disaster and have Noland's do their version of a valve job if that has never been done. Along with hot tanking the bare head, the seats are either replaced or peened to tighten them, guides are replaced, valves ground to match seats, springs checked or replaced, installed height checked, and threaded holes in the head are checked and repaired if necessary. They also weld if necessary, do fly-cutting, and can extract broken off spark plugs. Charlie Clark has been taking heads to Noland's his entire racing career and I have seen them repair what I thought were terminally damaged heads.

Ed Noland opened up Noland's Cylinder Head Service across the street from the current location in 1946 after he returned from WWII. In 1970 Tom Noland began work at the shop after he returned from service in Vietnam and has been giving new life to old Corvair heads to this day. There are currently three Nolan's at the shop: Tom, Brad (Tom's son), and Mike (Tom's brother).

The business is located at 1519 Charlotte St, Kansas City, Missouri 64108
816 471-5167. Nearby are some recent pictures I took when picking up a set of heads.



Tom Noland



Brad Noland



Mike Noland



Ultra Sonic Cleaner in the Background



Noland's Shop