A Targa History

Where to begin... ? It was owned by someone in CT, and bought by a dealer in OH from whom I bought it in 1981. Unknown to me at the time was that there was damage in the differential carrier; the center dowel holding the spider gears had the pre-SC design, which held the gears and shaft in place by means of a roll-pin holding a block between the gears in the unsupported center of the carrier.

As luck would have it, the first evidence of a problem was a mis-reading speedometer, subsequently discovered to be caused by a magnet being knocked loose from the disk which passes the reed switch in the case. On disassembly, a month after I'd bought the car and three weeks before I was scheduled for my first driver ed, I ordered a used unit. When it arrived, it was different and would not simply interchange, so I "re-engineered" the original carrier by drilling a cross hole and mounting the SC style dowel in the original carrier. That was 180,000 miles ago, so I think it is pretty robust. Just not "original". I've never been accused of being a Porsche purist.

And that is just a single one, of dozens, of examples of my deviating from the "spec" way of doing things. Call it "Press-On-Regardless", and Porsche has a long history of doing such things, starting with the bedframe welded to 356-001. Not such strangeness as it might first appear.

The engine is, was, and will be a normal stock 2.7 liter motor. The diaphragm spring on the clutch let go one day, and threw one of the fingers into the starter, but a little epoxy and that was cured. Long before the "toilet valve" pop-off protector for the airbox was available, I made a flap valve to do the same job. But the hinge on the new design is far better for reliable re-seating. The airbox itself had already been damaged, so I used some toggle mollies and silicone sealer to clamp that all together. At 110,000 miles, the dreaded pulled-stud occurred. So I tore the engine down only enough to remove the cylinders, and worked from beneath it to drill & tap by hand and insert timeserts and dilavar studs. They are not perfectly square, but close enough so I was able to re-assemble the engine. But I made a major boo-boo in neglecting to set and loctite them to the proper standoff, so I have had to use some washers to prevent the studs from pushing the allen key out of the socket nuts. While it's apart, those should be set correctly, but I believe the timeserts are usable as-is. Split chains were replaced at the same time, while chain boxes have each been changed once as a result of dowel loosening causing oil leaks on the cylinder side.

At the time of the stud repair, the cylinders were checked. There was a small scoring at the top of each, but it was well above the second compression ring, so I did nothing except re-assemble it. Cylinder wear seemed to be nil, which I would expect of the alusil I think they are. There were, if I remember correctly, two fractured compression rings in the #1 cylinder, so I substituted the lower ring from Cyl #4 into the upper position in #1 piston so I would maintain dynamic balance (don't ask...). All the plugs except #6 were changed to the large nipple type instead of the fine metric thread originally used, because the originals chewed up the ignition wires so they slipped off the plugs under cornering. These are MUCH better. But #6 did not want to come out, and I didn't want to have to pull the engine nor break the plug, so I just left it. That's why the wire is strapped down.

Hoses and stuff are pretty obviously just to ease maintainability, as removal & re-insert on the tank fittings can be a bear. Thermal reactors and 5 blade fan were replaced by 45K miles, and the Carrera tensioners and rockers were changed when the stud pulled as well ('87). Distributor was changed last year when the shaft was discovered to have .090 runout. And you know already about the left chain cover replacement having no hole for the thermal switch, and mattering little because I already put in the "choke" lever to clear vapor lock in the CIS. Works like a charm. Ignition wires replaced fracturing insulators for the most part, and work just fine.

When I did the studs, I sent out the heads to the dealer for complete valve work, and they have seemed to be fine since. I am certain they are already silicon bronze guides. When I put the engine back together, I noted the pulled cross stud, but did not ever separate the halves, so did no repairs to it. Similarly, I have discovered a bunch of the short studs which are pulling from the case, so cannot be properly tightened to prevent leaks, especially on the fan end.

The clutch had a throwout bearing sieze three years ago (about 20K miles) and was replaced completely, so should be fine. The AC pump bracket is obviously not stock - I got fed up with tearing up belts every 1000 miles, so re-engineered that to be strictly an internal wrap - which has lasted more than 100K miles on that original belt, and drives a Sankyo. I suspect the spare belt I've kept up front ever since would fail if I put it on. Lower valve covers are the new style, and are about 8 years old. They stopped much of the earlier oil leaks, though the case studs are almost the sole source of oil leaks now. I did have a wierd problem about six years ago - the cross bolts with the cap nuts which form the oiling channels were loosening. I tightened all as best possible without disassembly from the car, and put a dollop of epoxy clay on each hex head and capnut to prevent their rotation under vibration by wedging to a stud.

Exhaust studs broke on original reactor removal, so were drilled out, etc., and replaced with what you see. Not perfect, but it works. I would ideally like those to be timeserted but use bolts with never-sieze instead of studs. And pipe plugs work fine to replace the thermal reactor air-pump, which is not required in New York. Nor is the rest of the EGR plumbing, which was also removed for simplicity. The split oil return tubes have been problem-free since the re-studding. Not so the oil cooler; this is the third replacement. The car itself has an aftermarket 9 pass finned cooler up in the fender. Heater boxes have been exhaust tight, but not oil-tight, so they carry smell to the car. If you can, please clean them so they are usable again.

The engine has run fine, albeit down on power for the past few seasons, and the oil pressure was rarely breaking 40 cold, whereas new it would go to almost 100. Of course hot all 911's show little pressure at idle, but when the engine started rattling the pressure dropped to half the recent nominals, suggesting we have a clear bearing failure. It still will start and drive, but I don't want to do any unnecessary damage. It left the track with the rattle under its own steam, and no blue smoke.

I don't see much need for shuffle-pinning, as I intend only a normal engine, with no more than a 9.5:1 compression so it can run on regular 87 unleaded. Done right, the engine should be good for another 200K. We joked regularly that the oil circuit for this was the can to the tank to the pump to the cams & crank to the returns to the sump to the ground, so we never had to change it. But it spent most of its life since the stud work drinking Castrol synthetic 5W-50. It has regular 10W-40 in it now because I wondered if it had starved for oil. I don't think so, though it took six quarts to fill it. We never got the oil pressure light, though I verified it works fine. I think it was just its time. So let's fix it back up right and then my daughter can learn what it has been teaching me for years; how to drive rapidly and competently.

Respectfully,

Joe Holzer **Idea Man** Project, Product, Machine, Quality & Systems
7751 Treadmill Cir Management & Consulting
Liverpool NY 13090 **Email Contact is Best: im@holzerent.com**
315-622-9241 Voice or Fax **www.holzerent.com**