

Gauge Refurbishing

March 30, 2014

This project started due to the lack of light in the gauges at night as well as the white dust that begins to appear on the gauge faces and glass when the paint inside begins to flake off.

Even though all of my gauges worked perfectly well mechanically, I spent about six months collecting spare gauges so that I would have any extra parts that I might need should I break something or find that one of my gauges was having hidden issues.

In the end, I was glad I did, as my gauges all gave me fits removing the bezels from the cases, whereas the used gauges opened easily.

Also, this is not about calibration or gauge repairing, simply cleaning and painting the housings to reflect the light better.

So following this along will show you what I did, along with my [Rheostat Rebuilding](#) and this was the end result at night.



**** Viewers are warned that if they attempt any mechanical repairs or

modifications,
or follow procedures referred to here, they do so at their own risk, and no liability
will attach to me.****

These were the starting used gauges that I learned the disassembly procedure on. All in
all
they were in pretty good shape, with the exception of yellow needles and dust inside.

Gauge Refurbishing



This is what they look like from the rear. Somehow I ended up with two speedometers,
which worked out well, because a BCF buddy in California needed some internal parts
for his.



Pay attention to the parts and the order of disassembly and then reassembly.
Note the two fragile cork gaskets that seal the case and keep light from escaping?



Starting from the top, this is the order of the parts as they fit onto the back of each small gauge.

Remember that I said the cork gaskets were fragile? Notice there is only one here? They are also very light, and can disappear easily.



This is the temperature gauge completely disassembled. The hard part is getting the back of the gauges away from the front back plates without bending the needles.



The housing is the same for the temperature, voltage and fuel gauges.

The oil pressure gauge is different and you'll see why soon. Note the dirt and dull paint. That burned green light filter doesn't make the 2 watt bulbs reflect light any brighter either.



The case is now empty and ready for bead blasting.



To keep everything together for the individual gauges, zip locks come in handy.



The voltage gauge has a bit of rust around the edge where it fits to the bezel.



The spare voltage gauge came apart rather easily. Too bad mine didn't.



Again, same parts, different faces, but you don't want to mix up the actual gauge mechanisms.



These cork seals are here again and are a pain, but you need them.



Now comes the tough guy, the oil pressure gauge.

There is a small leather washer that fits on the back of that fitting between the oil line from the block and the nipple.



The oil gauge uses this green plastic band to deflect the light, rather than a bulb cover like the other three.



This is what the pressure tube looks like inside the oil pressure gauge.
This one couldn't have been very bright with all of that rust and dull paint in there.



These are all of the pieces that fit inside the case.

There is an offset on the oil gauge fitting where it fits in the case that allows the retainer nut to be tightened.



The sealer or crap down inside the bezel must be cleaned before reassembly with the new seals.



I soaked them overnight in Invisible Glass spray window cleaner and let them sit. The next morning everything lifted out and the black paint on the dash side of the bezel was good as new.



These are the new seals that I got from Nisonger for between the gauge case and the bezel.

Nice fit and much better than the original glue and rubber o-ring type seals.



Now it's time to tackle the two big guys.



The rear of the gauge, which most owners never see or care about.



Gently pry away the retainer tabs on the bezel, as with the small gauges and give it a twist, like opening a jar. Because of their size, these seem to come apart easier than the small gauges.



The two screws come out and allow the gauge to drop out of the case.

Don't loose the spacer washers! And don't try to pry off the rubber seal. It's part of the front side.

Yeah, I know it's another tach case by the number, but did you?



Keep these together for each gauge so that you're not looking for them later.



These rubber seals are a molded part of the front insulator. Gently work the edges

of each outer seal lip down into the hole it borders and it will come out in the front.



This is what the front side looks like and it is fragile after being in there for 34 or more years.

I used some vinyl renew on each of these to soften them up and bring them back to life.



I used some Tanner's Leather/Vinyl renew on each of these to soften them up and bring them back to life.



So here is Mr. Tachometer, fully exposed and sitting on the front bezel.

Note the dried and flaking paint specs inside? Some low pressure clean air from a can will dispel this material.



These cork seals are here again and are a pain, but you need them.

It's time to get the speedometer apart. Just in case you ever thought of blowing a little
air
inside the case to clean the white dust from your gauge face or glass, don't do it. This is
what happens.



Don't even think about messing with the odometer cable yet. Plenty of time for that later.



I thought that the Voltage Stabilizer was throwing up, but was later told this was a sealer.

Yeah, right. The new Moss solid state unit will replace this and it will go to the spares bin.



So now that the bezel and lens is off, what am I going to do with this mess?

I used some of the "good" non toxic air in a can with NO CHEMICALS that could screw up the faces.



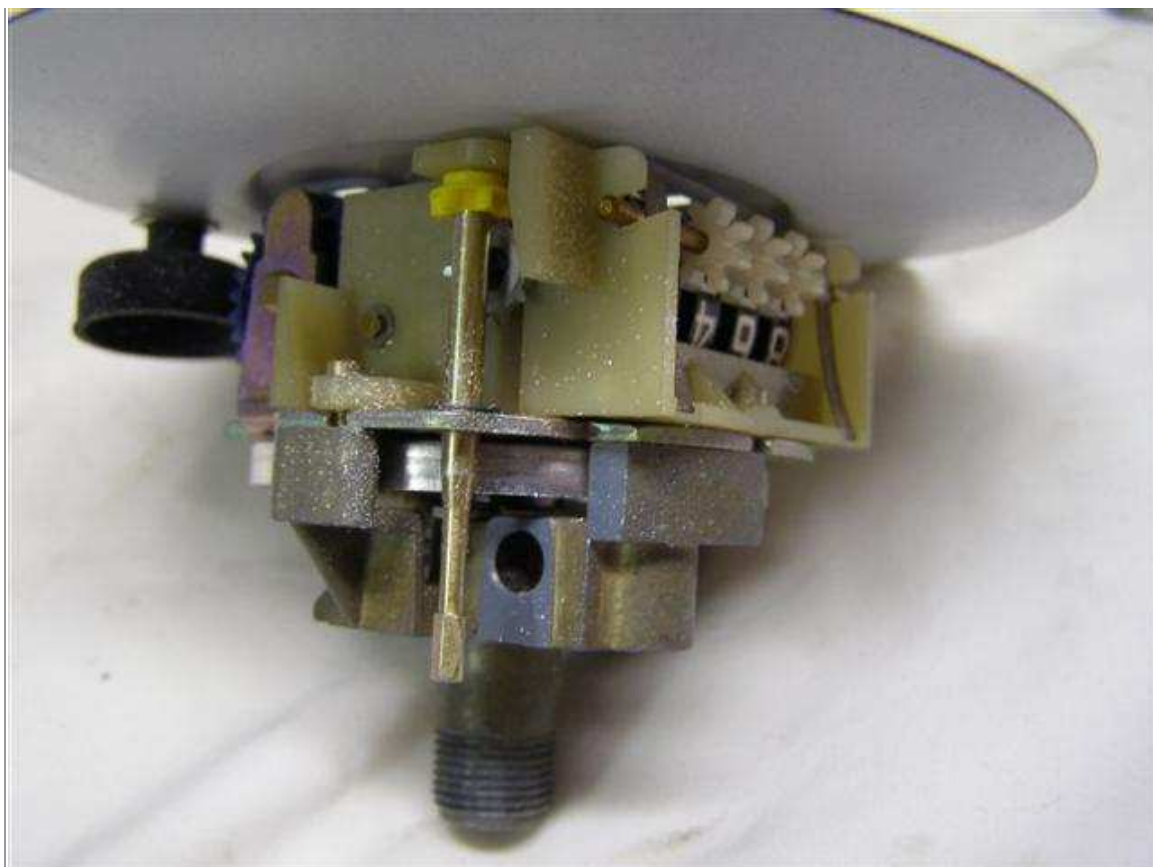
This is how the Odometer Reset Cable is removed. Yes, it's a pain, but Smith did this not Lucas.



Just push in on each of those tabs and the cable slides out. Pushing the cable back in will lock it in place.



It's important to get all of the junk out of here, but do not disturb or get it into the lubricant on the gears.

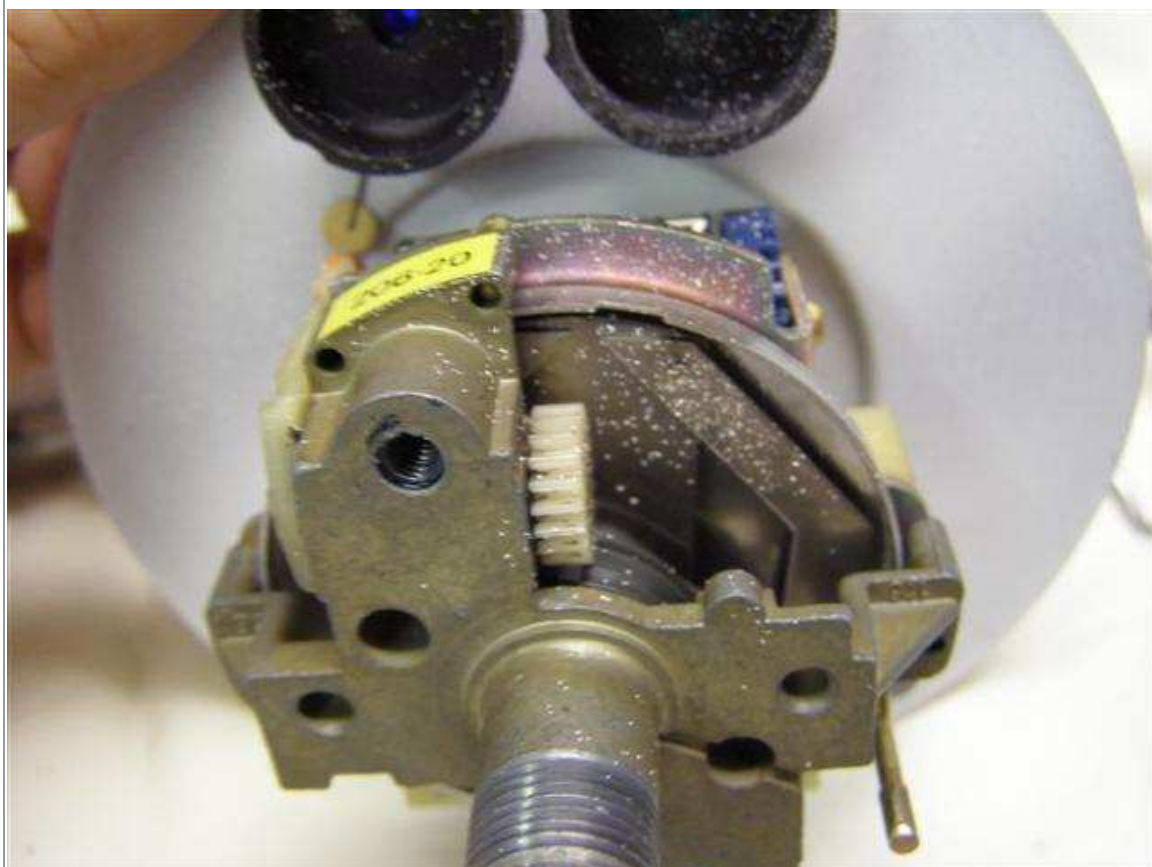


I used the air nozzle to blow away from the gauge inner workings.



Static cling allows this stuff to stick everywhere, including the glass and gauge face.

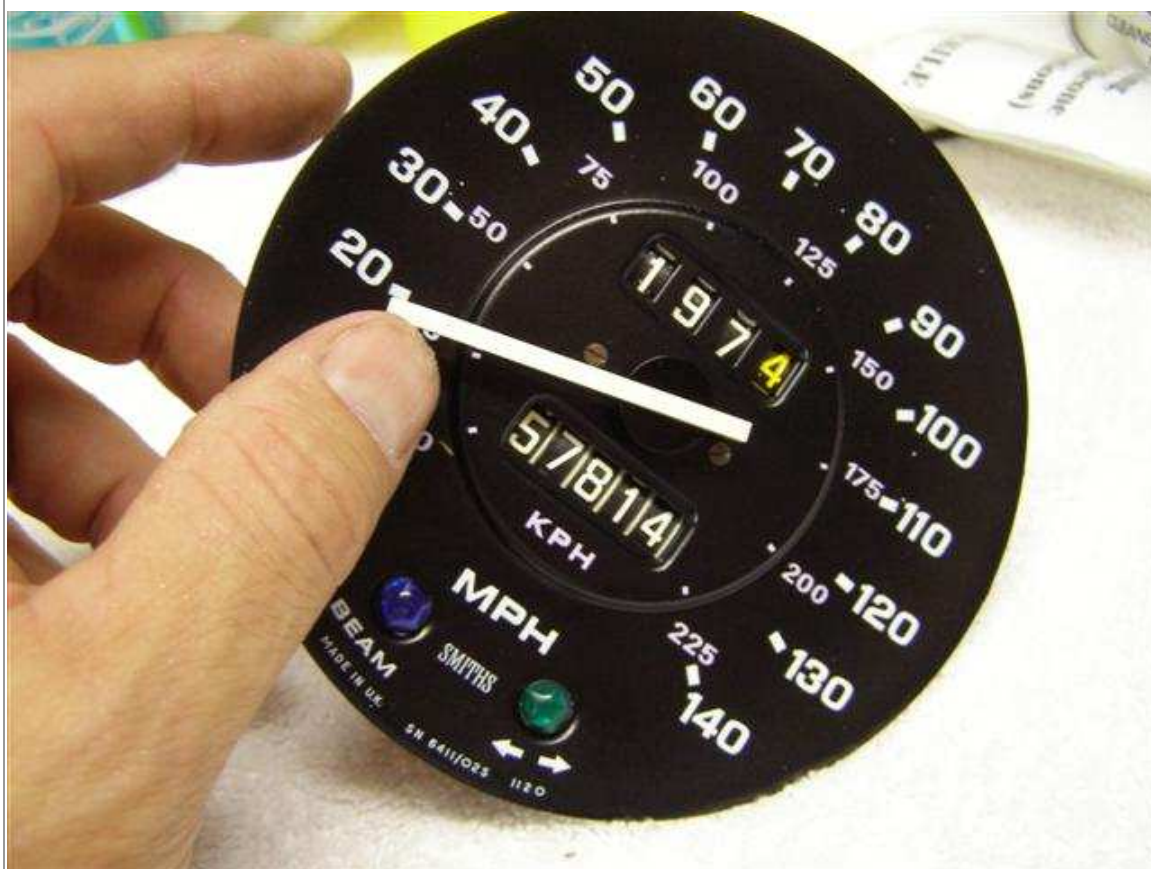
We have a cure for that coming up in a few frames.



I also used a horsehair detail brush to get it out of the nooks and crannies.



That looks much better, but with what products for the cleaning?



I cleaned each gauge face by applying the Pledge Electronics to a soft cotton cloth and lightly wiping the face.

After a few minutes, I applied the Pledge Anti-Dust Formula to another clean cloth and repeated the process.



The gasket between the gauge housing and bezel is made of thin paper.
Don't lose or break it. I don't have a source to recommend for them.



So here are all of the cases, prior to my buddy Tom's expert bead blasting.



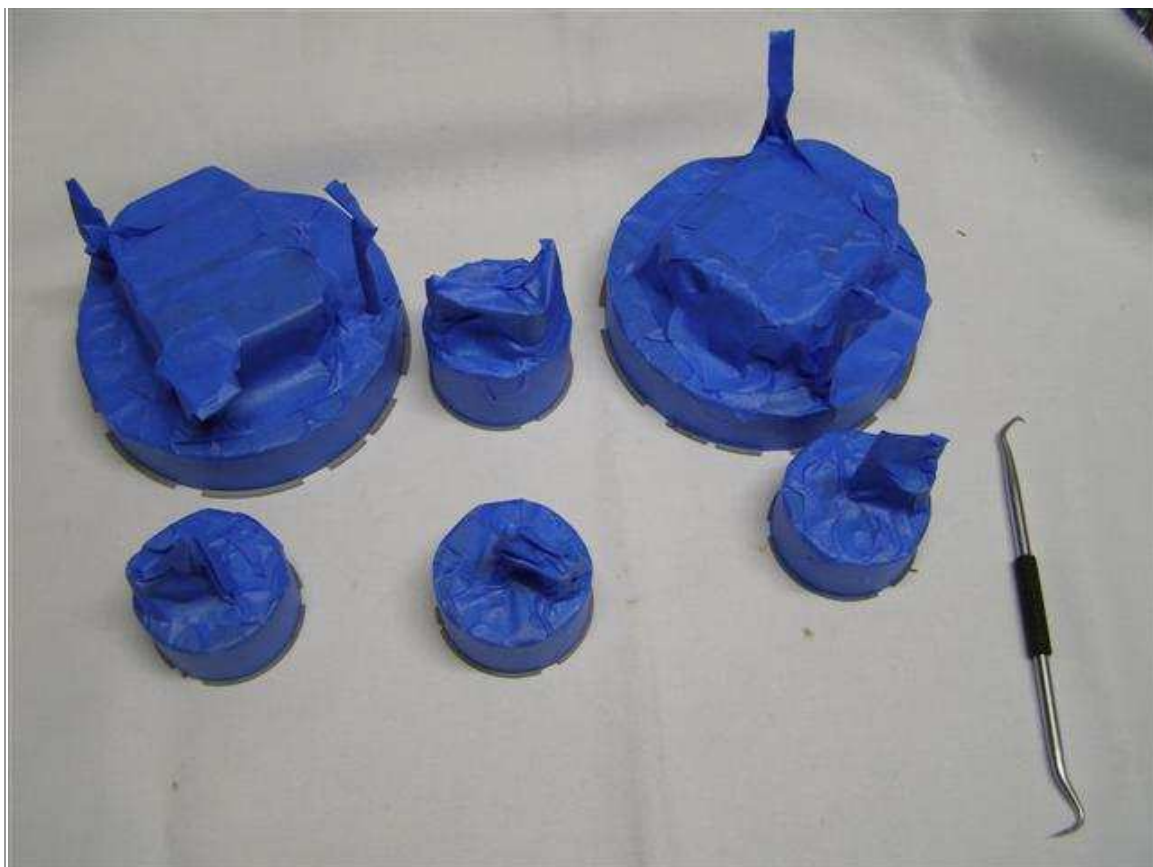
And the after bead blasting look of the backs.



Now the old flaky paint is gone from inside and after a washing, they are ready for primer.



I masked the backs completely as I wanted to use a one step Rustoleum Clear Coat on that area.



Tom was nice enough to mask the green light filters when he blasted them, but I decided to eliminate them completely.



Two light coats of primer and then two even coats of Satin finish top coat.



These bad boys will reflect light now. And no more dust on the glass or gauge faces



It's not that important to get it all the way down in the tubes. Actually it could be bad for the bulb socket grounds on that surface.



After a few days of drying, I masked the inside hole openings of each gauge and covered the front.



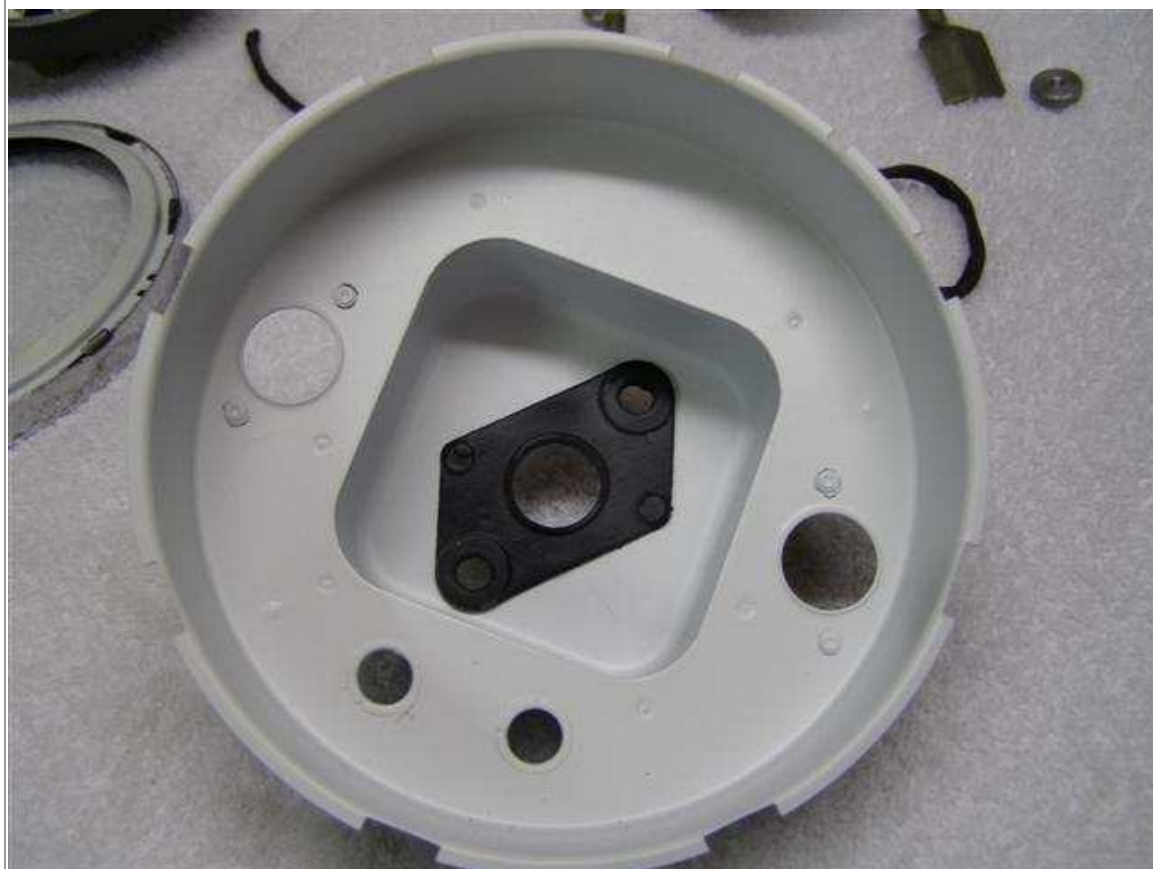
Two coats of Rustoleum One Step Clear sealed these up nicely.



All set and ready for assembly.



The rubber insulators are the first to go back in the big units. Tanner's Leather/Vinyl dressing gets them soft and pliable again.



The gauge faces are cleaned and shined up with the two Pledge products.



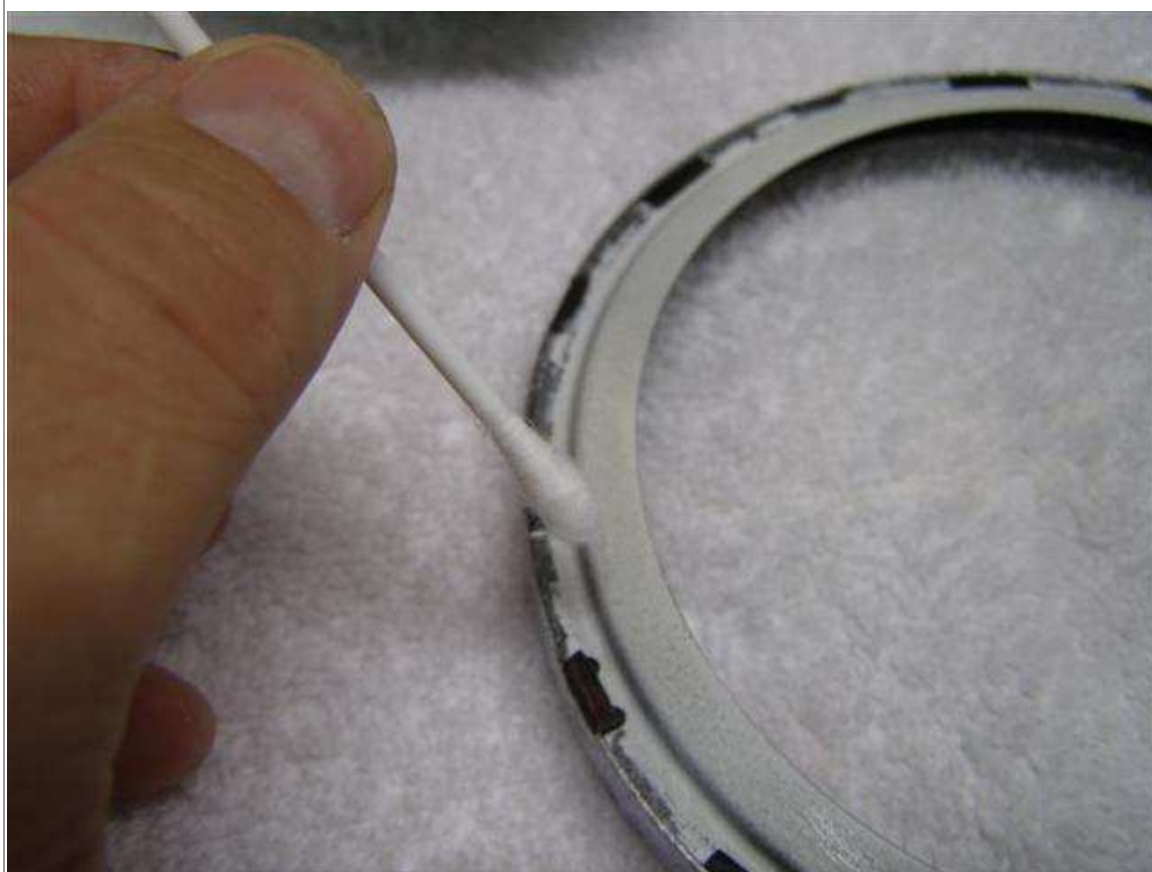
That looks much better sitting in the newly painted housing.



For ease of assembly, some Vaseline on a Q-tip around the edge of the housing



and on the bezel mating surface will make these go together a lot smoother.



All set and ready to go in with the new dash mounting gasket (o-ring) in place.



I did use a good glass cleaner on each glass and assembled them with white cotton gloves on so no finger prints would get on the inside of the glass.



The reverse procedure again for the speedometer as well as the odometer trip cable installation.



The voltage stabilizer mounts on the edge of the bracket. Just not this one.

The new o-ring for between the gauge and the dash is also installed.



The white paint inside the bulb holders help the turns signal and high beam glow brighter.



That's about it for these guys.



A little caution putting these back together. Note the cork gasket isn't in place and

in the picture below the needle won't bottom out.



Once the gauge is loosened on the back and moved slightly, it drops in place and the needle hits bottom.



You can see the cork is now flush to the housing. The o-ring for these is more square than the large gauges.



That's the way the gauges should look when properly in the cases.



This is the offset on the oil pressure gauge that must held in the housing to tighten the nut.



All set and ready to go.



And don't forget the leather washer on the oil line fitting coming from the engine.



The final views of all gauges ready for the new dash, but that's another page.





And the final results.....



They were never this bright, even when new.



Next stop, Her Majesty's Service for a new dash and these gauges installed.

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