

RTV as a gasket replacement.

Gaskets on engines barely retain the fluids as designed, so many manufacturers have replaced many gaskets with a “chemical seal”, aka, RTV.

The RTV comes in all sorts of grades, colours, etc etc. Many of which will be dependant on where you live.

I have used it on the XK 6cyl engines, and the V12 engine, and a few floaters along the way.

The cam gaskets on the XK are notorious for leaking, so I simply went without.

The “D” seals at the rear were retained with a good coating of RTV on them.

OK, the fear factor kicked in, but the annoyance at constant oil leaks with supposedly “new and improved” gaskets that simply did nothing more than the old junk.

The basics of the method:

CLEAN is the key here, and I mean CLEAN. I use Carby Cleaner Solvent in p/pack cans for this, as it air dries with NO residue.

You WILL need guide studs, simple bolts with the heads cut off and a slot cut in the end so a blade screwdriver can remove them. Then the item in question can be slid along these studs until contact is made with the bead of RTV, and then a GENTLE pressure applied, usually with some of the retaining bolts/nuts, until the tell tale “squish” is noted around the edge, then STOP, carefully wipe the excess away with a clean rag. Leave it be for the prescribed “cure time”, read the label, or as I

do, wait till morning. Then a ½ turn of the bolts/ nuts, whatever, to pressurize the joint, and that's it.

There is NO need to tighten the crap out of the joint, the RTV has formed a seal, and IF YOU HAVE CLEANED IT PROPERLY, bonded to both items, thus forming a gasket/seal. The tightening AFTER the set time is to apply a small amount of pressure to the joint. If you are stupid, and overtighten it, the seal can be squashed out of the joint, and you will need to start again, and pay more attention the second time.

APPLICATION:

ALWAYS apply the bead more to the outside edge of the joint face, as apposed to the centre line, this will be as clear as mud, UNTIL you actually do the first one. The “squish” needs to be more to the outside than the inside, think about it.

Apply a bead, approx ½ the width of the surface of the seal face (an 8mm face will need a 4mm bead) to one face. It is NOT rocket science, or a precise thing, so best guess is good enough.

Machined alloy faces, as in cam cover to cylinder head are a good, easy place to start. Run the bead around, apply a goodly amount to the “D” seals, and push them into their home, and continue the bead across the top face of each. Slide the cover on, and apply pressure CAREFULLY, until the tell tale “squish” is noted all round, and STOP. Wipe away the excess. Wait for the full cure, and then install the nuts/bolts, and tighten ½ turn after initial contact, NO more.

Tin pan to alloy, as in the sump pan to upper sump plate on the V12 needs a little more thinking outside the box, simple for us Aussies, we live in this space.

Apply a good width bead around the tin pan, and then “circle” each bolt hole as you go, slide the pan up the guide studs you

pre installed, and screw in 3 or 4 of the pan bolts, remove the guide studs, and install all the remaining bolts, and FINGER tighten to the point of the tell tale squish, and leave it to cure. Wipe off the excess now, and wait. After the curing, tighten the bolts ½ a turn, NO MORE.

This same procedure is also used on the trans pans, simple.

Other gaskets, water pump, thermostat covers, diff end plate, etc etc, just look at the 2 surfaces, make the decision and do the task.

Guide studs are a MUST, as the 2 items need to come together SQUARE ON, and there is NO room for lateral movement at all, as that will disturb the “bead” and could ruin the continuity of the bead you applied.

I got a small amount of the “shakes”, so guide studs are a no brainer for me.

CAUTIONS:

OK, common sense here is mandatory, so panic less, and think carefully.

CLEAN, and I mean CLEAN, is the key, and near enough is not going to cut it. Even a small smear of an oily film will result in the RTV not bonding, and a leak will occur.

Some RTV claims, “sensor safe”, OK, but once the RTV is cured, who cares.

RTV comes in different heat ranges. I use the Red Hi Temp mostly.

BUT, back in the good old days, “Silastic RTV Gasket Maker” in Black was all you could get. Came in a Green and White

“toothpaste size tube”. Did everything, and worked well. Dont get it on your clothes or hair, it will NOT come off/out.

RTV comes in different colours, wow, and the Grey is pretty good, as it cures to damn near the colour of the alloy.

RTV comes in different brands. I use Loctite, JB Weld, ThreeBond, mainly, coz that’s what we sell at work, duh. I stay away from the no names and cheaper products, coz if they fail, you got a heap of rework on your hands.

TIME, I repeat, TIME is needed here. This RTV needs to cure 100%, FACT. So if you need to get it fixed in a hurry, forget it. I usually set the item/s up and that’s it until tomorrow, so about 6 hours cure time, and YES, the weather plays a huge role here. Humid climates will take longer, as will cold temps.

There is a fear factor of beading INSIDE the engine/trans. OK, if you use too much RTV, or tighten to that “Squish” point too far, you MAY get some on the inside, so as I said at the beginning, COMMON SENSE, and think about what you are doing. That is why I suggested applying slightly to the “outside” of the centre line of the item face. The first joint is the worst, after that it is so simple.

Removing RTV sealed items:

SIMPLE. Remove the retainers, slide a putty knife between the 2 items, and that’s it. The remaining RTV can be wiped off with a solvent soaked rag. I use Brake Clean, Carby clean, etc for this solvent.