The majority of these tips have appeared in club newsletters over the years. Please note that you use them at your own risk as neither the Bristol Austin 7 Club nor the authors can be responsible for the results of trying to follow the instructions given.

Engine sump, oil leaks - by Ron Hayhurst

The first thing to do is to determine if the sump itself is the source of the offending drips that pepper the floor wherever you park up! Hence a good clean is first needed, followed by a close inspection after a short trip out. There are five possible sources for leaks from the sump. The first and obvious one is the main joint with the crankcase, followed by a leak from the sump plug through re-using an old fibre washer. Less obvious, but still a possibility, is a leak through the soldered connection between plug boss and sump. More subtly, there is a chance that oil is running up the thread of one of the bolts, even though the gasket is intact and doing its intended job. Finally, there is a need to check the petrol pump flange and the end of the spindle which runs in its main casting.

With the sump removed, examine the flange carefully for undulations where it should be dead flat. A useful “tool” to acquire would be a 6” length (or longer) of ½” thick plate some 3” wide. With this mounted in the vice, and using an appropriate hammer, hook the turned-over edge of the flange over the plate and dress out the humps and bumps. If possible, check how successful you have been against an empty crankcase. If all else fails, get another sump; there are plenty in the spares shed although some may be bent ! ! Having achieved a reasonably flat flange, a thick cork joint (or a three-layer cork sandwich) has often been proved to finally fix a leaky sump.

Another approach is to accommodate the defects in the sump flange with a hard filler/sealant. Smear the filler onto the cleaned flange, position the usual gasket and make a tem-porary assembly to an empty (spare) crankcase, having first placed a polythene sheet be-tween the gasket and the crankcase. Tighten all the bolts with their washers and leave until the filler has set. Peel off the polythene and make the final joint on to the engine using a sealant such as Hylomar.

Re-soldering and using a new washer do not need further description, but the

leak up the thread of the bolt is a little more tricky, although it should only apply to one of the 14 bolts. It is possible that in the past, some of the ¼" BSW (BSF on earlier engines) tapped holes have been damaged and a solution sought by trying to drill deeper and cut more thread, even leading to the drill bursting right through to the outside of the casting. On the near-side hole of the 3 at the back end of the sump, the hole may well go right through and into the inside of the crankcase. Nasty ! ! The inboard end of the bolt will now spend its life with a head of oil above it which trickles down the gaps between the well-worn threads. Moreover, if it literally hangs by a thread and then drops out, oil will soon be lost from the engine.

If this bolt hole is suspect, the best way to confirm it passes oil is to take the bolt out and see what happens. Be ready to stuff it back in again! Temporary solution is to drain the oil, remove the bolt and clean up both threads with a rag and some solvent. Re-assemble the bolt with its oval washer and a new fibre washer all liberally coated with a gap-filling epoxy adhesive.

There are a few ways to make a permanent repair, but all would be best done with the engine out. One method would be to glue in a grub screw at the inboard part of the thread and Helicoil the outer part. Maybe best to put in the grub screw immediately after using the Helicoil tap. Others have prepared a ⅜" thread on a short length of aluminium bar with a blind hole up the middle tapped ¼" (to match the other threads). A matching ⅜" thread is drilled and tapped into the defective thread and the prepared bush glued and screwed in place. With the insert filed off flush, the repair is hard to detect from parent metal.
Thanks to Nick Beck for the latter method.