Gearbox oil ingressing mechanically driven sender units like the MG 84

The most common causes of gearbox oil ingressing to mechanically driven pulse sender units are as follows:

1 **The vehicle gearbox oil level is too high**. This is caused by the vehicle not being on a level surface when the oil level is checked and the technician overfills the gearbox thinking that the oil level is too low.

2 **The vehicle gearbox breather is blocked.** This is usually caused by the overzealous painter forgetting to mask the breather off during vehicle repainting and the breather holes becoming blocked with paint. This is particularly prevalent on articulated vehicles where the gearbox is exposed to the painter!
Conversely, rigid vehicle gearboxes are rarely painted as the gearbox is covered by the vehicle bodywork. In such cases the technician thinks the breather is "out of sight - out of mind" and the breather never gets cleaned out.

3 **Missing "breather bolt"**. This special bolt is omitted following a gearbox repair and is replaced with a standard bolt with no holes in it!

4 **Wrong viscosity oil.** The technician refills the gearbox during a routine service with the wrong (too thin) viscosity lubricant. The result is that the oil works its way past the gearbox oil seals when hot.

5 **Drive shaft wear.** The speedometer drive shaft and/or its bearing is worn out and the top oil seal cannot cope with the eccentric rotation of the speedometer drive shaft and allows oil to pass. The speedometer drive shaft oil seal is the smallest oil seal in a gearbox and is thus the first oil seal to succumb to failure when something in the gearbox goes wrong.

6 **Replacing the speedometer drive shaft oil seal.** In Eaton gearboxes the oil seal can only be successfully replaced using the appropriate Eaton tools. Even then it is not unknown for the seal lip to sit on the tapered part of the speedometer drive shaft instead of the parallel section of the shaft - check with Eaton. 7/8 years ago Eaton found that their green coloured speedometer oil seals went very hard with changes in temperature and became useless. All Eaton speedometer seals should now be brown.

Finally.
It is not the purpose of a mechanically driven pulse sender units to keep the customers gearboxes oil tight. Mechanical driven sender units are supplied without oil because they simply do not need it – and Gearboxes are supplied with oil, because they do need it!