

Replacing the Differential Case Gasket.

I can hear the experts within our Club now saying '*that is not a simple task but a major job*' Well, I agree, but my Humble Hint is based on the alternative to a major dismantling of the rear axle. So, at the expense of being shouted at by those that know more than I, the following is an account of my gasket replacement following an irritating weep of rear axle oil. Not a lot, but nevertheless, a weep. Of course, I first sought advice from our esteemed Technical Advisor, Eddie. We discussed the procedural complexities of removing one half of the rear axle in order to remove the existing gasket and cleaning the surface area to receive the new gasket. I checked various technical publications and recognised workshop manuals. I acknowledged that there was a lot of work involved to just replace a paper gasket, which was when Eddie said with an outburst of humour '*of course you could try easing the two parts of the Diff Assembly, apart*'. This appealed to me, rather



than disturbing other areas that were working perfectly well; I decided to give it a go. I jacked the car up to reduce the weight on the axle and then drained the remaining oil from the rear axle and

loosened the six retaining bolts. I then supported the two axle halves with blocks in order to eliminate any internal damage or stress to the assembly. There was no surprise that nothing moved laterally at this point which is what I wanted it to do. I then thoroughly cleaned the area of any remaining oil and grit and dried it so that no foreign matter could enter the housing when the two parts parted at the point where the new gasket would be fitted. At this point, I cut a piece of $\frac{3}{4}$ " thin walled copper tube (old chromed water pipe) to a length that would be forced between the two leaf springs as seen in the photograph. This was about $\frac{3}{8}$ " longer than the distance between the two springs. Thin walled so as to be able to be bent slightly, to curve around the diff, housing. A slot $\frac{1}{8}$ " deep was cut at each end to fit over the thickness of the main leaf to prevent any vertical slipping. You will also note that a small block of wood was 'G' clamped to the top face of each spring so that the end face of the tube would bite into the wood preventing any fore and aft slippage.

The total distance between the bottom of each slot in the tube was $\frac{1}{8}$ " longer than the distance between the springs. This would allow for some compression of the copper and move the two parts of the Diff. housing apart about $\frac{1}{16}$ ". The tube was then gently tapped into position using a rubber mallet. This then allowed the existing gasket to be removed by using a round ended knife (to be washed and returned secretly to the kitchen drawer after use). The gasket had broken into six pieces and had been so, for some time. Without the gasket in place the space was amply big enough to clean both of the surfaces ready to receive the new gasket, this can be seen in the second photograph.

In order to get the new gasket fitted, it had to be cut at the most uppermost point so that it could be fed into position. This was equi-distant between two of the bolt holes and the cut positioned at 12 o'clock to reduce the chance of a leak. I usually use Loctite 5980 gasket sealer, a black silicone looking compound available in tubes, but being unable to obtain any, I used silicone sealant which I have found in the past a good substitute; apologies to all the purists who have just winced at that. I then proceeded to replace the six bolts but not

tightening them until the copper tube had been removed. The bolts were then finally tightened in the usual diagonal fashion and the tab washers duly tapped back in position. 'G' clamps and blocks removed, I waited to refill the back axle until the following day, to ensure that everything had set to reduce the chance of leaks. At the time of writing, I have done a few miles since the new gasket was fitted but have been unable to go on long runs due to the current restrictions surrounding Covid 19. There are no visible signs of leakage on the newspaper that is waiting to show the slightest sign below the differential. I hope that I did put the new oil in!

Michael Ward.