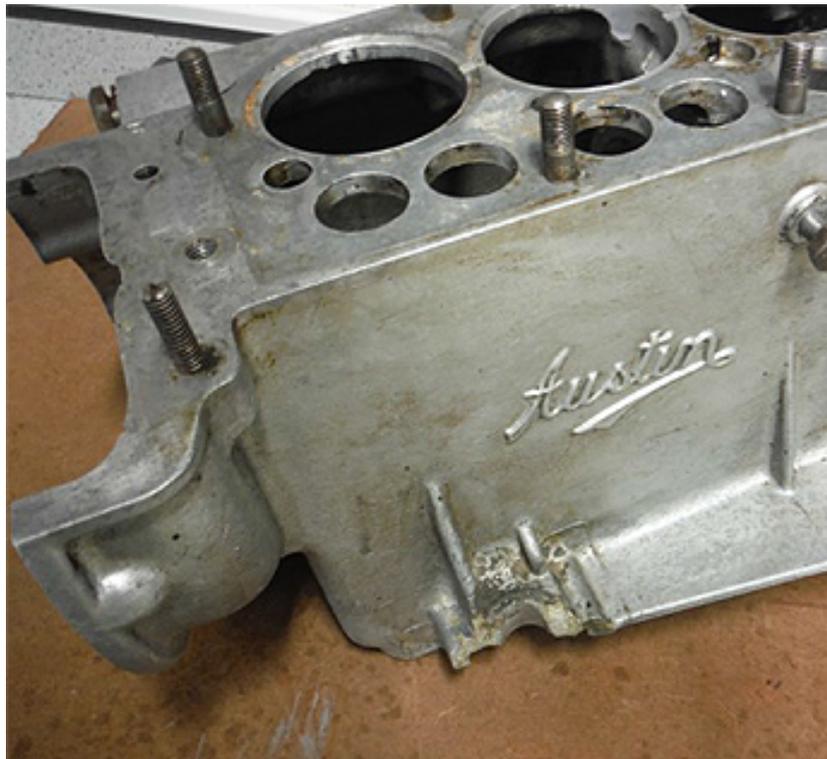


The majority of these tips have appeared in club newsletters over the years. Please note that you use them at your own risk as neither the Bristol Austin 7 Club nor the authors can be responsible for the results of trying to follow the instructions given.

#### Crankcase - cure for a broken foot - Dan Cole

I acquired a spare engine a few years back which was generally good except that one of the mounting 'feet' was unfortunately broken off roughly through the centre line of the hole.



ooooouch !

I have seen this problem on a few examples over the years. In the case of solid mounted engines, if the engine is bolted down tight on all four corners the feet

can break under racing conditions due to chassis twist. With my example, a three bearing rubber-mounted type, it was most likely that it had simply been dropped at some point. The engine could have been used as it was but it would have looked a bit unsightly and, when I realised it needed some internal attention which required complete dismantling, I got stuck in and tackled the repair. If you need to carry out a similar repair this might be of interest.



ooooouch - in detail !

Crankcase repairs like this can be done by gradually building up the area by aluminium welding before fettling it back to somewhere close to the original shape. Since quite a chunk of material was missing I elected to make up a repair section to weld in. Firstly I took some careful measurements and produced a sketch showing the detail of the foot cross section. Some lathe tools were then ground to match the internal and external radii required. An off-cut of aluminium bar was found and I set-to with the lathe.



Turned part ready to cut (with steel alignment too on bench)



Repair section, cut, chamfered and ready to weld

Once the part was machined to match the original foot profile as closely as possible I cleaned up the broken crankcase edges to get back to clean metal (very important with aluminium welding especially with old castings). The repair piece was then marked up so it could be cut roughly in half in the appropriate place. When pairing up the original cast crankcase and the newly turned repair section it is difficult to achieve a perfect location. To aid the lining up process a simple guide fixture was turned up from scrap steel bar (this located through the hole and in the pocket on the underside of the foot where the rubber fitting usually goes). All edges that were to be welded were chamfered. After a final thorough clean of both parts with a stainless steel wire brush the repair piece was united with the crankcase and welded into place after being securely tacked.



Crankcase prepared for welding

I don't have my own aluminium welding kit so the welding was generously carried out by a friend who made a really nice job of it. Because of the complex original shape there was still a little 'building up' required to blend the turned part into the crankcase. Overall I was pleased with how the repair turned out, I still need to do some filing to tidy it up but it has done the job.



Finished article before filing to clean up welds

If you have to pay somebody to do this it would be cheaper to buy another crankcase from the spares shed, however it was an interesting and satisfying exercise. Now I just need to get the engine back together and try it out in the engine test rig I am building but that's for another article, another time. Enjoy your Seven whether it is in pieces in the garage or out on the road !

Dan Cole