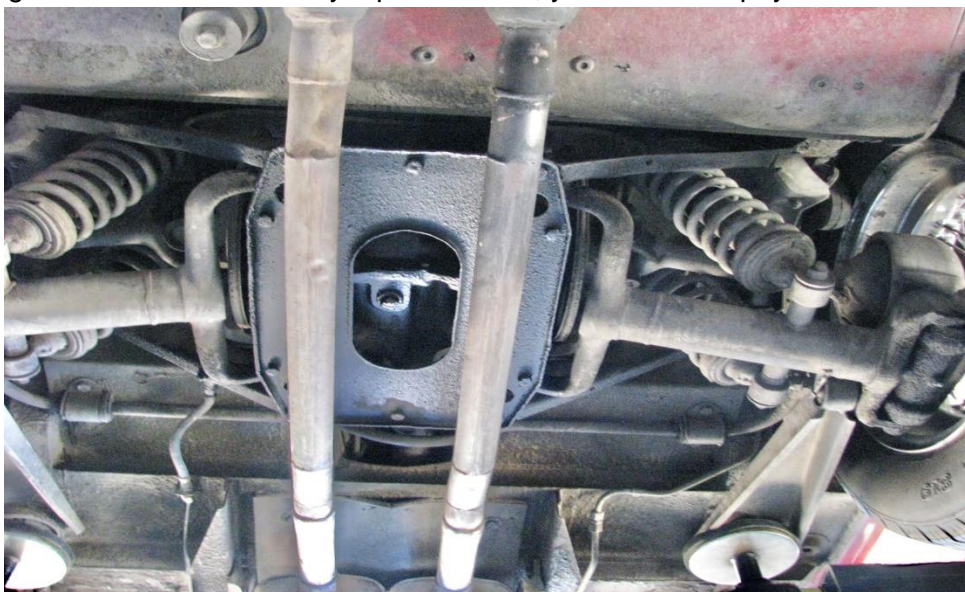


Article & Photos – Warren Tait

Warren Tait's '69 E-Type S2 story – Stage 2

Overhaul of the Independent Rear Suspension IRS

The first job was to drop the exhaust system. This was another example of a very poorly executed job on this car, which would be a complete throwaway. The welding, the bends, everything about it was just a nightmare. If it was done by a professional, you would not pay them!



Next stage was to manufacture a trolley system that would allow the movement of the car when the IRS assembly was removed. The design brief was simple, it had to be small and unobstructive, but strong enough to be safe... well kind of! Also, high enough to allow me to climb under and around it for cleaning and painting. A quick rummage through a few garage cupboards and under the house, all the required materials were sourced. Some cutting, welding, and drilling, and with a spare set of rear wheels, we had made something that would work.





Next the IRS assembly was removed with a floor jack

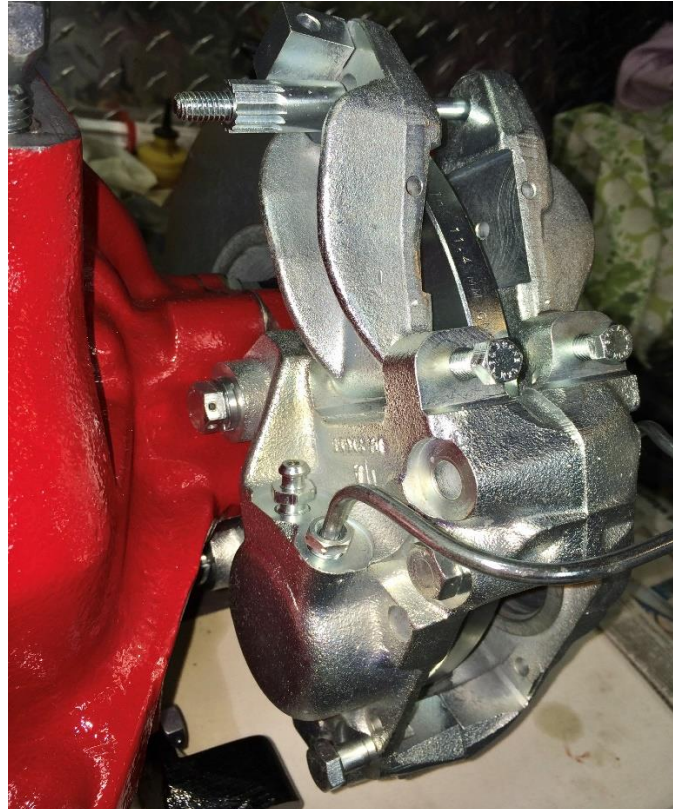
Another great benefit with this type of design of IRS, is that all the components such as the diff head, half shafts, universals, wheel bearing hubs, suspension wishbones, springs, shock absorbers, radius arms, brake rotors and callipers, and hand brake mechanism are all contained in a very compact fabricated steel crossmember. Very ingenious, and after the breakdown, it allows all these individual items to be worked on at a workbench level which is much nicer than the alternative! So, servicing is quite straightforward and enjoyable.

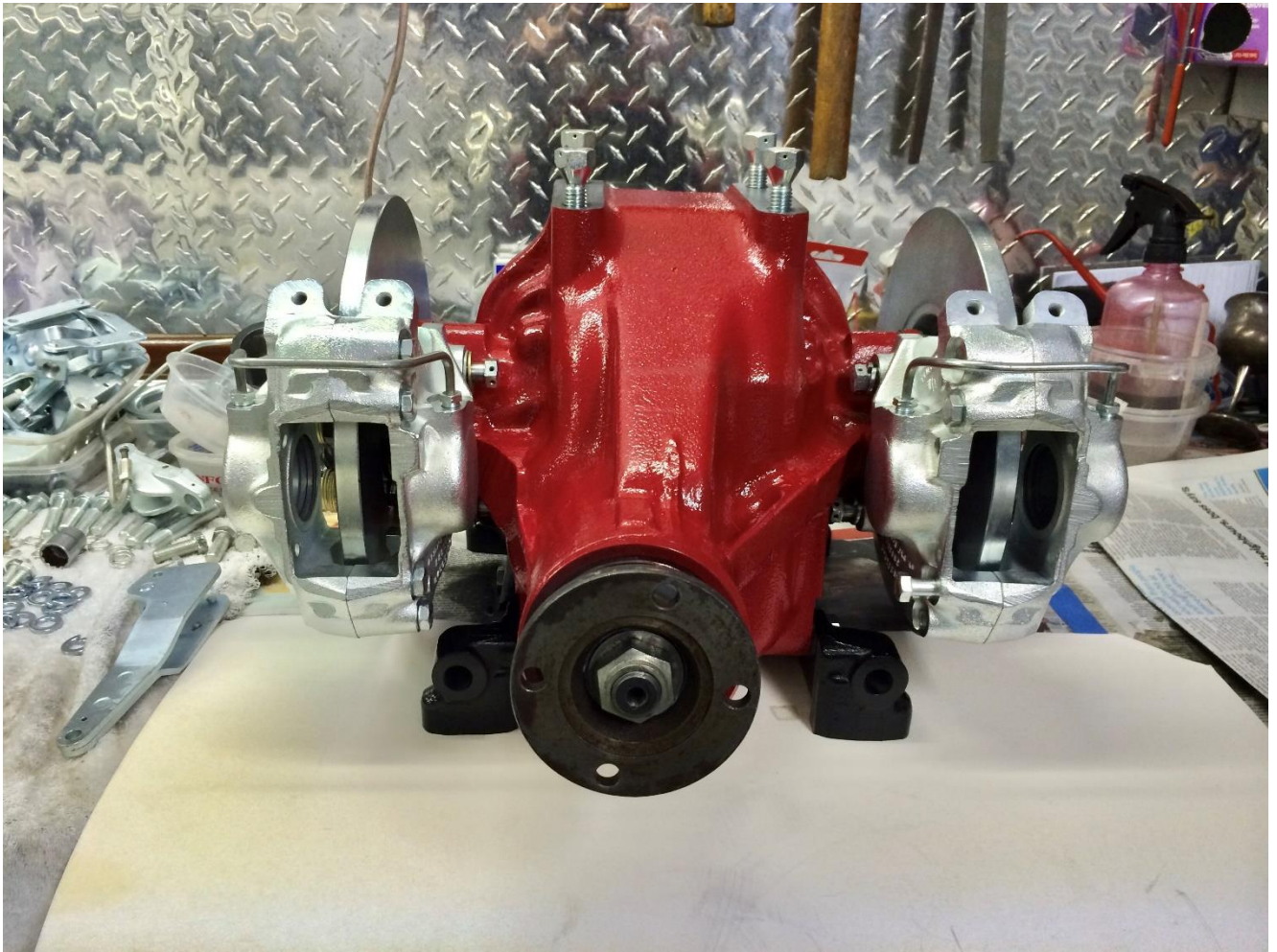
Once all the components were removed from the main cross-member they were all identified as left or right, front or rear, then stripped and cleaned. Shims and spacers were carefully removed, identified and photographed for future reference.

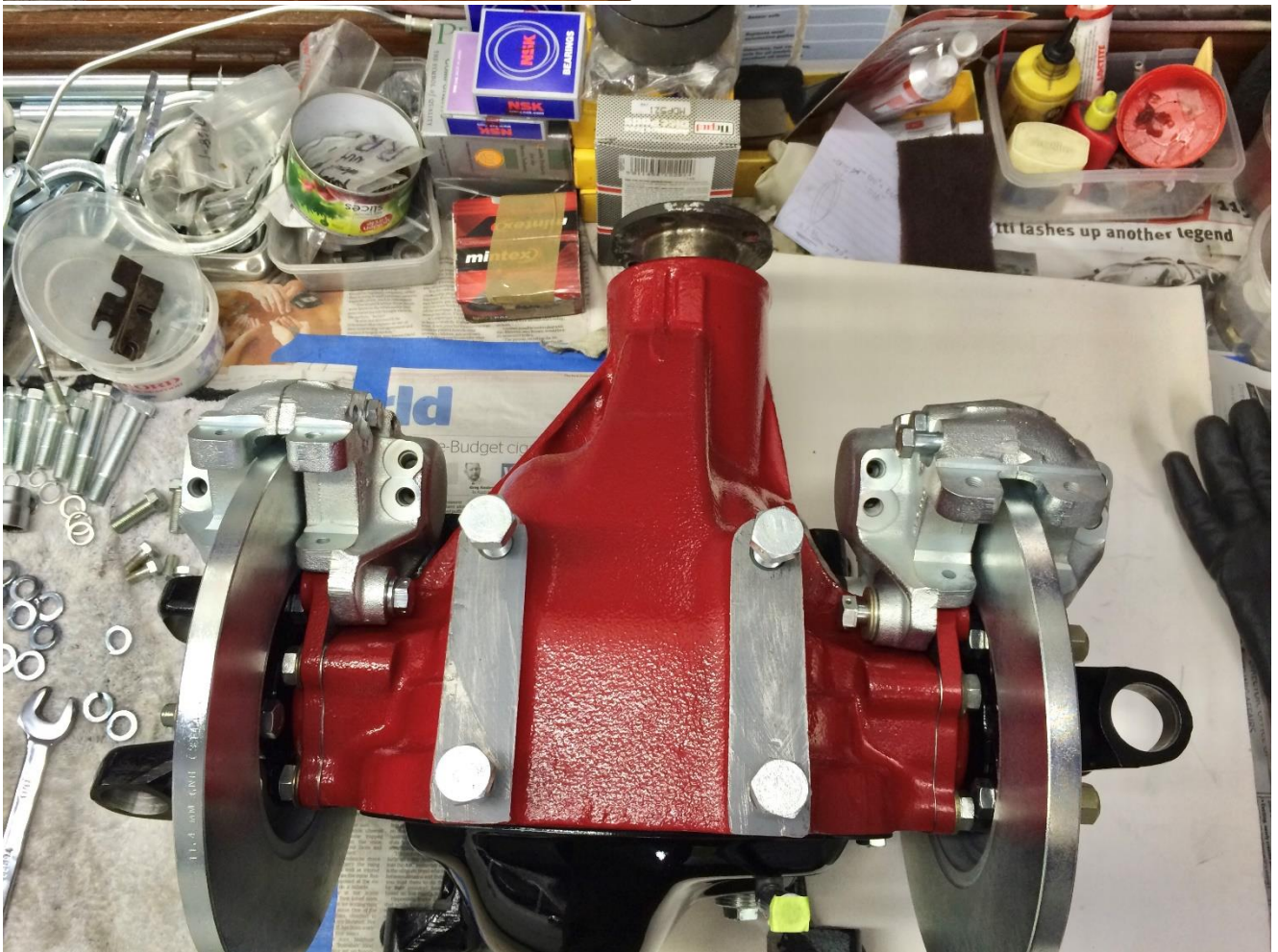
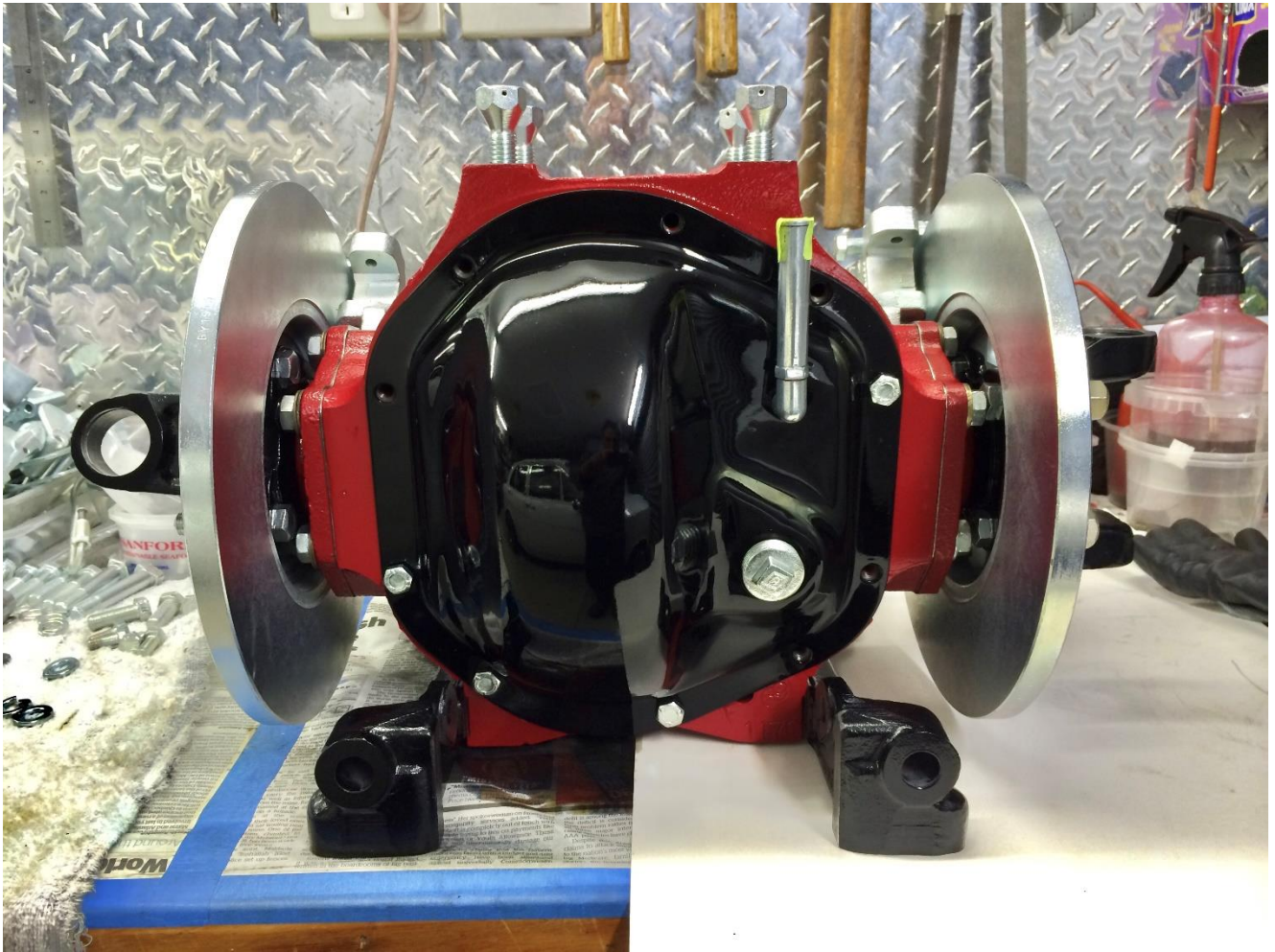




All bearings, rollers bearings, seals, rubber bushings and mounts, and brake cylinder kits were replaced with the help of the Daimler and Jaguar spares club and Auckland Bearings. All special bolts, shims, spacers, thrust washers and brake callipers were plated and all fastenings replaced. The same gloss black and red two pack paint was used as with the engine bay.



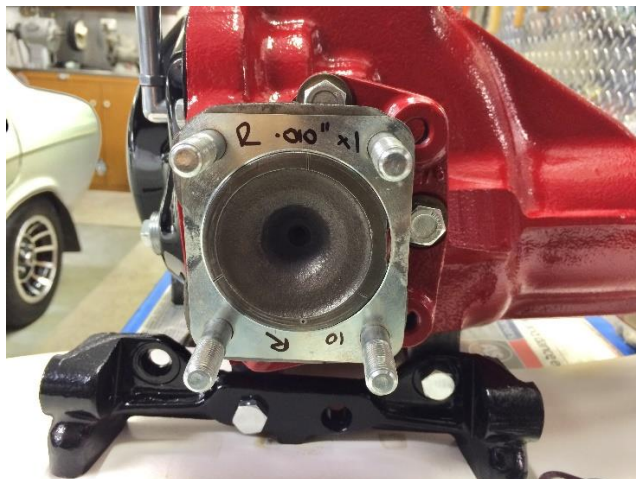




A new dilemma was encountered when I removed the diff head gear cover. I was looking forward to seeing the workings of an LSD for the first time as I had never had a car with one before. But alas, this was not to be. For some reason the diff head had been changed out to a conventional unit, most likely an XJ6 of similar vintage. After struggling to find an LSD replacement, I decided to continue with what I had. So, I sent the now cleaned unit to Bygone Autos for the setting up of the crown wheel and pinion backlash with new bearings, and to see if we could quieten it a little. Unfortunately, it went back into song around 60 mph which was rather disappointing, but maybe a sign it was showing its age.



Next the two output shafts with new bearings could be fitted to the diff head followed by two new brake rotors and the rebuilt brake callipers. This was then mounted back into the main crossmember.

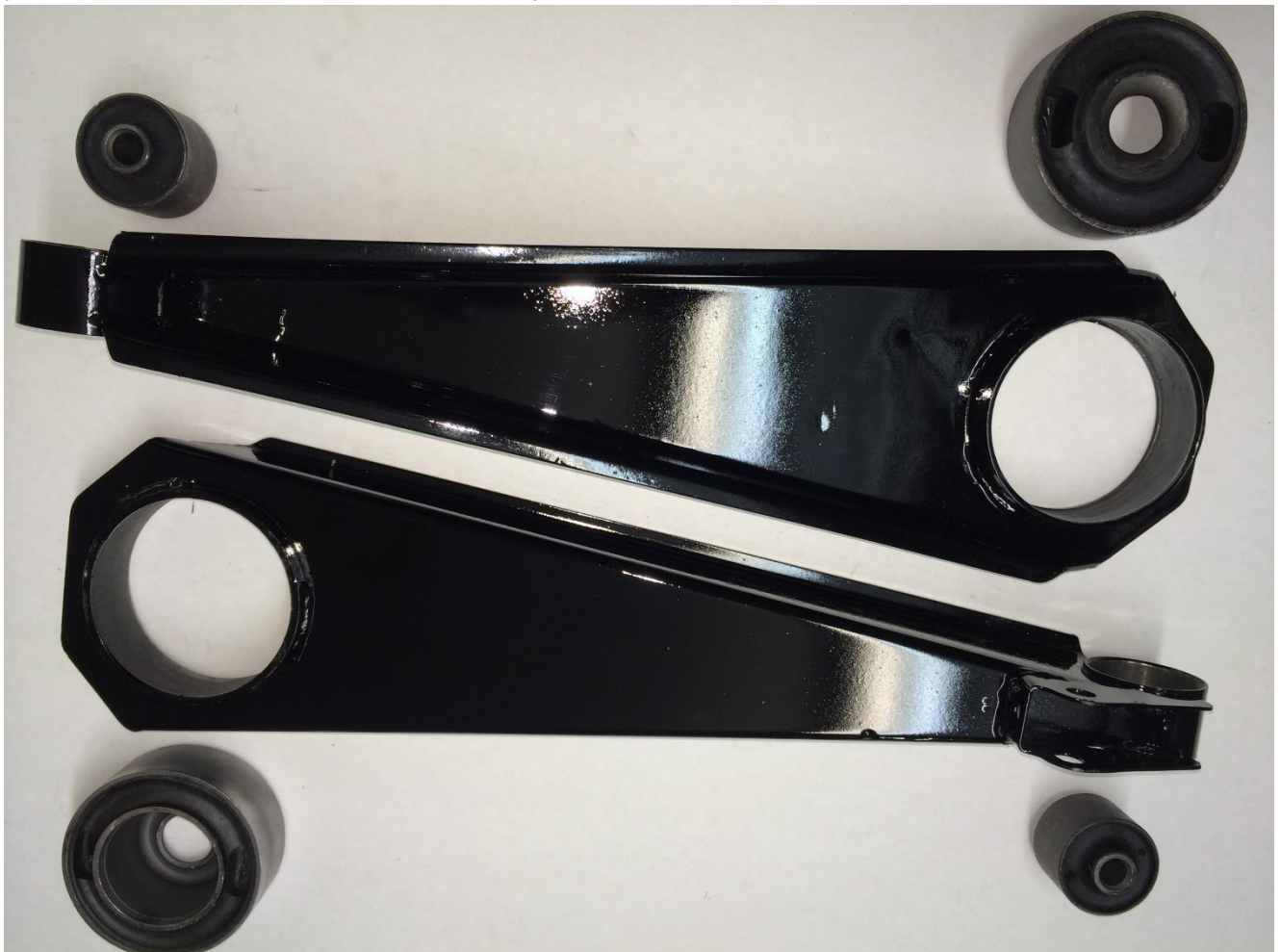


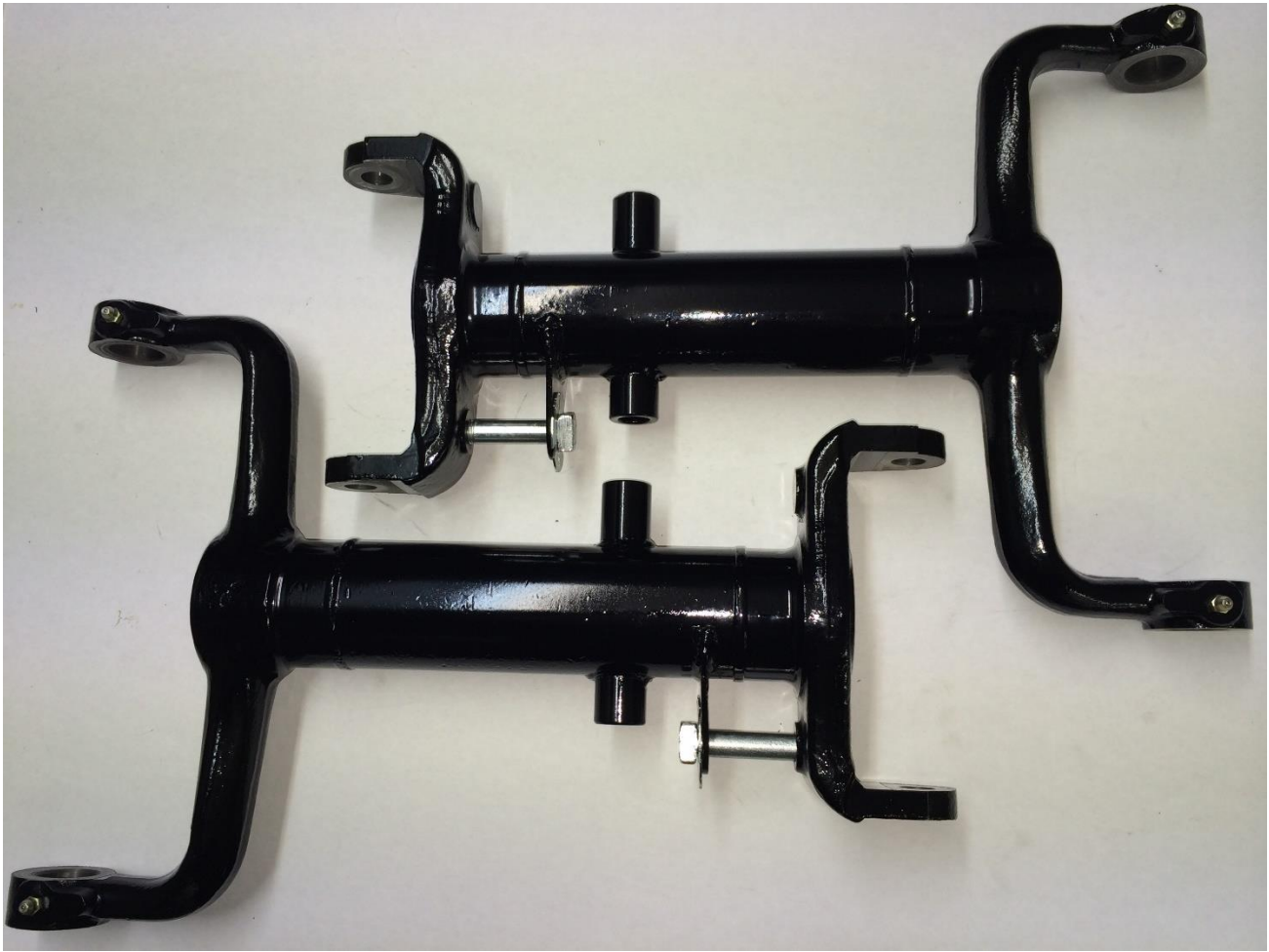
Four new universal bearing cap sets were fitted to both half shafts, then bolted to the rotor flange with the corresponding number of newly plated shims for adjusting the rear wheel camber.



With all the painting complete the rear axle hubs could be rebuilt. These were exceptionally complex trying to achieve the correct end float between the two tapered bearings, but I eventually got there.

Next the installation of the two wishbones. There is a lot going on with the design of these wishbones and their associated fulcrum shafts. Over 40 individual components make up this very complex swing arm system. Throughout the assembly I used a high-quality marine saltwater grease for packing all the bearings and lubrication for all the moving parts, seals and thrusts. This stuff is brilliant and 10 years later it is still at the same consistency.





New rubber bushings were fitted to both radius arms. New Gaz shocks for the wishbones were ordered from XK Unlimited in the US and this completed the reassembly.

With the main crossmember complete and, after a photo shoot (which I can't find), it was time to lift the whole assembly back into position to the freshly prepared underbody and connect the tail shaft, hydraulic brake line, hand brake cable and road test.





All in all, it's a very satisfying undertaking. The final stage is the body. Stage 3, will appear in the next issue of the AJDC Club Magazine.