Replacing the chassis side members.

By John C. Barrett.

The restoration of my 1959 TC coupé progresses slowly. I want it that way, no deadlines. Being an English car there is a lot to be done, rust has eaten its share of the lower parts of the wings, the sills have not existed for many years and the body was welded to the chassis (probably to hold the body in place so that the doors would close, and possibly to hold the chassis together). I knew I was buying a challenge. When I had come so far with the bodywork that the body could be removed from the chassis, the full extent of the rust was visible. Both side chassis members had large holes to the extent that they both had to be replaced. If the car had been a standard 1500 or 1600 I would have looked for another chassis, but being a Twin Cam that was not an option. Twin Cam / deluxe chassis do not grow on trees and I do not want to build a Twin Cam kit car built with a modified pushrod chassis and a modified pushrod body. I felt that the chassis had to be repaired, as well as the body.

The MGA chassis is made of thin metal, use too much heat when welding and they distort. My car had been in a collision earlier in its life and could have been skewed/twisted. The chassis had to go on a jig, straightened if necessary and repaired while still jigged.
I took the chassis back to Bob West, the MGA specialist outside Pontefract where I had bought the car several years earlier. In his workshop Bob has an Italian "Car Bench" jig configured to the MGA chassis. The sand blasted chassis was carried in and bolted to a very substantial steel frame. Heavy steel members were bolted to where the front shockers fit and others up the sides of the goal posts. (Photo 1). A central locating point used was the gearbox rear mounting bracket, (Photo 2). Another reference point were the front of the rear spring hangers (Photo 3) and then two very thick pins that are located in the rear mounting of the rear springs. (Photo 4). Everything lined up to the millimetre so the chassis had been strong enough to survive the crash all those years ago, otherwise it could have been straightened in the Car Bench. It was then time for James Horner, who works for Bob, to decide what to replace and how. He has done this many times before. This is very evident when one sees the superb quality of the work he does. After replacing the side members he also replaced several of the floorboard rails.

When I come to drive the car at 100 mph I want to feel confident that the chassis will not crack up on me, and, I want to now how the car will handle when I brake hard at 100mph. For that the chassis had to be strong and straight. Now it is.

I have modified my chassis with the usual Twin Cam mods. The rear bottom triangular section of the square rhs engine mount is cut away so the engine can be lifted straight up without having to remove the sump. The handbrake mounts welded onto the chassis rather than to the gearbox tunnel so that the tunnel can be removed whilst the handbrake remains in situ (mounted on top of the floorboards). Mounting the tunnel on top of the floorboards means that they do not need to be removed to take out the engine. The front tunnel can be removed first, the gearbox unbolted and moved backwards, which allows for a straight lift to the very tight fitting Twin Cam engine. I have also welded Mk II safety belt

fittings from Todd Clarke (USA) onto the chassis. The inboard ends of the safety belts now bolt onto plates welded to the chassis rather than to the tunnel. Lastly I modified the battery carriers. The lhs one will now take a much larger 12v battery and it can be pivoted into place on its own cradle from underneath the car (I have a pit in the garage). The rhs battery carrier was almost non-existent at the rear and was modified to mount the MGB petrol pump so that it is easier to access from within the coupé. MGB petrol pumps have the same delivery spec. as the Twin Cam pump but at half the price. I encourage other restorers will also consider checking the straightness of their MGA's chassis too.

Photo legends

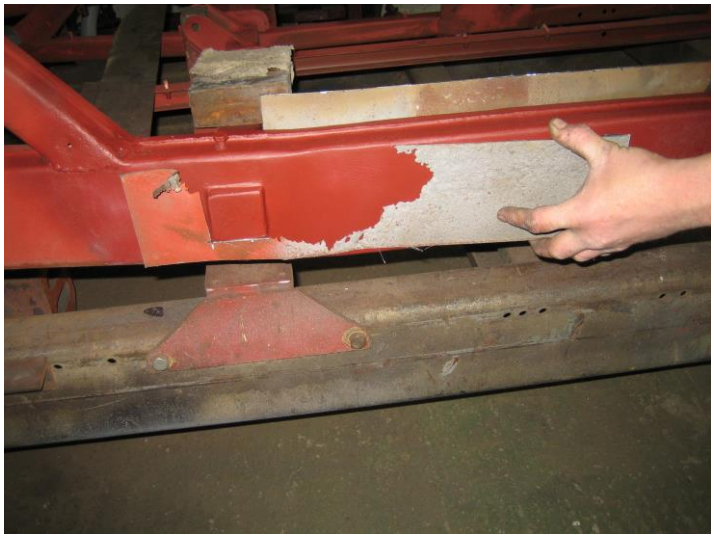
Jig 1: The Car Bench bolts to the front chassis mounts and to the sides of the goal posts.

Jig 2: The rear gearbox mounting is a location point

Jig 3: The front of the rear springs is an important reference point

Jig 4: Rear spring rear mounting points.

Jig 5: Before and after compared.



Jig 6: MGB petrol pump on disused battery carrier.

Jig 7: Larger battery mounted on its own pivoting cradle.