Oily BITS

Front Suspension Overhaul

This article is my variation on a job which I have seen reported in other club magazines allowing a one man operation, although a friendly helper is always welcome. The job I refer to is the removal of the front suspension units for reconditioning. In principle this is not a difficult task but with thirty to forty plus years of stress and strain working on a suspension system a little caution will not go amiss.

To retain the spring, the awkward part of the P6 system is attempting to insert the three retaining rods through the spring cups which hold the road spring and cups as an assembly during removal.

Some doubt has been expressed about this at times as the cups can rust thus weakening the metal, and the retaining rods could pull through under spring pressure resulting in the assembly flying apart.

Here in the U.K. a proposal to have the retaining rods remade was turned down due to Health and Safety regulations.

NOW TO START

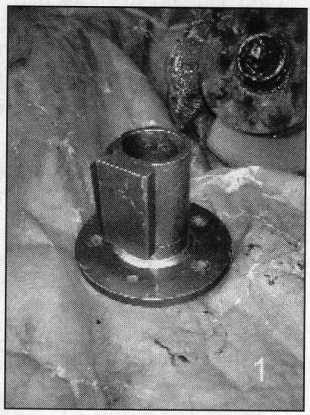
Jack up the car as normal and secure safely with axle stands or whichever method you prefer.

I used a piece of 4" (100 mm) square timber right across the car supported on good axle stands placed beneath the inner sills.

The suspension unit is now observed hanging in the unladen position.

Depending on how much or how many parts you wish to overhaul the procedure of wheel removal and front wing removal can now proceed.

As I myself intended to fully overhaul everything, I also removed the front door. Just spring off the check strap clip, unscrew the lower hinge pin and the door can be lifted clear.



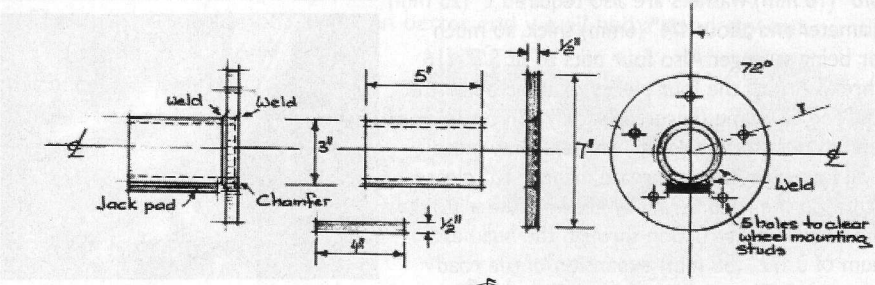
For jacking purposes a fabrication was made from three pieces of steel welded together.

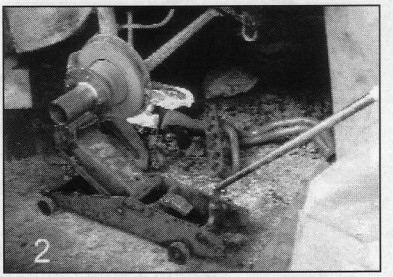
These are a disc about 7" (175 mm) diameter by 1/2" (12 mm) thick with the centre turned out to 3" (75 mm) to be a good fit on the tube used.

A piece of 3î (75 mm) tube 5" (130 mm) long with a bore of 2.3/8" (60 mm).

A piece of 1/2" (12 mm) thick plate 4" (100 mm) long by 2" (50 mm) wide.

Before welding together ensure that the tube passes through the ring with a chamfer machined on the ring for weld penetration. (As per sketch and photograph 1.)



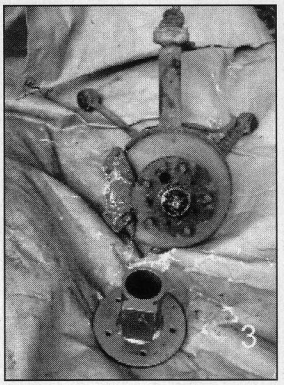


This gives a good strong fabrication. With all three parts welded together grip the fabrication in the jaws of a lathe and skim the face of the ring to clean up. Now bore out the end of the tube to clear the grease cap on the wheel hubs.

Now five holes should be accurately drilled on a 5" P.C.D. (Pitch circle diameter) to clear the wheel mounting studs on the wheel hub. The anti-roll bolts on both sides now need to be loosened and the bar either removed if doing both sides or pushed away to clear one side only.

Bolt the fabrication to the front hub using the wheel nuts reversed (flat face to fabrication) take the weight of the front suspension. Disconnect and remove shock absorber and gently lower jack allowing the suspension to lower to its full extent. (Photograph 2) Now disconnect the brake pipe and blank off the end. As I was removing the complete front leg I left the caliper bolted on.

Undo nut, break taper and disconnect steering rod.



The nut on top of the ball joint was cracked undone and the two nuts on the lower suspension arms through the chassis were loosened, removed and bolts drifted out. Now break taper of top joint and remove leg. (Photograph 3)

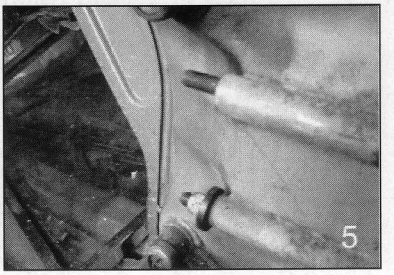
To retain the suspension unit to the bulkhead series one cars had four long bolts on each unit and later series two cars had studs and nuts to do this job.

If you have bolts on your car they need to be replaced with studs.

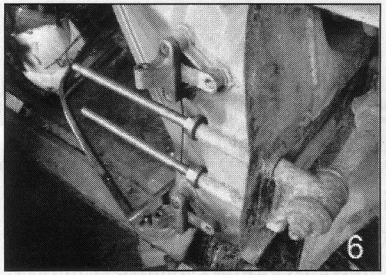
Remove the glove boxes to gain access to the inner bolts securing the suspension on the nearside and offside of the car.

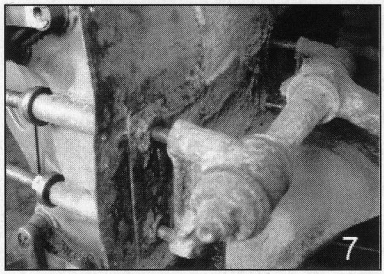
The second piece of fabrication that is required is for the removal of the suspension unit from the bulkhead.

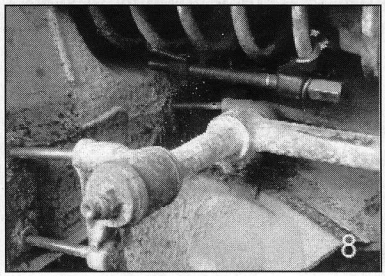
This consists of four lengths of allthread 5/8" (16 mm) diameter and approximately 8î (200 mm) long. These should be drilled and tapped in one end 5/16" UNF approximately 1" (25 mm) deep. This can be done in a lathe and at the same time a small taper should be machined on the same end as the thread. To finish these drill a hole through the side of the bar at the other end to enable the fitting of a small Tommy bar. (Photograph 4)



Four 5/8" (16 mm) washers are also required 1" (25 mm) overall diameter and about 1/4" (6mm) thick, so much better for being stronger. Also four nuts to fit 5/8" (16 mm) allthread. Attach the four pieces of allthread to the four studs, one at a time (finger tight only) on one side of the car and fit nuts to secure the washers, now steadily unscrew all four nuts in an alternate manner to release the pressure on the road spring by allowing the allthread to use the tubular construction through the bulkhead. A minimum of 3.1/2" (88 mm) expansion of the road spring is attained. (Photographs 5,6 and 7)







Once the allthread bottoms in the tube the road spring is under very little pressure and conventional coil spring clamps can now be fitted to complete the removal. (Photograph 8)

Remove the four lengths of allthread and the link assembly can now be removed from the car.

Before removing the spring clamps measure the length of the road spring including the cups. This will ensure that on reassembly the four studs will fit and draw it into place.

I noted on reassembly that a sharp pull on the jack was the best way to compress the spring for shock absorber fitment.

The advantage of this system is to permit the safe removal and refitting of the road spring by one person.

If you have a good area meeting then perhaps you have someone working in engineering who can get parts required made. Another option would be to obtain a quote from an engineering company and divide the cost between your area club making the tools available to all as and when required.

D Archer – Member 069

I would like to acknowledge the assistance given to me by Mr B and Mrs J Stevens in the Photography and layout of this feature.

IN THE REGIONS

The Worcestershire, Hereford and Gloucestershire Region

P6 Rover Owners Club was well represented at Webbs Garden Centre 11th Annual Motor Show on 27th August, Bank Holiday Sunday. Judy and Brian Stevens, Derek Love (R.O.), Anne and Ray Leavesley, Polly and Charles Dandy, Phillip Marchington and Pat and Norman Taylor.

The weather could not have been better and we all had a good day out.

The photograph shows the excellent position that we had on the site.

Brian & Judy Stevens