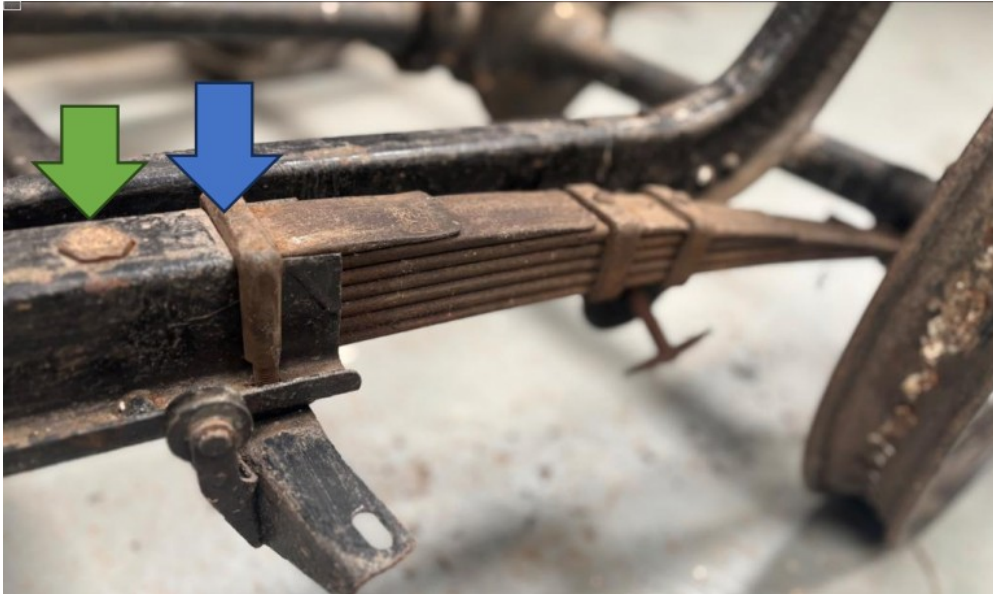


Removing the rear springs is often a difficult job if they have been undisturbed for years. The rear spring is fitted inside the chassis side member, which at this point is a closed box section. It is held in place by a U bolt (blue arrow), and an anchoring bolt (green arrow). that can often only be accessed by either lifting the body or cutting a suitable hole in the floor of the car.



Rear springs are often rusted in position and difficult to extract. One very effective solution, is to slacken the nuts of the 'U'-bolts and anchor bolts then drive vigorously around the block several times. This should free things sufficiently to enable the springs to be driven backwards out of the chassis rails using a large mild steel (MS) drift and sledge hammer.

The rear spring is attached to the axle by way of a hardened spring pin (see right), that rotates within a pair of

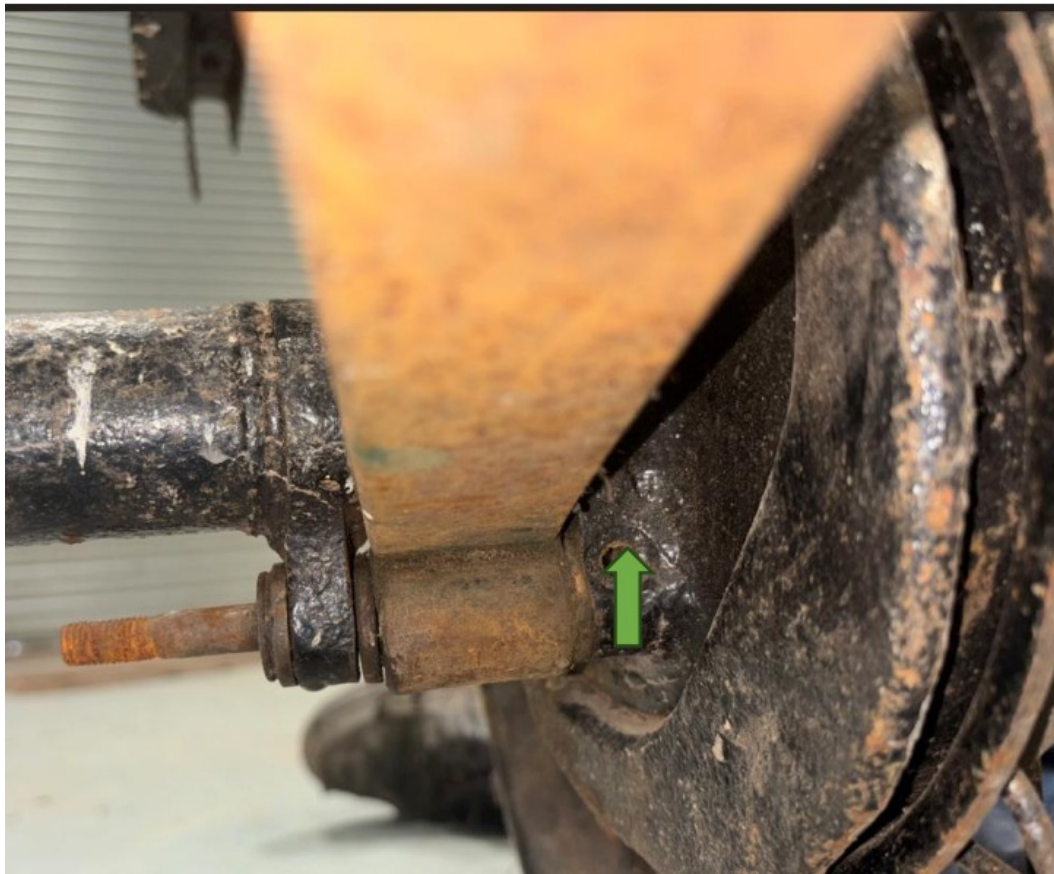


shouldered phosphor-bronze bushes that must be a tight fit in the rear spring eye. Because the fit is tight, the bushes close up fractionally, and need to be reamed out slightly with a ½" reamer, to allow the spring pin to fit nicely. Remember, when using a reamer to cut only in a clockwise direction, even when pulling out of the bush otherwise you will risk damaging the cutting edges.

The spring pin is then inserted so that its flat aligns with the securing cotter - which is best inserted with the nut at the back, otherwise it will be difficult to extract at a later date. However, on early axles, the webbing on the back of the brake backplate makes it difficult to insert the cotter from the back.



Rear axle casing with spring attached, and shock absorber attached via shackle to spring pin. Note nut of cotter pin (blue arrow)



View from front left side of rear axle. Note hole for cotter pin (green arrow) and rest of spring pin sticking out to left for attachment of damper

When adjusted, the rear brake cable should be left slightly slack, otherwise it will transiently tighten when the car goes over a bump as the rear axle moves backwards and applies the brake unintentionally.

The leaf springs can be wrapped in Denso plumbers' waterproof tape to keep the abrasive road dirt out, and keep the grease in.

Dampers, colloquially known as 'shock absorbers', whose function is to reduce oscillations of the springs. The very first A7s didn't have dampers.



Front damper



The rear damper on a Ruby (bottom) is shorter than on the earlier Box saloon (top)

The damper works with 'Ferodo' type disc (similar to brake-lining material) held between brass discs. There is a suggestion that wood was used as the friction material during WW2. The rear damper works by having a static part which is a hanger from the frame, and the moving part which is connected to the axle, separated by the friction disc. Never lubricate them.

Only the front damper should be adjusted, the rear ones should be tightened up fully. Test the damper by pushing down on the corner of the car. It should rise up, and then will go slightly down, but less than halfway, otherwise the damper is not working properly.

The tyres also contribute to suspension. Early cars had beaded-edge tyres, which engaged a groove in the rim, and needed a pressure of 60psi in the inner tube to keep them firmly attached to the wheel. The subsequent design with a deep well rim allowed for conventional tyres, and much lower pressures, and thus a more comfortable ride.

