



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.

Leaf spring care and maintenance - Dan Cole

As with many parts that lurk under an Austin Seven it is easy to neglect springs and, for the most part, they will continue to work tolerably well for a long time.

However, in common with other components that do a vital job whilst often being taken for granted (steering arms, crankshafts, half-shafts etc.) you will soon notice if they fail! When servicing your car or doing other work 'below decks' it is well worth giving the springs a good clean and wire brush off followed by a close inspection, taking particular care to look for cracks. Many cars are running with uncovered springs which mean they attract a lot of dirt and often inevitable corrosion follows, especially if the car is used all through the year. On the plus side uncovered springs are easier to inspect.

If you are using original springs or items that are of unknown provenance it is quite possible they will be badly worn. The physical wear in the leaves will be visible by the material worn away on the top surface of each leaf where the leaf above has been rubbing against it as the spring deflects. If the leaves have straight ends then this wear will take the form of an obvious step change in thickness visible on the top surface of leaves. If the leaf ends taper to a rounded point from above then the leaves below will exhibit a corresponding hollowed portion where rubbing has been going on. Either way the step that forms at the edge of the wear is a bad thing. It causes a stress concentration in the leaves that can eventually lead to fatigue failure and it also can constrain the spring from its full 'extreme' range of movement.

If the wear is slight but your conscience can't ignore it, the step can be removed by filing (a power-file saves a lot of time!), however if the wear is severe then the leaf or whole spring will need replacing. As usual, if in doubt seek advice. In addition to this physical wear, leaf springs also tend to settle over time and if this has occurred or some other adjustment to ride height is necessary, it is

possible to have the springs re-set providing their condition is otherwise sound. However you will need to carefully consider the desired final ride height before spending your money.

Opinion on protecting springs varies greatly. Some folks grease between the leaves, other prefer to run them 'dry' allowing the friction between the leaves causing additional friction damping. Springs can be greased in situ by removing the weight from the car (by jacking from the chassis) and applying with a thin blade between the leaves. Years ago specialist tools were available for opening and greasing leaf springs (see images) I have yet to find one but might improvise something similar when I get the chance.

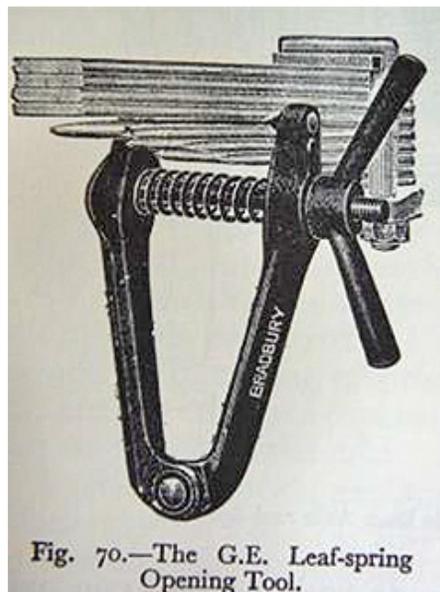


Fig. 70.—The G.E. Leaf-spring Opening Tool.

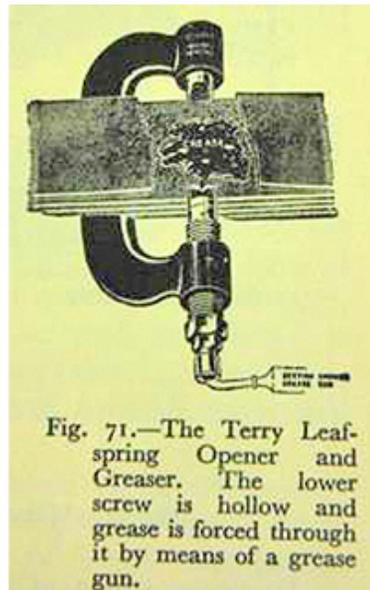


Fig. 71.—The Terry Leaf-spring Opener and Greaser. The lower screw is hollow and grease is forced through it by means of a grease gun.

Pics from The Modern Motor Engineer Vol 3. By Arthur W. Judge. Published by Caxton

Bear in mind grease does cause dirt and dust to stick which can form a grinding paste so, if you are into trialling for instance, you might prefer to simply clean them and coat with light oil. Around Bristol I find the rain tends to keep the dust down... Larger pre-war cars had greasing systems 'designed in' with through holes and channels in the leaves allowing the whole spring to be easily greased from one point and often had gaiters fitted suggesting this was the perceived wisdom of the time.

When I rebuilt the front axle on the Ruby last year I took the opportunity to strip, clean and inspect the front spring. If doing this a G clamp around the assembly when undoing the centre bolt is recommended to prevent the spring flying apart. Surprisingly minimal wear was evident so everything was reassembled with grease and bound with Denso tape (some folks use large 'heat shrink' tubing!) Although greasing and covering your springs should help them last longer it doesn't mean one should forget about them altogether so a periodic check on their condition is still important.



Ruby front spring after removal



During dismantling and cleaning



After greasing, reassembly and taping

We are very fortunate that replacement new springs for all models of Austin Seven are available from trusted suppliers. So should your springs be sagging, broken or badly worn then you can treat yourself to new ones.