

Friction versus fluid – a shocker of a tale

John Shepherd

When I restored our 1933 Triumph Gloria 10 I was keen to fit the usual shock absorbers to the front. These were 3 inch diameter Luvax hydraulic rotary vane type that were made by Joseph Lucas and were the most popular fitment to most of the 1930s British cars. In Australia, Dufors were made on a similar principle, and were fitted to some of the early Triumph cars. Over the years, some of us have written articles discussing the rebuilding of Luvaxes (they came in 3 and 5 inch diameters) (Shepherd 1998-99, and Byles 2007 and 2010) and there are a number of good references published over 50 years ago referred to in these articles.



The operation of these Luvaxes has been discussed in these articles and they are difficult to restore. My problem was that out of 6 or 7 Luvaxes I managed to collect, all of them were worn out. They are then very difficult to resurrect. They suffered from various maladies as follows:

1. The vane to chamber clearance increases with wear, permitting fluid to short-circuit the valving, and some of this wear can be counteracted by using a higher viscosity oil.
2. The vane shafts wear, but the central housing can be re-bushed.
3. The shaft gland packings can be replaced by two modern lip seals, but I always had trouble sealing the screwed-in backing plates.

Eventually I became fed up with repeated leaks, topping up and questionable performance. However, there is a really good “period solution” by reverting to the technology of the 1920s and fitting Hartford friction shock absorbers. The 1930s literature shows that these were fitted to many Triumphs, especially tourers, at the factory and often for competition purposes on saloons. This certainly suggests that they knew then that Luvaxes were not really good enough. Hartfords are still being made in England and can be ordered in various sizes to suit many models and makes. I took advice from the Pre 1940 Triumph Motor club (UK) and they gave me the specifications for Gloria fitment.



Glorias were generally fitted with the 2 friction disc, four inch diameter type and with unequal arm lengths of six inches upper and 9 inches lower. The resistance is varied by a simple adjustment of the central nut and pointer scale so that there is a handy adjustment reference. The top and bottom pins are supplied separately at additional cost, bringing the total price to £270 plus postage. Relatively minor alterations are required to fit them to a Gloria, that is, the bottom arm pin eyes that go through the axle require modification and a 10mm thick top plate is needed bolted to the chassis using the Luvax holes to fit the upper pins. All threads are ½ inch BSF.

How do they perform? Well, it has been a revelation! In summary, I can make the following points:

- Adjustment is simple, take a spanner down the road and set them to your liking.
- The ride is amazingly supple but firm, and seems to perfectly match the half-elliptic springs
- The whole car ride is steadier and bumps are levelled out
- There is scarcely any roll through the corners and the car is really stable
- The steering and tracking has definitely improved.

Put simply, I can't believe the improvement and well worth the effort to have a safer and better-handling car. Also these Hartfords really look the part! It would seem that in the early 1930s, the new idea of hydraulic shock absorber technology overruled the practicality and performance of the friction variety with consequent detriment to the service life of the suspension.

References

Shepherd, J. (1998-99) 1930s *Dufor and Luvax shock absorbers: what the books don't tell you*. Triumph Pre 1954 Register of Australia and NZ, Newsletter no.30, pp.31-34
Byles, S. (2007) *Luvax vane type hydraulic shock absorbers*. STCC Heritage Magazine no. 46, pp.49-50.
Byles, S. (2010) *Luvax semi rotary shock absorber overhaul*. STCC Heritage Magazine no. 49, pp. 26-28



Nigel Makin's Gloria Speed Tourer