



## 560

### Take care of your steering column

Nic Houslip highlights the space between the hollow and the solid shaft forming the collapsible column is injected with a resin based material through two holes in the hollow shaft, these forming a small cylindrical piece that acts as a "shear pin". Excessive force when removing or refitting the column can result in damage to those resin shear pins. Here he recommends care when handling the collapsible column. (Feb 19)

The collapsible steering column fitted to later MGB models (but not the earliest MGBs), MGBGT V8s and on to the RV8 (and many other cars) is a carefully designed and manufactured assembly that is intended to deform and collapse in a controlled fashion in the event of a frontal impact. In simpler terms it means the difference between the steering wheel crushing your chest or just bruising it.

#### How does a collapsible steering column do this?

The outer shell of the column assembly is made of expanded metal or similarly manipulated sheet metal that is easily crushed. Inside the outer shell there is a more complicated assembly that enables the lower shaft, the part that carries the universal joint to slide axially outside the shaft attached to the steering wheel, enabling steering inputs to be transmitted to the steering rack. The column itself is mounted to the body by means of 3 diecast assemblies that also contain a shear pin mechanism that will allow the column assembly to move downward in the event the driver is thrown against the steering wheel.

It would seem a simple device, but to allow the necessary clearance for the two shafts to slide inside one another means it will probably rattle, so the designers came up with simple solution - the space between the hollow and the solid shaft is injected with a resin based material through two holes in the hollow shaft, these forming a small cylindrical piece that acts as a "shear pin".

It is this that keeps the two inner shafts in their correct position when assembled into the outer column.

#### These steering columns can easily be damaged

From an investigation carried out on a selection of used steering columns from MGBs of various vintages by the V8 Register with the help of two former Rover employees, it is quite clear that most if not all the columns examined were damaged internally. The resin shear pins have been "popped" (sheared), meaning that the column must now be considered outside the OEM's specifications.

#### It seems that there are two major reasons for the damage

The first occurs when refitting the column or steering rack, when excessive force is applied to the lower shaft to get the universal joint correctly positioned and the second results from the incorrect removal method of the steering wheel. The correct method, described in the workshop manual, is to use a puller, but many people simply loosen the nut and then, while holding the steering wheel, and use a hammer to hit the nut to force the column down out of the steering wheel boss. This immediately pops the resin shear pins. There is also a need to be aware that this type of damage could occur during transportation of a steering column, if the courier dropped the column end, then it's probably a dud!

The decision to investigate these columns as a project was brought about by the fact that there are no spare columns available for the RV8 and that many RV8 and MGB owners may be driving around unsuspectingly without a specification column which is a safety related issue. During this project, undertaken by the V8 Register with the help of two former Rover employees working on these collapsible steering columns, we will endeavour to **provide good information on how steering columns should be refurbished or repaired**, and also **find a specialist firm prepared to offer a refurbishment and repair service for damaged steering columns** who is suitably capable to carry out that work to the necessary standards. A **third aim** is to find a specialist firm prepared to obtain a supply of new replacement columns.

Of course the work involved with those aims is complex and will take time to complete, but the end result should also provide, over and above the points mentioned above, a useful addition to the Club archives, detailing what type columns were fitted to which model with approximate dates and much more useful information. When the project started it looked like a simple job, what was not expected was the number of variants of the steering column that have been fitted over the production life of the MGB and derivatives".