

## Servicing the Girling Dampers

by Paul Alting van Geusau

### 1. Introduction

In the March 2012 Issue of the Triumph Roadster Review you can find a copy of "REPLACING RUBBER SEALS ON GIRLING DAMPERS", written by Terrance J. Van Parys. This article had previously been published in the MG T-ABC Magazine in New Zealand and it can also be found on the internet. When servicing my dampers I encountered the same difficulty mentioned in the article, ie removing the 1 1/8" metal disk on the back side of the damper. But I also found a solution for this problem when removing the damper oil filling cap, the latter being fixed into the casing in similar core-plug manner as the 1 1/8" disk.

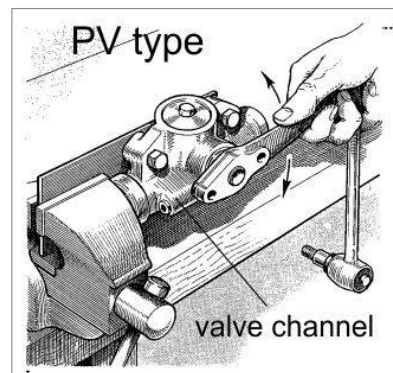
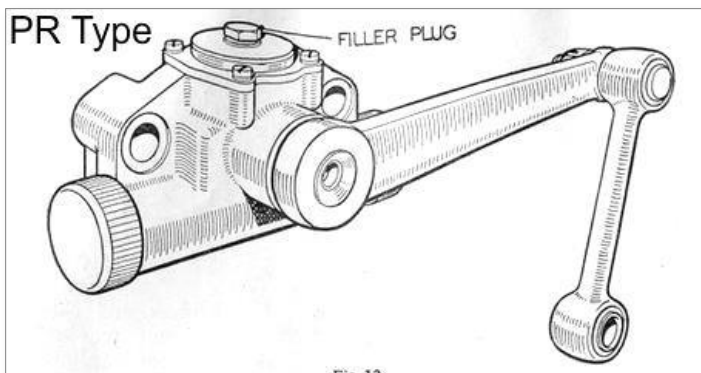
The following article is intended to add some further information and hopefully will aid those who want to service their dampers themselves.

### 2. The different Girling dampers

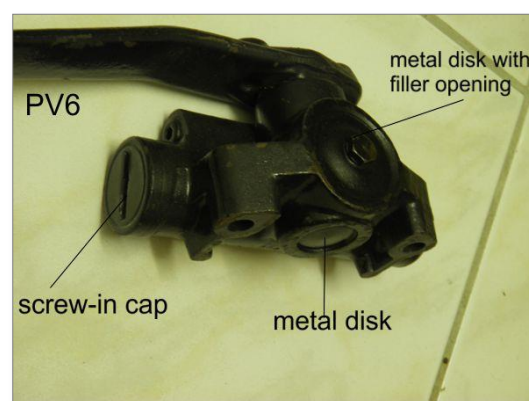
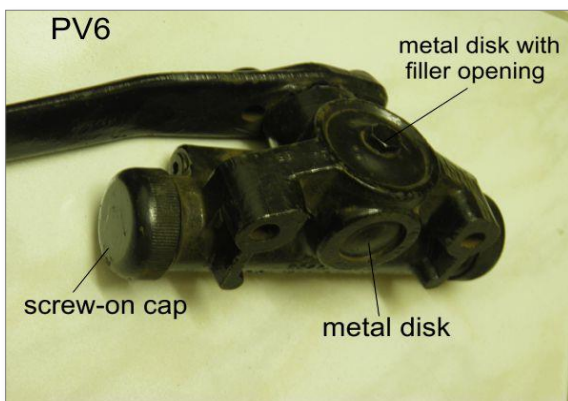
The Girling dampers described in the aforementioned article are of the PR range type and are identical to the ones used on some Roadsters. However many Roadsters have the later, improved, Girling PV type dampers (a full description of the PV range dampers can be found at the end of this article).

In the PR type dampers the pistons contain all the valves whereas in the PV the pressure valves are positioned in a separate channel running parallel to the cylinder in the same casting. In contrast to the PR type this allows the PV damper to be adjusted.

The following pictures show the particulars of the two types so that they can easily be recognised.



Both types have damper bore end-caps that can be unscrewed. In fact the PV6 can have either screwed-on or screwed-in caps or just core-plug end caps.



Since the present article is mainly intended to supplement the March 2012 article I will focus on the PV type.

### 3. Taking the damper apart

Most of the dismantling procedure is very well explained in the aforementioned article and I will therefore limit myself mainly to the removal of the metal disk with filler plug (oil filler cap) of the PV6, which method can also be used for removal of the metal disk closing the opening at the end of the damper rod.

Both disks are mounted in core-plug manner that is to say; the hole is slightly tapered so that after setting the concave disk with a tap of a ball-pen hammer and resulting diameter expansion it locks itself in the bore. Quite some force is needed to pull it out again.

In the March 2012 article it was suggested to drill a hole in the centre of the disk and use a slide hammer for pulling the disk out. I opted for another method which proved quite effective and less destructive.

The filler plug has a 1/8" pipe thread (BSP) which is about 10 mm in diameter. Being quite a robust thread it occurred to me that by simply screwing a 1/8" BSP threaded bolt into the oil filler cap an upward force could be created the moment the bolt contacted the damper rod (in fact the top of the piston rocker arm). Not much effort was necessary to extract the cap from the damper body. In the PV type of damper it is important to withdraw the cap without any damage because it has to be used again!



This success made me decide to use the same procedure for the metal disk opposing the damper arm rod end. It was found that the material of the disk is sufficiently thick to be able to cut a 1/8" BSP thread into a hole drilled at the center of the disk and by using the same threaded bolt the metal disk came out easily without any damage.



The rest of the dismantling procedure and cleaning is the same for the PV type of damper as for the PR type described in the March 2012 article.



After taking out the damper rod the rubber damper rod seal could be taken out. This seal is just a rubber bush and had deteriorated appreciably.

#### 4. Where to obtain the spare parts needed?

Since the oil filler cap can be used again essentially only a new 1 1/8" metal disk, and instead of the rubber sealing bush, a lip seal must be ordered.

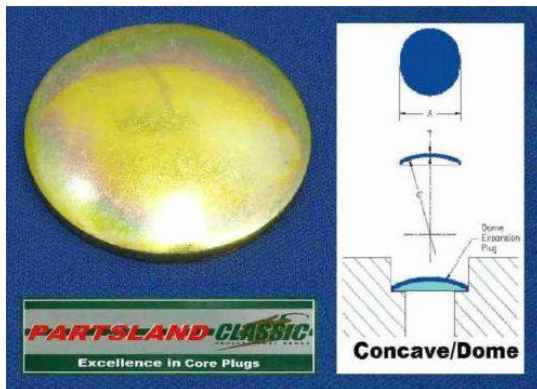
In the March 2012 article a reference number for the lip seal is given, which seal is of the correct size also for the PV type damper (seal # 340413, 1.314 inch OD, .875 ID and .250 inch thick). Living in Germany such an imperial sized seal is difficult to obtain over the counter so I searched the internet and came across the US Company Rockauto which even has a German language website. I ordered 16 seals on 22 April (for only 2,04 Euro each!) which arrived from the US on 30 April 2014 in Munich, Germany. All I can say: Excellent service!

The old and new seals:



The 1 1/8" core plugs were also unavailable in Germany. Different types of core plugs exist and it is important to order the concave dome ones and not the "pan" type, pictured below (right).

I found the correct concave domed ones on EBay UK



#### 5. Assembly

The March 2012 Review damper article describes in detail how the the PR type damper should be assembled and the steps are identical for the PV type dampers. The author of the article uses two lip seals for the damper arm rod which appears a good idea but I do not think that that is absolutely necessary. What is important is that the plugs and caps are well sealed!

Before putting the oil filler cap back into the housing it should be pressed back to return to a more concave shape so that it easily enters its bore in the damper body. After that it can be pressed home for diametrical expansion and resulting locking in the bore.

