

Overhaul of Girling Luvax shock absorbers, Type PR 5 V

In 2010 I described the overhaul of Girling Luvax Type PR5X front shock absorbers. Now it is now the turn of the Type PR5 V shocks installed on the rear axle of the YA and YT. The YB has Type PR 6 installed, essentially the same except that they are a bit more heavy-duty. The occasion for the overhaul resulted from a request for a replacement left rear shock, which I unfortunately could not provide at the time. Then I discovered a pair of these shocks in my spare parts pool, but one of them, as was the case with the requester's shock, was unusable due to a crack. My shock had been welded at some time in the past so I started looking for good replacements. Thanks to the Internet, I found a seller in Berlin was selling both sides and sold them at a moderate price. I purchased them under the motto, "Buy when you can, then you have it when you need it." I began by documenting the two very different shocks, different due to the installation direction of the lever arms.



This difference makes it impossible to exchange the right and left shocks with each other. The lever arms are marked with faintly legible letters: **Left 1043/261 A, 87 31Y / Right 1043/261 A, 87 31X**. I started by disassembling the heavily corroded dampers. Carefully remove the cover of the damper housing (die-cast aluminum) without the use of force, otherwise it will break. If possible, do not damage the seal or you will have to find or make a new one. This lid also serves as an expansion tank in the event of temperature fluctuations, and the oil that collects runs back into the damper.

Next, clean and rinse out the damper. Mark parts such as the housing and lever arms noting their installation position to help with correct reassembly after dismantling, using punch marks or small chisel notches. Also mark the installed position of the lever on the outside of the shock, right or left.



Remove the sheet metal sealing cap on the back side of the shock by drilling through it and levering it out like a freeze plug. Underneath the cap there is a washer made of sealing cardboard, which will not be required for reassembly. In this way the bolt for the lever arm is made accessible, and it can be carefully pressed out using a suitable puller. After unscrewing the two sealing caps on the ends of the shock, all parts can be inspected



After unscrewing the cover, I discovered individual markings on the ends of the pistons.



I think the terms may mean “high” and “down” since the bores of the pistons would have to have different dimensions due to the characteristics of the shocks. I limited myself to reinstalling the pistons as they were to be safe. Since spare parts matching the existing bores are not available, I procured suitable (larger) oil seals and freeze plugs and rebored the cylinder accordingly on a lathe. I made up two auxiliary tools to bore out the holes to the new dimensions.



See below for a dimensional drawing of this tool

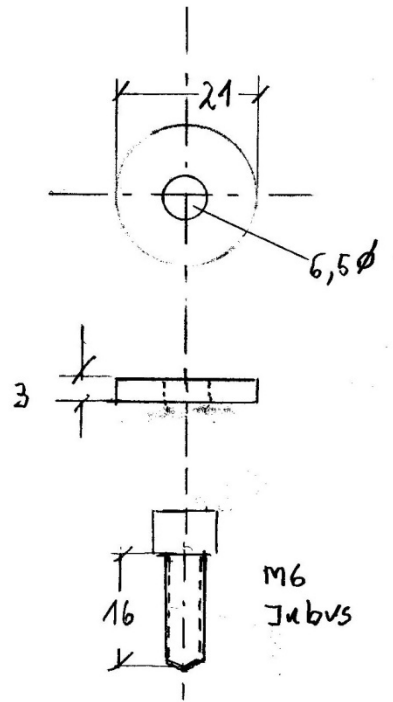
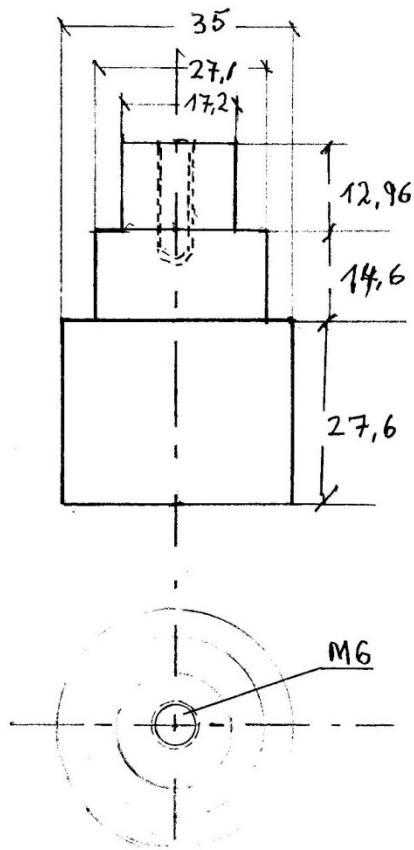


With these auxiliary tools, the damper housings could be easily machined. Reassembly was then carried out taking into account the markings and installation positions made when the shocks were dismantled.



The end caps were fitted with Loctite thread sealant. Shown are the end cap with seal and spacer and the actuating cam.

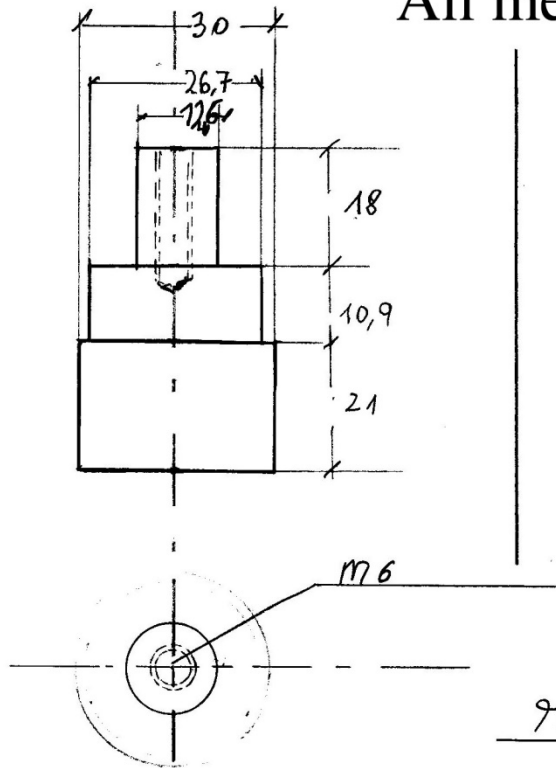




Tool 1

Alle Maße mm

All measurements in mm



Tool 2

A dimensional drawing of the tool pictured at the top of page 3

Finally, the dampers were primed with zinc paint and finished with black paint.

Supplier information:

Oil seals

Outer Diameter: 28.57mm

Inner Diameter: 15.87

Width: 6.35mm

Design: BASL DIN 3760

Material: NBR

Temperature resistant: 40°C - +100°C

Supplier: "Agrolager" Tel. +49-8166998149;

Freeze plug

Diameter: 20mm

Supplier: "Cars & Stripes" Tel. +49-5031515551

Karl Heinz Borchers, MG Y-Types Register