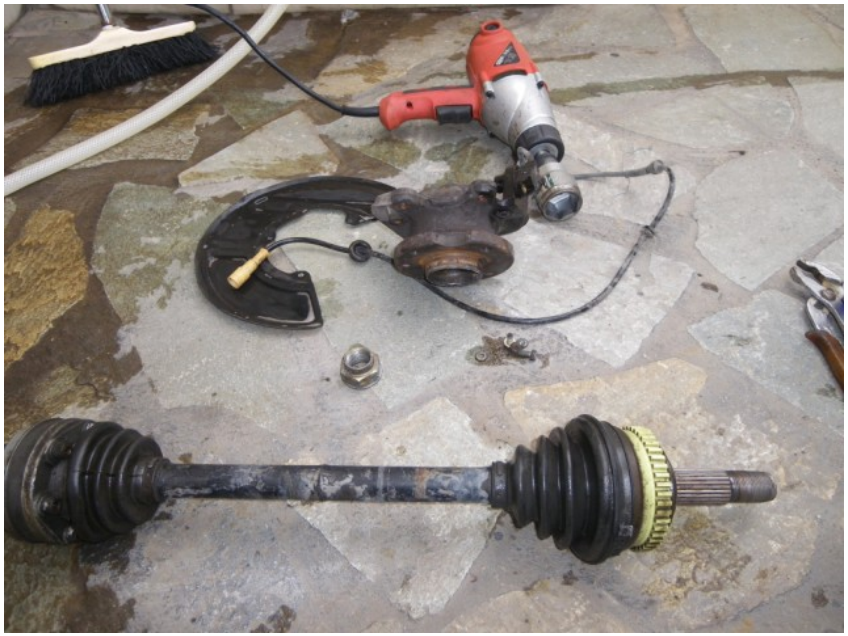
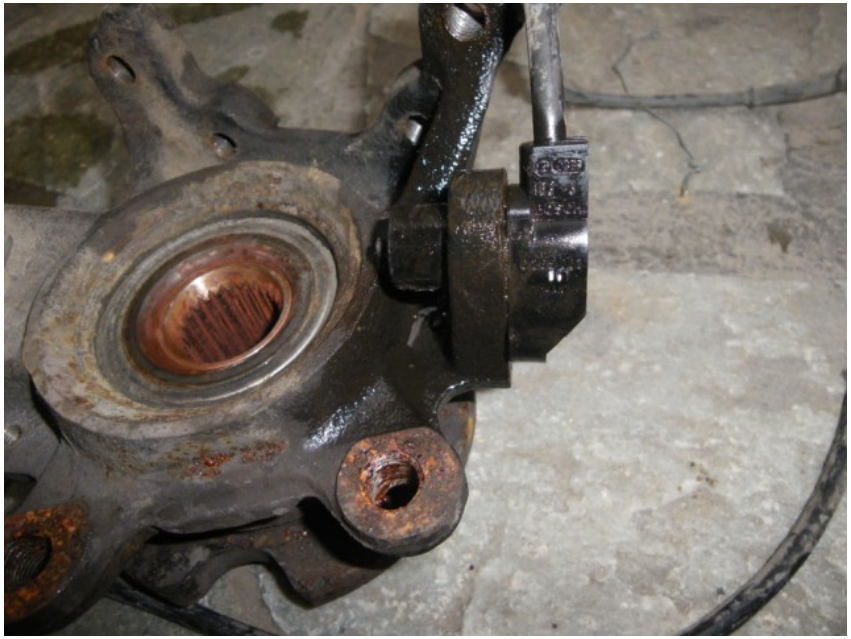
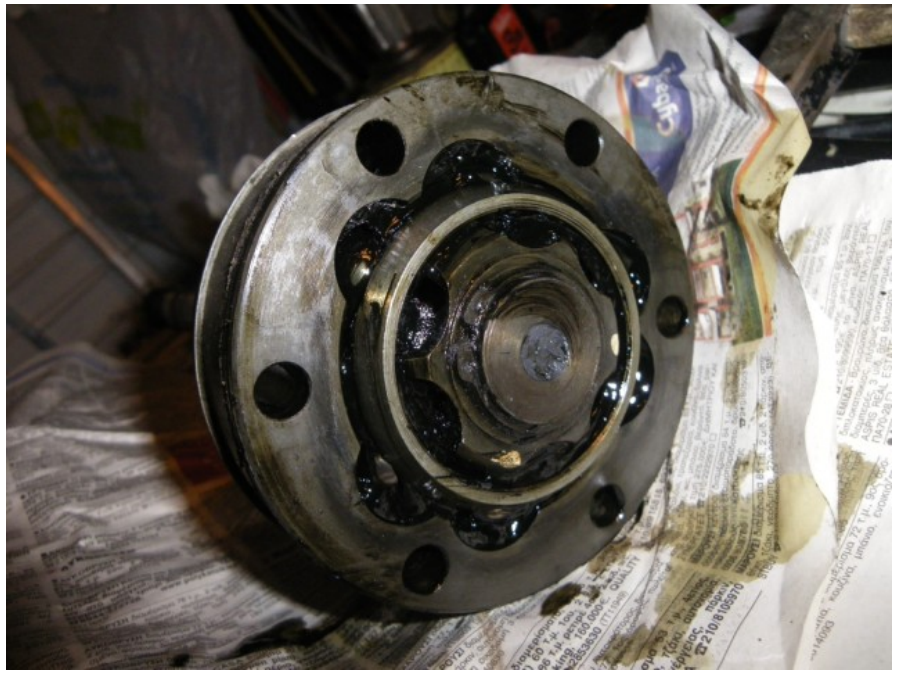
Let's start renewing parts. As a first step I chose to deal with the front of the ABS system by rebuilding and restoring front wheel hubs & half-shafts. The main difference compared to the non-ABS version is the teethed CV joints and the ABS wheel sensor bracket on the wheel hub. The rest of the parts like wheel bearings and brake calipers remain the same.





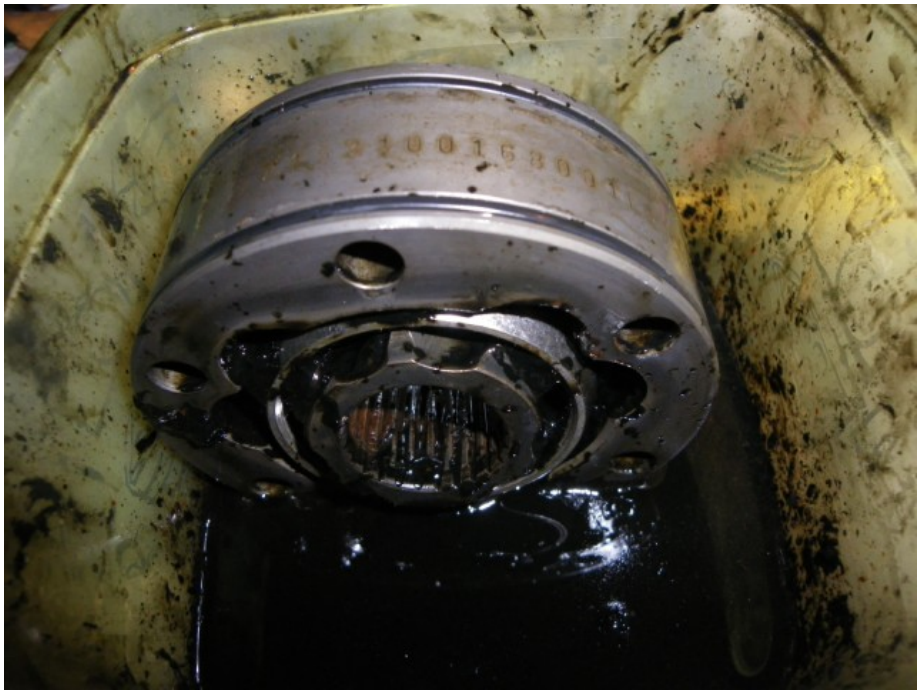
Clearly shown are the ABS CV joint teeth on the bottom of the left photo – on the right you see the extra bracket on the ABS version of the hubs where the induction sensor is fitted.

With the help of the impact gun it was a piece of cake to remove the 36mm axle nut. Without it I would be still trying…

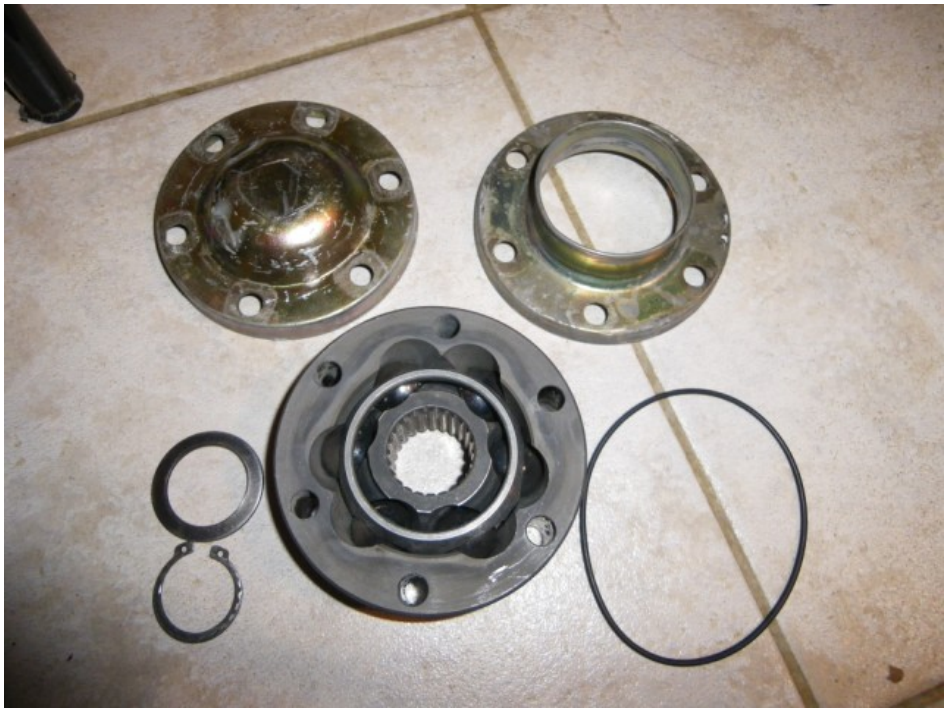


Working on the bench, we will take everything apart. I first chose to take apart the inner CV joint. With a light tap on the CV cases you may expose the CV internals. Wipe off the graphite grease and you will clearly see the lock ring which keeps the shaft attached to the CV joint on the gearbox proximity. Remove the lock ring using expanding pliers and some light tapping, the shaft will pop out of the CV joint.

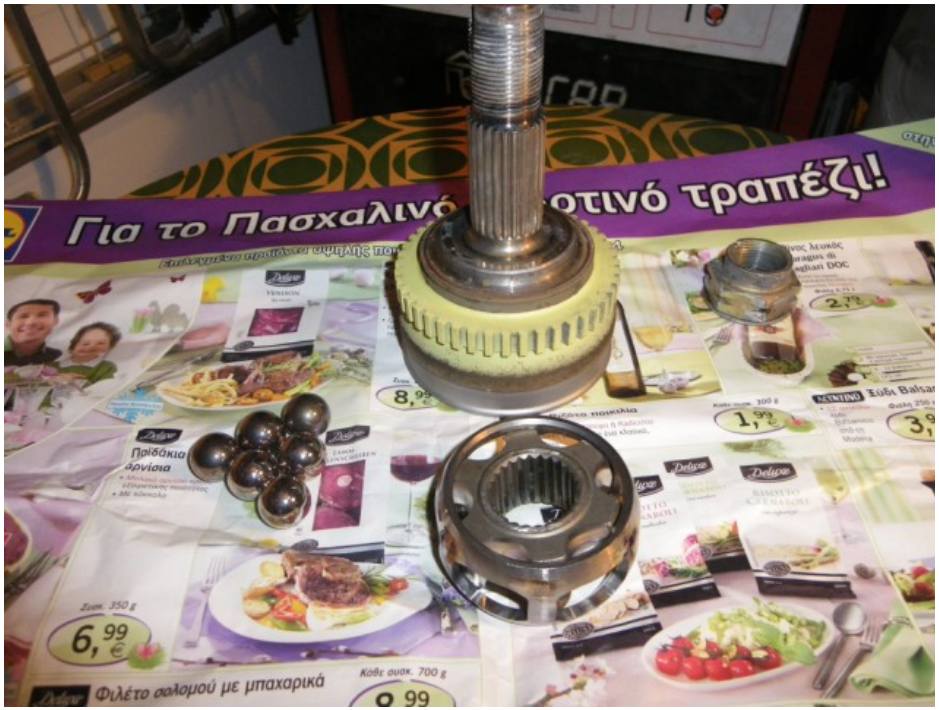
Going to the wheels side:



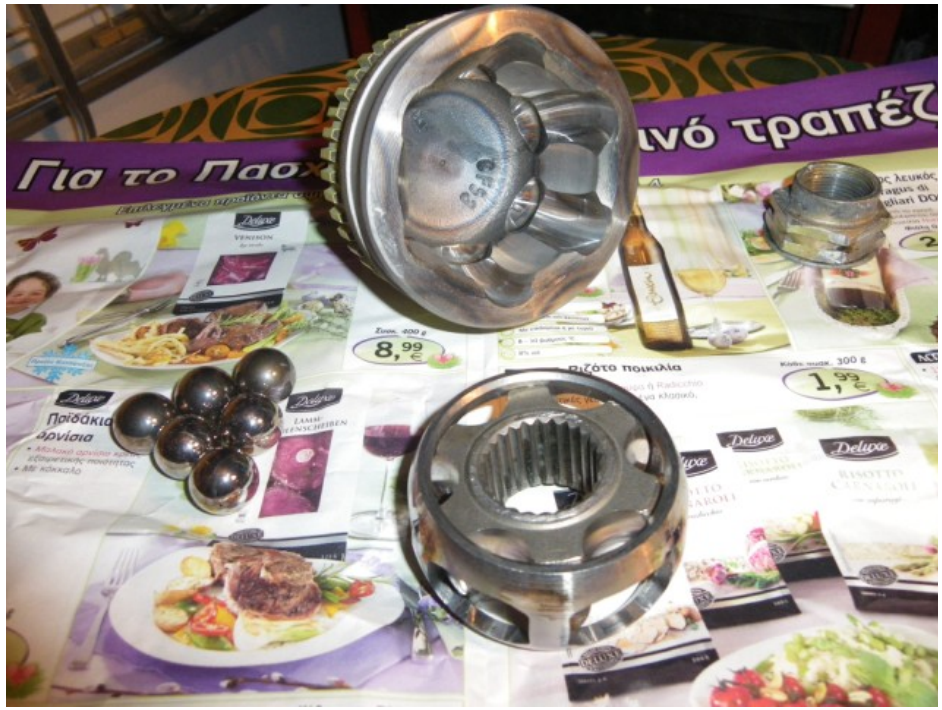
The inner CV joint is now separated from the shaft and it is now soaked in strong degreaser in order to clean it thoroughly.



After cleaning the mess, there are the parts of the CV joint. I have chosen to renew the large o-ring which appeared to be worn out by letting grease out.

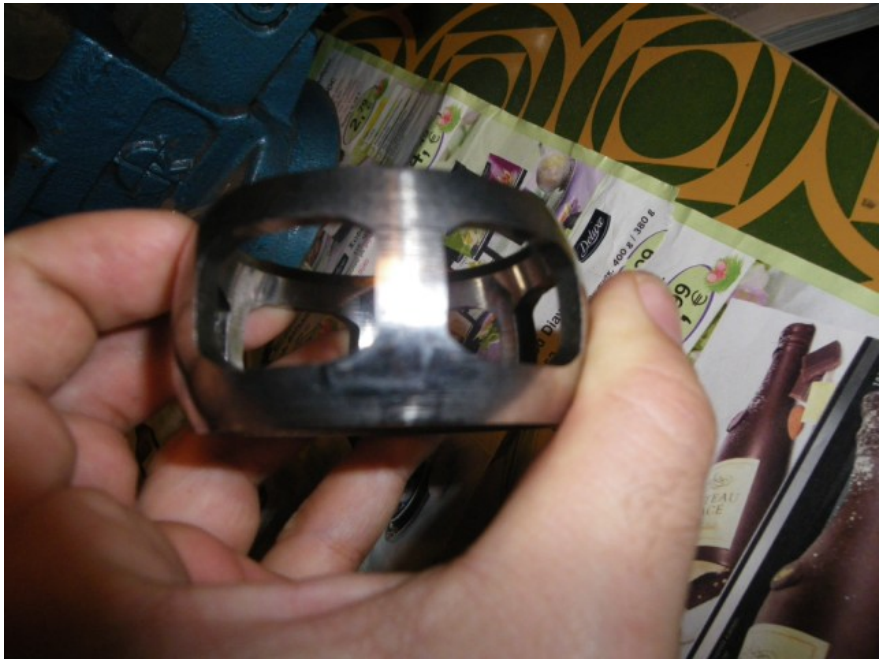


I have done the same for the outer CV joint meaning degreasing and cleaning it thoroughly.

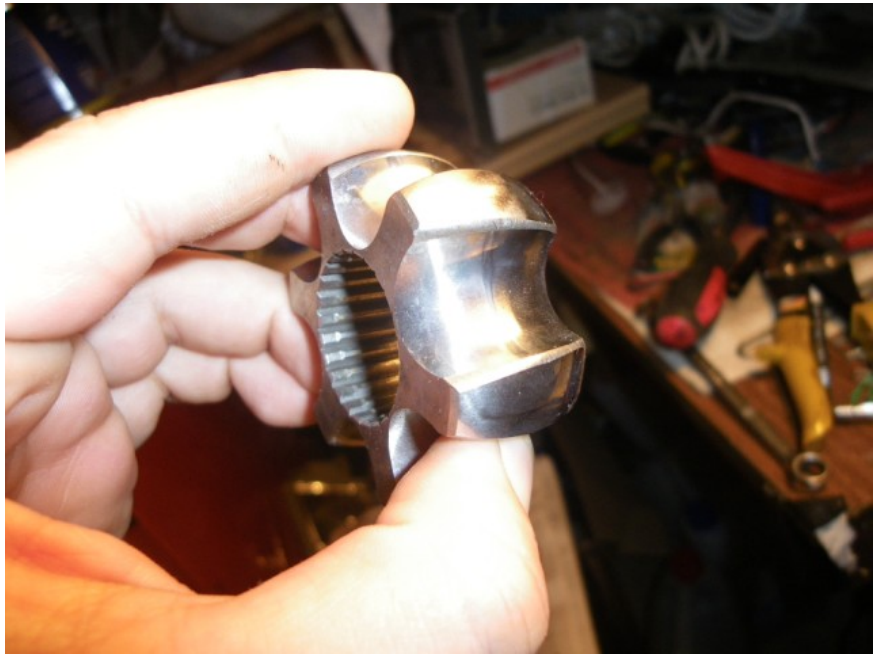


A closer photo of the CV joint.

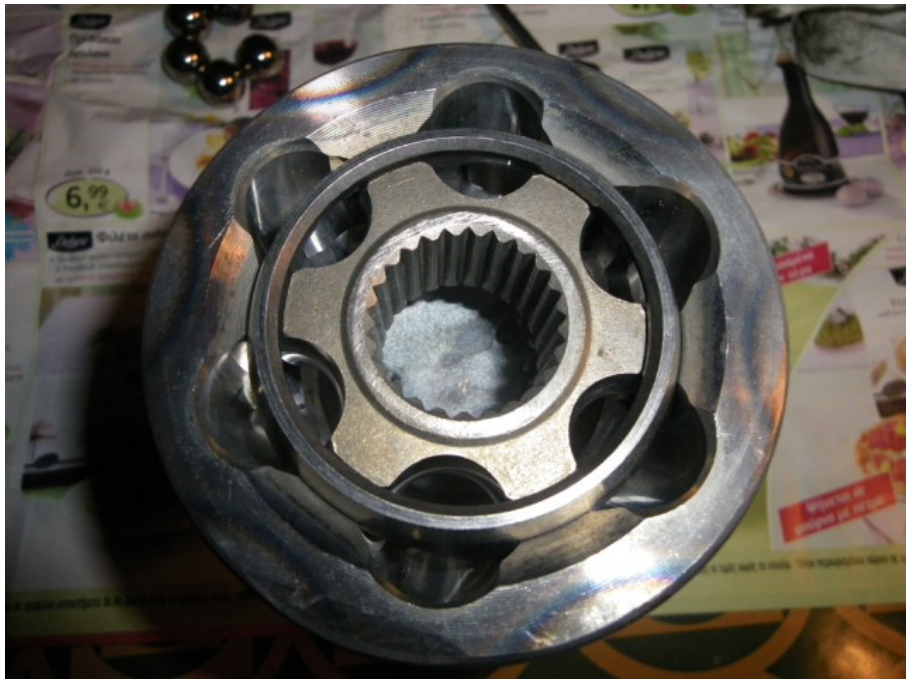
I have demonstrated this close-up of the CV internal cavity in order to show the wear on the recess of the wall.



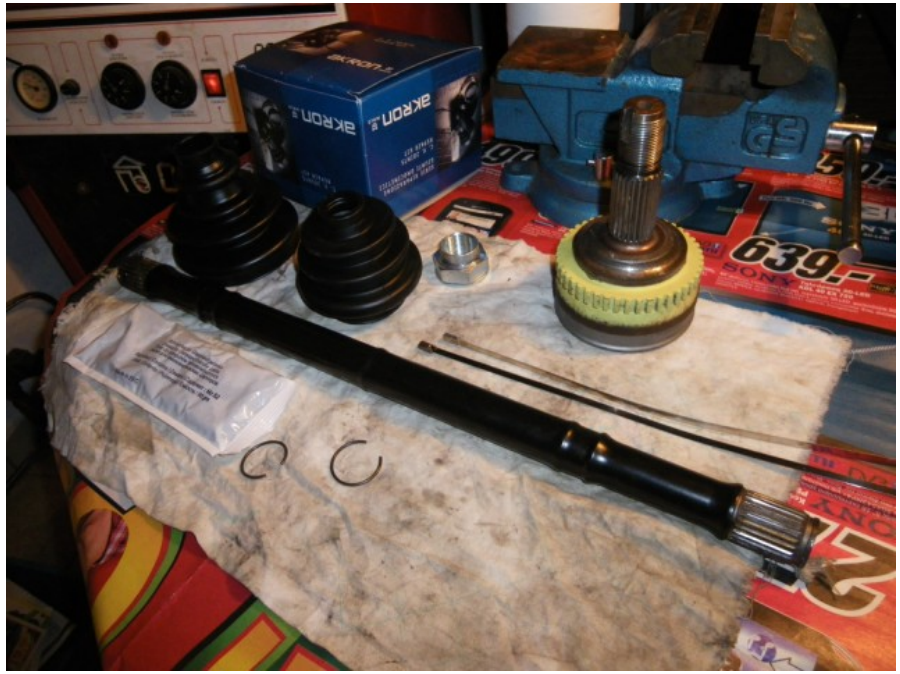
This is the balls carrier …



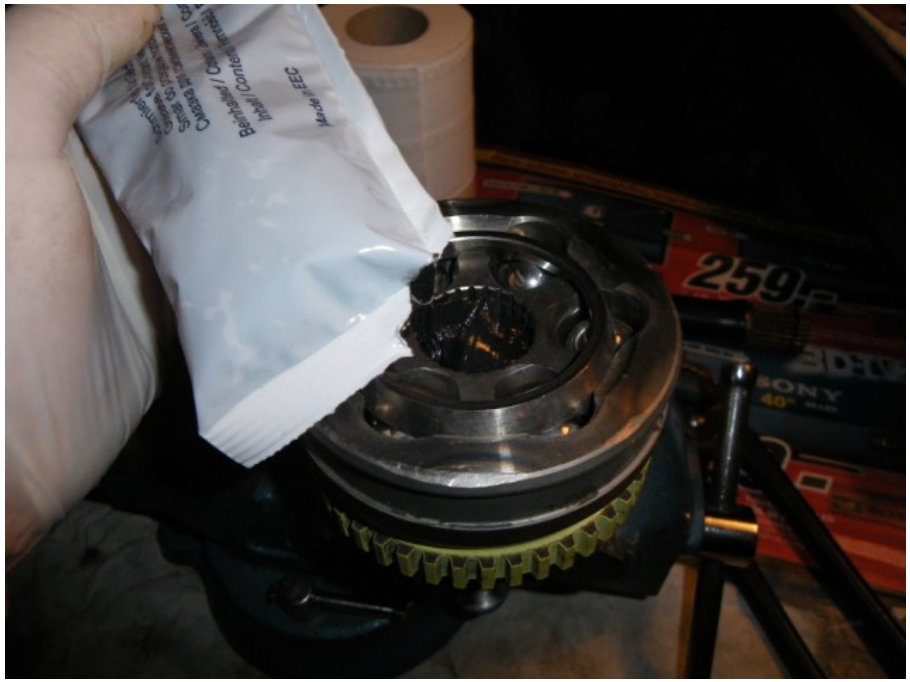
… and here you can see the splined part of the joint where the shaft enters



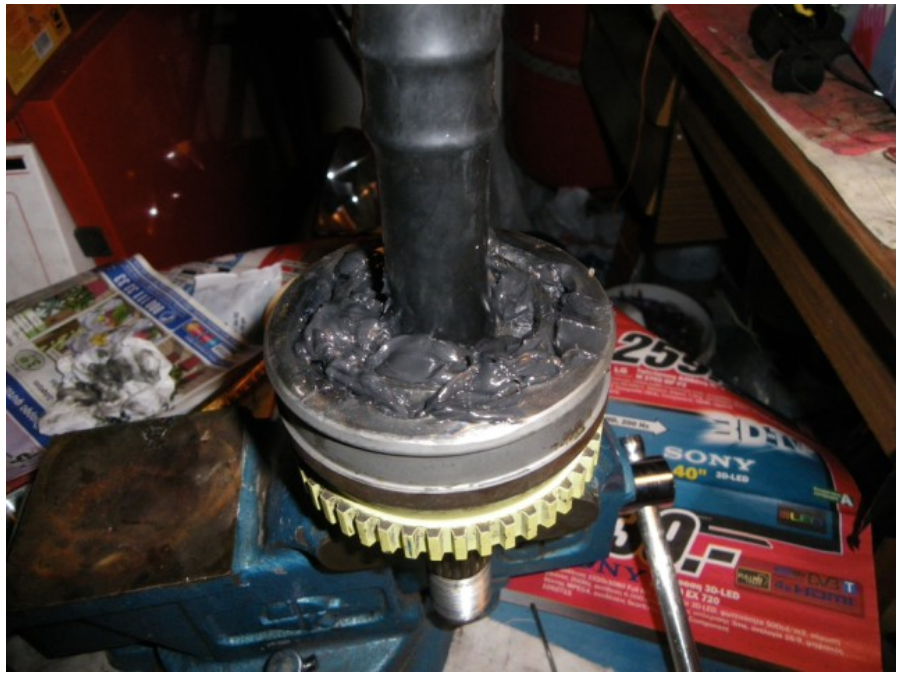
CV joint in the correct setup without the balls. Working one cavity at a time, you may press in the balls. The CV joint appeared to be a little worn out but with the rearrangement of the balls, carrier and splined part, I have rearranged the wear so that the CV now feels firm. This way I have given it more life.



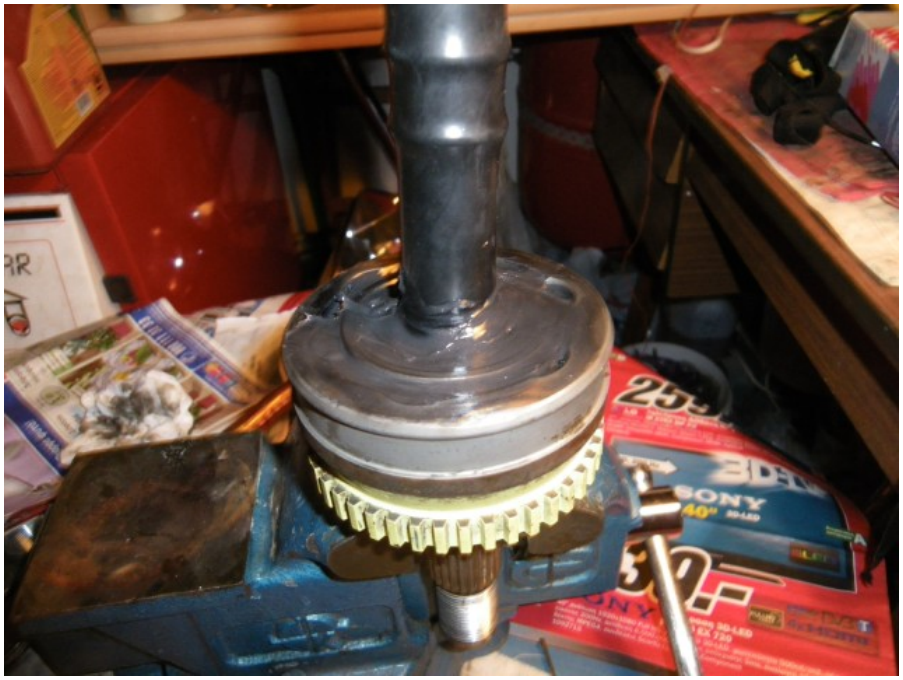
Readuy for assembly. New CV boots and freshly powder coated shafts.



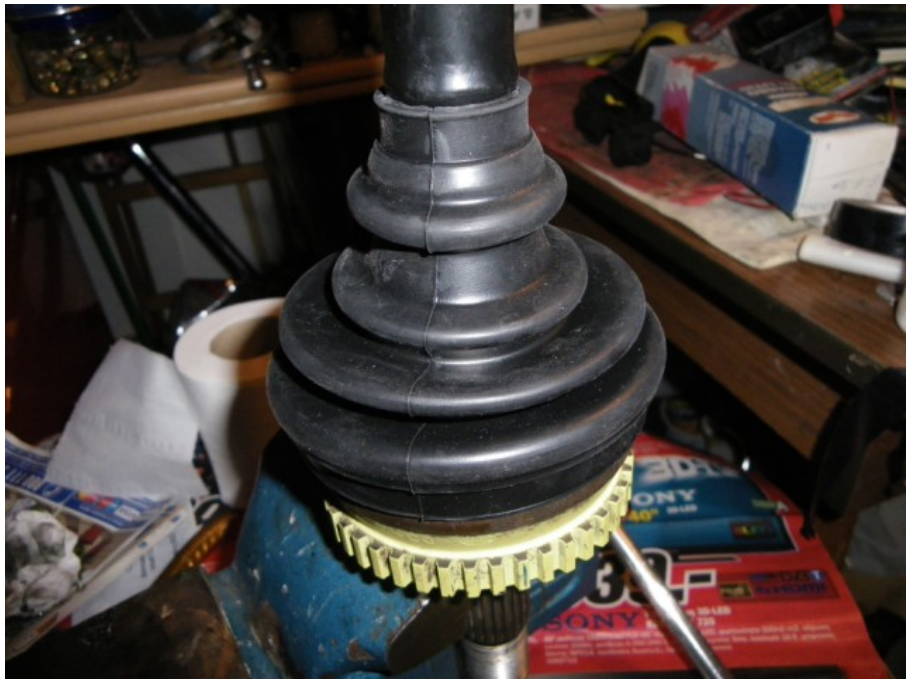
Fill in grease from the splined opening. Be sure to press in grease until you see it coming off the balls. You should now stop …



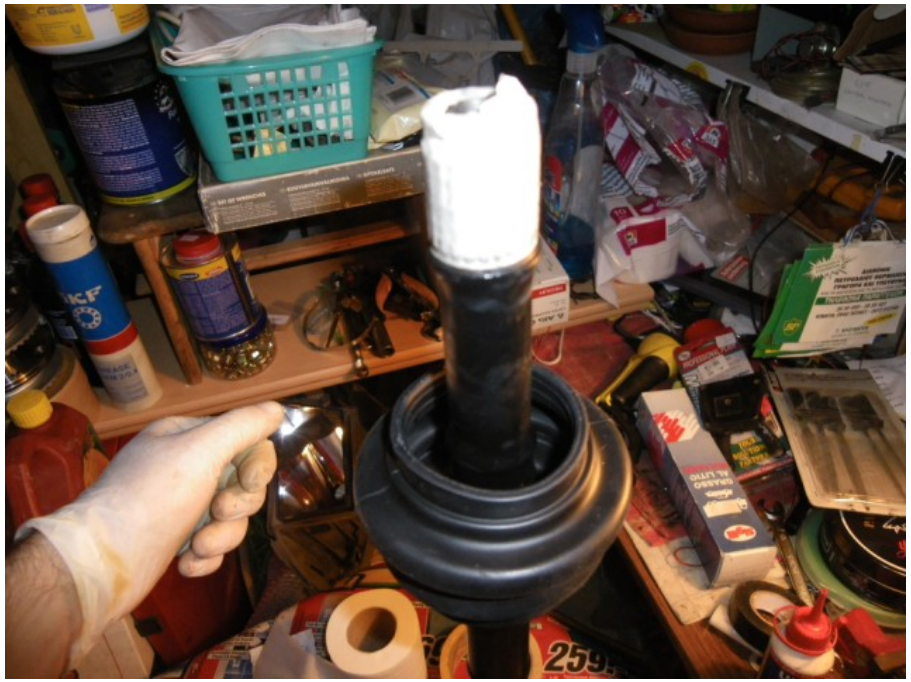
… and press in the shaft. By inserting the shaft you will force out more grease and it should look like above.



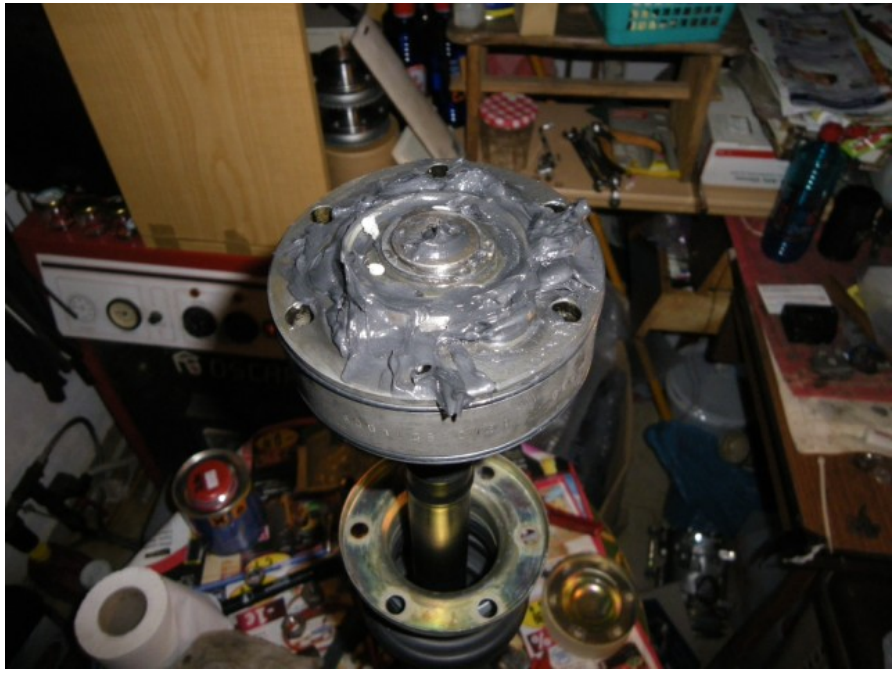
Flatten the excess grease as the photo shows. Although the grease is generally friendly to the CV boots, we don't want direct contact here. So it is better to have grease applied only on the CV joint



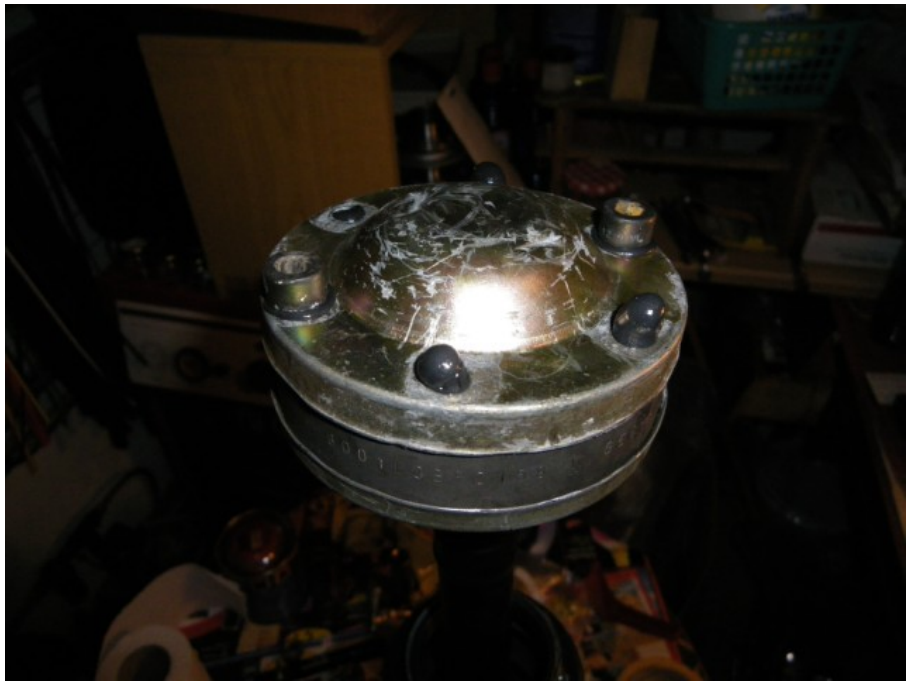
Slide in the outer CV boot and be sure to have it rest on the designated groove on the shaft and CV joint.



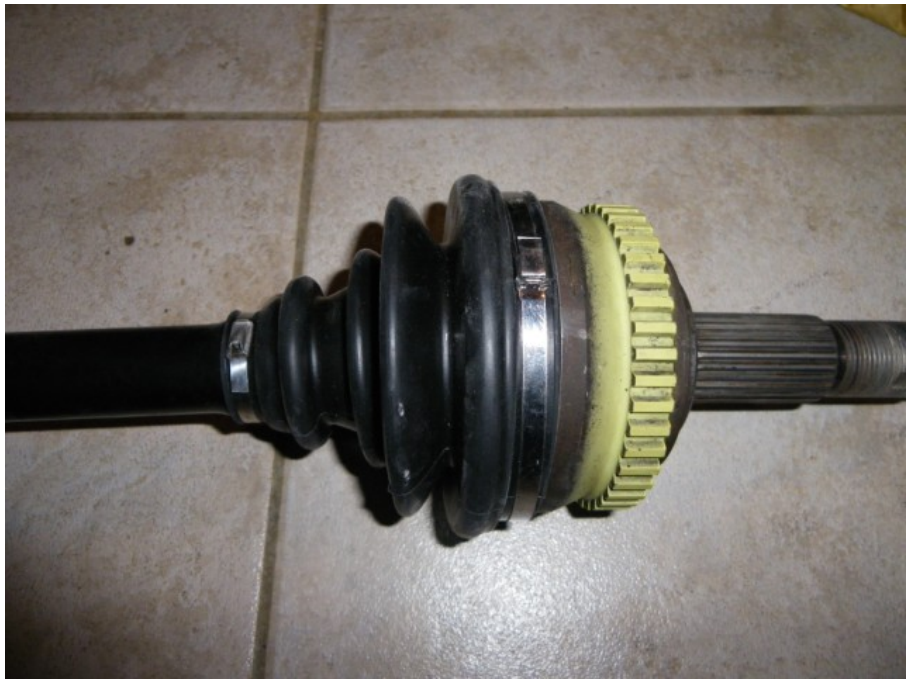
Slide in the inner CV boot. As you notice I have covered the splines with tape in order to avoid damage to the boot.



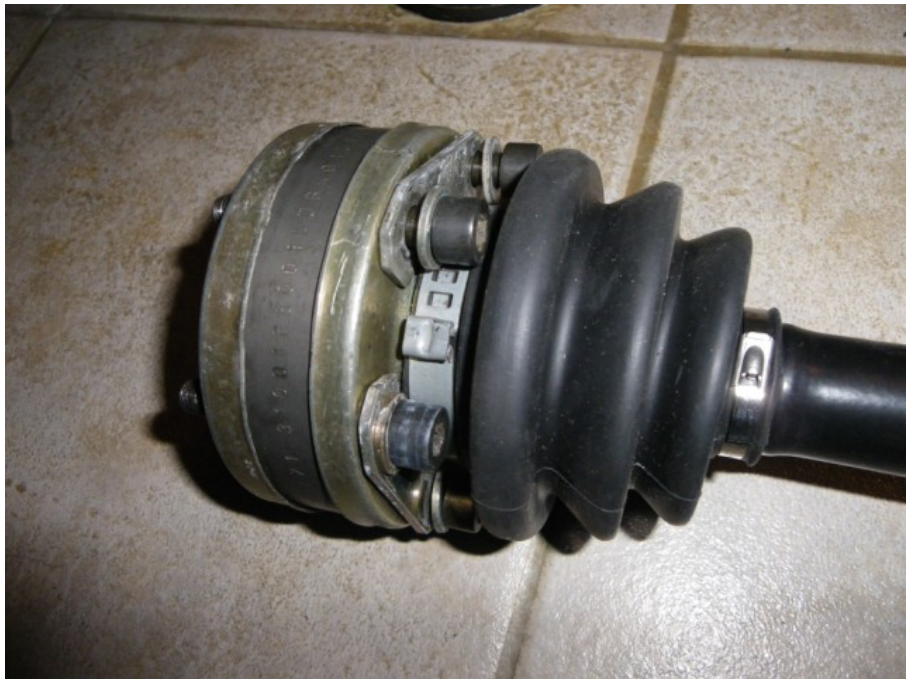
Under the same practice press in the inner CV joint and secure it with the relative lock washer. Then apply grease from the top by pressing it in and keeping an eye from the under until it shows up.



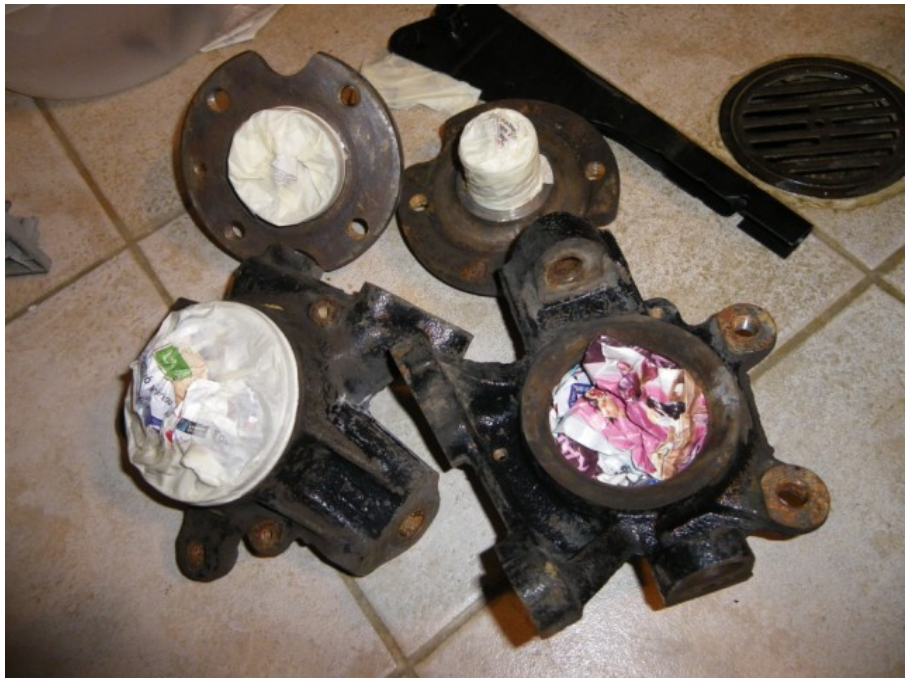
Install the CV cases and keep them aligned to each other relative to the joint by placing two CV bolts. This way the orientation of the two cases and the CV joint body will be straight.



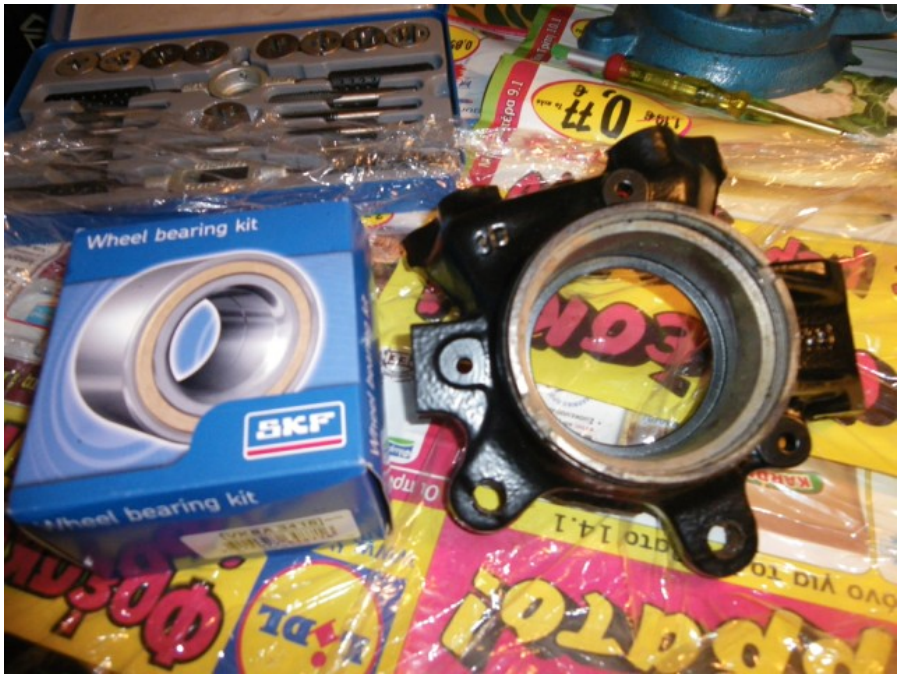
As a last action we will install the CV boots bands for the outer joint ...



… and the inner joint.



Last but not least are the hubs. Here you can see them as they came off the donor car. The will be taken to the sandblaster – I have masked the places I don't want to be affected like the bearing cavity or the hub carrier.



Hubs freshly powder coated along with new bearings. These were pressed in using a hydraulic press.