

## 00550 - Start of Injection Regulation - SOLVED! DIY!

I was baffled by the 00550 fault code I have had for over a year now. Ross tech was indicating just few possible solutions, but to no avail. I have searched the internet and the solution was to change the injection pump. But it couldn't be the entire pump, could it? Above all, the 500 euro repair bill from the specialized repairers motivated me even more to do it myself.

The problem with these pump are, as [adamss24](#) pointed out, the timing piston, which is wearing and causing it to grip instead of sliding.

The symptoms are:

- 00550 VCDS fault code.
- When you start the engine when cold, it makes a big white/blue smoke until it warms up.
- Also, the engine won't rev over 2000 rpm when you just start the engine, **BUT** it can *rev higher as the engine warms up* and around 80 degrees, I can rev up to 3500-4000 with no problem.

The repair isn't easy when you do it for the first time. It took me just over 3 hours just to take it apart. If I had to do it again, I'll do it half an hour. There are 3 tricky situations, in which you need 3 specials tools. You can bypass 2 of them with ordinary tools, but for one, you need to build it yourself. It's not that hard though.

First, remove the pump from the car. I'm not going to explain this, as you will find quite a few tutorials on the net. If not, check this thread « [Audi A6 Avant - Refurb & Repair \(Pic heavy\) - Page 12 - Detailing World](#) ».

Now the fun part starts .

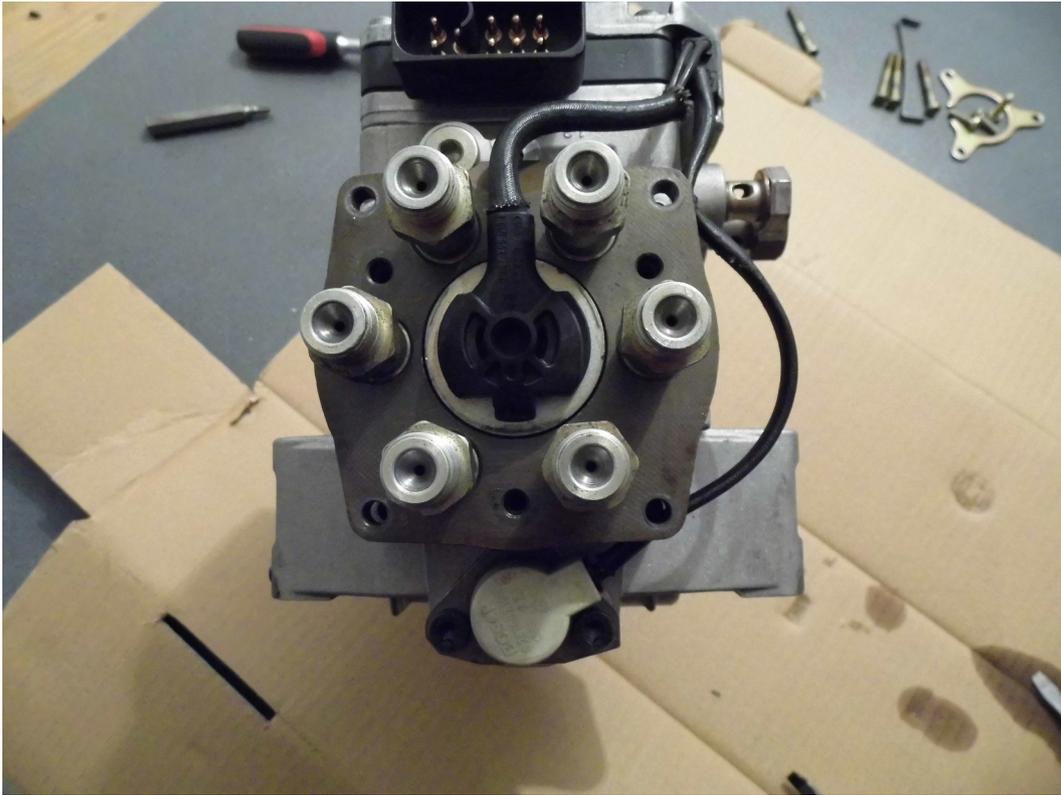
Tools necessary :

- Torx 10, 20,25, 30.
- 6mm drill bit OR injection pump locking tool.
- 6mm screws with nuts(for making a press).
- Flat screwdrivers, zip ties, pliers...
- **Patience.**

First, lock the injection pump with a 6mm drill bit or use a locking tool. You're going to need it when you install the pump on the car too.

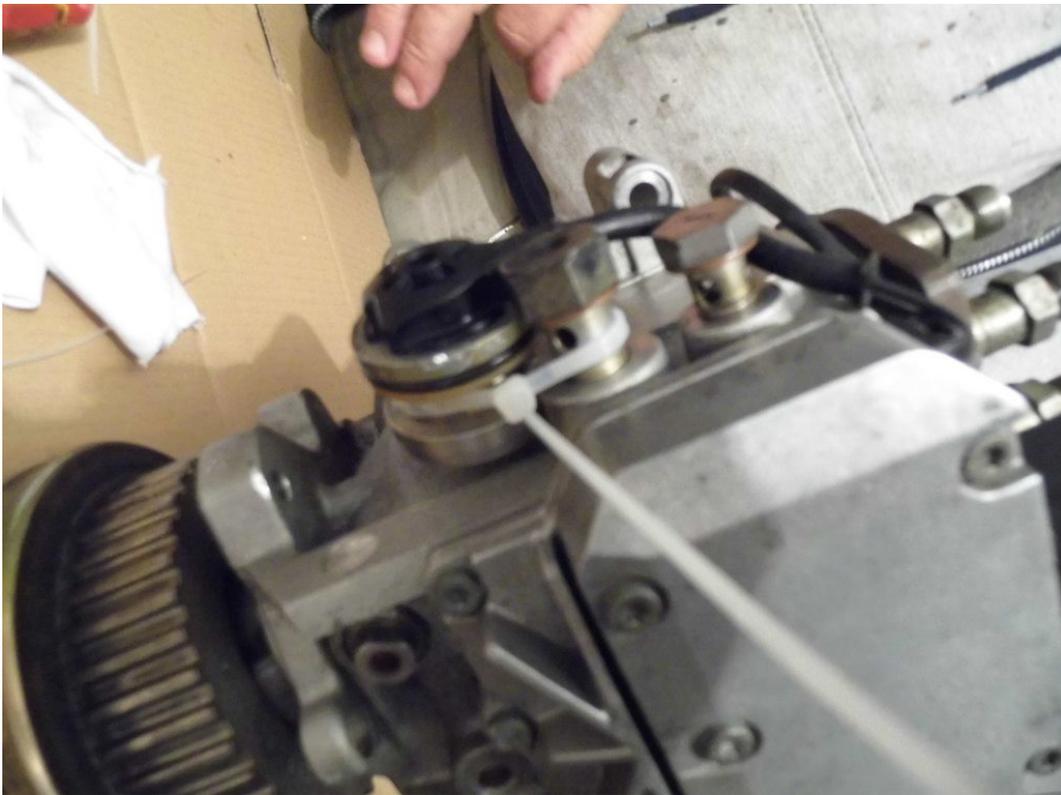


Proceed by removing the 3-star washer that holds the Quantity Adjuster Sensor. Here you need the T25 if I remember correctly.

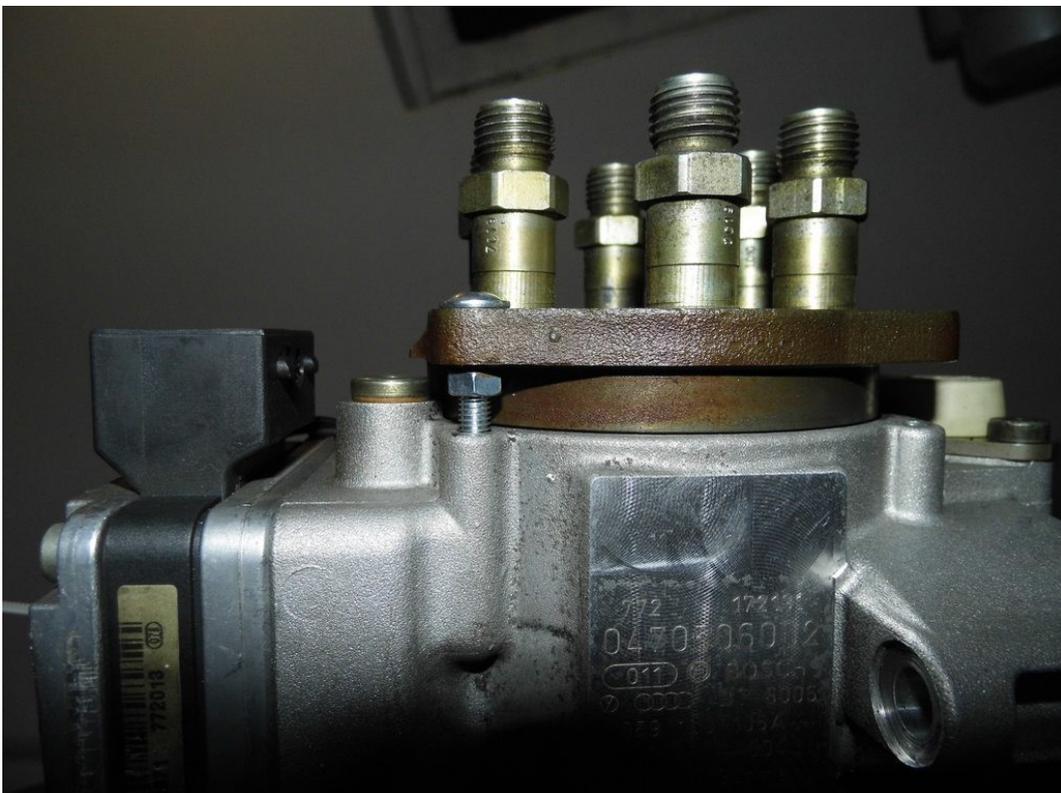


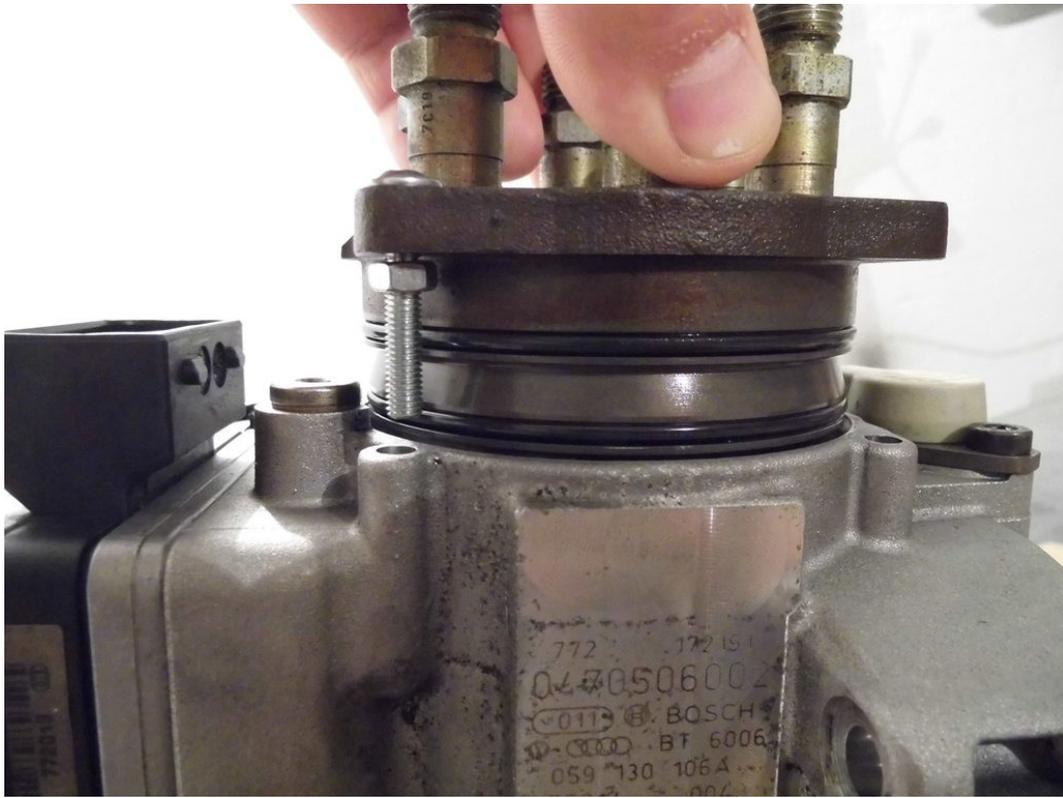
Now you need to remove it from the Pressure Head. Here comes first of the three tricky situations. How you actually remove it, it's quite a mystery for me. I have used a flat screwdriver and started moving it around until the sensor started moving. Then with another one I managed to lift it a little. After a few moments, and with a third screwdriver I managed to get it pop out. It's only held in by the O-rings. In the 4<sup>th</sup> picture you can see the Pressure Head is quite scratched.





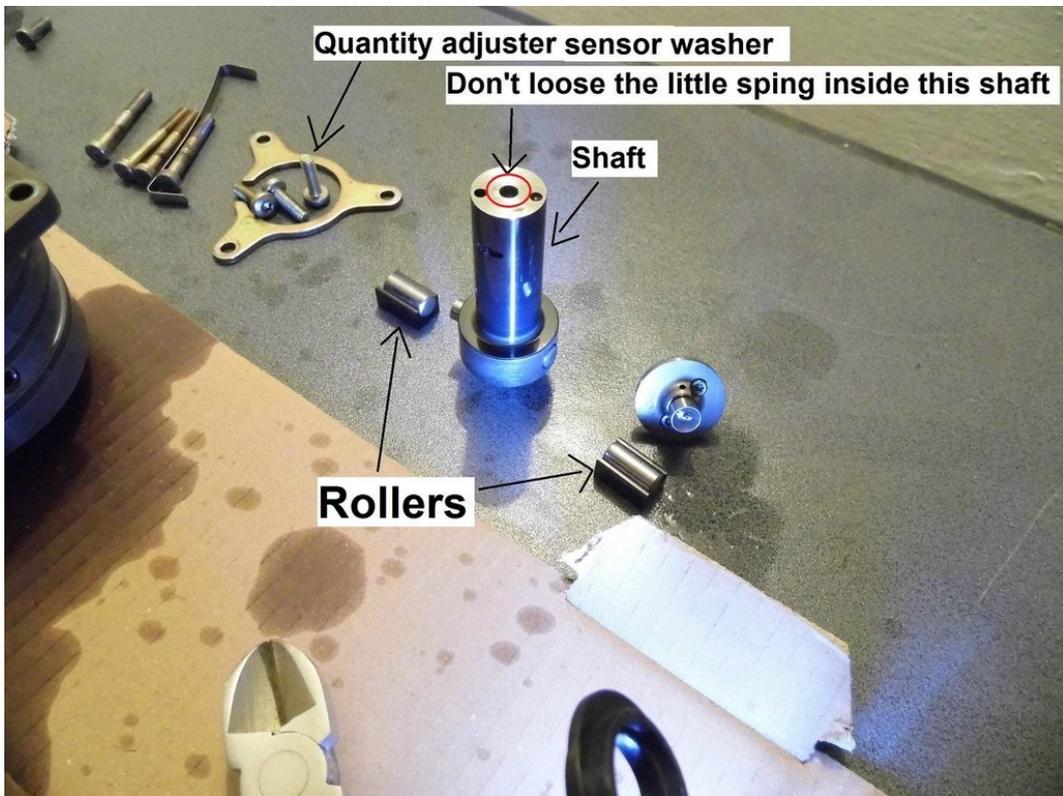
Next, remove the 4 screws that holds in place the Pressure Head. T25 if I remember correctly. In the above pictures, the screws are already off. It follows another tricky move. I have actually used lever all-around to pull it. I have managed to get it off, but now I can think of a better way to take it off: Tighten by hand 2 (diagonally opposed) or 4 screws in the holes where the Pressure Head is held in place, but use a nut between the pump and the Pressure Head, so when you unscrew the screw, the nuts will act like a press.(tip: use longer bolts than the ones I have shown)



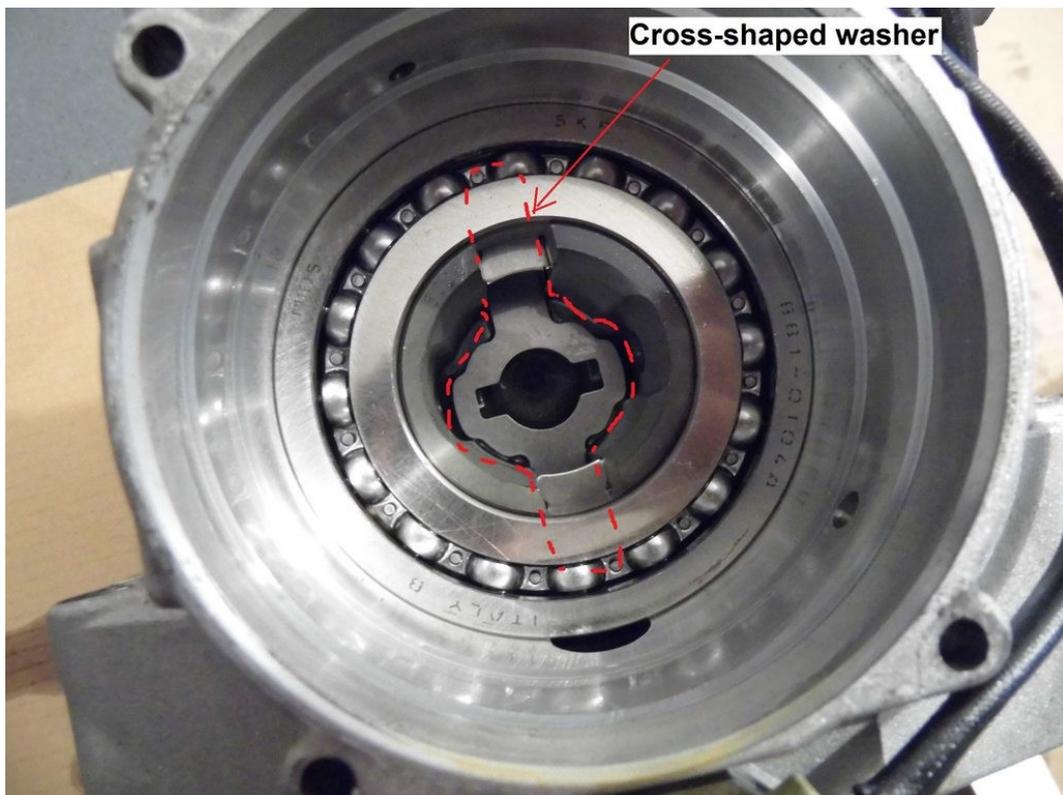


To take the Pressure Head completely off, you need to remove the two T10 screws that are in the accessible when you had removed the Quantity Adjuster (picture 4). After you remove the Pressure Head, you will need to remove a shaft. When the shaft is removed, 2 rollers may also drop, but in the last picture, you can see its position.

So now, you have taken off these:



And the pump looks like

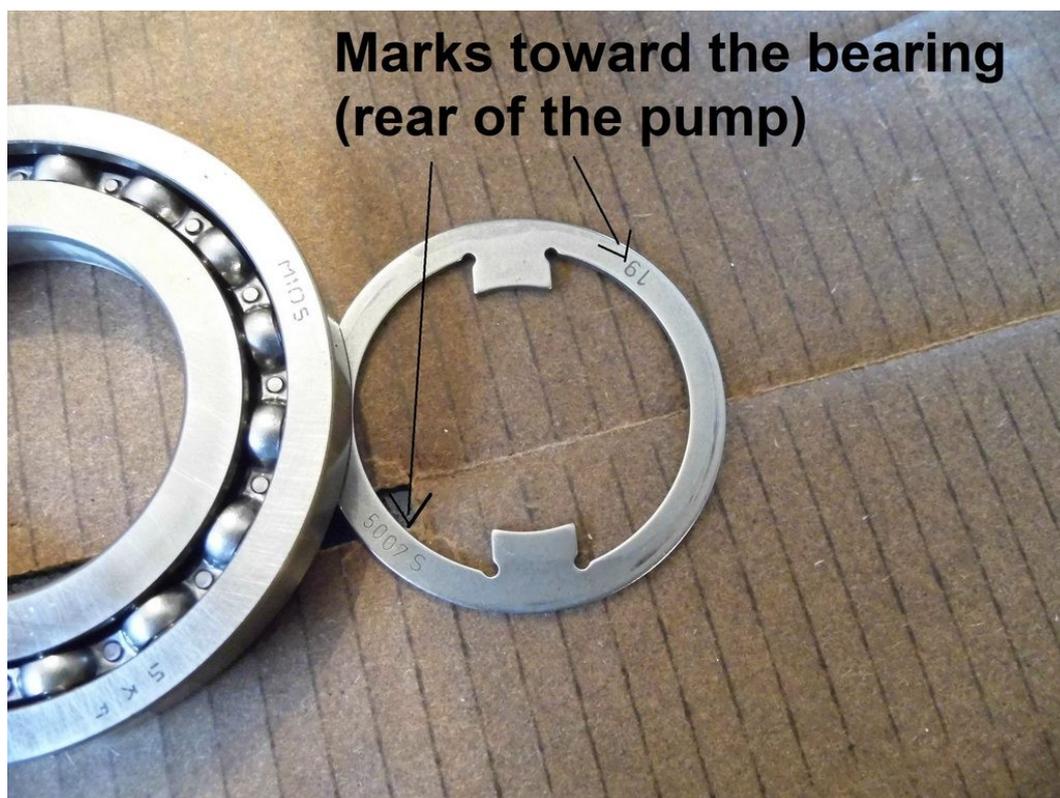


You now have to remove the bearing. In order to do that, you need a special press. This is the last tricky situation you have to pass, but you can't give up now .

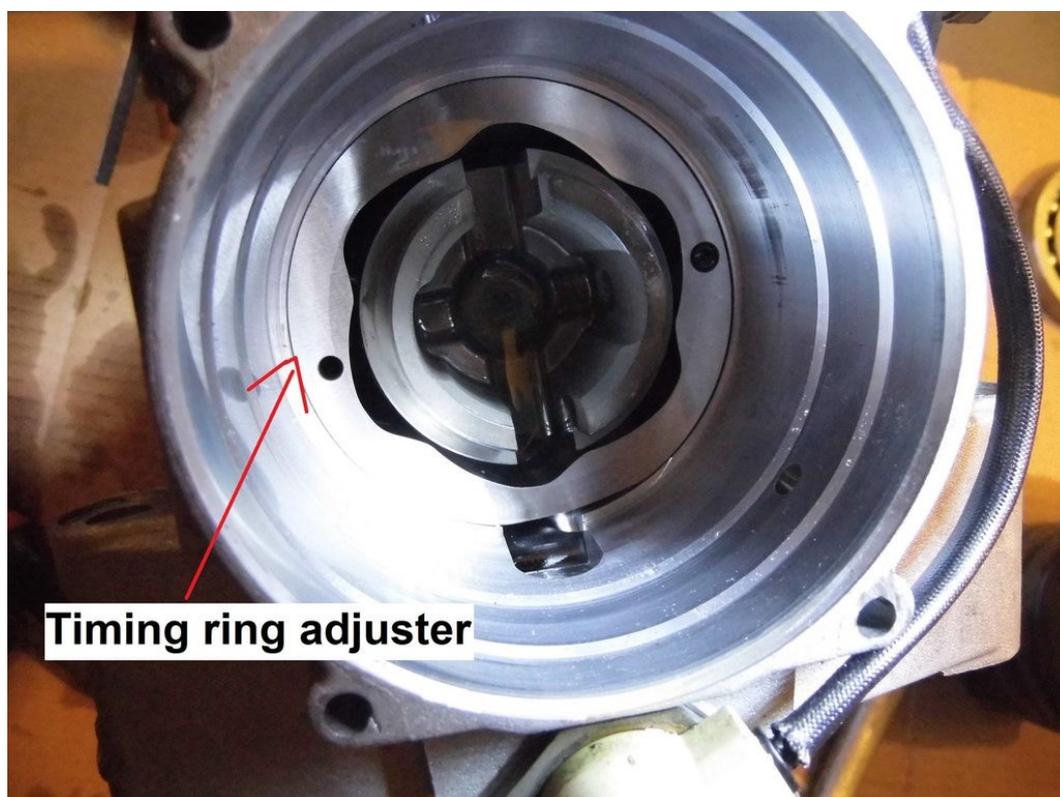
I have made a press that looks like this. It's a piece of iron, drilled in the middle, but the sizes are surgically adapted so it can fit under the bearing at an angle, so when you straighten it, it can hold up under the bearing. On the other side of the screw, it's a worn brake pad. The bearing will come off easily, but NOT that easily that you can take it off by hand.



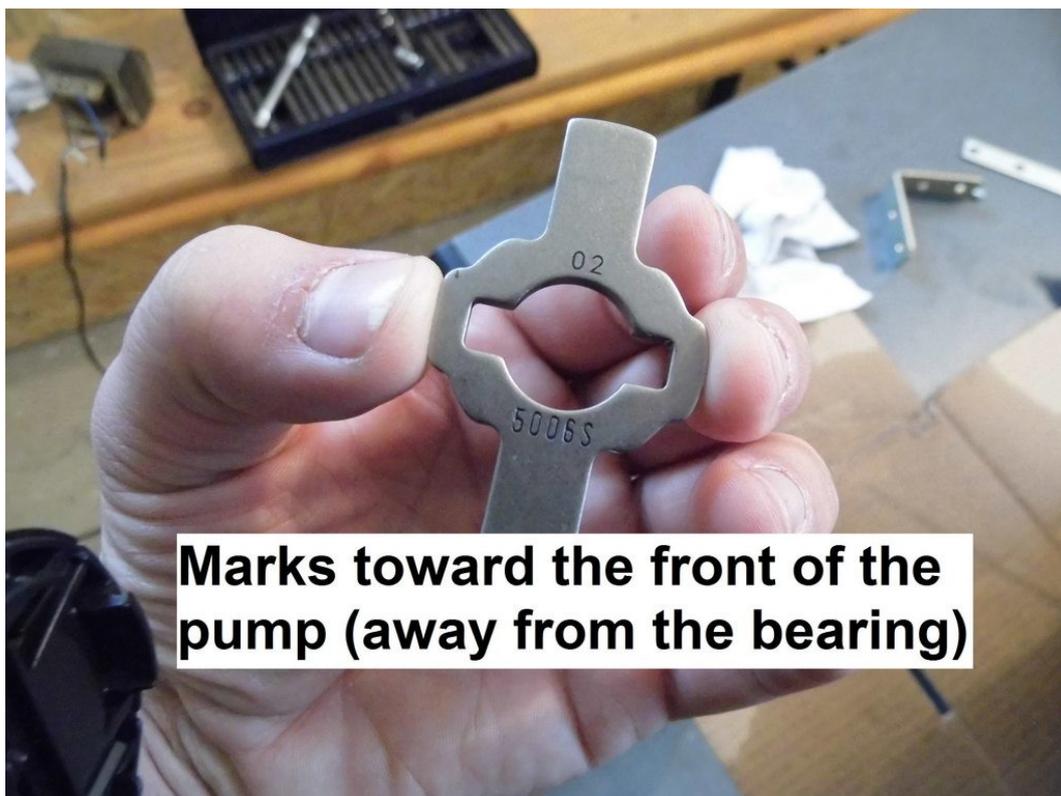
Under that bearing, there is a special washer. It should be fitted as removed. Note the markings on it. Don't fit it other way around.



The pump now looks like this. You will need to remove the cam ring(which I've noted the timing ring in the pictures). Continue reading...



In the 9<sup>th</sup> picture I have highlighted a cross-shaped washer. Take note of the marks on it. Don't fit it other way around.

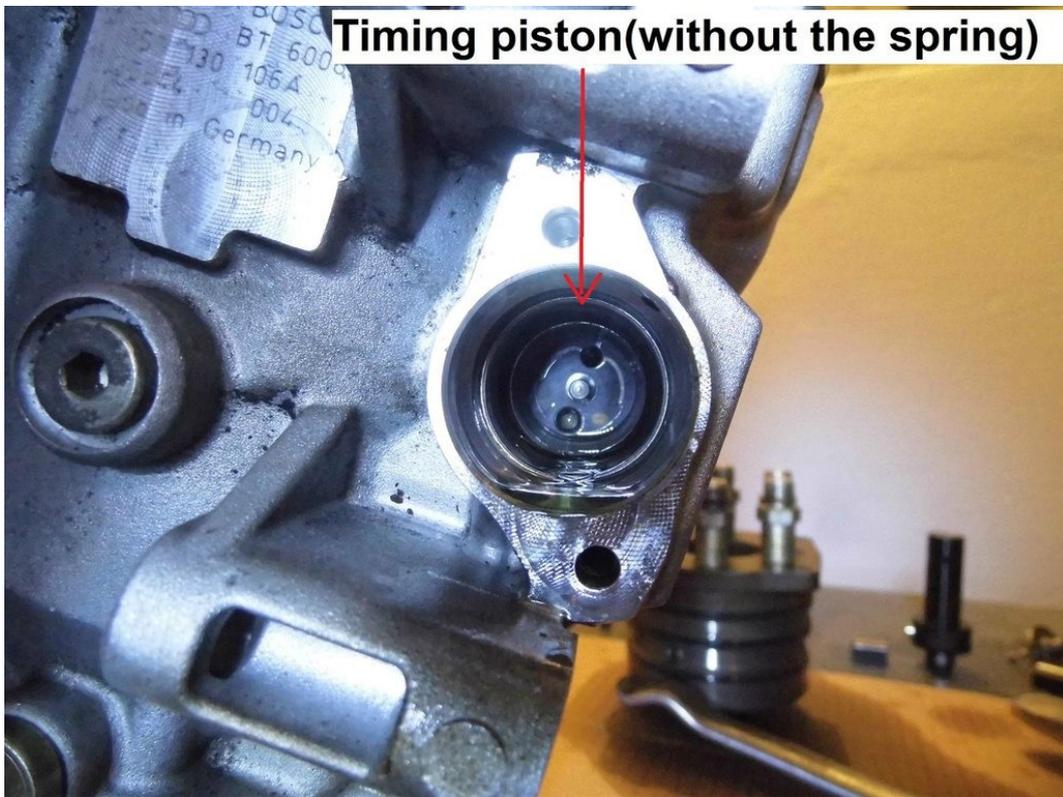


**Marks toward the front of the pump (away from the bearing)**

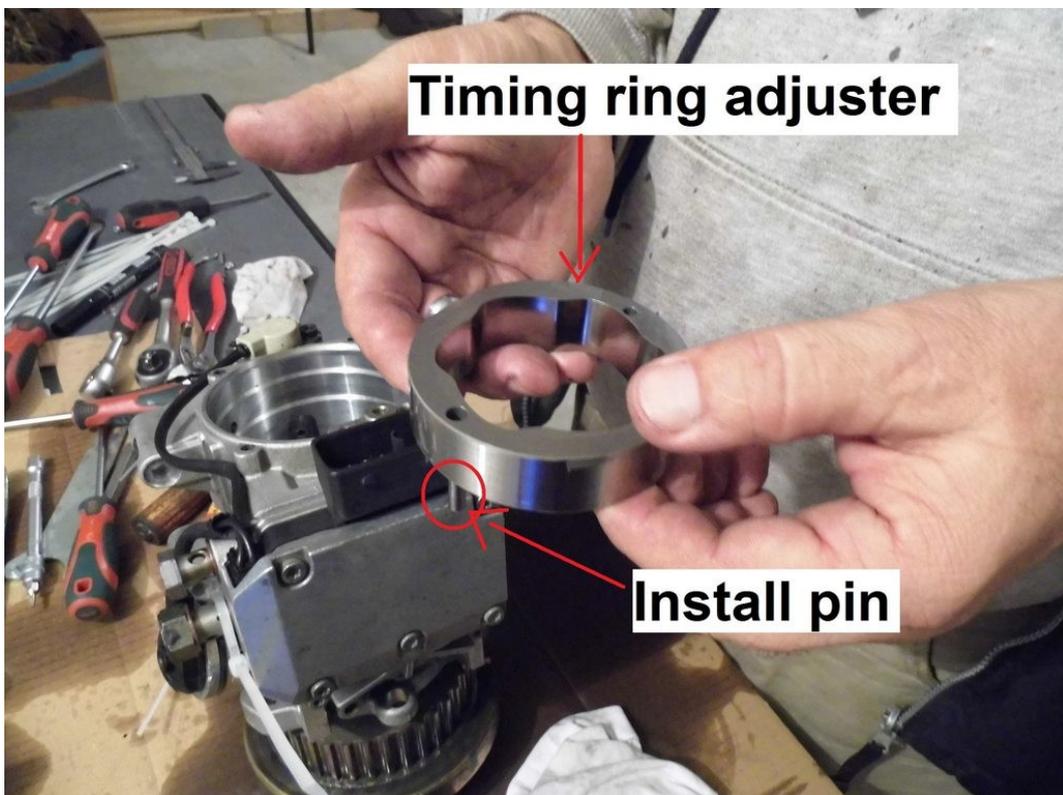


On the side of the pump you can access the timing piston once you have removed the cover on the side of the pump and the spring. The cover is held in place by 2 torx screws, and the springs can be pulled of with a set of pliers





To remove the above mentioned ring, pull the same direction as the bearing. Also, you can/should turn the timing piston from the side of the pump, to help release the ring from its location. You also have to rotate the ring to match the notch with the pin to release it from its housing.





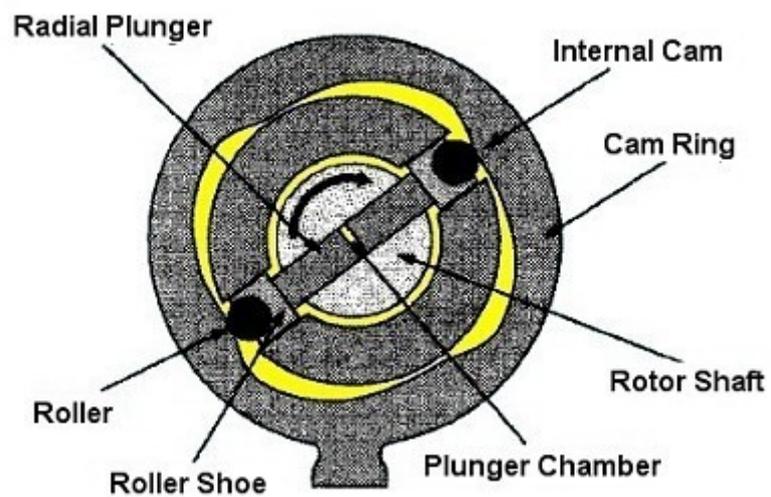
Once you take out the ring, you can finally slide out the timing piston. This is how mine looked like. You can see it has seizure marks on it, preventing its normal operation, thus the above symptoms.





I have ordered a timing piston from a local shop and it cost me 62 pounds and a brand new set of O-ring (which I recommend you change them all) 9,5 pounds. Way better than the 500 euro price tag, right?

Also, the promised pic with the rollers location.



Hopefully this helped you save a lot of money  
love to drink a beer

If you would like to make a donation, I would

[myth](#), member of « [Audi-Sport.net](#) »