

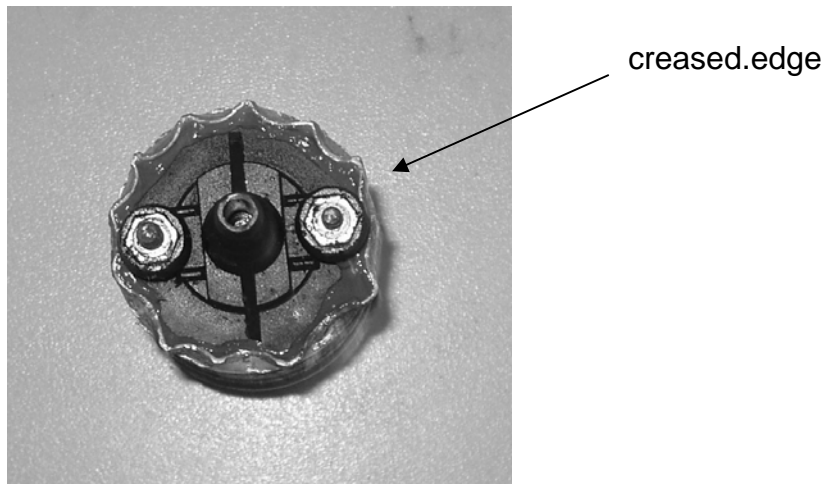
Rebuilding the fuel pump BMW K 100

With this tutorial you should be able to get your seized fuel pump working again.

1. Opening of the pump housing

The pump is usually completely replaced as the manufacturer did not intend it to be repaired. So there's no screw or other mechanism holding it together but the edge is creased. Meaning that after assembly the overhanging edge was bent inwards.

To open the pump we need to bend the "dents" gently outwards. The easiest way is to use water pump pliers. Later you can also help along with a screw driver, but very carefully !



When the edge is well aligned, the interior of the pump can be levered out with a small flat screw driver. Again work with care. Every unnecessary damage on the housing or the contact piece which also serves as cover can become a potential weak point which has to be sealed later on.

2. Interior of the fuel pump



As soon as the housing is open everything is disassembled. One can see nicely the electrical part of the pump (on the left) and the hydraulic part (on the right)

3. Cleaning the single parts

To remove fuel residues from aluminium parts vinegar cleaner has proved itself but one should not let the parts soak too long as the material can be excessively affected.

Recommended is a small bucket with mentioned household cleaner in which the parts are put for about 10 minutes and cleaned i.e. with an old toothbrush.

Persistent deposits can be removed with a soft scraper and eventually strongly crusted areas can be taken off with an oil stone which will return them blank again.

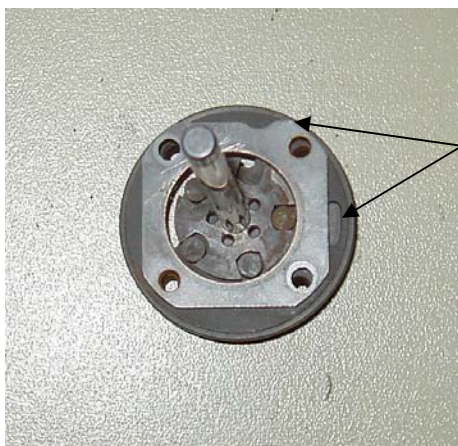
After all rough deposits were removed the parts are rinsed well to wash off remaining vinegar cleaner.

4. Conservation of the components

After everything is nicely blank and clean we let the parts which surface was affected from the acid vinegar cleaner rest a bit. Therefore we put them in petroleum or WD40 for at least 30 minutes.

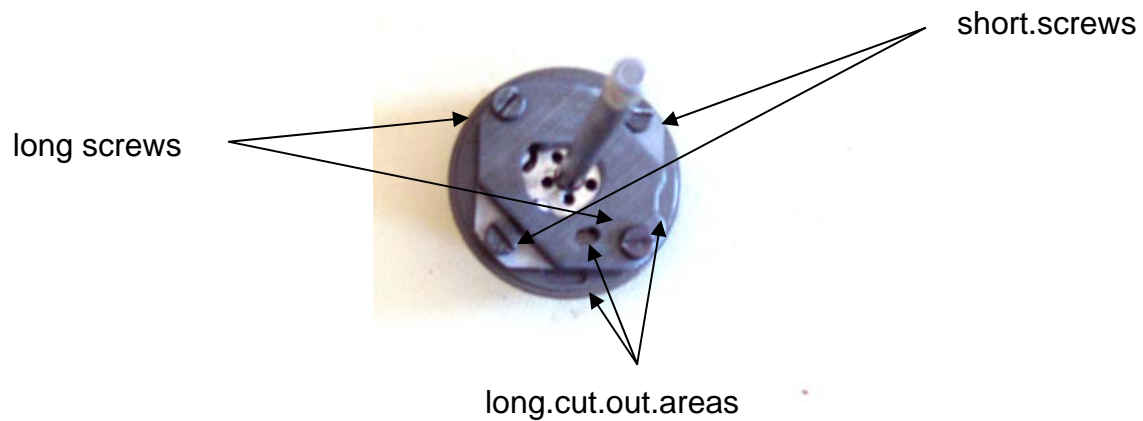
5. Reassembly and position of the hydraulic part components

If you didn't perfectly memorize the disassembly you will face the question which part fits where. The following pictures should help:



Important is the position of the cut out areas to each other

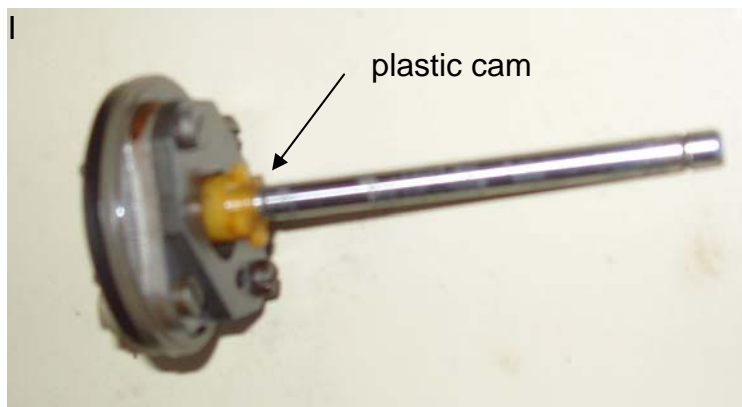
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6. Checking the mobility of the hydraulic part

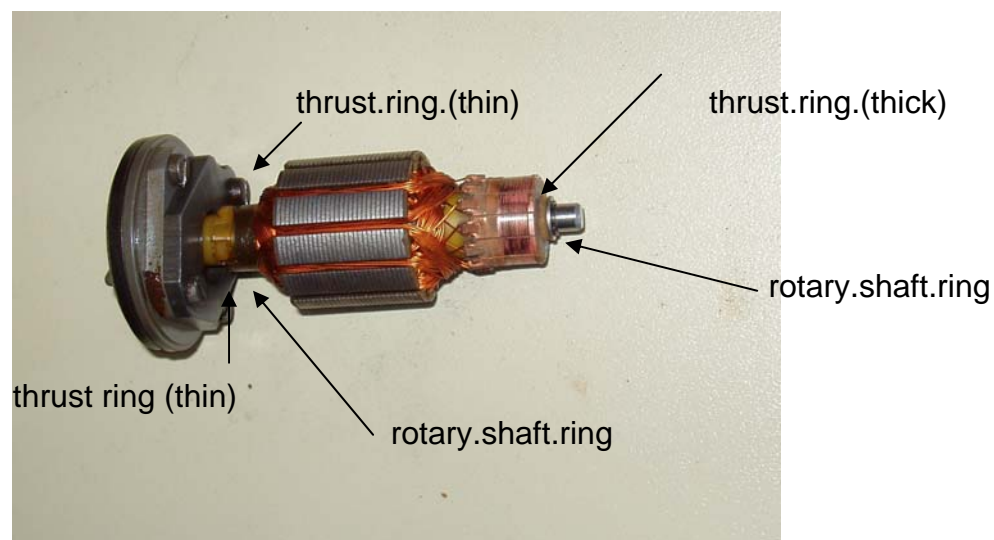
If the pump is as far assembled we pull the plastic cam (star) over the axle and control if with screws tightened everything turn nice and easy.

If this is not the case everything has to be disassembled again and the star and the roller should be taken off clean with an oil stone.



7. Thrust and rotary shaft rings

Who takes a close look at the thrust rings will notice that these differ in thickness. Following picture shows the position of the thrust and rotary shaft rings:



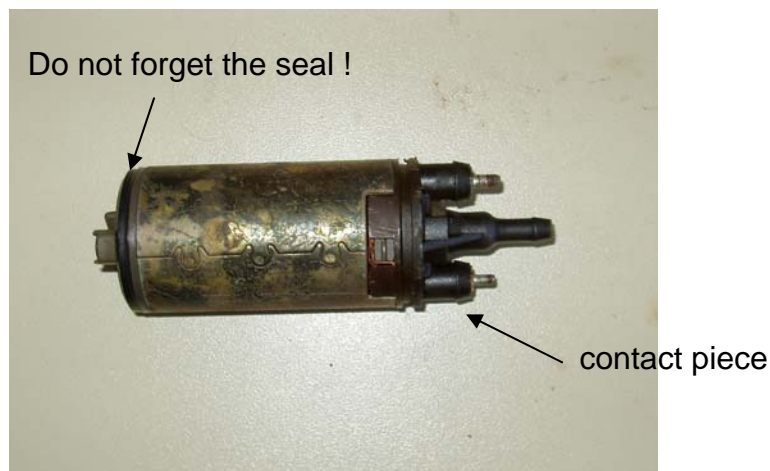
8. Putting on the permanent magnet

When the pump is assembled as shown in the last picture the "inner life" is pushed back into the magnet.



9. Placing the contact piece with the brushes

Now you place the contact piece - Careful, it only fits in one direction. It cannot be assembled reversed by 180°. To push the brushes apart use a small flat screw driver.



10. Applying the sealant

Now the preassembled pump is pushed back into the housing but only as far as the groove of the contact piece is still standing free. Here a sealing bead is applied. The used sealing **MUST** be resistant to motor fuels.



11. Closing the housing

When the sealing bead is evenly applied the pump is pushed completely into the housing.



12. Beading over the edge

At the very last the outer edge is beaded nicely with the hammer peen. Do this over cross to avoid canting. During beading it is important that the contact piece is permanently pressed into the housing.

And this is how it should look after the finished beading:



13. Initial operation

Before the fuel pump goes back to operation it must be ensured that the used sealant has gassed out completely. Usually this takes at least 48 hours. A functional test can be run also before but keep in mind that the pump has an only limited failsafe running function - some WD40 sprayed from the bottom on the rollers can't hurt.

Have fun & good luck !