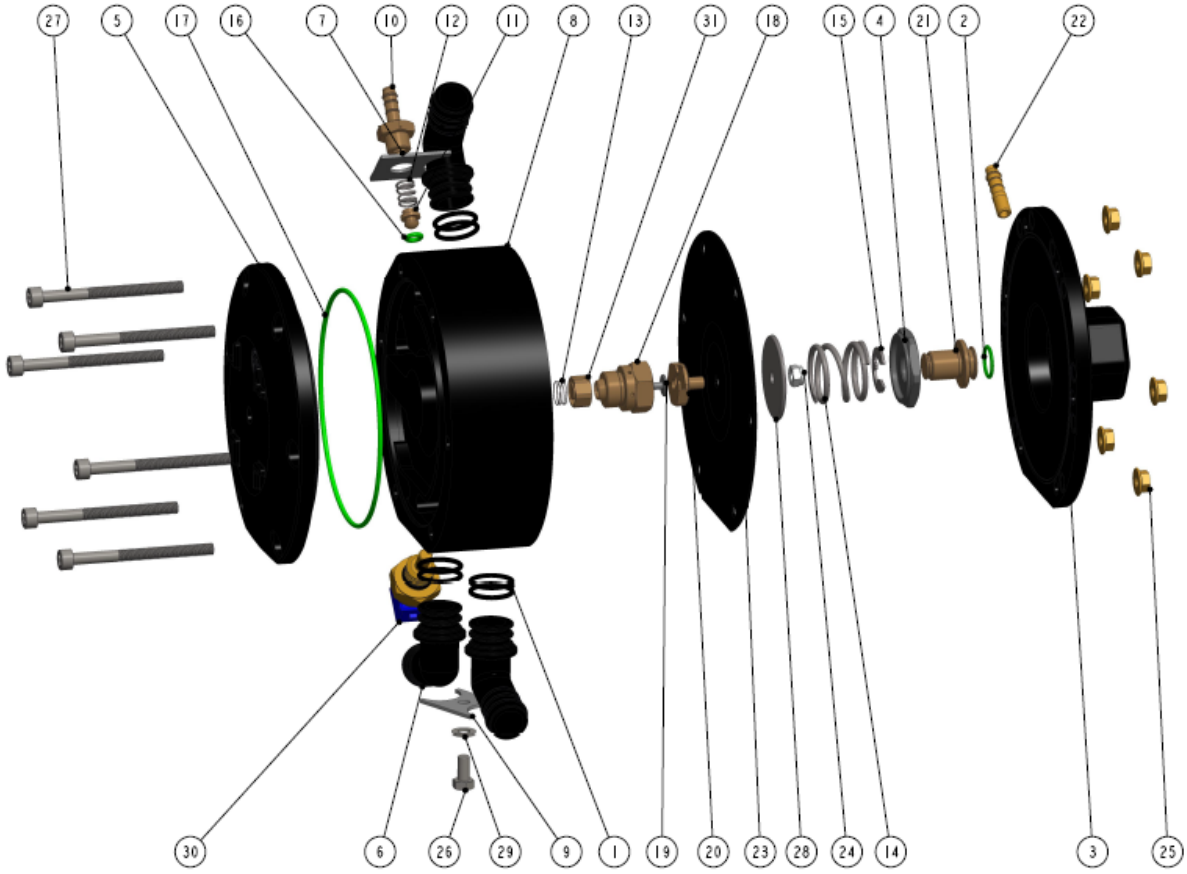
REDUCER SERVICE MANUAL
&
ANTI BUZZING INSTRUCTION

REDUCER SERVICE

Tools and products:

- Reducer replacement kit 180/10025/C
- Torx T25 key
- Thread cutting device M10x1
- Thread cutting device M15x1
- Ring spanner size 8 and 17 mm
- Spanner socket 19 for nozzle assembly
- Torque spanner (0 -10 Nm) with socket 14 mm / 8 mm
- 14 mm socket with ratchet
- Screwdriver (flat head)
- Hammer
- Compressed air
- Brake cleaner / carburettor cleaner

Overview



	**Reducer replacement kit 180/10020** - Gas-side diaphragm - Water-side O-ring - Pressure relief valve O-ring - Locking nut M5 - Jet - Locating pin - Valve seat - Water-Gas 16mm elbow 3x - O-ring ECT sensor
	**Loosen and remove the six Torx T25 screws (nr 32).** *Do NOT loosen the "Tensilock-nuts" (nr25) itself -> this will harm the locking function.*
	**Remove the front cover (nr 3).** *The adjustable disc/screw (nr 2+4+21+15) in de front cover will be used again. Only the O-ring should be renewed.*
	**Remove the back cover (nr 5).** *Renew the O-ring (nr 17) of the back cover.* *Be careful -> do not damage the O-ring groove!*

Remove the diaphragm (nr 23)**.**

Remove (and renew) the diaphragm complete with locating pin, mounting plate, washer and locking nut ***(nr 20+19+28+24)***

Remove the jet (nr 18) **and valve + spring** (nr 31+13) **from the main body.**

Use a special spanner socket 19 (099/9980) to disassemble the jet.

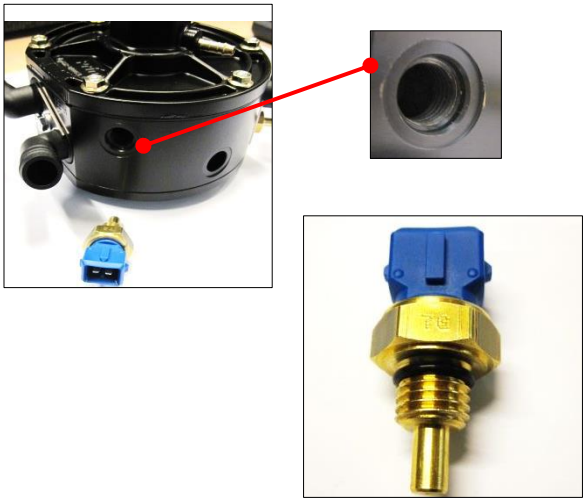
Clean the threaded hole with a thread cutting device M15x1mm, break cleaner and compressed air.

Remove 16mm GAS and water elbows (nr 6)**.**
Remove the pressure relieve pillar and valve (nr 10, 11, 16)
Remove the ECT sensor (nr30)

Clean the main body thoroughly with break cleaner, cloth and compressed air.

Renew the O-rings from the over pressure valve and ECT sensor.
Renew the 3 elbows including the O-rings.

Do not damage the O-ring groove!

<table>
<tr>
<td>  </td>
<td>IMPORTANT:

In case the ECT sensor (nr 30) has to be renewed, please pay attention to the following:
- Older sensors are fitted with a brass/ALU ring.
- New replacement ECT sensors have an O-ring.
Only use the O-ring in case the main body has special O-ring groove (see picture). In all other cases, we suggest to fit the sensor with Loctite and an ALU/brass ring.</td>
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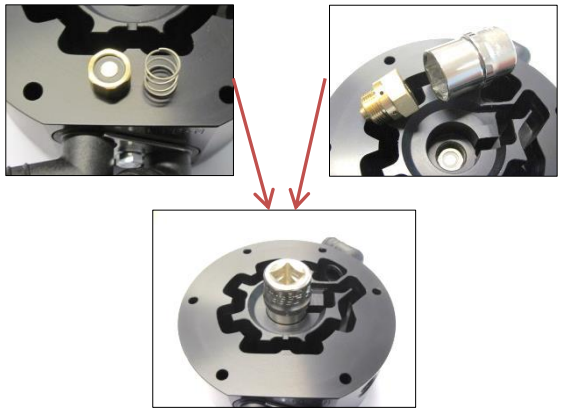
<td>  </td>
<td>Fit the new valve (nr31) including the spring (nr 13).

Fit on top of the valve, the jet (nr 18).

Use a <u>very small</u> amount of locking compound threebond 1305 or equal

Torque setting : 4 Nm</td>
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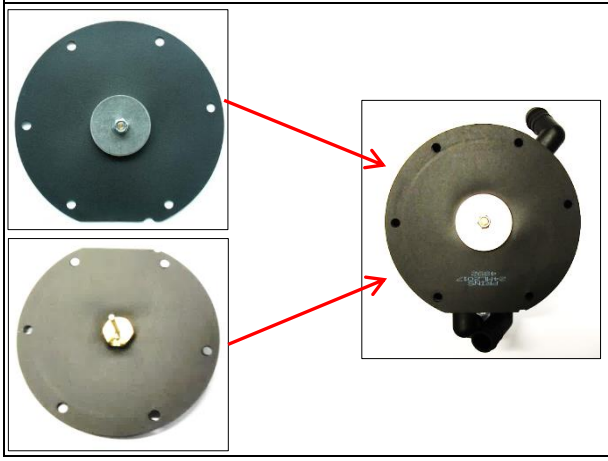
<td>  </td>
<td>Assemble the new diaphragm:

Location pin (nr 19) -> mounting disc (nr 20) -> diaphragm (nr 23) -> washer (nr 28) -> tensi-lock nut (nr 24).

Torque setting (nut): 2.5Nm</td>
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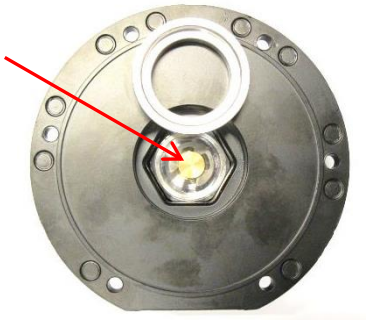
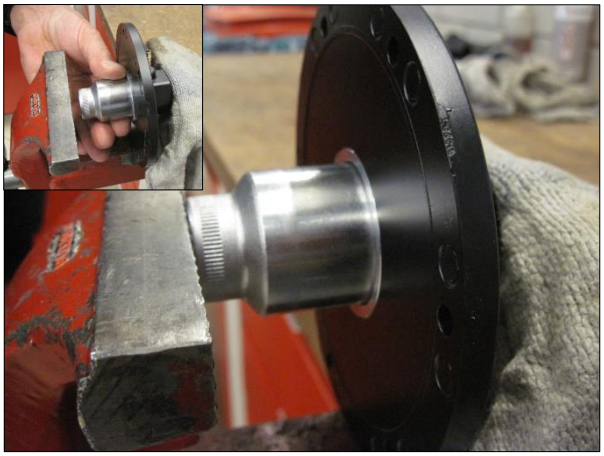
Anti-Buzzing ring:

In case of noise issues (buzzing noise), it is possible to fit an anti-buzzing ring according the following steps

<table>
<tr><td>  </td><td>Be sure the adjustment mechanism is fitted in de front cover.</td></tr>
<tr><td> 
  </td><td>Position the anti-buzzing ring in the centre of the front cover as shown in the picture.

Remark -> the ring is conical. Be sure it is positioned with the right side up.

Find yourself a round piece (like a spanner socket) with the right dimension to press the ring inside the front cover.

Remark: be sure there are no sharp edges or damages on the press tool-> the anti-buzzing ring may not be damaged -> damages will harm the diaphragm afterwards.</td></tr>
<tr><td>  </td><td>Use a hydraulic press or workbench to press the ring into the front cover.

Remark: be sure the ring is 100% even with the inside of the front cover.

  </td></tr>
<tr><td colspan="2">Remark: in case of an old machined MAP front cover, the anti-buzzing ring will block the MAP pillar (connection). Please drill a 3mm hole through the MAP pillar and the anti-buzzing ring. Drill this hole <u>before</u> assembling the complete reducer.</td></tr>
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 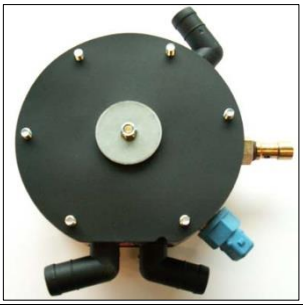	**Position the back cover and diaphragm** and fit all bolts in place. Put the spring on top of the diaphragm and be sure everything is positioned correctly.
	**Place the front cover and the tensi-lock nuts** on top of the bolts. Tighten the M5 bolts with a torque of 8Nm *Remark: Do not tighten the tensilock nut side, but the Torx bolt side*
	**Check:** - Check after installation if the reducer is not leaking (water/gas) - Check the car's coolant level after the engine has ran for about 10 minutes. - Adjust the reducer pressure according the desired/prescribed pressure.