Maintenance handbook for CNG sequential lever regulator

18/02/2003

Maintenance shall be made each 40.000 kilometers.
The operations as hereafter described shall be compulsorily made on a working desk.
For any further explanation about this procedure, you can can our service number 0516322429 or you can write to our e-mail address: info@tartariniauto.it

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START DISASSEMBLING THE VACUUM SECTION

Fig 1

Unscrew and take off the tightening screws of the vacuum section cover.

Attention.
While you are unscrewig the screws, keep the cover pressed downwards, in order to avoid it being thrown by the spring.

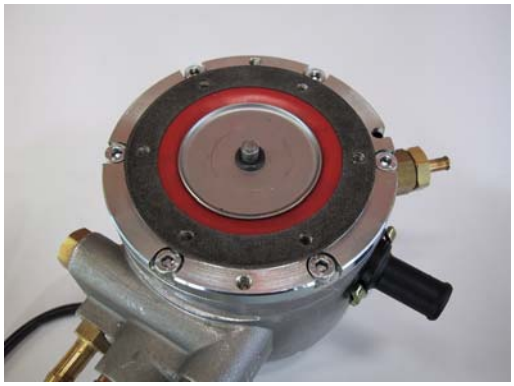
Fig 2

Fig 3

Take the cover off and remove the spring.

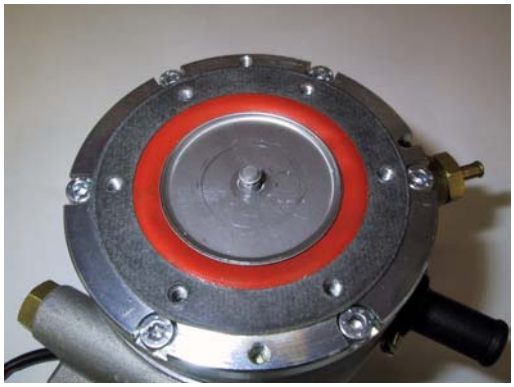
Unscrew the nut, take off the burr and the small plate.

Fig 4



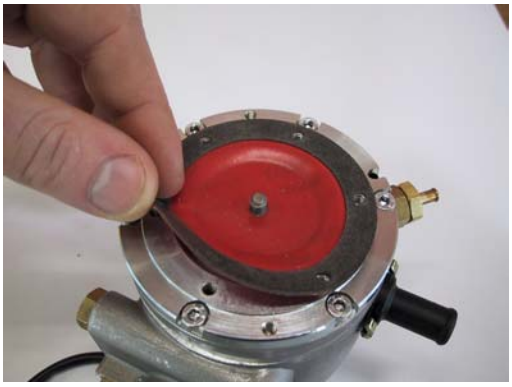
Take off the leak-proof O-ring.

Fig 5



Take off the upper cap.

Fig 6



Take off the diaphragm.

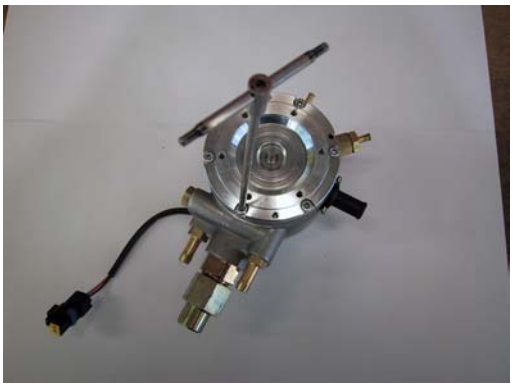
Fig 7

Take off the lower cap.

Fig 8

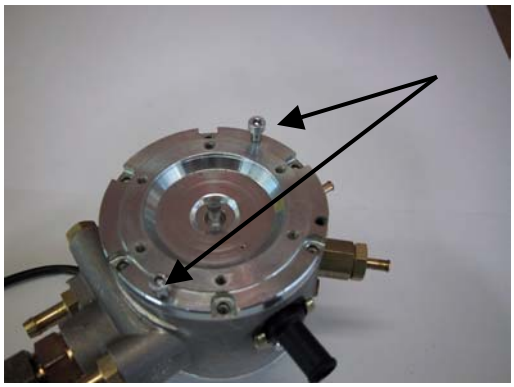
Take off the O-ring and the small plate.

Fig 9



Take off the cover tightening screws.

Fig 10



In order to take off the cover, use two of the tightening screws and screw them in the same way as indicated in the picture.

Fig 11

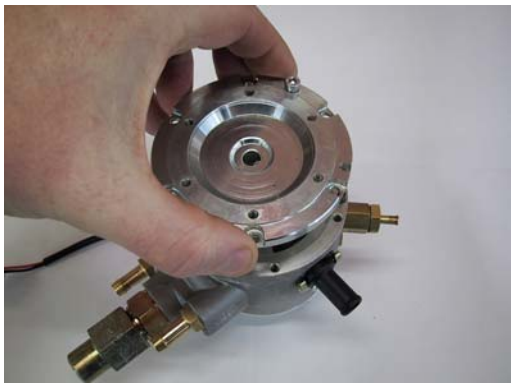


Fig 12

Take off the cover in the second stage.

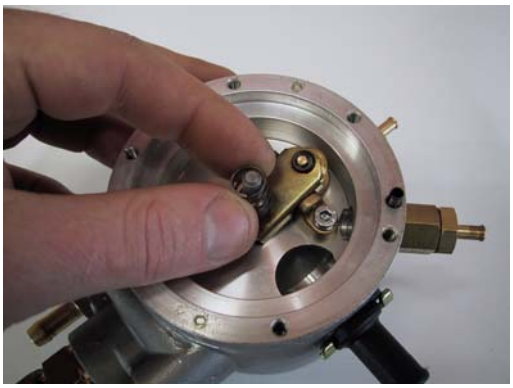


Fig 13

Take off the spring mounted on the bolt of the lever group.

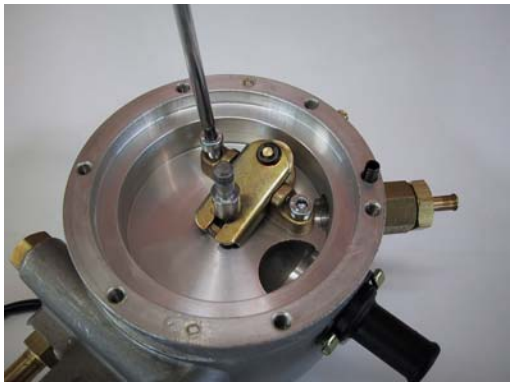
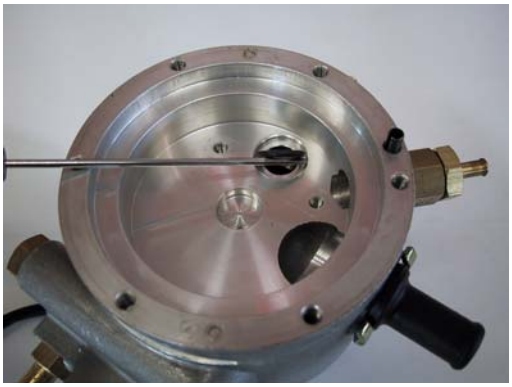


Fig 14

Unscrew the tightening screws and take off the lever group.

END DISASSEMBLING THE VACUUM SECTION

START RE-ASSEMBLING THE VACUUM SECTION



Take off and change the O-ring.

Fig 15

Press the bolt on one side by using a pointed tool.

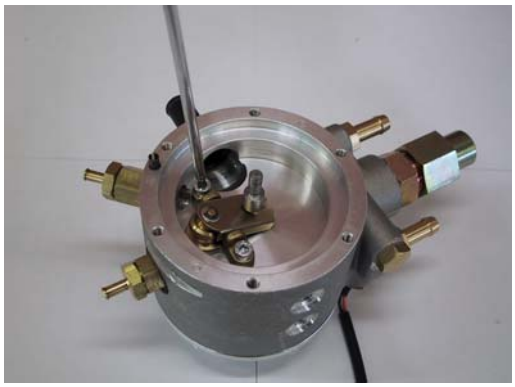
Fig 16

Seize the pivot and take it off.

Fig 17

Replace the lever with the pad, as indicated in the picture and put the lever group together again by re-mounting the bolt in its seat.

Fig 18



Again put the lever group in its seat.

Fig 19

Put the spring again on the bolt of the lever group.

Fig 20

Fig 21

Replace the leak-proof O-ring of the cover.

Fig 22

Put the cover in its seat, and, while tightening the screws, pay attention that the bolt can move freely.

Put the small plate and the new O-ring.

Fig 23

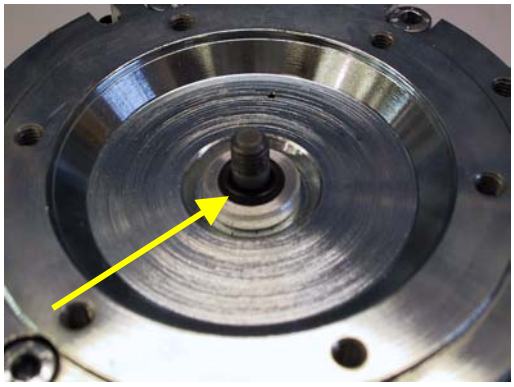


Fig 24

Set the new O-ring.

Fig 25

Set the lower cap and take care that the rim is turned downwards in order to avoid any damage to the diaphragm.

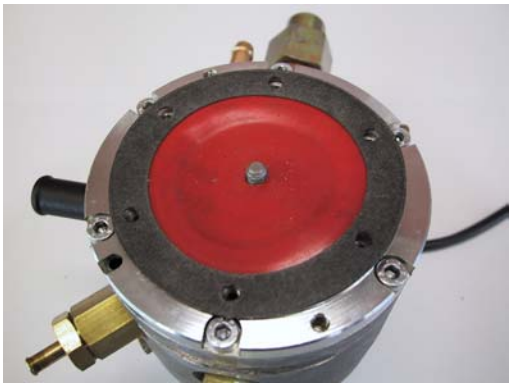


Fig 26

Set the new diaphragm taking care that the thin pasteboard surface is turned upwards.

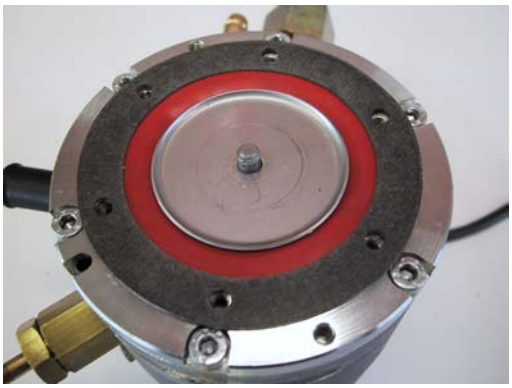


Fig 27

Set the upper cap with the rim turned upwards.

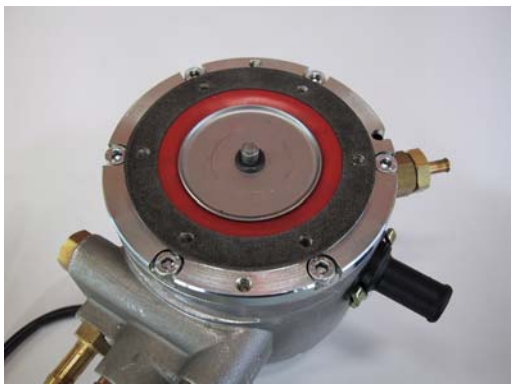


Fig 28

Set the new O-ring.

Set the small plate and the lower nut, and tighten carefully.

Fig. 28

Fig 29

Set the spring.

Fig 30

Tighten the secure screws of the vacuum cover.

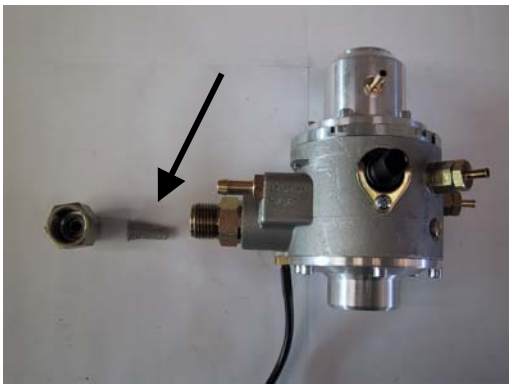
Fig 31

END THE VACUUM SECTION RE-ASSEMBLING PROCEDURE

START DISASSEMBLING THE FIRST STAGE

Unscrew and take off the double gas inlet connection.

Fig 32



Take off the sintered filter.

Fig 33

Take off the gas inlet group.

Fig 34

Take the valve and the valve-guide out of the regulator.

Fig 35

Loosen and take off the tightening screws of the first stage cover.

Fig 36

Take off the first stage spring.

Fig 37

Unscrew and take off the high nut and the washer of the first stage.

Fig 38

Rimuovere il piattello del primo salto.
Take off the first stage plate.

Take off the first stage plate.

Fig 39

Take off the first stage diaphragm.

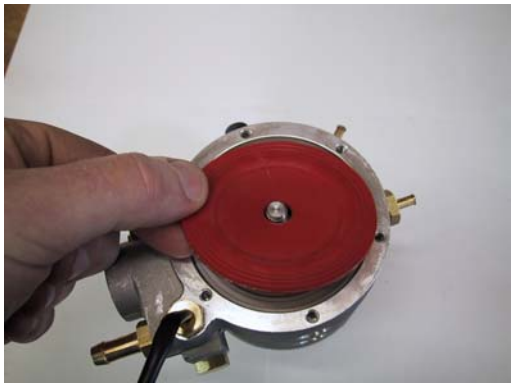


Fig 40

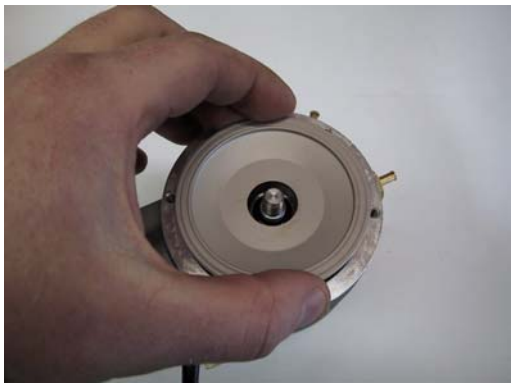
Take off the lower plate of the first stage.

Fig 41

! Take off the diaphragm by using compressed air, as described in the picture.

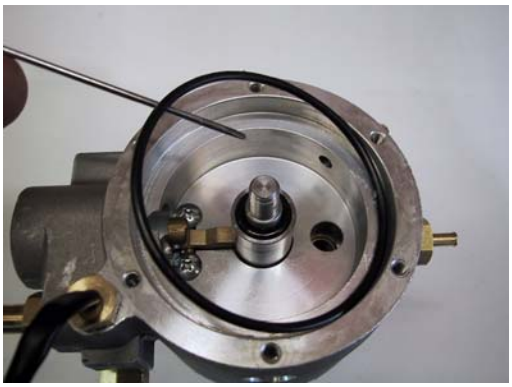
It is advisable to have a glove on, and to put the hand on the diaphragm, in order to avoid that it may hurt your face, in case it is thrown high up.

Fig 42



Take off the diaphragm.

Fig 43

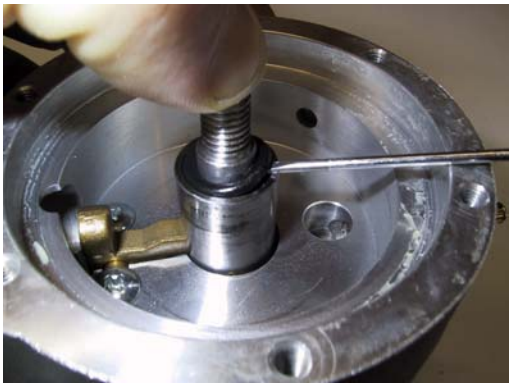


Take off the leak-proof O-Ring.

Fig 44

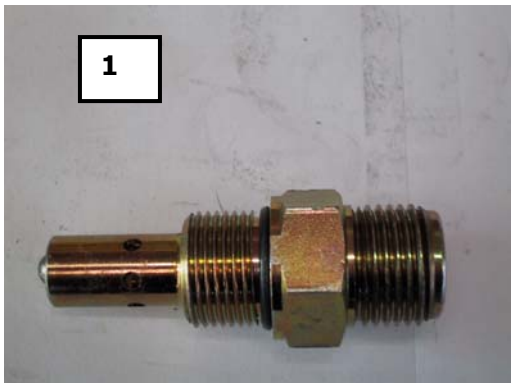
END THE FIRST STAGE DISASSEMBLING PROCEDURE

START THE FIRST STAGE RE-ASSEMBLING PROCEDURE



Take off the O-Ring and keep the lever group pressed downwards.

Fig 45



Replace the leak-proof O-ring of the high pressure connection group , which is evidenced by nr **1** in the picture.

Fig 46

Replace the high pressure connection group by keeping the lea-proof surface turned downwards.

Fig 47

Put the valve-guide after the valve, taking care that the ball is turned upwards and conveniently greased.

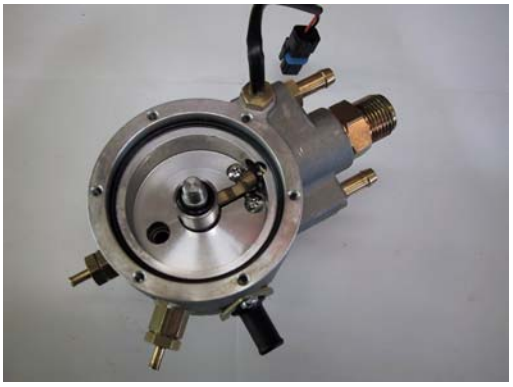
Fig 48

It is advisable to keep the first stage lever group pressed in such a way so that it cannot get out of its seat, and then turn the regulator in the position described in the picture.

Fig 49

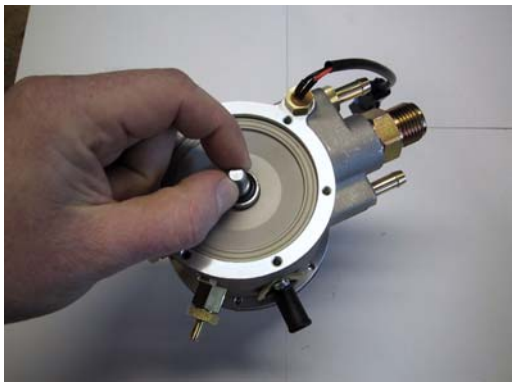
Tighten the gas inlet connection group.

Fig 50



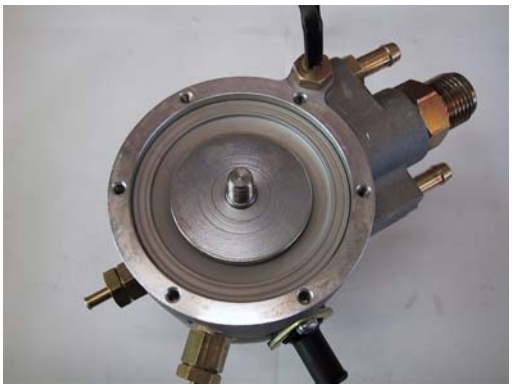
Put the new leak-proof O-ring of the diaphragm.

Fig 51



Put the diaphragm in its seat taking care that the central stem can make the proper travel.

Fig 52

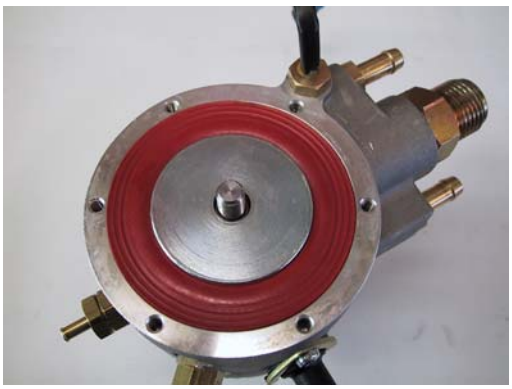


Put the lower plate of the first stage.

Fig 53

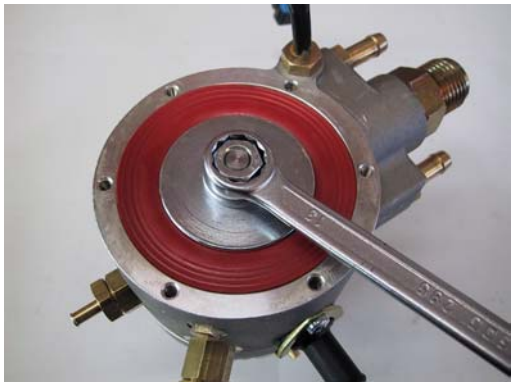
Put the new diaphragm of the first stage.

Fig 54



Put the upper plate of the first stage.

Fig 55



Tighten the nut of the first stage.

Fig 56

Set the spring of the first stage.

Fig 57

Tighten the screws of the first stage cover.

Fig 58

Set the new sintered filter in its seat.

Fig 59

END THE FIRST STAGE RE-ASSEMBLING PROCEDURE

START FINAL PART MAINTENANCE SEQUENCE

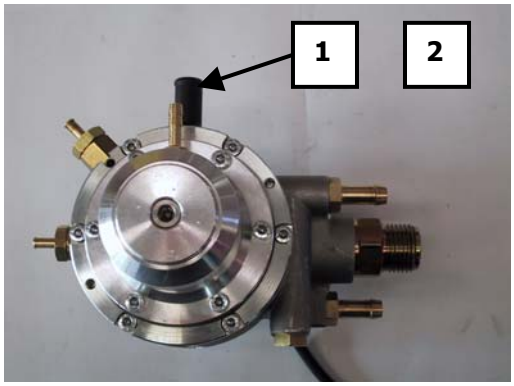
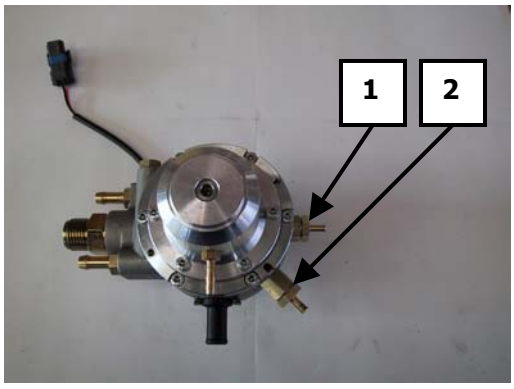


Fig 60

Take off the regulator heating connections (2) and the gas outlet (1).

Fig 61

Substitute the O-Ring of the gas outlet connection (1) and of the heating circuit (2).

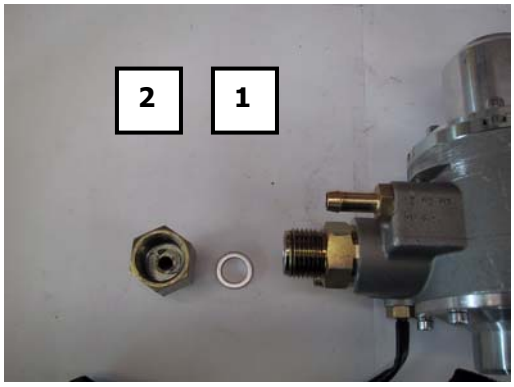


Replace the safety valves evidenced in the picture.

The first stage safety valve, evidenced with nr (1) is easily recognizable thanks to the **M1** code printed on one side.

The second stage safety valve, evidenced by number (2) is easily recognizable thanks to the **M2** code printed on one side.

Fig 62



Replace the aluminium washer (1) and properly tighten the double connection (2).

Fig 63

END FINAL PART MAINTENANCE SEQUENCE

The overhaul is now concluded, the regulator can be installed on the vehicle.

Check any possibile gas-leak, as soon as the vehicle is turned into CNG.

Make regulator tune-up.

Whenever you noticed some difficulties or faults during the maintenance operations, we kindly invite you to inform our technical assistants in Tartarini Auto S.p.A.

Timing schedule:

Taking out of the vehicle:	30 min.
Second stage disassembling phase:	7 min.
Second stage re-assembling stage	8 min.
First stage disassembling stage:	5 min.
First stage re-assembling stage:	9 min.
Final part maintenance sequence:	6 min.