

OMB Saleri S.p.a. Technical Dpt.

LYRA V1-CV Valve

Tank venting Procedure

[In case of: Electrical Failure]



In case of Electrical Failure, it is possible to remove the Solenoid Group INTERNAL COMPONENTS applied on the OMB LYRA V1-CV valve. This procedure has so to be considered for safely vent the tank if the above mentioned failure occurs.

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Preliminary Checking

[The herein procedure is supposing that the Vehicle Electrical layout has been already checked in order to confirm the correct Voltage supply to the valve Coil].

In order to surely identify that the failure doesn't stay in the COIL, OMB recommends to NOT starting immediately with the "Solenoid Dismounting" but a preliminary checking on the COIL Resistance value has to be performed (by using an appropriate instrument).

Reference Values are:

Voltage Type	OMB Cod. Ref	Resistance Value
12V DC	69306791E	14,4 Ohms [*]
24V DC	69306792E	44,3 Ohms [*]

[*] Mentioned Value has to be considered "Nominal" and declared @ 68°F.
Slight deviations have to be put in relation with Tolerances and Temperature

In case of positive results on Vehicle Electrical Layout / COIL checking, next chapter has to be considered (Solenoid Internal Components removal).

Solenoid Internal Components removal

Step by Step, follow the below instruction:

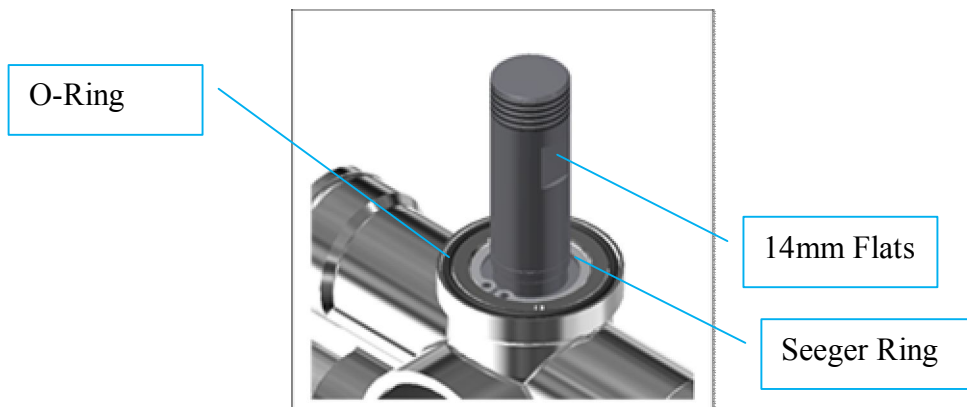
1. It is necessary at first to isolate the pressure inside the tank, by operating on the Metallic Handwheel. Closure is reachable rotating the Handwheel in CLOCKWISE direction.
Suggested torque for this operation is 5 Nm [3,7 ft lb].
(value adopted during the OMB Internal Process/Test)



2. Unscrew the NUT applied at the coil top (see image)
Use a 22mm key (pay attention; an O-ring is applied between coil and nut)

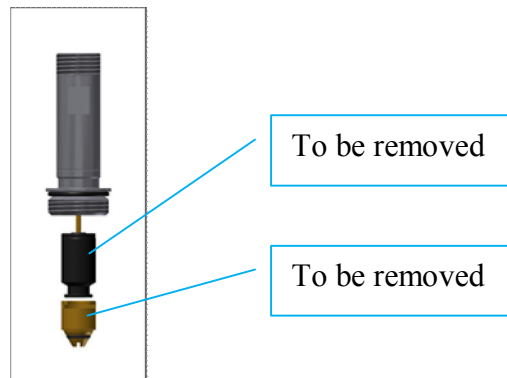


3. Remove the COIL and, by using a proper tool, remove the "Seeger Ring" (see image)
(Pay attention; an O-ring is applied in the valve frontal groove)

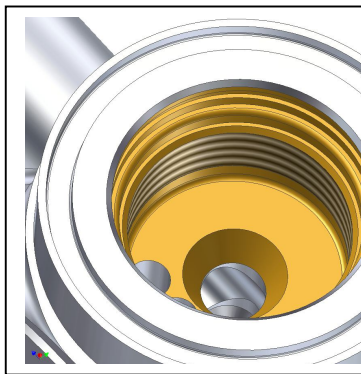


4. Unscrew the Solenoid tube by using the machined flats (see again the above image)
Warning: During this phase, there should be residual CNG.
For this reason, unscrewing operation **MUST** be performed gradually, allowing the total gas out flowing (from the thread). Operator has to complete unscrewing phase once gas flowing stops. Consider that a lower torque requested for unscrewing is evidence of "empty system"; in this condition, it is so possible to remove, safely and completely, the Solenoid tube.
[Pay attention: the internal components could fall down]

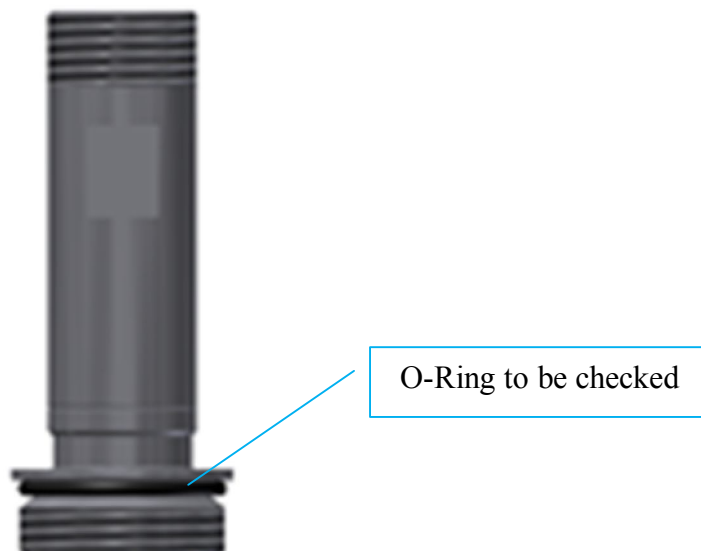
5. After the above mentioned unscrewing, next step is to REMOVE the solenoid internal components



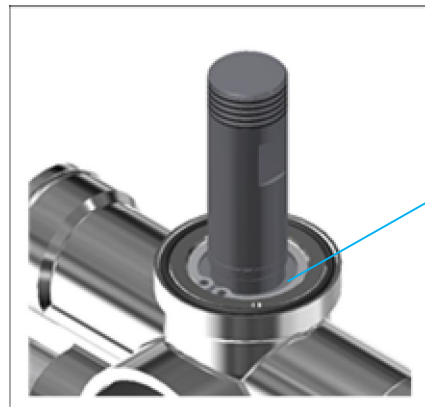
6. Valve is now for the re-Mounting Phase;



Before starting in Assembling Procedure, visually check the state of the valve body (Solenoid Seat) and be sure that it's free from any kind of dirt. O-ring seat matching with the tube is the involved seat for the checking. The same has to be checked on the Solenoid TUBE+O-Ring



7. Screw the Solenoid TUBE by hand as tight as possible, and then tighten it up by an appropriate tooling (key 14mm). Torque to be applied: **6 ±1 Nm** [4,5 ft lb]
8. For safety reason, again apply the Seeger Ring to the valve and positioning it correctly inside its groove.



Seeger Ring

As described above, this dismounting/re-mounting operation will have as consequence the tightness guarantee loss (test performed in OMB is compromised).

The valve in this set-up (without Solenoid internal components) does not need the COIL, anyway for reference few lines below will clarify how to apply the coil and the relative accessories.

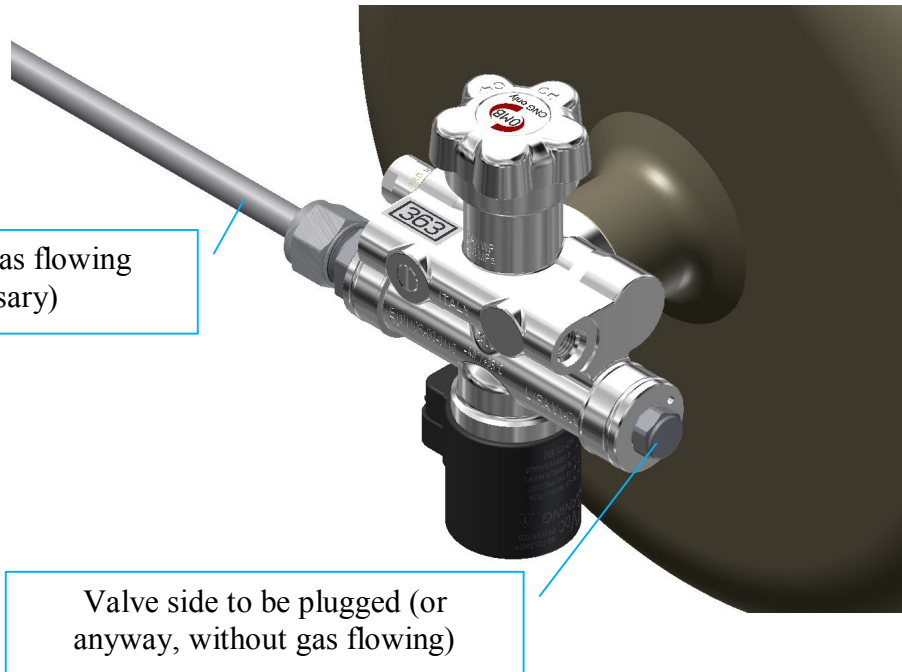
9. Check the correct o-ring position (o-ring at point 2)
10. Position the coil on the tube and orientate it if necessary (due to the connector)
11. Screw the nut by hand as tight as possible, and then tighten it up by an appropriate 22 key. Torque to be applied for nut assembling: **7±1 Nm** [5,1 ft lb]
Pay attention about the correct o-ring position (o-ring at point 1)

REMEMBER THAT THE VALVE, IN THE CURRENT SET-UP WORKS AS

MANUAL VALVE

Next chapter has to be considered for the procedure last step: The Tank Safely Venting

TANK Venting



Valve side for the gas flowing
(Pipe is necessary)

Valve side to be plugged (or
anyway, without gas flowing)

Now that valve in a “MANUAL Valve Concept”, Tank emptying requires the following steps:

- 1) To open the manual tap by operating on the Metallic Handwheel. Opening is reachable rotating the Handwheel in COUNTERCLOCKWISE direction.
Opening action has to be done slowly in order not to trigger the Excess Flow Device.
- 2) In case of activation of the EFD, close the manual tap, wait a short while till the system re-set (a “click” is audible) and re-open the tap just before the triggering point.
- 3) While the pressure in the tank is dropping down, you are allowed to open further the tap to increase the discharging flow.

In order to safely vent the out coming gas, a pipe has to be connected to the valve (see picture). The pipe other far end has to be fixed and located in a suitable place, considering the gas out flowing (choice under the customer responsibility).

As additional information: pipe length has significant effects on the out flowing gas amount; in particular a “long pipe”:

- will allows to get significant out coming flow (so, faster emptying)
- will moves the gas expansion far from the valve

DO NOT REMOVE THE VALVE FROM THE TANK WITHOUT BEING SURE ABOUT THE EMPTYING