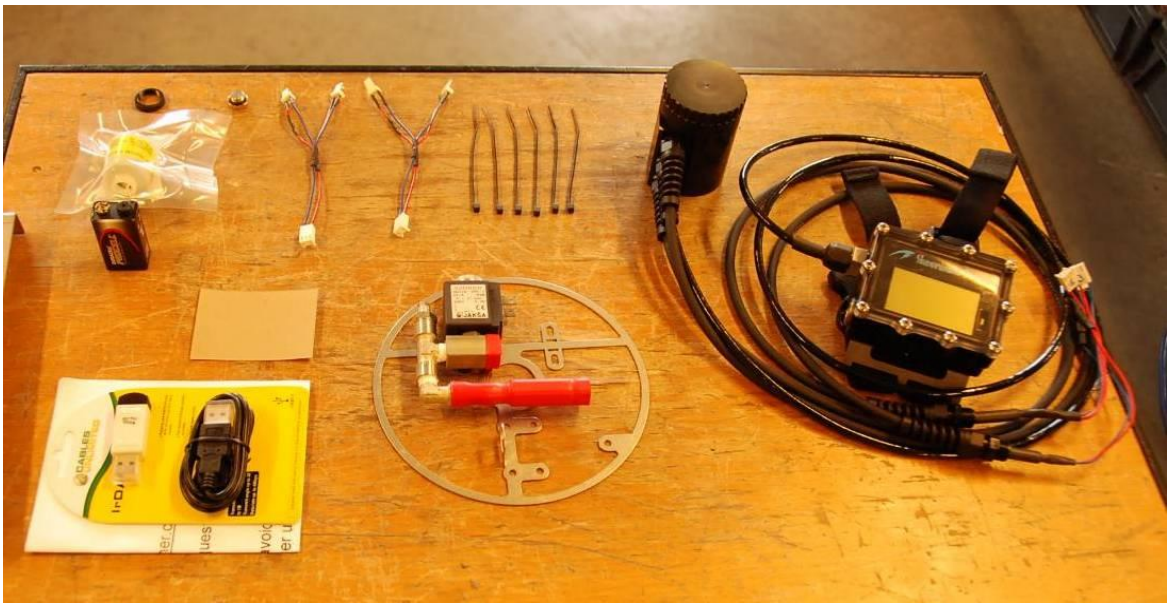
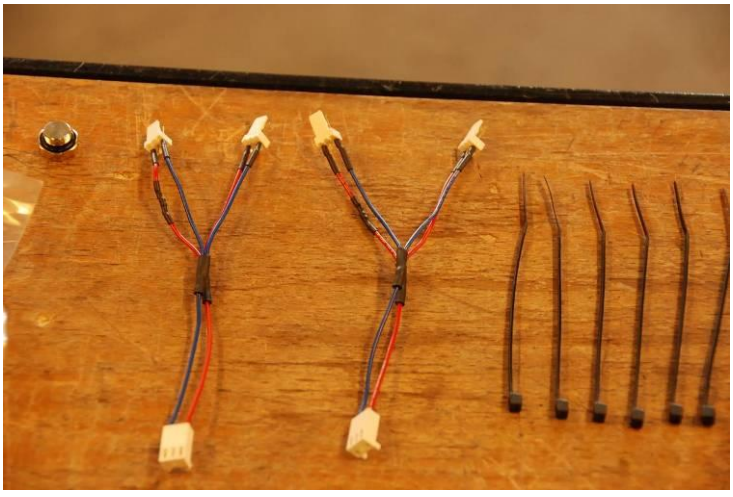
How to mount the Pursuit controller on the rEvo. (V1.0 19/06/2008)

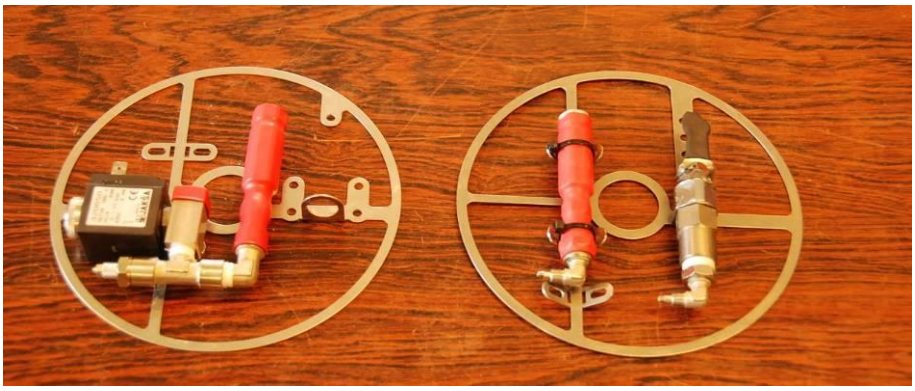


The complete kit from upper left:
Fixing nut for the oxygen cell, plug for the orifice, oxygen cell, 9V battery, cell splitter with isolator, tye-raps, the pursuit with battery housing and cables.
Below: screen protector, IR USB connector, solenoid grid.
For pure eCCR mode, the plug has to be put on the orifice when the 'absolute pressure disk' is removed from the oxygen first stage!! If not, the oxygen flow will increase by depth, and the breathing mix will become hyperoxic very quickly!



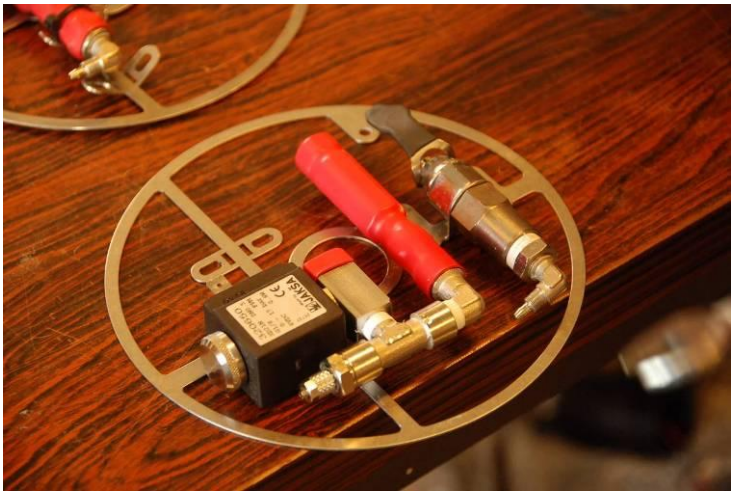
Cell splitters, the isolator each time on the left side in the black heat shrink: bottom side goes to cell, upper side left to pursuit, upper side right to rEvodream.

Battery housing: a 9V battery fits easy inside: make sure the cables do not clamp under the lid when closing the housing and don't tighten the lid hard when closing it: turn the lid till the end, and turn back a few degrees.
Once the battery installed, make sure NOT TO SHORT-CIRCUIT the connectors of the solenoid: although a current-limiting protection is fitted, this could damage the board!
Best is to install the battery when the connectors are fixed on the solenoid!

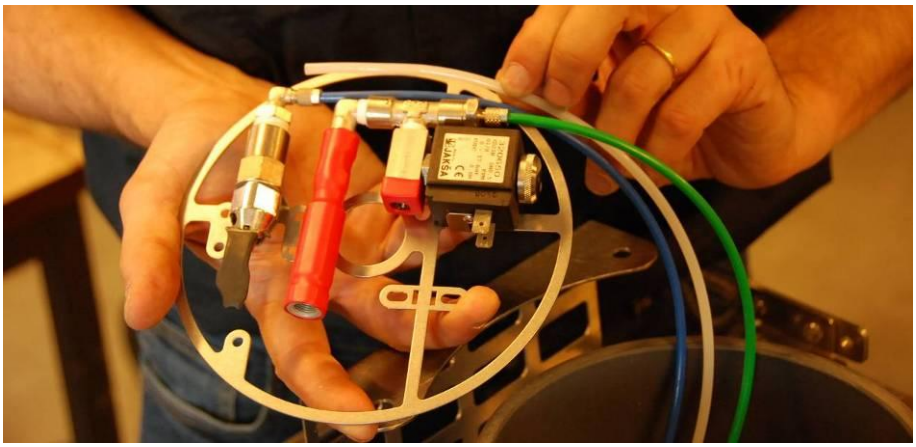


First thing: move the adv to the new solenoid grid; the old grid and orifice can be kept as spare, if you want to turn the unit back to pure mCCR.

Use 2 wrenches to remove the ADV, and fix it on the new grid, making sure the 'lever' is horizontal!



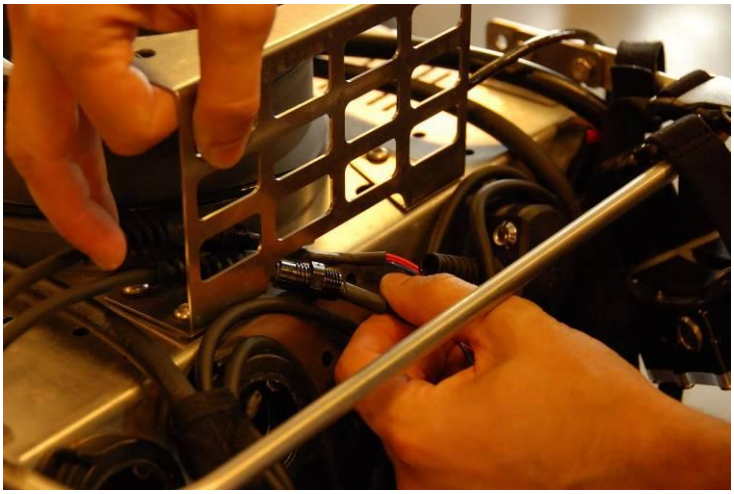
If after fixing and putting the lever horizontal, the connection to the tubing is not horizontal, you can adjust that by turning the connector round the thread with Teflon.



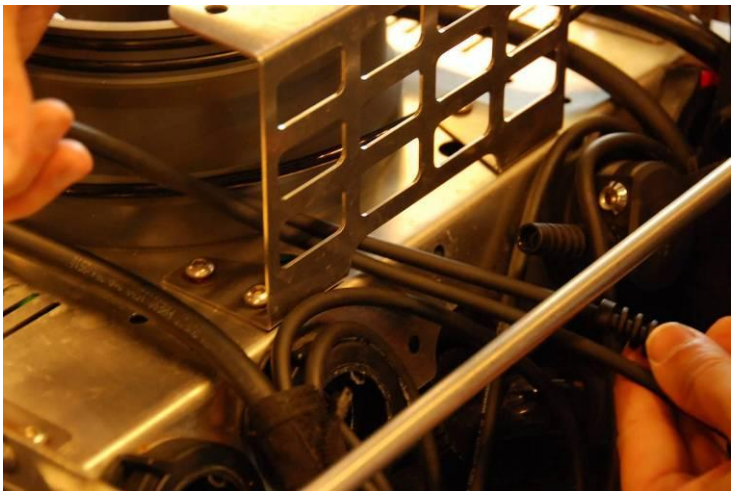
Now fix the green tube (oxygen) to the solenoid and the blue tube to the ADV.
The fixing is done hand-tight + max 1 turn!
Wait with the white tube. (When fixing green and blue, make sure the tubes are not twisted when the solenoid grid is placed horizontal in the exhale position.

Now put the battery housing in place. The cable of the Pursuit runs around the exhale canister to the left shoulder, the cables with the molexes and connectors for the solenoid go under the protection grid on top of the unit.

If they do not pass under the grid, loosen the bolts a bit so that the grid can be lifted. Don’t loosen to much, or keep the screws in place with a finger trough the P-port of the inhale lung.



After passing the 2 cables …

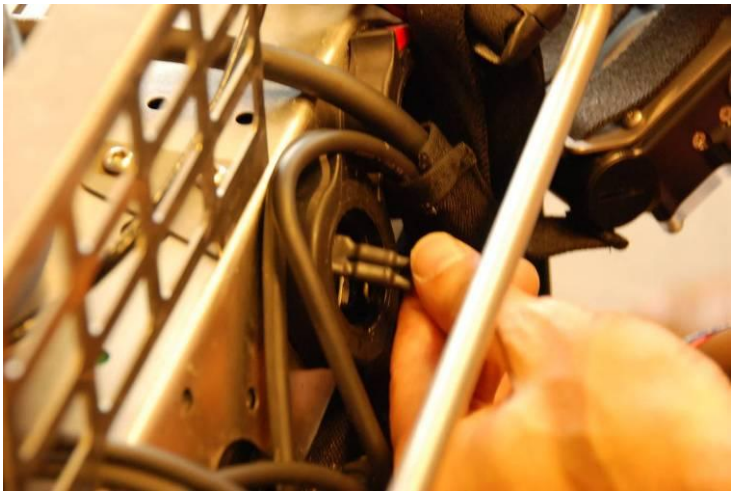


… fix the bolts again.

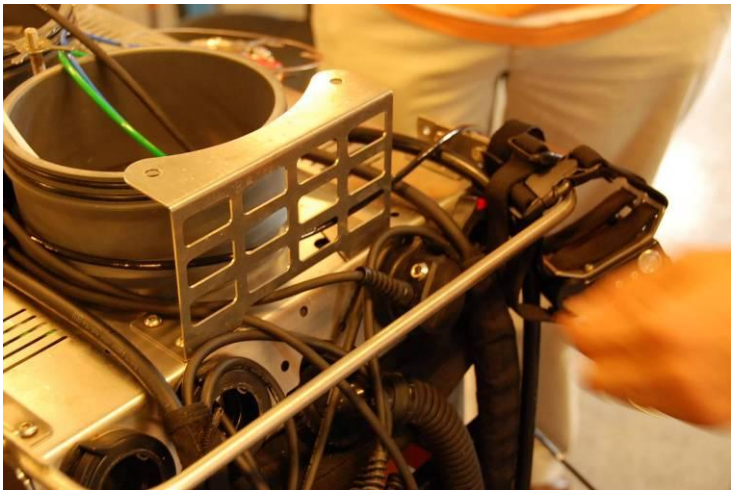
The battery housing in place, cables under the top grid.

Now pass the cable with the connectors for the solenoid trough the P-plug of the exhale lung: un-tighten the cable gland completely so that the cable can move easy, put the connectors trough the hole and ...

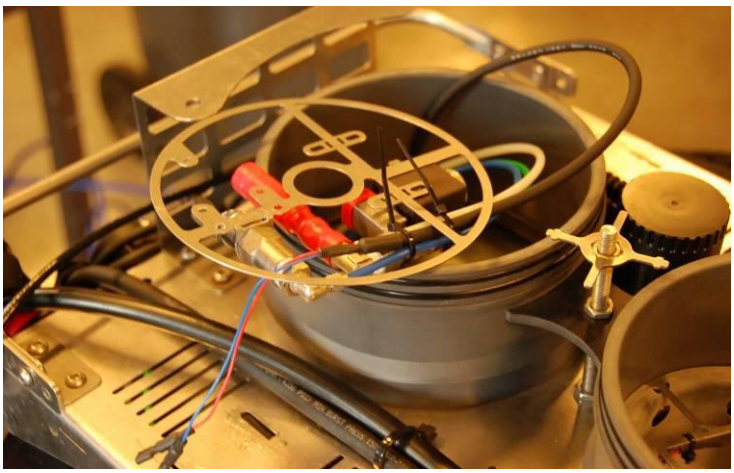
… tighten the lower part of the cable gland to the P-plug: for this you can use a wrench. Do **not** yet tighten the upper part of the gland, that fixes the rubber sealing. (you can see the rubber seal already in position)



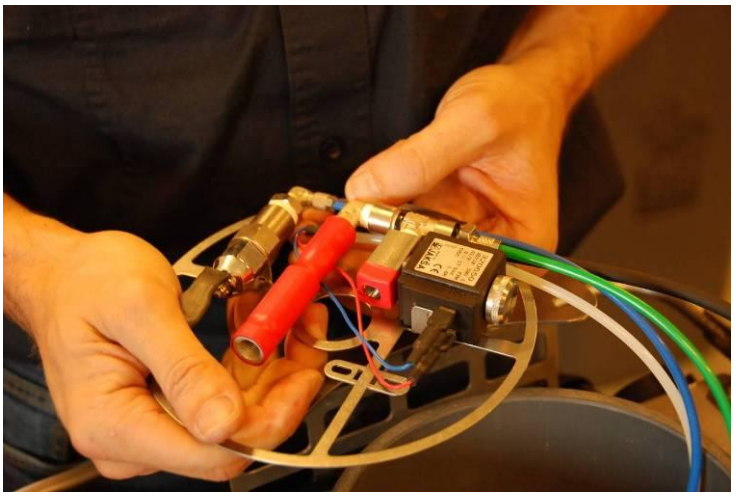
Insert the solenoid cable into the exhale lung, and…



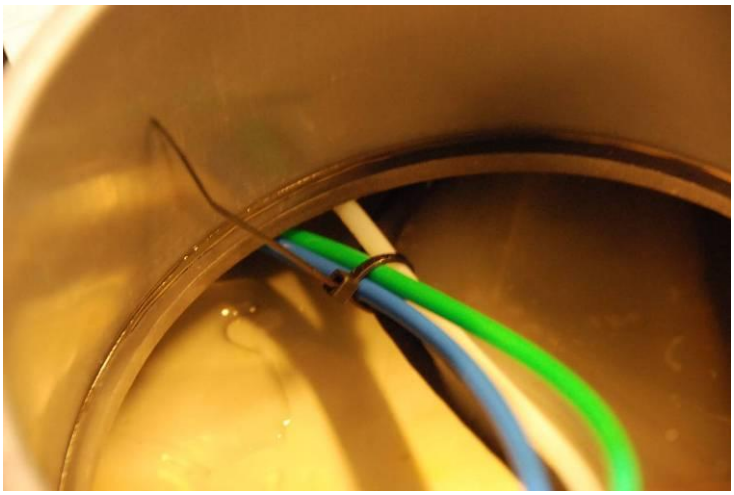
… put the P-plug on it's place. Now feed the rest of the cable trough the gland into the exhale lung, so that when the battery housing is on it's place, the cable can still be moved a bit. (there may be no strain on the cable). Now put the rubber seal of the gland in position, make sure that the seal is pushed till the end, and fit the second part of the cable gland: **this part must be fixed 'hand-tight' + max ¼ tour with a key!** If this part of the gland is tightened to hard, you can damage the wiring of the cable!



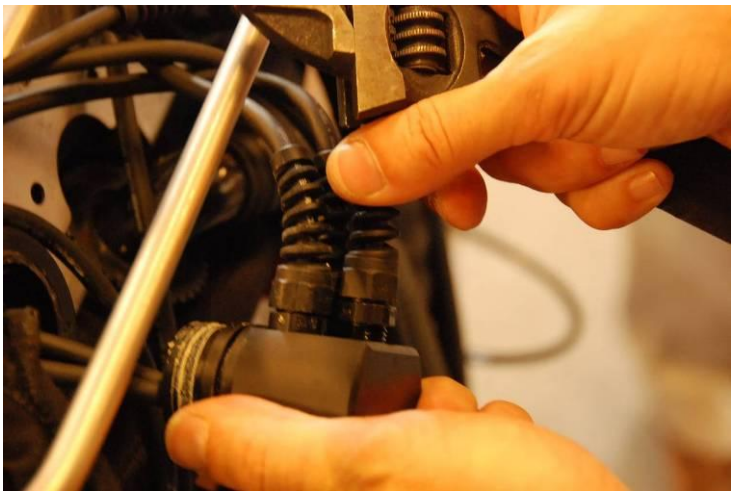
The solenoid cable can now be fixed on the grid, together with the white tube, with 2 tye-raps.



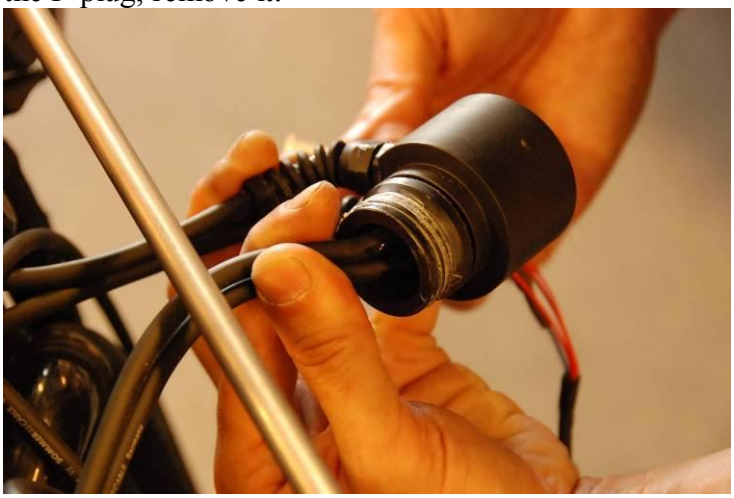
Connect the cable to the solenoid (polarity is not important), but make sure that there is no strain on the cables. (in this picture you can also see the thread of the solenoid outlet: if for some reason the solenoid would be blocked open, and you have no means of repair, you can block the outlet of the solenoid with the same plug as the orifice (same thread) and fly the unit manually! (pure mCCR) (if necessary remove part of the heat shrink of the solenoid outlet)



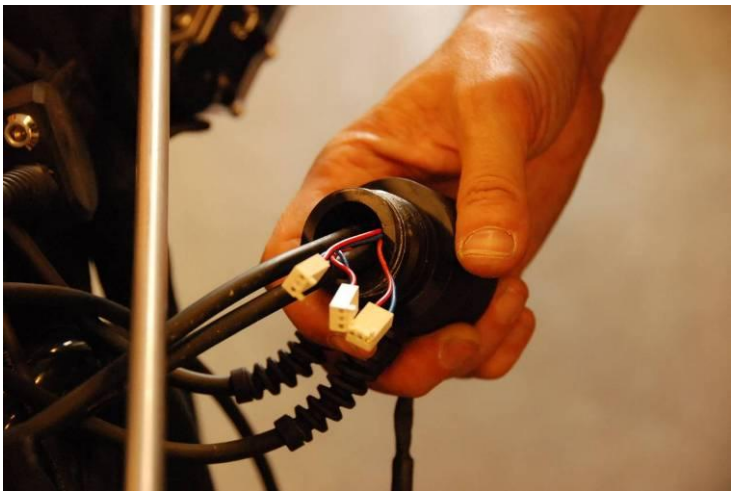
The cable, together with the 3 tubes must make a nice curve when the solenoid grid is placed in position: fix all 4 together as far as possible into the exhale lung, and when cutting the tye-rap, make sure no sharp edges stay (if so use some sandpaper to smoothen the cut end). When installed in position, the cable/tubes may not interfere with the ADV!



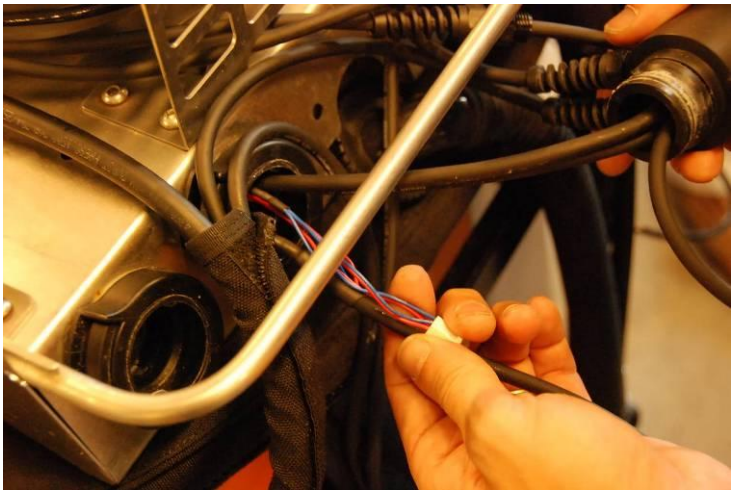
Now install the cable with the molex connectors in the inhale lung: if there is a gland-plug in the P-plug, remove it.



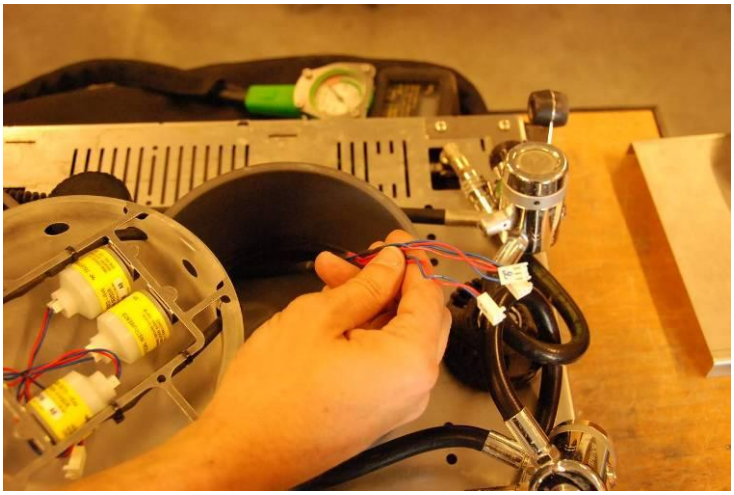
Pass the molexes one by one trough the hole of the P-plug …



… eventually use pliers to get them up, …



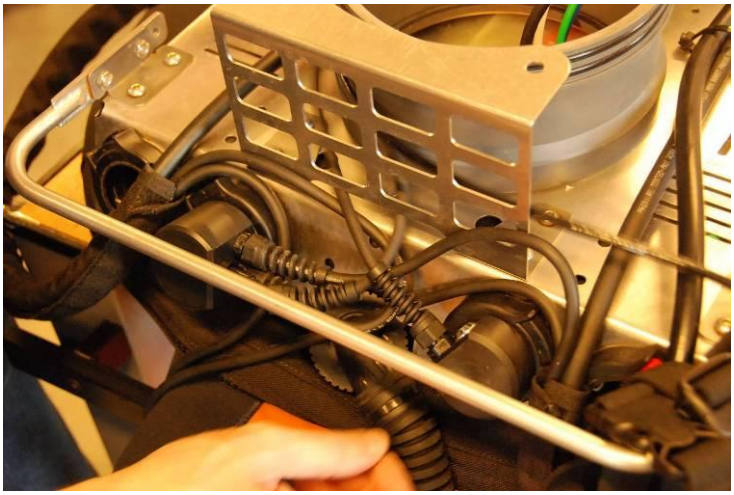
… and insert the cable into the inhale lung…



… and pull the cable till the inhale canister.

Now put the P-plug in place and feed the cable in.

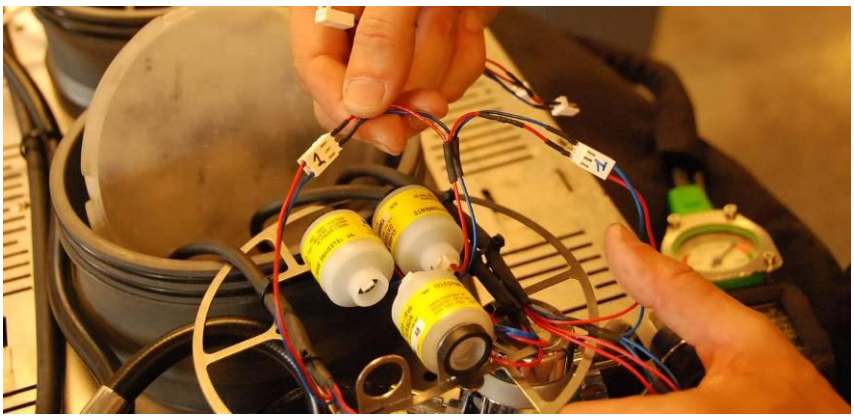
Tighten the lower part of the cable gland,..



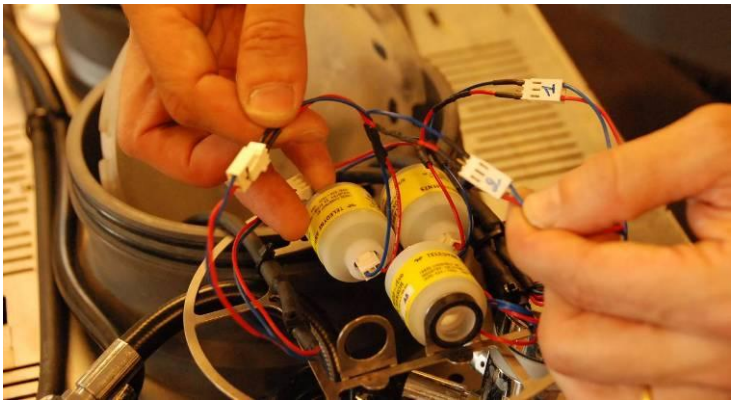
… feed the rest of the cable inside until the cable makes a nice turn towards the battery housing. (no strain on the cable). Now hand-tighten the upper part of the cable gland (verify the rubber seal is in correct position), and give it ¼ tour (not more!) with a key.

Feed the cable trough a free hole of the plastic cell protection, so that when the cell holder is in position in the inhale lung, the cable makes a clean curve.

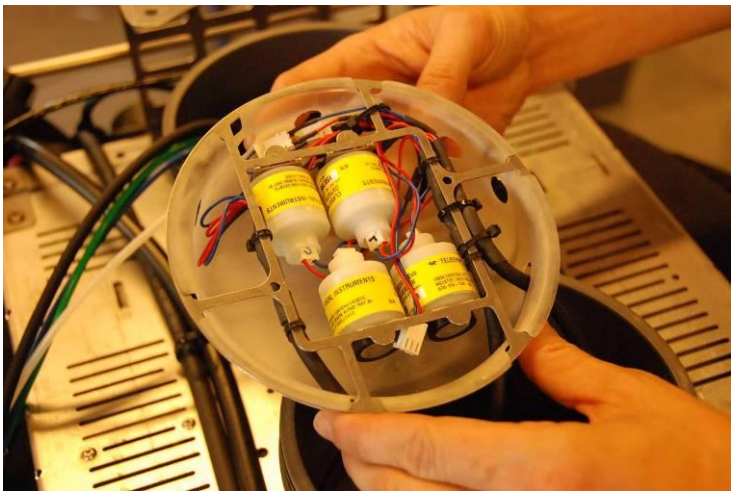
Now fit the molex connectors to the cells: cell 1 and 2 are used both by the Pursuit and the first rEvodream: so for those 2 cells we use a splitter. Cell 3 is only used by the Pursuit (so the Pursuit reads cell 1, 2 and 3), and cell 4 is only used by the second rEvodream, who reads only one cell: this way we keep fully independent redundancy.



Connect the first splitter to cell 1, fit the side of the splitter with the protection (under the black heat shrink) to input 1 of the Pursuit, and the other side to input 1 of the first rEvodream (oxygen gauge side)



Connect the second splitter to cell 2, the side with the protection to input 2 of the Pursuit, and the other side to input 2 of the first rEvodream.
Connect the third cell to input 3 of the Pursuit.
Connect the forth cell to the first input of the second rEvodream (diluent gauge side)



Put the plastic cell protection back in place, and make sure the molex don't tough the bottom of the plastic, where condensation can occur. If needed use a small tye-rap to keep them nice in place.

Install the cell grid in the inhale lung, make sure the cables are not under the plastic.

For using the Pursuit, see manual (download from the Shearwater website)

Important notice:
when calibrating the Pursuit, the rEvodreams must be switched on!! As only the rEvodreams drawn current from the cells, the output voltage of the cell will drop a bit when the rEvodreams are on.