

O2ptima Assembly Guide Checklist

Date _____ Dive Location _____ Dive Buddy _____

1. ___ Fill oxygen, diluent, and bailout cylinders if needed.
2. ___ Turn on handset and check O2 sensor display in ambient air. Record mV readings: 1) _____ 2) _____ 3) _____
Readings should be between 10 and 14 mV.
3. ___ Change setpoint to 0.7 to fire O2 solenoid. Check voltage: Ext. _____ V (min 7.6V) Int. _____ V (min depends on type of battery used) Change setpoint back to .19.
4. ___ Check HUD O2 sensor display in ambient air and ensure that the reading agrees with the handset.
5. ___ Analyze gas: Oxygen _____% O2 , Diluent _____% O2 / _____% He ,
Bailout 1 _____% O2 / _____% He , Bailout 2 _____% O2 / _____% He
6. ___ Analyze CO: Oxygen _____ PPM , Diluent _____ PPM , Bailout 1 _____ PPM , Bailout 2 _____ PPM
7. ___ Check bailout regulator hoses, mouthpieces, and hose fitting tightness. Install bailout regulators. Confirm IP as needed.
8. ___ Mount oxygen and diluent cylinders and attach regulators.
9. ___ Steramine and rinse canister, lid, loop, and counterlungs unless completed before storage.
10. ___ Inspect canister, scrubber, and lid. Is scrubber: EAC _____ Sorb _____ (type: _____)
New _____ Used _____ (_____ min)
11. ___ If using sorb, pack scrubber canister. Install canister.
12. ___ Lube head O-rings and flat seal as necessary. Confirm O-ring is in place on premix tube and install head.
13. ___ If using EAC, mark/note cartridge direction and install cartridge.
14. ___ Inspect bore plug and confirm that it is installed in correct orientation.
15. ___ Confirm water trap is installed in lid. Lube lid O-rings and flat seal as necessary. Install lid.
16. ___ Pressure test canister. If good install and secure back cover and trim weights if needed.
17. ___ Install calibration caps, connect O2 hose, turn on controller, and flush with oxygen until PPO2 readings stabilize.
18. ___ Check and record mV readings while filled with O2. Minimum 40 mV. Check for stability.
1) _____ 2) _____ 3) _____
19. ___ Turn on HUD to check operation at 1.0 PPO2. Calibrate controller and/or HUD if required.
20. ___ Inspect loop, fittings, O-rings, and counterlungs. Lube as needed. Install counterlungs. Assemble loop and attach to counterlungs.
21. ___ Attach ADV, BC, and manual add feeds. Confirm solenoid Oxygen supply hose is securely attached.
22. ___ Inspect and test DSV directional valves. Attach DSV to loop, close DSV, turn off in-line shutoffs, close counterlung exhaust valve and confirm correct flow direction through loop.
23. ___ Connect loop to scrubber canister. Double check all loop fittings for tightness. Cover canister fittings with neoprene covers and route controller and HUD cables.
24. ___ Perform negative pressure test for a minimum of 30 seconds.
25. ___ Perform positive pressure test for a minimum of 2 minutes.
26. ___ Turn on oxygen and diluent cylinders.
27. ___ Check ADV, manual add valves, trim pillow inflator, BC inflator and exhaust valves/OPVs for proper operation.
28. ___ Record oxygen and diluent cylinder pressures: Oxygen _____ bar, Diluent _____ bar
29. ___ Turn off cylinders and perform a leak down check.
30. ___ Turn oxygen and diluent cylinders back on, open counterlung exhaust valve, turn on inline shutoffs, change setpoint to 0.5, and perform a 5 minute pre-breath confirming correct solenoid operation.
31. ___ Confirm correct onboard and bailout gases are configured and selected in computers. Confirm computers are set to CC mode.