

MEGALODON CALIBRATION CHECK LIST

(APECS 2.5, 2.7; COPIS 2.0, 2.7 Systems)

Name (*print*): _____ Date of Calibration: ____/____/____ Rig ID: _____

This check list addresses a two subsystem APECS 2.5/2.7 configuration. For APECS and COPIS 2+ systems utilizing an isolator board for an OEM dive computer (like the Shearwater Pursuit) the checklist applies only to the APECS/COPIS primary subsystem. For calibrating the OEM dive computer system, please refer to the OEM dive computer user manual. For more detailed explanations of the steps in this checklist, please refer to the appropriate user manual for APECS 2.50 or 2.70 or COPIS 2.0. For COPIS 2.70 refer to the APECS 2.70 user manual.

NOTE: Sensors and sensor carriage must be **DRY** before proceeding with calibration!!!

Step/Initials **Note:** Initial **ONLY** when task has been performed.

1. ____ Analyze Oxygen Cylinder _____ % (Record Percentage).
2. ____ Get approximate altitude above sea level. _____ (feet/meters).
3. ____ Power on primary and secondary power supplies.
4. ____ Step through menus with the menu button to the CALIBRATE menu. The current settings for calibration altitude and calibration oxygen percentage are displayed on the confirm menu selection page. Verify these are correct. If correct, skip the O2 Percent adjustment and/or the altitude adjustment steps that follow, otherwise perform the appropriate steps.
5. ____ **O2 Percent Adjustment.** Step through the menus until reaching the "SET OXYGEN PERCENT" menu. Press "CONFIRM" buttons. This menu is only available during the first two minutes of initiating power to the unit. The factory default setting is 100%, unless changed by the user. Adjust, if necessary, to equal the cylinder oxygen percentage.
6. ____ Push MENU buttons to step through the range. (One percent increments).
7. ____ Push CONFIRM button to lock in the desired percentage.
8. ____ **Altitude Adjustment.** Step through the menus until reaching the ALTITUDE menu. Press CONFIRM buttons. This menu is only available during the first two minutes of initiating power to the unit. It is important the altitude setting is as close as possible to the current altitude during calibration. The factory default setting is 0 ft or 0m, unless changed by the user. Adjust, if necessary, to align the altitude zone with the current altitude. This setting is only used by the system during calibration.
9. ____ Push MENU buttons to step through the altitude ranges until the current altitude meets the displayed range.
10. ____ Push CONFIRM button to lock in the altitude zone.
11. ____ **CALIBRATE.** Before entering this stage, ensure the sensor carriage cap and sensor carriage are removed from the head assembly and the sensor carriage and oxygen sensors have been flushed with ambient air. The sensors must be acclimated to the ambient air to achieve an accurate air-point calibration before proceeding.
12. ____ Step through the menus with the Menu Button on Both handsets until "CALIBRATE" is displayed. Re-verify the oxygen percentage and altitude zones are correct. Press CONFIRM buttons. This menu is only available during the first two minutes of initiating power to the unit.
13. ____ When prompted on screens "ARE YOU SURE", press the CONFIRM buttons. (You have two minutes to reach this point or you will be timed out. If this happens simply turn off and back on the power supplies and restart calibration). The air point calibration data is captured at this point.
14. ____ Install the sensor carriage and cap to the head assembly. Connect the head only calibration Kit.
15. ____ Turn on the oxygen supply allowing O2 to flow over the cells. Watch the sensor millivolt readings on the calibration displays, the millivolt readings should be increasing.
16. ____ Confirm you are AT MAXIMUM OXYGEN? Once the millivolt readings have stabilized and the Oxygen analyzer is reading the same as the percentage of oxygen in the cylinder (this may take several minutes) Press the COMFIRM buttons. A "CAL DATA SAVED" message shall be displayed indicating calibration is complete. The system then returns to the main screen.
17. ____ Calibration is complete. Turn off the oxygen supply and remove the head only calibration kit.
18. ____ Remove the sensor carriage and its cap from the head, acclimate the sensors and sensor carriage to ambient air. PO2 readings on the handsets should read 0.21 ata for sea level. High altitude calibrations should read the po2 displayed on the calibration menu screen.
19. ____ Attach this calibration sheet to the Pre-dive checklist. Continue with the pre-dive process.

Diver (*sign*): _____

Calibration is important and should not be rushed. "Bad Data in = Bad Data Out"

-- Leon Scamahorn CEO Innerspace systems