



NAUI Technical Equipment Configuration (NTEC) for Open Circuit Technical Diver Training

For purposes of safety, uniformity of instruction and functionality, gear configurations for water work and training exercises must be the same for instructors and students. Standardized rigging of bottom and stage cylinders, isolation manifolds, cylinder gauges, inflators, primary regulators, and backup regulators is crucial to the safety, success and effectiveness of technical diver training. NTEC specific configurations of technical diving equipment, that is, its organization and placement on the diver, are presented here for use in technical diver training courses.

Twin primary cylinders connected by a dual-port manifold with an isolation valve are required for all training that will involve actual or simulated decompression stops. For training that does not involve decompression, a single primary cylinder with an “H” or a “Y” valve is acceptable.

The primary regulator is to be mounted on the right valve port with its hose oriented to the right. The hose should be of sufficient length appropriate to ease of gas sharing (5-8 feet/1.5-2.5 meters for a normal adult). The hose is run straight down behind the right wing of the buoyancy compensator, then across the chest area and looped from left to right around the neck and into the mouth. The secondary regulator is to be mounted to the left valve port with its hose also oriented to the right. The secondary-regulator hose is to be short, with the second stage hung from the neck on a necklace (such as bungee cord or surgical tubing) for immediate accessibility.

The submersible pressure gauge is to be run from the left port’s first stage down the left side and clipped to a left-side harness d-ring. The hose should be short enough to stay out of the slipstream.

A wing-style buoyancy compensator is required and may be mounted to either a hard backplate harness or a soft harness. *(The hard backplate is highly recommended, and students who choose to use a soft harness are to be advised that a hard-plate system is far more stable and secure.)*

Decompression and/or stage cylinders must be used for any training that involves actual or simulated decompression. There should be no “metal-to-metal” connection on any part of the rig; that is, there must be at least one link in any connection that can be easily severed with a knife or other cutting tool. Stage cylinders must be marked with their maximum operating depth in bold numerals at least two inches (5 cm) high, placed along the cylinder’s longitudinal axis and positioned so as to be readily visible to other team members. Similarly, oxygen cylinders must be labeled with the word “oxygen” (or its equivalent in the dominant language) in bold letters at least two inches (5 cm) high placed along the cylinder’s longitudinal axis.

Each diver shall also be equipped with the following:

- Depth gauge, and timing device, i.e., dive computer or bottom recorder.
- Compass
- Slate or waterproof paper and pencil.
- Dive knife/tool.
- Emergency signaling device.
- Waterproof dive tables
- Minimum of one 50 lb/23 kg lift bag and one line reel.
- Cylinders and regulators properly cleaned and labeled as required for the breathing gas mixtures involved, with a separate submersible pressure gauge for each gas system used.

Also, for primary cylinder(s), cylinder capacities must be appropriate for the planned dives and all students' breathing gas consumption rates. The decompression mix cylinder(s) and cylinder capacities must also be appropriate for the planned dive and student breathing gas consumption rates. Each decompression cylinder is to be equipped with a submersible pressure gauge and prepared for side-mounting to a harness using bolt snaps. All high FO₂ gas regulators will have a cover, band or other device that allows quick recognition of the regulator as a supplier of oxygen-rich gas. Primary and backup regulators are required on all primary scuba systems.