



TQS Regulator Service Technician Level I

Course Objectives:

The demand for regulator service technicians by dive facilities and resorts is high, but individuals with specialized training in both the theoretical and practical aspects of servicing scuba life support systems and related equipment is low.

Often regulators from dive shops and individuals find their way to the repair/service facility in a poor condition, poorly serviced, lacking service, missing parts or disassembled.

It is critically important that technicians are properly trained to use standardized procedures in disassembly, inspection, parts repair/replacement, cleaning, assembly, testing, and final adjustment of diving equipment.

Manufacturers offer clinics and seminars to dealers, dive masters and dive instructors for certification to service their products. (Due to product liability, issuing certifications to work on different individual brands is the manufacturer's exclusive right.) Some seminars are very comprehensive and involve a couple of days, while others may only require a couple of hours.

Manufacturer's programs or seminars are not designed to train the technician outright, but to make the technician familiar with a specific brand and specific procedures imposed by the equipment manufacturer. To get the most out of those seminars, any potential technician must have a certain level of equipment service knowledge to really benefit, which rather often is not the case.

That's where this course fits in, it is designed to bridge the gap between extensive programs and service clinics and to give aspiring technicians a solid knowledge base.

It cannot be emphasized enough that scuba equipment is LIFE SUPPORT EQUIPMENT. Therefore it is critically important that technicians are properly trained to use standardized procedures in disassembly, inspection, parts repair/replacement, cleaning, assembly, testing, and final adjustment of diving equipment.



The goals of the Regulator Service Technician Distinctive Speciality Course are:

- To strengthen the basic mechanical knowledge of the technician including engineering concepts and materials used in all components of regulators.
- To describe and illustrate how regulators work based upon how the components respond to pressure differentials.

- To describe and illustrate factors that resist the mechanical movement of regulator components.
- To provide rational and sequential methods for diagnosing regulator problems.
- To instill rational insight that can be applied to all common regulator functions.
- To instill the participant with a rational facts as why regulator servicing is a necessity and cannot be ignored or overlooked.
- To familiarize the technician with appropriate service tools and diagnostic equipment.
- To familiarize the technician with appropriate standard bench procedures and methods for disassembly, cleaning, inspecting, reassembly and testing/adjusting of regulators.
- To prepare the technician for manufacturers service seminars.
- To familiarise the technician with applicable standards and codes, including creating and maintaining standardized service records for both business management and defensibility.

Prerequisites: 18 years old, Advanced Open Water Diver and Enriched Air Diver or equivalent, and employment through a recognized scuba related facility or manufacturer/distributor or show proof of intent to acquire such employment.

Duration: 6 days

Course fee: See pricelist

Course Outline:

The course consists of 18 sections. Most sections are followed by practical application labs. During the practical labs you will get the opportunity to work on regulators like Apeks, Scubapro, Mares, Aqualung, Sherwood, Poseidon, Dive Rite, Cressi and Oceanic.

1. SI system (International System of Units)
2. Physics of gases
3. Basic principles
4. Regulator performance and design
5. General workshop practices
6. Unbalanced piston first stages
7. Unbalanced diaphragm first stages
8. Balanced piston first stages
9. Balanced diaphragm first stages
10. Special first stage features
11. O-rings and high pressure seats
12. First stage inspection, setup, testing and troubleshooting
13. Introduction to second stages
14. Unbalanced downstream second stages
15. Balanced downstream second stages
16. Special second stages features
17. Second stage inspection, setup, testing and troubleshooting
18. Power inflators, BCD's, cylinder valves and instruments

