

# Trimix Diver Open Circuit



## Trimix Rebreather Diver



### A. Purpose

1. This Program is designed to train divers in the safer use and technology of Rebreathers for deep diving to depths in excess of 170 fsw (51 msw).

### B. Prerequisites

1. Must be qualified as an IANTD Rebreather Diver, or if entering the Program based on equivalent experience, must be qualified as either Normoxic Trimix Diver or Trimix Diver (OC) or must be taking the Normoxic Trimix Diver and Trimix Diver course on an approved Rebreather for mixed gas diving, with all dives other than confined water made on Trimix or Heliox.
2. Must provide proof of a minimum of 200 logged dives, at least 50 of which were on the specific (SCR or CCR) Rebreather category to be trained for.
3. Must be a minimum of 18 years of age.

### C. Texts

1. IANTD *Rebreather Diver Student Manual and Workbook*.
2. IANTD-approved text(s) for the particular Rebreather the training is taking place on.

Additionally, if Technical and Trimix Programs are taken concurrently:

3. IANTD *Technical Workbook*.
4. IANTD *Trimix Workbook*.
5. IANTD *Technical Encyclopedia*.

### D. Program Content

1. Lecture material adequate to cover the needs of the specific Rebreather.
2. For those who are already OC Trimix Divers this Program must include a confined water session and a minimum of 150 minutes of run time, using Trimix or Heliox, completed within at least 2 open-water or overhead-environment dives.
3. For divers not previously qualified as OC Trimix Divers, but who are Normoxic Trimix qualified a confined water session and 240 minutes of run time to be completed within 4 dives. If the Program includes the combination of Normoxic Trimix Diver and Trimix Diver, all dives must be performed on the Rebreather for a minimum of 480 minutes of run time completed within at least 8 open-water or overhead-environment dives. One dive must be to at least 200fsw (60 msw) or deeper.

### E. Equipment Requirements

1. Must own or have direct access to the specific Rebreather model being taught.

### F. Program Limits

1. There may be no more than 2 students per Instructor.
2. All dives must be conducted to depths between 130 fsw (39 msw) and 260 fsw (79 msw).



**NOTE: If the diver is qualified as a Normoxic Trimix Diver, no dives may be conducted to depths greater than 200 fsw (60 msw).**

3. Inspired oxygen partial pressure may not exceed 1.40 ATA or manufacturer specifications (whichever is lower) during dives, and the oxygen partial pressure of the active diluent/supply may not exceed 1.60 ATA at the MOD of the dive.
4. All dives must be completed within the IANTD oxygen CNS% limits.
5. All appropriate safety or required decompression stops must be performed.

#### **G. Waterskills Development**

1. A confined water session must be completed before conducting any OW dives.
2. Become familiar with breathing controls.
3. Shut off and turn on gas supplies.
4. Perform loss of gas drill.
5. Simulate bailout procedures.
6. Perform electronics failure drills.
7. Perform broken hoses drill.
8. Perform flooded canister drill.
9. Perform 3 H's emergency drills.
10. Simulate counterlung rip.
11. Practice use of BCD.
12. Hover with minimum of motion at a specified depth (combination of confined water drills and safety stops in OW).
13. Clean unit to avoid contamination and spreading of disease.
14. Practice system monitoring.
15. Perform leak test.
16. Pack absorbent canister.

#### **The Below skills are for divers not previously qualified as Trimix Divers**

17. Swim 60 feet (18 meters) without breathing, and exhaling slowly, and then perform bailout procedure.
18. Practice switching to and handling of stage for both diluent and oxygen if applicable.
19. Perform all skills and procedures specified by the manufacturer of unit that training is performed on.
20. Two divers approximately 60 feet (18 meters) apart locate each other while simulating an out of air situation (without breathing, and exhaling slowly) and begin gas. After taking 3 breaths at rest, continue swimming at a normal rate while sharing gas for at least 2 minutes.
21. While swimming, demonstrate efficient switch to stage cylinder regulators.
22. Following a means of reference (pool wall, guide line, ship railing, etc.) with eyes closed, remove stage cylinders and swim a distance of at least 15 feet (4.6 meters). Reverse direction, return to stage cylinders and replace them on correct sides, identifying each cylinder by feel.
23. Prior to dives, students must demonstrate Gas Management
24. Remove and replace stage cylinders both at rest and while swimming.
25. Deploy and use a lift bag or up line at least once in OW.
26. Simulate a rescue of a diver; tow the diver on the surface for a

distance of at least 40 feet (12 meters) while simulating mouth-to-mouth resuscitation. Go through EMS procedures and remove equipment from victim in the water equipment removal must be accomplished in less than 1½ minutes, students in continuous webbing who exceed this time must add a quick release to their harness). Repeat until proficient.



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