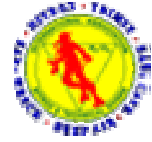




Rebreather Diver



A. Purpose

1. This Program is designed to train competent divers in the safer use and technology of specific Rebreathers.

B. Prerequisites

1. For Semi-Closed systems, student must be a qualified EANx Diver.
2. For Closed Circuit systems, student must be an IANTD Advanced EANx Diver or equivalent. (IANTD Advanced EANx may be taken in conjunction with the Rebreather Diver Program.)
3. Must be a minimum of 18 years of age.

C. Texts

1. IANTD *Rebreather Diver Student Manual and Workbook* or the *IAND inc/IANTD text Understanding Rebreathers*.
2. IANTD-approved text for the particular Rebreather the training is taking place on.

D. Program Content

For Semi-closed Circuit Rebreathers:

1. This Program must include a minimum of 240 minutes of in-water training time on the specific Rebreather model being trained on, in a combination of confined water and OW environments. A minimum of 4 OW dives, each of which is at least 30 minutes in duration, must be completed.

For Closed Circuit Rebreathers:

1. This Program must include a minimum of 450 minutes of in-water training time on the specific Rebreather model being trained on, in a combination of confined water and OW environments. A minimum of 8 OW dives, each of which is at least 30 minutes in duration, must be completed.
2. For All Rebreathers: Students must complete the text and test material associated with other units that they wish to be cross-qualified on.

Plus:

1. To qualify from one Semi-closed Circuit Rebreather, or from a Closed Circuit Rebreather to another Semi-closed Circuit Rebreather, the diver must complete a minimum of 120 minutes of in-water training time with at least two open-water dives.
2. To qualify from one Closed Circuit Rebreather to another Closed Circuit Rebreather, a diver with 12 or more CCR dives of which one must have been within 45 days of the program on the new CCR must complete a minimum of 210 minutes of in-water training in a combination of confined water and OW environments, with at least 2 OW dives. A diver with less than 12 CCR dives must do the complete course.
3. To qualify from a Semi-closed Circuit Rebreather to a Closed Circuit Rebreather, a diver with 20 or more SCR dives must complete a minimum of 420 minutes of in-water training in a combination of confined water and OW environments, with at least 6 OW dives.



4. Programs for some specific Rebreather models will exceed these minimum requirements, per IANTD and specific manufacturer agreements. However no sanctioned IANTD course can be conducted without adhering to these minimum requirements.

E. Equipment Requirements

1. Approved specific Rebreather suitable for the training exposure.

F. Program Limits

1. There may be no more than 4 students per Instructor.
2. No dives may be conducted to depths greater than 130 fsw (39 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. The instructor may use a Rebreather or OC during training sessions. It is recommended that the instructor use the Rebreather at all times to demonstrate skills and be able to monitor the student. .
6. All appropriate safety or required decompression stops must be performed.

G. Waterskills Development

1. A confined water session to must be completed before conducting any OW dives.

Open Water Training must include the following skills:

1. Pre-dive checks.
2. Pre-dive breathe.
3. Switch to low set point for descent (CCR only).
4. Switch to higher set point once the diver is at the planned dive depth or set point change depth (CCR only).
5. In water leak and buddy leak check. If conditions prohibit this after entry this then immediately upon arrival at a stable depth. Where practical this may be accomplished between just below the surface to 20 fsw (6 msw) deep.
6. Descend and insure gas addition is made.
7. Open Circuit bailout (static and dynamic drills, including at least two OC ascents to approximately 20 fsw (6 msw).
8. Buoyancy and trim.
9. Handset/computer/pendant/gauges, etc. operation.
10. PO₂ gauge monitoring to be done no more frequently that once a minute and no less often than once every four minutes (CCR only).
11. Hypoxia (static and dynamic drills).
12. Hyperoxia (static and dynamic).
13. Hypercapnia (static and dynamic).
14. Flood recovery (static and dynamic).
15. Buoyancy and trim on the bottom during ascent and at safety or required stops.
16. Hypoxia due to Solenoid stuck in closed position.
(Reset to a low set point and maintain a higher PO₂ set point by



manual addition (CCR only).

17. Hyperoxia due to Solenoid stuck in open position.
(Reset to a high PO₂ set point maintain at a value less than this by valve manipulation (CCR only).

18. Dive the unit manually.

19. Minimum Loop Volume (CCR and passive SCR).

20. Carry off-board bailout cylinder on a minimum of three dives.

21. SCR mode of diving.

22. SMB Deployment.

23. Present the following situations. The student is to perform appropriate actions plus write down what the suspected problem was.

Note: Some drills are CCR only.

Problem

Correct Reaction

Drills: CCR / SCR

24. Out-of-air, air gas sharing from OC bailout (donor remains on CCR or SCR).

25. Complex (multi-part) scenarios such as Hypoxia or Hyperoxia drill for donor while gas sharing with a out of gas diver (CCR only).

26. Ascend.

27. Safety or required Stop.

28. Post dive briefing.

29. Unit maintenance.

Inhalation counterlung inflating rapidly	Suspect solenoid failure open	X	
Feeling unusual	Switch to OC	X	X
Buoyancy has changed to very negative	Flooded loop	X	X
Difficult breathing counterlung at correct volume	Suspect flood or Hypercapnia	X	X
Weakness in legs	Suspect Hypercapnia	X	X
Shortness of breath	Suspect Hypercapnia	X	X
Feeling of well being	Suspect Hyperoxia / Hypoxia	X	X
Feel like you are about to blackout	Suspect Hypoxia	X	X
Muscle twitching	Suspect Hyperoxia	X	X
Nassau	Suspect Hyperoxia	X	X
Ears ringing	Suspect Hyperoxia	X	X
Hearing or visual abnormalities	Suspect Hyperoxia	X	X
Feeling dizzy	Suspect Hyperoxia	X	X
Extreme quietness (absence of solenoid noise)	Suspect electronics off, or solenoid defective	X	
Solenoid fires but no oxygen injected	Suspect oxygen supply empty or cylinder off (valve closed) or inline valve closed	X	
Diluent not being added	Suspect diluent cylinder empty or cylinder off (valve closed) or inline valve closed	X	
2 cells read high but low cell checks with diluent PO ₂	Suspect two high cells are in error	X	
2 cells read high and check with diluent PO ₂	Suspect cell off is wrong	X	



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