



## **8. TDI – Advanced Wreck Diver Course**

### **8.1 Introduction**

This course provides training and experience to competently conduct advanced wreck dives. This program includes penetration skills and techniques. Depths shall not exceed the level in which the diver is trained and competent, but in no case shall the maximum depth in this program exceed fifty five (55) msw / one hundred eighty (180) fsw. The objective of this course is to train divers in the proper techniques, equipment requirements and hazards of wreck diving.

### **8.2 Qualifications of Graduates**

Upon successful completion of this course, graduates may engage in wreck diving activities without direct supervision so long as:

1. The diving activities approximate those of training.
2. The areas of activities approximate those of training.
3. Environmental conditions approximate those of training.

### **8.3 Who May Teach**

Who may teach this course:

1. Any active TDI Advanced Wreck Diving Instructor may teach this course.

### **8.4 Student – Instructor Ratio**

Academic:

1. Unlimited, so long as adequate facility, supplies and time are provided to insure comprehensive and complete training.

Confined Water (Swimming pool-like conditions):

1. N/A.

Open Water (Ocean, lake, quarry, spring, river or estuary):

1. A maximum of four (4) students per Instructor. However, it is the instructor's discretion to reduce this number as conditions dictate.

### **8.5 Student Pre-Requisites**

The student must:

1. Be a minimum age of eighteen (18).



2. Be certified as an Advanced open water diver.
3. Show proof of at least fifty (50) logged dives.
4. Be certified as Basic Wreck or Cavern or equivalent.

## **8.6 Course Structure and Duration**

Open Water Execution:

1. Six (6) penetration / overhead dives and an accumulated bottom time of one hundred (100) minutes.
2. Only two (2) dives from Advanced Wreck course may be credited towards the total dives required for Advanced Nitrox, Decompression Procedures, Extended Range or Entry Level Trimix.

Course Structure:

1. TDI allows instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The minimum number of classroom and briefing hours is eight (8).

## **8.7 Administrative Requirements**

The following is the administrative tasks:

1. Collect the course fees from all the students.
2. Ensure that the students have the required equipment.
3. Communicate the training schedule to the students.
4. Have the students complete the Liability Release and Medical history forms.
5. The instructor must review the liability Release and Medical Forms before starting on the course.

Upon successful completion of the course the Instructor must:

1. Complete the Student Registration Form and send the Registration Form to TDI HQ.
2. Award Card.

## **8.8 Training Material**

Required material

1. TDI Advanced Wreck Diving diver Manual.

Optional Material

## **8.9 Required Equipment**

The following equipment is required for each student

1. Primary Cylinder(s)
  - A. Cylinder volume appropriate for the planned dive and student gas consumption rate.
  - B. Dual valve, double manifold or independent doubles.
  - C. Labeled in accordance with TDI Standards.



2. Travel or Decompression Cylinders as required by site conditions.
3. Regulators
  - A. Primary and primary redundant required on all primary breathing cylinders.
  - B. Submersible pressure gauges are required on all primary cylinder(s).
  - C. A contingency use long hose second stage should be designated and appropriately rigged to facilitate air sharing at depth if necessary.
4. Buoyancy Compensator(s) adequate for the open water environment.
5. Back-up Depth and Timing Devices.
6. Air decompression computers allowed for use as depth and timing devices.
7. Light Systems
  - A. Primary.
  - B. Back-up.
8. Ascent reel with lift bag/surface marker buoy or up-line
  - A. Adequate for the planned maximum depth.
  - B. Minimum of eleven (11) kg / twenty five (25) lb. Lift.
9. Exposure suit adequate for the open water environment.
10. Two (2) Line Cutting Devices.
11. Underwater Slate.
12. Reels
  - A. Primary penetration reel.
  - B. Safety reel.
13. Options that the instructor may require
  - A. Submersible dive tables.
  - B. Bail-out cylinder with regulator.
  - C. Jon-line.
  - D. Slate, compass, surface signaling device (flare, strobe, etc.)

## **8.10 Required Subject Areas**

The following land drills must be covered during this course

1. Guideline Use.
2. Guideline Following.
3. Emergency Procedures.

The following topic must be covered during this course. Instructors may use any text or materials that they feel best presents these topics.

1. Equipment Considerations
  - A. Redundant scuba.
  - B. Lights.
  - C. Reels.
  - D. Tools.
2. Procedures
  - A. Pre-dive.
  - B. Pre-penetration.
  - C. Penetration.
  - D. Exiting the wreck.



3. Hazards of Wreck Diving and Overhead Environments
  - A. Disorientation.
  - B. Reduced visibility.
  - C. Entrapment.
  - D. Entanglement.
  - E. Environmental.
  - F. Loss of gas supply.
  - G. Line traps.
  - H. Separated buddy teams.
4. Penetration Lines
  - A. Types.
  - B. Proper use.
5. Research and Locating
  - A. Local regulations.
  - B. Sources of information.
  - C. Tools.
  - D. Surveying.
6. Contingency Planning
  - A. Chamber locations.
  - B. Communications.
  - C. Emergency gases.

## **8.11 Required Skill Performance And Graduation Requirements**

The student must complete the following skills during wreck dives. All dives should be conducted with a maximum depth no deeper than the certified student's capabilities.

### **Land Drills**

1. Proper deployment of guideline
2. Proper technique for following guideline
3. Use safety spool / reel in lost line procedures
4. Use safety spool / reel in lost buddy procedures
5. Proper technique for touch contact communication
6. Properly analyze all gas mixtures to be used.
7. Demonstrate adequate pre-dive planning
  - A. Limits based on personal and team gas consumption.
  - B. Limits based on oxygen exposures at planned depths for actual mixes.
  - C. Limits based on nitrogen absorption at planned depths for actual mixes.

### **Pre-dive Drills**

1. Use START\* before every dive
2. Stress analysis and mitigation

### **In-water Drills**

1. Demonstrate specialized propulsion techniques for an overhead environment
2. Deploy guideline with attention to immediate environment and conditions
3. Demonstrate lost line and lost buddy drills



4. Follow guideline (eyes open and eyes closed – or blacked out mask)
5. Air share with team member(s) while exiting confined space (eyes open and eyes closed – or blacked out mask)
6. Remove and replace mask while in contact with guideline
7. Demonstrate light and hand communications with team members
8. Demonstrate touch contact with team members
9. Simulate primary light failure and deployment of backup lights
10. Demonstrate correct techniques for staging deco/contingency gas outside wreck
11. Demonstrate proper procedure for isolating and switching a malfunctioning regulator (This drill should be conducted no deeper than 40 meters / 132 fsw)
12. Demonstrate ability to deploy a lift bag from depth as emergency ascent line
13. Demonstrate ability to deploy a lift bag from depth as alternative buoyancy device
14. Execute simulated emergency blue water ascent with marker deployment from staged stop below 6 meters (simulated or real live boating)
15. Demonstrate understanding of basic wreck layout and special considerations for navigating wreck
16. Deal with diver presenting signs of serious DCS at surface (simulated emergency evac.)
17. Properly execute the planned dive within all pre-determined limits.
18. Demonstrate the proper navigational techniques for the specific dive.
19. Demonstrate out of air sharing with long hose through a restriction.
20. Demonstrate the proper procedures for switching and isolating a malfunctioning regulator (This exercise shall not be conducted deeper than forty (40) msw) / one hundred thirty (130) fsw.
21. Deployment of lift bag or up line for decompression.
22. Silt-out procedures.
23. Follow line while sharing air.
24. Follow line with eyes closed while air sharing.

In order to complete this course, students must:

1. Complete all field exercise and open water requirements safely and efficiently.
2. Demonstrate mature, sound judgment concerning dive planning and execution.
3. Satisfactorily complete the TDI Advanced Wreck Course written examination.