



## Helitrox Instructor Program

- ▶ Welcome and Course Overview
- ▶ The TDI Instructor
- ▶ Dive Leader Risk Management
- ▶ Methods of Instruction
- ▶ Business Side of Diving
- ▶ Teaching the TDI Helitrox Diver Program

The TDI Helitrox Instructor Program is typically an upgrade from the TDI Trimix instructor rating. Any instructor from any agency who meets the prerequisites may be qualified to attend the TDI Helitrox Instructor program. If this is the first program an instructor is completing through TDI more time will need to be spent on the core topics listed below. Once an instructor has completed their initial TDI Helitrox program, or any initial TDI Instructor program, they will need only to focus on the course specific content for future programs.

## Objectives

### The object of this program is to:

- Introduce the instructor to TDI
- Introduce the candidate to the TDI Instructor Guide and Student materials
- Demonstrate how to use the TDI materials to train a new helitrox diver
- Teach the instructor “How to Conduct” the TDI Helitrox Diver program
- Demonstrate how to register and certify a new Helitrox diver

## Prerequisites for TDI Helitrox Instructor Program

See the current TDI Helitrox Instructor standards for the prerequisites and requirements for this program.

## Materials Required

Teaching any program with outdated materials is just asking for problems. The trainer must confirm that their materials are current and each instructor has the current materials with which to teach the program.

## Instructor Trainer

- TDI Decompression Procedures and Extended Range Diver Manuals
- TDI Decompression Procedures and Extended Range Knowledge Quests
- TDI Decompression Procedures and Extended Range Instructor Guides
- TDI Decompression Procedures and Extended Range PowerPoint Presentations®
- TDI Instructor Trainer Manual



## Instructor Candidate

- TDI Decompression Procedures and Extended Range Diver Manuals
- TDI Decompression Procedures and Extended Range Diver Knowledge Quests
- TDI Decompression Procedures and Extended Range Instructor Guides
- TDI Decompression Procedures and Extended Range PowerPoint Presentation®

Note: Prior to beginning the program the instructor candidate should review all instructor and diver materials and complete all knowledge quests and final exams so they are completely familiar with the subject matter and the support materials to teach the TDI Helitrox Diver program.

## The topics to be covered are:

- Welcome and Course Orientation
- The TDI Instructor\*
- Dive Leader Risk Management\*
- Methods of Instruction\*
- Business Side of Diving\*
- Courses a TDI Helitrox Instructor Can Teach

\*Core Topics: These core topics will be found in Part One of this manual; IT Information.



# Welcome and Course Overview

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## Paperwork

- Instructor Registration Form
- Personal Information
- Liability Release
- Medical Statement

## Let's Get to Know Each Other

### Professional Staff

### Participants

- Your name?
- What type of technical diving experience do you have?
- Which technical diving activities interest you the most?
- Why are you interested in becoming a technical instructor?

## About This Program

### Course Objective

- Develop the appropriate knowledge and skills that are expected of every dive professional



## Subject Areas

- The TDI Instructor
- Dive Leader Risk Management
- Methods of Instruction
- Business Side of Diving

## Structure and Schedule

- Independent Study
- Classroom Presentations
- Confined Water Training
- Open Water Training

## Required Equipment

- Items you'll need for this course

Any Questions?

# The TDI Instructor

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Refer to Instructor Trainer Manual Part 1 Instructor Training Process  
Chapter 2-The SDI/TDI/ERDI Instructor



# Dive Leader Risk Management

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Refer to Instructor Trainer Manual Part 1 Instructor Training Process  
Chapter 3-Dive Leader Risk Management

# Methods of Instruction

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Refer to Instructor Trainer Manual Part 1 Instructor Training Process  
Chapter 4-Methods of Instruction

# Business Side of Diving

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Refer to Instructor Trainer Manual Part 1 Instructor Training Process  
Chapter 5-Business of Diving

# Teaching the TDI Helitrox Diver Program

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- Program overview
  - Classroom requirements



- Students are required to become familiar with: use of an oxygen and helium analyzer, equipment configuration, decompression theory, decompression planning (available software and manually using tables), thermal considerations as well as the selection and use of various gas mixes for helitrox diving. An Instructor must be able to demonstrate instructor level knowledge on all topics and skills in the current TDI Helitrox Diver standards.
- Pool / confined water requirements
  - While a pool / confined water session is not required, an instructor may take this opportunity to conduct an update with divers who have been inactive for a period of time, or conduct a skill evaluation to help the students become better divers. This is the ideal setting to conduct buoyancy skills and trim. If the depth of the pool/confined water permits, this is also a great setting to introduce and practice lift bag drills and mask drills.
- Open Water Requirements
  - Four dives are required. If this program is conducted in conjunction with other allowed courses, the four dives plus the required number of dives from the other program are required. For the open water dives it is best to take divers progressively deeper and not hit the maximum training depth in the first dive or two. It is also best to perform simulated decompression prior to obligated decompression stops. This also allows an opportunity for the instructor to monitor the diver's performance, abilities and overall comfort.
- Materials
  - Review all diver materials to make sure the instructor candidate is familiar with all diver materials and how they are supported by the instructor materials.
    - Diver Materials
      - Online
      - Printed



- Required paperwork
  - Discuss in detail how the instructor should complete the required paperwork
  - The instructor candidate must be familiar with all forms and be able to answer any question a diver may have regarding the completion of those forms
    - Diver Training Folder
    - Waiver
    - Medical Questionnaire
- Complete a thorough review of the appropriate TDI Instructor manual including:
  - How to conduct:
    - Academic sessions
      - Cover helpful hints on how to teach more involved subjects
  - Pool/ Confined water sessions (if one is conducted)
    - Helpful hints on:
      - How to teach skills
      - Conducting an update / skill evaluation
      - Possible problems an instructor may experience
      - How to deal with those problems
  - Open water sessions
    - Helpful hints on:
      - How to conduct skills in open water vs pool/confined
      - Possible problems an instructor may experience in open water
      - How to deal with those problems



## List of tips on how to teach various aspects of this program include:

All topics from previous courses should be reiterated such as: analyzing and labeling cylinders, equipment configuration, etc.

Decompression Option – use of higher percentages of oxygen for decompression, planning helitrox dives using tables vs. dive planning software

Equipment Requirements – Since the helitrox course is a progression from advanced nitrox the additional equipment is minimal. Depending on the diver's air consumption rate, they may require higher volume cylinders for their primary gas and a decompression cylinder.

Dive Planning – dive planning will need to be covered in greater detail as previous courses may not have covered planning for decompression. It should be emphasized to the divers that any increase in depth has an impact on gas consumption and this needs to be calculated into their dive planning.

Reading tables

EAD

EAN

PO2

CNS

Verifying cylinder content

Labeling cylinders

## List of academic / pool-confined water / open water topics for candidate to present:

History of mixed gas diving

Using Dive Tables (EAD and EAN Tables)

Advantages and Disadvantages of Helitrox

Use of oxygen and helium analyzers



## **Scheduling Options for this program**

Courses can be scheduled with a one to one ratio, as a group or scheduled in conjunction with other TDI courses. Each of these will require different time commitments and scheduling logistics. A course with one helitrox diver will take less time than if combined with another TDI course with a group.

### **Overview**

The TDI Helitrox Instructor program is comprised of classroom work sessions and open water dives. One day should be allotted for the academic session with two full days for the open water dives.

If this program is taught with any of the other allowed instructor programs, two to three full days for the classroom should be scheduled and the appropriate amount of days for the open water dives if two dives per day are scheduled. There may be times when the course can be completed in less time but it is always good to allot an extra day or two for make-up time or weather.

### **Classroom**

You will need various pieces of equipment normally used for helitrox diving so the candidate can demonstrate: different configuration possibilities, dive planning (via dive planning software or tables). The instructor must be able to demonstrate to instructor level quality all academic topics in the current TDI Helitrox Diver standards.

### **Dives**

Two days of diving should be scheduled if the program is taught by itself. If it is taught in conjunction with any of the other accepted TDI Instructor programs, additional days will need to be scheduled for the open water dives considering two dives per day will be completed. It is always good practice to build in some extra time for dives so the instructor candidates can clear their schedule.



## **Knowledge Quest Review Questions if applicable**

No instructor level Knowledge Quest is available for this program, although the candidate should complete the diver level Knowledge Quest so they are familiar with the information.

## **Final Exam**

No instructor level final exam is available for this program, although the candidate should complete the diver level final exam so they are familiar with the information.



