

# XR Training Standards and Procedures



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English-Metric  
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STANDARDS-XR

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Changes Effective November 22, 2023

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# XR General Training Standards Overview

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## I. Governing Standard and Standards Waiver

Statements, written or oral, that are not processed in accordance with SSI Training Standards will not be considered the official position of SSI. The online English-metric version of the SSI Training and Training Center Standards are the default global standards.

### a. Waivers from Standards

All waivers for deviations to the SSI Training Standards must be requested and approved in writing by the responsible SSI Service Center. The request must explain why the waiver is needed, and what will be done to ensure the quality of SSI training.

SSI Training Standards are updated annually; if a waiver for deviation is approved, it expires with the new Standards year.

## Overview

# How To Use These Standards

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All SSI Training Centers and SSI Professionals, are accountable for following all general and program-specific training standards when conducting SSI approved programs.

For the purpose of these standards, an SSI Professional is defined as a person holding any professional-level rating with SSI, or any staff member of an SSI Training Center.

For the purpose of these standards, an SSI Training Center is defined as any business that conducts SSI training, including but not limited to: Dive Centers, Dive Resorts, Dive Schools, Swim Centers, etc.

## I. General Training Standards

These standards apply to all SSI programs unless otherwise specified in program-specific training standards.

## II. Minimum Instructor Rating

Any active status SSI Professional with the minimum applicable instructor rating or higher may conduct training as specified in the program-specific standard.

## III. Recommendations, Notes and Examples

These Training Standards include recommendations, notes and examples.

- RECOMMENDATIONS provide additional suggestions whenever student needs and abilities, environmental conditions or equipment make it possible to enhance the experience of the training activity.
- NOTES and EXAMPLES help clarify a specific standard or recommendation.

## IV. Government Laws

If applicable, local, state and federal laws, bylaws and codes of practice supersede SSI Standards. SSI Training Centers and SSI Professionals are required to be familiar with these laws, and inform the responsible SSI Service Center, in writing, in the event of a conflict.

## V. SSI Flexibility Rule

Students participating in SSI programs must complete all training requirements as set forth in the current SSI Training Standards and the applicable instructor manual. SSI Professionals must follow 100% of the SSI Total Teaching System; including all academic, pool/confined water, and open water requirements as outlined in the program-specific instructor manual.

The SSI Flexibility Rule also means that SSI Professionals can develop their own teaching style and program schedules including; the order and number of classroom and pool/confined water sessions, and the order of skills in the pool/confined water sessions and open water training dives.

SSI Professionals are NOT allowed to add skills that SSI does not endorse. Teaching additional skills or skills that “challenge” your students violates SSI Training Standards and can make you liable in the case of an incident. If you have any questions about the SSI Flexibility Rule and what skills are or are not allowed, please contact the responsible SSI Service Center for guidance or interpretation.

*Example / Skills like ditching and recovering the scuba unit, breathing directly from the cylinder valve, and any ascents without the regulator in the mouth and/or the breathing gas turned off are not endorsed by SSI, and must NOT be taught during SSI training programs.*

*Example / If environmental conditions and student ability permit, SSI Professionals may evaluate any and all required skills during any open water training dive. All required open water training dives must still be completed for all SSI programs.*

### a. Scenarios

Problem-solving scenarios may only be used after the student completes their initial shallow water skills development to test their ability to deal with problems at depth under simulated emergency conditions.

SSI Professionals are encouraged to use bubble guns and flash cards to simulate emergencies. They are not permitted to incapacitate, turn off, or disable any diver's equipment at any point during training.

Once a failure is resolved, all systems must be immediately restored to their normal operating condition. The SSI Professional must verify that the all systems are in normal operating condition, and that the student is ready to continue.



The problem may only be simulated for the rest of the scenario.

## **VI. Exceeding Standards**

SSI Professionals may exceed standards, may provide more detailed coverage of the materials, and may provide additional in-water training sessions. Incorporating newer techniques and equipment is encouraged. Any specific knowledge and skills changes must be approved by the responsible SSI Service Center prior to incorporating the changes.

During XR training programs, SSI Professionals may combine skills to increase complexity and develop the student's problem-solving abilities. They must ensure students are not excessively task-loaded and that safety and control are maintained at all times.

## Overview

# Program Definitions

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### **I. Certification Program**

A digital certification card must be issued once a student completes all requirements of a specific SSI certification program.

SSI issues this verification upon receipt of the SSI Professional's and SSI Training Center's confirmation of satisfactory completion of all program requirements by the student, as documented in the student's training record and logbook.

### **II. Recognition Program**

An SSI XR program that does not result in a certification. All SSI XR recognition programs must be conducted during daylight hours (between sunrise and sunset) in water that allows direct vertical access to the surface.

A digital recognition card must be issued once a student has completed an SSI recognition program.

SSI issues this recognition upon receipt of the SSI Professional's and SSI Training Center's confirmation of satisfactory completion of all program requirements by the student, as documented in the student's training record and logbook.

Recognition cards are a proof of experience, but do not qualify the student to dive autonomously without additional training.

# Participation Criteria

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## I. Age

**The minimum age is 16 for the following programs:**

- Extended Range Foundations
- Extended Range Sidemount
- Extended Range Wreck Diving
- Extended Range Cavern Diving
- Extended Range Mine Diving
- Try SCR

**For any other Extended Range (XR) program, the minimum age is 18.**

The student or candidate may register for a program at any point, but they may not begin any SSI training prior to reaching the minimum age requirement.

### a. Minors

For the purpose of these standards, a minor is anyone younger than 18 years old who participates in an SSI training program unless local laws or regulations dictate a more-restrictive age (e.g. 15 years old).

## II. Experience Prerequisites

The minimum experience prerequisites are listed in the individual program's training standards.

### a. Credit for Experience Dives

Issuing credit for any or all portions of the qualifying dives is entirely at the certifying instructor's discretion. If dives are credited, the instructor must have direct and recent knowledge (within 180 days) of the student's skills, equipment configuration and experience.

## III. Water Fitness Evaluation

SSI XR programs have required water skills and stamina evaluations. The specific program training standards will specify whether these evaluations must be successfully completed prior to any in-water training, prior to any open water training or prior to certification.

## Administration

# Privacy Forms and Training Records

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## I. Completion Requirements

### a. Training with an SSI Training Center

Training Records and required documentation are only valid for training conducted with the initiating SSI Training Center. If the student or candidate affiliates with another SSI Training Center, they must complete the required documentation for the new training center as well.

#### **Duration of Validity**

Some documentation is valid for the duration of the student/candidate's training with a single SSI Training Center. Other forms must be completed for individual training programs as outlined below.

## II. Training Record Components

Each student or candidate must complete the required components of the SSI Training Record prior to participating in any SSI training program. The forms of minors must be reviewed and signed by a parent or guardian.

### a. Prior to Training

Prior to beginning training, they must complete the:

#### **Registration Form**

- Permanently valid

#### **Privacy Policy Form**

- Permanently valid unless the students requests to withdraw their consent
- SSI recommends that all SSI Training Centers have individuals complete the SSI Privacy Policy form when they register for a MySSI account or affiliate their existing MySSI account to the training center

#### **SSI Extended Range (XR) Responsible Diver Code**

- Permanently valid within a category (scuba, freediving, XR, swim), and is re-affirmed by signing a completion record for any program in the same category
- Must be re-affirmed prior to starting any new training program in a different category

#### **SSI Extended Range (XR) Technical Diving - Assumption of Risk, Liability Release, & Hold Harmless Agreement (where required)**

- Valid for one (1) year from the date of signing

*Note | Signing an Assumption of Risk, Liability Release, & Hold Harmless Agreement is contradictory to liability regulations in some countries of the world.*

*Example | The Assumption of Risk, Liability Release, & Hold Harmless Agreement is not valid in the European Union, so students should not be forced to sign it.*

#### **Youth Addendum (required for any student younger than 18 years old)**

- Valid for one (1) year from the date of signing
- Must be signed by the responsible parent or guardian

### b. Prior to In-Water Training

Prior to beginning any in-water training, they must complete the:

#### **Diver Medical Participant Questionnaire**

- Valid for one (1) year from the date of signing

- Must be updated if their medical condition changes

#### **Physician's Approval To Dive**

- Valid for one (1) year from the date of signing

#### c. Prior to Certification

Prior to receiving their certification or recognition card, they must complete the:

#### **Program-specific Completion Record**

- Must be completed for each training program

#### **Online Final Exam Record**

- Must be completed if the program's final exam is completed online

#### d. Professional Program Candidates

Prior to beginning training, candidates participating in SSI professional training programs must also complete the:

#### **Candidate Preassessment: Dive History**

- Must be completed prior to starting any new professional training program
- Must include proof of relevant teaching and diving experience

#### **SSI Professional Agreement**

- Permanently valid

**All candidates participating in professional level training must have digital copies of the following documents uploaded into MySSI before the final certification(s) can be issued:**

- RSTC Medical Participant Questionnaire signed by a physician within one (1) year
- Proof of CPR training within two (2) years
- Proof of First Aid training within two (2) years
- Proof of Oxygen First Aid training within (2) years

## Administration

# Medical History

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### **I. Medical Participant Questionnaire**

Each student participating in XR-level training must provide a Medical Participant Questionnaire, approved and signed by a licensed medical practitioner based on a diving medical examination and dated within one year of the training completion date, prior to any in-water activity.

The Medical Participant Questionnaires of minors must be reviewed and signed by a parent or guardian prior to any in-water activity.

Medical Participant Questionnaires and the Physician's Approval to Dive form, or valid medical statements, are valid for 12 months from the date they are signed. Students may participate in multiple SSI training programs within the 12 months without completing another form.

If the student becomes ill or injured within the 12 months, they must complete a new Medical Participant Questionnaire prior to any in-water activities, following the protocol outlined above.

### **II. Professional Program Candidates**

Each candidate participating in professional-level training must provide to the responsible SSI Service Center a Medical Participant Questionnaire and Physician's Approval to Dive form—or valid medical statement approved and signed by a licensed medical practitioner—based on a diving medical examination dated within one (1) year of the training completion date. These documents must be uploaded by the candidate via MySSI for approval.

Active status SSI Professionals are required to notify SSI if they develop a medical condition that interferes with their teaching ability. They must submit a new Medical Participant Questionnaire to the responsible SSI Service Center (by uploading the form into their MySSI account) to maintain their active status.

# Administration

# SSI Materials

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## **I. Student Materials**

Each student must be issued the appropriate Digital Training Kit (if available) for every program they are participating in.

## **II. Professional Materials**

The SSI Training Standards, SSI Professional Training Materials and SSI Student Materials (digital learning and printable workbooks) form the basis of the SSI Teaching System and must be used for all SSI training programs. Whenever there is a discrepancy between these materials, the SSI Training Standards take precedence. If in doubt, contact the responsible SSI Service Center for guidance or interpretation.

Each SSI Professional has access to the most current Instructor Manual and Student Manual for the program they are conducting, as well as any additional training materials required by SSI or their affiliated Training Center.

# Administration

# Certification Procedures

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## I. Certifying Instructor

The certifying instructor is the instructor-of-record on the student's certification. They are responsible for ensuring that the training record is properly completed, including all required verification signatures and dates.

- For programs requiring in-water training, the certifying instructor is the SSI Professional who completes the final skill assessment with the student.
- For programs without in-water training, the certifying instructor is the SSI Professional who completes the final knowledge evaluation with the student.

## II. Student Data Entry

Training Centers and SSI Professionals must confirm that the student or candidate's first and last name, contact data, birthdate, an acceptable photo that clearly shows the student's face, and email address are correctly entered into MySSI.

## III. Processing Student Certifications and Recognitions

SSI certifications and recognitions must be issued to all students that successfully complete all SSI training requirements at all levels of training. Digital cards will be produced immediately after the certification or recognition is processed in MySSI. All certifications and recognitions must be processed within seven (7) days of the program's completion.

*Note | Students are not required to achieve any program progress in the digital learning prior to receiving their certification or recognition card, as long as all requirements from the individual program standard are met.*

*Note | After a certification or recognition is processed in MySSI, the student will be sent an email including a copy of their certification or recognition card. The student can also access all their certification and recognition cards by logging into their MySSI account, or on the MySSI app.*

## IV. Processing Professional Certifications

Upon completion of all SSI training requirements for all professional programs, the candidate's training records or application form must be completed in full and uploaded in PDF format into the MySSI System or sent to the responsible SSI Service Center within seven (7) days of the program's completion.

## V. Issuing a Referral

If a student only completes a portion of an SSI program and chooses to complete the program with another training center, you must provide copies of all appropriate training documentation, as well as a copy of the student's Medical Participant Questionnaire (or other valid medical document), to the student and/or the receiving training center.

All original training documentation and medical forms must stay with the referring Training Center.

## VI. Replacing Lost Cards

If a student has lost their printed card, do a diver search in MySSI to see if they have a digital card in their MySSI profile. If a digital card is found, have the student log in to access all their digital cards. They can order and purchase a printed card from their Training Center.

If there is no record of a digital card, contact the responsible SSI Service Center.

*Recommendation | Individuals that have not been diving for five (5) years or longer should be considered inactive. Inactive divers should enroll in a Scuba Skills Update program to be eligible to replace a lost certification card.*

## VII. Training Records and Logbooks

Training Records and logbooks must be used for monitoring and evaluating each student's progress.

### a. Logbooks

The instructor and student must log and verify (digital logbook) or sign and date (paper logbook) all training dives conducted for SSI training programs upon completion of the applicable skills.

### b. Training Records

The instructor and student must initial and sign the training completion record upon completion of each session. Training



records must be maintained and retained for a minimum of ten (10) years by the Training Center.

Digital training record components that are uploaded into MySSI are held securely on SSI's servers. This meets the training center's requirements for record retention.

If necessary for quality management or grievance resolution, SSI Training Centers are required to send the training records or legible copies to the responsible SSI Service Center—or upload them using the QMS System—within the given time limit.

*Recommendation / If possible, the appropriate parts of the training completion record should be completed by the student/candidate and the responsible SSI Professional at the end of each session or training day.*

*Note / Local laws may require that training records must be retained for more than ten (10) years.*

**For any CCR training program:**

- If the feature is available on a rebreather, download the logbooks from the student's dive computer and retain for a minimum of ten (10) years.
- The program-specific logbook and completion form must be submitted to the unit's manufacturer upon request once the student has given consent for the data transfer.

# Equivalent Certifications

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## I. Certifications from Recognized Training Agencies

Certifications issued by an SSI-recognized training agency or federation are considered equivalent SSI certifications. The certification holder may advance to the next level of training in the SSI Education System.

If a customer requests an equivalent SSI rating for a certification they hold from an SSI-recognized training agency or federation, it is at the discretion and liability of the SSI Professional or SSI Training Center to issue that certification.

## II. Certifications from Non-Recognized Training Agencies

Students certified by training agencies or federations that are not recognized by SSI cannot be considered equivalent without an additional knowledge and skill evaluation administered by the SSI Professional.

These students must successfully pass the SSI Experienced Diver Test as outlined in the SSI Training Standards. Mastery of all diving skills of the level the diver is qualifying for must be displayed during the open water training dives.

After successful completion of the Experienced Diver Test, these students may be issued an equivalent SSI certification, and are eligible to attend the next higher program in the SSI Education System.

Training centers may still elect to recognize students certified by non-recognized training agencies or federations as equivalent, but do so at their own risk, taking full responsibility for the student's judgment and the associated liability risk.

*Example / If an actively diving customer with your training center loses their Open Water Diver certification card that was issued by a certification agency that no longer exists, but the diver has other proof of diving experience (e.g. a signed logbook), then you may choose to issue this customer a new SSI certification based on your personal knowledge and verification of their diving experience.*

*The Training Center must issue a Digital Open Water Diver Kit and assess the diver's knowledge and skills before issuing a new certification. The Training Center must decide what level of assessment is required before issuing an equivalent SSI certification.*

*Recommendation / If a customer requests an equivalent SSI certification card, but does not have adequate verification of certification, issue a Digital Open Water Diver Kit and conduct an Experienced Diver Test.*

## III. SSI Recognition Criteria

**To qualify as an SSI-recognized training agency or federation, all of the following requirements must be met:**

- Be in business for at least five (5) years
- Provide a complete range of training materials in at least three (3) languages
- Have at least 250 instructors and 50 authorized training centers globally
- Hold an active global EUF/ISO certification
- Be an active member of at least one RSTC

After proof/fulfillment of these prerequisites, the organization will be added to the current version of the SSI Equivalency Chart, and will be treated as an SSI-recognized training agency or federation.

## SSI Professional Duties

# Professional Liability Requirements

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### I. Professional Liability Insurance

Where required (e.g. the United States), the SSI Professional must maintain professional liability insurance.

The SSI Professional must:

- Verify SSI is listed as an Additional Insured on the professional liability policy
- Verify the professional liability insurance covers all SSI programs the SSI Professional is authorized to conduct (e.g. XR Instructors are required to have a Technical Diving insurance endorsement)
- Verify current proof of professional liability insurance is uploaded to the SSI Professional's MySSI profile
- Not provide any professional services in the absence of professional liability insurance
- Comply with all insurance policy terms, conditions, warranties and exclusions

SSI and SSI Service Centers are not responsible for verifying that an SSI Professional complies with professional liability insurance requirements. However, certifications may not be processed in the absence of proof of insurance where required.

## SSI Professional Duties

# SSI Professional Status

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### I. Active Status

SSI Professionals must fulfill the following prerequisites to maintain active status:

- Affiliate with an active status Training Center.
- Read and sign (online) the SSI Professional's Agreement and pay the annual membership dues.
- Maintain professional liability insurance (if required legally in the country). The SSI Professional must list SSI as an additional insured in the policy and must provide current proof-of-insurance to the responsible SSI Service Center.

### II. Inactive Status

An SSI Professional who has met all the active status requirements but is not affiliated with an active status Training Center, and/or lacks current proof of professional liability insurance (where required).

The SSI Professional in inactive status will pay a reduced renewal fee and will still have access to training materials, but they cannot conduct any SSI programs until they return to active status.

### III. Canceled Status

An individual who has been certified as an SSI Professional, but has not paid any annual fees to SSI.

### IV. Administrative Hold Status

A temporary status assigned to an SSI Professional as the result of a Verified QMS Complaint, Alert, or Incident Report. The SSI Professional must not conduct SSI programs while in Administrative Hold status. This status is generally communicated to the professional by the International QMS Manager.

An SSI Professional involved in the death of a participant/student/candidate for which they were providing direct supervision is automatically placed on Administrative Hold at the time of the fatal incident.

The individual's certification data cannot be verified any longer by the SSI Diver Verification system.

### V. Expelled Status

An individual who has been certified as an SSI Professional, but has been expelled from SSI due to severe breaches of SSI Ethical or Training Standards. A member in expelled status cannot obtain active teaching status again with SSI globally, and the individual's certification data cannot be verified any longer by the SSI Diver Verification system.

#### a. Individuals Expelled From Other Agencies

If a professional is expelled from another agency for any reason, they may be eligible to earn SSI active status. This decision is at the discretion of SSI International, and will be considered on an individual basis. See the SSI Quality Management System Manual for more information.

### VI. Retired Status

Some SSI Professionals are placed in "Retired Status" if they do not meet the minimum active status requirements for their highest professional rating. SSI Professionals in retired status remain in active status for the highest professional certification that they meet the minimum active status requirements for. They may also continue to conduct all student-level programs that they are qualified to teach.

#### Affected certifications

- Extended Range Instructor Trainer or higher
- CCR Instructor Trainer
- SCR Instructor Trainer

## SSI Professional Duties

# Returning to Active Status

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SSI Professionals in canceled status may return to active status by completing the following requirements, which are determined by the length of time the professional has been out of active status.

### I. Duration of Inactivity

#### Any duration:

- If an SSI Professional is in canceled status with SSI for any period of time, but has maintained active status with a recognized training agency, the responsible SSI Service Center may—at their discretion—permit the SSI Professional to complete an SSI Crossover program to return to active status.

#### Less than two (2) years:

- Complete all components of the online renewal process.

#### Greater than two (2), but less than five (5) years:

##### Option 1

- Successfully complete an SSI Professional Crossover program for the applicable certification level.

##### Option 2

- Successfully complete a Professional Update for the applicable certification level as defined below.

#### Greater than five (5), but less than ten (10) years:

- Successfully complete a Professional Update for the applicable certification level as defined below.

#### Greater than ten (10) years:

- Complete all program requirements, including any water fitness evaluations, digital learning materials, academic assessments, final exams, and in-water training requirements as outlined in the program-specific instructor manual.

## SSI Professional Duties

# SSI Professional Update

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### I. Intent

The intent of the SSI Professional Update program is to update and reactivate SSI Professionals that have been in canceled status for at least two (2) years.

### II. Purpose

The SSI Professional Update evaluates a candidate's knowledge of general diving theory, program-specific information, SSI training and teaching philosophies, in-water abilities, and any required teaching and evaluation requirements.

If there is any doubt or concern about a candidate's abilities, the Professional Update should be used to evaluate the candidate before issuing any SSI professional-level certification.

### III. Requirements For Completion

- Purchase and complete the Crossover/Update Kit

#### **Attend and successfully complete an SSI Professional Update, including:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials for the highest applicable professional certification.
- The applicable final exams with a passing score of at least 90%.
- An academic presentation on a topic from the highest applicable professional certification.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Water Fitness Evaluation.
- A pool/confined water session that includes the presentation and evaluation of all required program skills from the highest applicable professional certification. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic from the highest applicable professional certification.
- While acting as an instructor, plan and conduct at least one (1) full dive from the highest applicable professional certification.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

#### **a. Instructor Trainer Update**

- The Instructor Trainer returning to active status must audit a complete Instructor Trainer Seminar or complete an Instructor Trainer Update.
- The Instructor Trainer Update must be directly supervised by an active status XR International Training Director, and approved by the responsible SSI Service Center.

### IV. Certification

- Upon completion of training, upload the candidate's training record with all required documentation into the MySSI System or send it to the responsible SSI Service Center.

# SSI Professional Duties

# Ethical Standards

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As an SSI Professional, you are accountable for your decisions and actions when representing SSI and conducting SSI programs. SSI expects you to display appropriate professional behavior at all times while conducting SSI training or other related activities. The guidelines listed below are expected and required of each SSI Professional:

- Be a professional role model at all times during training and other business-related activities.
- Be a role model to the public, practicing and promoting safe diving, environmental awareness, and minimal ecological impact.
- Advocate and promote adherence to the appropriate SSI Responsible Diver Code during all diving activities.
- Conduct all SSI programs with integrity and honesty and with the goal of providing the best possible customer experience.
- Adhere to SSI Training Standards and Procedures. Attend SSI Professional updates when required and on a regular basis.
- Do not disparage or otherwise make negative statements about SSI International, SSI Training Centers, SSI Professionals, or any other member of the diving industry.
- You are required to notify SSI immediately—or prior to any professional-level training—if you have been convicted of a felony or any form of sexual offense.
- Notify SSI if an SSI Training Center or SSI Professional is the subject of an ethical or standards violation, investigation, action, or proceeding brought by any other recognized training agency or governmental agency.
- Indemnify and hold harmless SSI, its officers, directors, and assignees for any loss, claim, or damage resulting from action of an SSI Training Center, SSI Professional or their agents, students, or assignees.
- Comply with all quality management and compliance procedures outlined in the SSI Quality Management System Manual.

**The SSI Professional understands that any breach of these Ethical Standards may result in an SSI QMS review and compliance action, which may have an effect on their SSI Professional status.**

## SSI Professional Duties

# SSI Quality Management

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*Note | SSI has implemented a completely new Quality Management System (QMS). The new Quality Management System (QMS) replaces previous versions of the Monitor Assessment Program (MAP), SSI Grievance Procedure and associated components with immediate effect. For definitions of terminology and a detailed description of SSI Quality Management procedures, please see the SSI Quality Management System Manual.*



# Equipment Definitions

# Breathing Gas | XR Programs

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## I. Oxygen Limits

### a. Open-Circuit Breathing Gas

- For all XR programs, divers may breathe air or optimized nitrox for bottom gases at a maximum  $ppO_2$  of 1.4 bar and hyperoxic nitrox stage gases with a maximum  $ppO_2$  of 1.6 bar.
- The minimum oxygen content for the Extended Range Trimix program is 21%.
- The minimum oxygen content for the Technical Extended Range Trimix program is 18%.
- Both the primary and contingency dive plans must expose divers to no more than 80% for a single dive, or 80% in 24 hours.
- Where environmental or dive conditions are less than ideal, the instructor must choose more conservative limits.

### b. Closed-Circuit (CCR) Breathing Gas

- The minimum oxygen content for the CCR Extended Range Trimix program is 20%.
- The minimum oxygen content for the CCR Technical Extended Range program is 16%.
- Divers must not carry an on-board diluent gas with a  $ppO_2$  higher than 1.10 bar at the bottom.
- Divers using an mCCR must not carry an on-board diluent with a  $ppO_2$  higher than 1.30 at the bottom.
- The maximum breathing loop setpoint is 1.3 bar.
- Both the primary and contingency dive plans must expose divers to no more than 80% for a single dive, or 80% in 24 hours.
- Where environmental or dive conditions are less than ideal, the instructor must choose more conservative limits.

### c. Semi-Closed Circuit (SCR) Breathing Gas

- The minimum oxygen content for SCR training programs is 30%.
- The maximum oxygen content for the Try SCR experience program is 72%.
- Divers must not carry a bottom gas with a  $ppO_2$  higher than 1.6 at the bottom.
- Both the primary and contingency dive plans must expose divers to no more than 80% for a single dive, or 80% in 24 hours.
- Where environmental or dive conditions are less than ideal, the instructor must choose more conservative limits.

## II. Helium Limits

- The maximum helium content for the CCR Extended Range Trimix program is 35%.

### a. Equivalent Narcotic Depth

- The maximum equivalent narcotic depth for all trimix training is 30 meters.
- The recommended equivalent narcotic depth for colder water, poor visibility, or strenuous conditions is 24 meters.

## III. Gas Density Limits

All closed-circuit rebreather (CCR) and overhead environment training programs have the following gas density limits:

- The maximum gas density limit is 6.2 grams/liter.

- The recommended gas density limit is 5.2 grams/liter.

#### **IV. Gas Management Rules**

A procedure that limits the diver to using only a portion of their available breathing gas, defined as a fraction of that gas (for example, the Rule of Thirds).

- Rule of Sixths | No overhead penetration may exceed one-sixth of the diver's bottom gas supply.
- Rule of Fourths | No overhead penetration may exceed one-fourth of the diver's bottom gas supply.
- Rule of Thirds | No overhead penetration may exceed one-third of the diver's bottom gas supply.

##### **a. Rebreather**

- Rule of Halves | Only halve of the gas volume may be used to calculate the bailout plan.
- Rule of Two-Thirds | Only two-thirds of the gas volume may be used to calculate the bailout plan.

## Equipment Definitions

# Dive Professional Equipment | XR Programs

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### I. Minimum XR Professional Equipment

**During all in-water training, each SSI XR Professional must be equipped with at least all student equipment.**

- SSI Professionals that use dry suits or full face masks during SSI programs must have practical experience using these types of equipment (at least 10 logged dives) before using the equipment.

During the open water training dives, the instructor may supervise students in open-circuit, non-overhead environment programs up to Hypoxic Trimix using an XR CCR Total Diving System if they have at least the following certifications:

- CCR Technical Extended Range Instructor
- The student-level CCR certification for the program being conducted

*Example | An active status CCR Technical Extended Range Instructor with the CCR Hypoxic Trimix student certification may supervise the open water training dives from the open-circuit Hypoxic Trimix program while using their XR CCR Total Diving System.*

During the open water training dives, the instructor may supervise students in open-circuit, non-overhead environment programs up to Extended Range using an XR SCR Total Diving System if they have at least the following certifications:

- SCR Extended Range Instructor

*Example | An active status SCR Extended Range Instructor may supervise the open water training dives from the open-circuit Extended Range program while using their XR SCR Total Diving System.*

## Equipment Definitions

# Open-Circuit Equipment Configurations | XR Programs

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### I. Backmount Configurations

#### a. Minimum Single-Cylinder Total Diving System

- Buoyancy compensator including power inflator and D-rings appropriate for stage cylinders
- Delivery system with a primary (1.8- to 2.1-meter hose is recommended) and an alternate air source
- Primary cylinder (high capacity is recommended if using a single cylinder)
- Submersible pressure gauge (all cylinders must have an attached SPG)
- Integrated depth gauge and timing device or dive computer
- One stage cylinder with a delivery system that has a 15- to 25-centimeter hose and attached SPG

*Note | A stage cylinder is not required if the primary cylinder has a dual-outlet valve (H or Y).*

#### And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red delayed surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook

#### b. Minimum Twinset Total Diving System

- A backplate or soft pack with a harness
- A buoyancy wing with appropriate lifting capacity for the planned dive
- A backup buoyancy device: dry suit, double-bladder wing, or lift bag
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose, neck retainer, and an attached SPG
- One set of double cylinders with an isolation manifold
- Two integrated depth and timing devices
- Stage cylinder(s) with delivery systems that each have a 15- to 25-centimeter hose and attached SPG

#### And

- Two masks
- Fins
- Exposure suit appropriate for the environment

- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow delayed surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook

*Note / The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.*

## II. Sidemount Configurations

### a. Minimum Sidemount Total Diving System

- Buoyancy compensator with sufficient lift capacity for the planned dive
- An industry-approved sidemount harness
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose and neck retainer
- Two cylinders with independent valves
- Submersible pressure gauge with a 15- to 25-centimeter high-pressure hose (all cylinders must have an SPG attached)
- Integrated depth gauge and timing device or dive computer

#### And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red delayed surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook

### b. Minimum Extended Range Sidemount Total Diving System

- Buoyancy compensator with sufficient lift capacity for the planned dive
- A backup buoyancy device: dry suit, double-bladder wing, or lift bag
- An industry-approved sidemount harness
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose and neck retainer
- Two cylinders with independent valves
- Submersible pressure gauge with a 15- to 25-centimeter high-pressure hose (all cylinders must have an SPG attached)
- Two integrated depth and timing devices
- Stage cylinder(s) with delivery systems that each have a 15- to 25-centimeter hose and attached SPG

**And**

- Two masks
- Fins
- Exposure suit appropriate for the environment
- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow delayed surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook

*Note / The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.*

## Equipment Definitions

# Rebreather Equipment Configurations | XR Programs

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### I. Closed-Circuit Rebreather (CCR) Configurations

#### a. Minimum CCR Total Diving System

- A closed-circuit rebreather that has CE-type and SSI approval

A single bailout cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and attached SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

#### And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red delayed surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

#### b. Minimum XR CCR Total Diving System

- A closed-circuit rebreather that has CE-type and SSI approval

A single bailout cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and attached SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required
- Backup OC/CCR computer for bailout in the event of a system failure

#### And

- Two masks
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- Two cutting devices
- A compass

- Two signaling devices for deploying from depth (red and yellow delayed surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

*Note / The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.*

## II. Semi-Closed Circuit Rebreather (SCR) Configurations

### a. SCR Total Diving System

- A semi-closed rebreather that has CE-type and SSI approval

A single bottom gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

#### **And**

- Mask
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- A cutting device
- One signaling device for deploying from depth (red delayed surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

### b. XR SCR Total Diving System

- A semi-closed rebreather that has CE-type and SSI approval

A single bottom gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

A single decompression gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required
- Backup OC computer for bailout in the event of a system failure

#### **And**



- Two masks
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow delayed surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

*Note / The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.*

## Conducting SSI Programs

# Assessing Knowledge and Skill

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SSI Training Centers and SSI Professionals must ensure that each student receives the required knowledge, skills and experience to comfortably and confidently dive at the specified level of training before conducting open water training dives.

It is the SSI Professional's duty to ensure that all students achieve mastery of all required skills before issuing a certification. To achieve mastery the student must be able to comfortably repeat the skill in diverse and adverse conditions.

## I. Skill Mastery Definitions

### Expert-Level Quality

- The skill is completed without pauses or mistakes, and can be repeated without noticeable effort.

### Demonstration-Level Quality

- The skill is completed without hesitation or mistakes, and can be repeated without noticeable effort.
- Each key point of the skill is clearly identified and demonstrated during the exercise with pauses for emphasis.

## II. Final Exam

**If a final exam is required for certification, the following requirements must be met:**

- The student/candidate must complete the exam without outside assistance or personal notes
- A qualified SSI Professional must directly supervise written final exams
- The professional administering the exam may only provide clarification to help explain the question
- Minimum passing score for student-level programs (written exam): 80%
- Minimum passing score for student-level programs (when an online exam is available): 100%
- Minimum passing score for professional-level programs: 90%

### a. Approved Materials

**Students and candidates may use the following materials to complete the final exam:**

- SSI Training Standards
- Calculator
- Air/Nitrox tables (if applicable)

### b. Instructor Assistance

If the final exam is not available in the student's native language, or the student has a documented learning disability, the SSI Professional conducting training may administer the exam orally. The answer sheet must still be completed by the student and signed by both the student and SSI Professional.

## Conducting SSI Programs

# Program Duration and Time Limits

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### I. Program Duration

There is no maximum time limit for the duration of any SSI program. Some SSI programs may have minimum program hours listed in their standards.

#### a. Professional Training Programs

The number of classes, hours and sessions per day are set by the individual instructor, based on the candidate's needs, ability and local water conditions.

### II. Time Limit to Complete a Program

Open water training for all SSI programs must be completed within six (6) months of the last academic or in-water training session. If it has been more than six (6) months, an SSI Professional must conduct a reevaluation (both knowledge and skill review) to determine if the student is sufficiently proficient to continue to the open water training.

### III. Dives per Day

The maximum number of training dives is three (3) per day if none of the dives require the completion of staged decompression stops.

An optional third shallow training dive may be performed. The maximum number of training dives is two (2) per day if any dive on a given day is planned to, or actually requires, staged decompression stops.

### IV. Duration of a Dive

Dive durations are specified in each program's individual standard.

XR training dives must have a minimum duration of 30 minutes of in-water time.

CCR open water training dives must include putting on the CCR unit, entering the water, exiting the water, and removing the CCR unit.

# Conducting SSI Programs

## Specialized Equipment

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### I. Guidelines for Specialized Diving Equipment

If specialized equipment or additional equipment is incorporated into SSI training programs, you must conduct an equipment orientation prior to taking students into the open water. Additional training is intended to provide practice and basic proficiency with the equipment, and should include a review of specialty materials, academic sessions, and pool/confined water training sessions.

Additional cylinders or specialized configurations like full face masks must be introduced to students in pool/confined water prior to taking students into open water.

### II. Diver Propulsion Vehicles

Students with the SSI Scooter/DPV Diving certification (or equivalent) may participate in SSI XR programs using a diver propulsion vehicle (DPV).

**The following requirements must be met:**

- The SSI Professional conducting the program must be a certified SSI Scooter/DPV Diver (or equivalent) and be using a DPV during the program.
- All students must be using a DPV during the program.
- A no-decompression in-water orientation session is completed with the DPV in a Total Diving System applicable to the program being conducted.

*Note | The SSI Professional conducting the XR program has the right to refuse the use of DPVs during training.*

### III. Dry Suits

Students with the SSI Dry Suit Diving certification (or equivalent) may participate in SSI XR programs using a dry suit.

**The following requirements must be met:**

- The SSI Professional conducting the program must be a certified SSI Dry Suit Diver (or equivalent).
- A no-decompression in-water orientation session is completed in the dry suit with a Total Diving System applicable to the program being conducted.

### IV. Use of Surface Floats and Flags

Follow the local requirements for using surface floats or diver down buoys whenever open water training is conducted.

### V. Staged Decompression

A guideline, physical structure or a reel and delayed surface marker buoy must be used for ascents on dives where staged decompression is simulated or conducted.

## Conducting SSI Programs

# Using Certified Assistants

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- An active status SSI Professional certified in the applicable program may act as a certified assistant for some XR training programs.
- Using certified assistants is recommended, but they cannot be used to increase student-to-instructor ratios.

# Conducting SSI Programs

## Supervision

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**SSI Professionals must not engage in any activities other than supervision during in-water training for all entry-level programs.**

Activities that do not affect the SSI Professional's ability to supervise and assist their students (e.g. taking a class photo with a pocket-sized camera) are permitted.

### I. Direct Supervision

An active SSI Professional certified to conduct the applicable SSI program must personally supervise and evaluate all students during any training. They may not delegate the supervision to a certified assistant.

Direct supervision is required for all SSI XR programs.

### II. Distance Learning

With distance learning, the academic portion of the program is conducted by correspondence or over the internet, without the student's physical presence at the SSI Training Center.

**All academic sessions for all SSI programs can be conducted using distance learning.**

### III. Proximity

Some program-specific standards require a minimum proximity (physical distance) between the SSI Professional and their students during in-water training.

Students must remain within three (3) meters of their dive buddy(ies) at all times unless required for skill development.

### IV. Student-To-Instructor Ratios

The student-to-instructor ratio for academic sessions is set by the individual instructor, based on the ability of the instructor to deal effectively with all student needs.

The maximum student-to-instructor ratio for in-water training is provided in each specific program standard. Any certified divers that dive with a class during open water training dives must be counted towards the student-to-instructor ratios.

If conditions dictate, decrease the student-to-instructor ratio.

*Recommendation / Whenever possible, additional certified assistants should be used during training.*

# Conducting SSI Programs

## Duty of Care

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### I. Obligation of Care

All SSI Professionals must inform students that if they become excessively cold or tired, are under undue stress, are low on gas, injured, not feeling well, or have recently been sick, they must not dive, or must not continue the dive, as is appropriate.

### II. Environmental Conditions

Instructors have an obligation to cancel or modify open water training dives when environmental conditions, a student's physical or mental condition or equipment difficulties make it advisable.

*Note / This judgment can only be made by the SSI Professional at the time and place of the open water training dive. Students who do not successfully complete the required skills during a training dive may complete those skills during a later training dive.*

### III. Skill Level

Only realistic skills may be presented when students reach a level of SSI training where they are capable of dealing with underwater problems. The students should solve these problems as they would in real-world diving situations.

### IV. Forcing Students

SSI Professionals must never force students to perform skills if the student indicates (verbally or physically) that they do not want to perform the skill.

### V. Emergency Plan

Any SSI Professional conducting in-water training must have a written emergency plan for incidents for each location where training is conducted.

### VI. First Aid Equipment

Emergency equipment must be available in the vicinity of the dive site, including a first aid kit, oxygen unit and communications equipment. This equipment must be accessible at all times while training is being conducted.

### VII. Reporting Procedures

In the event that an SSI Professional is involved in, or is witness to an incident, or if a claim or suit is filed against them or their Training Center, they must immediately notify the responsible SSI Service Center, their Insurance Agent and their affiliated Training Center's Insurance Agent.

*Recommendation / Use the SSI Incident Report form found in the MySSI download section.*

# Conducting SSI Programs

## Environmental Definitions

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### I. Shallow Water

Water shallow enough to stand with the head out of the water.

### II. Deep Water

Water too deep to stand in with the head out of the water.

### III. Deep Diving

Defined as any dive deeper than 18 meters.

### IV. Diving At Altitude

SSI Professionals must plan all dives conducted above 300 meters in elevation using specific altitude tables/software or altitude-compatible dive computers.

### V. Diving in Cold Water

SSI Professionals must ensure that proper exposure protection is available to all students before conducting training in cold water. If dry suits are being used during open water training dives, the student must have an SSI Dry Suit Diving specialty certification (or equivalent) or be enrolled in the SSI Dry Suit specialty program. The pool/confined water session for the Dry Suit Diving specialty program must be completed prior to any open water training.

*Note / When training in cold water, always adhere to the equipment manufacturer's guidelines.*

### VI. Excursion Dive

A dive without formal performance requirements made prior to completion of all open water training dives. Entry-level students must be directly supervised during excursion dives.

### VII. Night Diving

Any dive conducted after sunset and before sunrise. SSI Professionals must make underwater dive lights available to all students when conducting training at night.



## Conducting SSI Programs

# Training Environments and Depth Limits

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### I. Pool

An enclosed artificial structure filled with water that is used for swimming and dive skills development. It must have adequate visibility to ensure an instructor can observe their students at all times.

- The maximum depth for all pool/confined water training is 12 meters unless specified in the program-specific standard.

### II. Confined Water

Any body of water with a depth appropriate to the activity that offers conditions similar to those of a pool including visibility, depth, water movement, and access.

- The maximum depth for all pool/confined water training is 12 meters unless specified in the program-specific standard.

The instructor may conduct XR program water skills evaluations and pool/confined water practice sessions in open water environments, as long as conditions give the instructor adequate visibility and control.

There must be a minimum of five (5) meters of horizontal visibility, and the bottom composition must not compromise visibility.

The training area must have an ascent line attached to a solid structure on the bottom, and no surface traffic is allowed in the training area during class.

For all SCR/CCR entry-level programs, the pool/confined water should have depths that are both shallow enough to stand up in, and deep enough to adequately perform the required skills for the program.

### III. Open Water

An outdoor body of water suitable for swimming or diving activities with depths greater than five (5) meters. Environmental conditions must be consistent with the requirements for the training program.

- The minimum depth for open water training dives is 5 meters.
- The maximum depths of open water training dives are listed in each program's specific standards.

All open water training sessions must have direct vertical access to the surface, and must be conducted during daylight hours (between sunrise and sunset).

Open water training for all CCR and SCR entry-level programs must be conducted as no-decompression dives that allow direct vertical access to the surface.

### IV. Recommended Depth Limits After Certification

After certification, SSI certified divers should dive with an equally- or more-qualified buddy, in environments and to a depth equivalent with their experience and level of training.

# Conducting SSI Programs

## Overhead Environments

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### I. Linear Distance

The standards for SSI Overhead Environment programs include limitations for linear distances. Linear distance is defined as the sum of the vertical distance, plus the horizontal distance, that the diver must swim to reach the surface.

### II. Restrictions

The standards for SSI Overhead Environment programs include limitations on restrictions.

- A minor restriction is an area where divers are required to swim one in front of the other without having to manipulate or remove any equipment.
- A major restriction is an area where divers are required to manipulate or remove equipment in order to pass.

### III. Swim Through

A natural or artificial structure that restricts direct vertical access to the surface. A swim through must:

- Be less than ten (10) meters in length
- At depths shallower than 30 meters
- Have separate and clearly visible entry and exit points, free of obstruction or entanglement hazards

During non entry-level programs, active status SSI Professionals may accompany students through a swim through as defined above.

### IV. Daylight Zone Overhead Environments

A natural or artificial structure that restricts direct vertical access to the surface. It has a clearly visible entry point, and at all times the student can see a safe window of natural day light, large enough to allow access to the surface in an emergency. All daylight zone overhead environment dives require a fixed guideline that leads back to the entry point. The line must be suitable to the environment, be tied outside of any overhead restriction, and must not require navigation decisions to be made.

Active status SSI Professionals certified to teach SSI Overhead Environment Specialties or XR Overhead Environment programs may accompany students in overhead environments that meet the above definition.

### V. Dives Outside the Daylight Zone

A dive in a natural or artificial structure that restricts direct vertical access to the surface. The diver may be any distance from a safe exit, provided enough gas has been planned to allow 1/3 of the total gas volume to be held in reserve upon exit (assuming no emergencies). All overhead environment dives require a fixed guideline that leads to an entry/exit point. The line must be suitable to the environment and be tied outside of any overhead restriction.

Active status SSI Professionals certified to teach SSI XR Overhead Environment programs may accompany students in overhead environments that meet the above definition.

## Conducting SSI Programs

# SSI In-Water Training Philosophy

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### I. Teaching Air Sharing Skills

For entry-level SSI programs, SSI Professionals may teach either method of air sharing (passing the primary or passing the alternate regulator).

#### a. Air Sharing Skills During Entry-Level Training

Due to the wide variety of equipment configurations, SSI encourages SSI Professionals to teach both methods of air sharing to entry-level divers.

As dive professionals, we have an obligation to provide students with the knowledge and training necessary to dive autonomously with an equally- or more-qualified buddy in environments consistent with their training. This includes equipment configurations they may encounter in equipment they purchase, rent, or see on their buddy.

#### b. Rationale For Passing The Primary Air Source

There are four common Delivery System configurations in modern recreational scuba:

- A first stage and primary second-stage with a traditional alternate air source (additional second-stage regulator)
- A first stage and primary second-stage with an integrated alternate air source and BC inflator
- A first stage and long hose primary second-stage with an alternate air source (additional second-stage regulator) on a necklace
- A first stage and primary second-stage, and an additional first stage with alternate air source (additional second-stage regulator)

#### c. Air Sharing During Professional-Level Training

**Since passing the primary works with most equipment configurations, it is SSI's preferred method, and is a required and evaluated skill for all SSI Professional training programs.**

#### **Attention:**

Read the owner's manual of the regulator before performing air sharing exercises. If the manual explicitly says that the regulator is for the use of only one person, at minimum the instructor needs to be equipped with an independent redundant breathing system to perform this exercise. If that regulator is designed for only one person, the instructor must be the donor during this exercise and equipped with a redundant breathing system.

### II. Diving Position

SSI's "Comfort through Repetition" in-water training philosophy is student-centered, and gradually increases the complexity of skills as students demonstrate mastery.

New skills are introduced in the shallow water, where the students develop their technique and motor skills. Once they demonstrate comfort and confidence with the skill, they can transition to performing the skill in deeper water, and incorporate more complex buddy team and emergency skills.

#### a. Kneeling vs. The Diving Position

The position of the student during skill practice and demonstration plays an important role in their progression, in-water comfort, and eventual autonomy. Skills are usually introduced to students who are kneeling and/or negatively buoyant to minimize stress and increase stability. This is an effective technique for the initial skill introduction, but it is not a realistic or natural diving position.

In the Diving Position, the diver's body stays horizontal to the bottom, with their fins and legs extended behind their body. This keeps their mouth and lungs horizontal, which is the optimal position for breathing, and improves streamlining and kicking technique.

Students who are new to the Diving Position may maintain slight contact between fins and the bottom, but the objective of the position is to maintain the Diving Position while neutrally buoyant. This is the desired position for a certified diver,

and students should be introduced to the skill as soon as they are ready, so they have sufficient time to practice and master it during pool/confined water training.

SSI strongly encourages instructors to have their students practice all applicable skills in the Diving Position during their pool/confined water training. The decision to transition a student from the kneeling position to the Diving Position is always at the instructor's discretion, and must be based on the student's comfort level and ability to complete the skill.

All XR level programs should be taught neutrally buoyant in trim with minimal movement of the hands and feet.

## Water Fitness Evaluations

# XR Water Fitness Evaluation

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**For all XR programs, each student must complete a water fitness evaluation that includes:**

### **I. Equipment Swim**

- A 400-meter surface swim while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

### **II. Underwater Swim**

#### **Option 1**

- Swim underwater for 25 meters using a mask, fins and snorkel.

#### **Option 2**

- Swim horizontally without breathing at a constant depth underwater for 15 meters while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

#### **a. Notes**

- The underwater swim must be conducted in a pool/confined water environment.
- Option 2 must be completed using a horizontal reference line.
- The regulator must remain in the mouth at all times.
- The responsible instructor must directly supervise the student and be prepared to provide assistance if necessary.

### **III. Diver Rescue**

- Perform a full, unconscious-diver-on-the-surface rescue with a total distance of 100 meters within eight (8) minutes. Both parties must use a Total Diving System.

## Water Fitness Evaluations

# XR Candidate Water Fitness Evaluation

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The purpose of this evaluation is to ensure that SSI Professional candidates have an adequate level of fitness and comfort in the water prior to conducting any SSI training.

**For all XR programs, each candidate must complete a water fitness evaluation that includes:**

### I. Equipment Swim

- A 400-meter surface swim while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

### II. Tread Water

- Tread water for 15 minutes without using any aids or flotation of any kind.

### III. Surface Swim

- Swim 700 meters without stopping within 20 minutes using a mask, fins and a snorkel.
- If a wetsuit is used, weights must be added to ensure the candidate is neutrally buoyant.

**OR**

- Swim 375 meters without stopping, and without the use of mask, fins, snorkel or other swim aids.

*Note | The 375-meter swim may be conducted as an alternative to the 700-meter assisted swim. It is required by RSTC standards to be completed in North America.*

### IV. Underwater Swim

#### Option 1

- Swim underwater for 25 meters using a mask, fins and snorkel.

#### Option 2

- Swim horizontally without breathing at a constant depth underwater for 15 meters while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

#### a. Notes

- The underwater swim must be conducted in a pool/confined water environment.
- Option 2 must be completed using a horizontal reference line.
- The responsible instructor must directly supervise the student and be prepared to provide assistance if necessary.

### V. Diver Rescue

- Perform a full, unconscious-diver-on-the-surface rescue with a total distance of 100 meters within eight (8) minutes.
- Both parties must use a Total Diving System.

*See the Water Fitness Evaluation Form and Criteria for detailed information.*

*A completed water fitness evaluation is valid for six (6) months.*

# Experience Programs

## Try SCR

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### I. Intent

The SSI Try SCR program provides participants with an introductory rebreather experience with a Mares Horizon semi-closed rebreather, supervised by an SCR Diving Instructor in a pool/confined water environment. It also may include an optional open water experience dive.

*Note | This is a recognition program. The SSI Professional should focus on the participants' safety and enjoyment, avoiding over-teaching.*

### II. Minimum Instructor Rating

An active status, unit-specific SCR Diving Instructor may conduct the Try SCR program.

### III. Administrative Requirements

Prior to beginning the program, they must complete the:

- Registration Form
- Privacy Policy Form
- SSI Extended Range (XR) Technical Diving - Assumption of Risk, Liability Release & Hold Harmless Agreement
- SSI Extended Range (XR) Responsible Diver Code
- Diver Medical Participant Questionnaire

### IV. Participant Prerequisites

- Minimum age: 16 years old

**Have logged at least:**

- 12 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

### V. Duration

- Recommended hours for completion: 4–6.

### VI. Depth Limitations

- Maximum depth limit: 12 meters.

### VII. In-Water Ratios

**Pool/confined water**

- The participant-to-instructor ratio is 2:1.

**Open water**

- The participant-to-instructor ratio is 1:1.

*Note | Each SSI Professional must comply with local regulations and insurance requirements applicable to introductory scuba programs.*

### VIII. Minimum Equipment Configuration

Participants and instructors must use the following equipment configuration:

- A complete SCR Total Diving System. The SCR unit must be a Mares Horizon SCR.

*Note | An active status SCR Extended Range Instructor may conduct the Try SCR using both the bottom and decompression cylinders.*

### IX. Proximity

Participants must remain under the direct supervision of the instructor so that physical contact can be made at all times during all in-water sessions.

## **X. Requirements For Completion**

- Complete all academic sessions and assessments as outlined in the instructor manual for Try SCR.
- Participate in an equipment configuration session as outlined in the instructor manual for Try SCR.
- Complete at least one (1) pool/confined water session. Skill demonstration and evaluations are only required if the participant will participate in the optional open water experience dive.
- Complete one (1) optional open water experience dive as outlined in the instructor manual for Try SCR.

## **XI. Sequence**

- Pool/confined water session may only be conducted after the participant successfully completes the academic sessions and the equipment configuration session.
- The optional open water experience dive may only be conducted after the participant successfully completes the pool/confined water session.

## **XII. Issuing a Recognition Card**

- Try SCR is a recognition program only.
- Upon completion, process all participants in MySSI so they may receive their digital recognition card.
- Participants may complete additional SCR experience dives under the direct supervision of an SSI SCR Diving Instructor, in environments equivalent to their training and within the recommended depth limits, for six (6) months after completion of the Try SCR program.
- After six (6) months, the participant must retake the Try SCR program or register for an SCR Diving or SCR Extended Range Diver program to continue SCR diving.



# Experience Programs

## Try CCR

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### I. Intent

The SSI Try CCR program provides participants with an introductory rebreather experience with a closed-circuit rebreather, supervised by a CCR Diving Instructor in a pool/confined water environment. It also may include an optional open water experience dive.

*Note | This is a recognition program. The SSI Professional should focus on the participants' safety and enjoyment, avoiding over-teaching.*

### II. Minimum Instructor Rating

An active status, unit-specific CCR Diving Instructor may conduct the Try CCR program.

### III. Administrative Requirements

**Prior to beginning the program, they must complete the:**

- Registration Form
- Privacy Policy Form
- SSI Extended Range (XR) Technical Diving - Assumption of Risk, Liability Release & Hold Harmless Agreement
- SSI Extended Range (XR) Responsible Diver Code
- Diver Medical Participant Questionnaire

### IV. Participant Prerequisites

- Minimum age: 18 years old

**Have logged at least:**

- 12 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

### V. Duration

- Recommended hours for completion: 4–6.

### VI. Depth Limitations

- Maximum depth limit: 6 meters.

### VII. In-Water Ratios

**Pool/confined water**

- The participant-to-instructor ratio is 2:1.

**Open water**

- The participant-to-instructor ratio is 1:1.

*Note | Each SSI Professional must comply with local regulations and insurance requirements applicable to introductory scuba programs.*

### VIII. Minimum Equipment Configuration

**Participants and instructors must use the following equipment configuration:**

- A complete CCR Total Diving System. The responsible SSI Professional must use the same CCR unit as the student.

### IX. Proximity

Participants must remain under the direct supervision of the instructor so that physical contact can be made at all times during all in-water sessions.

## **X. Requirements For Completion**

- Complete all academic sessions and assessments as outlined in the instructor manual for Try CCR.
- Complete at least one (1) pool/confined water session. Skill demonstration and evaluations are only required if the participant will participate in the optional open water experience dive.
- Complete one (1) optional open water experience dive as outlined in the instructor manual for Try CCR.

## **XI. Sequence**

- The pool/confined water session may only be conducted after the participant successfully completes the academic sessions.
- The optional open water experience dive may only be conducted after the participant successfully completes the pool/confined water session and all skill evaluations.

## **XII. Issuing a Recognition Card**

- Try CCR is a recognition program only.
- Upon completion, process all participants in MySSI so they may receive their digital recognition card.
- Participants may complete additional CCR experience dives under the direct supervision of an SSI CCR Diving Instructor, in environments equivalent to their training and within the recommended depth limits, for six (6) months after completion of the Try CCR program.
- After six (6) months, the participant must retake the Try CCR program or register for a CCR Diving or CCR Extended Range Diver program to continue CCR diving.

## XR Programs

# Gas Blender ( ISO 13293 )

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### I. Intent

The SSI Gas Blender program provides students with the ability to blend nitrox and helium-based trimix blends.

**There are two possible certifications for this program:**

- Nitrox Gas Blender
- Trimix Gas Blender

### II. Minimum Instructor Rating

An active status Gas Blender Instructor may conduct the Gas Blender program.

### III. Student Prerequisites

- Minimum age: 18 years old.

### IV. Duration

- Recommended hours for completion: 6-8.

### V. Minimum Equipment

- Access to a blending station with gases capable of producing nitrox blends.
- Access to a partial pressure blending station.
- Gas analyzer(s) suitable for blends up to 100% oxygen and a helium analyzer if producing any helium-based trimix blends.

### VI. Requirements For Completion

#### a. Nitrox Gas Blender

- Complete Academic Sessions 1-5 and assessments as outlined in the instructor manual for Gas Blender.
- Complete a Nitrox Gas Blender final exam.
- Complete Practical Application Sessions 1 and 2 as outlined in the instructor manual for Gas Blender.

#### b. Trimix Gas Blender

- Complete all academic sessions and assessments as outlined in the instructor manual for Gas Blender.
- Complete a Trimix Gas Blender final exam.
- Complete Practical Application Sessions 1 through 4 as outlined in the instructor manual for Gas Blender.

### VII. Sequence

- Academic sessions must be completed prior to conducting the practical application sessions.
- For Trimix Gas Blender students, the requirements for Nitrox Gas Blender must be completed before conducting the trimix practical application sessions.

### VIII. Certification

- Nitrox Gas Blender certification entitles the holder to blend nitrox-based gases.
- Trimix Gas Blender certification entitles the holder to blend nitrox- and helium-based trimix gases.

## XR Programs

# Extended Range Foundations

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### I. Intent

The SSI Extended Range Foundations program provides divers with a workshop environment to improve their skills to a high level using Extended Range Total Diving Systems and procedures.

### II. Minimum Instructor Rating

An active status Extended Range Foundations Instructor may conduct the Extended Range Foundations program.

#### a. Equipment Configurations

**They must also meet at least one of the following conditions:**

- Have an active status SSI Recreational Sidemount Specialty Instructor certification to teach using a Sidemount Total Diving System
- Have an active status SSI Extended Range Instructor or SSI Extended Range Foundations Instructor (Twinset) certification to teach using a Twinset Total Diving System
- Have an active status SSI CCR Diving Instructor certification and at least the diver-level certification in the applicable CCR unit to teach using a CCR Total Diving System
- Have an active status SSI SCR Diving Instructor certification and at least the diver-level certification in the applicable SCR unit to teach using a SCR Total Diving System

### III. Student Prerequisites

**Have logged at least:**

- 24 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

**They must also meet at least one of the following conditions:**

- Have a Recreational Sidemount Diving Specialty certification to use a sidemount configuration
- Have a CCR Diving certification to use a CCR configuration
- Have an SCR Diving certification to use an SCR configuration

### IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions are set by the individual instructor, based on student needs, student ability and water conditions.

### V. Minimum Equipment

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Single-Cylinder Total Diving System.

*Note / The stage cylinder as outlined in the General Training Standards is not required for this program.*

- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete SCR Total Diving System.
- A complete CCR Total Diving System.

### VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

## **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.

## **VIII. Requirements For Completion**

- Complete an equipment configuration session for the applicable certification level.
- Complete at least four (4) pool/confined water sessions, with a cumulative time of at least 240 minutes, that include all skills for the applicable certification level.

## **IX. Passing Criteria**

### **At the recreational level:**

- Demonstrate the ability to maintain trim at +/- 30 degrees throughout the entire program.
- Demonstrate the ability to perform all skills adequately with little shift in buoyancy or trim.
- Demonstrate basic awareness of buoyancy, trim, stability, propulsion, and teamwork.

### **At the Extended Range level:**

- Demonstrate the ability to maintain trim at +/- 15 degrees throughout the entire program.
- Demonstrate the ability to perform all skills perfectly with almost no shift in buoyancy or trim.
- Demonstrate advanced awareness of buoyancy, trim, stability, propulsion, and teamwork.

## **X. Certification**

Completing the Extended Range Foundations program means that the student has demonstrated good buoyancy, trim, stability, propulsion and teamwork in the equipment configuration used during the program, and that they have successfully passed the skill circuit for the applicable certification level.

# Open-Circuit Programs

## Extended Range Sidemount

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct dives,
- In an Extended Range Sidemount Total Diving System,
- To a maximum depth of 40 meters,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status SSI Extended Range Sidemount Instructor may conduct the Extended Range Sidemount program.

### III. Student Prerequisites

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

### IV. Duration

- Recommended hours for completion: 16-24.

### V. Minimum Equipment

- A complete Extended Range Sidemount Total Diving System.

### VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

### VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the student, whichever is shallower.

### VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Sidemount Diving.
- Complete a Sidemount Diving final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete a pool/confined water skill development session of at least one (1) hour.
- Complete at least four (4) open water training dives, with a cumulative time of at least 120 minutes, as outlined in the instructor manual for Sidemount Diving.

### IX. Training Conditions

#### a. Breathing Gas and Decompression

- All in-water training must be planned and conducted within the no-decompression limits.

### X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.

- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

## **XI. Credit**

A diver with the SSI Recreational Sidemount Diving certification may earn the Extended Range Sidemount certification by completing the additional skill requirements for the Pool/Confined Water Session in an Extended Range Sidemount Total Diving System, and the requirements for Open Water Training Dive 4, as outlined in the instructor manual for Sidemount Diving.

## **XII. Certification**

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI Extended Range Sidemount certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- In an Extended Range Sidemount Total Diving System,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- With an equally- or more-qualified dive buddy.

# Open-Circuit Programs

# Extended Range Nitrox Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct decompression dives,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 40 meters,
- Using decompression gas mixtures up to 100% oxygen,
- For a maximum accumulated decompression time of 15 minutes,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Extended Range Nitrox Diving Instructor may conduct the Extended Range Nitrox Diving program.

### **Equipment Configurations**

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor certification with the Twinset configuration.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

## III. Student Prerequisites

### **Have logged at least:**

- 24 total dives

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving
- Enriched Air Nitrox 40

### **For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

## IV. Duration

- Recommended hours for completion: 16.

## V. Minimum Equipment

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.

### **Including:**

- One (1) stage cylinder.

## VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

## VII. Depth Limitations



- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Open Water Training Dives 1 and 2: 30 meters.
- Depth range for Open Water Training Dives 3 and 4: 30 to 40 meters.
- At least one (1) dive must be to a depth of 35 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program's final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete at least one (1) pool/confined water skill development session lasting at least one (1) hour as outlined in the instructor manual for Extended Range.
- Complete at least four (4) open water training dives as outlined in the instructor manual for Extended Range.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 and 4, and any remaining training dives.
- The total time for all required decompression stops must not exceed 15 minutes per dive.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Extended Range Nitrox Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 40 meters,
- Using decompression gas mixtures up to 100% oxygen,
- For a maximum accumulated decompression time of 15 minutes,
- With an equally- or more-qualified dive buddy.

## XII. Credit

Extended Range Nitrox Diving students may credit dives in this program to Open Water Training Dives 1 through 4 of the Extended Range program.

# Open-Circuit Programs

## Extended Range

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct decompression dives,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 45 meters,
- Using decompression gas mixtures up to 100% oxygen,
- For a maximum accumulated decompression time of 25 minutes,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Extended Range Instructor may conduct the Extended Range program.

The instructor must be qualified as an Extended Range Trimix Instructor to conduct the Extended Range Trimix program.

*Note | The Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.*

**Equipment Configurations**

- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

### III. Student Prerequisites

**Have logged at least:**

- 50 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving
- Enriched Air Nitrox 40

**For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

### IV. Duration

- Recommended hours for completion: 18.

### V. Minimum Equipment

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.

**Including:**

- One (1) stage cylinder.

### VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

### VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Open Water Training Dives 1 and 2: 30 meters.
- Depth range for Open Water Training Dives 3 and 4: 30 to 40 meters.
- Depth range for Open Water Training Dives 5 and 6: 30 to 45 meters.
- At least one (1) dive must be to a depth of 40 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program's final exam.
- If qualifying for Extended Range Trimix, complete an Extended Range Trimix final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least two (2) hours as outlined in the instructor manual for Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Extended Range.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 through 6.
- If qualifying for Extended Range Trimix, Open Water Training Dives 5 and 6 must be conducted using a trimix gas.
- The total time for all required decompression stops on Open Water Training Dives 3 and 4 must not exceed 15 minutes per dive based on the primary plan.
- The total time for all required decompression stops on Open Water Training Dives 5 and 6 must not exceed 25 minutes per dive based on the primary plan.
- The total combined time for Open Water Training Dives 1 through 4 must be a minimum of two (2) hours.
- The total combined time for Open Water Training Dives 5 and 6 must be a minimum of 90 minutes.

### b. Environment

- If environmental or water conditions make it unsafe or impractical to meet the cumulative time requirement, additional training dives should be scheduled.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

## XI. Upgrade

### To upgrade to Extended Range Trimix, Extended Range students must:

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program-specific final exam.
- Independently plan a full trimix dive plan using the Extended Range Dive Planning sheets.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for Extended Range using

trimix.

## **XII. Certification**

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI Extended Range certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 45 meters,
- Using decompression gas mixtures up to 100% oxygen,
- For a maximum accumulated decompression time of 25 minutes,
- With an equally- or more-qualified dive buddy.

**The SSI Extended Range Trimix certification also entitles the holder to dive autonomously:**

- Using trimix breathing gases.

## **XIII. Credit**

At the instructor's discretion, Open Water Training Dives 1 and 2 of the Technical Extended Range program may be credited from the Extended Range program.

# Open-Circuit Programs

## Technical Extended Range

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct two-gas switch, multiple-stop decompression dives,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 50 meters (60 meters when using trimix),
- Using decompression gas mixtures up to 100% oxygen,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Technical Extended Range Instructor may conduct the Technical Extended Range program.

To conduct the Technical Extended Range Trimix program, the instructor must be qualified as a Technical Extended Range Trimix Instructor.

*Note / The Technical Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.*

#### **Equipment Configurations**

- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

### III. Student Prerequisites

#### **Have logged at least:**

- 70 total dives
- 20 dives deeper than 30 meters
- 10 dives requiring staged decompression with at least one (1) gas switch (not including training dives)

#### **Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:**

- Extended Range
- Full Cave Diving
- Technical Wreck Diving

### IV. Duration

- Recommended hours for completion: 18.

### V. Minimum Equipment

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.

#### **Including:**

- Two (2) stage cylinders.

### VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

### VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth for Open Water Training Dives 3 and 4: 45 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 50 meters.
- At least one (1) dive must be to a depth of 45 meters.

#### a. If Using Trimix

- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth for Open Water Training Dives 3 and 4: 45 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 60 meters.
- At least one (1) dive must be to a depth of 55 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Extended Range.
- Complete the program's final exam.
- If qualifying for Technical Extended Range Trimix, complete a Technical Extended Range Trimix final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least 90 minutes as outlined in the instructor manual for Technical Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Technical Extended Range.

## IX. Training Conditions

#### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 are preliminary dives, and may be waived at the instructor's discretion if the student has completed the SSI Extended Range program within 180 days.
- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- If qualifying for Technical Extended Range Trimix, Open Water Training Dives 5 and 6 must be conducted using a trimix gas.
- The total cumulative time for Open Water Training Dives 3-6 must be a minimum of three (3) hours.
- The primary planned decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 30 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 60 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- At least one (1) dive must have a total run time greater than 60 minutes.
- Open Water Training Dives 3-6 must include at least two (2) gas switches.

#### b. Environment

- If environmental or water conditions make it unsafe or impractical to meet the cumulative time requirement, additional training dives should be scheduled.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.

- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes Open Water Training Dives 1 and 2.
- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 3 and 4.

## **XI. Upgrade**

**To upgrade to Technical Extended Range Trimix, Technical Extended Range students must:**

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Extended Range.
- Complete the program-specific final exam.
- Independently plan a full trimix dive plan using the Extended Range Dive Planning sheets.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for Technical Extended Range using trimix.

## **XII. Certification**

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI Technical Extended Range certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- In a Twinset or Extended Range Sidemount Total Diving System,
- To a maximum depth of 50 meters,
- With unlimited decompression stops,
- With a maximum of two gas switches,
- With an equally- or more-qualified dive buddy.

**The SSI Technical Extended Range Trimix certification also entitles the holder to dive autonomously:**

- To a maximum depth of 60 meters,
- Using trimix breathing gases.

## **XIII. Credit**

This program may be combined with the Technical Wreck Diving program or Full Cave Diving program.

**If combined with the Technical Wreck Diving program:**

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Students must complete all of the prerequisites, skill development sessions, and academic requirements for both programs.

**If combined with the Full Cave Diving program:**

- Overhead Training Dives 1 through 4 of the Full Cave Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Divers must complete all of the prerequisites, skill development sessions, and academic requirements for both programs.

# Open-Circuit Programs

# Hypoxic Trimix

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct three-gas switch, multiple-stop decompression dives,
- In a Twinset Total Diving System,
- To a maximum depth of 100 meters,
- Using trimix breathing gases,
- Using decompression gas mixtures up to 100% oxygen,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Hypoxic Trimix Instructor may conduct the Hypoxic Trimix program.

## III. Student Prerequisites

**Have logged at least:**

- 100 total dives
- 30 dives deeper than 30 meters
- 10 dives deeper than 45 meters
- 20 dives requiring staged decompression with at least two (2) gas switches (not including training dives)

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Technical Extended Range

## IV. Duration

- Recommended hours for completion: 18.

## V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

- A complete Twinset Total Diving System.

**Including:**

- Three (3) stage cylinders.

## VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

## VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth for Open Water Training Dives 3 and 4: 80 meters, with at least one dive deeper than 75 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 100 meters.
- At least one (1) dive must be to a depth of 90 meters.



## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Hypoxic Trimix.
- Complete the program's final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session, with a cumulative time of at least 90 minutes as outlined in the instructor manual for Hypoxic Trimix.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Hypoxic Trimix.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The total cumulative time for Open Water Training Dives 3-6 must be at least five (5) hours.
- The primary plan decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 60 minutes for Open Water Training Dives 3 and 4.
- The primary plan decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 90 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- Each open water training dive must include at least three (3) gas switches.

### b. Environment

- If environmental or water conditions make it unsafe or impractical to meet the cumulative time requirement, additional training dives should be scheduled.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes Open Water Training Dives 1 and 2.
- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 3 and 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Hypoxic Trimix certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- To depths of either 80 or 100 meters, depending on the certification achieved,
- Using trimix breathing gases,
- With unlimited decompression stops,
- With an equally- or more-qualified dive buddy.

### **Exception**

The Hypoxic Trimix 80-meter certification is the same as the 100-meter certification, with one exception: if conditions do not permit, or the students cannot make the deepest dives, divers may become certified at 80 meters after the first four (4) open water training dives.

After developing experience, and with an equally- or more-qualified buddy, a diver qualified to 100 meters may dive to depths deeper than 100 meters.

## XR Overhead Programs

# Extended Range Wreck Diving

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct wreck penetration dives,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters,
- Within the daylight zone,
- With single-line navigation,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Extended Range Wreck Diving Instructor may conduct the Extended Range Wreck Diving program.

#### **Equipment Configurations**

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

### III. Student Prerequisites

#### **Have logged at least:**

- 24 total dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

#### **For students using a twinset configuration (in addition to the above):**

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Foundations (Twinset)
- Extended Range

#### **For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

#### **For students using a CCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving | Must be on the same unit that is used for this program

**For students using an SCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving | Must be on the same unit that is used for this program

#### IV. Duration

- Recommended hours for completion: 12.

#### V. Minimum Equipment

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

**And**

- Primary and back-up lights.
- One (1) reel or spool with a minimum of 45 meters of line.
- One (1) primary line reel per dive team.
- A minimum of two (2) line arrows or referencing exit markers (REM).

#### VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

#### VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the diver, whichever is shallower.

#### VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Overhead Environment.
- Complete the Overhead Environment final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Overhead Environment.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Overhead Environment.
- Complete at least four (4) overhead training dives as outlined in the instructor manual for Overhead Environment.
- Complete a minimum of 120 minutes of runtime in the overhead environment.

#### IX. Training Conditions

##### a. Breathing Gas and Decompression

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.

### Open circuit

- No penetration may exceed one-sixth of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 and 2 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 and 2.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Extended Range Wreck Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- Within the daylight zone,
- With single-line navigation,
- With an equally- or more-qualified dive buddy.

## XII. Credit

- The Extended Range Wreck Diving certification may be credited to the dry land skill development session, the pool/confined water skill development session, and Overhead Training Dives 1 and 2 of the Extended Range

Cavern Diving program or the Extended Range Mine Diving program, if the program begins within 180 days of completing the Extended Range Wreck Diving program.

- Issuing credit is entirely at the instructor's discretion. If credit is issued, the instructor must either have direct and recent knowledge (within 180 days) of the student's abilities, or the instructor must conduct both a pool/confined water session and at least one evaluation dive prior to any dives in an actual overhead environment.

# XR Overhead Programs

# Technical Wreck Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct full wreck penetration dives,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To depths within the diver's current certification,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Technical Wreck Diving Instructor may conduct the Technical Wreck Diving program.

### Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) certification.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.
- They may use an XR CCR or XR SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Extended Range Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

## III. Student Prerequisites

### Have logged at least:

- 75 total dives

### Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Wreck Diving
- Extended Range Cavern Diving

### For students using a twinset configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

### For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

### For students using a CCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range | Must be on the same unit that is used for this program

### For students using an SCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range | Must be on the same unit that is used for this program

#### **IV. Duration**

- Recommended hours for completion: 20.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.
- A complete XR CCR Total Diving System.
- A complete XR SCR Total Diving System.

**And**

- A suitable primary light and a minimum of two back-up lights.
- Three (3) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One primary line reel per team.
- Three (3) line arrows and three (3) non-directional cookies, or six (6) referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Overhead Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Overhead Training Dives 3 through 6: The maximum certification depth of the instructor or student, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Wreck Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Technical Wreck Diving.
- Complete at least one (1) pool/confined water skill development session lasting at least one (1) hour as outlined in the instructor manual for Technical Wreck Diving.
- Complete at least six (6) overhead training dives as outlined in the instructor manual for Technical Wreck Diving.
- Complete at least 180 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

a. Breathing Gas and Decompression

- All overhead training dives must be planned within the decompression limits of the student's certification.

**Open circuit**

- No penetration may exceed one-third of the diver's bottom gas supply.
- Gas matching formulas must be used and applied to the dive plan.

#### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the divers calculated SAC rate.
- Bailout can be planned using all of the available gas.

#### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the divers calculated SAC rate plus an additional 30 liters per minute in SCR failure mode.
- Bailout can be planned using all of the available gas.

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Complex navigation patterns including jumps, circuits and other multiple line navigational systems are permitted.
- Minor restrictions are permitted, as defined in the SSI General Training Standards.
- Dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Technical Wreck Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To their maximum certification depth,
- With an equally- or more-qualified dive buddy.

## XII. Credit



**If combined with the Technical Extended Range program:**

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Divers must complete all of the prerequisites, skills development and academic requirements for both programs.

## XR Overhead Programs

# Extended Range Cavern Diving

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct cavern penetration dives,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters,
- Within the daylight zone,
- With single-line navigation,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Extended Range Cavern Diving Instructor may conduct the Extended Range Cavern Diving program.

#### **Equipment Configurations**

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

### III. Student Prerequisites

#### **Have logged at least:**

- 24 total dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

#### **For students using a twinset configuration (in addition to the above):**

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Foundations (Twinset)
- Extended Range

#### **For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

#### **For students using a CCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving | Must be on the same unit that is used for this program

**For students using an SCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving | Must be on the same unit that is used for this program

#### **IV. Duration**

- Recommended hours for completion: 12.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

**And**

- Primary and back-up lights.
- One (1) reel or spool with a minimum of 45 meters of line.
- One (1) primary line reel per dive team.
- A minimum of two (2) line arrows or referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the diver, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete all academic sessions and assessments as outlined in the instructor manual for Overhead Environment.
- Complete the Overhead Environment final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Overhead Environment.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Overhead Environment.
- Complete at least four (4) overhead training dives as outlined in the instructor manual for Overhead Environment.
- Complete a minimum of 120 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

- a. Breathing Gas and Decompression

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.

### Open circuit

- No penetration may exceed one-sixth of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 and 2 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 and 2.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Extended Range Cavern Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- Within the daylight zone,
- With single-line navigation,

- With an equally- or more-qualified dive buddy.

## **XII. Credit**

- The Extended Range Cavern Diving certification may be credited to the dry-land skill development session, the pool/confined water skill development session, and Overhead Environment Training Dives 1 and 2 of the Extended Range Wreck Diving program or the Extended Range Mine Diving program, if the program begins within 180 days of completing the Extended Range Cavern Diving program.
- Issuing credit is entirely at the instructor's discretion. If credit is issued, the instructor must either have direct and recent knowledge (within 180 days) of the student's abilities, or the instructor must conduct both a pool/confined water session and at least one evaluation dive prior to any dives in an actual overhead environment.

# XR Overhead Programs

## Cave Diving

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct cave penetration dives,
- Using specialized equipment,
- Using the Rule of Fourths concept of gas management,
- To a maximum depth of 40 meters,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Cave Diving Instructor may conduct the Cave Diving program.

#### **Equipment Configurations**

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

### III. Student Prerequisites

#### **Have logged at least:**

- 50 total dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Extended Range Cavern Diving
- Enriched Air Nitrox 40

#### **For students using a twinset configuration (in addition to the above):**

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range
- Extended Range Foundations (Twinset)

#### **For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

#### **For students using a CCR unit (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving | Must be on the same unit that is used for this program

Have logged at least:

- 50 hours on the applicable unit

**For students using an SCR unit (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving | Must be on the same unit that is used for this program

Have logged at least:

- 50 hours on the applicable unit

#### **IV. Duration**

- Recommended hours for completion: 18.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

**And**

- A suitable primary light and a minimum of two back-up lights.
- Two (2) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One (1) primary line reel per dive team.
- Three (3) line arrows and three (3) non-directional cookies, or six (6) referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the student, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete academic sessions and assessments as outlined in the instructor manual for Cave Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Cave Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Cave Diving.
- Complete at least six (6) overhead training dives as outlined in the instructor manual for Cave Diving.
- Complete at least 180 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

##### **a. Breathing Gas and Decompression**

- All in-water training must be planned within the decompression limits of the student's certification up to a maximum decompression time of 15 minutes.
- All decompression must be completed using a dedicated decompression cylinder(s).
- Decompression cylinders may be staged if there is no alternative exit.

### Open circuit

- No penetration may exceed one-fourth of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using two thirds of the available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the divers calculated SAC rate plus an additional 30 liters per minute in SCR failure mode.
- Bailout can be planned using two thirds of the available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Navigation patterns are limited to single line linear patterns with only one tee or intersection to be passed.
- No jumps are permitted.
- Dives are limited to areas where two divers can swim without restriction.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Cave Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Fourths concept of gas management,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- Including one tee or intersection,
- With an equally- or more-qualified dive buddy.



# XR Overhead Programs

# Full Cave Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct full cave penetration dives,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To depths within the diver's current certification,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Full Cave Diving Instructor may conduct the Full Cave Diving program.

### Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) certification.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.
- They may use an XR CCR or XR SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Extended Range Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

## III. Student Prerequisites

### Have logged at least:

- 75 total dives
- 10 cave dives

### Have the following SSI certifications or an equivalent from a recognized training agency:

- Cave Diving

### For students using a twinset configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

### For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

### For students using a CCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range | Must be on the same unit that is used for this program

### For students using an SCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range | Must be on the same unit that is used for this program

#### **IV. Duration**

- Recommended hours for completion: 20.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.
- A complete XR CCR Total Diving System including two (2) bailout cylinders.
- A complete XR SCR Total Diving System.

**And**

- A suitable primary light and a minimum of two back-up lights.
- Three (3) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One primary line reel per team.
- Three (3) line arrows and five (5) non-directional cookies or eight (8) or referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Overhead Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Overhead Training Dives 3 through 8: The maximum certification depth of the instructor or student, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete academic sessions and assessments as outlined in the instructor manual for Full Cave Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Full Cave Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Full Cave Diving.
- Complete at least eight (8) overhead training dives as outlined in the instructor manual for Full Cave Diving.
- Complete at least one (1) traverse or circuit.
- Complete at least 240 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

a. Breathing Gas and Decompression

- All overhead training dives must be planned within the decompression limits of the student's certification.
- All decompression must be completed using a dedicated decompression cylinder(s).

- Decompression cylinders may be staged if there is no alternative exit.

### Open circuit

- No penetration may exceed one-third of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using all available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the divers calculated SAC rate plus an additional 30 liters per minute in SCR failure mode.
- Bailout can be planned using all available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Minor restrictions are permitted, as defined in the SSI General Training Standards.
- Overhead training dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 through 8 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Full Cave Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To depths within the diver's current certification,
- With an equally- or more-qualified dive buddy.

## XR Overhead Programs

# Extended Range Mine Diving

---

### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct mine penetration dives,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters,
- Within the daylight zone,
- With single-line navigation,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status Extended Range Mine Diving Instructor may conduct the Extended Range Mine Diving program.

#### **Equipment Configurations**

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

### III. Student Prerequisites

#### **Have logged at least:**

- 24 total dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Open Water Diver

#### **For students using a twinset configuration (in addition to the above):**

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Foundations (Twinset)
- Extended Range

#### **For students using a sidemount configuration (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

#### **For students using a CCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving | Must be on the same unit that is used for this program

**For students using an SCR unit (in addition to the above):**

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving | Must be on the same unit that is used for this program

#### **IV. Duration**

- Recommended hours for completion: 12.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

**And**

- Primary and back-up lights.
- One (1) reel or spool with a minimum of 45 meters of line.
- One (1) primary line reel per dive team.
- A minimum of two (2) line arrows or referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the diver, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete all academic sessions and assessments as outlined in the instructor manual for Overhead Environment.
- Complete the Overhead Environment final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Overhead Environment
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Overhead Environment.
- Complete at least four (4) overhead training dives as outlined in the instructor manual for Overhead Environment.
- Complete a minimum of 120 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

a. Breathing Gas and Decompression

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.

### Open circuit

- No penetration may exceed one-sixth of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using half of the available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI Extended Range Mine Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Sixths concept of gas management,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- Within the daylight zone,
- With single-line navigation,

- With an equally- or more-qualified dive buddy.

## **XII. Credit**

- The Extended Range Mine Diving certification may be credited to the dry-land skill development session, the pool/confined water skill development session, and Overhead Environment Training Dives 1 and 2 of the Extended Range Wreck Diving program or the Extended Range Cavern Diving program, if the program begins within 180 days of completing the Extended Range Mine Diving program.
- Issuing credit is entirely at the instructor's discretion. If credit is issued, the instructor must either have direct and recent knowledge (within 180 days) of the student's abilities, or the instructor must conduct both a pool/confined water session and at least one evaluation dive prior to any dives in an actual overhead environment.

# XR Overhead Programs

# Mine Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct mine penetration dives,
- Using specialized equipment,
- Using the Rule of Fourths concept of gas management,
- To a maximum depth of 40 meters,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Mine Diving Instructor may conduct the Mine Diving program.

### Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

## III. Student Prerequisites

### Have logged at least:

- 50 total dives

### Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Mine Diving
- Enriched Air Nitrox 40

### For students using a twinset configuration (in addition to the above):

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range
- Extended Range Foundations (Twinset)

### For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

### For students using a CCR unit (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving | Must be on the same unit that is used for this program

Have logged at least:

- 50 hours on the applicable unit



**For students using an SCR unit (in addition to the above):**

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving | Must be on the same unit that is used for this program

Have logged at least:

- 50 hours on the applicable unit

#### **IV. Duration**

- Recommended hours for completion: 18.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

**And**

- A suitable primary light and a minimum of two (2) back-up lights.
- Two (2) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One (1) primary line reel per dive team.
- Three (3) line arrows and three (3) non-directional cookies, or six (6) referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the student, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete academic sessions and assessments as outlined in the instructor manual for Mine Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Mine Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Mine Diving.
- Complete at least six (6) overhead training dives as outlined in the instructor manual for Mine Diving.
- Complete at least 180 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

**a. Breathing Gas and Decompression**

- All in-water training must be planned within the decompression limits of the student's certification up to a maximum decompression time of 15 minutes.
- All decompression must be completed using a dedicated decompression cylinder(s).
- Decompression cylinders may be staged if there is no alternative exit.

### Open circuit

- No penetration may exceed one-fourth of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using two thirds of the available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the divers calculated SAC rate plus an additional 30 liters per minute in SCR failure mode.
- Bailout can be planned using two thirds of the available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.
- Dives are limited to areas where two divers can swim without restriction.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Navigation patterns are limited to single line linear patterns with only one tee or intersection to be passed.
- No jumps are permitted.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Mine Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Fourths concept of gas management,
- To a maximum depth of 40 meters or their maximum certification level if it is shallower,
- Including one tee or intersection,
- With an equally- or more-qualified dive buddy.

# XR Overhead Programs

# Full Mine Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct full mine penetration dives,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To depths within the diver's current certification,
- With an equally- or more-qualified dive buddy.

## II. Minimum Instructor Rating

An active status Full Mine Diving Instructor may conduct the Full Mine Diving program.

### Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) certification.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.
- They may use an XR CCR or XR SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Extended Range Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

*Note | The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.*

## III. Student Prerequisites

### Have logged at least:

- 75 total dives
- 10 mine dives

### Have the following SSI certifications or an equivalent from a recognized training agency:

- Mine Diving

### For students using a twinset configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

### For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

### For students using a CCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range | Must be on the same unit that is used for this program

### For students using an SCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range | Must be on the same unit that is used for this program

#### **IV. Duration**

- Recommended hours for completion: 20.

#### **V. Minimum Equipment**

**Students participating in this program must use at least one of the following equipment configurations:**

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.
- A complete XR CCR Total Diving System including two (2) bailout cylinders.
- A complete XR SCR Total Diving System.

**And**

- A suitable primary light and a minimum of two back-up lights.
- Three (3) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One primary line reel per team.
- Three (3) line arrows and five (5) non-directional cookies or eight (8) or referencing exit markers (REM).

#### **VI. In-Water Ratios**

- The student-to-instructor ratio is 3:1.

#### **VII. Depth Limitations**

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Overhead Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Overhead Training Dives 3 through 8: The maximum certification depth of the instructor or student, whichever is shallower.

#### **VIII. Requirements For Completion**

- Complete academic sessions and assessments as outlined in the instructor manual for Full Mine Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Full Mine Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Full Mine Diving.
- Complete at least eight (8) overhead training dives as outlined in the instructor manual for Full Mine Diving.
- Complete at least one (1) traverse or circuit.
- Complete at least 240 minutes of runtime in the overhead environment.

#### **IX. Training Conditions**

a. Breathing Gas and Decompression

- All overhead training dives must be planned within the decompression limits of the student's certification.
- All decompression must be completed using a dedicated decompression cylinder(s).

- Decompression cylinders may be staged if there is no alternative exit.

### Open circuit

- No penetration may exceed one-third of the diver's bottom gas supply.

### CCR

- CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas.
- The remainder of the dive can be planned at the diver's calculated SAC rate.
- Bailout can be planned using all available gas.

### SCR

- SCR cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters per minute for the duration of the first bailout gas plus an additional 30 liters per minute in SCR failure mode.
- The remainder of the dive can be planned at the divers calculated SAC rate plus an additional 30 liters per minute in SCR failure mode.
- Bailout can be planned using all available gas.

*Note / Refer to the page on "Combining Overhead Programs" for gas reserve and decompression rules when conducting combined programs.*

#### b. Environment

- All overhead-specific skills must be conducted in an overhead environment as outlined in the program's instructor manual.
- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.

#### c. Navigation

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Minor restrictions are permitted, as defined in the General Training Standards.
- Overhead training dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

## X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the equipment configuration session and the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 through 8 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

### **The SSI Full Mine Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- Using specialized equipment,
- Using the Rule of Thirds concept of gas management,
- To depths within the diver's current certification,
- With an equally- or more-qualified dive buddy.

## XR Overhead Programs

# Combining Overhead Programs

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### I. Sequence

- Skills in an overhead environment may only be conducted after the student successfully completes them in a pool/confined water skill development session.

### II. Training Combinations

#### a. Option 1

##### **The following standards apply when combining:**

- Extended Range Cavern Diving and Cave Diving
- Extended Range Mine Diving and Mine Diving

##### **Requirements**

- The student must meet the prerequisites for the highest certification level.
- The Cave Diving or Mine Diving program standards define the decompression limits.
- Complete at least ten (10) overhead training dives.
- Complete a minimum of 300 minutes of runtime in the overhead environment.
- One (1) overhead training dive must use the Rule of Sixths concept of gas management.
- All other overhead training dives can use the Rule of Fourths concept of gas management.

##### **Rebreather bailout**

- One (1) overhead training dive must use the Rule of Halves concept of gas management.
- All other overhead training dives can use the Rule of Two-Thirds concept of gas management.

#### b. Option 2

##### **The following standards apply when combining:**

- Cave Diving and Full Cave Diving
- Mine Diving and Full Mine Diving

##### **Requirements**

- The student must meet the prerequisites for the highest certification level.
- The Full Cave Diving or Full Mine Diving program standards define the decompression limits.
- Complete at least fourteen (14) overhead training dives.
- Complete a minimum of 420 minutes of runtime in the overhead environment.
- One (1) overhead training dive must use the Rule of Fourths concept of gas management.
- All other overhead training dives can use the Rule of Thirds concept of gas management.

##### **Rebreather bailout**

- One (1) overhead training dive must use the Rule of Two-Thirds concept of gas management.
- All other overhead training dives can use the full bailout gas.

#### c. Option 3

##### **The following standards apply when combining:**

- Extended Range Cavern Diving, Cave Diving, and Full Cave Diving

- Extended Range Mine Diving, Mine Diving, and Full Mine Diving

### **Requirements**

- The student must meet the prerequisites for the highest certification level.
- The Full Cave Diving or Full Mine Diving program standards define the decompression limits.
- Complete at least eighteen (18) overhead training dives.
- Complete a minimum of 540 minutes of runtime in the overhead environment.
- One (1) overhead training dive must use the Rule of Sixths concept of gas management.
- One (1) overhead training dive must use the Rule of Fourths concept of gas management.
- All other overhead training dives can use the Rule of Thirds concept of gas management.

### **Rebreather bailout**

- One (1) overhead training dive must use the Rule of Halves concept of gas management.
- One (1) overhead training dive must use the Rule of Two-Thirds concept of gas management.
- All other overhead training dives can use all of the bailout gas.

# XR Overhead Programs

## Overhead Upgrades

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### I. Environmental Upgrades

A certification in one environment may upgrade to an another environment at the same certification level.

*Example | A diver with the Cave Diving certification may apply for a Mine Diving certification.*

#### a. Completion Requirements

- Register for the program's upgrade kit.
- Complete the applicable program exam.
- Complete the final two (2) overhead training dives—including all skill evaluations—outlined in the applicable program's instructor manual.
- Complete and sign the applicable sections of the program completion form.

### II. Equipment Configuration Upgrades

A diver with an overhead environment certification may earn additional equipment configuration certifications for that environment.

*Example | A diver with the Cave Diving certification (SCR) may apply for a Cave Diving certification (CCR) by completing the upgrade.*

#### a. Prerequisites

- Meet all prerequisites for the additional equipment configuration as outlined in the applicable program standard.
- Register for the program's upgrade kit.

#### b. Completion Requirements

##### **Open circuit to open circuit**

- The responsible SSI Training Center verifies that the student meets all the prerequisites and processes the registration for the program's upgrade kit.
- The responsible SSI Service Center will issue the upgrade.

##### **Rebreather to open circuit**

##### **Use the additional equipment configuration to:**

- Complete at least one (1) dry-land skill development session as outlined in the program-specific instructor manual.
- Complete at least one (1) pool/confined water skill development session as outlined in the program-specific instructor manual.
- Complete the final two (2) overhead training dives—including all skill evaluations—outlined in the applicable program's instructor manual.
- Complete and sign the applicable sections of the program completion form.

##### **Open circuit to rebreather**

##### **Use the additional equipment configuration to:**

- Complete at least one (1) dry-land skill development session as outlined in the program-specific instructor manual.
- Complete at least one (1) pool/confined water skill development session as outlined in the program-specific instructor manual.
- Complete the final two (2) overhead training dives—including all skill evaluations—outlined in the applicable program's instructor manual.



- Complete and sign the applicable sections of the program completion form.

**Students applying for the following programs must complete the final four (4) overhead training dives—including all skill evaluations— as outlined in the applicable program's instructor manual.**

- Technical Wreck Diving
- Cave Diving
- Full Cave Diving
- Mine Diving
- Full Mine Diving

*Note / All training dives must be completed in the new environment and new equipment configuration if an equipment upgrade is combined with an environmental upgrade.*

# XR SCR Programs

# SCR Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct rebreather dives,
- In an SCR Total Diving System,
- Using nitrox,
- To a maximum depth of 30 meters,
- With an equally- or more-qualified dive buddy.

*Note | Beyond the SSI Training Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.*

## II. Minimum Instructor Rating

An active status, unit-specific SCR Diving Instructor may conduct the unit-specific SCR Diving program.

## III. Student Prerequisites

**Have logged at least:**

- 24 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox 40
- Deep Diving

*Note | If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.*

## IV. Duration

- Recommended hours for completion: 24-30.

## V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

- A complete SCR Total Diving System.

## VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

## VII. Depth Limitations

- Maximum depth limit for Open Water Training Dive 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 30 meters.
- At least one (1) dive must be to a depth of 25 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.

- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete at least four (4) open water training dives as outlined in the instructor manual for SCR Extended Range.
- Complete at least 300 minutes of in-water runtime on the applicable SCR unit.

#### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

#### a. Breathing Gas and Decompression

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.

## X. Sequence

- Open Water Training Dives 1 through 3 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dive 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 through 3.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

#### **The SSI SCR Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- With the equipment configuration used during training,
- To a maximum depth of 30 meters,
- Within the no-decompression limits,
- With an equally- or more-qualified dive buddy.

## XII. Unit Crossovers

Students crossing over to SCR Diving from another electronically-controlled SCR unit, or a CCR unit, must complete the following:

#### a. Student Prerequisites

##### **Have logged at least:**

- 24 CCR dives

##### **OR**

- 12 SCR dives

#### b. Requirements For Completion

##### **Prior to certification, student must complete:**

- All unit-specific theory and procedures, including a final exam with a passing score of at least 80%.
- An equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- The XR Water Fitness Evaluation as outlined in the SSI Training Standards.

- At least one (1) additional pool/confined water skill development session lasting at least one (1) hour.
- Open Water Training Dives 3 and 4 as outlined in the instructor manual for SCR Extended Range.
- At least 120 minutes of open water runtime on the applicable SCR unit.

# XR SCR Programs

## SCR Extended Range

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct decompression rebreather dives,
- In an XR SCR Total Diving System,
- Using nitrox,
- To a maximum depth of 40 meters,
- For a maximum accumulated decompression time of 25 minutes,
- With an equally- or more-qualified dive buddy.

*Note | Beyond the SSI Training Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.*

### II. Minimum Instructor Rating

An active status, unit-specific SCR Extended Range Instructor may conduct the unit-specific SCR Extended Range program.

### III. Student Prerequisites

**Have logged at least:**

- 24 total dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox 40
- Deep Diving

*Note | If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.*

### IV. Duration

- Recommended hours for completion: 32-40.

### V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

- A complete XR SCR Total Diving System.

### VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

### VII. Depth Limitations

- Maximum depth limit for Open Water Training Dive 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dives 4 and 5: 30 meters.
- Maximum depth limit for Open Water Training Dive 6: 40 meters.
- At least one (1) dive must be to a depth of 35 meters.

### VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for SCR Extended Range.
- Complete at least 420 minutes of in-water runtime on the applicable SCR unit.

#### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

#### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The total time for all required decompression stops on all training dives must not exceed 25 minutes per dive based on the primary plan.
- The volume of the carried bailout gas should be based on each individual diver's gas calculations plus 30% for reserve, and sufficient to complete a gas-sharing ascent and all required decompression.

## X. Sequence

- Open Water Training Dives 1 through 4 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 through 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

#### **The SSI SCR Extended Range certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- With the equipment configuration used during training,
- To a maximum depth of 40 meters,
- For a maximum accumulated decompression time of 25 minutes,
- With an equally- or more-qualified dive buddy.

# SCR Extended Range Upgrade

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## I. SCR Diving to SCR Extended Range (Horizon)

### a. Requirements For Completion

#### **Students upgrading from SCR Diving (Horizon) to SCR Extended Range (Horizon) must:**

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 120 minutes of open water runtime on the applicable SCR unit.

## II. SCR Diving (other SCR units) to SCR Extended Range (Horizon)

### a. Student Prerequisites

#### **Have logged at least:**

- 24 SCR dives

### b. Requirements For Completion

#### **Students upgrading from SCR Diving (other SCR units) to SCR Extended Range (Horizon) must:**

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 4 through 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 180 minutes of open water runtime on the applicable SCR unit.

## III. CCR Diving (any unit) to SCR Extended Range (Horizon)

### a. Student Prerequisites

#### **Have logged at least:**

- 24 CCR dives

### b. Requirements For Completion

#### **Students upgrading from any CCR Diving certification to SCR Extended Range (Horizon) must:**

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.

- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 4 through 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 180 minutes of open water runtime on the applicable SCR unit.

#### **IV. CCR Extended Range (any unit) to SCR Extended Range (Horizon)**

##### a. Student Prerequisites

###### **Have logged at least:**

- 24 CCR dives

##### b. Requirements For Completion

###### **Students upgrading from any CCR Diving certification to SCR Extended Range (Horizon) must:**

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 120 minutes of open water runtime on the applicable SCR unit.



# XR CCR Programs

# CCR Diving

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## I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct rebreather dives,
- In a CCR Total Diving System,
- Using an air diluent,
- To a maximum depth of 30 meters,
- Within the no-decompression limits,
- With an equally- or more-qualified dive buddy.

*Note | Beyond the SSI Training Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.*

## II. Minimum Instructor Rating

An active status unit-specific CCR Diving Instructor may conduct the unit-specific CCR Diving program.

## III. Student Prerequisites

**Have logged at least:**

- 24 open water dives

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox 40
- Deep Diving

*Note | If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.*

## IV. Duration

- Recommended hours for completion: 40.

## V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

- A complete CCR Total Diving System.

## VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.
- The student-to-instructor ratio is 2:1 for rEvo training programs.

## VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Maximum depth limit for Open Water Training Dives 5 and 6: 30 meters.
- At least one (1) dive must be to a depth of 25 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Extended Range.
- Complete the program's final exam.
- Complete a unit-specific final exam.
- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Extended Range.
- Complete at least 480 minutes of in-water runtime on the applicable CCR unit.

*Note / Students completing this program using a rEvo CCR unit must complete at least one (1) additional pool/confined water skill development session, lasting at least one (1) hour.*

#### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

#### a. Breathing Gas and Decompression

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The bailout cylinder must be filled with air, or a nitrox mix with a maximum ppO<sub>2</sub> of 1.6 at the deepest planned depth of the dive.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters per minute.
- Divers should not carry an on-board diluent gas with a ppO<sub>2</sub> higher than 1.10 bar at the bottom.
- Divers using an mCCR should not carry an on-board diluent gas with a ppO<sub>2</sub> higher than 1.30 bar at the bottom.
- The maximum breathing loop setpoint is 1.3 bar.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

*Note / These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.*

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

#### **The SSI CCR Diving certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- With the equipment configuration used during training,
- Using an air diluent,
- To a maximum depth of 30 meters,

- Within the no-decompression limits,
- With an equally- or more-qualified dive buddy.

# XR CCR Programs

## CCR Extended Range

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct decompression rebreather dives,
- In an XR CCR Total Diving System,
- To a maximum depth of 40 meters (45 meters when using trimix),
- For a maximum accumulated decompression time of 25 minutes,
- With an equally- or more-qualified dive buddy.

*Note | Beyond the SSI Training Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.*

### II. Minimum Instructor Rating

An active status unit-specific CCR Extended Range Instructor may conduct the unit-specific CCR Extended Range program.

*Note | The CCR Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.*

### III. Student Prerequisites

#### Option 1

**Have logged at least:**

- 30 extended range dives that require a stage cylinder and decompression.

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox 40
- Deep Diving
- Extended Range Nitrox Diving

#### Option 2

**Have logged at least:**

- 30 hours on the applicable unit

**Have one the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Diving
- SCR Extended Range

### IV. Duration

- Recommended hours for completion: 40.

### V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

- A complete XR CCR Total Diving System.

### VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.
- The student-to-instructor ratio is 2:1 for rEvo training programs.

## VII. Depth Limitations

### Air as diluent:

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Depth range for Open Water Training Dives 5 and 6: 30–35 meters.

### Trimix as diluent:

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Depth range for Open Water Training Dives 5 and 6: 30–45 meters.
- At least one (1) dive must be to a depth of 40 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Extended Range.
- Complete the program's final exam.
- If qualifying trimix, complete a CCR Extended Range Trimix final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Extended Range.
- Complete at least 480 minutes of in-water runtime on the applicable CCR unit.

*Note | Students completing this program using a rEvo CCR unit must complete at least one (1) additional pool/confined water skill development session, lasting at least one (1) hour.*

### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 through 6.
- The total time for all required decompression stops on Open Water Training Dives 3 and 4 must not exceed 15 minutes per dive based on the primary plan.
- The total time for all required decompression stops on Open Water Training Dives 5 and 6, and any additional training dives, must not exceed 25 minutes per dive based on the primary plan.
- The bailout cylinder must be filled with air, or a nitrox mix with a maximum ppO<sub>2</sub> of 1.6 at the deepest planned depth of the dive.

- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters per minute.
- Divers must not carry an on-board diluent gas with a ppO<sub>2</sub> higher than 1.10 bar at the bottom.
- Divers using an mCCR must not carry an on-board diluent with a ppO<sub>2</sub> higher than 1.30 at the bottom.
- The maximum breathing loop setpoint is 1.3 bar.

## X. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

*Note | These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.*

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI CCR Extended Range certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- With the equipment configuration used during training,
- To a maximum depth of 40 meters,
- Using an air diluent,
- For a maximum accumulated decompression time of 15 minutes,
- With an equally- or more-qualified dive buddy.

**In addition, the SSI CCR Extended Range Trimix certification entitles the holder to dive autonomously:**

- To a maximum depth of 45 meters,
- Using trimix breathing gases.

## XII. Upgrades

**Students upgrading from CCR Diving to CCR Extended Range must complete the following:**

- All CCR Extended Range academic sessions and assessments as outlined in the instructor manual for CCR Extended Range.
- Complete a CCR Extended Range final exam with a passing score of at least 80%.
- At least one (1) additional pool/confined water skill development session lasting at least one (1) hour.
- Open Water Training Dives 5 and 6 as outlined in the instructor manual for CCR Extended Range.

**Students upgrading from a CCR Extended Range certification to CCR Extended Range Trimix must complete the following:**

- All CCR Extended Range Trimix academic sessions and assessments as outlined in the instructor manual for CCR Extended Range.
- Complete a CCR Extended Range Trimix final exam with a passing score of at least 80%.
- Open Water Training Dives 5 and 6 on trimix as outlined in the instructor manual for CCR Extended Range.

## XR CCR Programs

# CCR Technical Extended Range

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### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct multiple-stop decompression rebreather dives,
- In an XR CCR Total Diving System,
- Using trimix breathing gases,
- To a maximum depth of 60 meters,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status, unit-specific CCR Technical Extended Range Instructor may conduct the unit-specific CCR Technical Extended Range program.

### III. Student Prerequisites

**Have logged at least:**

- 50 hours of CCR runtime
- 25 hours of runtime on the specific unit
- 20 CCR dives deeper than 30 meters
- 10 CCR dives requiring staged decompression (not including training dives)

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Extended Range

### IV. Duration

- Recommended hours for completion: 40.

### V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

A complete XR CCR Total Diving System that:

- Allows for manual addition of gas to the breathing loop.
- Has an alternate (backup) method of monitoring the breathing loop if the primary method fails.
- Can be configured so the on-board oxygen and diluent cylinders can be shut down.

**Including:**

- At least two (2) bailout cylinders with regulators, one (1) for bottom bailout, and one (1) for decompression.

### VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

### VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Open Water Training Dives 3 and 4: 45 meters.
- Depth range for Open Water Training Dives 5 and 6: 50 to 60 meters.

- At least one (1) dive must be to a depth of 50 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Technical Extended Range.
- Complete the program's final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least one (1) open water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Technical Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Technical Extended Range.
- Complete at least 420 minutes of in-water runtime on the applicable CCR unit.

### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Open Water Training Dives 3 through 6 must be conducted using a trimix gas.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 30 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 60 minutes for Open Water Training Dives 5 and 6, and any additional training dives.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters per minute.
- The maximum ppO<sub>2</sub> for bailout is 1.6 at the deepest planned depth of the dive.
- Divers must not carry an on-board diluent gas with a ppO<sub>2</sub> higher than 1.10 bar at the bottom.
- Divers using an mCCR must not carry an on-board diluent with a ppO<sub>2</sub> higher than 1.30 at the bottom.
- The maximum breathing loop setpoint is 1.3 bar.

## X. Sequence

- Open Water Training Dives 2 and 3 may only be conducted after the student successfully completed the equipment configuration session, the XR Water Fitness Evaluation, and Open Water Training Dive 1.
- Open Water Training Dives 4 and 5, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dive 3.

*Note / These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.*

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI CCR Technical Extended Range certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,



- With the equipment configuration used during training,
- To a maximum depth of 60 meters,
- Using trimix breathing gases,
- With unlimited decompression stops,
- With a maximum of two bailout gas switches,
- With an equally- or more-qualified dive buddy.

## **XII. Credit**

This program may be combined with the Technical Wreck Diving program or Full Cave Diving program.

### **If combined with the Technical Wreck Diving program:**

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the CCR Technical Extended Range program.
- Students must complete all of the prerequisites, skills development and academic requirements for both programs.

### **If combined with the Full Cave Diving program:**

- Overhead Training Dives 1 through 4 of the Full Cave Diving program may be used to meet the requirements of Open Water Training Dives 1-4 of the CCR Technical Extended Range program.
- Students must complete all of the prerequisites, skills development and academic requirements for both programs.

# XR CCR Programs

## CCR Hypoxic Trimix

---

### I. Intent

**This program provides divers with the training necessary to:**

- Independently plan and conduct multiple-stop decompression rebreather dives,
- In an XR CCR Total Diving System,
- Using trimix breathing gases,
- To a maximum depth of 100 meters,
- With an equally- or more-qualified dive buddy.

### II. Minimum Instructor Rating

An active status unit-specific CCR Hypoxic Trimix Instructor may conduct the unit-specific CCR Hypoxic Trimix program.

### III. Student Prerequisites

**Have logged at least:**

- 100 hours of CCR runtime
- 50 hours of runtime on the specific unit
- 10 CCR dives deeper than 50 meters
- 20 CCR dives requiring staged decompression (not including training dives)

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Technical Extended Range

### IV. Duration

- Recommended hours for completion: 30.

### V. Minimum Equipment

**Students participating in this program must use at least the following equipment configuration:**

A complete XR CCR Total Diving System that:

- Allows for manual addition of gas to the breathing loop.
- Has an alternate (backup) method of monitoring the breathing loop if the primary method fails.
- Can be configured so the on-board oxygen and diluent cylinders can be shut down.

**Including:**

- At least three (3) bailout cylinders with regulators, one (1) for bottom bailout, and two (2) for decompression.

### VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

### VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Open Water Training Dives 3 and 4: 80 meters.
- Maximum depth limit for Open Water Training Dives 5 and 6: 100 meters.
- Open Water Training Dive 3 or 4 must be to a depth of 75 meters.

- At least one (1) dive must be to a depth of 90 meters.

## VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Hypoxic Trimix.
- Complete the program's final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Hypoxic Trimix.
- Complete at least 420 minutes of in-water runtime on the applicable CCR unit.

### a. Notes

- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of ten (10) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of ten (10) years.

## IX. Training Conditions

### a. Breathing Gas and Decompression

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 60 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 90 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- The total cumulative time for Open Water Training Dives 3 through 6 must be at least five (5) hours.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters per minute.
- The maximum ppO<sub>2</sub> for bailout is 1.6 at the deepest planned depth of the dive.
- Divers must not carry an on-board diluent gas with a ppO<sub>2</sub> higher than 1.10 bar at the bottom.
- Divers using an mCCR must not carry an on-board diluent with a ppO<sub>2</sub> higher than 1.30 at the bottom.
- The maximum breathing loop setpoint is 1.3 bar.

## X. Sequence

- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completed the equipment configuration session, the XR Water Fitness Evaluation, and Open Water Training Dives 1 and 2.
- Open Water Training Dives 5 and 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dive 4.

## XI. Certification

Upon completion of all academic and in-water requirements, the SSI Professional may issue the program's digital certification card.

**The SSI CCR Hypoxic Trimix certification entitles the holder to dive autonomously:**

- In environments similar to those of the diver's training and experience,
- With the equipment configuration used during training,
- To depths of either 80 or 100 meters, depending on the certification achieved,
- Using trimix breathing gases,
- With unlimited decompression stops,

- With an equally- or more-qualified dive buddy.

**Exception**

The Hypoxic Trimix 80-meter certification is the same as the 100-meter certification, with one exception: if conditions do not permit, or the students cannot make the deepest dives, divers may become certified at 80 meters after the first four (4) open water training dives.

After developing experience, and with an equally- or more-qualified buddy, a diver qualified to 100 meters may dive to depths deeper than 100 meters.

# XR CCR Programs

## CCR Unit Crossover

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### I. Intent

The XR CCR Unit Crossover provides divers with the knowledge, skills, and experience necessary to dive with a new rebreather at their highest CCR certification level.

### II. Minimum Instructor Rating

An active status, unit-specific instructor may conduct the XR CCR Unit Crossover for certification levels that they are authorized to issue certifications for.

Students completing the XR CCR Unit Crossover must meet the minimum prerequisites and requirements from the highest applicable certification level.

### III. Student Prerequisites

- Have a CCR certification at any level
- Have logged at least 10 CCR dives in the previous 12 months
- Meet the applicable standards for the highest level being crossed over including:

### IV. Duration

- Recommended hours for completion: 40.

### V. In-Water Ratios

- The student-to-instructor ratio is 3:1.

### VI. Requirements For Completion

**To cross over to CCR Diving or CCR Extended Range, the student must:**

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Diving or CCR Extended Range.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete Open Water Training Dives 3 through 6 as outlined in the instructor manual for CCR Extended Range.

#### a. Higher Certifications

**To cross over to CCR Technical Extended Range or CCR Hypoxic Trimix, the student must:**

- Complete the crossover to CCR Diving or CCR Extended Range as outlined above.
- Complete all academic sessions and assessments as outlined in the applicable unit-specific instructor manual.
- Complete the applicable program final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete at least one (1) open water skill development session as outlined in the instructor manual for the applicable program.
- Demonstrate proficiency in the required skills as outlined in the applicable instructor manual.

Plan and conduct at least one (1) evaluation dive with a qualified instructor to the minimum depth required for

certification at the highest level requested.

- CCR Technical Extended Range: 55 meters
- CCR Hypoxic Trimix: 80 meters

b. Notes

- The instructor conducting the XR CCR Unit Crossover must directly verify the student's experience level and prerequisites prior to the final evaluation dives.
- For CCR Hypoxic Trimix upgrades on mCCR units, at least one additional academic session on "CMF at Depth and Dive Planning" must be completed.

## **VII. Certification**

Once all requirements are complete, and the student's profile is updated in MySSI, the instructor conducting the XR Unit Crossover may issue the applicable certification card.

The student will be certified on the specific unit at the highest level requested.

## XR Professional Programs

# XR Professional Crossover

---

### I. Intent

This program is intended to provide an orientation for the SSI Dive Professional candidate to Extended Range philosophies and procedures, training standards, the SSI Education System and the Extended Range scuba skills required in the Extended Range training programs.

### II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the XR Professional Crossover program.

**For Overhead Environment, SCR, and CCR XR Professional Crossovers (in addition to the above):**

The Instructor Trainer must have an instructor certification at or above the certification level that the candidate is applying for (e.g. a CCR Extended Range Instructor Trainer may only conduct the crossover for CCR Diving Instructors and CCR Extended Range Instructors).

**For XR Professional Crossover candidates earning multiple equipment configuration certifications:**

Candidates who complete all the required components of the XR Professional Crossover program may earn the equipment configuration certifications (backmount, sidemount, SCR, and CCR) without attending an additional crossover program.

- The Instructor Trainer conducting the crossover must complete a review of all applicable SSI Training Standards and program materials.
- For each additional certification, the candidate must submit videos of the required skills to the responsible XR International Training Director. The skills must be at demonstration-level quality.

### III. Candidate Prerequisites

- Meet all prerequisites from each individual instructor level.
- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have no ethics or standards violations pending, or any verified ethics or standards violations in the past 12 months.
- Have an existing active status SSI XR certification or an equivalent from a recognized training agency.

*Note / If the candidate has not been active within the last two years with a scuba training organization, they must provide proof of non-renewal, which states that no ethics actions or standards violations have been taken or are pending.*

- The candidate should not be currently involved in a quality compliance case with another training agency. If they are part of an active quality compliance case, they must disclose all information about the case with SSI prior to attending the crossover.
- Any candidate who has been expelled from another training agency is automatically disqualified from attending an SSI Professional Crossover.

*Note / If the candidate does not inform SSI of their role in an active quality compliance case, is placed in expelled status by another training agency after completing the SSI Professional Crossover, or does not inform SSI of their previous expelled status with another agency, SSI may decertify the candidate or even place them in expelled status as well.*

### IV. Duration

- Recommended hours for completion: 16–20.
- The two-day seminar is designed for candidates who are already SSI recreational instructors or who have recently completed the SSI Recreational Dive Professional Crossover.
- The three-day seminar is for candidates who want to crossover to SSI, but only want to become Extended Range Instructors.

### V. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

## VI. Requirements For Completion

### Attend a three-day seminar and successfully complete:

- A review of the SSI Education System, including all non-XR programs, the SSI Business Philosophy, and the MySSI System and app.
- A review of all the SSI Training Standards related to XR programs and training.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for at least one (1) decompression dive deeper than 40 meters using the XR Dive Planning Sheets and dive planning software.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Water Fitness Evaluation as outlined in the SSI General Training Standards.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

## VII. Certification

### Active status XR Instructors who have successfully completed the XR Professional Crossover may:

- Teach, assist or supervise SSI XR programs at or below their highest SSI instructor level



## XR Professional Programs

# Gas Blender Instructor

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### I. Intent

The intent of this standard is to provide a process for verifying an instructor's qualifications to teach the SSI Gas Blender program.

### II. Minimum Instructor Rating

None

### III. Candidate Prerequisites

**Have the following SSI certifications or equivalent from a recognized training agency:**

- Gas Blender

**Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Open Water Instructor
- Enriched Air Nitrox Instructor

### IV. Duration

- There is no minimum recommended duration for the Gas Blender Instructor program.

### V. Requirements For Completion

- Complete the Gas Blender digital learning, including all reading and review questions.
- Complete the program-specific Training Completion Record and submit it to the responsible SSI Service Center as required.

### VI. Active Status Requirements

- Show proof of Gas Blender certification.

### VII. Certification

**Active status Gas Blender Instructors may teach, supervise and issue certifications for the following programs:**

- Nitrox Gas Blender
- Trimix Gas Blender

# XR Professional Programs

# Extended Range Foundations

# Instructor

---

## I. Intent

The SSI Extended Range Foundations Instructor Training Course certifies the candidate as an Extended Range Foundations Instructor.

## II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the Extended Range Foundations Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

**Have at least one (1) of the following active status SSI certifications:**

- Open Water Instructor | Extended Range Foundations Instructor (Single Cylinder)
- Extended Range Instructor | Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor | Extended Range Foundations Instructor (Sidemount)
- SCR Diving Instructor | Extended Range Foundations Instructor (SCR)
- CCR Diving Instructor | Extended Range Foundations Instructor (CCR)

## IV. Duration

- Recommended hours for completion: 16.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

## VI. Requirements For Completion

### Option 1

**Candidates earning the Extended Range Foundations Instructor (Single Cylinder) certification may:**

Co-teach at least two (2) separate Extended Range Foundations programs under the direct supervision of an active status Extended Range Foundations Instructor.

### Option 2

**Candidates earning the Extended Range Foundations Instructor certification in any configuration may:**

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- An equipment configuration session for the appropriate Total Diving System.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.

## VII. Certification

**Active status Extended Range Foundations Instructor may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Extended Range Foundations

# Open-Circuit Professional Programs

# Extended Range Sidemount Instructor

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## I. Intent

The intent of the SSI Extended Range Sidemount Instructor program is to provide candidates with the knowledge, skills and experience necessary to conduct the SSI Extended Range Sidemount program.

## II. Minimum Instructor Rating

An active status XR Instructor Trainer, certified as an SSI Extended Range Sidemount Instructor, may conduct the seminar. The candidate may co-teach the Extended Range Sidemount program with an active status Extended Range Sidemount Instructor.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### Have logged at least:

- 20 sidemount dives

### Option 1

#### Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

#### Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Extended Range Nitrox Diving Instructor

### Option 2

#### Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

#### Have the following active status SSI certifications (no equivalency permitted):

- Advanced Open Water Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

## V. Duration

- Recommended hours for completion: 16.

## VI. Requirements For Completion

### Option 1

Co-teach at least two (2) separate Extended Range Sidemount programs under the direct supervision of an active status Extended Range Sidemount Instructor.

### Option 2

#### Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.

- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- While acting as an instructor, plan and conduct at least one (1) dive that meets the requirements of Open Water Training Dive 4 from the instructor manual for Sidemount Diving.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

## VII. Certification

**Active status Extended Range Sidemount Instructors may teach, supervise and issue certifications for the following programs:**

- Recreational Sidemount Diving
- Extended Range Sidemount
- Any recreational or XR program in a sidemount equipment configuration if they hold the relevant instructor rating for that program.

# Open-Circuit Professional Programs

# Extended Range Nitrox Diving Instructor

---

## I. Intent

The SSI Extended Range Nitrox Diving Instructor Training Course certifies the candidate as an Extended Range Nitrox Diving Instructor.

## II. Minimum Instructor Rating

An active status Extended Range Nitrox Diving Instructor Trainer may conduct the Extended Range Nitrox Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 20 dives deeper than 30 meters

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Extended Range Nitrox Diving

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

## IV. Duration

- Recommended hours for completion: 16.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

## VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

## VII. Requirements For Completion

### **Option 1**

Co-teach at least two (2) separate Extended Range Nitrox Diving programs under the direct supervision of an active status Extended Range Nitrox Diving Instructor Trainer.

### **Option 2**

#### **Attend a two-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.

- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

## VIII. Certification

**Active status Extended Range Nitrox Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Extended Range Nitrox Diving

# Open-Circuit Professional Programs

## Extended Range Instructor

---

### I. Intent

The SSI Extended Range Instructor Training Course certifies the candidate as one of the following:

- Extended Range Instructor
- Extended Range Trimix Instructor

### II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the Extended Range Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

#### **Have logged at least:**

- 20 dives deeper than 30 meters

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Extended Range
- Extended Range Trimix

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

#### **Have issued at least:**

- 3 Enriched Air Nitrox 40 certifications

### IV. Duration

- Recommended hours for completion: 16.

### V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

### VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 45 meters.

### VII. Requirements For Completion

#### **Option 1**

Co-teach at least two (2) separate Extended Range programs under the direct supervision of an active status Extended Range Instructor Trainer.

#### **Option 2**

#### **Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.



- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- As a team member, participate in the planning and execution of at least one dive from the Extended Range program.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

#### a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

## VIII. Certification

**In addition to the programs taught by active status Extended Range Nitrox Diving Instructors, active status Extended Range Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Extended Range | with or without trimix as per certification

*Note | Instructors that complete the seminar and meet the necessary requirements will earn the Extended Range Trimix Instructor certification.*

## IX. Upgrade

**For Extended Range Instructors or higher with the Technical Extended Range Trimix certification:**

An active status Extended Range Instructor or higher who has a Technical Extended Range Trimix certification may be upgraded to an Extended Range Trimix Instructor.

The candidate must register for the applicable professional digital kit and submit a signed XR Professional Upgrade Completion Record with copies of relevant certifications to the SSI Service Center or to an XR International Training Director.

# Open-Circuit Professional Programs

# Technical Extended Range Instructor

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## I. Intent

The SSI Technical Extended Range Instructor Training Course certifies the candidate as one of the following::

- Technical Extended Range Instructor
- Technical Extended Range Trimix Instructor

## II. Minimum Instructor Rating

An active status Technical Extended Range Instructor Trainer may conduct the Technical Extended Range Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 200 total dives
- 50 decompression dives deeper than 45 meters

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Technical Extended Range
- Technical Extended Range Trimix

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor
- Extended Range Instructor

### **Have issued at least:**

- 10 Extended Range certifications

### **OR**

- 5 Extended Range Nitrox certifications
- 5 Extended Range certifications

*Note | If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

## IV. Duration

- Recommended hours for completion: 16.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

## VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 50 meters.

## VII. Requirements For Completion

### Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

#### a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- The dive must be to a depth of at least 50 meters, with at least 25 minutes of planned staged decompression time, and at least two (2) gas switches.

### Co-Teaching Waiver

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least two (2) complete Technical Extended Range programs with an active status Technical Extended Range Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

## VIII. Certification

**In addition to the programs taught by active status Extended Range Instructors, active status Technical Extended Range Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Technical Extended Range | with or without trimix as per certification

## IX. Upgrade

### Technical Extended Range Instructors with the Technical Extended Range Trimix certification:

An active status Technical Extended Range Instructor who has a Technical Extended Range Trimix certification may be upgraded to a Technical Extended Range Trimix Instructor.

The candidate must register for the applicable professional digital kit and submit a signed XR Professional Upgrade Completion Record with copies of relevant certifications to the SSI Service Center or to an XR International Training Director.

# Open-Circuit Professional Programs

# Hypoxic Trimix Instructor

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## I. Intent

The SSI Hypoxic Trimix Instructor Training Course certifies the candidate as a Hypoxic Trimix Instructor.

## II. Minimum Instructor Rating

An active status Hypoxic Trimix Instructor Trainer may conduct the Hypoxic Trimix Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### Have logged at least:

- 250 total dives
- 30 decompression dives deeper than 60 meters

### Have the following SSI certifications or an equivalent from a recognized training agency:

- Hypoxic Trimix

### Have issued at least:

- 10 Technical Extended Range certifications

*Note / If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

### Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor
- Technical Extended Range Instructor

## IV. Duration

- Recommended hours for completion: 16.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 100 meters.

## VII. Requirements For Completion

### Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.

- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the Hypoxic Trimix program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

#### a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- The dive must be to a depth of at least 80 meters, with at least 30 minutes of planned staged decompression time, and at least two (2) gas switches.

#### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least two (2) complete Hypoxic Trimix programs with an active status Hypoxic Trimix Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

### **VIII. Certification**

**In addition to the programs taught by active status Technical Extended Range Instructors, active status Hypoxic Trimix Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Hypoxic Trimix

# XR Overhead Professional Programs

# Extended Range Wreck Diving Instructor

---

## I. Intent

The SSI Extended Range Wreck Diving Instructor Trainer Course certifies the candidate as an Extended Range Wreck Diving Instructor.

## II. Minimum Instructor Rating

An active status Extended Range Wreck Diving Instructor Trainer may conduct the Extended Range Wreck Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 75 wreck dives

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Technical Wreck Diving

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

### **Option 1**

- Co-teach at least two (2) complete Extended Range Wreck Diving programs with an active status Extended Range Wreck Diving Instructor Trainer.

### **Option 2**

**Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

## VII. Certification

**Active status Extended Range Wreck Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Wreck Diving
- Advanced Wreck Diving
- Extended Range Wreck Diving

## VIII. Upgrade

**For Extended Range Instructors or higher with the Technical Wreck Diving certification:**

An active status Extended Range Instructor or higher who has a Technical Wreck Diving certification may be upgraded to Extended Range Wreck Diving Instructor.

The candidate must register for the applicable professional digital kit and submit a signed XR Professional Upgrade Completion Record with copies of relevant certifications to the SSI Service Center or to an XR International Training Director.

# XR Overhead Professional Programs

# Technical Wreck Diving

# Instructor

---

## I. Intent

The SSI Technical Wreck Diving Instructor Training Course certifies the candidate as a Technical Wreck Diving Instructor.

## II. Minimum Instructor Rating

An active status Technical Wreck Instructor Trainer may conduct the Technical Wreck Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have logged at least 50 technical wreck penetration dives.

**Have the following SSI certifications or an equivalent from a recognized training agency:**

- Technical Wreck Diving

**Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Extended Range Wreck Diving Instructor
- Technical Extended Range Instructor

**Have issued at least:**

- 10 Extended Range Wreck certifications

*Note / If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

**Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Sidemount Instructor
- CCR Extended Range Instructor
- SCR Extended Range Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

**Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.



- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) technical wreck penetration dives from the Technical Wreck Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 50 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least two (2) complete Technical Wreck Diving programs with an active status Technical Wreck Diving Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

## **VII. Certification**

**In addition to the programs taught by active status Extended Range Wreck Diving Instructors, Technical Wreck Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Technical Wreck Diving

# XR Overhead Professional Programs

# Extended Range Cavern Diving Instructor

---

## I. Intent

The SSI Extended Range Cavern Diving Instructor Course certifies the candidate as an Extended Range Cavern Diving Instructor.

## II. Minimum Instructor Rating

An active status Extended Range Cavern Diving Instructor Trainer may conduct the Extended Range Cavern Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### Have logged at least:

- 75 cave dives

### Have the following SSI certifications or an equivalent from a recognized training agency:

- Cave Diving

### Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

### Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

### Option 1

- Co-teach at least two (2) complete Extended Range Cavern Diving programs with an active status Extended Range Cavern Diving Instructor Trainer.

### Option 2

**Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

## VII. Certification

**Active status Extended Range Cavern Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Recreational Cavern/Cenote Diving
- Extended Range Cavern Diving

## VIII. Upgrade

**For Extended Range Instructors or higher with the Full Cave Diving certification:**

An active status Extended Range Instructor or higher who has a Full Cave Diving certification may be upgraded to Extended Range Cavern Diving Instructor.

The candidate must register for the applicable professional digital kit and submit a signed XR Professional Upgrade Completion Record with copies of relevant certifications to the SSI Service Center or to an XR International Training Director.

# XR Overhead Professional Programs

# Cave Diving Instructor

---

## I. Intent

The SSI Cave Diving Instructor Training Course certifies the candidate as a Cave Diving Instructor.

## II. Minimum Instructor Rating

An active status Cave Diving Instructor Trainer may conduct the Cave Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 100 cave dives

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Full Cave Diving

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Extended Range Cavern Diving Instructor

### **Have issued at least:**

- 5 Extended Range Cavern Diving certifications

*Note | If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

### **Attend a four-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.

- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least two (2) complete Cave Diving programs with an active status Cave Diving Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

## **VII. Certification**

**In addition to the programs taught by active status Extended Range Cavern Diving Instructors, active status Cave Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Cave Diving

# XR Overhead Professional Programs

## Full Cave Diving Instructor

---

### I. Intent

The SSI Full Cave Diving Instructor Training Course certifies the candidate as a Full Cave Diving Instructor.

### II. Minimum Instructor Rating

An active status Full Cave Diving Instructor Trainer may conduct the Full Cave Diving Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

#### **Have logged at least:**

- 150 cave dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Full Cave Diving

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Cave Diving Instructor

#### **Have issued at least:**

- 5 Cave Diving certifications

*Note | If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

#### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Sidemount Instructor
- CCR Extended Range Instructor
- SCR Extended Range Instructor

### IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### V. Duration

- Recommended hours for completion: 30.

### VI. Requirements For Completion

#### **Attend a four-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.

- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least four (4) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 50 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least one (1) complete Full Cave Diving programs with an active status Full Cave Diving Instructor Trainer.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

*Note / The seminar or co-teaching options must be completed with two (2) different active status Full Cave Diving Instructor Trainers.*

## **VII. Certification**

**In addition to the programs taught by active status Cave Diving Instructors, active status Full Cave Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Full Cave Diving

# XR Overhead Professional Programs

# Extended Range Mine Diving Instructor

---

## I. Intent

The SSI Extended Range Mine Diving Instructor Course certifies the candidate as an Extended Range Mine Diving Instructor.

## II. Minimum Instructor Rating

An active status Extended Range Mine Diving Instructor Trainer may conduct the Extended Range Mine Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 75 mine dives

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Mine Diving

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

### **Option 1**

- Co-teach at least two (2) complete Extended Range Mine Diving programs with an active status Extended Range Mine Diving Instructor Trainer.

### **Option 2**

**Attend a three-day seminar and successfully complete:**



- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

## VII. Certification

**Active status Extended Range Mine Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Extended Range Mine Diving

## VIII. Upgrade

**For Extended Range Instructors or higher with the Full Mine Diving certification:**

An active status Extended Range Instructor or higher who has a Full Mine Diving certification may be upgraded to Extended Range Mine Diving Instructor.

The candidate must register for the applicable professional digital kit and submit a signed XR Professional Upgrade Completion Record with copies of relevant certifications to the SSI Service Center or to an XR International Training Director.

# XR Overhead Professional Programs

# Mine Diving Instructor

---

## I. Intent

The SSI Mine Diving Instructor Training Course certifies the candidate as a Mine Diving Instructor.

## II. Minimum Instructor Rating

An active status Mine Diving Instructor Trainer may conduct the Mine Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

### **Have logged at least:**

- 100 mine dives

### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Full Mine Diving

### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Extended Range Mine Diving Instructor

### **Have issued at least:**

- 5 Extended Range Mine Diving certifications

*Note | If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

## IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## V. Duration

- Recommended hours for completion: 20.

## VI. Requirements For Completion

### **Attend a four-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.

- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least two (2) complete Mine Diving programs with an active status Mine Diving Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

## **VII. Certification**

**In addition to the programs taught by active status Extended Range Mine Diving Instructors, active status Mine Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Mine Diving

# XR Overhead Professional Programs

## Full Mine Diving Instructor

---

### I. Intent

The SSI Full Mine Diving Instructor Training Course certifies the candidate as a Full Mine Diving Instructor.

### II. Minimum Instructor Rating

An active status Full Mine Diving Instructor Trainer may conduct the Full Mine Diving Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.

#### **Have logged at least:**

- 150 mine dives

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- Full Mine Diving

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Mine Diving Instructor

#### **Have issued at least:**

- 5 Mine Diving certifications

*Note | If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.*

#### **Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):**

- Extended Range Instructor
- Extended Range Sidemount Instructor
- CCR Extended Range Instructor
- SCR Extended Range Instructor

### IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### V. Duration

- Recommended hours for completion: 30.

### VI. Requirements For Completion

#### **Attend a four-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.

- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least four (4) dives from the program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 50 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

### **Co-Teaching Waiver**

**Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:**

- Co-teach at least one (1) complete Full Mine Diving programs with an active status Full Mine Diving Instructor Trainer.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

*Note / The seminar or co-teaching options must be completed with two (2) different active status Full Mine Diving Instructor Trainers.*

## **VII. Certification**

**In addition to the programs taught by active status Mine Diving Instructors, active status Full Mine Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:**

- Full Mine Diving

# Overhead Upgrades

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## I. Environmental Upgrades

A professional certification in one overhead environment may upgrade to another overhead environment.

*Example | A Full Cave Diving Instructor may upgrade to Full Mine Diving Instructor.*

**Candidates applying for the environmental upgrade must:**

- Meet all candidate prerequisites for the applicable program.
- Register for the program's professional digital kit.
- Complete and sign the XR Professional Upgrade Completion Form, and submit the form to a qualified Instructor Trainer.

Act as an instructor under the direct supervision of a qualified Instructor Trainer to:

- Plan and conduct at least two (2) environment-specific overhead training dives as outlined in the applicable program's instructor manual.

*Note | All training dives must be completed in the new environment and new equipment configuration if an equipment upgrade is combined with an environmental upgrade.*

## II. Equipment Configuration Upgrades

An SSI Professional with an overhead environment professional certification may earn additional equipment configuration teaching rights.

### a. Prerequisites

- Meet all instructor-level prerequisites for the additional equipment configuration as outlined in the applicable professional-level standard.
- Register for the program's professional upgrade digital kit.

### b. Completion Requirements

#### **Open circuit to open circuit**

- Complete and sign the XR Professional Upgrade Completion form, and submit the form to the responsible SSI Service Center with any required documentation.

#### **Rebreather to open circuit | all professional levels**

- Complete and sign the XR Professional Upgrade Completion Form, and submit the form to a qualified Instructor Trainer.

Act as an instructor under the direct supervision of a qualified Instructor Trainer to:

- Plan and conduct at least two (2) equipment-specific overhead training dives as outlined in the applicable program's instructor manual.

#### **Open circuit to rebreather**

- Complete and sign the XR Professional Upgrade Completion Form, and submit the form to a qualified Instructor Trainer.

Act as an instructor under the direct supervision of a qualified Instructor Trainer to:

- Plan and conduct at least two (2) equipment-specific overhead training dives as outlined in the applicable program's instructor manual.

**Candidates applying for the following programs must complete at least four (4) equipment-specific overhead training dives as outlined in the applicable program's instructor manual:**

- Technical Wreck Diving Instructor
- Cave Diving Instructor
- Full Cave Diving Instructor

- Mine Diving Instructor
- Full Mine Diving Instructor

# SCR Professional Programs

# SCR Diving Instructor

---

## I. Intent

This program certifies the candidate as an SCR Diving Instructor.

## II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

### Have logged at least:

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 25 meters
- 50 hours of runtime on the specific unit

### Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving

### Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

## IV. Duration

- Recommended hours for completion: 40.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 30 meters.

## VII. Requirements For Completion

### Option 1

Co-teach at least two (2) separate SCR Diving programs under the direct supervision of an active status SCR Extended Range Instructor Trainer.

### Option 2

#### Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.



- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the SCR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Diving program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

## VIII. Certification

**Active status SCR Diving Instructors may teach, supervise and issue certifications for the following program:**

- Try SCR
- SCR Diving

## SCR Professional Programs

# SCR Diving Instructor Upgrade

---

### I. Intent

This program certifies a candidate with a pre-existing CCR Diving Instructor certification as an SCR Diving Instructor.

### II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Diving Instructor Upgrade.

### III. Candidate Prerequisites

#### **Have logged at least:**

- 15 total SCR dives on the specific unit
- 10 SCR dives deeper than 25 meters
- 15 hours of runtime on the specific unit

#### **Have the following SSI certifications (no equivalency permitted):**

- SCR Diving (Horizon)

#### **Have the following active status SSI certifications (no equivalency permitted):**

- CCR Diving Instructor

### IV. Requirements For Completion

#### **Attend a two-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Diving program.

## SCR Professional Programs

# SCR Extended Range Instructor

---

### I. Intent

This program certifies the candidate as an SCR Extended Range Instructor.

### II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Extended Range Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### **Have logged at least:**

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 30 meters
- 50 hours of runtime on the specific unit
- At least ten (10) SCR dives requiring staged decompression

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- SCR Extended Range

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

### IV. Duration

- Recommended hours for completion: 40.

### V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

### VII. Requirements For Completion

#### **Option 1**

Co-teach at least two (2) separate SCR Extended Range programs under the direct supervision of an active status SCR Extended Range Instructor Trainer.

#### **Option 2**

#### **Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.

- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the SCR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Extended Range program. One dive must be an SCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

## VIII. Certification

**In addition to the programs taught by active status SCR Diving Instructors, active status SCR Extended Range Instructors may teach, supervise and issue certifications for the following programs:**

- SCR Extended Range

## SCR Professional Programs

# SCR Extended Range Instructor Upgrade

---

### I. Intent

This program certifies a candidate with a pre-existing SCR Diving Instructor or CCR Extended Range Instructor certification as an SCR Extended Range Instructor.

### II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Extended Range Instructor Upgrade.

### III. Candidate Prerequisites

**In addition to the prerequisites for the SCR Extended Range Instructor Training Course, candidates must also:**

#### SCR Diving Instructor to SCR Extended Range Instructor

##### Have logged at least:

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 25 meters
- 50 hours of runtime on the specific unit
- At least ten (10) SCR dives requiring staged decompression

##### Have the following SSI certifications (no equivalency permitted):

- SCR Extended Range (Horizon)

##### Have the following active status SSI certifications (no equivalency permitted):

- SCR Diving Instructor (Horizon)

#### CCR Extended Range Instructor to SCR Extended Range Instructor

##### Have logged at least:

- 15 total SCR dives on the specific unit
- 10 SCR dives deeper than 25 meters
- 15 hours of runtime on the specific unit

##### Have the following SSI certifications (no equivalency permitted):

- SCR Extended Range (Horizon)

##### Have the following active status SSI certifications (no equivalency permitted):

- CCR Extended Range Instructor

### IV. Requirements For Completion

#### Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.

- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Extended Range program. One dive must be an SCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.

# CCR Professional Programs

# CCR Diving Instructor

---

## I. Intent

This program certifies the candidate as a CCR Diving Instructor.

## II. Minimum Instructor Rating

An active status CCR Extended Range Instructor Trainer may conduct the CCR Diving Instructor Training Course.

## III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

### Have logged at least:

- 30 CCR dives deeper than 25 meters
- 100 hours of runtime on the specific unit

### Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

### Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

## IV. Duration

- Recommended hours for completion: 40.

## V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

## VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 30 meters.

## VII. Requirements For Completion

### Option 1

Co-teach at least two (2) separate CCR Diving programs under the direct supervision of an active status CCR Diving Instructor Trainer.

### Option 2

#### Attend a four-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.

- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Diving program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.

## VIII. Unit-Specific Requirements

a. rEvo

Instructors earning the instructor certification with a REVO CCR unit must use one of the following certification options:

### Option 1

- Co-teach at least one (1) CCR Diving program under the direct supervision of an active status CCR Diving Instructor Trainer or manufacturer-approved CCR Diving Instructor.
- Conduct one (1) additional CCR Diving program evaluated by an active status, unit-specific CCR Diving Instructor Trainer.

### Option 2

- Attend a five-day seminar conducted by an active status, manufacturer-approved CCR Diving Instructor or CCR Diving Instructor Trainer as outlined above.
- Conduct one (1) additional CCR Diving program evaluated by an active status, unit-specific CCR Diving Instructor Trainer.

### Notes

- The two CCR Diving programs should be supervised by two different CCR Diving Instructors or CCR Extended Range Instructor Trainers.
- One CCR Extended Range Instructor Trainer may conduct both programs with the prior approval of the manufacturer.

b. JJ CCR

Instructors earning the instructor certification with a JJ CCR unit must attend a one-day manufacturer training program conducted by a manufacturer-approved factory trainer.

## IX. Certification

**Active status CCR Diving Instructors may teach, supervise and issue certifications for the following program:**

- Try CCR
- CCR Diving

## X. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

*Example | An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.*



## CCR Professional Programs

# CCR Extended Range Instructor

---

### I. Intent

The SSI CCR Extended Range Instructor Training Course certifies the candidate as one of the following:

- CCR Extended Range Instructor
- CCR Extended Range Trimix Instructor

### II. Minimum Instructor Rating

An active status CCR Extended Range Instructor Trainer may conduct the CCR Extended Range Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### **Have logged at least:**

- 30 CCR dives deeper than 30 meters
- 100 hours of runtime on the specific unit

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Technical Extended Range

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

### IV. Duration

- Recommended hours for completion: 40.

### V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 45 meters.

### VII. Requirements For Completion

#### **Option 1**

Co-teach at least two (2) separate CCR Extended Range programs under the direct supervision of an active status CCR Extended Range Instructor Trainer.

#### **Option 2**

#### **Attend a four-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.

- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Extended Range program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- Certified Extended Range Instructors may carry an additional decompression cylinder with up to 100% oxygen.

## VIII. Unit-Specific Requirements

a. rEvo

Instructors earning the instructor certification with a REVO CCR unit must use one of the following certification options:

### Option 1

- Co-teach at least one (1) CCR Extended Range program under the direct supervision of an active status CCR Extended Range Instructor Trainer or manufacturer-approved CCR Extended Range Instructor.
- Conduct one (1) additional CCR Extended Range program evaluated by an active status, unit-specific CCR Extended Range Instructor Trainer.

### Option 2

- Attend a five-day seminar conducted by an active status, manufacturer-approved CCR Extended Range Instructor or CCR Extended Range Instructor Trainer as outlined above.
- Conduct one (1) additional CCR Extended Range program evaluated by an active status, unit-specific CCR Extended Range Instructor Trainer.

### Notes

- The two CCR Extended Range programs should be supervised by two different CCR Extended Range Instructors or CCR Extended Range Instructor Trainers.
- One CCR Extended Range Instructor Trainer may conduct both programs with the prior approval of the manufacturer.

b. JJ CCR

Instructors earning the instructor certification with a JJ CCR unit must attend a one-day manufacturer training program conducted by a manufacturer-approved factory trainer.

## IX. Certification

**In addition to the programs taught by active status CCR Diving Instructors, active status CCR Extended Range Instructors may teach, supervise and issue certifications for the following programs:**

- CCR Extended Range | with or without trimix as per certification

## X. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

*Example / An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.*

## CCR Professional Programs

# CCR Technical Extended Range Instructor

---

### I. Intent

This program certifies the candidate as a CCR Technical Extended Range Instructor.

### II. Minimum Instructor Rating

An active status CCR Technical Extended Range Instructor Trainer may conduct the CCR Technical Extended Range Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### **Have logged at least:**

- 50 CCR dives deeper than 50 meters
- 150 hours of runtime on the specific unit

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Hypoxic Trimix

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- CCR Extended Range Instructor

#### **Have issued at least:**

- 10 CCR Extended Range certifications

#### **OR**

- 5 CCR Diving certifications
- 5 CCR Extended Range certifications

### IV. Duration

- Recommended hours for completion: 40.

### V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 60 meters.

### VII. Requirements For Completion

#### **Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.

- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Technical Extended Range program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

## VIII. Certification

**In addition to the programs taught by active status CCR Extended Range Instructors, active status CCR Technical Extended Range Instructors may teach, supervise and issue certifications for the following programs:**

- CCR Technical Extended Range

## IX. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

*Example / An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.*

## CCR Professional Programs

# CCR Hypoxic Trimix Instructor

---

### I. Intent

This program certifies the candidate as a CCR Hypoxic Trimix Instructor.

### II. Minimum Instructor Rating

An active status CCR Hypoxic Trimix Instructor Trainer may conduct the CCR Hypoxic Trimix Instructor Training Course.

### III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### **Have logged at least:**

- 30 CCR dives deeper than 60 meters
- 250 hours of runtime on the specific unit

#### **Have the following SSI certifications or an equivalent from a recognized training agency:**

- CCR Hypoxic Trimix

#### **Have the following active status SSI certifications or an equivalent from a recognized training agency:**

- CCR Technical Extended Range Instructor

#### **Have issued at least:**

- 15 CCR Technical Extended Range certifications

#### **OR**

- 10 CCR Diving certifications
- 5 CCR Technical Extended Range certifications

### IV. Duration

- Recommended hours for completion: 40.

### V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

### VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 80 meters.

### VII. Requirements For Completion

#### **Attend a three-day seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.

- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Hypoxic Trimix program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

## VIII. Certification

**In addition to the programs taught by active status CCR Technical Extended Range Instructors, active status CCR Hypoxic Trimix Instructors may teach, supervise and issue certifications for the following programs:**

- CCR Hypoxic Trimix

## IX. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

*Example | An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.*

## CCR Professional Programs

# CCR Instructor Unit Upgrade

---

### I. Intent

The CCR Instructor Unit Upgrade provides candidates with the knowledge, skills, and experience necessary to teach with an additional closed-circuit rebreather (CCR) at their highest CCR instructor level.

### II. Minimum Instructor Rating

An active status, unit-specific Instructor Trainer may conduct the CCR Instructor Unit Upgrade for instructor levels that they are authorized to issue certifications for.

### III. CCR Extended Range Instructor | CCR Extended Range Trimix Instructor

#### a. Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### Have the following SSI certifications:

- CCR Technical Extended Range
- CCR Extended Range Instructor | CCR Extended Range Trimix Instructor

#### b. Requirements For Completion

- Complete the CCR Unit Crossover to the highest student level on the additional CCR unit.
- Complete the CCR Extended Range Instructor Training Course on the additional CCR unit.

### IV. CCR Technical Extended Range Instructor

#### a. Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### Have the following SSI certifications:

- CCR Hypoxic Trimix
- CCR Technical Extended Range Instructor

#### b. Requirements For Completion

- Complete the CCR Unit Crossover and CCR Extended Range Instructor Training Course on the additional CCR.
- Conduct two (2) CCR Extended Range | CCR Extended Range Trimix programs on the additional CCR unit.
- Submit the XR Professional Upgrade Completion Form to an XR International Training Director.

### V. CCR Hypoxic Trimix Instructor

#### a. Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Have a clean record and approval from the manufacturer and SSI.

#### Have the following SSI certifications:

- CCR Hypoxic Trimix Instructor



#### b. Requirements For Completion

- Complete the CCR Unit Crossover and CCR Extended Range Instructor Training Course on the additional CCR unit.
- Conduct two (2) CCR Extended Range | CCR Extended Range Trimix programs on the additional CCR unit.
- Submit the XR Professional Upgrade Completion Form to an XR International Training Director to earn the CCR Technical Extended Range Instructor rating for the additional CCR unit.
- Conduct two (2) CCR Technical Extended Range programs on the additional CCR unit.
- Submit the XR Professional Upgrade Completion Form to an XR International Training Director to earn the CCR Hypoxic Trimix Instructor rating for the additional CCR unit.

# XR Instructor Trainer Seminars

## General Requirements

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### I. Intent

The SSI XR Instructor Trainer Seminar provides candidates with the knowledge and training necessary to organize and conduct professional-level SSI XR programs.

### II. Minimum Instructor Rating

An active status XR International Training Director may conduct any XR Instructor Trainer Seminar.

### III. Candidate Prerequisites

- Minimum age: 21 years old.
- Have no QMS Cases that resulted in a compliance action in the previous twelve (12) months.
- Own and use a Total Diving System appropriate to the specific program, as outlined in the SSI Training Standards.
- Be approved by an active status SSI XR International Training Director.

### IV. Duration

- Recommended hours for completion: 70-80.

### V. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

### VI. Ratios

- The candidate-to-instructor ratio is 6:1.
- The ratio may increase to 12:2 with an XR International Training Director (requires written approval from SSI International).

*Note | An XR Instructor Trainer may assist with the Instructor Trainer Seminar as part of their own training without affecting ratios.*

### VII. Requirements For Completion

**Attend a nine-day XR Instructor Trainer Seminar and successfully complete:**

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- At least two (2) academic presentations on a topic applicable to the highest program and training level the candidate is applying for.
- Score within  $\pm 3$  points of the Instructor Trainer's score on a minimum of two (2) Academic Teaching Evaluations.
- Earn at least 42 points on an SSI Education System Evaluation.
- The applicable final exams.
- A dive planning session evaluation for orientation to the XR Dive Planning Sheets.
- An equipment configuration session evaluation for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI General Training Standards.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.

- A rescue skills workshop that includes the presentation and evaluation of all required rescue skills from the highest program the candidate is applying for. All skills must be done with demonstration quality.
- At least two (2) in-water teaching presentations on a topic applicable to the highest program and training level the candidate is applying for.
- Score within  $\pm 3$  points of the Instructor Trainer's score on a minimum of two (2) In-Water Teaching Evaluations.
- While acting as an Instructor Trainer, plan and conduct at least one (1) full decompression dive in the applicable equipment configuration.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the instructor candidate.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

*Note | If the candidate is already an active status SSI recreational Instructor Trainer, the seminar may be conducted in five (5) days.*

## VIII. Certification

- Upon completion of the Instructor Trainer Seminar, send all required documentation to the responsible SSI Service Center.
- The candidate will be certified as an XR Instructor Trainer at the applicable level.

## IX. Active Status Requirements

- Teach professional-level programs exclusively for SSI (except where SSI does not have a specific program - must be approved by an XR International Training Director).
- Exemplify the SSI philosophy and display competence in applying the SSI Business System.
- Attend all applicable mandatory updates scheduled by SSI International.
- Conduct at least two (2) XR Instructor Training Courses every 24 months. Or, if SSI International offers a mandatory update, complete at least one (1) within 24 months.
- If this time period is exceeded, they may extend their active status XR Instructor Trainer certification by attending a remedial training session coordinated by SSI International and an XR International Training Director. They will remain in retired status until the remedial training session is completed.
- XR Instructor Trainers will be held responsible for the quality of education. If a significant number of their candidates fail the XR ITC because of non-performance, the XR Instructor Trainer may be required to re-attend another XR Instructor Trainer Seminar or revert to their highest instructor level.

## X. Upgrade

- An active status recreational scuba Instructor Trainer may automatically upgrade to an SCR Extended Range Instructor Trainer after verifying that they have completed all prerequisites for the level.
- Active status XR Instructor Trainers who have completed an XR Instructor Trainer Seminar may automatically upgrade to the next level after verifying that they have completed all prerequisites for the next level.
- The candidate must complete and submit the XR Professional Upgrade Completion Form to an XR International Training Director for approval. Additional verification of knowledge and skills may be requested.

# Program-Specific Requirements

# Instructor Trainer Seminars |

# Open-Circuit

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## I. Candidate Prerequisites

### a. Extended Range Sidemount Instructor Trainer

#### **Have issued at least:**

- 10 Extended Range Sidemount certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Sidemount Instructor

### b. Extended Range Nitrox Diving Instructor Trainer

#### **Have issued at least:**

- 10 Extended Range Nitrox Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Nitrox Diving Instructor

### c. Extended Range Trimix Instructor Trainer

#### **Have issued at least:**

- 25 total XR-level certifications
- 10 Extended Range certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Instructor

### d. Technical Extended Range Trimix Instructor Trainer

#### **Have issued at least:**

- 35 total XR-level certifications
- 10 Technical Extended Range certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Technical Extended Range Instructor

### e. Hypoxic Trimix Instructor Trainer

#### **Have issued at least:**

- 45 total XR-level certifications
- 10 Technical Extended Range certifications
- 10 Hypoxic Trimix certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Hypoxic Trimix Instructor

## II. Active Status Qualifications

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for candidates at or below the applicable certification level.

- a. Extended Range Sidemount Instructor Trainer
  - Extended Range Sidemount Specialty Instructor
- b. Extended Range Nitrox Diving Instructor Trainer
  - Extended Range Nitrox Diving Instructor
  - XR Professional Crossover
- c. Extended Range Instructor Trainer
  - Extended Range Instructor
  - XR Professional Crossover
- d. Technical Extended Range Instructor Trainer
  - Technical Extended Range Instructor
  - XR Professional Crossover
- e. Hypoxic Trimix Instructor Trainer
  - Hypoxic Trimix Instructor
  - XR Professional Crossover

# Program-Specific Requirements

# Instructor Trainer Seminars |

# Overhead Environment

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## I. Candidate Prerequisites

### a. Extended Range Wreck Diving Instructor

#### **Have issued at least:**

- 10 Extended Range Wreck Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Wreck Diving Instructor

### b. Technical Wreck Diving Instructor Trainer

#### **Have issued at least:**

- 35 total XR-level certifications
- 15 Technical Wreck Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Technical Wreck Diving Instructor
- Technical Extended Range Instructor Trainer

### c. Extended Range Cavern Diving Instructor Trainer

#### **Have issued at least:**

- 10 Extended Range Cavern Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Cavern Diving Instructor

### d. Full Cave Diving Instructor Trainer

#### **Have issued at least:**

- 45 total XR-level certifications
- 25 Full Cave Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Full Cave Diving Instructor
- Technical Extended Range Instructor Trainer

### e. Extended Range Mine Diving Instructor Trainer

#### **Have issued at least:**

- 10 Extended Range Mine Diving certifications

#### **Have the following active status SSI certifications (no equivalency permitted):**

- Extended Range Mine Diving Instructor

### f. Full Mine Diving Instructor Trainer

#### **Have issued at least:**

- 45 total XR-level certifications

- 25 Full Mine Diving certifications

**Have the following active status SSI certifications (no equivalency permitted):**

- Full Mine Diving Instructor
- Technical Extended Range Instructor Trainer

## II. Active Status Qualifications

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for candidates at or below the applicable certification level.

### a. Extended Range Wreck Diving Instructor Trainer

- Extended Range Wreck Diving Instructor

### b. Technical Wreck Diving Instructor Trainer

- Technical Extended Range Instructor
- Extended Range Wreck Diving Instructor
- Technical Wreck Diving Instructor

### c. Extended Range Cavern Diving Instructor Trainer

- Extended Range Cavern Diving Instructor

### d. Full Cave Diving Instructor Trainer

- Technical Extended Range Instructor
- Extended Range Cavern Diving Instructor
- Cave Diving Instructor
- Full Cave Diving Instructor

### e. Extended Range Mine Diving Instructor Trainer

- Extended Range Mine Diving Instructor

### f. Full Mine Diving Instructor Trainer

- Technical Extended Range Instructor
- Extended Range Mine Diving Instructor
- Mine Diving Instructor
- Full Mine Diving Instructor

# Program-Specific Requirements

# Instructor Trainer Seminars |

# SCR and CCR

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## I. Candidate Prerequisites

### a. SCR Extended Range Instructor Trainer

#### Have issued at least:

- 15 total SCR certifications on the applicable unit
- 10 SCR Extended Range certifications

#### Have the following active status SSI certifications (no equivalency permitted):

- SCR Extended Range Instructor

*Note / The SCR Extended Range Instructor certification must be on the applicable unit.*

### b. CCR Diving Instructor Trainer

#### Have issued at least:

- 25 total CCR certifications on the applicable unit

#### Have the following active status SSI certifications (no equivalency permitted):

- CCR Diving Instructor
- Extended Range Instructor Trainer

*Note / The CCR Diving Instructor certification must be on the applicable unit.*

### c. CCR Extended Range Instructor Trainer

#### Have issued at least:

- 25 total CCR certifications
- 10 CCR Extended Range certifications on the applicable unit

#### Have the following active status SSI certifications (no equivalency permitted):

- CCR Extended Range Instructor
- Extended Range Instructor Trainer

*Note / The CCR Extended Range Instructor certification must be on the applicable unit.*

### d. CCR Technical Extended Range Instructor Trainer

#### Have issued at least:

- 35 total CCR certifications on the applicable unit
- 10 CCR Technical Extended Range certifications on the applicable unit

#### Have the following active status SSI certifications (no equivalency permitted):

- CCR Technical Extended Range Instructor
- Extended Range Instructor Trainer

*Note / The CCR Technical Extended Range Instructor certification must be on the applicable unit.*

### e. CCR Hypoxic Trimix Instructor Trainer

#### Have issued at least:



- 45 total CCR student certifications on the applicable unit
- 10 CCR Technical Extended Range certifications on the applicable unit
- 10 CCR Hypoxic Trimix certifications on the applicable unit

**Have the following active status SSI certifications (no equivalency permitted):**

- CCR Hypoxic Trimix Instructor
- Extended Range Instructor Trainer

*Note / The CCR Hypoxic Trimix Instructor certification must be on the applicable unit.*

## **II. Active Status Qualifications**

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for candidates at or below the applicable certification level.

a. SCR Extended Range Instructor Trainer

- SCR Extended Range Instructor

b. CCR Diving Instructor Trainer

- CCR Diving Instructor

c. CCR Extended Range Instructor Trainer

- CCR Extended Range Instructor
- CCR Extended Range Trimix Instructor
- CCR Dive Professional Crossover

d. CCR Technical Extended Range Instructor Trainer

- CCR Technical Extended Range Instructor
- CCR Dive Professional Crossover

e. CCR Hypoxic Trimix Instructor Trainer

- CCR Hypoxic Trimix Instructor
- CCR Dive Professional Crossover

## Recognition Ratings

# Professional Recognition Ratings

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### I. Intent

SSI recognizes its professionals when they meet certain levels of training and experience.

- Century Instructor
- Bronze Instructor
- Silver 300 Instructor
- Gold 500 Instructor
- Platinum 1000 Instructor
- Platinum Pro 5000 Instructor

### II. Requirements For Completion

- For Century Instructor – Provide proof of 100 Experience Points as outlined in MySSI.
- For Bronze Instructor - Provide proof of 200 Experience Points as outlined in MySSI.
- For Silver 300 Instructor – Provide proof of 300 Experience Points as outlined in MySSI.
- For Gold 500 Instructor – Provide proof of 500 Experience Points as outlined in MySSI.
- For Platinum 1000 Instructor – Provide proof of 1000 Experience Points as outlined in MySSI.
- For Platinum Pro 5000 Instructor – Provide proof for 5000 Experience Points as outlined in MySSI.

*Note / No additional training beyond Assistant Instructor is needed to achieve the Platinum Pro 5000 rating.*

### III. Issuing a Recognition Card

- Once all requirements are complete and the candidate's profile is updated in MySSI, the digital recognition card is automatically issued at no charge.

# Appendix

## Equivalency Chart

### I. Student Programs

#### a. Open-Circuit Programs

##### Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Foundations	Intro to Tech	Essentials		Fundamentals		
Extended Range Nitrox Diving	Advanced Nitrox Diver	Advanced Nitrox Diver	TEC 40	Rec 3	Advanced Nitrox Diver *	Technical Decompression Diver
Extended Range	Decompression Procedure		TEC 45			
Extended Range Trimix	Helitrox	Advanced Recreational Trimix		Tech 1	Advanced Nitrox Diver **	Helitrox Diver
Technical Extended Range	Extended Range	Technical Diver	TEC 50			
Technical Extended Range Trimix	Trimix	Normoxic Trimix	Tec Trimix 65	Tech 60	Normoxic Trimix Diver	Trimix Diver
Hypoxic Trimix	Advanced Trimix	Trimix Diver	Tec Trimix	Tech 2	Advanced Trimix Diver	Extreme Exposure Diver

#### b. Overhead Environment Programs

##### Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Wreck Diving		Limited Wreck			Wreck Diver Level 2	Wreck Penetration Diver
Technical Wreck Diving	Advanced Wreck	Advanced Wreck Diver				Technical Wreck Penetration Diver
Extended Range Cavern Diving	Cavern	Cavern	Cavern Diver		Cave Diver Level 1	Cavern Diver
Cave Diving	Intro to Cave	Introductory Cave Diver		Cave Diver 1	Cave Diver Level 2	Cave Diver Level 1
Full Cave Diving	Full Cave	Cave Diver		Cave Diver 2	Cave Diver Level 3	Cave Diver Level 2
Extended Range Mine Diving	Mine Diver Level 1	Limited Mine				
Mine Diving		Mine Diver				Mine Dive Level 1
Full Mine Diving	Mine Diver Level 2	Technical Mine Diver				Mine Dive Level 2

c. Rebreather Programs

**Recognized Training Agencies and Federations**

<b>SSI XR CCR</b>	<b>TDI</b>	<b>IANTD</b>	<b>PADI</b>	<b>GUE</b>	<b>CMAS</b>	<b>NAUI</b>
CCR Diving	CCR Air Diluent Diver	Advanced Nitrox CCR	TEC 40 CCR		CCR Air Diluent Diver	CCR Diver
CCR Extended Range	CCR Air Diluent Decompression Procedure Diver					
CCR Extended Range (Trimix)		Advanced Recreational Trimix CCR		CCR 1		
CCR Technical Extended Range	CCR Mixed Gas Diluent Diver	Normoxic CCR	TEC 60 CCR	CCR 2	CCR Normoxic Trimix Diluent	CCR Mixed Gas Diver
CCR Hypoxic Trimix	CCR Advanced Mixed Gas Diluent Diver	Trimix CCR	TEC 100 CCR			Extreme Exposure CCR Mixed Gas Diver

# Appendix

# Equivalency Chart

## I. Professional Programs

### a. Open-Circuit Programs

#### Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Foundations Instructor	Intro to Tech Instructor			Fundamentals Instructor		
Extended Range Nitrox Diving Instructor	Advanced Nitrox Instructor	Advanced Nitrox Instructor	Tec Instructor	Rec 3 Instructor	Advanced Nitrox Instructor	Technical Decompression Instructor
Extended Range Instructor	Decompression Procedure Instructor		Tec Instructor			
Extended Range Trimix Instructor		Advanced Recreational Trimix Instructor		Tec 1 Instructor	Recreational Trimix Instructor	Helitrox Instructor
Technical Extended Range Instructor	Extended Range Instructor	Technical Instructor	Tec Deep Instructor			
Technical Extended Range Trimix Instructor	Trimix Instructor	Normoxic Trimix Instructor		Tech 60 Instructor	Normoxic Trimix* Instructor	Trimix Instructor
Hypoxic Trimix Instructor	Advanced Trimix Instructor	Trimix Instructor	Tec Trimix Instructor	Tech 2 Instructor	Advanced Trimix Instructor	Advanced Trimix Instructor

### b. Overhead Environment Programs

#### Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Wreck Diving Instructor	Advanced Wreck Instructor	Advanced Wreck Instructor				Wreck Penetration Instructor
Technical Wreck Diving Instructor						Advanced Wreck Penetration Instructor
Extended Range Cavern Diving Instructor	Cavern Instructor	Cavern Instructor	Cavern Instructor		Cave I Instructor	Cavern Instructor
Cave Diving Instructor	Intro to Cave Instructor	Intro to Cave Instructor		Cave 1 Instructor	Cave II Instructor	Cave 1 Instructor
Full Cave Diving Instructor	Full Cave Instructor	Technical Cave Instructor		Cave 2 Instructor	Cave III Instructor	Cave 2 Instructor
Extended Range Mine Diving Instructor	Mine Diver Level 1 Instructor	Limited Mine Instructor				
Mine Diving Instructor		Mine Diver Instructor				Mine Dive Level 1 Instructor
Full Mine Diving Instructor	Mine Diver Level 2 Instructor	Technical Mine Diver Instructor				Mine Dive Level 2 Instructor

c. Rebreather Programs

**Recognized Training Agencies and Federations**

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
CCR Diving Instructor	CCR Air Diluent Instructor	Advanced Nitrox CCR Instructor	TEC 40 CCR Instructor		CCR Air Diluent Instructor	CCR Instructor
CCR Extended Range Instructor	CCR Air Diluent Deco Instructor					
CCR Extended Range Trimix Instructor		Advanced Recreational Trimix CCR Instructor		CCR 1 Instructor		
CCR Technical Extended Range Instructor	CCR Mixed Gas Instructor	Normoxic CCR Instructor	TEC 60 CCR Instructor	CCR 2 Instructor	CCR Normoxic Trimix Diluent Instructor	CCR Mixed Gas Instructor
CCR Hypoxic Trimix Instructor	CCR Advanced Mixed Gas Instructor	Trimix CCR Instructor	Tec 100 CCR Instructor			Extreme Exposure CCR Mixed Gas Instructor

## XR Change Log

# Changes Effective November 22, 2023

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### I. General Training Standards

#### a. Program Definitions

- Entry-Level Programs has been removed.
- Recognition Programs has been added.

#### b. Privacy Forms and Training Records

- Updated required paperwork for professional program candidates.

#### c. Equipment Definitions

- Added clarification text on gas management rules.

#### d. Program Duration and Time Limits

- Information about the number of classes, hours, and sessions has moved from each Professional Standard to the General Training Standards.

#### e. Supervision

- Updated definition of direct supervision.
- Removed definition of indirect supervision.

#### f. Water Fitness Evaluations

- All Water Fitness Evaluations have moved to the General Training Standards.

### II. Experience Programs

- Added Try CCR recognition program standard.
- Separated Try SCR and Try CCR into their own "Experience Programs" subcategory to distinguish them from training programs.

### III. XR Programs

- XR Water Fitness Evaluation moved to the General Training Standards.
- Equivalency charts moved to the appendix.

### IV. XR Professional Programs

- XR Candidate Water Fitness Evaluation moved to the General Training Standards.
- Equivalency charts moved to the appendix.

#### a. XR Instructor Trainer Seminar

- Updated ratios.
- Updated upgrades.

### V. Appendix

- Equivalency charts added.
- Most recent change log added.

