



DSAT Tec 45 Diver

Course Instructor: Al Schumer, Northwest Diving Institute (www.nwscuba.org)

Email: als@nwscuba.org

Course Type: DSAT Tec 45 Diver

Course Tuition: \$295.00 **Required Text:** Tec Deep Diver Manual

Pre-requisites

1: Certified Tec 40 Diver 2: 50 logged dives (12 EAN over 60'; at least 6 over 100')

Session One

Session Type: Classroom **Session Location:** UWS Seattle

Session Date: Friday, October 22, 2010 **Session Time:** 4:00 PM

Specifics: We'll start a busy week of tech diving in the classroom reviewing paperwork and going over the three independent knowledge development modules. These modules must be completed prior to the start of the course and are distributed electronically in Portable Document Format upon registration, along with other delivery content. Do **not** complete the knowledge reviews in the *Tec Deep Diver Manual*.

We'll then take a break for dinner (pizza will be delivered) and chat about the dive plan for the weekend before heading to the pool deck for Practical Application One and Training Dive One.

Session Two

Session Type: Pool Deck **Session Location:** UWS Seattle

Session Date: Friday, October 22, 2010 **Session Time:** After Interval

Specifics: We'll meet on the pool deck with all our tec gear for Practical Application One. First, we'll review the proper rigging for both Tec 45 kits referring to your student handouts as necessary. Then, working in teams, you will assemble your gear in the appropriate configuration and present them for instructor review.

Then, working in teams you'll plan a hypothetical dive with a single gas switch made for conservatism with no fewer than three decompression stops adequately addressing all points of a *Good Divers Main Objective Is To Live*.

Finally, we'll then compare team calculations and discuss any variations.

We'll then suit up and enter the shallow area of the pool ready to begin Training Dive One.

Session Three

Session Type: Pool Session

Session Location: UWS Seattle

Session Date: Friday, October 22, 2010

Session Time: After Interval

Training Dive One is a no-decompression dive conducted in 8-30' of water using air or enriched air and comprises the following skills:

- Specifics:**
- Proper weighting
 - Don stage/deco cylinder on the surface
 - Bubble check and descent check
 - Out of gas – long hose receiver
 - Out of gas – long hose donor
 - Stage deco cylinder
 - Gas shutdown drill on bottom
 - Unresponsive diver tow
 - Retrieve and don deco cylinder
 - NO TOX gas switch
 - Simulated decompression stop
 - Bubble check, descent check and S-drill
 - Primary BCD failure, hover on backup
 - Regulator free-flow – valve shutdown
 - SAC swim at constant depth
 - Deploy lift bag/DSMB
 - Deploy second lift bag/DSMB
 - Simulated decompression-stop with NO TOX switch
 - Gas shutdown drill while hovering
 - SAC deco at constant depth
 - Remove and deco cylinder on the bottom
 - Don, remove and replace stage/deco cylinder on the bottom
 - Gas, time and depth awareness

We'll then break for the night and meet back the next morning for the exam and Practical Application Two before heading to the beach for Training Dive Two.

Session Four

Session Type: Classroom

Session Location: UWS Seattle

Session Date: Saturday, October 23, 2010

Session Time: 9:00 AM

Specifics: We'll answer any equipment or knowledge development questions from the night before and then take the Tec 45 Diver Exam. We'll grade the exams together, take a short coffee break, and continue on to Practical Application Two.

Session Five

Session Type: Classroom

Session Location: UWS Seattle

Session Date: Saturday, October 23, 2010

Session Time: After Interval

Specifics: In Practical Application Two, you will calculate your swimming and deco SAC rates. Then, working in teams you'll plan a hypothetical dive with a single gas switch made for conservatism with no fewer than three decompression stops adequately addressing all points of a *Good Divers Main Objective Is To Live*. Finally, we'll then compare team calculations and discuss any variations.

We'll then break and head for the beach to conduct Training Dive Two in open water.

Session Six

Session Type: Open Water

Session Location: Cove 3, Alki Beach

Session Date: Saturday, October 23, 2010

Session Time: After Interval

Training Dive Two is a no-decompression dive conducted in 40-60' of water using air or enriched air and comprises the following skills:

Specifics:

- Don and remove single deco cylinder at the surface
- Bubble check
- Decent check
- Stage deco cylinder
- Gas shutdown drill
- No-mask swim, long hose sharing
- Simulated emergencies
- Retrieve and don deco cylinder
- Deploy lift bag/DSMB and ascent
- NO TOX gas switch while simulating deco stop
- Air break
- Gas shutdown drill (neutrally buoyant)
- Remove stage/deco on the surface
- Time/depth and gas supply awareness
- Turn pressure/time limit awareness

We'll then break for the night and meet back the next morning for Practical Application Three, and open water Training Dives Three and Four.

Session Seven

Session Type: Classroom **Session Location:** UWS Seattle

Session Date: Sunday, October 24, 2010 **Session Time:** 9:00 AM

Specifics: Practical Application Three consists of planning two decompression dives taking into account depths, times and gases provided by the instructor, and accounting for all segments of *A Good Diver's Main Objective Is to Live*.

The first dive is a hypothetical dive with a single gas switch with no fewer than four decompression stops. The second dive is a hypothetical dive with a single gas switch using desktop software. Teams will then compare their results and discuss any variations.

Once all plans are approved, we'll head to the beach to conduct open water Training Dives Three and Four.

Session Eight

Session Type: Open Water **Session Location:** Lighthouse Park

Session Date: Sunday, October 24, 2010 **Session Time:** After Interval

Specifics: Training Dive Three is a no-stop decompression dive with no fewer than four simulated stops conducted in 60-100' of water using air, enriched air or oxygen and comprises the following skills:

- Don and remove single deco cylinder at the surface
- Bubble check
- Decent check
- Gas shutdown drill
- Accelerated SAC swim
- Simulated emergencies
- Deploy lift bag/DSMB and ascent
- NO TOX gas switch while simulating deco stops
- Simulated BCD failure, switch to backup
- NO TOX gas switch to oxygen at 20 feet
- Switch multi-gas computers
- Air breaks
- Gas shutdown drill while neutrally buoyant
- Remove deco cylinder at the surface
- Time/depth and gas supply awareness

We'll then take a break, off-gas, swap tanks and get ready for Training Dive Four.

Session Nine

Session Type: Open Water **Session Location:** Lighthouse Park

Session Date: Sunday, October 24, 2010 **Session Time:** After Interval

Specifics: Training Dive Four is a single gas decompression dive with a gas switch for conservatism conducted in 90-145' of water using air, enriched air or oxygen and comprises the following skills:

- Don and remove single deco cylinder at the surface
- Bubble check
- Decent check
- Gas shutdown drill
- Time/depth and gas supply awareness
- Ascent and decompression
- NO TOX gas switch on deco stops
- Simulated emergencies

We'll then break down our gear and grab a victory dinner at Salty's.

Final Session

Session Type: Graduation Dinner **Session Location:** Salty's

Session Date: Sunday, October 24, 2010 **Session Time:** After Interval

Specifics: Congratulations! You are now a certified DSAT Tec 45 Deep Diver. We'll do log books and certification paperwork over dinner and discuss your future technical dive plans.

Equipment Required for this Course

Item 1: See Detailed List **Item 2:** DAN Insurance

Equipment Recommended for this Course

Item 1: Personal Computer **Item 2:** Decompression Software (V-Planner recommended)

NOTES: This course is the second step towards the full Tec Deep Diver certification which comprises the Tec 40, Tec 45 and Tec 50 sub-courses. Each sub-course requires three knowledge development modules and four training dives. Manifolded doubles are required for Tec 45 and Tec 50. Please contact Al Schumer prior to making any significant purchases for help and advice.