

## **DIVE LEADING/BASIC SKILLS REVIEW**

### **Lesson Objectives**

This lesson reviews dive leading skills learned during Ocean Diver training, and further expands them to be appropriate to diving with another Sports Diver by including decompression and related breathing gas management aspects. In addition, because some basic diving skills are infrequently used even when diving regularly, this lesson not only reviews these skills, but expands the depth range at which they have been practiced

### **Achievement Targets**

At the end of this lesson students should:

- Be competent and confident in their ability to plan a dive within the limitations of their previous experience, with respect to
  - Conditions
  - Route and navigation
  - Dive profile and decompression implications
  - Breathing gas management
- Be competent and confident in their ability to lead a dive in accordance with that plan including adequate buddy monitoring
- Be competent and confident in their ability to clear their mask at a depth of 10m
- Be competent and confident in their ability to conduct an AS ascent from a depth of 10m as both a donor and recipient
- Have confirmed their correct weighting
- Be competent and confident in their ability to jettison their weightbelt/weights

## Lesson Contents

The basic skills review is conducted at a depth of approximately 10m. Where students have not practiced these skills for some time, particularly mask clearing, or where they are apprehensive, it may be prudent to precede this lesson with a preliminary review in shallower water.

Other than for the skills review, the students should take the lead in planning and conducting this dive under the supervision of their instructor. The scenario for the exploratory dive should be such that it reflects their level of experience and should be to a depth of approximately 15m. As the lesson includes a number of ascents in the skills review, the plan for the exploratory dive should include a 3 min. safety stop. This safety stop should be carried out using a shot line or rock face as a visual reference.

Where more than one student is involved, the exploratory dive must be of adequate duration that each student is able to lead the dive for a period of at least 10 mins..

### 1. Briefing

Explain the above objectives of the lesson putting them into the context of real life diving. Include all the aspects of a SEEDS brief but, as with the previous lesson, not all aspects of the brief need to be covered at this point. Indeed some aspects will not have been determined until the dive planning is complete. These aspects should be covered, along with other in-water aspects immediately prior to kitting up.

### 2. Exploratory dive planning

Dive planning should be conducted by the students under the supervision of the instructor. Where necessary the instructor should guide the students, in a constructive way, by asking appropriate questions or making suggestions, to ensure that all relevant aspects are considered and planned for.

- Conditions

Students should check with the Dive Manager that the water conditions likely to be encountered are within their previous experience and, for their intended dive, whether there are any factors that they should take into account when determining their intended route/profile

- Route and navigation

Students should plan a route that includes a depth of approximately 15m, but which also enables them to return to a suitable location for the final ascent to be vertical or near vertical, with a suitable visual reference. Navigation should be by compass, pilotage or a combination of both. Where more than one student is involved, the plan should also allow for each to take responsibility for dive leading for at least 10 mins.

- Dive profile and decompression planning

The dive should be planned as a no-stop dive but should take into account the ascents incurred in the earlier skills review on decompression considerations

Even though planned as a no-stop dive, the profile should include a 3 min. safety stop at 6m during the final ascent

- Breathing gas management planning

Appropriate breathing gas contents values should be determined for the turn-around point, for commencing the ascent and for a reserve. Where more than one student is involved, appropriate time/gas values should be determined for each to monitor during the time that they are leading the dive

Students should be **competent and confident** in their ability to plan a dive within the limitations of their previous experience

**Report dive plan to Dive Manager.**

### 3. Kit up and buddy check

Once kitted up, students should take the lead in conducting normal buddy check. Instructors should monitor their performance and ensure that they are included in the buddy check.

### 4. Entry

Entry as appropriate for local conditions.

### 5. Skills review at 10m

- Remove and replace mask

Flood mask completely and remove from head, identify nose pocket to check mask is correct way up, place strap out of way over front of mask, place mask on face, run finger round edge of hood to check clear of mask skirt, replace strap over head, hold top of mask against forehead, breathe out steadily through nose, tilt head backwards.

- AS ascent

This should start from the possible real life situation of both divers swimming along side by side, when one diver's (recipient's) breathing gas supply fails. Recipient makes physical contact with donor to attract attention, signals 'out-of-air', takes donor's AS from stowage and commences to breathe from it. Recipient and donor take secure hold of each other. Once ready, donor and recipient exchange 'up' signals, ascend at a normal rate to 6m, each controlling their buoyancy as required.

At 6m ascent is discontinued, recipient reverts to own demand valve and both descend back to 10m. Donor returns AS to stowage.

Perform exercise as both donor and recipient.

At the end of this exercise, students should be **competent and confident** in their abilities to clear their mask at a depth of 10m and conduct an AS ascent from a depth of 10m as both a donor and recipient.

## 6. Exploratory dive lead by student(s) - 15m

Students lead dive under supervision of instructor. While allowing the students to lead as much as possible, the instructor should, where necessary to ensure a successful implementation of the dive plan, interject reminders about buddy checking, correct navigation etc

- Buddy monitoring

Frequent exchange of 'OK' signals, periodic checks of gas consumption, relative positions enable all divers to see buddy, distance between buddies appropriate to both underwater visibility and the need to be able to render assistance if required

- Navigation

Direction managed in accordance with predetermined plan using pilotage, compass or a combination of both

- Depth/time and gas management

Management of dive time and profile observing agreed depth limit and 'turn round' and 'commence ascent' gas values (or, where more than one student is involved, to the values pre-planned for period that they lead)

- Ascent

Vertical or near vertical ascent to 6m, ascent monitored to arrive at 6m at planned time, buoyancy adjusted to maintain safety stop depth, stop time monitored, 'up' signals exchanged at end of 3 min. period and ascent to surface continued

Where more than one student is involved, all should monitor relevant times during the ascent and safety stop and confirm them to each other by appropriate signals

At the end of this exercise the students should be fully **competent and confident** in their abilities to plan and lead a dive, including a decompression stop, at a familiar site and under conditions within their previous experience.

## 7. Weight check with low cylinder contents - 2m depth

As experience is gained and confidence grows students breathing patterns become more relaxed and shallower. It is not unusual therefore for the amount of weight required to decrease. As they accumulate extra diving equipment this can also result in overweighting. Incorrect weighting is potentially dangerous, and consequently a confirmatory check should be carried out to ensure that students are equipped with the correct amount of weight.

- In approximately 2m of water, with all the gas vented from the dry suit and BC, and with low cylinder contents (reserve value determined during pre-dive planning) students should be very slightly negatively buoyant due to the weight of the reserve gas remaining. Should the student be positively buoyant, or require more than only a very small inflation of the dry suit to achieve a 'mid water hover', the students weight (not suit or BC inflation) should be adjusted appropriately

## 8. Weight/weightbelt jettison - standing depth

This exercise re-emphasises and gives refresher practice in this important self rescue skill.

Kneeling on the bottom, operate weightbelt buckle/weight releases, pull weightbelt/weights clear of body and release.

Because this exercise will result in a major increase in positive buoyancy, it must not be carried out in deeper than chest deep water.

At the end of this exercise the students should be **competent and confident** in their ability to jettison their

weightbelt/weights.

## 9. Exit

Exit as appropriate to local conditions.

**Report back to Dive Manager.**

## 10. Debrief

Review the students' performance, highlighting areas of good performance and offering constructive criticism where necessary. Reiterate the need for periodic practice of basic skills, particularly safety related skills, which are not used very often.

### Adapting this Lesson

For students wearing protective clothing other than dry suits, use of the BC will need to be substituted for the dry suit in the buoyancy aspects of items 5 and 7 of this lesson.

The remaining content of this lesson is not dependant upon equipment or previous training and hence the lesson content is applicable to all students.

### Skill Performance Standards

At the end of this lesson, the students should be sufficiently competent to be able to achieve the following skill performance standards, without supervision, in the water conditions experienced:

*Mask removal and clear* - with their mask removed, students continue to breathe steadily, check correct orientation of the mask before refitting it, expel water by breathing out steadily through the nose and tilting the head either back or forward as appropriate to the type of mask. Completely clearing all the water from the mask in one breath, while desirable, is not essential.

*AS ascent as donor* - donor provides clear access to AS for recipient, takes secure hold of and allows them to establish a stable breathing rhythm. After exchange of 'OK' signals ascends with recipient, venting own buoyancy device as necessary to control ascent. At 6m, ascent terminated and depth maintained while recipient reverts to own demand valve.

*AS ascent as recipient* - recipient makes physical contact with donor to attract attention, removes donor's AS from stowage, clears it of water and commences to breathe from it, takes secure hold of donor, when breathing rhythm stabilised exchanges 'OK' signal with donor and then signals 'up'. Recipient ascends with donor, venting own buoyancy device as necessary to control ascent. At 6m, ascent is terminated, depth maintained while recipient retrieves, clears and resumes breathing from own demand valve.

*Dive planning* - conditions checked within previous experience, safe dive profile and accurate times/gas states determined for turn around point, commencing the ascent, arriving at the decompression safety stop depth, leaving the safety stop depth for the surface and reserve breathing gas. Adequate navigational information (compass bearings, topographical features etc.) identified to define route to ascent point, distance and depth match dive profile, taking into account expected water conditions.

*Dive leading* - dive profile and route managed to observe maximum planned depth and time/gas state (whichever occurred first) at turn-around and commencing ascent points. Route managed to ensure arrival at ascent point at correct time. Frequent exchange of 'OK' signals, periodic checks of own and buddy's breathing gas consumption, buddies position and distance managed appropriate to both underwater visibility and the need to be able to render assistance if required. Ascent managed to arrive at decompression safety stop at correct time. Stop depth maintained to within 1m and correctly timed.

*Weights/weightbelt jettison* - student locates and operates weights/weightbelt release quickly and without fumbling, pulls weights/weightbelt clear of casualty before releasing, weights/weightbelt fall cleanly and without snagging on any equipment.