Reel to Reels

Steve Warren

Mavericks Diving London (http://www.mavericksdiving.co.uk/equipment/reeltoreels.html)

Whether you are a novice diver or an experienced specialty diver, you will probably have used a reel at some point during a dive. When used with care a reel can be an extremely useful and essential safety item. Used carelessly, it can be an annoyance and possibly a death trap.

Uses for Reels

Reels serve many roles; the open-water diver can use one as a guide back to the shot line, they can be used during searches, to tow a surface marker buoy (SMB), or to send up a delayed SMB. For the diver exploring a cave, wreck or diving under ice, they are quite literally a lifeline.

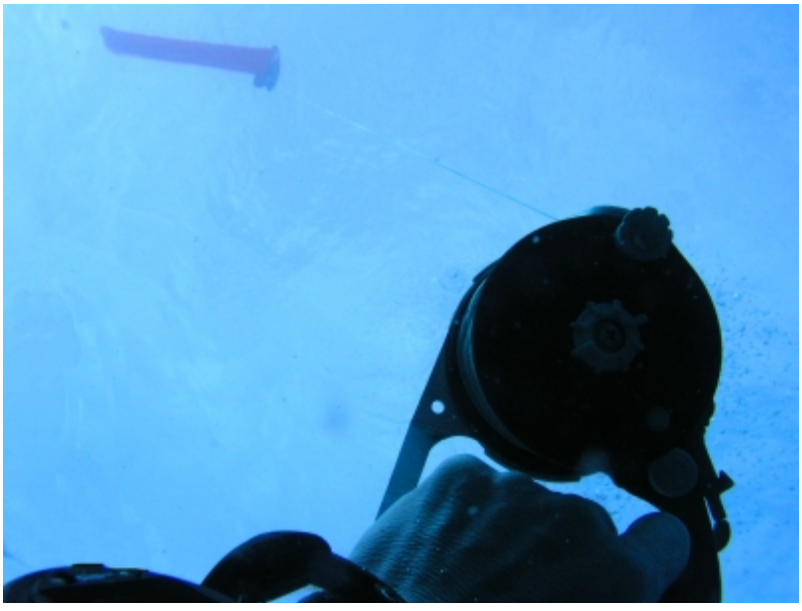
Types of Reels

Reels divide into SMB reels suited to open-water activities, and penetration reels developed specifically for line laying. However, penetration reels can also be used efficiently as SMB reels.

SMB Reels

SMB reels are generally bulkier than penetration reels, partly due to the pistol grip - an SMB reel is held like a gun and the trigger prevents line coming off the spool until needed. Some reels let you recall a line without pulling the trigger, others require you to pull the trigger to reel in or out. These reels are used for towing SMBs, deploying delayed SMBs, for line searches, and are also suitable as distance lines (a guide to the shot or anchor rope) in open water.

The gun-like grip provides a secure hand-hold and if the reel can be locked off and can support the weight of a decompressing diver, he or she may hang on or clip on to the reel and relax. They are, however, difficult to use with a dive light held in the same hand.



Preventing Entanglements

If you use the reel-line for searches or as a distance line, the line should be kept below you; if it is allowed to rise above you it could become caught around your tank or first stage. This area is out of your field of vision, so either your buddy will have to disentangle you or you will have to cut the line. Keeping the line below you means it can only be caught in your fins or a calf-mounted knife, making it easier to remove. Using a slightly head-down attitude will help keep your legs clear. Ensure that all gauges and lights are secured close to your body. Keeping the reel extended to one side of your body is also useful. If possible,

keep your buddy on your far side, away from the line. In poor visibility you may have to have your buddy on the line side, with his finger and thumb lightly encircling the line (this is called 'okaying the line').

Uncontrolled Ascent
Uncontrolled ascent can occur if the reel jams or the line snares a diver. Before inflating a delayed SMB, unclip the reel from yourself. That way you can release it immediately if there's a problem. Hold the reel and SMB away from your body, ensuring it doesn't get entangled in any equipment. If there's a current, use it to carry the SMB and line away from you and your buddy. Use an alternate air source to inflate the SMB with short bursts of air to control the rate of inflation and avoid regulator freeze-ups. Put a thumb over the mouthpiece and block it (filling from the exhaust valve) or turn the regulator upside-down to avoid uncontrolled free-flows. These can waste precious air at the end of a dive or hasten a freeze-up in cold water.

Once the SMB has hit the surface you can reel up to it. Some divers attach the reel with a tie-wrap or piece of light line that will come apart if a boat should hit the SMB. Monitor your gauges - if a reel unravels you can find yourself back in deep water unexpectedly.

An SMB reel can sometimes be stored in the pocket of a BCD for convenience. Otherwise, clip it to a D-ring. Try to place it so that it does not drag along the bottom and so that your releases are still accessible in a rescue situation.

Penetration Reels
Penetration reels are designed for use in overhead environments where they will serve as guidelines back to the exit. In cave diving, accidents are most often caused by failure to use such a guideline. Penetration reels are held in the same way one would hold a suitcase handle, thereby enabling the diver to hold a torch in the same hand. Most penetration reels have a simple screw-in lock that prevents the drum from turning and paying out line until it is released. Lines are laid out and recovered in order to minimise tension on the line, which could pull the line ahead in to an impassable crevice thereby making exiting the overhead environment difficult to impossible.

Overhead Environments
Divers exploring overhead environments often carry two reels. The primary reel is used to enter and exit the site or wreck. If the diver becomes separated from the line, or the line is broken, the secondary reel is tied off and the diver begins searching for either the exit or the main line. This ensures that the diver can return to the point at which he or she became lost, and avoid moving further away from relative safety. Searching divers may well be able to find the tied-off back-up line and locate the lost diver. Line handling includes further skills such as line marking protocols (use of direction aids), and tying-in procedures (how to tie on to permenant lines, for example).

Learning
Learn to use the reel in a controlled environment first, such as a pool. A reel is an important safety aid, but they can backfire badly if mishandled.

After Use
Reels should always be rewound carefully. It is important that they deploy quickly and cleanly, especially when sending up marker buoys. Reels can be open-faced or enclosed. When reeling in a open-faced reel, take care not to let the line build up on one side of the drum and spill over on to the axle where it can jam the reel. Enclosed reels are designed to prevent this. However, it takes only a couple of minutes to fully unwind a reel and carefully wind it back onto the spool to ensure it will work properly on your next dive.