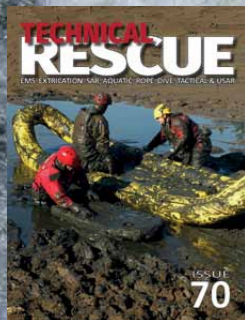


TECHNICAL RESCUE

EMS, EXTRICATION, SAR, AQUATIC, ROPE, DIVE, TACTICAL & USAR



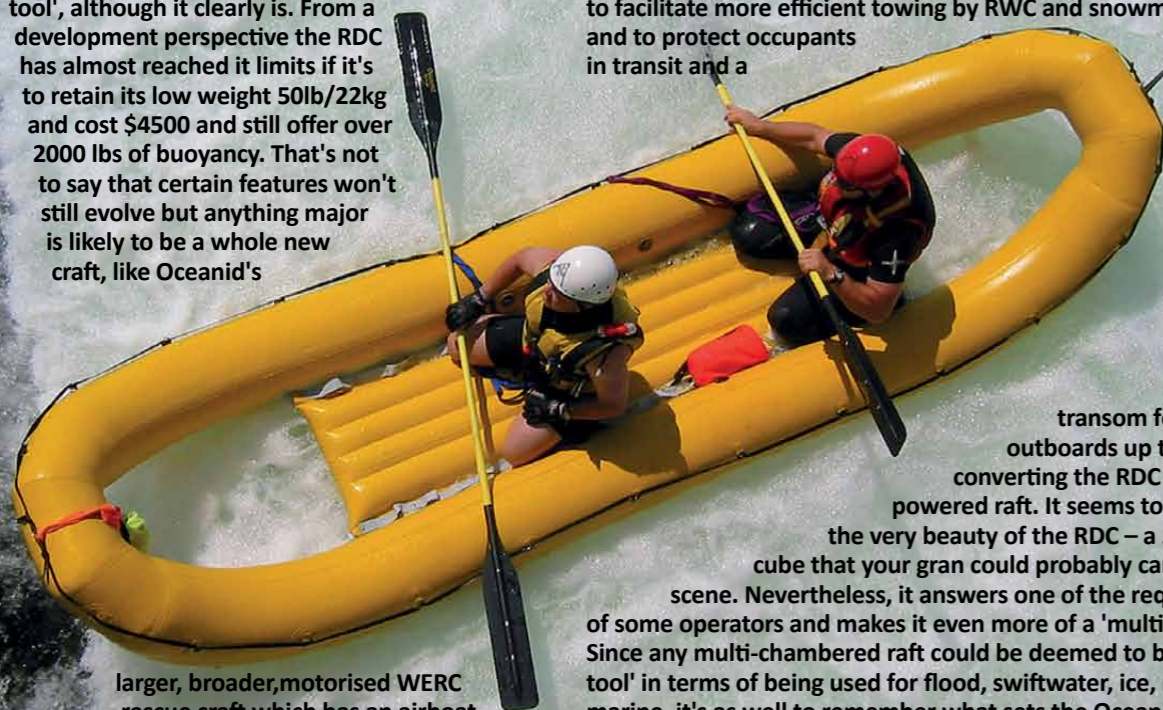
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Rapid Deployment Craft

The great man Jim Segerstrom, who's legend gets greater the more we miss him, said that the RDC (Rapid Deployment Craft) was "one of the most ideal multi-purpose swiftwater rescue craft to come along in 30 years". That was 12 years ago and at that time Jim was already surmising that the RDC would be great in other rescue arenas. Jim even used the RDC in mud and debris flow courses he was teaching so he was well ahead of our short article in this issue where we advocate that the RDC could be looked at again as a primary asset and not simply a 'multi-tool', although it clearly is. From a development perspective the RDC has almost reached its limits if it's to retain its low weight 50lb/22kg and cost \$4500 and still offer over 2000 lbs of buoyancy. That's not to say that certain features won't still evolve but anything major is likely to be a whole new craft, like Oceanid's



larger, broader, motorised WERC rescue craft which has an airboat-style 'cockpit'. It's three times the weight of the RDC but offers greater than four times the buoyancy. It's a different animal entirely despite the obvious rafting roots.

Talking of rafting, the man behind the legendary RDC is a bit of a legend himself. Many outside the US may not realise that Kris Walker is a renowned climber as well as rafter and was a co-developer of one of the most iconic items of climbing pro, the FRIEND a pivoting, jamming set of cams which, incidentally are subject to a current safety notice (see ACCESS&RESCUE

Emag 40 for details). The RDC has had its detractors over the years as all market leading equipment does. This has pretty much all centred on mis-use through inadequate training and experience. Training on the RDC is relatively simple – it's a 3-chambered raft with bits cut out front and back, how hard can it be? – but it's the medium it is required to work in that can trip up operators and swiftwater in particular. Mud, ice and late-stage flood are straight-forward and quite forgiving providing you follow quite obvious rules like Francis Ford-Coppola's, "Never get out the boat". But flash-floods and swiftwater features like the 'boil-line' in this photo require technique and accurate identification of the conditions. Get that right and the RDC is still, after all these years the one to beat. More recent upgrades include closure panels for the openings (Tow panels) to facilitate more efficient towing by RWC and snowmobiles and to protect occupants in transit and a

transom for outboards up to 6 HP converting the RDC into a powered raft. It seems to go against the very beauty of the RDC – a 50lb, 2ft cube that your gran could probably carry to the scene. Nevertheless, it answers one of the requirements of some operators and makes it even more of a 'multi-tool'. Since any multi-chambered raft could be deemed to be a 'multi-tool' in terms of being used for flood, swiftwater, ice, mud and marine, it's as well to remember what sets the Oceanid RDC apart – that double ended camber and those openings that allow rescuers to easily access and recover in-water victims or in the case of being a dive-platform, egressing and accessing the water more easily. We've kind of taken the RDC for granted in the last few years and maybe overlooked its capabilities amongst a whole raft, so to speak, of new inflatable equipment options but maybe it's time for another look. Check out mud rescue on page 68



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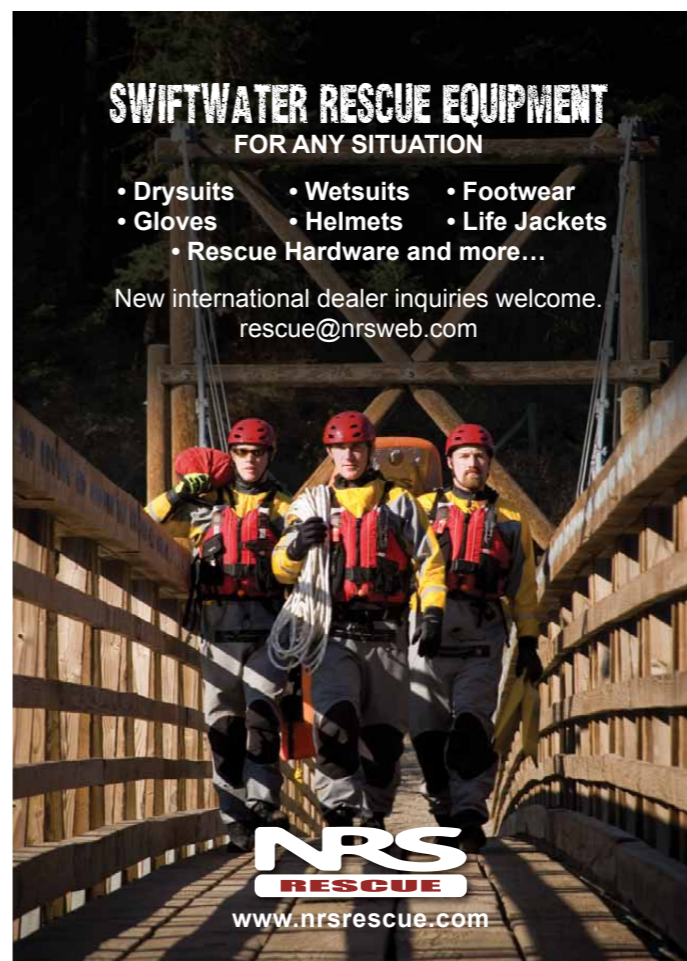
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MUD RESCUE

IMPROVISATION or GOLD STANDARD?

by Richard Hackwell

Rescue teams often have to press-gang other equipment into use for mud rescue especially where there is an isolated or sporadic risk which may not justify a full blown, full time, 'gold standard' capability. Sometimes the equipment co-opted from other rescue activities and therefore deemed to be 'improvised' is almost as good as the 'gold standard'.

Mud rescue is a physically arduous and demanding rescue activity. Rescuers have to endure the physical demands and discomfort of working in a thick, unyielding, glutinous medium that saps energy. This is further exacerbated because you are encumbered by full PPE to give optimum protection against not only the mud and water but contaminants and stones/shells/debris that would scratch bare flesh. It may be worn as a guard against the cold but this will equally do nothing to aid

cooling when you start to overheat. The pictures here give a good impression of just how difficult movement can be in mud with no adjuncts to support your weight. Often, mud that starts out at the shore providing reasonable support will deteriorate into a much less forgiving medium and by then it's too late to do anything other than try and struggle back to terra-firma or accept some help.

There are 5 main hazards associated with mud rescue:

- exhaustion
- incoming tide
- entrapment within the mud
- exposure
- danger from hidden objects such as sharps, outfalls, and other structures





All rescue activity must be undertaken from a safe working platform to reduce the risk of the rescuers becoming trapped themselves. Much of the equipment used for ice rescue can be used for mud rescue but there are obvious divergences when it comes to freeing an entrapment. The gold standard has traditionally been a dedicated mud-rescue platform like inflatable paths or mats but if these are not available suitable alternatives from water rescue like the Oceanid RDC shown in these pictures, can be pressed into service. Platforms must provide suitable support spreading the weight of rescuers and providing buoyancy where the mud is fluid and to protect from risks of flooding e.g. tidal locations. Working platforms need to have a low freeboard to allow access to the casualty in order to extract them from the mud and recover back to firm ground. Having mentioned the flat, robust inflatable 'paths' as the gold standard, the UK Coastguard has actually moved away from flat and towards a path with a raised edge to stop equipment rolling off. This makes the RDC even closer to 'gold-standard'.

Specialist mud teams will use air or water lances to direct a stream of air or water around the feet and legs of an entrapped casualty and release the suction of the mud particles. Paradoxically, less well-equipped teams without air/water lances have to use hand tools and spend longer on scene and work harder to release an entrapment and will invariably do so using the multi-task platforms in a more ad-hoc fashion.

ACCESS

Pepperpotting is the name given to the method of access using two platforms as mobile stepping stones to get to the casualty. This would ideally be two or more inflatable paths allows the rescuers to make good progress with each move. In the absence of specialist kit the same can be achieved using a range of different 'platforms' – in these pictures an RDC and a Carlson Board. Ordinarily, one platform is loaded with equipment and the rescuers, while the other empty platform

is drawn ahead. Rescuers and equipment are transferred to the empty platform in front which becomes the working platform. The now empty rear platform is drawn ahead of the rescuers and the process repeated until the casualty is reached. The rescue platform may also be positioned around the casualty using the pepper pot technique. The platforms can be placed around of the casualty as required either in parallel, or as an L or a V to permit all round working. Paths used to be the longest an agency could afford – usually a 10 metre but whilst are excellent if a casualty can be reached within that 10m length they are very unwieldy for -pepper-pot' movement over long distances. The UK Coastguard uses a maximum of 5m/16ft and preferably a 2m/6.5ft for rapid movement using multiple teams.

RECOVERY


The casualty can also be recovered back to terra-firma by the pepper-pot method but over long distances a winch is more effective. The platform needs a towing anchor and the RDC has multiple options using a yoke rig. The casualty should be evacuated as near as horizontal position as possible due to the effects of hydrostatic squeeze and the risk of post-rescue collapse upon release from the mud in which they may have been trapped for hours.

The Oceanid RCD style craft is a great platform for mud rescue because it provides good, multi-chambered support, it slides well for pepper-pot and towed recovery and has a low freeboard for easy casualty access. While the open bow is good for water or ice rescue and may help self recovery from mud as in these pictures, don't get focused on this as the best route for extraction because it doesn't allow much working space for multiple rescuers wanting access all round the casualty. In the example shown here the mud is quite motile and raising the RDC using the Carlson board for support gives the casualty the sponsons to push up on. Had he been more 'entrenched' in the mud it is probably more efficient to work from the raft alongside the casualty.

The Carlson board shown here in mud camouflage, provides a smaller, quite effective platform and slides well but has limited working room and capacity. It is a solid adjunct when used with the RDC as it provides a good second platform with the ability to move rapidly when conditions allow. A comparable adjunct is an RWC rescue board, most of which are a solid construction with a laminate which slides well on mud but




some are constructed in virtually the same way as the larger inflatable rescue paths. With good technique, the line between 'improvised' and 'gold standard' can become somewhat blurred with a range of high quality products able to be co-opted into service for mud rescue.



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