

TECHNICAL

RESCUE

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



Inset: Rob Thomas of the Mountain Club of South Africa Search And Rescue (Gauteng) Team photographs his colleague after being winched onto a mountainside in the remote North East of South Africa to assess the aftermath of a plane crash. The region is Mpumalanga which used to be known as Eastern Transvaal and is to the west of JoBurg and Pretoria abutting the Mozambique border. Rob's article detailing the recovery effort is *362 Man Hours* on page 3



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CONTENTS

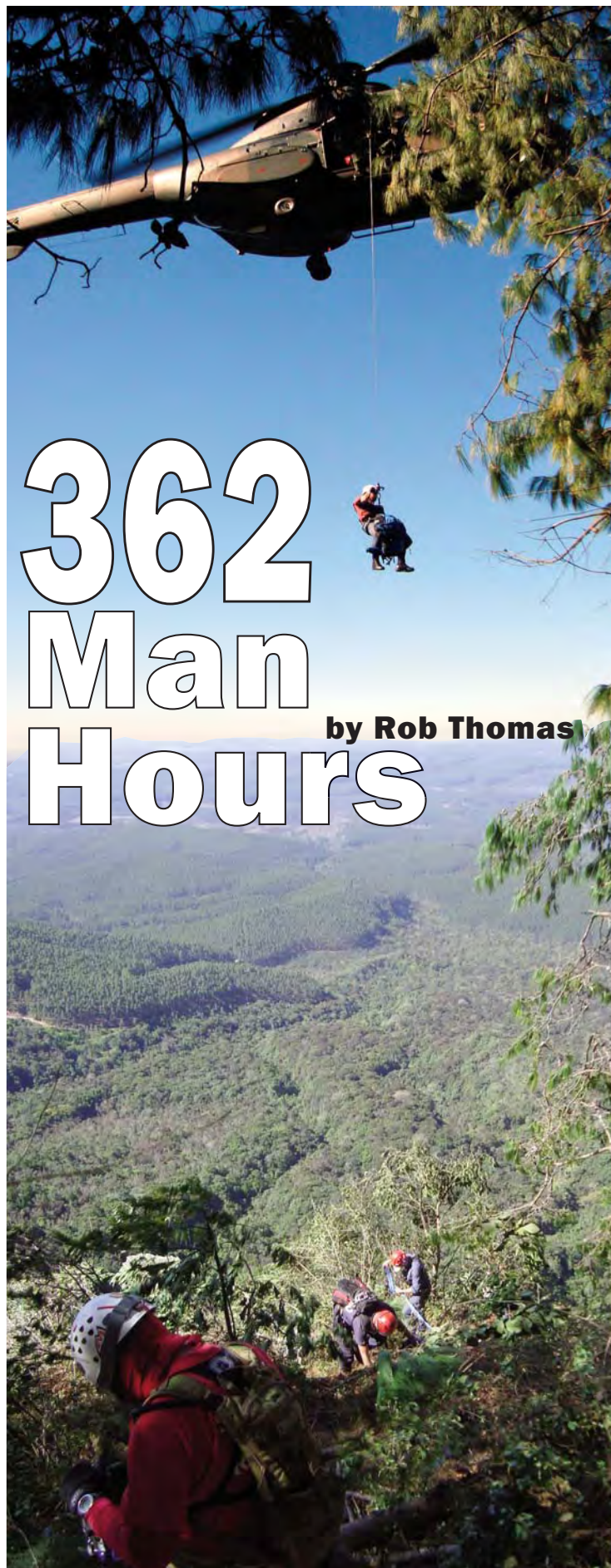
Contents E-Mag 18

3:	362 Man Hours by Rob Thomas	
7:	Canpro PHOTO COMPETITION	
8:	Advertorials - Distinguishing Talk from Mutter by Ade Scott	
9:	Who's Who-at TRm	
10:	What DESCENDERS do we use?	
12:	GEAR REVIEW: California Mountain Roll by Lee Lang - TRm SA R Editor	
12:	ISSUE 59 - What's a-comin'	
14:	A Rescuer Arrested * by Charley Walbridge	
16:	TRm DIGITAL VERSION SOON	
17:	IN THE NEWS: Chilean Mine Rescue Analysis by Brian Robinson	
20:	PRODUCTS: Animal Rescue Truck Paratech V2 Struts	
22:	EVENTS - Aerial Emergency Response 2010 SAR 2011	
23:	REVIEWS in the Pipeline	
23:	UK Ambulance HART	
26:	DISASTER RESPONSE - ERT in Pakistan for summer floods	
28:	WRO European Extrication Challenge Results	
29:	SAFETY NOTICES	
30:	TEAM BADGES	
32:	BACK ISSUES	
33:	What's on the Cover Cover Origins	

* VIEWS EXPRESSED IN ARTICLES ARE NOT NECESSARILY THOSE OF TECHNICAL RESCUE magazine

We mostly work remote from the office phone so don't expect an answer. However, we will ring you back if your message hasn't been accidentally deleted. Better still email us because we monitor these regardless of where we are:

rescuemagazine@btinternet.com
rescuemagazine@aol.com



We're loosely grouped on the apron at AFB Hoedspruit in front of 19 Sqn. There are 6 mountain rescuers, 4 police rescuers and assorted ground crew busy sorting gear and prepping the Oryx helicopter for the task – the recovery of 2 bodies from the wreckage of a Cessna 182 that crashed into the mountains.

"Rob, how much rope should we take?" - I'm the only one who's been to the site so far. "Can we get extra fire extinguishers from the air force?". Wessie (Capt Wessels, SAPS) walks up to me, pushing his phone into his pocket: "Our helicopter's just crashed...". He has some odd ways of putting things and I guess he's telling me the SAPS helicopter tasked with collecting the bodies once we've extracted them is a little late. "I'm sure it'll get here eventually – they're probably sorting out admin issues". "No", he says "the SAPS heli from Pretoria has just crashed in Witbank. Doesn't look good." and then he drops the bombshell "I think Wicus was flying".

Oh Crap! Wicus used to be with 17 Sqn where I got to know him well, keeping contact after he moved to SAPS. Put it out of my mind. I'll deal with that when this job's over.

So how did we get here?

Well, 2 days ago a Cessna 182 (2 on board) was routing from Nelspruit to Hoedspruit Civil Airport some 120km due north in the late afternoon and was on a VFR flight-plan when he encountered some unpleasant weather. Both Hoedspruit and Nelspruit are in an area classed as "lowveld", some 600-700m above sea level. Just to the west is the escarpment, rising up to 1800m in places. The pilot, a local to the area, pushes on. He misses his next radio

call and has disappeared off radar.

My wife and I are just getting out of the shower after our late afternoon run when the call comes in from ARCC at around 18h30. Santjie is the SMC. She wants MCSA SAR on standby please. The weather's still bad and there's talk of driving us in – about a 6 hour drive. Tomorrow's Thursday and many have business commitments but we get a small team of 5 together.

"We need spotters for the search. We'll also probably need mountain rescue – there are mountains to the west, so you guys will be spotters until the wreck's found then go over to rescue. Report to 41 Sqn at AFB Swartkop at 03h00 for briefing, take-off for Hoedspruit 04h00". Groan! Groggy from too little sleep we pack the aircraft and take off, arriving at AFB Hoedspruit at 05h30 then get transferred to the tower to talk to the OSC. We transpose radar plots onto the mapping system and draw a line through them, joining the dots. On the 1:50,000 topo maps it immediately becomes clear that the flight path intersects a ridge that sticks out from the escarpment – Visierkop (Gun-Sight Hill), 1796m. As we realise this one of the ATCs walks in: "They've found the wreck!".

Our real job has started. We need to rescue survivors and account for non-survivors. We are quickly transferred to 19 Sqn and prep the aircraft – 5 mountaineers (of whom we have 1 x BLS, 1 x ILS, 1 x ALS) and 2 military medics. The aircraft is an Atlas Oryx – a South African developed aircraft that's a close cousin of the Eurocopter Puma / Cougar family with a crew of 3: commander, co-pilot, flight engineer (crew chief to you on the other side of the pond).

We're airborne and flying low



The wreck site. Picture taken by SAAF photographer from the right-hand door of the Oryx helicopter. The aircraft is just visible as a white mark on the steep slope



The wreck site. Our main heli hoist-point is the shoulder to the right of the wreck just visible as white under the trees.

enough that we're able to almost stare down the giraffe as we fly past – the terrain around the base is dead flat for a few km. Gradually we climb towards the mountains and the crash site. Barney (commander) comes onto the radio: "The *Working On Fire* guys found it with the Huey. They say we won't be able to hoist you down – we'll have to land and you'll have to abseil". The rest of the team hears this –

we have a prototype stand-alone intercom that interfaces to my radio and everyone's on headset. The team calls this setup the RobComm. We find the wreck some 350m below the ridge. He wasn't even close to clearing it! From the air we can see that the likelihood of survival is minute.

The wreck's on some really steep ground, in amongst some overflow pine-trees from the plantation. I spot a clearing and ask Barney to fly closer. Can he and Vince (Flight Engineer) get us in there?

They'll try.

I get hoisted down onto some very steep, loose ground covered in pine needles, about 8m from the top of a cliff. I decide not to try to stabilise myself (I don't want to slip and shock-load the heli hoist cable) but scoot downhill till I'm up against the trunk of a pine

tree.

Disconnect from the hoist hook, wrap a sling around the tree and clip in. Then look at what I've done: "Stupid!". Pine trees aren't indigenous to South Africa, not rooting well. If the Oryx blows it over the edge of the cliff I'm gone.

Disconnect from the sling! I'm not the happiest bunny on the farm at this point, feeling a little vulnerable.

Look up. Andrew (ALS) is on his way down. I grab his foot, pulling him toward me and sit him down. The hoist hook starts to return to the heli. I get on the radio: "Barney, Rob: Move away. We need to find a better location". This comms solution is great – 5/5 comms from under the aircraft – turbine whine, blade thunder, hurricane winds and all. The Oryx edges away from the mountain and the hurricane abates. Andrew and I pick our way to a slightly less precarious place then call the Oryx back. Sean is sent down. We leave the other 2 in the aircraft, which heads off to join the Huey on top of the ridge. Picking our way across the slope we rig a hand-rail of 8mm cord until we're directly above the wreck. Rig the abseil. Send Sean down. He

calls me down once he's there. The aircraft is as crumpled as the foil wrapping from a bar of chocolate. The only identifiable bit is the tail. AVGAS still drips.

Rescue survivors, account for occupants...

We find the head of a person, impacted into an electronic panel and covered in earth. It seems as though the rest of the body is in the wreckage. Get rid of some of the earth covering it. Male. Ok – one accounted for. To get to the other side of the wreck we need to ascend the ropes to our anchors then abseil the other side. We find a body sticking out of the wreckage. Excellent! Job done – two accounted for.

Er... hang on – the head's male and the body's dressed in male clothing, but the 2 on board were husband and wife. Rats! It takes us another hour to confirm that the body doesn't have a head and that the head doesn't have shoulders. Two parts of the same body. We realise that the second person was either ejected from the aircraft during the impact or is entombed in it, and there's no swath through the vegetation where anything went crashing through. I phone Santjie: "We're at the

wreck. One head and body. No sign of the second occupant. I believe they're wrapped up in the wreck. We're going to need power tools to get both of them out". We discuss the survivability of the crash and decide that it is non-survivable before she decides we should pull out.

We call for extraction after picking our way back to the hoist point.

The hoist out and flight back to AFB Hoedspruit are without incident. Strictly speaking our job is done – it's a police and CAA matter now. Then Danie (SAPS rescue guy from White River) turns to me: "Can you guys be back here tomorrow? I can't do this without help."

Police SAR guys are as scarce as hen's teeth - Danie's nearest backup is a long way away and there aren't many there either. Of the 5 mountain rescue guys, 3 have work commitments for the following day that they can't get out of (after all, it's our work that pays us the money to be able to do volunteer SAR work). We agree the other 2 will return the following day with reinforcements and SAAF agrees to provide transport so we don't have to drive from Pretoria. Danie says he'll get the tools and some



RECOVERY EFFORTS AT THE WRECK SITE.
All work is done on rope. The wreck has been secured with steel cable

other SAPS guys. His nearest SAPS SAR backup is from Polokwane, almost 500km away by road.

Back to the start of this story.

We return the following morning with 6 mountain rescue guys to meet Danie and 3 guys from Polokwane, including Wessie. I use the 1½ hours of the flight out to think through the plan and to write out a full briefing. We get together with the flight crew and refine the plan, which is for 4 mountaineers to fly in first and rig safety systems so that when the rest arrive with heavy kit they can sit down, unclip from the hoist hook and clip into a safety line before moving

around – the hoist point is quite steep. Splitting the group lightens the aircraft as well which makes Barney marginally happier. We take an assortment of kit and tools with us, but no hydraulics, just battery operated stuff.

The flight crew does an amazing job during the insertion, but still we have a hairy moment when one of the risks mentioned in the briefing materialises – the Oryx blows over a 15m tall pine tree, narrowly missing a team member. Once we have all the team members on the ground the Oryx goes to look below the wreck in case the second body has rolled down hill. They find nothing.

Personal gear gets staged at the hoist point and we rig a rope hand-rail to the abseil point, where we put up a washing line to clip team kit into – second staging area. Whatever isn't clipped in is going downhill.

We stage all the less critical team gear here, as well as the second stretcher. We'll take down only one at a time. Four abseil lines reach either side of the wreck – two per side. At the wreck we rig a bunch of working ropes – no one will be off rope. One stretcher, body bags and fire extinguishers as well as assorted tools are staged here. I task Roelof with cutting down a couple of smaller pine trees and cleaning them up to make props, levers

or to improvise a tripod if we need it.

Tasks are allocated and we get to work. Graham and I have worked stunt industry before. Graham uses the skills gained there to eye-splice a piece of wire-rope (cable). We sling the wreck and anchor it to a tree. The battery operated tools brought by Danie make the job a lot easier and we shred the wreck, taking photographs for the CAA as we go. During the day there are several shouts of "Rock Below!" as we work. Fortunately we've got the areas horizontally separated (for the most part) instead of vertically separated. The first body is out of the wreck by 12h30 and we find the second body beneath it. Graham



HIGHLINES DON'T ALWAYS CROSS GORGES
Using a highline to get the body across the steep ground. It will be transferred to an inclined cableway to be zipped down to Dean (visible at the bottom of the slope). We tied the stretchers in by sheet-bending a length of rope to our safety line on the LZ and then using a slip-hitch (munter + half-hitch) around the railing of the stretcher.

supervises the rigging to move the first body. A counter-balance haul takes the body up slope, where it gets transferred

to a highline. Nothing fancy – we simply walk across pulling the stretcher along with us as we go, clipping ourselves into

the hand-rail as we go. At the far end we use an aerial cableway to get the stretcher down to the hoist point, where it gets tied in to prevent it disappearing down-slope which would be heart-breaking.

While some of the team tackle that job the rest of us work on getting the second body out. One foot is stuck under the engine. We can't get a sling underneath the engine, otherwise I'd get the guys to build a tripod. We lever the engine with the branches we've cut to try to get it off the foot, but instead the engine threatens to roll completely onto the body. We're getting short of time now. Another heart-stopping moment – the ground I'm standing on collapses underneath me. Wessie is standing on wreckage when this happens and he prepares to jump. Not necessary – it's just a small collapse.

Eventually we get the body out and package it. Into the stretcher we also tie the bagged aircraft documentation and some personal effects we were asked to retrieve. I call for

extraction of the bodies and the SAPS at 16h30. That'll give us time to clean out the safety systems before the Oryx collects the mountain rescue guys - sunset is 17h28.

The heli arrives for the extraction. We rig the stretcher tie-ins for quick release and call them in. We send up two SAPS guys and then the bodies. For each stretcher hoist I grab the hoist-hook and the apex of the stretcher bridle, holding them 5cm apart and then nod at Graham, who releases the tie-in before I clip the hoist-hook to the stretcher. Tethering a helicopter to an anchor system is considered sub-optimal. Another close-call when a large piece of dead-wood decides to hitch a ride on one of the stretchers then falls off as it reaches the aircraft.

It misses us. We send the last 2 SAPS guys up and the heli leaves us in silence to clear out the systems and wait for the pickup. The aircraft's return takes longer than we're expecting and we start anxiously planning our escape route off the mountain if we have to, as well as deciding what we'll do with the excess gear we can't carry. It's unnecessary – the Oryx returns and we get hoisted out at dusk.

We land safely after dark. The team sorts gear while I walk away to call ARCC and tell Santjie we're done. Two bodies recovered. "Rob", she says "I don't know if you know this, but a SAPS heli went down this morning with 7 fatalities. Wicus Zaayman was the pilot – I thought you might have known him".

I walk away into the dark for a while.

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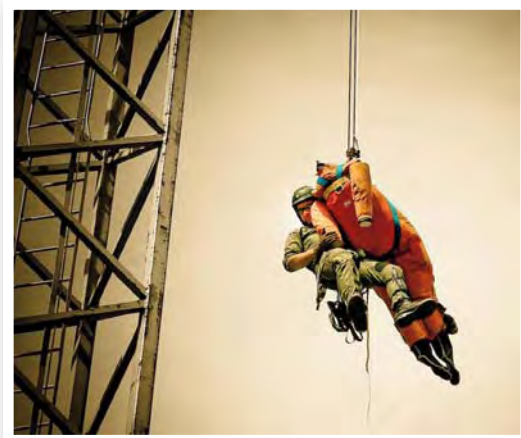
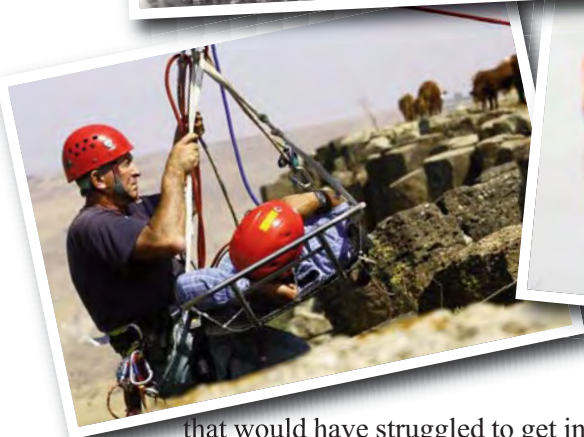
AMATEUR - Winner - Nikon D300S Digital Camera

AMATEUR - Runner Up - Nikon P6000

PRO-Winner - Nikon WT-4A-Wireless File Transmitter



We have our winners but you'll have to get hold of the hard copy magazine to find out who that is and where the fantastic Nikon camera equipment ended up. Thanks to everyone who entered - we had some outstanding pictures from all over the world. We also had some distinctly dubious shots



that would have struggled to get into grans family album but we can't fault your enthusiasm. A special thanks goes to Mark Pfeifer and **CanPro Global** of Canada who stumped up for the prizes and hopefully have started a worthwhile annual competition. John Burcham was our professional photographer for this competition and is a man responsible for some of the best rope rescue photographs I've ever seen. And I've seen a lot! Mind you, when you live in Arizona with Reed just down the road some might argue that two of the key elements of a good photograph, subject matter and lighting are pretty well catered for. Next year we'll run a slightly more categorised competition - seems like there should be a category just for helicopters! More in the first issue of 2011.



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Advertorials distinguishing Talk from Mutter

by
Ade Scott

We don't allow manufacturers to write articles about their own products unless it's in the PRODUCT NEWS section. Even then, if we get the chance we advise them to stick with facts and figures and not try to sound like a second hand car salesman. So called 'advertorials' are sometimes hard to distinguish from bona fide articles although the more reputable magazines might be gracious enough to put 'Advertisement' or 'advertorial' somewhere near the top if money has changed hands. That's not to say that some manufacturers or business owner/ Directors aren't incredibly knowledgeable and we would not hesitate to have folk like Denny Moorhouse, Rock Thompson, Ben Lyon, Jim Frank and Steve Hudson etc write for us. It's not a fine line between commercial writing and useful information it's a real big fat line and the minute you start reading an article from such industry icons you'll know the difference between a sales pitch and something worth reading. Brendon Morris ex-of Holmatro is a good example of someone who has served his time on the frontline and could write without mentioning Holmatro at all because he is first and foremost an industry expert not a salesman. As was Rob Warmsley his predecessor. Not all companies opt for such integrity in their staff.

Nevertheless, for magazines like Technical Rescue and the considerably larger US peer reviewed journals like Fire & Rescue and Fire Engineering the policy is not to have commercially interested parties writing articles. Fair enough. However, where we differ in policy and opinion from Fire Engineering in particular is in making training companies a distinction when it comes to accepting editorial. Unfortunately, they have failed to grasp the hidden commercial evil which is that most fire officers are necessarily political animals with just as vested an interest in promoting their own equipment purchasing decisions as any other commercial entity, training companies included. We think excluding commercial trainers takes some of the best and most active minds in the business out of the game and is not only short-sighted, it's detrimental to the distribution of high quality editorial. You'll notice that we have at least 4 contributors who now own their own training companies and as well as being operational rescuers most of the rest have some involvement in training within their own organisations. Now they didn't start out as trainers, they progressed to it after amassing the experience and skills of years and decades of operational activities. This is clearly not the case with a good many private training companies out there but I'm talking specifically about the ones headed up by folk we consider to be so knowledgeable that they're worth listening to and having on our Peer Review board. Would a magazine like Fire Engineering really pass up an article on some aspect of Rope Rescue from Reed Thorne or a water rescue article from Jim Segerstrom simply because they earn(ed) their livings from training people. It's all very well having serving fire officers write articles but quite another to pretend that this or, worse still a higher rank within any given service, makes them a more knowledgeable source of information than folk like Reed, Jim, Shawn Alladio, Len Batley in Oz, Church in Canada (because he also now trains after decades of being a fire officer) or our latest much lower profile recruit Doug Kemp. If Reed or the others spent their time in articles extolling the virtues of their own companies I could understand such a policy but you never see it. Our writers let the quality of their articles do the talking for them and good luck to them - if you read their material and come away thinking that here is someone you could learn from (and you might even pay them to do just that) that's fine by me. Our job is to promote discussion and impart useful, useable information from some of the most experienced folk in the business. They're not all names you'll be familiar with but they sure know about rescue.

TR

Rob Keating joins us as TRm New Zealand Editor

I'm particularly pleased to welcome Rob on board after a long absence from the pages of TR. Cast your minds back to the front cover of issue 30here's a prompt: That's the back of Rob's head studiously trying to intubate a casualty who is unfortunately missing some of the back of his head after a roof rack extending over the bonnet of a pick-up hit him while cornering. When we first arrived we thought this was a GSW-head. Like our man Neil in Australia Rob was a paramedic with AEMS in KwaZuluNatal, South Africa as well as a lifeguard and helicopter rescue-swimmer before finally deciding that the peace and tranquility of New Zealand was a better bet. Now a Paramedic, Heli-para and Rescue-Swimmer (no change there then Rob?) in the Rotorua area of central North Island Rob still doesn't get much peace and quiet but it's much nicer without all the violence! The poor chap on the cover was the first of two confirmed HIV + casualties we had that day - in this one Rob had blood coughed into his eyes (hence the horse and bolted Bolle goggles), in the second case, a stabbing, I was 'fortunate' to find, with the aid of my thumb, a cannula full of HIV+ blood that had been 'lost' in a pool of congealing HIV+ blood by the first arriving tech. And to add insult to injury, when we left that job after a prolonged but unsuccessful resus, we found we'd left the lights on and the battery was flat. We pushed the response car up the road en-route to the hospital and a quick dosing up with triple z cocktail. Did



I mention that on a previous tour with Rob he accidentally discharged an R4 Assault rifle (SA version of an AK47) past my head and into the ground next my feet! This was in the middle of a sports field in Durban - nobody reported the gunfire! Neil reminded me that he was once sent to assist Rob on a busy New Year's Eve because he was under seige in a police station from armed hostiles who had already killed the police officer next to Rob. Those were the days! Rob now has a slight

New Zealand twang but hasn't quite been able to bring himself to support the All Blacks over the South African Rugby Team. Rob's on the left in this photo.

DOUG KEMP

Sneaking in under the radar (as usual) is our operational replacement for Jez who is still with us in spirit and as a member of our Peer Review panel but now that he is on the road to being a fully fledged doc and out of rescue it's only right that his old right hand man at RIG Systems and veteran mines rescuer Doug steps up to bat. Doug has long been held in high regard by some of our own old-timers who have worked with him in water rescue and rope rescue and although he typically didn't get a mention he is a member of the Cornwall Search & Rescue Team we featured in issue 55. That's the back of Doug's white Petzl helmet in the picture top left on page 19. Doug is an IRATA trainer (3t) and was trained as a water rescue instructor by our own Jim Segerstrom. He co-owns the training agency responsible for training London Fire Brigade as well as a host of other UK Fire Services, police and rescue agencies. Doug still finds time to cave, dive, climb and coasteer.



DISCOVER THE LIBERTY WITH eDRAULIC  LUKAS

Who's Who at TRm?

		ADE SCOTT EDITOR - UK - Coffee & sandwiches 15yrs Head of Technical Rescue Unit (TRU) (ret) Rescue/Defence conslt. past NASAR presenter			REED THORNE ROPE RESCUE EDITOR - USA Rope Guru, Sedona SAR, ex-Fire/Technical Rescue Team, Stonemason & NASAR presenter
		JIM SEGERSTROM US Editor - USA (died Feb 2007) Water Guru, Founder Rescue3 International, Flight paramedic, Tuolumne County SAR			GREG (CHURCH) CHURCHMAN CANADIAN EDITOR - USAR/ Rope Fire Officer, Pilot, Rope Rescue and extrication Instructor
		KELLY MATTHEWS Sales & Admin Director- UK Law Costs Draughtsman, The real Boss of TRm			LEE LANG SAR EDITOR - USA Ex-firefighter & EMT, current LCSAR team member and past NASAR presenter
		DR STEWART BOYD MEDICAL EDITOR -RSA Top Medical Dog - KZN, Trauma Doc, Flight Medic, War-zone junkie			GARY CROSS TRm Senior Chimp - UK Firefighter, ex-TRU, HMCoastguard, Extrication Team Medic, Marine Incident Response Group
		BRIAN ROBINSON Consultant - Con-Space Rescue - UK National Confined Space Rescue Instructor ex-Mines Rescue, ex-TRU			RICH HACKWELL Consultant - SAR/Coastguard - UK HM Coastguard-Head of Technical Rescue, Lifeguard, ex-TRU,(ex Tree Surgeon)
		BEN WALLER Consultant -Water Rescue - USA Water Rescue expert. Battalion Chief, Training Chief, Paramedic, US&R tech & HazMat tech.			MICHIEL WOLTERING Consultant - Police - Holland Instructor at Dutch National Police Academy for access in tactical, USAR, hostage rescue etc
		SEAN JOHNSON Consultant - Water & USAR -USA Fresno Fire Dept Firefighter, USAR & Dive Team			DOUG KEMP Consultant - Rope, Water & Cave - UK IRIA Rope & water rescue instructor, IRATA 3, Caver, SAR team member
		NEIL NOBLE AUSTRALIAN EDITOR - Trauma, USAR ex-South African Paramedic, Queensland Paramedic			ROB KEATING NEW ZEALAND EDITOR - Heli, Trauma ex-South Africa AEMS. Paramedic, Heli-rescue, rescue swimmer
		CHRIS WALKER Consultant - Watercraft - UK Ex-Technical Rescue Unit, National RNLi Instructor (HQ),Regional SAR Team Member.			JEZ HUNTER Consultant - Rope & water - UK ex-Royal Marines, Water Rescue, USAR & , Rope instructor, now a trainee Doc
		RICH (DINGER) BELL Consultant - UK - Trauma, Hazmat, Dir.Training - Hazardous Area Response Team, West Mids Amb Service, Paramedic, ex-TRU			JIM HUTCHEN Researcher - UK Firefighter, ex-TRU, Tree surgeon, Extrication Team Snr Medic, USAR Team
		Regional Editor - Ireland - we're on the lookout - Our own Doc Boyd spends half his year at Dublin A&E so we're halfway there already.			TIM GOOD TRm US Admin Office Owns and runs an art licensing company but allows us to abuse his office staff & facilities.
		AL BANNON ex-TRU & HFRS - UK (died April 2010) Caver, climber, kayaker, firefighter LODD fighting high-rise fire			ROY SCOTT Ex-Bordons Director (died June 2010) Much loved uncle without whose support TRm would not exist

WHAT DESCENDERS DO WI

IMAGES NOT TO SCALE. Top to bottom: Petzl Rig, Petzl Stop, Petzl GriGri, SRTE D2DB, Anthon Lory, Petzl ID, SRTE Noworries, SMC Brake Bar Rack, Black Diamond ATC Guide, AML

ADE: I've been lucky enough to try most of them in my time always searching for the ideal. I quickly realised in the beginning of the 80s that the figure 8, even my hardened

CMI Rescue with ears wasn't cutting it and we didn't really have brake bar racks in the UK so for access I moved straight to Dave Allport's first version of the ALLP a controlled rate descender - not a full autolock though so I also started using the Petzl Stop which saw me through all my sport caving while a Lowe Tuber saw me through climbing. Once I progressed from access to rescue I used the SRT Double Brake descender in both the single rope and double rope variants. After serving us well for almost a decade we were running low on SRT DB descenders so when Reed and I were shown a prototype ID at the Charlotte NASAR conference in '98 (I think) I magnanimously volunteered to pass my DB2 on and adopted the ID. This became my standard descender until the current time and while it's still a mainstay of my rack, this year the Petzl Rig has become the descender I favour above all others. However, I must just mention the GriGri, because whenever I travel light it's the GriGri that I take and more often than not for those impromptu short drops or working in trees it's the GriGri - still a great descender in a compact package.

CHRIS: My favourite personal descender is the SRTE Stop Descender. It gives fantastic control for single line work through out the full range of the brake handle. There is also the option of the second brake system which can be added to accommodate twin rope braking. It is quite heavy for its size but rugged with it so a willing compromise.

I also use Petzl I'Ds for safety ropes and other rigging applications. It is in many ways seen as the industry standard by organisations I work with and is a very adaptable bit of kit. I always have at least one with me when rigging for high or low angle as its design does allow a relatively novice rescuer to safely belay in both applications.

BEN: I prefer a good old U-Frame Brake Bar Rack. It's simple and it works. We operate only with redundant belays, so the lack of a "failsafe" stop feature isn't a problem for us.

I don't have a brand preference. but since I work for a U.S. fire department, the rack must be NFPA 1983 "General Use" compliant. My ideal configuration has a hyperbar and 5 additional aluminum bars. I prefer the alternating permanently-attached bars to increase efficiency when threading the rope.

LEE: Oh.. how complex the question...

Personally I use the Black Diamond ATC Guide with a back-up prusik...of course I am a climber by nature. If serious weight is involved or in wilderness rescues (except self escape), then, like Ben I fall back to a brake rack.

DOUG: For the most part the I'D gets my vote. It's simple, doesn't tend to do anything unexpected, rugged enough for most applications, easy to train people to use and if the whole team uses it there tends to be a greater finesse when it is used in rescue systems. However, for rope diameter versatility, hands off operation (eg clipped back handle for bobbin style operations), size and weight there is still a place in my heart for the good old Petzl Stop.

CHURCH: Currently my favourite descender is the SRTE No Worries. This is a very solid piece of equipment. Although heavier than many other descenders, it more than makes up for it with ease of use. It also has a SWL rating of 300 kilograms, which exceeds any standards that I have come across. It can be used to very smoothly lower, raise, descend, ascend and belay. It is very straightforward to operate, which makes training for multiple team members a breeze. If you prefer brake bar racks, I favour the SMC "NFPA 4 bar U Rack," another very robust design. Utilizing two "hyper bars," it makes friction adjustments, and locking off, very easy. No, adding or removing bars necessary to adjust friction. The stainless steel bars are large, and there is enough width in the device to handle two 12.7 mm ropes if you have the need. For lighter loads, I really like the Anthon Lory, also known as the Edelrid Eddy. I often see it marketed as a belay device, but it is used by many, for ascending and descending as well. A strong, auto-locking mechanism, that I find uncomplicated to use.

GARY: Well, it'll have to be the Petzl ID, although my old Technical Rescue Unit descender, which was the SRTE Stop D1DB, was a fine piece of kit.

REED: Descenders are for girls, I use my bare hands.....[we put words in Reed's mouth, in reality he had a lot of views on the subject, so many in fact that he didn't make the deadline and will be telling all on the homepage next week. www.trescue.com]

MICHIEL: Most of our police and rescue Units use the Petzl I'D s. At the moment we are testing the Petzl RIG for intervention and covert operation courses. The Rig seems to work well although we had some problems when descending a wet rope with heavier loads. The Petzl EXO device (modified GriGri) is used in covert operations. The safety provided by the I'D second lock in a panic is a good feature but for intervention, counter terrorism and covert operations this creates higher risks. Operators may have to react in a split second to avoid detection or make entry and accidental activation of the second lock is not good. For these units we use descenders like the AML PES and Petzl RIG (testing phase to replace the AML PES).



NEXT ISSUE: Waterproof Jackets

E USE?

Photo by John Burcham (we think!)



RICH: For rescue its the Petzl ID for me, due to its; simplicity, safety and versatility. I've been using IDs since my TRU days and these characteristics are the reasons we introduced it into the UK Coastguard's system of working. Now if we're talking about personal favourites and first loves - I will always like prusiks when used in a Doubled Rope Technique, this stems primarily from my tree surgery days. The doubled rope system is created by the rope being rigged up and over a branch (anchor), one end is connected to your harness and the tail is controlled by a prussic (normally 2 wrap). This can then be used for descending, work positioning and climbing without changing the rig, excellent. In the early days we used the same diameter rope for the prusik - 12mm on 12mm (believe it or not) and later 10mm prusiks on 13mm ropes (more in line with climbing and rescue).

GEAR REVIEW

mountain tools CALIFORNIA ROLL

by TRm SAR Editor Lee

Mountain Tools California Roll offers the SAR Team or Tactical team orderly and rapid access to technical gear. The California Roll is a 38" x 44" tarp with 36 attachment points and 4 mesh pockets for gear. Simply unroll it, and your gear is spread out and for the most part untangled, ready for rapid access. It also serves as an onsite tarp to keep the gear out of the mud, sand, or from getting lost.



The tarp is made from sturdy 500d Cordura, the same materials as their backpacks, resulting in a good balance of weight and durability. Tossing it loaded onto the rocks or dragging it

several feet across coarse rocks did not result in any obvious wear marks. For a wilderness SAR person like myself, weight is a serious issue, so I would much rather lose

some long term durability as compared to humping heavy material any long distances.

This product was originally designed for rock climbers, but is finding its way into service with some SAR teams. Because the California Roll has so many attachment points, which offers tremendous flexibility, it is easy to overload making it clunky and difficult to pack. I also found that keeping the rescue gear more towards the center ensured a better and more stable roll for carrying.

The product is offered in various colors, allowing SAR teams to color code packs. My SAR team's technical gear is organized into "Bash Kits"; each kit contains enough hardware to perform a straight forward 5:1 haul with a separate belay. To utilize the California Roll, my team would have to divide a Bash Kit into 2 separate California Rolls, which would have to be color coded for quick recognition. For me, this is a reasonable issue, since my team's Bash Kits weigh close to 40 pounds, making them unreasonable for back country deployment.

If you are looking to re-organize your technical or tactical gear the California Roll is certainly worth consideration. When properly rolled, it readily fits into most back packs and when unrolled provides a clean dirt free surface for your gear.

www.mntntools.com

TR

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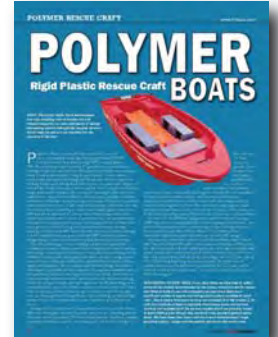
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OUT NEXT WEEK

ISSUE 59

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NB: The design, content and titling of pages and the cover shot shown here may be different in the final printed magazine



Left: We had three options for the titles of our Team article on the Hampshire Constabulary Force Support Unit. My effort at the top showed the lads struggling to free a colleague from creek mud and creating a hippo-wallow in the process. Matt Tyson's fantastic middle shot was too low a resolution but his great shot of team members battling a swiftwater flow was a no-brainer.

Top Right: We said in the last Emag that the water craft article was likely to change and indeed it did. It has gone from flat-bottom boats to Polymer craft. Plastic to you and me, virtually unsinkable and tough as old boots.



Right: Petzl Rig descender review, is it any good?

Top: A detailed review of the SAR Products Alpine Lite stretcher which is a very strong, split, alloy flatbed.

Below Right: If that man looks a bit familiar it's because it's Rich Hackwell again after he's been diagramatised by Steve Monk in his excellent instructional pictures for our series on the new Coastguard rope rescue system in the UK.



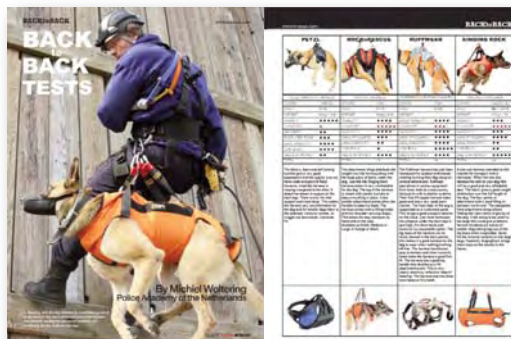
Bottom Left: Rescue-Paramedic Steve Daly looks at Paediatric incidents which among other things includes a bizarre snake bite emergency caused by a self-appointed 'Shamen'.

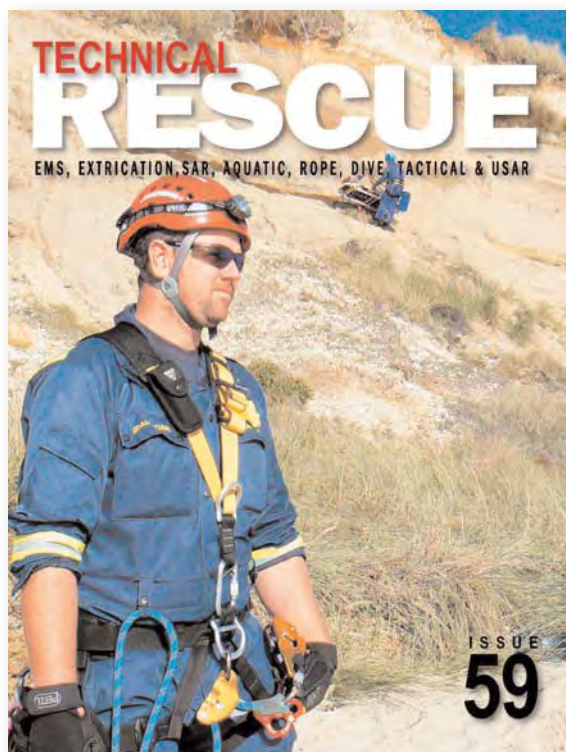
Bottom: Titled a 'BacktoBack' test but this article from our Dutch compadre Michiel Woltering gives extensive information on preparing a dog for operations at height. Harnesses tested are those which enable a dog to be airlifted/abseiled.



Below: Jon Curley of Dorset Fire & Rescue with assistance from Jon Jorg of Moditech goes over the complications to extrication efforts afforded by modern vehicle materials.

Bottom Right: London Fire Brigade with a cracking new article in their series on Heavies

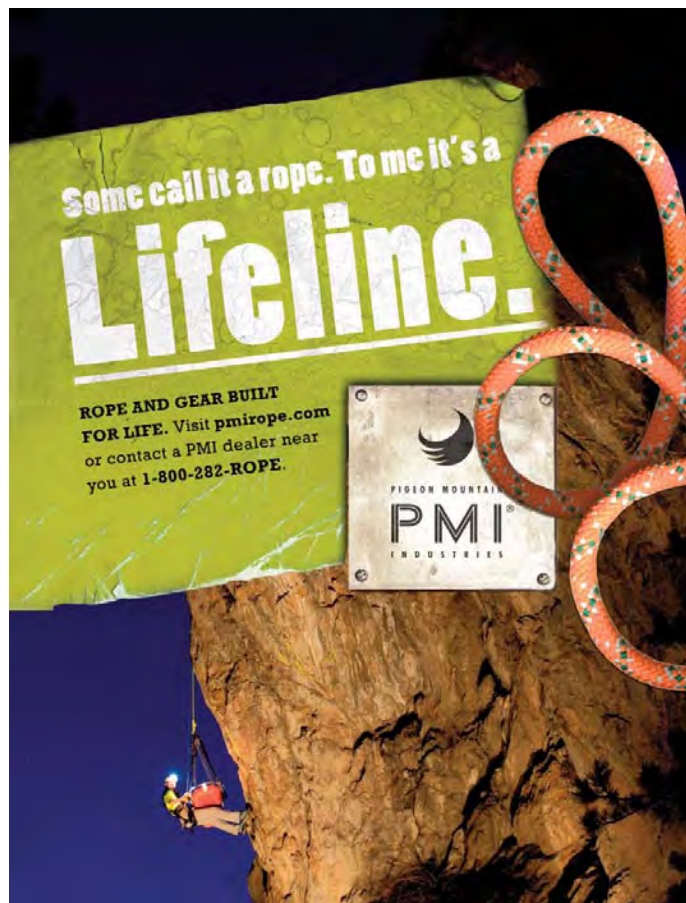




Above: We wanted a rope rescue cover for 59 and having had two Canadian covers, three US covers, one Saudi Arabian and one Dutch it was time for something from dear old blighty. We've worked so much with the UK Coastguard lately that they seemed the obvious choice. We got loads of options including some featuring our most willing cover subject Ian Plater but he will again be devastated that after much deliberation, our chosen cover features our own Rich Hackwell. It's no coincidence that Rich engineered the photo shoot so that he became the only one available while a stretcher was coming down.



Right: Meanwhile.....if you missed the last issue, you didn't get to read about the Urban Climbing techniques of the Dutch Police (well...not all of their techniques because that would give the game away, but enough to give you some ideas), our Market Guide to PWC or RWC Rescue Water Craft which is the preferred term, London Fire Brigade continuing to deal with Heavy Vehicle Rescue (as they are again in issue 59) and Gear Reviews on Petzl/DMM/Rock Exotica carabiners, Actsafe harness, Keela Jacket and Wenger watch



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Quality and Performance You Can Trust

A Rescuer Arrested

How It Happened and What We Can Learn *by Charlie Walbridge*

Experienced whitewater paddlers know how to deal with anything from a routine swim to a life-threatening pin. Despite this, very few of them are prepared to work with Emergency Responders. When police, fire, and rescue personnel arrive, the situation changes. They are, to use a legal phrase, the "designated state authority". This means that they can take over a situation and arrest anyone who disobeys their lawful orders. [Trained] First responders are usually better trained to handle emergencies than the average person. After all, no one runs into burning buildings or [cuts] people out of wrecked cars unless they know what they're doing. Swiftwater rescue is a different story. Expert whitewater paddlers have superior in-water skills, better than most topnotch SAR professionals. When they want to help, they're not always welcome.

Clear Creek, which runs along on I-70 and US 6 in Colorado's Front Range, has sections ranging in difficulty from Class II to V. It's a popular after work run for many Denver area boaters. But there are risks: six paddlers have died here in the last 20 years, along with a number of swimmers and fishermen. This past summer two raft guides were arrested while trying to rescue one of their guests. The story has useful lessons for paddlers, outfitters, and first responders.

It was a very high water day on June 10th when an Arkansas Valley Adventures raft missed an eddy at the end of their beginner trip and floated into the advanced section just downstream. They flipped, tossing everyone in the water. The adults got to shore but a 13 year-old little girl washed downstream through several miles of serious Class IV-V rapids. Ryan Snodgrass is a ten year veteran guide and a Class V kayaker who is certified in swiftwater rescue and first aid. He works as trip leader, guide trainer, and safety kayaker for the company. He'd just finished a trip on the intermediate section when his manager told him what happened. Grabbing his gear, he and several other guides began a wild drive downriver. Just below a tunnel they stopped and listened. They heard a girl screaming. They ran to the guard rail and spotted the girl on the far shore. Her back was against a cliff, so she couldn't move up or downstream.

Someone, probably a passing motorist, had seen what happened and dialed 911. The Clear Creek County Sheriff's Dive Rescue Team responded. Many rescue squads only deal with fast moving water once every 4-6 years and their training is spotty at best. This team is different. Set up in 1984 and trained by Dive Rescue Specialists and Rescue 3, they are in the river year-round managing auto wrecks and searching for missing persons as well as responding to the usual swimming and boating accidents. They have a strong reputation in Colorado and are often called on to assist with searches and recoveries elsewhere.

Two strong teams, highly trained and confident, had converged on the scene. Both felt a responsibility to perform the rescue. Adrenaline was flowing and everyone was keyed up. It's not easy for two groups that don't know each other to team up for a rescue under ideal conditions. This meeting was more like a collision. Several Dive Team members wearing civilian clothes shouted at the guides not to intervene. This would later escalate to shouting, cursing, name-calling, and shoving on both sides. But the guides were intent on doing their job, and paid them no mind.

Several guides planned to reach the girl so they could check her for injuries and offer support. They went downstream to a calm stretch and set up safety so Mr. Snodgrass could swim across the river. He described the swim as "a simple jump from a rock at the bank and a swim ferry into a well defined eddy." He moved quickly upstream and made contact. Finding her unhurt he began scouting for a place to catch a throwbag to pendulum her over to the near shore. That's when a uniformed rescuer shouted that he was in charge and ordered Mr. Snodgrass not to move the girl. A CCDT rescue swimmer, after several attempts, made it across the river. (NB: most rescue squads don't even have a rescue swimmer) The guide stepped back as the swimmer checked the young lady over and the rest of his

team set up a system to bring a boat over and back. It took about 45 minutes to get the system up and the girl across. Mr. Snodgrass was then ordered to cross the river using the same system. When he reached the near shore, he was arrested, handcuffed, and taken to jail. A second guide, Justin Lariscy, was also arrested. They were both charged with "Obstructing a Rescue" and "Obstructing a Government Operation".

Why such a serious conflict between two very competent groups? It starts with a real difference in training and philosophy between whitewater paddlers and emergency responders. Swiftwater rescues are just one type of emergency that first responders train for. River guides and whitewater paddlers, by contrast, are totally focused on the river. Many paddle over 100 days per year; rescuing swimmers, unpinning boats, and picking off stranded paddlers is all in a day's work. Their different backgrounds result in very different rescue styles. Guides and paddlers have limited resources and are presented with evolving situations that demand immediate action. They respond individually or in small ad hoc groups with fast-moving, in water techniques that are considered reckless, even dangerous, by SAR professionals. Trained First responders bring lots of gear and people but take more time to get to the scene. Most situations they encounter are stable, though unresolved. They are trained to work as a team, with a well-defined chain of command. They handle these low-urgency, high-risk situations in the safest possible manner. Although this approach is seen as slow moving and awkward by whitewater paddlers, first responders would counter that rescuing members of the general public, rather than other paddlers, demands extra caution.

Furthermore, the groups each had unflattering stereotypes about the other. Emergency responders as well trained as the Clear Creek Dive Team are rare, and paddlers are more familiar with many bungled rescues made by other "professional" SAR units. For most first responders, emergencies requiring moving water skills are quite unusual, and training resources are therefore limited. Even a rescuer who has six days of swiftwater rescue training and takes four days of practice per year has less time on the river than the average intermediate kayaker or rookie raft guide. So naturally they work differently than true whitewater experts.

Rescue squads usually deal with the most inexperienced and irresponsible whitewater paddlers. They do body searches and help out clueless river runners stranded on islands or mid-stream boulders. Not surprisingly, they think of paddlers as "stupid, beer-drinking, dope-smoking hippies" who don't wear PFDs or cold weather gear, take stupid risks, and don't take care of themselves. Trained whitewater paddlers and guides, by contrast, handle their own mishaps and seldom call for outside help. So the two seldom meet.

Cell phone usage creates additional challenges. Nowadays 911 operators often receive calls from passers by. On roadside rivers these calls often involve problems that experienced rivermen can manage themselves. False alarms occur regularly. On one roadside stretch of the Potomac near Harper's Ferry, WV, 911 operators hear not only from drivers, but also from livery customers who loose their boats or tubes and call for help. One outfitter told me that he often encounters rescue squads when picking up stranded customers or recovering pinned boats. Sometimes there are arguments about "who is in charge" and a simple situation turns more complex. He described one incident where two paddlers sunbathing on a midstream rock were reported as "stranded". This set in motion a huge response involving two fire companies, a major bridge closure, and a helicopter! But it's pretty difficult for 911 operators to know what's going on and everyone probably over-reacts in the interest of safety. The AVA guides who were searching Clear Creek never called for outside help, and the Clear Creek Dive Team was not told that there was a team of skilled professional guides on the scene.

One other concern with over-reaction, aside from the wasted resources, is that

rescuers have occasionally tried to help people who don't want or need assistance. This has been an issue in the mountains when relatives of overdue climbers notify authorities. For skilled climbers, waiting out a bad storm for several days is not only possible, its prudent. Some years ago a young man named Scott Mason got lost in Mount Washington's Great Gulf in winter. Although he was several days overdue, he was tough and self-reliant. He was walking out on his own when the "rescuers" found him. Later he got a \$10,000 bill from the state that was only withdrawn after an extended legal and political fight. You can decline help, politely but firmly, and should do so when it's appropriate. The rafting company, if given the opportunity, would have probably done this. Emergency responders are rightfully wary of accepting help from skilled bystanders. Imagine, as the incident commander of a rescue team, being approached by someone who says he's a whitewater paddler trained in swiftwater rescue who wants to help. You really don't know if that person is who he says he is, but you do know that when someone gets hurt you'll be held responsible. You, your crew, and the government could be sued for damages. One professional put it bluntly, "The world is full of idiots and wannabees and we don't have time to weed out the idiots and pick the good guys. We go with people we know." They are required to secure the scene, and this means keeping people who aren't part of the team away from the action.

In swiftwater rescue classes I discuss what paddlers should do if they encounter another group of paddlers with a rescue in progress. Put simply, you have to work with the people who are already there. Maybe those folks will accept your input. If not, you can help out on their terms or move on. Sometimes a hot-shot boater who jumps into a rescue without talking to those involved screws everything up. I still remember a fellow who came upon a pinned open canoe I was trying to release. He barged in, and a few minutes later broke the boat in half, insulted the boat owner, and left us with a mess. Months later he still felt he had performed a useful service. Only the actual risk of death or serious injury justifies starting an argument or interfering with a rescue in progress. Even then, you should think twice!

If you encounter a rescue squad working on a river rescue and think you can help, ask to speak to the incident commander. Make your case calmly and respectfully. You may still get turned down; the IC is under a lot of pressure and may be pretty abrupt with you. Rescue squads vary in how open they are to outside help; some have written policies against it, other leave it to the incident commander's discretion. Remember that even a rescue that you don't think is ideal is often good enough. Be patient. There's no question that either the Clear Creek Dive rescue team or the guides could have rescued the young girl safely. If a rescue squad comes across an incident that you're working, send someone who can serve as triple leader up to talk. Explain what's happening and ask for whatever help you need. In one incident, Adirondack Park Rangers were called to the scene of a fatality where the victim's group was working hard to recover her body. They set up their system, then approached the paddlers, and asked if they could attempt the recovery. They were in fact successful, and their sensitivity brought them a great deal of respect from the whitewater community.

Over the years I've found many examples of strong cooperation between paddlers and first responders. Building this relationship takes time. Outfitters and paddling clubs who have a solid relationship with EMS usually worked on it before an emergency. Some paddlers and guides join rescue squads and some outfitters schedule joint training to develop a formal or informal relationship with local teams. In places like the Nantahala and New Rivers rescue squads typically depend on outfitters to manage the in-water portion of the rescue. Once the victim is on shore they take over. Then the greatest strengths of EMS professionals – advanced medical care and fast transportation – come into play.

This story had a reasonably happy ending. Duke Bradford, owner of Arkansas Valley Adventures, stood firmly behind his guides. The guides' arrest received wide publicity throughout the region and drew hundreds of comments in chat rooms. The Sheriff received a torrent of critical emails and phone calls. Although the public was clearly sympathetic to the guides, cooler heads recognized that the Dive Team had a point, too. There was plenty of blame to go around. Eventually the sheriff, district attorney, and guides had a sit-down. The guides wrote a letter of apology and the charges were dropped. We expect that this is the beginning of real cooperation, or at least mutual respect, between the outfitter and the county dive team.

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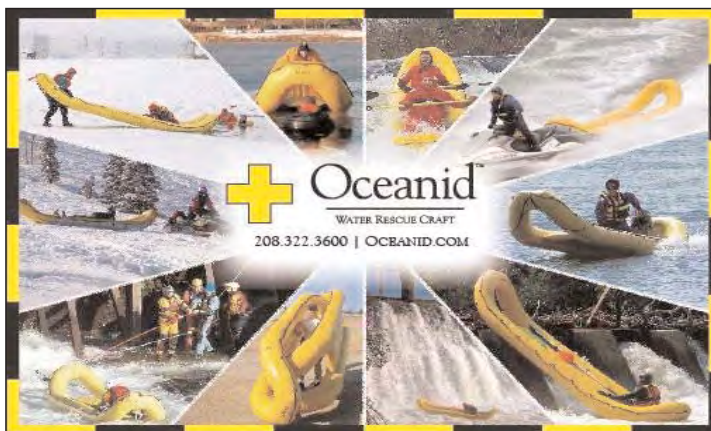


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As usual we were so late getting issue 59 to print that we decided to bring out the Emag a little early to herald the fact. This Emag should be detailing what's about to appear in issue 60 so we remain a couple of issues behind, nothing new there - why do you think we never put a date on the magazine and charge subscribers for 4-issues rather than an annual subscription? Things should improve from this coming January as I get back to the business of magazine production full time instead of my current evenings-only. The editorial side of the magazine is now extremely well supported with a great team of folk from around the globe providing material, reviews, opinions, ideas and peer review. We now have regional editors covering the USA, Canada, South Africa, Australia, New Zealand and Holland . Australia and New Zealand are our target areas for the next couple of issues while we concurrently scheme to get Ireland more involved in TR editorial. The hard-copy magazine continues to find new converts around the world and we're very pleased to now be read in 57 countries so we're taking the next big step and producing Technical Rescue in a page-turning digital format as well. Lots of people don't like digital magazines, me included; Books and magazines will never be replaced in the way people once predicted because there is nothing quite like paper in the hand, the gloss of a new cover or crisp new pages. But there are times when it's handy to be able to have it readily available on your computer - some people will no doubt ONLY subscribe to the digital version - cheaper but not as aesthetically pleasing and I don't wanna hear about you traipsing off to the latrine with laptop in hand - that's just plain unsavoury. Existing subscribers and those subscribing to the hard copy magazine will receive the digital version free of charge so make sure we have your current email address. For those who only want the digital version a 4-issue subscription will probably cost \$10 (£7.50). Stay tuned.

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CHILE'S GREAT ESCAPE



by **Brian Robinson**
TRm Con-Space Editor

(Photo: Luis Hidalgo/AP News)

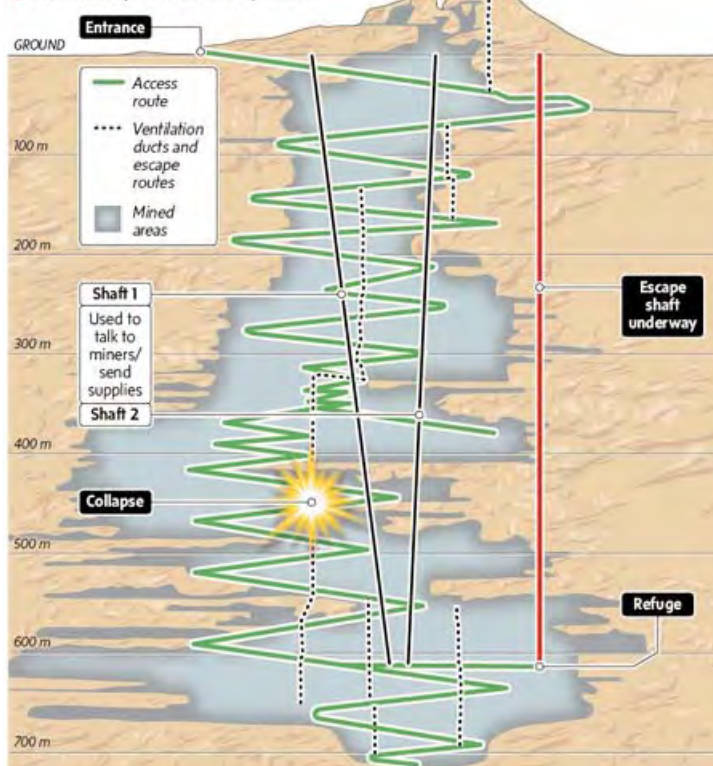


THE STORY BEGINS.

The mining world gets reports of disasters every week from China, its no surprise from there any more, then very occasionally we get the reports also from the US in the last few years, unfortunately with devastating conse-

quences, but it was a shock when reports came from Chile of a major roof fall, in a remote region of the Atacama desert, so remote that it took nearly 2 days for the news to get out. That was on Thursday 5th August, the first collapse occurring at 2pm.

➔ ACCIDENT, SAN JOSE MINE, AUG. 5



GRAPHIC courtesy of the Globe & Mail - Canada

THE RESCUE

The first external emergency service called immediately was the local Police rescue unit, a 2 man unit, used to all kinds of rescue in the desert, on the roads, and yes fairly used to first response at the San Jose mine. Being used to responding there, they thought it going to be a "normal" 3 hour rescue. Once they got there, accessed the main mine decline, saw the collapse, called for back up, knowing it was going

Now though, the San Esteban mining company's San Jose mine just outside Copiapo, Chile, was about to become major headline news.

Then, the jungle drums were beating, even more so than the BBC, in the form of emails and telephone calls requesting ideas from any mining company or rescue specialists that had ideas how to get into the mine.

The initial reports gave the possibility of collapse from the 230m level, right down to the 730m level, in mining terms this is unheard of to have such a catastrophic collapse, Even more so, the same reports gave news of no communications for 2

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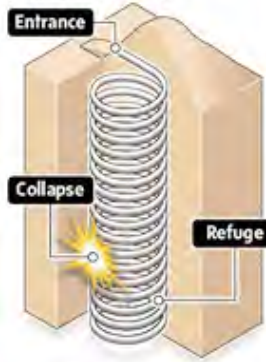
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THE ORIGINALS in Rescue Equipment

SCHEMATIC

The access route forms a spiral shape as it descends.



SURVIVAL

The miners rationed food during their first 17 days and will have lost approximately 20 kg each. They are living in a tunnel, 2 km long but do not sleep in the refuge shelter.

Temperatures in the tunnels can reach 35°C with humidity of 85%.

SUPPLIES

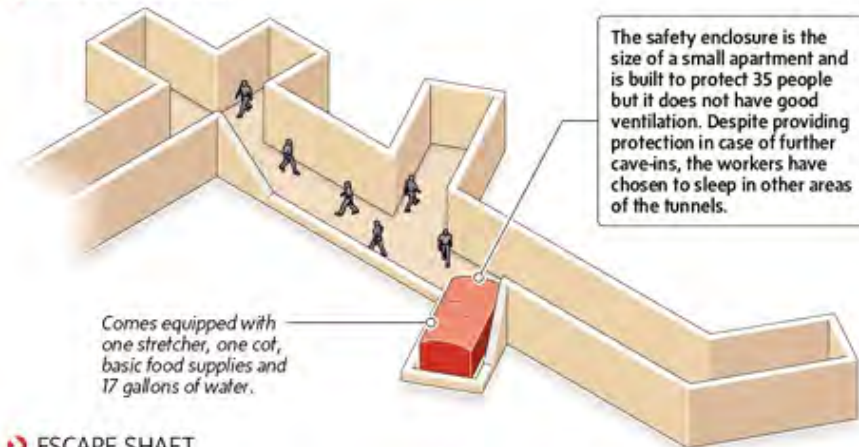
During the first 17 days, the miners survived on the following for a 48-hour period:

- half a biscuit
- 2 spoonfuls of canned fish
- half a cup of milk
- peach preserves
- water as needed

Nine vehicles are trapped with the miners and can be used for relaxing and getting around:

- 3 pickup trucks
- 3 drill trucks
- 2 crane vehicles
- 1 truck

REFUGE CHAMBER



ESCAPE SHAFT

1 The Raise Borer Strata 950 weighs 40 tonnes. Assembly has finished and a test bore hole drilled.



3 Once the pilot shaft is finished, additional drills are used to widen the hole enough to allow a human to fit inside.



2 First it will drill a vertical pilot shaft through the solid rock.



4 The miners will be lifted to the surface one at a time in a cradle – a trip that will take three hours each.



It could take three or four months to reach the miners

DIAGRAMS NOT TO SCALE
THE GLOBE AND MAIL/NINIAN CARTER/
GRAPHIC NEWS/REUTERS
SOURCES: SAN ESTEBAN MINING COMPANY;
EL MERCURIO DE SANTIAGO

to be days and not hours!

The Atacama region's six-person special operations emergency squad was then called in and entered the mine at 9 p.m., seven hours after the collapse.

A major player was Codelco, the state-owned mining company and the largest copper producer in the world. They were able to send experts, miners and equipment. This excellent graphic (left) was produced for the September 1st edition of Canadian Newspaper the *Globe & Mail* but they were pretty much spot on with everything except the miners came out a little early.

Initially the rescue effort concentrated on "re-mining" the collapsed spiral decline, trying to descend the second means of egress, which was a system of vertical ventilation shafts or "raises", then quickly being added to by small diameter boreholes being put down to the lower reaches of the mine where the miners were known to have been at the time of the initial collapse. The re-mining operation was fraught with danger, the ground was highly fractured, unstable, and difficult to stabilize, this resulted in several small collapses whilst working, to a point where this method was abandoned on safety grounds.

The vertical ventilation shaft system was also greatly affected by the collapse, as the shaft system was on the very edge of the major collapse zone, comprising interconnected shafts with ladderways, and again proved impossible to access at all, let alone safely, a further collapse occurring during exploration.

DRILLING

For rescue purposes, drilling isn't new, last used to great effect at the Quecreek coal mine flooding in Pennsylvania in 2002 to rescue 9 miners via a 66cm borehole (See TR issue , but that was only 80m or so (240'), San Jose would be a little different, heading for the last known location, the boreholes would be up to 700m.

The program began, almost randomly as plans of the mine were unreliable, and within days 7 drill rigs were in operation putting down 4" and 6" holes. At the peak, 11 drill rigs were running simultaneously. Some ran into difficulties intersecting old workings, the area is full of them, this sometimes trapped drill rods, made them deviate, if they hit steel supports it wrecked the bits.

At day 15 people were getting very despondent, with boreholes intersecting roadways that, when cameras were put down, were fully collapsed at 600m, showing that yes, the problem more than likely went right down from the 240m mark, to now at least 600m plus. Shots showed fully collapsed roadways with tyre tracks on the floors, places where no one could survive. Day 17 however changed the world. President Pinara just happened to be visiting, when one of the drills intersected a void. Shortly after, the drill rods being left down the hole, hammering sounds were heard, as miners below hammered on the drill bit, the vibrations and noise carrying to the surface.

When the dill was removed from the hole, 2 handwritten notes were attached to it, simply saying that all 33 miners were alive and ok, and congregated at the mines lowest refuge chamber!

As well as from Chile itself, drilling crews from the US, Canada and Australia took part in the rescue efforts.

CHILEAN MINE RESCUE



A still frame from the live feed of the capsule at the bottom of the rescue shaft

REFUGE CHAMBERS have several functions. The first, common to all, is that they act as a muster station for any kind of incident, where communications generally remain, first aid supplies, food, water etc. In the event of a fire, most are designed to enable to be sealed from the mine atmosphere, and either by a self contained system, or an externally fed air supply, give the miners a place to remain until rescue takes place, in the case of a self contained unit this obviously has time constraints.

In the case of San Jose, fortunately, the mines underground workshop / refuge area was not at the very bottom of the mine, established around the 600m mark. Fortunately also, the mine is above sea level, generally dry, and has no gas problems.

MEDICAL INTERVENTION

Prior to the boreholes breaking through, the guys really were out on a limb and on their own, there were no major problems other than general cuts and bruises associated with mining activities. With a very limited diet, in quantity and quality, they all obviously suffered deficiencies, coupled with no sunlight also. Easily rectified by good food and vitamin supplements, medication etc, as long as it could be passed through a 4" borehole that is!

Then the 4" boreholes were used solely for supplying fresh air, communications, supplies etc, the rescue holes were begun, firstly at 33cm, being reamed out by a "raise borer" to 66cm. As seen by the world, 3 specially constructed by the Chilean Naval workshops (as this isn't an everyday, off the shelf item) bullet shaped rescue capsules were sent to the site, designated Phoenix 1, 2 and 3. Equipped with an oxygen therapy system for the guys ascending, just in case the trip took longer than anticipated, and a harness to ensure the head was kept upright if anyone went unconscious. Neither of these were actually required, but the thought was good.

Instead of a straightforward ride up, firstly a paramedic went **down**, not generally in the day to day job description, Manuel Gonzales descended to assist medically before the 33 came out, armed with sedatives etc if required. Several other rescue & paramedic personnel went down also, in many ways adding to the risk factor, more bodies to get out as well! The rescue shaft was also not vertical, in order to get to the correct place underground the shafts were angled, no doubt adding to the thrill of the ride, up or down. At one point it's recorded that Manuel actually got to tell the Minister of Health for Chile what HE wanted.

One by one, the ride itself taking around 16 minutes, they all ascended back to surface, a task taking around 26 hours, all returning to surface after a 69 day ordeal for them.

They were whisked to an onsite medical facility, then in groups of 4 were dispatched to the local hospital at Copiapo, by helicopter or land ambulance. After very basic assessments, the only problems again were small deficiencies, dental and infection problems, but overall everyone was found to be in good general health, the longest any remained in hospital was 4 days, show-

ing the resounding stature of the guys themselves to get back to normal, or as near as they will ever be.

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New Animal Rescue Truck

As a predominantly rural fire and rescue service, Hampshire in central, southern UK has always been at the forefront of animal rescue practices. In a process of specialisation begun by HFRS Multi-Role Vehicle crews and the Technical Rescue Unit over a decade ago the Service is now launching a brand new animal rescue vehicle which has been sponsored by Pet Plan Charitable Trust and custom fitted by its end users to meet their every need at an incident.

Animal Rescue Specialist, Watch Manager Jim Green, has overseen the project from its inception. He said: "We selected the Iveco Daily 4x4, which had been established for many years in Europe as a military vehicle but was due to be provided to the UK market. This chassis was offered as a crew cab and had a 3.5 or 5 tonne payload. "We decided to place an order for a 5 tonne chassis cab and after some pre production hold ups was delivered early in 2010. We are now ready to go live with this vehicle." The project began four years ago when Hampshire Fire and Rescue Service started the process of improving its response to rural incidents which consisted of three strands - rural fire safety, wildfire safety and animal rescue.

One of the outcomes of the project was the establishment of a fulltime Animal Rescue Specialist to co-ordinate and improve the Service's response to animal rescues both large and small in nature. This service expanded and in 2009 the Service's four Animal Rescue Specialists responded to 350 calls which ranged

from dogs in house fires to snakes trapped in a car, horses in transportation incidents and cows stuck in a slurry lagoon.

Animal rescue has traditionally been seen as a "softer" humanitarian service where firefighters improvise their equipment to assist.

Despite this ad-hoc approach often producing positive results the safety of rescuers and the welfare of animals was consistently compromised.

After a successful national conference in 2008, Hampshire FRS was asked by CFA to establish a national forum in order to standardise an animal rescue approach, promote good practice and provide accredited training for responders. Much of the development work for safe and efficient techniques has come from Hampshire and this is now assisting the national FRS approach to rescue animals safely



and humanely.

A real boost to this development work was a donation by Pet Plan Charitable Trust whose Chairman, David Simpson saw an opportunity to invest in the welfare of animals nationally. This initial funding was followed up with a substantial donation in order to develop a prototype dedicated animal rescue vehicle for HFRS which could be copied by other FRS's looking to provide a dedicated response to animal incidents.

Watch Manager Green added: "Many people think about animal rescue in terms of a huge off-road vehicle with a crane. Whilst lifting is an important aspect of some animal rescues, our experience shows that with an improved approach to incidents and greater understanding of the hazard and effective control measures, the need to lift has been greatly reduced.

"Also the cost of a dedicated animal rescue vehicle with a crane would be prohibitively expensive, particularly in the current financial climate."

The main requirement for the Hampshire vehicle was to transport a crew across a variety of terrains in all weather conditions as well as to carry a large range of animal rescue equipment. The final concept was for a box body on a 4x4 chassis with a crew cab.

"Several options were considered but it was evident that not many current vehicles would fulfil this criteria, giving us exceptional 4x4 capability and ground clearance but also having the load space required for all the equipment, particularly the bulky rescue glides," said Watch Manager Green.

"We investigated the Iveco chassis which was taken to local bodybuilder Musselwhites in Romsey for a box body, paint job and full lighting spec."

The Fleet Maintenance Centre at Hampshire Fire and Rescue then took on the task of fitting all the required equipment into the box body and constructing the necessary sliding tray which enabled the best use of the limited space available.

Off road familiarisation is currently taking place on Forestry Commission land and the vehicle becomes operational in late November.

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2011 SAR Conference - Conference Classes

This year, all of the classes at the Conference are being reviewed and updated to provide the most up to date training available. Through a collaborative effort between the Washington State Search and Rescue Coordinators Association (WASSARCA), the Search and Rescue Volunteer Advisory Council (SARVAC), and the Washington State Search and Rescue Coordinator, the classes are going to be organized by "tracks" and will be a mixture of classroom and field exercises designed to enhance existing skills and to develop new SAR skills. (More details to come later.)

Still in the development stage, and new to the Conference in 2011, will be the SAR Academy for new SAR team members who are looking to be certified in all of the classes outlined in WAC 118-04-120. Nicknamed the "WAC Track", the classes will be set up to get a new SAR team member up and running and able to head out on their first search. Upon completion of the "WAC Track", the searcher will receive an ID card with the Washington State Search and Rescue logo signifying that they have completed the track certifying them as a basic searcher.

www.sarconwa.org/conference.html

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First held in 1998, Shephard's Search and Rescue conference and exhibition has developed a global reputation for being THE essential gathering for SAR professionals. This high-profile event has been supported by the RNLI, HM Coast Guard, the US Coast Guard and the European Helicopter Association; and provides the largest international gathering of SAR experts in Europe.

For 2011, Search and Rescue returns to Bournemouth, UK. With the RNLI headquarters close by, and a location near to the beachfront, the event will offer the opportunity for live demonstrations, interactive workshops as well as an opportunity for networking and learning about the latest developments within SAR and CSAR.

Exhibition Application

Sponsoring or exhibiting at SAR 2011 places your company at the forefront of key decision-makers involved in SAR and CSAR across air, land and sea from government, industry, military and public services.

[Download the exhibitor application form >](#)

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Conference Seminars – call for papers

We are now accepting submissions for technical papers and papers from operational experience covering SAR and CSAR.

To submit a paper abstract, [download the call for papers form here>](#)

Please note: Papers submitted by sponsors and exhibitors will be given priority over other industry papers.

SAR Awards 2011

SAR 2010 inaugurated Shephard's SAR award, which was presented to Wing Commander Steve Bentley on behalf of RAF Rescue 122, due to their rescue operations during the Cumbrian floods.

SAR 2011 will host the second international SAR award.

For nominations and nomination criteria, email John Astbury on john.astbury@hotmail.co.uk

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REVIEWS in the PIPELINE

After the wad of rope rescue equipment we mentioned last issue it's back packs that have filled our mail box this quarter. Apart from the excellent Rockworx from Camp that we mentioned last time which is already earning its keep they also sent an item very similar to the SOS Patrol we first reviewed several years ago - This is the Smart Backpack which uses the same grab bag inserts as the SOS Patrol but has been very much updated in it's square - stand-alone design and the complex array of pockets. We already know this is a great trauma pack because we still use several of these grab bags now.



We have some equally outstanding items from Infinity Gear. It's easy to sound over enthusiastic when you receive new equipment but after a quarter of a century of checking out gear I'm pretty confident that the Infinity is going to pass muster. The attention to detail is second to none and quality of manufacture looks to be superb. We have the USAR vest and USAR pack both with a multitude of storage options, the 24 hour

Field Pack which Lee is using and a couple of rollalong storage bags that I think Sean may have ended up with instead of Church in Canada - Ah well, possession is 9/10s of the law.

The USAR Web Harness EX System is a modular system with a detachable main pack, drinks/can holders, pouches and a reinforced

bum bag (bum box might be more accurate) that clips below the main pack.



There is so much to play with on this pack that it's like Xmas every day finding new attachment options. Brilliant.

The vest version of the USAR EX System is Infinity's USAR Web Vest with more pockets than a marsupial tea party. everything from chem-stick and radio pouches to pen/notepad pockets. Again the quality of construction and thoughtful design gives you every confidence in it's likely performance. Meanwhile, back across the Mississippi, Ben is still drifting downstream in his NRS drysuit because we didn't get his review for issue 59 so hopefully we'll catch him long enough to get it into issue 60.

On the sharp and shiny front we have 3 multitools from Leatherman - the latest Supertool 300 - a beast of a tool and their heaviest yet, the more distinguished looks of the Surge and a new mini-tool the Style which has some girly tools (tweezers and nail file) but a sharp knife blade, combi screwdriver, scissors and a neat clip on the end. We also still working through a selection from CRKT including their water rescue knife which will be in the next issue .



The post 9.11 establishment of Hazardous Area Response Teams with in most UK ambulance services was applauded by TRm as we see a very tangible benefit to this program in everyday emergency response not just the occasional terrorist incident. It is not a new concept since we featured West Midlands in and on the cover of issue17 back in 1998 with their dodgy pre-HART acronym for Special Casualty Access Team. These days our own Rich (Dinger) Bell is head of training for West Mids Ambulance HART (by sheer coincidence) and when he finally gets his finger out will be providing regular input from HART. In the meantime, the newly established East of England Ambulance HART provides the background to HART and an incident straight away!

East of England HART TEAM GOES LIVE

The East of England Ambulance Service (EEAST) is proud to introduce its new Hazardous Area Response Team (HART). The highly skilled team will be working in areas where crews were not able to operate before, allowing them to deliver emergency patient care faster.

Steven Moore is the EEAST HART manager. He said: "Historically, treatment of patients didn't happen until after the fire and rescue service had arranged for the patient to be brought out of the incident inner cordon (the hot zone)." Steven added: "Specialist training and personal protective equipment (PPE) has given our HART paramedics the skills and equipment to get to a patient in a hazardous environment, in a confined space or those trapped at height, so we can work alongside the fire and police services and provide life saving treatment and care at the point of harm."

HART then move the patient to the warm zone (see notes to editor), where their care is managed by EEAST Special Operations Response Team (SORT), before they are moved to the cold zone for continued treatment, care and transportation by accident and emergency crews. This whole team approach means patients receive treatment and care from a professional medic at all points of contact.

The team is equipped with specialist vehicles including a Incident Command Unit (ICU) and an Incident Response Unit (IRU). The ICU has sophisticated technology to enable the use of voice, data and video operations. On board, the ICU has an array of IT equipment including touch screen displays, a screen on the outside of the vehicle, computers and software designed to operate wherever HART units are deployed.

The other vehicles carry the crews PPE and breathing apparatus as well as specific oxygen delivery systems which allow the treatment of up to 48 casualties at a time. The PPE means life-saving treatment can be performed in some of the most hazardous environments.

EEAST chief executive Hayden Newton said: "A lot of what we do is quite finely skilled work - putting in needles, giving injections, and putting in breathing tubes to maintain airways. Those are the sort of things that you find very difficult to do with a thin latex glove on. Doing it in thick protective clothing and thick rubber gloves requires intensive training and good practice."

Since its operational launch, HART has responded to 15 specific incidents across the east of England, including a recent incident where a man fell off a roof and was brought to safety by the HART team working closely with the fire service. He was approximately 6 metres up on a flat roof.

The HART team has also responded to more than 31 life threatening 999 category A emergencies since becoming operational.

EEAST HART is on-call 24/7, 365 days a year to respond to major incidents anywhere in the region. The team consists of 44 highly skilled paramedics and EMTs who previously operated in Bedfordshire, Hertfordshire, Essex, Norfolk, Suffolk and Cambridgeshire.



East of England HART CALLED TO CHEMICAL SUICIDE IN ESSEX

By David Robinson, HART Paramedic, East of England Ambulance Service

At 0848 on 20th September 2010 East of England HART were passed the details of an apparent chemical suicide in Braintree Essex. Initial information suggested a vehicle with two occupants both possibly dead with signs on the window warning people not to enter as hazardous gases were present. A local RRV had attended the scene and quickly identified the need for HART and made an initial assessment, from a safe distance, that both patients were unfortunately showing no signs of life.

HART mobilised the forward reconnaissance vehicle and the USAR vehicle from the base and also one of the HART specific RRVs direct to scene. The second RRV returned, en-route, to the HART base to collect the communications vehicle. The HART supervisor arrived on scene in the USAR vehicle with a colleague and they quickly liaised with the on scene silver commanders from Ambulance, Fire and Police. Inner and outer cordons had been established and the surrounding industrial units evacuated. The fire crews were establishing an area for responder decontamination and preparing for an approach to the vehicle in Limited Life Gas Tight Suits (LLGTS) and breathing apparatus (BA).

HART were tasked with setting up a forward kit dump close to the decontamination tent and the access to the hot zone. Standard clinical kit was deployed onto ground sheets to provide medical cover for the responders as well as LLGTS and BA for two wearers and the medical recce bag for deployment into the risk area. The command vehicle arrived and was set up behind the kit dump allowing good access and egress alongside whilst being close enough to be of use for briefings and information.

The initial deployment plan was to commit teams of Essex FRS and HART in LLGTS and BA to recover and recognise life extinct. However due to the unknown nature of the gases involved and the need to preserve evidence for the ongoing Police investigation it was decided an initial recce by a HART operative with two members of Essex FRS in BA was appropriate. The rationale was that any contaminate was enclosed within the vehicle and as long as this was not opened it would not require LLGTS. A HART team member committed in BA with the FRS team, carrying a still camera and with the body worn camera mounted on his helmet. Whilst the FRS crew assessed the vehicle and the environment the HART team member was able to get up close to the car and get good visual observations of both patients where there were no signs of life. Evidence was gathered in real time via the body worn camera and fed back to the communications vehicle where it could be monitored by the silver commanders of all three services. This was especially useful as due to the physical environment and wind direction it was not possible to view the vehicle directly from the staging area. It was identified that the signs on the vehicle read "DO NOT OPEN DANGER - WARNING HIGH CONCENTRATION POISON GAS H2S". This information was used by the FRS Hazmat officers and the HART team leader to source information relevant to PPE levels and health risks. At this point the focus of the operation became centred on the recovery of the casualties in a safe and controlled manner whilst not disturbing evidence or risking the health of the responders and general public. A Detection Identification and Monitoring (DIM) team from Kent Fire and Rescue Service arrived on scene and approached the vehicle in LLGTS and BA. They instantly had high readings for Hydrogen Sulphide inside the vehicle however once the vehicle was opened the gas dissipated and the readings fell to zero.

The decision was made to commit two teams made up of one HART operative and three Essex FRS crew to make safe the chemical containers, remove the casualties from the vehicle and complete ROLE.

After this had been done, and all other details of the operation completed (editor's note: we are unable to go into further detail due to patient sensitivity) this was the end of the operation and the cordon was moved to just the vicinity of the car itself whilst awaiting collection. Our equipment was stowed and a quick hot debrief conducted with input from all agencies. The incident ran smoothly and there was an excellent working relationship between the agencies. Information flowed freely and we were able to demonstrate the capabilities and professionalism that HART can bring to inner cordon working. It was pleasing to see HART take pivotal roles within the incident and the mutual respect between the commanders and all the operatives from the various agencies on the incident ground. This was without doubt a sad incident and our thoughts go out to the families of both casualties but from a HART perspective we are now more aware of the implications of this type of incident and what our response to it should be.

YORKSHIRE HART DEPLOYED TO INLAND WATER INCIDENT

By Wayne Meehan, Yorkshire Ambulance Service HART

On Saturday 5th June Yorkshire HART were tasked to attend a water incident at Bolton Abbey, North Yorkshire, UK. The USAR vehicle was dispatched along with an RRV, both containing Inland Water Responders.

Arriving on scene, the USAR operatives established contact with the on-scene ambulance crew who briefed them on the situation. A child had got into difficulties in the water and had been witnessed to have gone under the water and not resurfaced. Family members and bystanders had tried to rescue the child but had failed, and the emergency services were called.

HART liaised with the fire service, police and mountain rescue all of whom were involved in searching the river. A boom had been set up downstream to ensure a safety barrier was in place and spotters had been established both up and downstream. HART set up two equipment dumps along the riverbank each manned by a staff member for any treatment of the casualty and the safety of the rescuers. There was one casualty who required treatment due to the effects of cold water emersion. HART liaised with the police to establish an inner and outer cordon. The remaining members of the team were dispatched to provide full HART cover utilising the HART Forward Command Vehicle. As time passed, cave rescue and police divers arrived at scene. After a considerable period of time under water the body was recovered to the beach and HART transferred the child to a waiting ambulance.

Despite the unfortunate outcome, HART worked effectively as a team and were well received by other agencies on scene. This job highlighted the need for the Inland Water Responder Course and how this could be utilised and extended in such scenarios in the future.




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ERT Response to Pakistan Floods



UK registered charity, The Emergency Response Team – Search and Rescue (www.ert-sar.org.uk) has just returned from deploying 10 specialist members of their International Disaster Response Team to Pakistan in response to the July and August Monsoon floods which have reportedly affected 20 million people. The team of volunteer Water Rescue Technicians, Doctors and Paramedics took over a week off from work to assist relief effort coordination and then deploy to Pakistan.

The deployment was undertaken whilst liaising with the United Nations in Sukkur. United Nations Secretary General Ban Ki-moon has said the Pakistan flooding is the worst natural disaster he has ever seen. The ERT Search and Rescue team deployed to Northern Sindh by military C130 and was based in Jacobabad where some 700,000 affected people needed rescue, relief and humanitarian aid. ERT had travelled to the front line with Humanitarian Aid such as tents, water, ORS (Oral Rehydration Solutions), food, blankets and medicines etc., all paid for by public and corporate charitable donation. Transport to Pakistan was kindly provided by Emirates Airlines. ERT Search & Rescue had been told to expect 15 to 20 miles width in the Indus River. The local situation was much worse than expected with the floods were estimated up to 30 miles wide in parts and so deep



that many areas were inaccessible by road. As well as providing humanitarian Aid and specialist skills, the team also brought ten new 17 ½ foot rescue powerboats from the UK to use in the rescue missions whilst there. These were paid for by Mr Arif Naqvi and were left in the region for subsequent use by the Aman Foundation, a non profit local NGO.

Working closely with other humanitarian agencies and the military, The Emergency Response Team (ERT) Search and Rescue patrolled from Jacobabad across to the Border of Balochistan and back. Although many people had been rescued in the area they still found dozens of people stranded, many on the roofs of their homes. ERT Search and Rescue performed water rescues and transportation.

However, the team also found many people on roof tops wishing to stay with their homes but still requiring essential aid supplies such as food and water. Mission team leader Gary Foo said, when interviewed by the BBC there, "It is overwhelming and massive. People are in physical and mental distress and it's not going to be over soon. We are working in humid 47 degree heat. The monsoon floods

2010



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are as far as the eye can see and there is mass devastation. There is also mass infection being passed on due to unsanitary water conditions, causing issues such as diarrhoea, skin and eye infections. Everyone we meet is doing what they can to help but it is an absolutely massive humanitarian crisis." He continued "...Working in a water rescue and medical capacity our team was able to deploy in a life affecting way to help the suffering people of Pakistan. There were so many animals trapped and killed by the floods too."

Not only was the volunteer team from the UK well regarded for their donations, expertise and self sufficiency on the front line, but they also had four female members able to deal closely with the health and medical needs of the women and children. One was the mission 2 i/c , an experienced emergency rescue tech and medic, and the other three were female doctors – one of whom spoke fluent Urdu.

Air corridors have now been created to try to link the main cities from these islands but even these areas are still perilously under threat as waters in some areas continue to rise. The floods are still moving down the massive Indus River to the Arabian Sea and further threaten all dams, barges, villages and towns in its path. The floods have already made massive lakes of areas that were once people's homes, towns and farmland.

The team returned home late Wednesday, 25th August 2010,

having provided water rescue and medical assistance and all the aid they had transported to the region. ERT Search & Rescue still fundraising and are raising more monies for another deployment to the disaster. The Emergency Response Team - Search and Rescue members who were an invaluable part of this deployment were:

Pakistan Deployment Team

1. Gary Foo (Leader)
2. Virginia Foo (2 i/c)
3. Alex Uden (3 i/c)
4. Gary Brown
5. Phil Glannan
6. Justin Levine
7. Geoff Geraghty
8. Dr Zarrin Shaikh
9. Dr Victoria Cameron-Mowat
10. Dr Nicola Cullum

U.K. Management Team

- Gary Foo
- Virginia Foo
- Alex Uden
- Jason Foo
- Michelle Foo
- Phil Coffey

UK Logistics & Support Team

- Dr Nisar Yasseen
- Nathalie Tanner
- Dave Jobson
- Jonathan Cox

- Scott Cumming
- Lydia Paniccia
- Sophie Clarke
- Heather Dickson
- Merv Redfearn

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- Hobbs & Sons, Henley
- Linden Lewis Marine

ERT SAR is a UN recognised INSARAG Team and NGO and Mission Leader, Gary Foo, has completed several UN training courses in coordination and is on the virtual OSOCC. ERT SAR has deployed to many global disasters including the earthquake in Haiti, the Oct 2005 Earthquake in Pakistan the Boxing Day tsunami and the floods in UK. Photo Credit: All photos taken between 16 & 26 August by members of ERT (Emergency Response Team) Search and Rescue or Photographer, Asad Faruqi – whilst on deployment in Upper Sindh. contact: gfoo@ert-sar.org.uk

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Results of UKRO Rescue Challenge

The results have been counted and the Vehicle Extrication winners of the UKRO Rescue Challenge "Hampshire 2010" are **North Yorkshire Fire and Rescue Service**. In second place was **Royal Berkshire Fire & Rescue Service** and in third, **Central Scotland Fire and Rescue Service**. Forty six UK teams and two European teams signed up for this year, United Kingdom Rescue Organisation (UKRO) Vehicle Extrication Challenge, hosted by Hampshire Fire and Rescue Service.

The first day in driving wind and rain the top 46 were whittled away down to 20 who competed on day two. At a Closing ceremony on Saturday, 2 October the results of the two day event were revealed.

Hosts Hampshire Fire and Rescue Service came third in the Best Medic category.

Speaking after the event, Hampshire's Team leader, Watch manager Steve Barrow, said: "It was an incredibly close fought challenge with strong efforts from all teams. A huge congratulations to the team from North Yorkshire Fire and Rescue Service for their consistently strong performance and I especially want to congratulate our very own medic, Jim Hutchen who came third in the Best Medic category.



"These past two days have been all about learning and sharing best practice and I believe that "Hampshire 2010" achieved this goal with every participant going home having learnt something new which will save lives in the long run." Hampshire Fire and Rescue Service would like to express its gratitude to the United Kingdom Rescue Organisation for selecting it to host the 2010 Challenge.

The Service would also like to thank its key sponsors, **Silverlake Autoparts**, **BMW**, **Lenox Blades** and **Packexe Smash** along with all event exhibitors. The full list of results is as follows:

ROPE RESCUE CHALLENGE

- 1st - **SOUTH WALES FRS**
- 2nd - Merseyside FRS
- 3rd - Central Scotland FRS



Best Technical team
SOUTH WALES FRS

Best Rope Rescue
Medic
SOUTH WALES FRS

Best Team Leader
SOUTH WALES FRS

EXTRICATION CHALLENGE

- 1st - **NORTH YORKSHIRE FRS**
- 2nd - Royal Berkshire FRS
- 3rd - Central Scotland FRS



Best Medic

- Third - Hampshire FRS A
- Second - Derbyshire FRS
- First - **ROYAL BERKSHIRE FRS**

Officer in Charge

- Third - Avon FRS A
- Second - Central Scotland FRS
- First - **NORTH YORKSHIRE FRS**

Best Technical Team

- Third - Royal Berkshire FRS
- Second - Central Scotland FRS
- First - **NORTH YORKSHIRE FRS**

TRAUMA CHALLENGE

- 1st- **DERBYSHIRE FRS**
- 2nd - Leicestershire FRS
- 3rd - (joint) East Sussex FRS/
Northumberland FRS







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SpanSet Australia advises all users of SpanSet K4 triple action karabiners to remove them from service and return them to the distributor from whom they were purchased, or to SpanSet Australia Ltd for replacement.

Recently SpanSet Australia investigated the breakage of a 30kn (3000kg) karabiner (SpanSet part code K4) that was used to connect a synthetic safety line which was then tensioned and left overnight. Prior to commencement of work the next day an inspection found the karabiner had broken along the major axis spine, at the receptor hole for the lanyard/webbing retaining pin.

SpanSet were given verbal assurance of the correct use by the operator and that only 150kg had been applied to the line.

FINDINGS TO DATE

Internal and external tests on the same batch revealed a consistent tensile strength well in excess of the rated capacity – almost double. This was also verified by the supplier and SpanSet routine batch tests.

- The steel chemical analysis of the raw material batch was within specification.
- The component manufacturer is ISO9001, UKAS and CE certified
- The pretension of the SpanSet high performance ratchet of the safety line is known to be between 600 and 1000 KGF not 150kg as reported, and therefore no “hairline” crack was possible as it was tensioned initially without incident.
- The webbing retaining pin was not in place in the karabiner.
- The karabiner was fitted with a 16kN (1600kg) gate mechanism.
- SpanSet Australia was able to reproduce a near identical break in laboratory conditions but only with the gate open at 25kN.

Users have the option of removing the karabiner and returning it to the supplier or SpanSet Australia Ltd for a replacement, or returning the complete product for re-fitting of the newly tested component.

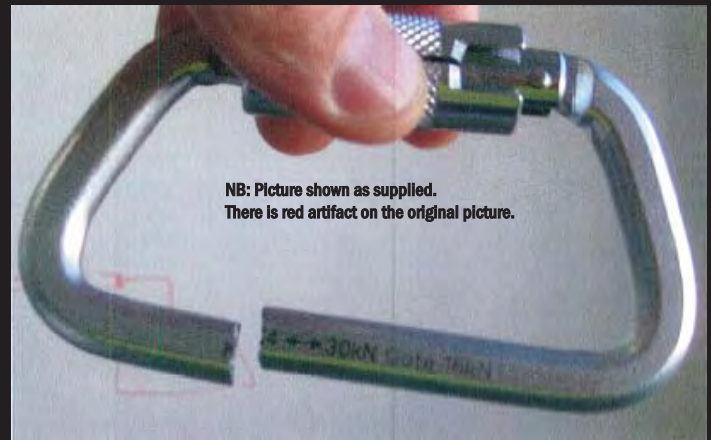
All replacement karabiners will carry the same batch number with a laser etched

marking “Tested 8/10” on the top section of the karabiner. This indicates that the component has been proof loaded to 16kN and safe to use. This exceeds the requirements of AS/NZS 1891.1

The karabiner has been sent for a full metallurgical failure analysis 60% of the batch of 4,000 has been proof tested to 16kN with zero failures After exhaustive testing SpanSet Australia has been unable to completely rule out the description of events provided by the operator and will need to rely on the metallurgical failure analysis to be able to state what exactly caused the breakage of the karabiner. Unfortunately this may take up to six weeks, leaving SpanSet Australia Ltd with no option other than to issue a national recall of this component and any products fitted with this component.

The affected products can be identified by the karabiner carrying the batch number 100329. This is the only affected component. Single karabiners total 474 in quantity.

SpanSet is in the process of writing to the affected distributors with details of purchases and instructions.



NB: Picture shown as supplied. There is red artifact on the original picture.

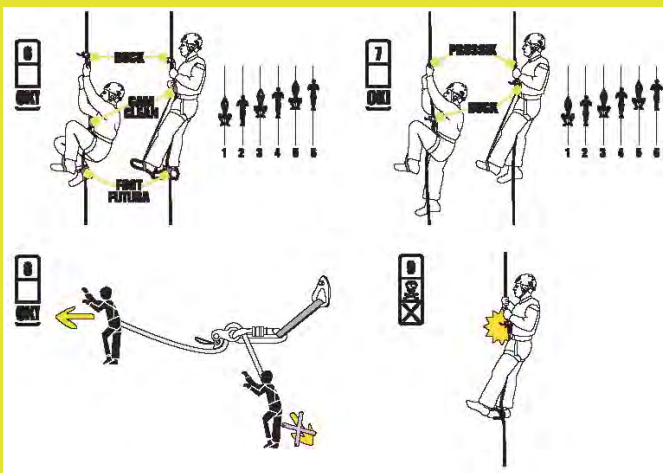
This recall has been lodged with the ACCC and can be viewed on their website. SpanSet Australia Ltd undertakes to publish the results of the metallurgical tests when available, irrespective of the result, and invites any scrutiny, inspection, or audit by our supplier partners or end user customers at any time.

SpanSet regrets the obvious inconvenience and concern this issue may cause and has taken this decision in the interests of Workplace Health and Safety without commercial bias.

Products with the affected components fitted:

Part Code	Quantity	Serial Numbers
3053-0x1.8-K4	2	57130015-16
3053-0x1.8-K4	1	57130010
3053-0x1.8-K4	1	57130004
3053-0x1.8-K4	1	57130006
3053-0x1.8-K4	1	57131020
3108-K4K4-0x2.0	1	68874001
3053E-K4K4-0x2.0	20	68409001-020
3068A-K4K4-0x2.0	20	68909001-020
3068A-K4K4-0x2.0	25	68919001-025
3068A-K4K4-0x1.8	6	68929001-006
3061A-K4K4-0x2.0	20	68984017-036
3053A-K4K4-0x1.8	3	68999001-003
3058-K4-0x1.8	6	69001001-006
3063-K4H3-0x1.8	2	69040003-004
3053-0x1.8-K4	5	69444001-005
3061A-K4K4-0x2.0	10	69557001-025
3053E-K4K4-0x2.0	6	69595001-006
3068A-K4K4-0x2.0	10	68984017-036
3054-0x1.2-K4	1	69679005
3053-0x1.5-K4	4	69679001-004
3058E-K4H3-0x1.8	6	69692001-006
TOTAL	151	

KONG DUCK - Erratum



Instructions for using the Kong Duck ascender for self-belay (number 8) were incorrectly printed in Kong literature. Above is the corrected instruction diagram. The Duck is an emergency ascent/belay device and is unusual in being able to operate not only on 10-13mm rope but on 10-15mm flat and tubular webbing.

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TEAMS



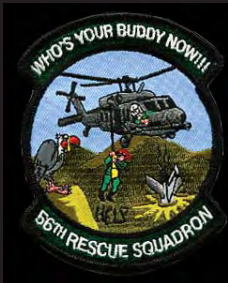
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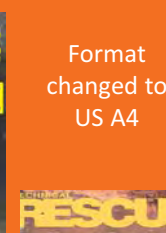
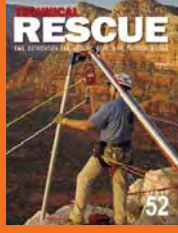
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WHAT'S on THE COVER?

58 A Tactical Urban Climbing Officer of the Dutch Police
 57 US Coastguard Rescue Swimmer
 56 Canadian Ski patroller from Silver Star Resort, BC
 55 Paramedic Ambulance of Ontario, Canada
 54 SWORDS Remote Operated Vehicle
 53 Kawasaki RWC (PWC), one of K38's fleet in California
 52 Arizona Votex tripod in use in AZ by Maryland Firefighter
 51 TRM's own labchimp Gary Cross (ex-TRU) in mud rescue
 50 Canada Task Force 3 Heavy Rescue
 49 A Canadian Police Bell 212 helicopter
 48 NPS Ranger at Big South Fork Tennessee
 47 NPS Ranger in Yosemite undertakes a waterfall search
 46 A modified Nissan Patrol of Icelandic SAR team
 45 SAR Nederland personnel in Pakistan earthquake
 44 San Fransisco Fire Dept Dive Rescue team members
 43 UK Swiftwater rescue swimmer as 'livebait'
 42 SouthWest Ambulance Service(UK) paramedic in cave
 41 ESU Police Officers at 'Ground Zero', New York
 40 Oz Surf Rescue - Palm Beach, North Shore Sydney
 39 Los Angeles FD swiftwater rescuer on highline
 38 Oklahoma Fire Dept using Holmatro Powershores
 37 Confined space rescuer from Sound Beach FD (CT)
 36 Denmark's Copenhagen Airport's Fast Rescue Craft
 35 TRM's Andy Clark at Potters Bar rail crash (UK)
 34 Palastinian Red Crescent paramedic in Rafah, Gaza
 33 TRU's Barry Smith on airline ascending sewer pipe
 32 South African Johann Du-Toit in shored trench
 31 Gambian Firefighters lower colleague into a well
 30 paramedic Rob Keating deals with a GSW Head.
 29 Cape Town Metro

Paramedic Abseils Table Mnt
 28 Lancashire Fire Officer (UK) cutting vehicle
 27 TRU's Ade Scott on airline in silo conveyor
 26 London Police dive team using SRT Ozpod
 25 NSW firefighters in the Warragamba Dam, (Oz)
 24 TRU's Dr Rob Dawes intubates a casualty
 23 TRM's review of how cutters tackle 6 new Jaguar cars
 22 Paramedic attends a mass casualty incident in South Africa
 21 TRU's Kerry Charlton descends in full hazmat with airline
 20 Swiftwater rescuer using a Carlson Board (or similar?)
 19 TRU's Kerry Charlton monitors air in shored con-space
 18 Turkish Mountain Rescue descend with stretcher
 17 West Midlands Ambulance SCAT UK (now HART)
 16 Paramedic rescue swimmer on LifePac helicopter Oz
 15 NSW Police Rescue const. Bill Morris in con-space search
 14 NPS ranger from Grand Canyon National Park
 13 Oz Rescue swimmer of Offshore 2 surf rescue in NSW
 12 National Rescue Service of Denmark using shoring struts
 11 Police Rescue Squad officers Bill and Norm using Lukas
 10 Hampshire Ambulance paramedic uses Combitube
 9 Yorkshire firefighter deploys rescue path on ice
 8 Staffordshire Fire Service rope rescue team member
 7 Poole Lifeguard (Dorset UK) on surf rescue board
 6 South Wales cave rescue raising a cocoon stretcher
 5 The North Sea's mobile rescue rig and Puma helo
 4 A new generation of helos, the NOTAR MD Explorer
 3 NSW Ambulance bike with forest fire smoke in background
 2 Wiltshire firefighter uses Cutters Edge saw to cut entry
 1 TRU's Les Agate (now a senior Fire Service Officer) abseils to glory

COVER ORIGIN

We try to vary the cover discipline so that we spread out rope rescue, water rescue, SAR and extrication/USAR interspersed with some tactical, medical and heli shots. The origin of our pictures in terms of the subject matter sometimes comes in waves of one country depending on where we are working most. You'll notice 11 to 16 contains 4 Australian covers as I was working in Oz for a year (and in fact spent a few months every year in Australia). Issues 29 to 32 inclusive were all African as we went through our most intensive period of working in South Africa. Canada started appearing from issue 49 as we took on Ivan and then Church to help us cover Canadian teams and our old mate Jeremy Griffith (he of the creepy looking cover on issue 42) who owns his own beach and works for about 4 different rescue agencies at any one time decided to live half the year in BC heading up a ski patrol team (issue 56).

	8	Australia
	4	Canada
	1	Denmark
	1	Gambia
	1	Gaza Strip
	1	Iceland
	2	Netherlands
	1	Saudi Arabia
	5	South Africa
	1	Turkey
	22	UK
	10	USA

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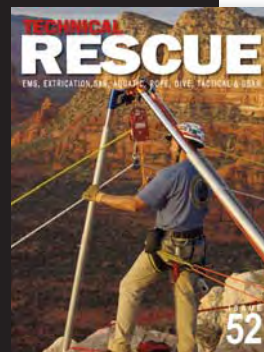
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