

ACCESS

E-MAG 45

2019

& RESCUE

covering **TECHNICAL RESCUE**, **WILDERNESS SAR (PARK RANGER)** & **ARB CLIMBER** print magazines



ACCESS Emag 45 & RESCUE

- 4 **GEAR REVIEWS** by Gear Flogger
Emergency Preparedness
Trauma Kit & Datrex Water bags
- 6 **EXTRICATION STUFF**
Rhyno Glass Cutter
- 7 **ARB/ROPE STUFF**
Petzl ZigZag Chicanery
- 8 **TECHNOLOGY - DRONES**
Evolution of a Drone Project by John Trust
AltiUAS The Benefits of Drones for SAR
- 10 Pro Drone Solutions from Parrot
- 11 Orolia SAR Satellites
- 12 **FROM the ARCHIVES**
Floods March On
- 14 **K9 SAR** Cyclone Idai in Zimbabwe
- 16 **CORDLESS PRO TOOLS** Stihl MSA 220C-B CHAINSAW
Stihl TSA 230 CUT-OFF SAW
- 18 **ARB STUFF:** Customized Protos Helmets
- 19 **STOCKISTS** Who Stocks ArbClimber, WSAR & TR mags
- 20 **ARB STUFF:** Weaver Denali Harness
- 21 **ARB STUFF:** ISC Rigging Rope Wrench
- 22 **SAFETY NOTICE** Silva 5X & Ultra Headlamps
- 23 **SAFETY NOTICE** CMC Flashlite Hook
- 23 **SAFETY NOTICE** Edelrid TURN Pulley
- 24 **AQUATIC** Survitec RIB for London Fire Brigade
- 25 **AQUATIC** JWFishers Side Scan Sonar Locates Truck
- 26 **AQUATIC** SILVA 360° Bag System
- 27 **MULTITOOLS** Kershaw 8100 Funxion EMT
- 28 **ROPE STUFF** Petzl ID Descenders
- 29 **USAR STUFF** First Look 360 chosen for FEMA
- 30 **LIGHTING STUFF** Going for quality brands in Headlamps
- 31 **COMING UP IN WSARm,**
- 32 **COMING UP IN TRm**
- 34 **COMING UP IN ACm**

EMAIL ADDRESSES

We've got a shed-full of email addresses so if you get mail bounced, try another one - they all work at some point!

- admin@rescuemagazines.com
- arbclimber@aol.com
- rescuemagazine@aol.com
- accessandrescue@aol.com
- ade@trmedialtd.com

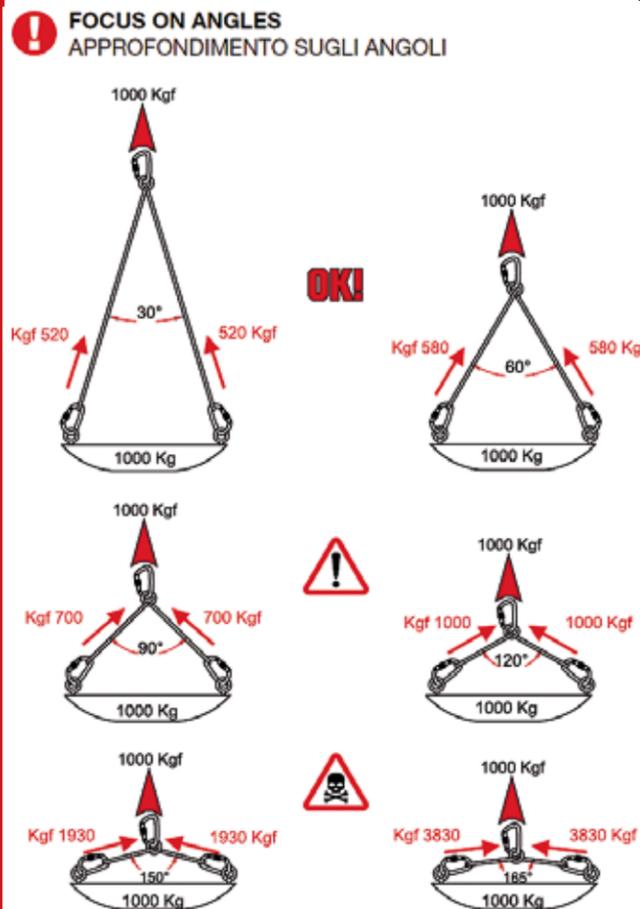
From the EDITOR

Somewhat later than we had hoped, this issue of ACCESS&RESCUE will probably be the first of only two issues this year but they will be larger than normal. With the three print titles all roughly on time, at least far more on-time than we've been in about 25 years, the Emag has been difficult to fit in. It's a useful tool though and we fully intend to retain it as 3 or 4 issues a year. We might yet squeeze a third issue in at the end of this year but currently we're planning the next one for the Autumn/Fall.

Some bogus emails still flying around from email addresses that resemble ours and in one case, actually was ours! We do use download links for digital mags like this but it should be obvious that it's an email is from us, we're never very formal!

Cheers **ADE SCOTT**

ROPE TIPS courtesy of Kong



ON THE COVER

ROPE STUFF

MAGNAPULLEYS



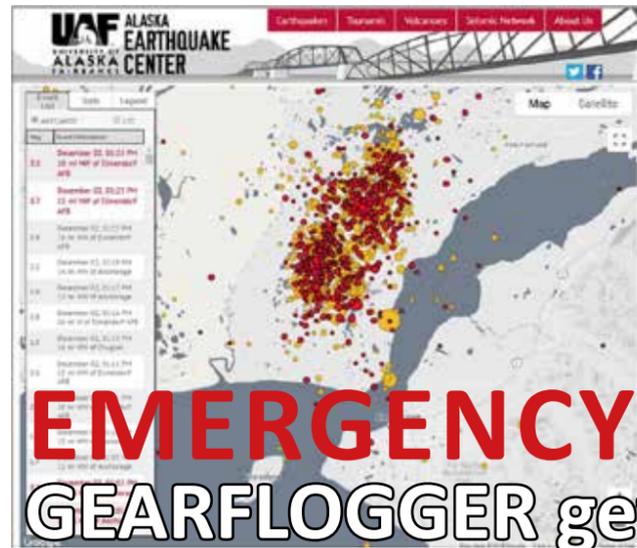
COMING SOON from Anderson Rescue Solutions, Magnapulley offers a set of Single Sheave Pulleys that connect magnetically to form a clean set of Double Pulleys. Or from another perspective, a set of Double Sheave Pulleys that break apart to form two Single Pulleys. The ability to break apart or cleanly marry offers a great range of flexibility from a single piece of equipment, especially for small teams who are looking to minimize their kit and maximize their equipment's efficiency. A smaller, 7/16" rope capacity version will launch in the summer of 2019, with a 1/2" rope version following later in the year. More information can be found at www.andersonrescue.com



KONG MIKE Head-Down Con-Space Harness



- Specialized harness with ankle supports that allows head-down lowering in narrow spaces and tunnels (wells, silos, etc.).
- - The high strength tape with strong stitches ensures maximum safety and reliability.
 - Ergonomic padding for comfort in the upside-down position, sharing the user's weight between the shoulders, waist and ankles.
 - Universal size with self-locking buckles that are easy to adjust.
 - Accessory: special bag for material and tools that can be hung from the shoulder harness.
 - - Conforms to EN 1498/C .
 - Weight: 1200g
 - One-size-fits-all
- www.kong.it



EMERGENCY PREPAREDNESS GEARFLOGGER gets serious

[ED: Personal trauma kits with C.A.T or similar plus combat dressing and quickclot or similar has been our pet subject in ARB CLIMBER since it started and a lesson that has been largely taken on board by an industry that ranks as one of the most dangerous and the most prone to requiring the services of a trauma kit! Here Ken takes up the flag for every other facet of outdoor activity whether it be rescue, sport/recreation or work following Alaska's earthquake last November that obviously set him to thinking....take heed]

If you're a regular Gearflogger you know we're based in Anchorage, Alaska, where two days ago on Friday, November 30 we were hit by a 7.0 earthquake. It caused major property damage but remarkably no loss of life, probably due in no small part to lessons learned - and applied - from the 9.2 Good Friday quake of 1964 that killed 131.

This reminded all of us how important it is to be prepared. Know how to turn off your gas and water, have a communications plan in place and alternate rally points designated. Practice once a year what you'll do, or better yet take a class, and have the gear to do it. Checklists are available at Ready.gov, FEMA and Red Cross to get you started. Here are what we consider the big five basics, in order of priority (most immediate needs to stuff you can deal with later):

1. Medical Trauma kit. Not a first aid kit with a bunch of BS designed for a child's scrapes and bruises, but a real honest-to-Uncle Sam trauma kit that has at a minimum nitrile

gloves, tourniquet, chest seals, clotting bandages, shears, surgical tape, sterile gauze, and maybe even a nasal airway. You do know how to use these basic items, right? Think about having one of these in your car as well as your go-bag, and take one with you into the backcountry where you'll be your own EMT.

2. Survival. This should be easy for you backcountry people. Have the right gear and keep it easily accessible. Shell and insulation layers, good boots, gloves, hats, sunglasses; you know the drill. Have the means to build a shelter and start a fire, all in a decent pack that you can throw and go. Think about including some trekking poles, both for walking wounded and

supporting those mylar tarps to make a shelter. You'll probably want some 550 cord or equivalent. We're also big fans of a fixed blade knife, multitool and even pepper spray for critters four-legged and two. Oh yeah, light: Black Diamond Spot or Petzl e-Lite for the win. Oh and some N95 filter masks just for fun.

3. Water. After the bleeding stops and you've set up camp you'll be thirsty. Have some Datrex water pouches on hand for immediate needs. Back them up with a Lifestraw or similar - not the UV purifiers which only work on perfectly clear water - and some Potable Aqua tablets just to be safe. If you have a large group to care for, get a bigger Lifestraw or equivalent gravity filter. If all else fails and you have the means, boil your water. If you can shelter in place, maybe get a Water BOB for your bathtub, and fill it at the first sign of trouble.

4. Food. Finally, you're hungry if you've managed to make it this far. This should be really easy: Clif bars for immediate energy, Mountain House for the long haul. We always keep a spare 5lb tub of protein powder at hand, handy if you can shelter in place and have access to water.

5. Communication. Along with your cell phone, FRS radios from Motorola or Midland, or even better GMRS radios - make sure you get the license. Have a crank radio, preferably with a charging function. Maybe a solar panel just for giggles, and a power pack for the first 24 hours.



CARRY A MINIMALIST TRAUMA KIT

We've always had a problem with the order of things in Maslow's hierarchy of needs. From our perspective, stopping the bleeding is always job one, well before food, water, shelter and even sex. Let's follow the critical path: trauma is the leading cause of death for people up to age 45, and uncontrolled bleeding is the leading cause of death from trauma. Ipso facto, if you're going to be prepared for one thing, it should be the training and gear to control bleeding.

Training is available from many sources, just be sure you're not getting the ubiquitous "first aid" class that doesn't teach tourniquets, chest seals and airway management - the big three when it comes to casualty care. NOLS has a series of wilderness medicine courses from a 16 hour Wilderness First Aid to the 200 hour Wilderness EMT. Private companies like Dark Angel Medical offer courses all over the country. If it's at all related to your job, your state probably has a list of trauma courses for credit, as likely will the university or community college near you. If you're really tight on cash, find some reliable video training online. The point is, there's not excuse not to get some training.

So what's in a minimalist trauma kit? Tourniquet, clotting agent and bandage for bleeding; chest seals for open chest wounds; and maybe a nasal airway for breathing. So, bleeding first, and that starts with a quality tourniquet. Do not buy cheap tourniquets: if it costs less than \$10 it probably will fail. The standard in tourniquets is the NAR CAT, the official tourniquet of the United

States Army. It's a windlass style tourniquet, just slip it over the limb, tighten it up and clip it off. All of this can be done with one hand. A less expensive but still high quality alternative is the Recon Medical tourniquet, which comes in at about half the price. Get one, practice, and keep it handy. For clotting agent, QuikClot gauze is the standard, or Zeolite sponges. Place over wound and wrap with more gauze or better, an Israeli battle dressing, quick and easy to apply and exerts extra pressure on the wound. For chest seals you can theoretically use any non-permeable membrane like a plastic bag or the like, but since you believe in preparing before the need arises you'll get a twin-pack of Hyfin chest seals, which have a nice self-adhesive design for quick application in a high stress environment. HALO makes an alternative at about the same price point. The reason for two is one each for entry and exit wound, although in a pinch - say, multiple casualties - you could use the seal for one and the wrapper for the other, if you're carrying surgical tape or some other means to affix the material to a sweaty, bleeding hairy surface.

Finally, you may want a nasal airway. These are trickier to apply, and much less likely to be needed than the tourniquet, QuikClot, Israeli bandage and chest seals, but hey - it's small so why not? So what have we omitted here: nitrile gloves, shears, extra gauze, surgical tape, triangle bandages and eye shield are some of the more common things in trauma kits. For the minimalist however, the combination of the items we've covered here will make for a compact kit that covers the most likely scenarios. Put it all in a heavy duty Ziploc bag and you're good to go.

DATREX EMERGENCY WATER PACKET



There's a reason Datrex emergency water packets are approved by coast guards all over the world: they're tough enough to be there when you need them. It's a pretty simple thing, really, just a four ounce purified water packet for those times when everything else has gone straight to hell. The Datrex packets have a few extra features that recommend them. First, the individual four ounce size is very convenient for both storage and consumption. It's easy to ration out to groups, track how much you're consuming and how much you've got left, and if one gets compromised it doesn't affect the entire supply.

Datrex packets can be frozen, and in fact work nicely as ice packs in that event. Again their small size comes in handy because, if frozen, you can easily thaw one out fairly quickly underneath your armpit, as opposed to say having an entire gallon you needed to thaw. Try sticking that in your crack grampus. The packets have a five year shelf life, although you should be able to use them well beyond that window, there just may be an odd taste to it. Recommendations for water consumption range from 8oz/day to 64oz/day, but obviously it depends on climate and activity level, to name just two variables. FEMA says that water, unlike food, should never be rationed, and certainly never ration water for children, pregnant women or other vulnerable individuals. Keep a dozen or so - or more if you're in the desert - of these in your car, backpack or wherever along with some water purification tablets and maybe a portable filter and you're good to go.

\$26.93 for 64 packets (other quantities available) on Amazon



RHYNO

WINDSCREEN/SHIELD CUTTER



[ED: Available as an 18v or 14.4v handheld cutter, Rhyno have an interesting array of extrication tools under the banner of 'We Cut The Glass LLC'. We've only seen the smaller 14.4v model (details below) and it is unquestionably one of the most efficient glass cutters we've ever seen, just look at how clean that cut is in the picture above and there is minimal vibration compared to recip saws and especially the old Wehr GlasMaster. However, it also seems to produce more dust and shards than most so it's not all good news. If you can get a handle on the dust, it's great. Not sure what current thinking is but options might include suppression via foam, water, taping and suction, the latter being Holmatro's chosen option for their cutter. Rhyno say that the dust is concentrated OUTSIDE the screen and mostly falls down. This is partly true but our dash still accumulated significant amounts when the cut was made unchecked by any counter-measures.]



14.4V Rhyno2 Windshield Cutter Basic Kit
The Rhyno2 Windshield Cutter Basic Kit comes with two 14.4V 2.0 Ah Lithium Ion Battery pack, a 20 minute SMART battery charger, a cutter blade wrench, and an operations manual.

Laminated Windshield Cutter Tool:

- 1/4" (6.35 mm) Max laminated glass thickness
- 3,850 Strokes/min
- >100 windshields/cutter blade set
- 30-60 windshields/charge
- 33 min. at-load run time @ 72°F (22.2°C)
- 18 min. at-load run time @ 32°F (0°C)
- Clear dust cover
- Fuel gauge
- Built-in LED work light

Battery Charger:

- 20-minute SMART charger with trickle charge
- Will not drain battery pack with power outage
- Chargers: Type A - 120VAC, Type C, G and I - 220VAC

Battery Pack:

- Lithium-Ion - no memory



- Very low battery leakage <0.04V/month
- 20 min. recharge from empty
- 30 to 60 windshields/charge

Warranty: 2 Year Limited

COST (basic kit): \$635

<https://rhyno.com>

PETZL NOTE ON ARBCLIMBER#14 Chicanery

[ED: Never thought I'd get a chance to use that word but it seems appropriate here. Issue 14 of ARB CLIMBER has an informal test article by Patrick Brandt and Richard Mumford on using the ZigZag for SRT and some of the adjuncts used to achieve this. Obviously, at the time of testing in 2018, Petzl didn't have the purpose-made Chicane, though everybody knew it was coming. This article therefore includes mention of the various 'home-made' devices improvised for SRT. To their credit, Petzl haven't moaned about this article and I must admit we were expecting some backlash because we didn't consult them on this one - better to ask for forgiveness than ask for permission. But they have asked us to point out that ad-hoc measures you might use to duplicate the work of what is now a certified adjunct - the Chicane- are not certified and are therefore used entirely at your own risk. As always, there could easily be a risk to insurance cover and to the ZigZag's warranty if it is used with a non-approved adjunct that might subsequently be complicit in a failure.



Our article points to there being no such problems with the ZigZag and its use for SRT (SRS) as distinct from its originally envisaged DdRT (MRS) but remember what we said about using your own home-made stuff with certified products - they won't ever be quite so certified when used with non-standard stuff in non-prescribed manners. Always interesting to see though!]



US ASTM ROPE TERM GLOSSARY

SRT: Single Rope Technique - one rope anchored at the top or more normally at the base and you work on a single, non-moving rope. If anchored at the base and passed over a high deviation, SRT can be converted to DdRT or even DRT if you have good access to the deviation and can convert it to two anchor points and tie two anchor knots mid-line.

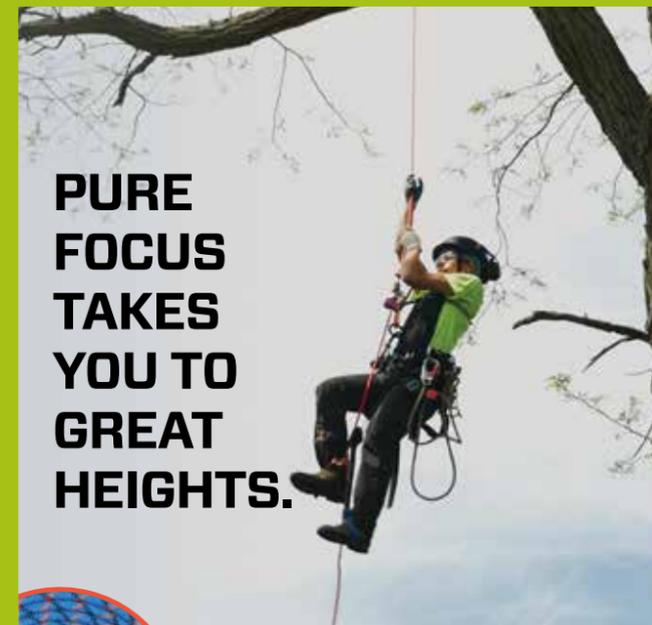
DRT: Double Rope Technique - two independently anchored, non-moving ropes. Not so common in arb.

DdRT: Doubled Rope Technique - one rope passed over a branch, deviation or false crotch and you use both ends of the constantly moving rope. The more traditional arb system.

MRS: Moving Rope Systems - same as the DdRT for a work system where you work using both tails of a rope and the rope see-saws over the deviation as you move. Can also apply to any active lowering system.

SRS: Stationary Rope Systems - can refer to SRT and DRT where the ropes are anchored and you move on the rope rather than the rope moving with you as in DdRT.

Remember that higher loads are created at a high point used as a deviation than as a fixed anchor. ALWAYS be aware of where your ropes are particularly with basal anchors (which are very handy for rescue assuming you're not tied in to a second attachment!) because, unlike DdRT, you may be working on the 'down' strand well away from the 'up' strand - cut either one and you're toast.]



PURE FOCUS TAKES YOU TO GREAT HEIGHTS.



THE RIGHT GEAR GETS THE JOB DONE.

Freedom To Focus™





EVOLUTION OF A RESCUE DRONE PROJECT



by Jon Trust

The story began back in the mid 80's when as Ground Penetrating Radar contractor I was asked by a Civil aviation authority in SE Asia if I could assist in searching for a crashed aircraft in a rain forest using Ground penetrating Radar (GPR).

We flew in a Jet Ranger with a GPR system antenna underneath and the control unit in the cabin with me. The system penetrated the tree canopy, but we didn't find the aircraft-which I believe is still lost to this day. Returning to the UK I worked in GPR for many years travelling the world and always experimenting with how the systems could best be used.

I had tried it on foot, clearing a munitions dump which was required after a death-bed confession from the former Commanding Officer.

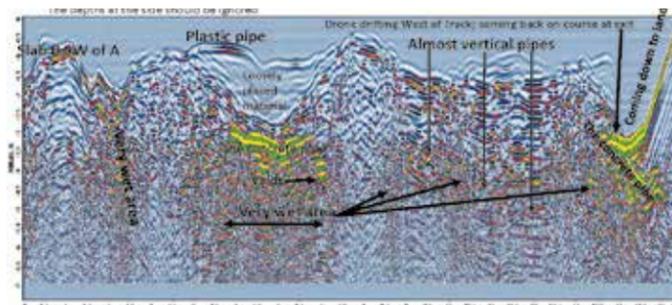
I experimented in land mine detection which worked, but was extremely dangerous for the GPR operator and decided, after the carnage in Bagdad and Afghanistan due to IED's and mines, that we needed something that could hover over the 'infected' areas and detect anomalies in the soils or evidence of recent excavations.

A drone was developed along with a GPR system that worked well without ground contact and we successfully demonstrated it to the army last year at the AWE Trials in the UK which have attracted interest from the US and other military bodies.

During the Army trials in UK, the Army rep asked if we could fly over fences and hedges and maybe buildings and this was done as part of our trials very successfully.

I had, during the development stages going back 13 years, always offered the idea as a SAR tool for disasters such as floods, Earthquakes and avalanches or for monitoring areas to locate voids. The earthquake idea was to initially survey with a drone and locate voids whilst determining if the surface was safe to walk over. If safe, the drone GPR would be uncoupled and hand carried to the marked sites (following GPS references

and visual etc.) The GPR could then be set down over the void and we can monitor for people breathing as the system is sensitive enough to see human bodies and chest displacement as they breathe. Similarly avalanche rescue using a drone that can get there quicker than a dog and the rotors will not cause



the disturbance of a large helicopter.

We used it recently to find, bizarrely, a pig's head in a lake in the UK's Peak district. Police and fire departments could use it to monitor buildings and find out where people are hiding or trapped.

We now offer full training and can help set up a control centre where a senior skilled operator can monitor and assist a less skilled operator out in the field via our range

enhancement system plus it can be a central control monitoring a large area i.e. a number of towns. We can also monitor anywhere in the world with a cell or satellite phone network via our enhancement system developed by our partners-Tactical Wireless Ltd (TWL) with which-we can advise over-the-shoulder or take control of the system. The drone GPR also has two cameras mounted for forward vision and nadir info www.aerodatagr.com

Benefits of Drones for SAR

It's no secret that technology is increasingly becoming more involved in all aspects of life. The rise in drone or UAV (Unmanned Aerial Vehicle) technology is being applied to help humans carry out various tasks which would otherwise be difficult to achieve. One of the many sectors taking advantage of drones is Search and Rescue. UAVs are coming to the rescue when there is an emergency, helping officials record and analyze crime scenes, and assisting search and rescue teams with almost every aspect of the job.

There are many different aspects of search and rescue drones are used for, too. UAVs capture precise, detailed footage and the information from above, allow crews to cut down on expenses, keep rescuers safe and at the end, speed up all efforts in a rescue, where every second counts.

MOST COST-EFFECTIVE SEARCH AND RESCUE TOOL:

Before UAVs made an appearance, search and rescue teams used helicopters to find victims, deliver aid to those in need, and to save lives. Now, drones have replaced the helicopters because of their speed and because of the difference in cost. Search and Rescue crews are not given a huge budget to get their job done and are sometimes expected to do more than their budget allows them. The call-out, maintenance and manpower to operate a helicopter all puts a huge dent in the budget. Drones cost a fraction of this price and require minimal maintenance. The ALTI Transition is a VTOL (vertical take-off and land) fixed wing aircraft is capable of flying up to 12 hours and designed for every day, all day operation in a wide variety of applications around the world. The Transition allows for take-off and landing just about anywhere, with an hourly operation cost of only \$3.50.

SUPPLY DROPS: Drones are now being equipped to drop supplies to aid victims rather than using a helicopter until help can arrive on foot. This includes water, food, medicine and first aid supplies. Also, using a drone ensures a faster delivery to people who can't spare a second, for example people who have been involved in a natural disaster. This can be the difference between life and death! The ALTI Reach is an advanced fixed-wing VTOL UAV, with a flight time of up to 20hours and a payload capacity of 12kg. These features assist

and allow a search and rescue operation to comfortably transport necessary emergency supplies.

NATURAL DISASTERS: Drones have been used throughout most of the recent natural disasters that took place all around the world. During these natural disasters, drones assess the damage done to buildings, the environment and scan for victims stuck in bad situations, or for missing persons. The biggest advantage UAVs bring to natural disaster scenarios is the new perspective rescuers are able to easily get from the ground. The ability to view the bigger picture of an issue from above dramatically cuts down on the time it takes for crews to assess a situation, and this give them more time to

save lives. Rescue mission often involve difficult terrain, having a UAV which can take off and land without a run way or launch equipment such as a catapult is a key point to consider when purchasing a drone. The ALTI UAV products are all fixed-wing VTOL aircraft, allowing to take off and land just about anywhere. The products come standard with a hard case pelican travel case, the modular framework packs away easily into the travel case, and can be set up and flying within 10 minutes. Drones are used to assess structural damage made to buildings and at the same time look for victims that might be trapped. Information captured by a drone can be used for inspection,



thermal scanning and airborne laser scanning to check structural integrity.

FIRE RESCUE:

A fire that has become out of hand can be almost impossible to control, and time in a fire emergency is of utmost importance. Drones can scan over a burning building or over an area in flames faster and safer than ever before. This helps firefighters to extinguish fires in record time. Drones are equipped with an HD camera which captures a live video feed to provide firefighters with a scope of a fire and where it's spreading to. It gives them a different perspective and will show them an easier way to extinguish it. A drone can detect hot spots with thermal detection so that firefighters know dangerous spots before they are sent in. A thermal camera can also track the paths of flames and scan for trapped victims that need rescuing. Supply drops, finding trapped victims and terrain surveys make drones an essential part of a search and rescue team. While they still need a human operator, they are able to penetrate even the harshest environments that aren't fit for humans. Drones for search and rescue make an incredible equipped team to handle any situation. www.altiuas.com

Pro Solutions from **PARROT**



PARROT BEBOP-PRO THERMAL

The professional Parrot solution provides both an overview of the monitored sites and a quick inspection of the different areas. During a fully autonomous flight, the drone takes photos and videos that are immediately visible from the screen of a smart-phone or tablet. No knowledge of flying drones is required to manage this. Thanks to the images taken from the sky, teams can observe the site over an extended distance.

The drone is also equipped with infrared sensors that can switch from conventional video to thermal vision. An essential feature for identifying heat differences and locating people. The new FreeFlight Thermal mobile app provides live streaming and recording of both the visual and thermal images on a smartphone or tablet connected to Parrot Skycontroller 2.

SPECIFICATIONS:

- RGB camera Full HD 1080p
- Thermal imaging: FLIR One Pro thermal imaging camera
- Battery life: 25 minutes flying time (with Power Battery)
- GPS
- Internal memory: 32 GB Extended memory
- Max horizontal speed: 16 m/s
- Weight: 604g / 1.33 lb with the FLIR ONE Pro camera
- Range: up to 2km with Parrot Skycontroller 2 in an interference free and unobstructed environment

FRONT RGB CAMERA :

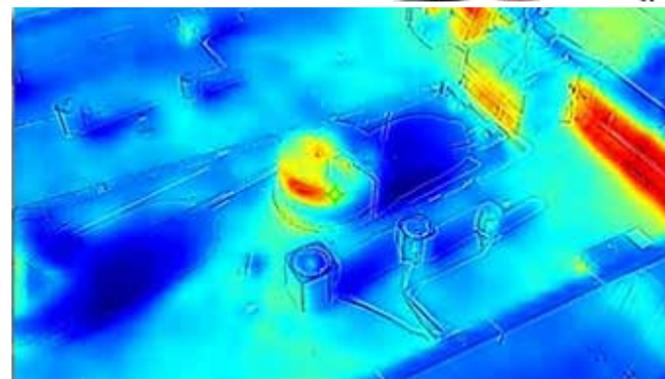
- Sensor: CMOS 14 MP
- Optical: 180° fish-eye lens
- Video stabilizer: 3-axis digital system
- Video resolution: 1920 x 1080p (30fps)
- Photo resolution: 4096 x 3072 pixels
- Photo format: JPEG, RAW, DNG

CONNECTIVITY & PERFORMANCE :

Wi-Fi 802.11a/b/g/n/ac
Wifi MIMO Dual band 2.4 GHz and 5 GHz

PARROT SKYCONTROLLER 2

- Weight: 500g / 1.1 lb
- Dimensions : 200 x 180 x 110 mm
- 2 joysticks
- 8 shortcut buttons
- Li-Po battery: 2700 mAh



- Battery life: 240 minutes
- USB plug
- WiFi MIMO antennas

THERMAL IMAGING CAMERA: FLIR ONE PRO

- Thermal resolution: 160x120
- Visual resolution: 1440x1080
- HFOV / VFOV: 55 ° ± 1 ° / 43 ° ± 1 °
- Frame rate: 8.7Hz
- Scene dynamic range: -20 °C to 400 °C (-4 °F to 752 °F)
- Accuracy: ±3 °C (5.4 °F) or ±5%, typical Percent of the difference between ambient and scene temperature. Applicable 60s after start-up when the unit is within 15 °C to 35 °C (59 °F to 95 °F) and the scene is within 5 °C to 120 °C (41 °F to 248 °F)
- Size: 68mm W x34mm H x14mm D (2.7in x 1.3in x .6in)
- Weight: 36.5g

WILDERNESS SAR #6 is a DRONE SPECIAL EDITION

Even though these things may end up causing as many casualties as they save!



ANAFI

Lightweight, affordable, pro-functional

- The flying 4K HDR camera boasts exclusive video and photo shooting capabilities thanks to its unique 180° tilt gimbal and up to 2.8X lossless zoom.
- Its ultra-compact foldable form means you can take this Parrot drone with you anytime, anywhere.
- Quiet and resistant to extreme weather conditions, ANAFI has a 25 minute flight time with advanced performances.
- Thanks to ANAFI's embedded Artificial Intelligence, take advantage of its automated flight modes to capture spectacular shots.
- Includes a free two-month subscription to Adobe Creative Cloud Photography Plan or Adobe Premiere Pro CC.

US\$ 699.99 (SRP)



www.parrot.com

SAR SAT

Orolia Delivers World's First Operational Second Generation Beacon Capable MEOSAR Ground Stations

[ED: this degree of 'top-cover' technology normally goes over the head of frontline rescue personnel, literally. But it is a vital part of any modern search and rescue operation so we ought to give it more air-time and at least pretend we understand a word of what we just read]

Orolia, the world leader in Resilient Positioning, Navigation and Timing (PNT) solutions, announced today that it has successfully installed the world's first operational Cospas-Sarsat second-generation technology on search and rescue ground stations for the National Oceanographic and Atmospheric Administration (NOAA) in Florida and Hawaii. These ground stations have been upgraded with Second Generation Beacon (SGB) signal processing capabilities to more accurately and quickly locate the source of distress signals.

The Cospas-Sarsat global search and rescue system has developed specifications for a Second Generation 406 MHz search and rescue beacon that uses a modern, spread spectrum signal to achieve far more accurate and robust performance. Orolia is at the forefront of these technology developments, with the NOAA Florida and Hawaii ground stations as the only operationally-ready Medium Earth Orbit Search and Rescue (MEOSAR) ground stations in the world to receive the SGB signal specification capability.

"The work performed by Orolia was exceptional, as the process of upgrading an operational system to a higher set of requirements, years after its initial design, involves minimizing downtime while validating the new requirements and revalidating the previous requirements," said Mickey Fitzmaurice, NOAA SARSAT Systems Engineer. "The successful result makes it obvious that the engineering and operations team at Orolia put a great deal of time and effort into planning the upgrade, as the execution was seamless."

Orolia has also recently announced the launch of the world's first Galileo enabled Personal Locator Beacon and the commissioning of the world's first two nodal LEOSAR-GEOSAR-MEOSAR (LGM) Mission Control Centers.

"This series of world firsts demonstrates Orolia's broad technical leadership in the global search and rescue ecosystem," said Orolia Director of SARSAT Operations, Steve Ludwig. "We continually innovate to enhance the usefulness of these technologies, from generating encrypted beacon alert signals to including alert authentication through the use of Galileo Return Link Service."

Through its McMurdo brand, the most trusted name in emergency readiness and response and the world leader in the design, development and installation of search and rescue ground-based infrastructure, Orolia equips global systems with the very latest search and rescue technology to improve response times and save more lives worldwide.

www.oroia.com



FLOODS MARCH ON



Pacific Junction Iowa, USA in March/April 2019 was inundated by the Missouri River after a levee was breached. Photo by Chris Boswell

In Emag 44 we resurrected Jim Segerstrom's and our ongoing predictions from an editorial in TECHNICAL RESCUE magazine in 2004 about the need to redirect funds from terrorist-based disaster preparedness to flood preparedness. In Jim's absence, Mike Croslin, one of that magnificent trio of water rescue experts (along with Brian Edwards) who started Rescue3 as the original swiftwater/flood rescue training agency, posts a reminder every few years of their prediction from as far back as 1996 when nobody had heard of the term 'swiftwater rescue' and flood rescue as a requirement was routinely dismissed. Mike recently re-posted on the same thing he raised in 1986, 2000, 2006, 2011 and April 2019.....

MC: 2011: I'm certain there are enough intelligent and "awake" analysts out there working for the govt, either in house or contract...that have given very frank and realistic assessment of just how critical these issues are to both our National security and our larger Global stewardship responsibilities. This is the TIPPING POINT. Our lifetime...right now...either we make the Macroshift in our collective mind stream or just keep denying, ignoring and minimizing what is happening. More money for preparation for the inevitable impacts comes at the worst possible time...black hole of fiscal and economic stress...I'm just a dumb rescue guy...but I can see the long term costs of a lack of statesmanship and leadership in this area. It's more about preparation for the inevitable now...less money for Military Industrial/Terroristic future tripping and security and getting real about the tremendous need for strategies and preparations for these climate related weather ..key word {MASS}. destructive impacts. What's the pre-plan? What's the preventative SAR plan? SO many unknowns and what ifs of interconnected causes and conditions that it deserves/ demands more
 [ED: This was in response to a posting in July 2011 that included the following article]:

Weather disasters seen costly sign of things to come

By Molly O'Toole
 WASHINGTON (Reuters) - The United States is on a pace in 2011 to set a record for the cost of weather-related disasters and the trend is expected to worsen as climate change continues, officials and scientists said on Thursday.

"The economic impact of severe weather events is only projected to grow," Senator Dick Durbin said at a hearing of the Senate Subcommittee on Financial Services and Government, which he chairs. "We are not prepared. Our weather events are getting worse, catastrophic in fact."

Durbin, an Illinois Democrat, held a hearing on the role of government in mitigating the economic impact of weather disasters as Republicans in the House of Representatives were considering an appropriations bill with a number of riders designed to curtail environmental regulation.

As of June, the United States has seen eight weather disasters exceeding \$1 billion each in damage, and the annual hurricane season has hardly begun, said Kathryn

Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction and NOAA's Deputy Administrator.

The record is nine in a single year, 2008. But April alone saw separate tornado, wildfire, flood and drought disasters.

"Any one such an event in a year would be considered quite notable, and we had four in totally different hazard categories in the space of a month," Sullivan told Reuters.

The costs of weather-disaster damages have climbed past \$32 billion for 2011, according to NOAA estimates.

The agency also projects that water flowing into the Gulf of Mexico from record flooding will create the largest-ever "dead zone" from pollutants led by run-off from agricultural chemicals, threatening marine life and threatening the \$2.8 billion annual commercial and recreational fisheries.

CLIMATE AS CONTEXT

"Every weather event that happens nowadays takes place in the context of the changes in the background climate system," University of Illinois scientist Donald Wuebbles, who worked on the Intergovernmental Panel on Climate Change, told the panel.

"So nothing is entirely 'natural' anymore," he said. Since roughly 1980, the United States has seen a total of 107 weather-related disasters of over \$1 billion each in damage, with total losses exceeding \$750 billion.

Almost 90 percent of all Presidentially declared disasters are weather-related, and vulnerability to the impacts is also increasing with population, Sullivan testified.

"The scientific and analytical consensus is ... that patterns and frequencies of weather events are changing," said Sullivan. "That alone says past is no longer prologue."

Durbin flagged the trend of rising weather disasters as a major budget issue for Congress. Over the next 75 years, he said, cumulative exposure of the U.S. government budget to weather-disaster damages could reach \$7 trillion.

Durbin said federal funding for disaster relief has been typically provided only as needed, rather than as regular budget projections. So weather disasters have been a budget disaster too, he said.

"In years with catastrophic events, we are left scrambling to fund relief programs," he said. "If we hope to put this country on a sustainable fiscal path, we need to be prepared to manage this increase in natural catastrophes."

Congress has asked the Government Accountability Office to determine how federal, state and local authorities are adapting to climate change. But David Trimble, Director for Natural Resources and Environment at the GAO, told Reuters that environmental regulations addressing climate change have fallen victim to political pressure in the current budget debate.

"I think it's more your sort of pressing needs today versus tomorrow, the 'my roof's not raining now' idea," he said.

"This is a difficult, complex issue that involves pretty much every aspect of the government," he said. "To tackle it we need greater clarity about where the money we are spending on climate change is going, and on our national priorities."

(Editing by Peter Bohan)

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ROCK EXOTICA



SOUTH AFRICAN K9 UNITS IN POST-CYCLONE SAR in ZIMBABWE

[ED we're always a bit wary when stuff comes in from a PR consultancy rather than the team or agency itself and we're not actually familiar with this particular group. Nevertheless the recent cyclone disasters across Southern Africa look set to be a regular feature when previously they were a rare event, indeed non-existent in some areas that were hit. This is just one small aspect of a vast response to the devastation in Zimbabwe, Mozambique and Malawi in particular]

Johannesburg. April 2019 - Paramount K9 Solutions, subsidiary of Paramount Group, the South African-based global aerospace and defence company, announced that the specialist K9 Search and Rescue Units that it deployed to disaster-stricken areas of Eastern Zimbabwe, have returned home to South Africa after playing a significant role in rescue and recovery operations amidst the aftermath of Cyclone Idai.

Cyclone Idai, which the United Nations has described as "... one of the worst weather-related catastrophes in the history of Africa", has claimed the lives of at least 200 people to date in Zimbabwe, with 180 still missing and feared buried in the rubble. Some 270,000 remain in urgent need of humanitarian aid, according to the UN's World Food Programme (WFP).

The storm's death toll has tragically reached nearly 700 people in Sub Saharan Africa, affecting more than two million across Zimbabwe, Mozambique and Malawi.

In direct response, Paramount Group and its charitable foundation, The Ichikowitz Family Foundation, commissioned and funded the deployment of two specialist Search and Rescue Units from the K9 Search and Rescue Association of Southern Africa to Chimanimani, located in one of the hardest-hit regions of Zimbabwe.

The four handlers, who are volunteers from the K9 Search and Rescue Association of Southern Africa, together with their two highly trained border-collies searched for the deceased in extreme conditions, in tandem with Zimbabwe's Civil Protection Units, the International Rescue Committee and South Africa's Police Services.

Eric Ichikowitz, Director of the Ichikowitz Family Foundation, stated: "We are very proud to play our role in bolstering the efforts of the Zimbabwean Government and various humanitarian organisations in providing the capabilities required to complete the grim task of recovering the bodies of those who perished in the disaster. The aftermath of Cyclone Idai presented all rescue and recovery teams with exceptional challenges due to the damage caused to roads and other infrastructure.

"Our teams found that most of the bodies were buried under thick layers of rock and mud. Recovering bodies under such circumstances would be near impossible without these specialist dogs and their handlers. This is what the K9 Search and Rescue Units train for and I'm confident the efforts of these heroes will be remembered long after their return. We look forward to further contributing to disaster and humanitarian relief efforts in an innovative way and as best the K9 Search and Rescue Units can support. Nonetheless, our hearts remain with the people of Zimbabwe during this extremely difficult period".

Helen Perry, one of volunteers of the K9 Search and Rescue Association of Southern Africa, and the handler of 'Oreo', her Border Collie, said: "We've been in Zimbabwe for nearly a week and covered large areas, with close to 40km being searched on one day between the two dogs. Our dogs worked brilliantly and we are very proud of the critical support that we could give to the Zimbabwean people in this time of hardship and grief. We were assisted in our work by the Zimbabwean police and army as well as by family members of the missing and we were always so humbled by the gratitude that they and the Zimbabwean authorities expressed for our assistance."

One of the largest of its kind in Africa, Paramount's K9 Academy addresses the ever-increasing need for effective training in order to carry out a wide array of tactical assignments, including anti-poaching activities, wildlife contraband detection, special forces operations and Ranger K9 handler training - all of which have garnered well-documented success rates.

Ichikowitz continued: "K9s have been historically vital in search and rescue operations, as they are specially trained to find human scent and adapt well in very challenging conditions. We applaud the efforts of the specialist Search and Rescue Units in operating under innumerable-harsh environments in Eastern Zimbabwe, especially at night when human trackers simply cannot undertake the task without the support of K9 Units."

www.paramountgroup.com



The Ichikowitz Family Foundation is founded upon the belief that Africa's potential can be unlocked through education, the respect for human rights, a better understanding of Africa's dynamic history and the conservation of its rich biodiversity. In terms of environmental

programmes, the Ichikowitz Family Foundation works to promote personal, communal, and corporate best practice in matters affecting the environment, including the sustainable utilisation of natural resources, conservation of Africa's unique biodiversity, especially building capacity and support for anti-poaching operations. Ichikowitz Family Foundation initiates, funds and runs its own projects. Please visit www.ichikowitzfoundation.com for further information.

STIHL

EXPANDS PRO BATTERY RANGE



[ED: Typical, no sooner has ArbClimber gone to print than Stihl announce a new cordless chainsaw to add to their existing range. This is a range we've previously heaped praise on and a chainsaw that definitely crosses nicely from the arb industry to rescue. We've said it many, many times before but what's good for arborists, is good for rescuers... quiet working, no fumes, low carbon-footprint, low-maintenance, excellent power, fast-charging and efficient 36v Lithium ion batteries that can be used for a number of other tools including blowers, brush-cutters and pole saws in the case of arborists and blowers and a cut-off saw in the case of rescuers. The same ranges are not available in all countries so check before getting too excited. Not sure of cost yet but as a guide the previous MSA200 was around £300 so expect the 220 to be a tad higher. The TSA 230 Cut-off (or disc cutter) has been out for a while and is approx £420 minus the batteries. To add a charger and pair of AP300 batteries you can double that price.]

MSA 220C-B CHAINSAW

Ideal for forestry and agricultural work, STIHL has launched the new MSA 220 C-B, the most powerful cordless chainsaw in the STIHL range. Designed with a high chain speed, the powerful MSA 220 C-B makes quick work of any task and guarantees consistently high-quality cutting performance, regardless of the battery charge level. The new PRO cordless chainsaw is ideally suited for felling, thinning work, construction and wood carving. The new MSA 220 C-B comes as standard with the STIHL exclusive 3/8" Picco Super 3 (PS3) full chisel saw chain with

a guide bar length of 35cm/14". This chain has a high cutting performance and a low kick-back. As part of STIHL's PRO cordless range, the MSA 220 C-B is powered by a 36 V Lithium-Ion battery. The new AP 300 S battery is recommended to ensure the best possible cutting performance, and is also compatible with all other tools within the STIHL PRO Cordless system. The sturdy MSA 220 C-B is suitable for use in any type of weather and also enables cutting work in confined areas, making it the ideal tool for professionals working in horticulture and perfect for use when wood carving. The quiet-running and easy to operate chainsaw is a high quality alternative for many tasks including agriculture, forestry and contract work that does not compromise on performance.

The details at a glance

POWERFUL WITH A HIGH CHAIN SPEED

The STIHL MSA 220 C-B starts with ease, accelerates quickly and always maintains a high cutting performance, regardless of the battery charge level. Responsible for this is the electronically controlled brushless electric motor. This EC motor is extremely efficient and works almost wear-free. In addition, the STIHL AP 300 S battery, which is also new, has 25 percent more capacity compared to the AP 300 and can run for up to 45 minutes with one charge. Thanks to the high chain speed of 24 m/s, the work can be carried out quickly even when delimiting smaller sized timber.

STRONG CUTTING FULL CHISEL SAW CHAIN

The MSA 220 C-B is fitted with a full chisel saw chain as standard: the STIHL exclusive 3/8" Picco Super 3 has a powerful cutting performance, low vibrations and a low kickback. It ensures excellent cutting quality with low feedback. Its high cutting performance increases energy efficiency. This pays off in up to 30 percent more cuts per battery charge compared to a semi-chisel chain. In addition, its wider kerf simplifies work when using a felling wedge.

ERGONOMIC AND COMFORTABLE

The raised and printed felling line enables precise targeting and exact work when felling small trees. Thanks to the compact design and the soft rubber handle, the tool fits comfortably and securely in the hand. Other practical features include the quick chain tensioner, which enables the chain to be retightened

without tools, and the semi-transparent oil tank, which allows the user to keep an eye on the oil level at all times.

MODULAR BATTERY SYSTEM

The new AP 300 S 36 V Lithium-Ion battery is compatible with all tools within the STIHL PRO cordless system. In addition to the new chainsaw, this includes more than 25 other tools for a wide variety of applications, as well as batteries with different energy supplies and chargers.

TSA 230 CUT-OFF SAW

STIHL is proud to introduce the world's first 9" cordless cut off machine. Cutting neatly and swiftly up to 70mm deep, the TSA 230 is ideal for cutting roofing tiles, bricks, metal and paving blocks. It is particularly light at only 3.9 kg (without battery). Emission-free cordless technology benefits both the operator and environment whilst allowing the tool to be operated indoors and outdoors. The water connection and vacuum accessories ensure effective dust control when cutting. Supplied with an abrasive wheel for cutting steel.

- Low-maintenance motor technology
- The EC motor with maintenance-free belt drive and enclosed control unit is very durable and low maintenance. Magnesium guardZoom
- Magnesium guard
- The cutting wheel guard is made from a light and durable die cast aluminium. Ergonomic handleZoom
- Ergonomic handle
- The ergonomic wrap around handle allows for a more comfortable and precise use in a variety of positions. Spindle lock mechanismZoom
- Spindle lock mechanism
- Cutting wheels can be changed quickly and easily. STIHL electric motor (EC)Zoom
- STIHL electric motor (EC)
- The STIHL electric motor (EC) is extremely energy efficient, lightweight and compact. It runs quietly, generates very low vibrations and does not require servicing. Hose

attachmentZoom

- Hose attachment supplied to the cutting wheel through the standard water connection with sprinkler system to suppress the dust produced during cutting. It is supplied to the device in such a way so as not to interfere with your work. Coasting brake
- Coasting brake
- Electronic coasting brake brings the blade to a quick stop. No free wheeling.
- Additional features
- Depth limiter with vacuum attachment Zoom
- Depth limiter with vacuum attachment
- This adjustable depth limiter allows a guided cut for up to 60mm/2.36". The integrated 28mm/1.1" vacuum attachment reduces dust (once attached to a dust extraction system) when cutting mineral based materials, allowing the saw to be used indoors without water suppression.

SPECIFICATIONS

Cordless technology	36V Lithium-Ion
Recommended battery	AP 300
Battery life time AP 200 min	up to 14
Battery life time AP 300 min	up to 18
Battery life time AR 2000 min	up to 75
Battery life time AR 3000 min	up to 95
Maximum cutting depth	70mm/2.75"
Cutting wheel mm/in	230mm/9"
Weight kg - (Body only)	3.9kg / 8.6 lb
Weigh Ap300 battery only	1.8kg / 4 lb
Vibration levels left/right m/s ²	3.5/3.5
Sound pressure level dB(A)	103
Sound power level dB(A)	114

www.stihl.com
www.stihl.co.uk

CUSTOMISED Protos anybody?



Attention: To attach the design sets to used helmets, you must send the helmet (including ear protection if present) to Freeworker. Shipping just the decals is not possible. We kindly ask for your understanding for these circumstances.

ONLINE DESIGN

Are you unsure which design looks best with which helmet? Or which design is perfect for you? With our Protos® helmet designer you can test in advance what your favourite helmet combination will look like.



[ED: Don't get too excited. This is exclusive to Freeworker in Germany so the catch is, they are not for self-attaching. They need to be professionally applied so you would need to send or drop in your helmet and pay about €35. plus postage or buy a new helmet from them and then specify the decal you want. Decal designs include camo, flames, birch rings, metal sheeting and even tartan.]

The fancy and exclusive special designs give your helmet a unique personal touch. Simply choose a Protos® monochromatic helmet in your favourite colour, choose a design set and order both together. Enjoy your exciting new look.

For further information about your individual Protos®, please contact our customer service directly:
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 or email: info@freeworker.com
 Web: <https://shop.freeworker.com>



Arb supply stores that stock ARBCLIMBER ALL have a wide range of rope-related equipment, including ropes, hardware, harnesses, helmets etc. as well as chainsaws, boots, clothing etc. Now that SRT/SRS is an accepted area of tree work, the rope-related equipment is often the same and even if it's not they can get it in for you. In the case of suppliers shown in red (opposite) that stock TECHNICAL RESCUE and WILDERNESS SAR magazines as well as ARB CLIMBER, these are already rescue and access equipment suppliers of note so they can sort you out whether you're an arborist or a rescue agency.

For rope-related equipment in particular, you should check out your local ARB supplier or Rescue supplier, if you haven't already, and be amazed by the amount of kit you recognise.

If you would like to stock our magazines (and aren't located next door to our existing stockists), email us: admin@rescuemagazines.com

Our most recent magazine stockists are:
HÉVÉA in France,
Northern Arb Supplies in Sheffield, UK,
GAP Arb Supply in Pennsylvania, USA,
MORIKAWA PRO Garden & Tree Supplies in Macau, HongKong & TCM or Tree Care Machinery in South Australia. If you want to save a few quid on a subscription add a mag to your mail-order from any of our stockists or pick one up next time you visit.

AUSTRALIA		TCM	29 Bennet Avenue	Melrose Park,	SA, 5039	treecaremach.com.au
BELGIUM		K2 PROFSHOP	Cleydaellaan 10, Unit 8	Aertselaar	2630	k2profsshop.be
CANADA West -ALBERTA		ARBORIST SUPPLY CO	Bay 8, 141 Commercial Drive	Calgary, AB	T3Z 2A7	arboristsupplyco.ca
CANADA West -BC		UNIVERSAL FIELD SUPPLIES	605-1515 Broadway St	Port Coquitlam, BC	V3C 6M2	universalfieldsupplies.com
CANADA East -ONTARIO		UNIVERSAL FIELD SUPPLIES	1645 Bonhill Road #1 & 2	Mississauga, ON	L5T1R3	universalfieldsupplies.com
CZECH REP		SKYMAN	Hliníky 299	Kunštát	679 72	skyman.cz
GERMANY West		BENK/CLIMBTOOLS	Lahnstr.30 A	Mülheim an der Ruhr	45478	climbtools.de
GERMANY South		FREWORKER	St. Gilgen 15	Gilching	82205	freeworker.de
FRANCE		HÉVÉA	1355 Chemin de Malombre	Malataverne	26780	elagage-hevea.com
HONG KONG		MORIKAWA PRO Garden & Tree Supplies	Rua Dua Barca N87	Macau	999078	morikawapro.com
IRELAND North		ARB IRELAND	72a Dunmore Road Spa	Ballynahinch	BT24 8PR	arbiireland.com
IRELAND South		ARBORIST.IE	Ballycurreen Rd,	Frankfield	Cork	arborist.ie
JAPAN		ODSK	5513-2 Nishi-machi	Nagano-Ken	396-0026	works-odsk.jp
LATVIA		ARBORIST SHOP Ltd	Dzelzceļņieku str. 6-1	Liepāja	LV-3401	arboristshop.lv
NEW ZEALAND		TREETOOLS	8a Kerwyn Ave East Tamaki	Auckland	2013	treetools.co.nz
UK South-Central		HONEY BROTHERS	New Pond Road, Peasmarsh	Guildford	GU3 1JR	honeybros.com
UK South Coast		TREE KIT	Unit 3, Building 446, Aviation Business Park	Christchurch	BH23 6NW	treekit.com
UK North Central		NORTHERN ARB SUPPLIES	Unit 12 Parkway Close, Darnall	Sheffield	S9 4WJ	northernarbsupplies.co.uk
UK North East		GUSTHARTS	Milkhope Centre, Blagdon Seaton Burn	Newcastle upon Tyne	NE13 6DA	gustharts.com
UK North West		SKYLAND EQPT	Unit 17 Wheathill Ind.Est. Holt Lane, Netherley	Liverpool	L27 0YA	skylandequipment.com
UK South West		SORBUS INTERNATIONAL	Coed Court, Treforest Ind.Est	Pontypridd	CF37 5SW	orangeforestry.com
USA North-East		ARBORTECH SUPPLY	11494 James Madison St	Remington	VA 22734	arbortechonline.com
USA North-East		GAP ARBORIST SUPPLY	835 PA-41	Gap	PA	gaparboristsupply.com
USA North West		WESSPUR	2121 Iron Street	Bellingham	WA 98225	wesspur.com

THESE STOCKIST sell: ArbClimber, Wilderness SAR & Technical Rescue magazines

NEW WEAVER DENALI



harness, giving added flexibility to arborists. The high-strength nylon webbing has multiple gear loops for easy, personalized configuration. This climbing harness features replaceable back pads, leg pads and bridge.

Constructed with rope that offers durability and function, the double rope suspension bridge on this arborist saddle features a diamond knot at one end and a girth hitch on the other for replicability and security. The white core within the black and orange

Quick release waist buckle

Adjustable hip Dees

Replaceable back and leg pads

Double rope suspension bridge



Multiple gear loops for easy, personalized configuration

[ED: I feel like we're ruining the surprise because Weaver's ad in this issue's ARB CLIMBER is all about this harness but any new introduction is something to shout about and in particular when it's from traditional suppliers like Weaver adapting well to changing demands while maintaining their traditional lines. The name's a bit odd for an arb harness and I bet many of our rescue readers tuned in thinking this was a new Wilderness SAR harness named after the US's highest and most epic mountain? This is a fully kitted harness about as far from a lightweight SAR harness as you could get, if you're an arborist though, check it out.]

Leading the industry with a one-size-fits-all climbing harness design, the Denali uniquely combines rugged, durable water buffalo leather, patented AirFlex® technology and high-performing safety features for the ultimate climbing experience. Featuring an adjustable waist (28"-48") and adjustable position hip dees and leg pads to fit climbers of all heights, this climbing harness comfortably fits all. Patented AirFlex® foam allows continuous air movement for cooling comfort. Water buffalo leather forms to the shape of your body for maximum comfort. Lightweight, high-strength aluminum hip dees and rigging plates provide multiple attachment points on this climbing

suspension and tear allowing inspection. The extra wide back pad extends further forward on hips for enhanced comfort and support.

LIGHTWEIGHT HARDWARE
Designed with lightweight high-strength aluminum hip dees, waist buckle and rigging plate

VENTILATED
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MAXIMUM ADJUSTABILITY
One size fits all (28" - 48")! Features adjustable position hip dees and leg pads to fit climbers of all heights

DURABLE DESIGN
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ISC RIGGING ROPE WRENCH

[ED: If you want more subjective comment on this we've reviewed it at length in ARB CLIMBER #15 and I'm going to ruin the ending by telling you that it quickly became a highly regarded device.]

We're delighted to announce the launch of the Rigging Rope Wrench, the new lowering device for the Tree-care industry. The Rigging Rope Wrench takes Kevin Bingham's original Rope Wrench concept for adding friction midline -and turns it on its head!

The Rigging Rope Wrench applies friction to a lowering line whilst anchored at the top of the tree. This means that not only is the device controllable from the ground, but the line can also be passed to the climber in the treetop, should they need to take control.

Benefits of in-tree control
Giving control to the climber is useful when working in smaller crews, or when the grounds-person is struggling to control the lowered section and the end of the line at the same time. With the Rigging Rope Wrench the climber can control the rope, leaving the grounds-person's hands free to control the lowered section. From a position in the treetop, the climber can also use the device to suspend the weight of the section, allowing the grounds person to easily guide the section clear of the working area, without the need to lift or drag the full weight of the section. In the event of needing to lift a section up over an obstacle, or apply upwards tension, the Wrench will disengage, removing the



SPECIFICATIONS		70	120
MODEL:	WEB:	13mm / 1/2"	13mm / 1/2"
Rope diameter:	Working Load Limit/WLL:	0-70kg / 154 lb	20-120kg / 44-264 lb
Min Breaking Strength/MBS:	Bearing type:	30kN / 6744 lbf	30kN / 6744 lbf
Weight:	Height:	475g / 17oz	475g / 17oz
Thickness:	Width:	190mm / 7.5"	190mm / 7.5"
	Thickness:	52mm / 2"	52mm / 2"
	APPROX COST:	45mm / 1.8"	45mm / 1.8"
		£175/\$220/€195	£190/\$235/€210



applied to allow a smooth haul up. The RP292 model is fitted with a one-way locking wheel, which provides additional friction when lowering, allowing increased control of heavier loads. During lifting, the wheel runs freely. The Rigging Rope Wrench has been optimised for 13mm (1/2") rope, making it the ultimate lightweight rigging kit, when teamed with hollow-braid slings.

For added versatility, the Rigging Rope Wrench can be placed in the traditional position at the base of the tree. Rigged in this position, additional pulleys can be rigged, in order to increase mechanical advantage, for ease of lifting heavy loads

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SAFETY NOTICES

SILVA Cross-Trail & Ultra Headlamps

IMPORTANT INFORMATION
REGARDING:

**CROSS TRAIL 5X, CROSS TRAIL 5 ULTRA
& LR500 LIMITLESS headlamps**



A problem has been found on a few of the CROSS TRAIL 5X, CROSS TRAIL 5 ULTRA and LR500 LIMITLESS headlamps. The problem happens approximately 7 seconds after the blink mode has been activated and the result is that the battery stops delivering power to the headlamp. If you have encountered this problem you will notice that the battery will not function even though you try to restart the headlamp.

Please note that the battery can be reset and functional in all light modes except in blink mode again by connecting it to a charger via the USB port. Note that even if the battery has been reset, the problem will repeat itself if the lamp is put in blink mode. If you have a headlamp with this problem please contact warranty@silva.se and we will help you with this matter. We are sorry for any inconvenience caused due to this problem.

ART RopeGuide 2010 & RopeGuide TwinLine

We have received information about two incidents in short succession, according to which the casing cover of a RopeGuide 2010 (see instruction manual page 8 position 5) has fallen off. This is only possible if the locking screws (see instruction manual page 8 position 6) are not tightened properly. The missing casing cover may cause the load-bearing axles to fall out. In this case there is a high risk of unsecured falling for the user.

To avoid loosening of the casing cover with any other device, we strongly urge all owners of a RopeGuide 2010 or RopeGuide TwinLine to check the tight fit of the locking screws (see figure 1 & Fig 2) with a 3 Millimeter Allen wrench. Once you have ensured the proper fit of the screws you can continue to use your device without any concerns.



The fact that the locking screws in the ART assembly line were not tightened properly on further devices immediately caused us to analyze this serious matter and to install an additional safety check to ensure that this error will be ruled out for the manufacturing of all future devices.

Left: Fig1: RopeGuide 2010



Left: Fig2:RopeGuide TwinLine

If you feel unsure about whether your device is affected or if you have any further questions regarding the troubleshooting, please do not hesitate to contact your specialist retailer. Freeworker's Foreign Sales Department will be happy to assist you if you should encounter any trouble. Help is available via telephone at +49 8105 – 730 60 253 (Mon to Fri, 9 a.m. to 5 p.m.)

UTC+1) You can also send an e-Mail to info@freeworker.com.

I regret this incident very much and thank you for your cooperation.

Hubert Kowalewski



SAFETY NOTICES

cmcpro.com
6740 Cortona Dr.
Goleta, CA 93117
800-235-5741
805-562-9120

Product Recall Notice: CMC Flash™ Hook and FlashLite™ Hook (P/N 300980 & 300981)

The issue:

During product validation testing of a newly developed escape hook, CMC discovered the test fixture used to certify the existing Flash™ Hooks and FlashLite™ Hooks unintentionally influenced the NFPA 1983 strength results when tested at Underwriters Laboratory (UL). Ongoing testing indicates that in some applications Flash™ Hooks and FlashLite™ Hooks may be lower in strength than the Minimum Breaking Strength (MBS) marked on the products.

CMC has no knowledge of failures or injuries:

The hook strength issue was found during product testing and we have no knowledge of failures or injuries with the many thousands of Flash™ Hooks and FlashLite™ Hooks in use over the past decade. CMC stands behind our product quality and intends to offer replacements for all hooks currently in service with an updated design providing a higher margin of strength and safety.

What CMC will do:

CMC has completed and validated the new design and is working closely with UL to implement a new test fixture and certify this replacement hook as soon as possible. CMC will replace all Flash™ Hooks and FlashLite™ Hooks, with the redesigned, stronger hook at CMC's expense.

In the Meantime:

CMC considers current Flash™ Hooks and FlashLite™ Hooks safe to use in the interim when applied in accordance with the user instructions (attached). For training evolutions, always use a competent belay.

What you should do to participate in the recall program:

Details of the replacement program will be communicated as soon as possible. [Please register](#) at the address below to assure we can contact you with updates about when replacements will be available (estimated in March, 2019). **RECALL UPDATE LINK**

Our top priority is user safety. We will do our best to minimize inconvenience while conducting this recall program. Thank you for trusting CMC products for your life safety needs.

Recall for safety check EDELRID TURN PULLEY

A pulley with a defective rivet was discovered. On one pulley, the axle holding the roller and the two side plates together was not fully riveted. A side plate could therefore come loose and unintentionally release the rope. The affected pulley is sold under the trade name "Turn". It cannot be ruled out that other pulleys of this batch with faulty riveting may be in circulation.

In the interest of customer safety, EDELRID has decided to issue this recall for safety check/user inspection. Owners of pulleys called "Turn", with the corresponding batch number XXXX 18-150 are requested to check whether the rivet head on the side plate has a minimum diameter of 8.7 mm. You can find the exact inspection instructions by following this link: **INSPECTION LINK**
An affected pulley must be immediately withdrawn from use and sent to EDELRID for a free replacement.
www.edelrid.de



Survitec ADAPTABLE SINGLE POINT INFLATION RIB for London Fire Brigade

Survitec has introduced a new GPM range of military inflatable boats capable of adaptable single point inflation and a range of innovative solutions

Launched today in Abu Dhabi, at IDEX/NAVDEX defence trade fair, the new GPM is a rugged, robust and lightweight inflatable boat constructed of high spec Hypalon material to provide increased abrasion and UV resistance.

Developed by Survitec in response to customer and user feedback from ex-Marine boat specialists and other specialist military units, the new range is designed for all insertion and extraction scenarios. The boat features a single point of inflation which can be configured to suit the requirements of the customer making inflation during subsurface operations, paradrops and helocasts more user friendly

Additional features include extra wear patches on the tubes, extra rubbing strake on the keel and a double skin reinforcement on the bow area to protect the boat from damage during beach operations.

Scott Tonks, boats subject matter expert, Survitec, said: "Being able to tailor the inflation method to the scenario makes the boats even more versatile. For example, in a subsurface scenario, the tightly-packed buoyancy-neutral boat would be brought to the surface by a diver. The inflation dial could be packed within the boat making it difficult to access. A cable with a remote activation dial can be attached to the boat's air cylinders so that he/she can easily inflate the boat when required at the surface."

Inflatable boats are often used for a range of tasks varying from logistical to Special Forces/reconnaissance missions which are frequently carried out in harsh environments. Survitec has therefore added armour protection to certain points of the GPM range to offer reinforcements against punctures and tears.



Tonks said: "All sorts of units from army regiments to special forces will use this boat. If troops are required to land a boat it is rarely on sand. It will more likely be on difficult terrain where you are less likely to be over watched, so it's important that these inflatable boats won't be torn apart during these activities."

The GPM range also comes equipped with a rapid deploy tow that allows a stricken boat to be attached to a tow whilst the boat carrying out the rescue keeps moving.

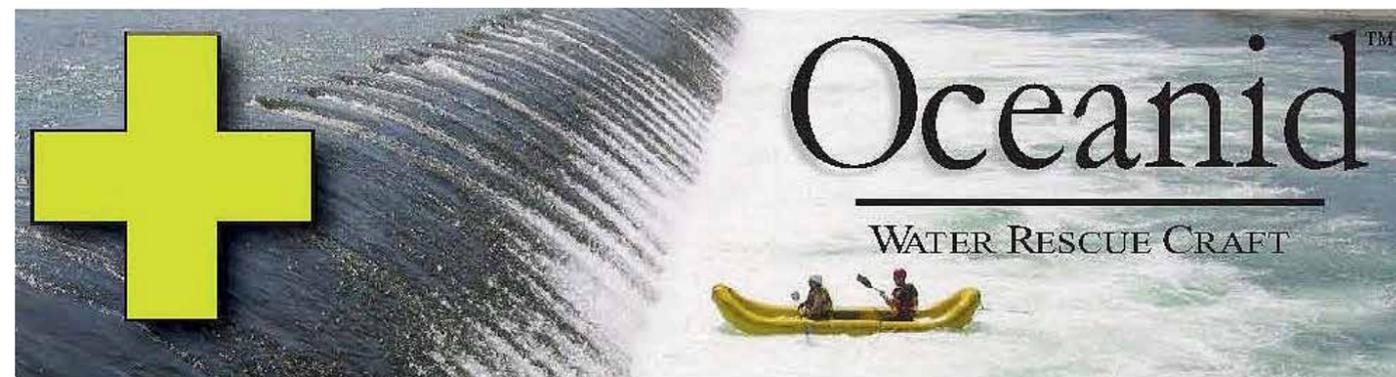
Devised and built by Survitec, the rapid deploy tow is located at the back of boat in a built-in parcel and ready to deploy. It can be solely operated by the coxswain who pulls on the toggle and clips the tow to the stricken boat as he drives past before removing it from danger.

Tonks said: "The rapid deploy tow can be easily reset for repeat use. It is ideal for use in tactical scenarios and for extracting a disabled boat out of the killing area".

The boats come in five sizes ranging from 3.8m to 5.8m. The single point inflation feature can be used with one or two air cylinders and the 5.3m boat can be inflated in one minute.

The new GPM range was presented in live, in-action demonstrations at the NAVDEX marina, which runs alongside the IDEX event.

www.survitecgroup.com



SIDE SCAN SONAR Locates Waste Management Truck

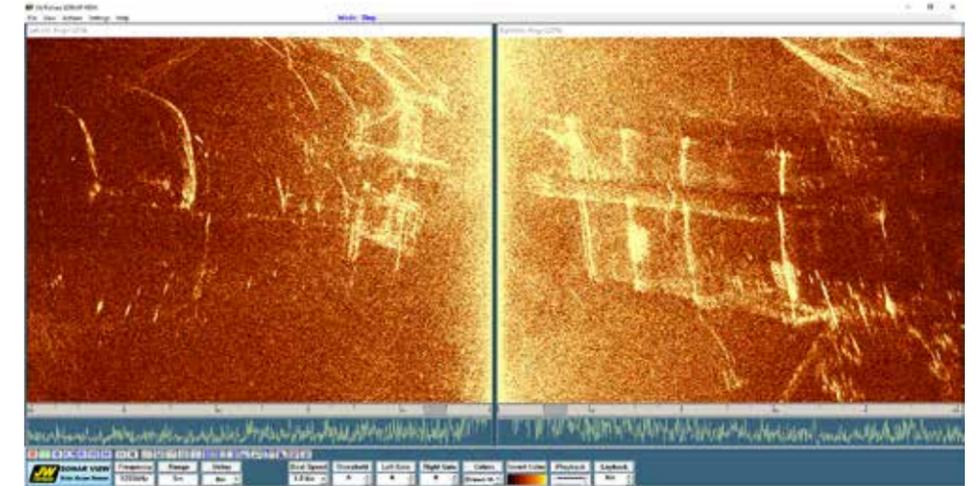
JW Fishers Mfg. has been producing Side Scan Sonars (SSS) since 1992, when the first thermal printer SSS was introduced. The original SSS came standard with a 17" thermal printer which allowed the operator to display the ocean floor on thin thermal imaging paper. JW Fishers expanded the technology and moved towards software-driven solutions in the mid-2000's, allowing customers to discard the heavy paper-based printer in favor of a computer-based graphical user interface. Today, Fishers' SONAR VIEW software provides the operator with complete control over the system's operating parameters. Users may choose between 10 different scan ranges and 8 color schemes. With a GPS unit connected, position coordinates are automatically captured with the side scan data. Operators simply hover the computer mouse over a target and the GPS position coordinates are displayed on the screen.

The James River, a tributary of the Missouri River, is over 700 miles long and drains an area of over 20,000 square miles to North and South Dakota. A little over 70% of this area is located in South Dakota. River conditions vary across the states, with some parts almost still while others send rushing waters at over 10 knots across the state. Floods often occur after snowmelt or heavy rains, as water easily breaches the James' low banks, and such floods tend to cover a significant portion of the floodplain.

Beadle County is located in east-central South Dakota and is home to roughly 18,000 people. In December of 2015, the Beadle County Emergency Management (EMA) office purchased JW Fishers' Dual Frequency 600k/1200k Side Scan Sonar system. The SSS is called upon when state and local waterways need to be searched or surveyed, and that is exactly what happened this year when two individuals and their truck went missing.

In March of 2019, authorities reported that a 2000 Mack CH600 garbage truck was northbound on SD-37 near the James River bridge when the vehicle left the roadway. Based on the initial evidence, investigators believed there may have been an equipment failure. The vehicle went through the guardrail, vaulted an embankment, and landed in the James River. Authorities began searching the James River in Sanborn County after discovering a damaged guardrail along SD-37 near the James River bridge.

Not long after the incident, the Miner County Sheriff's Office began receiving calls from family members of the two men, reporting that they had not been seen since Thursday. The Mack truck was located on Saturday during a search of the James River, and the bodies of the two occupants were found during the recovery of the truck the next day. Authorities reported that the speed of the flood waters on the river made the search and recovery difficult. A statement from the Department of Public Safety noted that several state and local agencies assisted in the search and recovery efforts. While any loss of life is always incredibly tragic, JW Fishers is immensely proud of its small part in the recovery efforts and in bringing closure to these two grieving families. www.jwfishers.com



A Pack fit for Water Rescue?

[ED: marketed by Silva as being for more serious users so this could well be worth a look for water rescuers. Some of the 360° claims look a bit tenuous but the watertight interior is sound, albeit as basically an enhanced version of the roll-top closures common to Ortlieb and Cascade etc. These details are for the 25L model but there are also 18 and 24L models]

SILVA 360° System

This 25 litre, waterproof and durable backpack offers great protection for both you and your gear in any situation.

With a padded and breathable mesh back, vertically adjustable sternum strap, detachable waist belt and soft, customizable shoulder straps – Orbit sits perfectly on your back all day long even though it carries a lot of gear.

360° protection: Orbit is made of robust, 420 denier, ripstop, double coated, waterproof material. This, combined with the watertight roll top closure keeps your gear safe at all times. The 15" laptop compartment is shockproof and protects your computer from impacts from all sides. Orbit has a waterproof, zippered internal pocket as well as a zippered



external pocket to keep your most valuable gear protected.

360° visibility: Orbit comes in a sober gray design that offers 360° visibility from all angles through reflective details. In addition to this, you can use the lash points on the back or front to easily snap on visibility lights.

The haul handle offers comfortable carrying by hand if you want to keep the weight off your shoulders.

The 360° System lets you customize your backpack with add-ons to give you extra packing space or water protection. The smart attachment straps and lash points are the core in the 360° System. In seconds you can attach or detach the separately sold add-ons, Pouch or Mesh, to the outside of the backpack to suit your specific needs. The smart straps can also be used separately as compression straps for a jacket, sleeping bag, etc.

- Main fabric: 420D Ripstop double sided TPU, 100% Polyester
- Lash points main compartment
- Lash points on shoulder straps
- Sternum strap
- Waist belt, Visibility light holders
- Temp operating/storage range: -20 – +60 degrees
- Weight: 1kg / 2.2lbs
- Tyto Light Red and White
- POUCH - S,M or L: The Pouch is easily



attached to any of the SILVA 360° backpacks to give you that extra space for a jacket or electronics or just to separate your dirty shoes from your clean clothes. You get the flexibility to optimize the weight/packing volume for your specific needs.

• **MESH:** Need some extra packing space for a helmet or a jacket or just want to separate your dirty/wet luggage from the rest of your gear? Then attach the 360° Mesh to the outside of your backpack.

<https://silva.se>

- "Snareless" design
- VIBRATING handle
- Bright red LED display
- Detects all metals & cell phones
- Ideal for evidence recovery
- Specialized for low visibility environments
- Starting at \$1,895



JW Fishers Mfg., Inc
(800) 822-4744
(508) 822-7330
Email: info@jwfishers.com
www.jwfishers.com



updated 8100 Funxion EMT from KERSHAW

FUNXION EMT WITH ITS EMERGENCY-READY FEATURES NOW IN A LIGHTWEIGHT VERSION The new 8100 has all the features of the Funxion EMT—functions that can make all the difference in an emergency situation. But this new Funxion EMT is in a lighter weight version thanks to a glass-filled nylon handle with non-slip K-Texture™ insert.

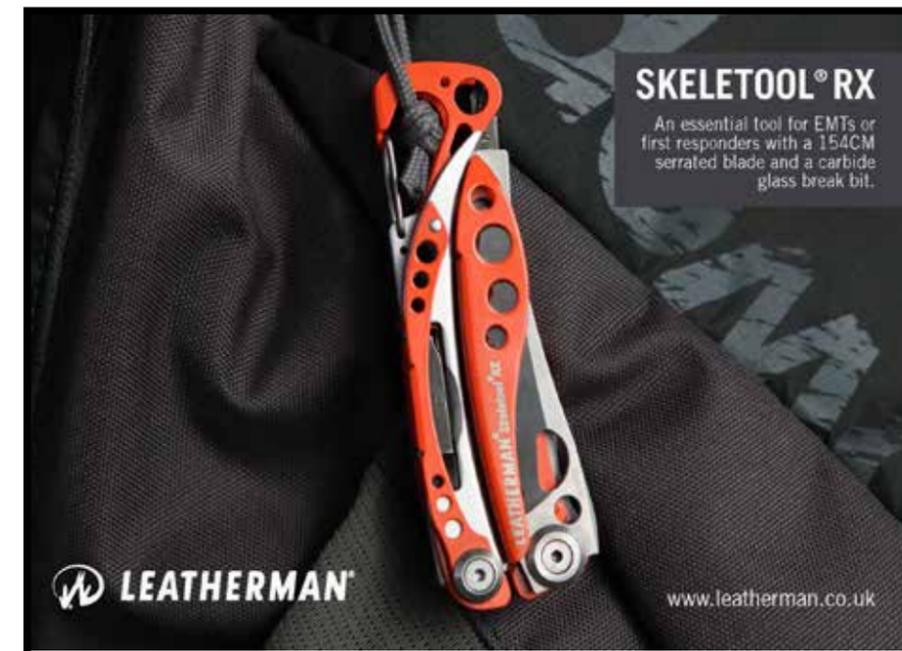
Equipped with SpeedSafe assisted opening, the blade opens quickly and is ready to help instantly. A quick pull back on the ambidextrous flipper or push on the thumbstud and it's ready for use, right now. The big, drop-point blade is ideal for taking on a wide variety of everyday and not-so-everyday cutting tasks. The 8Cr13MoV blade steel offers excellent wear resistance, toughness, and edge retention. Separate locking liners for the blade and other tools ensure safety. The partially serrated blade can cut through webbing to free trapped accident victims. The cord cutter makes quick work of nylon cording. There's a hex bolt wrench and a screwdriver tip built into the cord cutter arm. A carbide glassbreaker tip can help get you out of a tough situation.

The Funxion EMT's handle is lightweight and sturdy. A non-slip K-Texture™ insert enhances a secure grip. The Funxion EMT comes with Kershaw's deep-carry clip for secure pocket carry—or clip it just about anywhere with the built-in carabiner. For additional safety, when the carabiner is out, the blade is locked closed.

ADDITIONAL FEATURES

- Carabiner clip, cord cutter, flat head screwdriver, hex wrench, glassbreaker tip
- SpeedSafe® assisted opening
- Flipper or thumb stud
- Liner lock
- Single-position deep-carry pocketclip (right, tip-down)
- Steel: 8Cr13MoV, black-oxide coating
- Handle: Glass-filled nylon, K-Texture™ insert
- Blade Length: 3 in. (7.6 cm)
- Closed Length: 4.25 in. (10.7 cm)
- Overall Length: 7.25 in. (18.4 cm)
- Weight: 4.8 oz. (137 g)
- Cost \$52.49

<https://kershaw.kaiusaltd.com>



SKETOOL® RX

An essential tool for EMTs or first responders with a 154CM serrated blade and a carbide glass break bit.



www.leatherman.co.uk



[ED: As if by magic, we were busy compiling TECHNICAL RESCUE issue 75's MARKET GUIDE to AUTO-LOCKING DESCENDERS when Petzl sent this brief informational. It's a handy update and intro to their 2019 changes and to our long overdue Guide in TR75.]

PETZL I'D self-braking descenders



Versatile
Self-braking descenders are versatile and can be used for both descents and short rope ascents. Wear resistance
The stainless steel wear plate improves durability by reinforcing the rope friction zone.

With anti-panic function and anti-error catch
Designed for work at height, rope access, and technical rescue and evacuation, these devices are equipped with an anti-panic function and an anti-error catch, limiting the risk of an accident due to user error. They are also compatible with auxiliary brakes, in order to increase the braking friction for descents with heavy loads.

I'D® S (pic left)
Self-braking descender with anti-panic function for work at height and rope access work

The self-braking I'D S descender is primarily designed for work at height and rope access work. It has an ergonomic handle that allows convenient descent control. The integrated anti-panic function and anti-error catch limit the risk of an accident due to user error. The AUTO-LOCK system allows users to easily position themselves at the work station without having to manipulate the handle or tie off the device. Once locked, the rope can be taken up without having to manipulate the handle. The safety gate allows the rope to be installed with the device remaining connected to the harness. I'D S is compatible with 10 to 11.5 mm ropes and allows handling of loads up to 250 kg.



I'D® L (pic right)
Self-braking descender with anti-panic function for technical rescue
The I'D L self-braking descender is primarily designed for technical rescue. It has an ergonomic handle that allows convenient descent control. The integrated anti-panic function and anti-error catch limit the risk of an accident due to user error. The AUTO-LOCK system allows users to position themselves without having to manipulate the

handle or tie off the device. Once locked, the rope can be taken up without having to manipulate the handle. The safety gate allows the rope to be installed with the device remaining connected to the harness. I'D L is compatible with 12.5 to 13 mm ropes and allows handling of loads up to 280 kg.

I'D® EVAC (pic right)
Self-braking descender with anti-panic function for lowering from an anchor. The I'D EVAC self-braking descender is primarily designed for lowering from an anchor. The ergonomic handle is specifically oriented for managing a load from the anchor and offers comfortable descent control. The integrated anti-panic function and anti-error catch limit the risk of an accident due to user error. The AUTO-LOCK system allows the rope to be automatically locked without having to manipulate the handle or tie off the device. Once locked, the rope can be taken up without having to manipulate the handle. The safety gate allows the rope to be installed with the device remaining connected to the anchor. I'D EVAC is compatible with 10 to 11.5 mm ropes and allows handling of loads up to 250 kg.



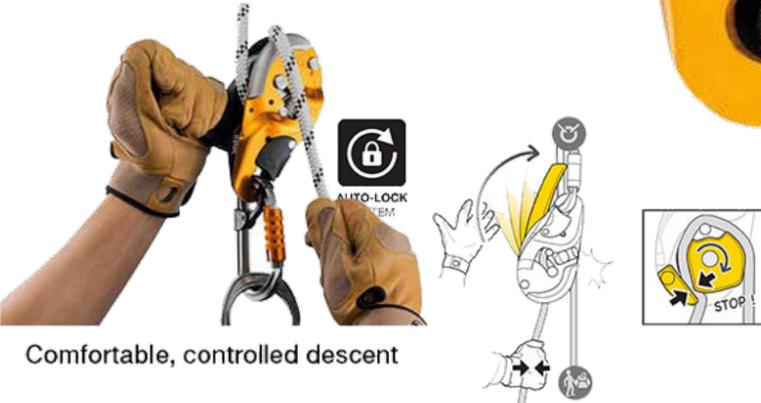
ID Accessories:
Open auxiliary brake for I'D S, I'D L and I'D EVAC: The open auxiliary brake is used to increase the friction depending on the load and the diameter of the rope, and allows the rope to be inserted or removed at any time.
Closed auxiliary brake for I'D S, I'D L and I'D EVAC: The closed auxiliary brake allows the friction to be increased depending on the load and rope diameter, and provides a constant redirect of the rope.



www.petzl.com

FL360 Camera System makes the FEMA kit list

Agility Technologies Corporation (ATC) is proud to announce that the revolutionary FirstLook360 (FL360) rescue camera has been included on the 2019 FEMA USAR Equipment Cache List. Starting today, any FEMA Urban Search and Rescue Team's can purchase the FirstLook360 (FL360) camera system as part of their approved equipment cache. The FL360 system was designed specifically for Technical Search Specialists, Canine Operators and Medical Specialists allowing them new 360° spherical imaging technology, wireless/wired capabilities and mobile integration. FL360 contains no mechanical articulated camera head a common point of failure with existing search and rescue cameras. The FL360 streams real-time video and two-way audio 's via its proprietary application. It is capable of mobile integration via FirstNet or other LTE networks. A user can record 360° spherical video, take snapshots, transmit and receive two-way audio via the robust, multi-use camera head. Using the provided tablet, the rescuer is able to view an entire space by using a finger with swipe gestures on the tablet or with the app's virtual joystick feature to control the focus area. FirstLook360 system is listed under the Technical Search Equipment Section on the 2019 FEMA Cache - Item Number - TF-0131.00
Andy Ibbetson, Co-Founder and Director of Product Development at ATC, commented, "being included on the FEMA USAR the equipment cache list is a great honour. For our team this represents a validation of the hard work that has gone into the development and testing of the revolutionary FirstLook360. I would be remiss not to recognize the hard work performed by the Task Force Team Leaders who put the camera forward for inclusion on the list. Agility's goal was to put "Tech" back into Technical Rescue and this is a big step forward in achieving that goal."



Comfortable, controlled descent

Easy to use, self-braking descenders adapt to any situation encountered during work at height, rope access work, or technical rescue: descending, work positioning, short rope ascents, belaying with climbing techniques.

AUTO-LOCK system

AUTO-LOCK system

The AUTO-LOCK system allows users to easily position themselves at a work station without having to manipulate the handle or tie off the device: as soon as the user releases the handle, the rope is automatically locked in the device.



Installation of the rope

The device has a safety gate on the moving side plate that allows the rope to be installed easily while the device remains connected to the harness.

Comfortable, controlled descent

The ergonomic handle allows unlocking the rope and comfortably controlling the descent. Two descent modes are possible: on the side plate or in the V-shaped friction channel.



USAR / TECH RESCUE WIRELESS 360° SPHERICAL IMAGING AGILITYCORP.COM

WILDERNESS SAR#5 GUIDE to HEADLAMPS pt1 300+ lumen

[ED: our latest epic GUIDE is Headlamps in WILDERNESS SAR - this had to be divided into three parts and even those are each enormous. In an era of global trade and the ever increasing influx of imports into Europe, the US and Australasia from China and Taiwan, much of it is pretty good quality, we mention in the article that a handful of manufacturers still dominate the industry. Regular readers will realise that most of our editorial staff use Petzl, Pelican and Princeton Tec. That's not to the exclusion of all others, we also have LED LENSER, UNILITE, Inova and Maglite but something we touched on as being a necessary consideration is the pedigree of the main players because these days, you might put them up against a Chinese import and wonder why they cost several times more. This item is from Petzl but is not meant as an ad, we already gave them that with the ID item on the previous page! This is more of an infomercial to represent ALL the key manufacturers in persuading you to stick with proven quality and reliability when spending your hard-earned cash:

What Makes Petzl Headlamps Different?

DUO. PIXA. TACTIKKA. Petzl's professional line of equipment is trusted the world over by those venturing into the most inaccessible locations and extreme situations. What is it about the Petzl way of designing and manufacturing headlamps that makes this brand so trusted for their products' durability and reliability? It comes from who Petzl is.

Trust in Petzl headlamps around the world

A customer wrote into Petzl regarding the TACTIKKA series. They worked on Broadway in New York City and wanted to thank Petzl for the quality of the headlamps. Their job was to sit just off curtain and touch up the performers' make-up before they went on stage. The red light gave them the light they needed and kept them from being seen by the audience. One of the Petzl Athlete team volunteers in rural Africa, helping surgeons remove cataracts by headlamp. Another Petzl headlamp user found their headlamp after years spent submerged and frozen in floodplains, they cleaned the lamp



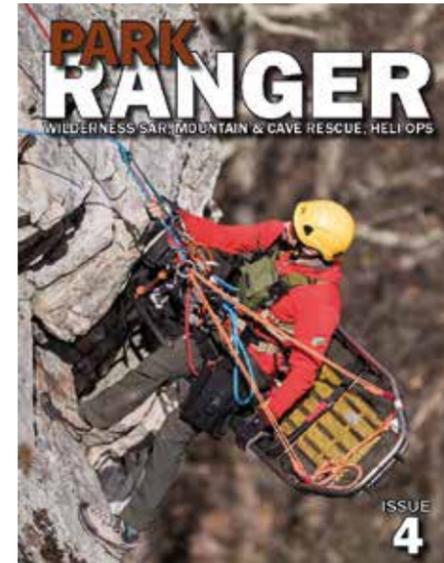
and kept using it. Petzl's United States distributor once received a letter from NASA. An astronaut packing for the International Space Station was carrying a Petzl headlamp, and NASA wanted

to guarantee that the manufacturing process was free from biological contaminants. Petzl headlamps are trusted around the world, in every situation imaginable. They hold up to the jobs they were designed for, and to many other tasks that their designers couldn't even imagine. What is it about the Petzl approach that makes these headlamps so well respected for their craftsmanship and durability? It is the very way in which Petzl approaches its products because Petzl equipment *must* perform in every situation.

Over the years Petzl has evolved from testing product durability with a cement mixer in the parking lot (true story) to an entire lab designed to reproduce as many stresses on equipment as possible. Petzl submerges, freezes, drops, and otherwise tries to model everything that can happen to headlamps. There is even a machine with a boot that simulates the forces of an adult stepping on a headlamp. The individual knobs and buttons are twisted and pushed thousands of times during the design phase. And Petzl does this because of the Petzl DNA. Petzl understands that the equipment must perform and understands that users will take the equipment into places that the designers could never foresee. The Petzl family promise is to produce the highest quality equipment possible, whether that equipment is the helmet of a mountaineer, the safety harness of an arborist, or the headlamp of a worker in an explosive environment.

Always advanced technologies in Petzl headlamps

The other side of the Petzl DNA is the need to improve. Petzl has never been satisfied with good enough, only better will suffice. This motivation leads Petzl to create technologies unheard of in headlamps. REACTIVE LIGHTING grew from the need Petzl saw to more efficiently use the energy stored in the headlamp's battery. FACETOFACE technology grew from the age-old dilemma of working with headlamps and blinding one's teammates. While many have been content to simply ignore the challenge, or manually change their lights during a conversation, Petzl's technology allows the headlamps to automatically react to the presence of other headlamps, allowing teams and workers to converse and work as they would normally without blinding each other.



PARK RANGER quietly morphed into WILDERNESS SAR - same mag, different title and we won't now be covering wildland firefighting but we will be including offshore water rescue as well as swiftwater and flood rescue. WILDERNESS SAR #5 's cover featured a ski patroller wearing the Team Wendy SkiSAR helmet which is reviewed. Other reviews this issue are the CAMP Lift a fall arrester/ ascender of truly diminutive proportions, check out the size comparisons on the right. Our third review has Roland abusing Bestard's SAR water rescue boot which has evolved from a canyoneering boot with help from Rescue 3. Our last review has Rich Hackwell shedding blood in pursuit of the capabilities of the Nordic Pocket Saw,



a kind of chainsaw with handles that packs down to a fistful of power - depending on how much energy you have left. Our Kit profile completes the UK's Royal National Lifeboat Institution roll out of new clothing that we started in TECHNICAL RESCUE with their Inshore and Flood Response kit. This time it's the new Offshore kit as modelled by our own Chris Walker who has literally become something of a poster-boy for the RNLI. Rob Thomas tells us about a high-altitude amputation required to rescue an entrapped climber in South Africa. Finally we have the first of a two part epic on *Search Probability* as dictated by differences in terrain by Bay Area MRU's Matt Jacobs.

OWN THE TRAIL
REAL TOOLS FOR THE REAL WORLD

- Advance Series Carbon/Ti Litter - 7.7kg
- Terra Tamer Trail Wheel - 7kg
- Equalizer Ti Handles - 4.3kg

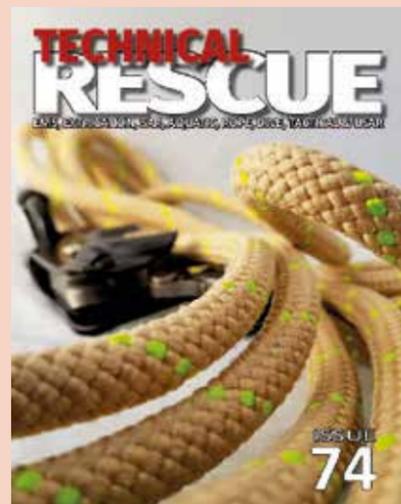
19kg, all in.....

CASCADE RESCUE
cascade-rescue.com
844-414-7377

Evolution of a Difficult Mountain Rescue as reported by the Media

SEARCH & RESCUE Pro Boot

TEAM WENDY N-216 SKI-SAR HELMET



Our cover featured Bluewater's Armortech rope with a mystery piece of hardware which we can now reveal was the Taz Lov 2. Reed Thorne starts a new and epic series on pulleys and pulley systems and happily adopted the pirate theme we gave him. I can see where this is going.

There were two Market Guide's this time, the first on Search Cameras and the second on Evacuation Harnesses, otherwise known as Triangles.

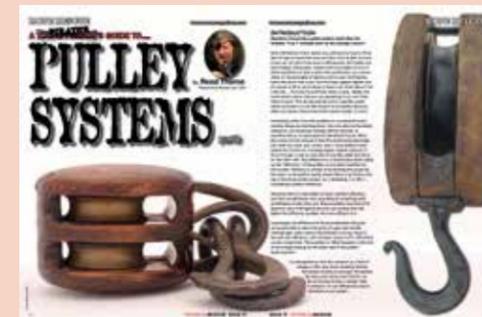
Paul O'Sullivan of Rescue 3 starts a new series on water rescue by explaining the six (rather than usually quoted five) phases of a flood.

Cam Edgar of the NSW Ambulance Service describes the process by which their helicopter crew have chosen a Team Wendy helmet as the basis for their Paramedic crew protection.

London Fireys Rich Denham and Nick Appleton start their crusade to change the meaning of 'Extrication' to the 'physical removal of a casualty from a crashed vehicle' and describe how to achieve this.

Andy Elwood is well known in the UK for his work on mental health issues within the emergency services and describes why males in particular are at risk.

That only left room for one review - the Leatherman Rebar multitool.



A cross between animal rescue and water rescue on this issue's cover with RSPCA (Royal Society for the Prevention of Cruelty to Animals) personnel undergoing their refresher.

Reed (Scrumpy Jack) Thorne did indeed go all out on the pirate theme for his new Pulley series and we now have to end each sentence with 'Me Hearties'.

Paul O'Sullivan's series starts with a details look at the various types of weir or Low Head Dams which will continue in issue 16 with the practicalities of operating in and around one.

One Market Guide but it's a biggie, AutoLocking (brake Assist) Descenders. We have to qualify just about everything these days with additional terminology.

Our resident Londoners continue with the theme of removing casualties from a car crash without ever mentioning the word 'hydraulic cutter'.

Our Con-Space man Brian Robinson pops in to show us some typical modern kit for a Mines Rescue/ Confined-Space Rescuer while our man in Oz, Roland Curll reviews the Mustang Sentinel Tactical Drysuit. That just left room for a review of CMC's LEVR bailout kit and in particular the descent device which is getting to be a very crowded market-place.



ABTECH SAFETY *protecting you and your team* WWW.ABTECHSAFETY.COM

SLIX100 lightweight roll up stretcher
One of the range of SLIX stretchers (CE approved). Designed to wrap around small and large casualties (WWL 400kg). Accommodates a full body spine board. Horizontal and vertical lift bridle supplied. A floating option is available for water rescue.

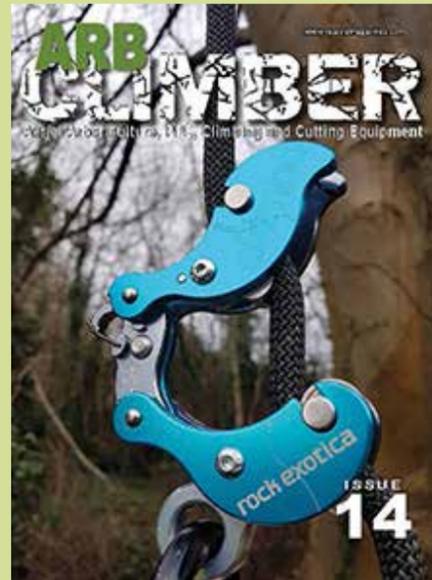
ABPRO Access Pro harness
Comfortable, lightweight, easy to don harness for work positioning, suspension and fall arrest. Available in two sizes. (EN361, EN358, EN1497, EN813).

ISO 9001 WAHSA

Breakout Rope Bag

Rigging Reimagined

ARS www.andersonrescue.com



ARB CLIMBER issue 14:

The Akimbo finally arrived in all it's glory but a bit too late to actually review so you get facts and figures this time, excited comments or disgust in the next issue. Some very useful work by Rich Mumford and Patrick Brandt on the use of the ZigZag in SRT/SRS and using adjuncts which were not available at the time but Petzl have now introduced the Chicane. NZ Monkey, Jimmy Hughes, gives us an insight into working with cranes which is a theme we'll be continuing in the next few issues. TC looks at what it takes to keep that athletic torso of yours ticking in a quite demanding industry.



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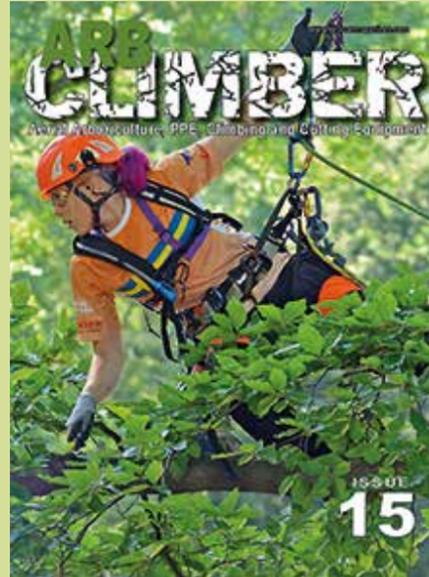
ARB CLIMBER issue 15:

Women arborists get a bit of a spotlight courtesy of Swedish 'activist' Bo Hammarstrand who features on the cover and in a number of Jim Fairfield's excellent photos from last year's competition in DC. Seemed like a good opportunity to use them before they're out of date. We've also included a description of this Autumn's WAC or Woman's Arb Camp intended to promote the trade to women.

There are two Market Guides this issue from both ends of the cost spectrum. Rope Winches costing a few thousand quid down to tool clips costing mere pennies.

TC looks at a crane training school in preparation for Chris Girard's article next issue on the use of cranes in arb work.

You're not seeing things, there are two Akimbo pages showing at the bottom of these pages. We had it on the cover of issue 14 but received the actual kit too late to get a proper review in so we made it into an objective description of features and function. This one however, is a subjective review of the very fine Akimbo. Another well-received product is ISC's Rigging Rope Wrench which takes Kev Bingham's original concept for redirecting load and makes it far more heavy-duty. No room for our series on friction hitches this time so that will be back in issue 16



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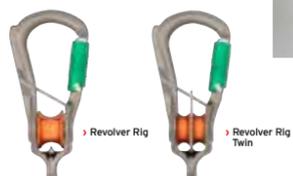
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MADE IN WALES

With the Akimbo review postponed until #15 the only review this issue is of Leatherman's Rev, Rebar and Wingman multitools but there is a huge GUIDE to Bollard style lowering devices which should keep you busy. Finally our knots this issue (or more accurately, 'hitches'), is the Distel hitch not to be confused with 'distal' meaning furthest from the centre-mass.

