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

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
arbcimber@aol.com
rescuemagazine@aol.com
accessandrescue@aol.com
ade@trmedialtd.com

KONG

COMING SOON from Anderson Rescue Solutions, Magnapulleys offer 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 an ½” rope version following later in the year. More information can be found at www.andersonrescue.com

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MAGNAPULLEYS

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

ROPE TIPS courtesy of Kong

www.rescuemagazines.com & www.arbclimber.com
EMERGENCY PREPAREDNESS

CARry a minimalisT TRAUMA KIT

by Ken Osterkamp a.k.a. Gear Flogger

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 1 to 45, and uncontrollable bleeding is the leading cause of death from trauma. If, in the event 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 employer 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 no excuse not to get some training.

So what’s in a minimalis 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 over wound and wrap with more or less gauge, or 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. Hyfin makes the same product in a variation of gray color, and the reason for this is one 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: nitrite gloves, shear, extra gauze, surgical tape, triangle bandages and eye shield are some of the more common items 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, easy to store and can go 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 quickly underneath your armpits, as opposed to sitting out an entire gallon you needed to thaw. Try sticking that in your crank stove. The packets have a five year shelf life, although you should be able to use them well beyond that window; there may just 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, salt and 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
EXTRICATION STUFF

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 ARB CLIMBER#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.

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

DRT: Double 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!]

THE RIGHT GEAR GETS THE JOB DONE.
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, 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 which 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 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 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 gives 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 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 came 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 15 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 airbase 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 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 which visual detection cannot, and firefighters know dangerous spots where they are not.

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 most inhospitable environments that are too dangerous for people. Drones for search and rescue make an incredible equipped team to handle any situation.
PARROT SKYCONTROLLER 2

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 Battery Power)
- 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

CONNECTIVITY & PERFORMANCE:

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

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 smartphone or tablet. 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.

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

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.

www.parrot.com
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 Rescue 3 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 1996, 2000, 2006, 2011 and April 2019..............

MC: 2011: I’m certain their 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 Macrotrend 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. Its 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, Oversight, and Government Reform on Thursday.

“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 Presidential 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.

“Some events may be past and 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.

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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.

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CORDLESS PRO TOOLS

The new STIHL MSA 220 C-B comes as standard with the STIHL felling, thinning work, construction and wood carving level. The new PRO cordless chainsaw is ideally suited for making quick work of any task and guarantees consistently high 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.

Details at a glance

- **POWERFUL WITH A HIGH CHAIN SPEED**
  - The STIHL MSA 220 C-B starts with ease, accelerates quickly and is the quietest cordless chainsaw on the market.
  - As part of STIHL’s PRO cordless range, the MSA 220 C-B is designed with a high chain speed, the powerful 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.

- **Ergonomic comfort**
  - The raised and printed felling line enables precise targeting and easy to operate chainsaw.
  - The MSA 220 C-B 3/8” Picco Super 3 has a high cutting performance, low vibrations and does not require servicing.
  - 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.

- **Specifications**
  - **Battery**
    - 36V Lithium-ion battery
    - 36V Battery pack AP 300
  - **Cordless technology**
    - 36V Lithium-ion
  - **Recommended battery**
    - AP 300
  - **Battery life**
    - up to 14 hours
  - **Weight**
    - 3.9 kg / 8.6 lb
  - **Vibration level**
    - 5.3 / 5.3 m/s²
  - **Sound pressure level dB(A)**
    - 114
  - **Sound power level dB(A)**
    - 103

www.stihl.co.uk

EXPOSES PRO BATTERY RANGE

STIHL TSA 230

• Water is wheel through the standard water connection with sprinkler system to suppress dust produced during cutting. It is supplied to the device in such a way so as not to interfere with your work.
• Coasting brake
• Electronic coasting brake brings the blade to a quick stop.
• No free wheeling.
• Additional features
• Depth limiter with vacuum attachment
• 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.

www.rescuemagazines.com & www.arbclimber.com

CORDLESS PRO TOOLS

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 chainsaw 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.

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CUSTOMISED Protos anybody?

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 ARBCLIMBER, 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 available. What your favourite helmet combination will look like?

For further information about your individual Protos®, please contact our customer service directly: +49(0)8105/ 7306025 or email: info@freeworker.com Web: https://shop.freeworker.com

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.]

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

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Melrose Park, SA, 5039
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BELGIUM

R2 PROFSHOP
Cleydessaix 10, Unit B
Aertsselaar 2630
r2profshop.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
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UK South Central

HONEY BROTHERS
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Guildford GU3 1JR
honeybros.com

UK South Coast

TREE KIT
Unit 3, Building 446, Aviation Business Park
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treekit.com

UK North Central

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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 end and a girth hitch other for replicability and security. The white core within the black and

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 in particular when it’s from traditional suppliers like Weaver, and 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 traditional lines. The name’s a bit odd for an arb harness and I adapt well to changing demands while maintaining their traditional lines. The name’s a bit odd for an arb harness 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 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 leaving the ground-person’s hands free to control the lowered section, the Rigging Rope Wrench the climber can control the 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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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.

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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 put in blink mode, it will be functional in all light modes except in blink mode again by connecting it to a charger via the USB port.

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.

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 fail 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.

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
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 Hyflex 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, parachutes and hoist operations 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 the 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 3.5m 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 600kHz/1200kHz 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, adjustable, vertically adjustable sternum strap – Orbit hits 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, waterproof material. This, combined with the watertight roll top closure keeps your gear safe at all times. The 15” laptop compartment is shockproof and the watertight roll top closure keeps your gear safe for both you and your gear in any situation.

With an 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:** 4 x (left, right)
- **Lash points on shoulder straps:** 4 x (left, right)
- **Sternum strap:** Waist belt, Visibility light holders
- **Temp operating/storage range:** -20 – +40 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

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**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
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 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.”
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 the 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 a worker in an explosive environment, or the headlamp of a worker in an arborist, or the headlamp of a worker in an underwater environment.

What Makes Petzl Headlamps Different?

Duos: 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’ makeup 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.

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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.

What’s in Wilderness SAR 5

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 pack 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.
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 marketplace.
ARBR CLIMBER 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.

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.

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