

Rescue News

PT Hydraulics Australia

Smart Solutions for Rescue Operations

The advancement of New Vehicle Technologies and the use of metals such as boron in pillars & posts has meant that the required cutting forces for vehicle extrication have greatly increased over the past few years. However, in our experience, the performance & reliability of Lukas cutters ensures that most cuts are possible. When we receive feedback from customers that they have been unable to perform a specific cut, we often find that one common technique mistake is being made.

Lukas, along with most other rescue tools, uses a two-stage pump in their power units. On occasions, we have found that operators will not engage the tool for long enough to build full pressure in the second-stage to complete the cut. By observing the behaviour of the cutter during the cut, this issue can easily be avoided. Once the cutter looks like it has stopped cutting, count a full 10 seconds while still engaging the tool to ensure that the pump's second-stage generates full pressure. These 10 seconds will be sufficient time to allow a pump of virtually any age to build full-pressure and complete the cut. Most cuts, especially when using a newer power units, will only require 3-6 seconds, but by counting a full 10 seconds, you ensure the best chance of success.

If, after this time, the tool has still failed to make the cut, the solution may be to either reposition the cutter, or look at cutting a weaker area to achieve a similar outcome. For example, if you are unable to cut through a 'B' Pillar, then you can possibly make a wedge cut at the top of the 'B' Pillar (only if safe to do so – expose area and check that there is not a SRS Curtain Airbag Pyrotechnic igniter situated in the area that you wish to cut).

The notch area of the blades (nearest to the centre bolt) has up to four times as much cutting force as the tip of the blades. Simply put, the nearer you are engaging to the notch, the more cutting force you are generating. If the cut has not been successful, open the blades fully and reposition the cutter so that the point of engagement is closer to the notch.

By employing both of these techniques in all your cuts, you will give yourself the best chance of completing the cut.



Lukas Cutters cutting through a boron re-enforced pillar.



Note that the pillar is sitting directly against the Notch.

Special Pricing on Selected Items

In addition to our new Quarterly Specials (see page 6), we are pleased to announce that selected Quarterly Specials from last quarter have been extended until the end of the Financial Year. These Specials can be seen on our website.

They include:

- PT Rescue Gloves from \$40.00 per pair
- Lukas Ram Supports from \$560.00 each
- Special Pricing on selected Lukas Cutters, Spreaders, Combi Tools & Pumps.

All prices above do not include GST. Please look at our website for more information

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What's New

Lukas P660 SG - Super Silent Simo Pump

High noise levels can greatly complicate rescue operations. The new Lukas Super Silent pump has been designed to minimize the effect of noise for both rescuers and victims, ensuring effective communication at the rescue scene. Sound level is 70 decibels at a distance of 5m from the pump, and 78 decibels 1m from the pump. This power unit also features the Lukas radial piston pump for higher oil volume output, and can simultaneously operate two rescue tools.

The high performance of this unit, paired with its compact, light and fully balanced design, leads to a power unit suited to all applications.



Motor	4 Stroke Petrol
Oil Delivery, Low Pressure	Up to 2.5 litres
Oil Delivery, High Pressure	Up to 0.55 litres
Usable Oil Capacity	2.7 litres
Dimensions (l x w x h)	585 x 300 x 450mm
Weight	29 kgs

Lukas S120 Mini Cutter



The Lukas S120 Mini Cutter is designed for use in Rescue Operations under confined space conditions. Its minimal weight and compact design ensure ease of operation, while the impressive cutting force guarantees effectiveness. The S120 is perfectly suited for cutting pedals & steering rims, as well as use in Urban Search & Rescue applications.



Cutting force up to	18 Tonnes
Cuts Round Steel Material up to	22 mm
Blade Opening	52 mm
Weight	4.4 kg

New Stabfast Technique

A new option for the use of the Stabfast Vehicle Stabilisation System has been introduced into our collection of Training Packages. This technique is designed for stabilisation of a vehicle lying on its roof. It was developed by Cairns QFRS and used in the 2008 Australasian Road Crash Rescue Challenge held on the Gold Coast. The technique was subsequently evaluated by Garry Muldoon (PT Rescue National Training Manager) and approved by the Manufacturer of Stabfast and PT Rescue.

Those who have had the opportunity to use Stabfast would be well aware of the ease and versatility of the system, and the recent addition of this new technique further enhances the operability of the Stabfast Stabilisation System.

This technique allows for rapid vehicle stabilisation, whilst still leaving access & casualty removal via the rear window, as well as allowing for roof separation techniques. It is efficient and effective, with no need for incision holes to be made.

- Extend the green stabiliser leg to its maximum length and place on the left hand side of the vehicle rear (if ground surface is not firm place board or similar under stabiliser leg to promote a solid platform). Do the same with the yellow stabiliser leg on the other side of the vehicle.
- Using a rated endless sling (minimum 1500 kgs) link between both hooks external of the vehicle;
- Move system under the vehicle as close to rear window as possible with stabiliser legs close to rear wheel arches (do not position against the window as excessive force may cause it to break) allowing for the boot to be opened if required;
- Pull through excessive strapping – check system then ratchet up; and
- Place cribbing at the front A Pillar and front end of the vehicle.

Advantages:

- Efficient and effective with no need for incision holes to be made;
- Leaves rear window clear for access / casualty removal.



Above: Rated Endless Sling placed between the Stabfast hooks before positioning against the vehicle.



After positioning & ratcheting, the rear window offers a clear space for access & casualty removal.

PT Rescue Single Acting Kit

PT Rescue is proud to introduce our Single Acting Hydraulic Rescue Kit. The kit is conveniently stored in two compact galvanised metal boxes (765 x 335 x 250mm each), with Box 1 customised for Lifting Applications, and Box 2 for Spreading Applications. All equipment is supplied by Power Team in the United States, a world leader in the hydraulic market.

Each box contains a Two-speed hand pump with 1.8m hose & coupling, with Box 1 containing two 10 tonne cylinders and a full range of accessories, and Box 2 contains two hydraulic spreaders, rated at 1.0 & 1.5 tonnes.

Box 1 - Lifting



Box 2 - Spreading



Vetter - Containing Hazardous Materials



**High Pressure
Leak Sealing System**

In today's world hazardous chemicals are prevalent throughout our society. While industry is the primary user and handler of hazardous chemicals, we also have them in our homes, in our cars, at our places of work and recreation. Hazardous materials move through our suburbs on highways, rail lines, pipelines and by ship and barge. These major transportation routes are utilised by our trucking industry to transport chemicals not only to local manufacturing plants, but also to businesses and retail outlets.



**Leak Sealing Bag
With Guide Belt Slits**



**Leak Sealing Bag
with Swivel Eyes**

The chemical, physical and biological properties of hazardous materials pose a potential risk to life, health, the environment and property when not properly contained. Hazardous materials may be explosive, flammable, combustible, corrosive, reactive, poisonous, biological, or radioactive as well as solid, liquid or gaseous. Hazardous material incidents may be either generated from a fixed site or the result of transportation-related accident or release.



Vacuum Leak Sealing Bags



Leak Sealing Bandages

Hazardous materials can also be released as a secondary result of a natural disaster like earthquakes or floods. In either case, buildings or vehicles can release hazardous materials when structurally compromised or involved in traffic accidents. Pipelines can be exposed or ruptured from collapsed embankments, road washouts, bridge collapses and fractures in road ways. Additional potential causes of hazardous materials releases may also include terrorist incidents.



Leak Sealing Lance

In accordance with the above information, Vetter has a range of products available which can assist in the management and control of spills and leaks of hazardous materials. The Vetter range has been field tested on tanks, barrels, pipes and tankers and is resistant to many acids and chemicals.



Mini Leak Sealing Bags

The Vetter Leak Sealing Program consists of:

- High Pressure Leak Sealing Sets,
 - Leak Sealing Bags
 - Mini Leak Sealing Bags
 - Flange Drainage Bags
- Vacuum Leak Sealing Bags
 - Leak Sealing Lance
 - Leak Sealing Bandages
- Pneumatic Lifting Sleeves
 - Pipe Sealing Sleeves
 - Leak Sealing Paste

There are also containers and scoops available for the management and safe handling of Hazardous Materials.



Compact Gully Sealing Bag



Flange Drainage Bag



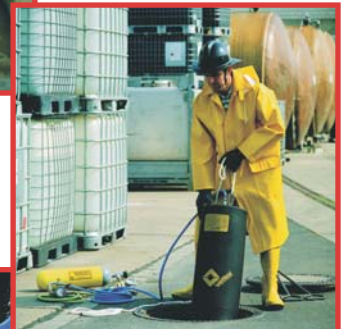
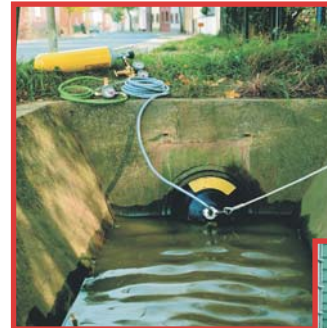
Universal Gully Sealing Bag

Vetter - Pipe Sealing & Testing

Vetter Leak Sealing & Testing bags are an incredibly versatile piece of equipment. They come in a range of sizes & variants solving many sealing needs, such as detecting leakages, guarding sewers against pollution and preventing odours or poisonous gases from entering the air. They are simple to use, quick to inflate and very reliable, ensuring a long & economical life cycle.

Applications

- Keeping liquid pollutants out of sewer pipes after accidents with hazardous materials
- Preventing groundwater pollution
- Damming environmentally dangerous liquids for subsequent safe disposal
- Sealing filler pipes on road & rail tankers
- Leak-proof testing of newly laid or repaired sewer pipes
- Diverting waste water around a pipe section during repairs
- Inspecting & checking pipe sections
- Plugging a pipe-end to prevent backflow during flooding, sewer inspection, cleaning, maintenance & repair
- 1.5 Bar Sealing bags withstand backpressure of at least 5mWH in sewers & gullies



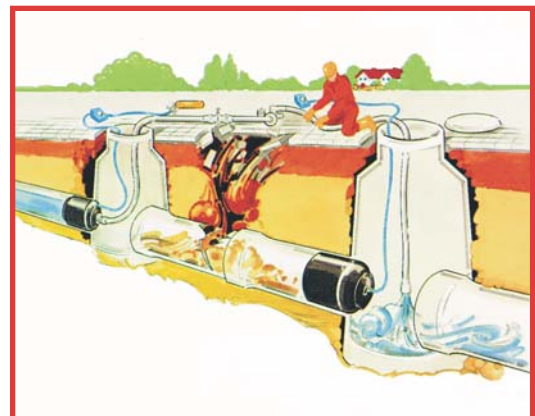
Safety

The maximum working pressure of 1.5 bar ensure that they are safe to use even in aging sewers which no longer possess their original strength. All bags are tested at 1.3 times their maximum allowable working pressure, and the controller is positioned at a safe distance of at least 10m from the bag and any hazardous materials.

Typical Use

In the application shown on the right, a structural collapse above the water pipe creates a potential contamination.

A Vetter Bypass bag is used on the left, completely sealing the pipe, and redirecting the flow of water downstream of the collapse. A Vetter Pipe Sealing bag is used on the right side of the collapse to ensure that water doesn't flow back to the contaminated area. Water flow is maintained, which can be essential in an emergency, whilst ensuring that the quality of the water is unaffected.



Quarterly Specials

Milwaukee V28 Lithium Ion Reciprocating Saw

- 29mm stroke length, 3000 strokes per minute
- Up to twice the run time of comparable models
- Battery level gauge
- Less down time due to optimised charging
- Heavy duty blade clamp for fast blade changes
- High/Low speed selector switch, and variable speed Trigger
- Tool weight: 4.3 kgs



\$895.00 + GST

Until 31st July 2009 or until stock runs out.

Hooligan Tool

PT Rescue's Hooligan Tool has the potential to be used in place of several existing hand tools and is usually carried on most Fire & Rescue vehicles. The Hooligan tool can be used for prying, levering, pounding, cutting, lock breaking and all structural entry tasks.

It is manufactured from high quality tempered steel. The Adz, Pike and claw ends are separate sections forged from heat-treated high alloy steel. It weighs 4.5kg and is 750mm in overall length. The tool ends are press fitted and pinned to a 25mm knurled bar. It is high gloss chrome plated for easy maintenance



\$410.00 + GST

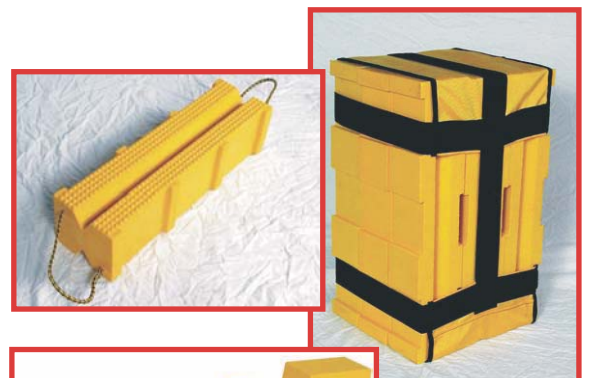
Until 31st July 2009 or until stock runs out.

Road Crash Rescue Cribbing Kit

PT Rescue's Standard Road Crash Rescue Cribbing Kit now comes in two nylon carrying bags, and includes a 'Tote Bag' (pictured right) for easy transportation.

The kit consists 29 pieces of cribbing, including wedges, lincoln logs, cribs, lock blocks & step chocks.

It is made entirely of recycled plastics, and as with all products from Turtle Plastics, at the end of its useful life, you can return it to PT Rescue for a credit to the market value of the plastics. Please note, the standard colour for PT Rescue cribbing is black.



\$1,995.00 + GST

Until 31st July 2009 or until

Streamline Retrofit for Dandenong Fire Brigade

Early this year, Dandenong Fire Brigade upgraded their rescue capability by converting to the Lukas Streamline mono-coupling. Four hose reels in the back of their Rescue Appliance were retrofitted, along with all their tools. The job was completed at PT Hydraulics' Head Office in Mt. Waverley and was completed in under one day, ensuring that the Brigade was operational as quickly as possible.

Very soon after the retrofit, the Brigade was able to test the new couplings in an operational situation, as described below by FO Daryl Owen.



Dandenong's Rescue Appliance at PT's Head Office in Mt. Waverley



Four Electric Hose Reels after the Streamline Retrofit

Dandenong Fire Brigade incident using Streamline Couplings

The following feedback was received from FO Daryl Owen from Dandenong CFA Brigade, after the Brigade's first rescue incident using the Lukas Streamline Coupling.

A little after 3.00am on the morning of Wednesday 11th March 2009, we attended a vehicle collision on the Monash Freeway in Dandenong. The extrication took just under an hour. Sufficient rescue operators allowed for simultaneous extrication work, such as removing the roof and making access to the patient via the side removal.

The complexity of the extrication required the use of all our hydraulic equipment; Lukas Combi Tool, Large Spreaders, Large cutters, Small cutters, both three stage rams and the pedal cutter.

Instead of utilizing the portable Lukas hydraulic pump, we instead chose to use our four hose reels and 'hot-swap' the tools as needed. This proved to be more efficient as we could use each tool at full speed/force and did not have to consider hose length or fuel/exhaust emissions from a portable pump at a protracted incident.

The Streamline couplings allowed the changing of tools, which took only seconds, without the need to switch off the reels. This saved time by not having to ensure which reel was attached to which tool, or shutting them off. The couplings did not leak and were easy to couple and uncouple.

Tools were even changed at the vehicle where needed. All the rescue operators involved agreed that in this case the Lukas Streamline couplings were a significant improvement on individual twin-line couplings.



Taking care of your Lukas Adjustable Ram Support

The Lukas LRS-C Adjustable Ram support is a stable, non-slipping ram support offering a range of features. When compared to other ram supports, the LRS-C can be adjusted individually to any vehicle design threshold or door sill. This is achieved by adjusting the opening width of the ram support, allowing it to be applied to thresholds or door sills with heights of 140 – 250mm.

As with all rescue equipment, regular preventative maintenance can greatly increase the life of this asset. After every use of the Adjustable Ram Support, the following basic care & maintenance procedures and checks should be conducted:

- Check for visible deformation;
- Check for material or weld seam tears;
- Check for jammed or damaged rig pin;
- Check for jammed movement between lower part & upper part of ram support; and
- Check for serious corrosion.

Upon completion of visual inspection and preventative maintenance, the LRS-C should be lightly oiled to protect the surface from any corrosion. Finally, the rig pin should be greased approximately every three months or when movement becomes restricted.

To ensure that the likelihood of damage occurring to the Adjustable Ram Support is minimised, the following guidelines should be followed:

- No modifications are to be made to the system, as additions or conversions may affect the safety of the system. Spare parts must comply with the technical requirements specified by Lukas, and must be sourced from PT Rescue;
- The device must not be used for purposes other than those mentioned in the instructions, or those considered contrary to its designated use;
- The LRS-C must only be used by trained operators. When operators are wearing ear protection, communications must be ensured by other means – eg. Visual or radio(headset) signals;

Finally, if any of the following types of damage are present, the LRS-C should immediately cease being used, and PT Rescue contacted to organize repair or replacement.

- Abrasion caused by the bottom jaw of the rescue ram as well as impressions of up to approx 3mm depth;
- Warps and deformation of materials in the area of the jaw tips;
- Damage of the zinc surface protection;

If you require any information on preventative maintenance of any of your Rescue Equipment, or would like to discuss annual servicing, please contact PT Rescue's Melbourne Head Office or your Regional Sales Manager.

