

New Vehicle Technology

As discussed in our last newsletter, technological developments within the Automotive Industry are ensuring that Rescue workers are continually facing new challenges. One new branch of these innovations is in the area of **Pedestrian Protection Systems**.

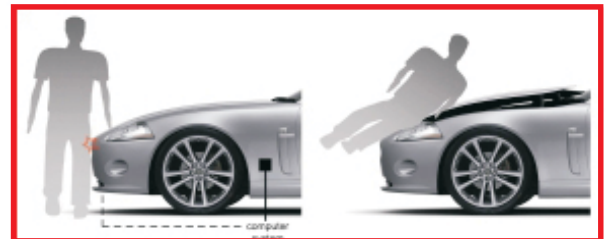
In Europe in 2005, Pedestrians & Cyclists accounted for nearly 25% of total road deaths. As a safety management strategy to reduce this figure, preliminary legislation for pedestrian protection has been introduced into Europe and will be extended from 2010 onwards. Two of these Pedestrian Protection Systems are **Active Bonnets & Pedestrian Protection Airbags**.

Active Bonnets

In vehicles fitted with this technology, within 1/100th of a second of a pedestrian being hit, a sensor system located in the front bumper sends an electric signal to two small airbags or pretensioned springs at the rear of the bonnet. This raises the rear of the bonnet by about 100mm, creating a space between the bonnet and the hard mechanical components beneath (such as at the top of the engine). This aims to minimise the pedestrian's injuries by making the point of contact a deformable and flexible surface instead of a hard rigid one. The sensor is so accurate that it can differentiate between a lamp post and a human leg.



Active Bonnets are already used in a number of new vehicles in Australia, including the Jaguar XK and XF, Honda Legend and the Citroen C6, with a planned introduction into the new Mercedes Benz E-Class in 2009. The next step in this new generation of safety systems will see the introduction of Pedestrian Airbags to enhance the active bonnet safety system.



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Special Pricing on Selected Items

The Specials section of our website has been updated to include a number of new items, including:

- PT Rescue Gloves from \$40.00 per pair
- Hooligan tools from \$410.00 each
- 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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New Vehicle Technology

Pedestrian Protection Airbag

Some manufacturers have further enhanced pedestrian protection systems by developing a pair of airbags – one at each windshield 'A' Pillar. When a sensor is triggered, these airbags are deployed, covering areas of the windscreen & bonnet. This technology is due to become even more important as vehicle bonnets tend to become shorter with every new model change, meaning that the risk for pedestrians hitting hard structures around the windshield increases.

The combination of a deformable bonnet and energy absorbing airbags at the side pillars result in an efficient and comprehensive solution for addressing the areas of a vehicle that are most dangerous to the pedestrian.



Toyota IQ Rear Airbag

Toyota recently announced the development of a new airbag system called the 'rear window curtain shield airbag', to be introduced into the new Toyota IQ which will go on sale in Europe in January 2009 (However, if this vehicle is released in Australia, it won't be until a later date).

This innovative airbag deploys from the roof lining above the rear window in the form of a curtain like barrier. Together with the headrests the airbag minimises impact to the head from a colliding vehicle or from parts of the impacted vehicle thus helping to reduce the severity of injuries.

A stored gas inflator located at the rear roof-edge is responsible for inflating the airbag. With the two additional stored gas inflators for the drivers and passengers side head impact airbags, a total of three stored gas inflators are located in the vehicle's roof.

The vehicle features a total of nine airbags:

- Curtain Airbags
- Driver and Passenger Airbags
- Knee Airbag for the driver
- Seat Cushion Airbag (also known as Submarining Airbag) for the passenger; and
- Two seat mounted airbags for the front seat occupants



This information and much more are contained within the Crash Recovery System available from PT Rescue. A demonstration of this system is available on: www.pthydraulics.com.au – Rescue Products

For further information please contact PT Rescue Customer Service on (03) 9562 8800 or email rescue@pthydraulics.com.au

Around the Rescue Scene

The final quarter of 2008 was a busy one on the Rescue Calendar, with a number of trade shows and competitions around the country. Below is a short recap of two of the events attended by PT Rescue. We've also included a short article from *The Lachlander* newspaper, showing PT Rescue's Service Team, Nino Bonora and Matt Thomas on an on-site service trip for New South Wales SES.

Victorian SES State Road Rescue Challenge

The weekend of 6th – 7th December played host to the Victorian SES State Road Rescue Challenge, with 7 SES teams and 1 CFA team from around the state competing. PT Rescue provided a range of Lukas Streamline equipment to be used in the competition, whilst also running a Stabfast Vehicle Stabilisation demonstration and exhibiting at a trade display.

The skill levels shown by competitors during the event were outstanding, and PT Rescue would like to offer special congratulations to Werribee CFA for winning the event, with Frankston SES and Gisborne SES rounding out the top three positions.



Gisborne SES with the Lukas Streamline cutters they used during the competition

AusRAIL Exhibition



PT Hydraulics exhibited at the AusRail show from 1st – 3rd December in Melbourne. PT Rescue demonstrated a Lukas Re-Railing System, used to quickly and easily traverse trams and trains which have derailed back onto their rails. This plays an essential role in maintaining rail network safety, whilst ensuring deadlines are met, and costs are not wasted with unnecessary downtime.

Lukas Duo Re-Railing System consisting of Pump & Controller, Lifting Jacks, Traversing Bridge and Roller Carriages

Upgrade for SES

Matt Thomas & Nino Bonora retrofitting the new Lukas Streamline Coupling for New South Wales SES

The local branch of the State Emergency Service was due for their annual maintenance checks, with Matt Thomas and Neno Bonora being in Condobolin last Saturday morning.

They conducted the annual plan maintenance on the Lucas equipment, completing service on all the tools as well as full function pressure tests on the hoses and all the hydraulics.

The maintenance crew are updating other equipment in an attempt to make it more productive when it is required to be used.

Matt and Neno are also attending all other types of rescue units in the Lachlan and Murrumbidgee regions that use Lucas equipment and completing the onsite service of the tools, including the change over of the cup link system.

The pair travelled from Griffith on Friday and were heading to Trundle, Peak Hill, Parkes and Forbes, before venturing back down south to the Murrumbidgee Region.



□ MAINTENANCE CREW: Matt Thomas and Neno Bonora.

In addition to our range of Hydraulic Rescue Equipment, PT Rescue also supply a full array of Lukas Rescue Accessories.

The accessories include a number of items to protect both rescuer and casualty, and aim to make any rescue scene as safe and efficient as possible.

Splinter shield

The LUKAS splinter shield provides reliable protection from the glass splinters, that arise when the pane is removed for accident victims and is indispensable for proceeding correctly when rescuing injured persons. Depending on the accident situation and the condition of the injured person, it can be used with transparent windows or with a completely closed surface.

On sheet steel vehicle roofs, the splinter shield is held in place by means of strong magnets. If the vehicle chassis is made from aluminium or plastic, a special belt is provided which tightens the splinter shield with a Velcro strip. At the lower edge a length of bulbous foam has been sewn in that adheres very well, pressed-in between the windscreen and the instrument panel.



Truck Cabin safety set

The suspension of modern truck cabins permit maximum jounce travel and balance out vibrations with great sensitivity. During rescue work after an accident, any kind of movement may have a negative influence on the condition of the injured person. So the movements made by an accident vehicle must be avoided in order to rescue the patient appropriately.

The LUKAS cabin safety set eliminates the effects of the driver cabin suspension by tying it down. Furthermore, it is good to secure the cabin if the safety locking mechanism has been damaged or broken due to a crash. This system can be used with all types. The driver cabin safety mechanism can be hooked into holes in the wheel rims on both sides and tightened with a ratchet. Alternatively a loop can be laid around the front axle section.



Protection Covers

The LUKAS Protection Covers protect paramedics, rescuers and also the victim against injuries, that might be caused by sharp edges arising from the use of hydraulic cutters.

With one set one longitudinal side of a vehicle and, if necessary, a sharp roof edge can be covered. For complete protection of both sides is a second set necessary.

A set consists of

- 2 Protection hoods
13.8 x 11.8 in. / 35 x 30 cm
- 1 Protection cover
25.6 x 25.6 in. / 65 x 65 cm
- 1 Protection cover
65.0 x 25.6 in. / 165 x 65 cm

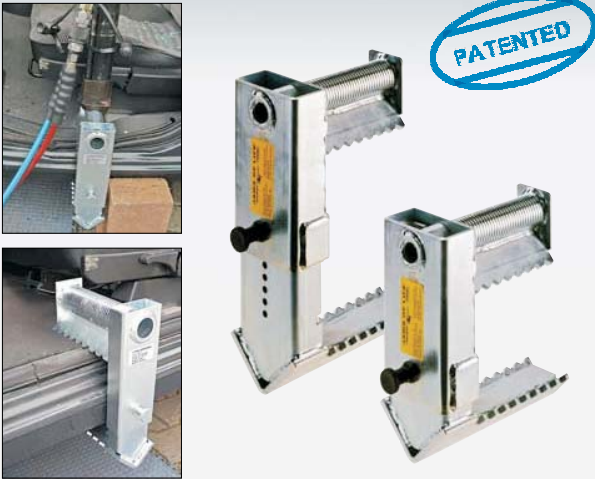
The system comes in a water-repellent Nylon carry bag.



Ram Support LRS-C

LUKAS LRS-C is a stable and non-slipping ram support offering sensational features:

Unlike other ram supports, the LRS-C can be adjusted individually to any vehicle design. By adjusting the opening width it can be applied on door sills with heights from 140 to 250 mm. The LRS-C is suitable for passenger cars, station wagons, vans etc. Once the ram is put on top of the support, it would "bite" into the car material and lock into place.



Tool Station

Made of durable watertight and dirt repellent fabric. It can be used in a rescue situation e. g. as a central deposit for all required tools. As such, it is a valuable help to maintain a clear strategic structure throughout the entire rescue job and prevents pollution of deposited tools.



Drivers' Side Air Bag Safes

Up to 20 minutes after a road traffic accident, non-deployed air bags can unexpectedly be inflated even when the battery is disconnected. The LUKAS Air Bag Safe protects both rescuer and casualty from injury, that might be caused by uncontrolled inflation of the driver's side air bag during the rescue work.

- Two Air Bag Safe sizes for steering wheel diameters from 35 to 45 cm.
- Air Bag Safe for steering wheels of trucks



Passenger Air Bag Safe

The LUKAS Passenger Air Bag Safe protects rescuer and victim against late deployment of the passenger air bag during the rescue work offering maximum protection of rescuer and casualty.



How to take care of your Hydraulic Hoses

This month in our series on preventative maintenance of Lukas rescue tools, we will discuss a vital, yet sometimes overlooked, component of the hydraulic rescue kit – hoses and hose reels. Although not at the frontline, they do experience wear and tear and require regular checks as with all tools and pumps after each incident and training session. Damaged or leaking hoses are hazardous and can cause serious injury if left unchecked. Examples of hose defects are marks, cuts, splits and swollen points on the hose surface, a brittle or cracking outer layer, kinks and bends not in line with natural form of hoses and damaged hose fittings that are parting or leaking. Without appropriate attention and action these defects may lead to hose failure. Any damaged hose should be withdrawn from service and replaced. Hoses (and couplings) should be visually inspected and cleaned before stowing back into the rescue appliance. Hoses should never be exposed to aggressive fluids (brake & transmission fluid, acid or solvent, fuel etc.). Take care when cleaning hoses for fluids and glass/metal fragments. Occasionally check full length of hose as well as end fitting to hose reel (no oil leaks present on inner hub)

Hose reels (single & dual) should also be inspected and function tested. Hoses must be correctly layered onto the storage drum (for easy unrolling) and the drums turning smoothly and freely. Reel carry handles should be firmly affixed to the frame and the drum parking brake (if fitted) operating correctly. Crank handle should connect correctly to drum shaft. Connecting hoses (to pump) should be in good condition and tightly connected to fittings and couplings. The exterior of the hose reel should be cleaned from time to time.

Current manufacturer's guidelines state hoses should be replaced after 10 years, irrespective of their condition.

For further information, obtain a copy of "Rescue Tools Daily Care & Preventative Maintenance" booklet or to discuss annual maintenance, please call PT Hydraulics on (03) 9562 8800 or email rescue@pthydraulics.com.au.



Product Update - Lukas Concrete Crusher

PT Rescue now has a demonstration unit of the Lukas Concrete Crusher featured in our October 2008 Newsletter.

This new tool can easily crush concrete up to 20cm thick, and cut reinforcing bars and other metal parts. It is perfect for Urban Search & Rescue and Structural Collapse applications.

For more information, or to arrange a demonstration, please contact PT Hydraulics Head Office or your Regional Sales Manager.

