

LUKAS

superior equipment for saving lives

Operating instructions for rescue equipment



Ram support LRS-C



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(Translation of original operating instructions)




Content

Page

1. Danger classifications	3
2. Product safety	4
3. Appropriate use	6
4. Components of the ram support	6
5. Operation	7
5.1 <i>Set-up</i>	7
5.2 <i>Removal</i>	9
6. Maintenance and service	10
7. Technical data	11
8. Notes	12

1. Danger classifications

We differentiate between various different categories of safety instructions. The table shown below provides an overview of the assignment of symbols (pictograms) and signal words to the specific danger and the possible consequences.

Pictogram	Damage / injury to	Key word	Definition	Consequences
	Persons	DANGER!	Immediate danger	Death or severe injury
		WARNING!	Potentially dangerous situation	Potential death or serious injury
		CAUTION!	Less dangerous situation	Minor or slight injury
	Property	ATTENTION!	Risk of damage to property/ environment	Damage to the equipment, damage to the environment, damage to surroundings
	-	NOTE	Handling tips and other important/ useful information and advice	No injury/damage to persons/ environment/ device



Wear a helmet with a face guard



Wear protective gloves



Wear safety shoes



Proper recycling



Protect the environment



Read and follow the operating instructions

2. Product safety

LUKAS products are developed and manufactured to ensure the best performance and quality when used as intended.

The safety of the operator is the most important consideration in product design. Furthermore, the operating instructions are intended to help in using LUKAS products safely.

In addition to the operating instructions, all generally applicable, statutory and other binding rules for accident prevention and for environmental protection must be complied with and instructed.

The equipment must only be operated by persons with appropriate training in the safety aspects of such equipment – otherwise, there is a danger of injury.

We would like to point out to all users that they should read carefully the operating instructions and the instructions contained therein before they use the equipment, and that they should be carefully followed.

We also recommend that you have a qualified trainer show you how to use the product.



WARNING / CAUTION!

The operating instructions for the other equipment and accessories used must also be observed!

Even if you have already received instruction on how to use the equipment, you should still read through the following safety instructions again.


























WARNING / CAUTION!



Please ensure that the equipment and accessories used are able to withstand the max. load of the ram support!

Rescue rams with higher maximum forces can also be used because the forces required to push away the front part of a vehicle are usually much lower than the maximum load limit.

However if you suspect that higher forces are required, use of the ram is not permitted. If the ram support becomes deformed, stop using it immediately.

	<p>Please ensure that no body parts or clothing are caught between the visibly moving parts or between working equipment and the ram support.</p>	<p>Working under suspended loads is not permitted where such loads are being lifted only using hydraulic devices. If this work is unavoidable, suitable mechanical supports are also required.</p>	
	<p>Wear protective clothing, safety helmet with visor, safety shoes and protective gloves.</p>	<p>Check the equipment for visible flaws or damage before and after use.</p>	

 	<p>Immediately report any changes that occur (including changes in operating behaviour) to the appropriate persons/departments! If necessary, the equipment is to be shut down immediately and secured!</p>	<p>Do not carry out any changes (additions or conversions) to the equipment without obtaining the approval of LUKAS beforehand.</p>	
 	<p>Observe all safety and danger information on the device and in the operating instructions.</p>	<p>All safety and danger information on the device must always be complete and in a legible condition.</p>	 
 	<p>Any mode of operation which compromises the safety and/or stability of the device is forbidden!</p>	<p>Observe all intervals for recurring tests and/or inspections that are prescribed or stated in the operating instructions.</p>	
 	<p>Safety devices must never be disabled!</p>	<p>The maximum permitted load noted on the ram support must not be exceeded.</p>	 
	<p>Make sure that machine will put no one in danger before and during operation.</p>	<p>Only genuine LUKAS accessories and spare parts are to be used for repairs.</p>	
		<p>Please ensure that, when working with this equipment or during transportation of such, you don't get caught up in the looped hoses and trip.</p>	 
 	<p>When working close to live components and cables, suitable measures must be taken to avoid current transfers or high-voltage transfers to the equipment.</p>	<p>The build-up of static charge and therefore possible sparking must be avoided when handling the device.</p>	
	<p>Make sure there is adequate lighting while working.</p>	<p>When working with or storing the equipment, ensure that the function and the safety of the equipment are not impaired by the effects of severe external temperatures or that the equipment is damaged in any way. Please note that the equipment can also heat up over a long period of use.</p>	

	<p>Always keep these operating instructions easily accessible at the place of operation.</p>	<p>Ensure the proper disposal of all removed parts, left-over oil and hydraulic fluid as well as packaging materials!</p>	
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The generally applicable, legal and other binding national and international regulations pertaining to the prevention of accidents and protection of the environment apply and are to be implemented in addition to the operating instructions!

WARNING / CAUTION / ATTENTION!

The equipment **is to be used exclusively** for the **purpose stated in the operating instructions (see chapter “Proper Use”)**. Any form of use beyond this is **not considered proper use**. The manufacturer/supplier is not liable for any damage resulting from inappropriate use. The user bears sole responsibility for such use. Appropriate use includes observance of the operating instructions and compliance with the inspection and maintenance conditions.



Never work in a fatigued or intoxicated state!

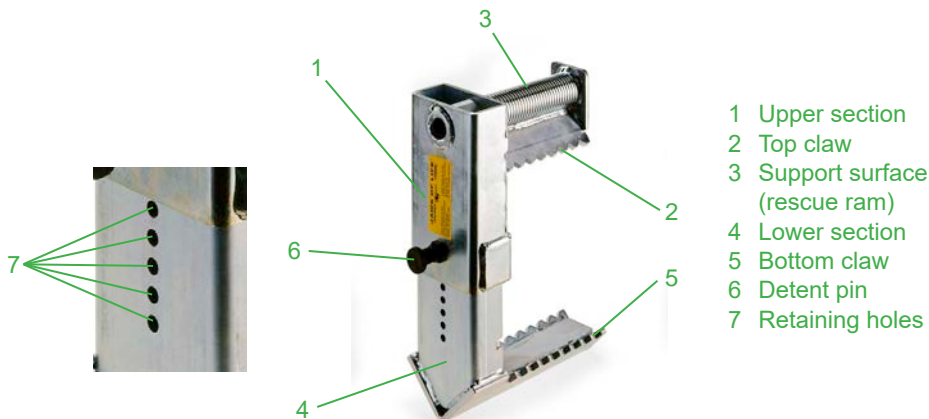


3. Appropriate use

The ram supports are intended exclusively for supporting LUKAS rescue rams. The support rams provide a more stable support surface on the vehicle door sill while occupants are being rescued from an accident vehicle.

The ram support can therefore be used to reduce the vacant space for the pushing operation and the required piston stroke. The rescue ram is then supported by the LRS-C instead of at a suitable point directly on the vehicle body.

4. Components of the ram support



5. Operation

5.1 Set-up

The LRS-C ram support is attached to the door sill of the accident vehicle. The support should be positioned as vertically as possible and pushed all the way over the door sill.



NOTE:

In order to create a better support surface for the ram support, the door sill can be crushed slightly using a spreader. Crushing the door sill creates an almost completely level surface on both sides and provides a better contact surface for the ram support.

Caution: do not crush the door sill completely flat otherwise it may become unstable and collapse at this point as soon as you try to push another body component away using the rescue ram and ram support.



The opening width of the LRS-C can be adjusted to several positions so that the ram support can be used on a wide range of different vehicle types.

The ram is adjusted as follows:

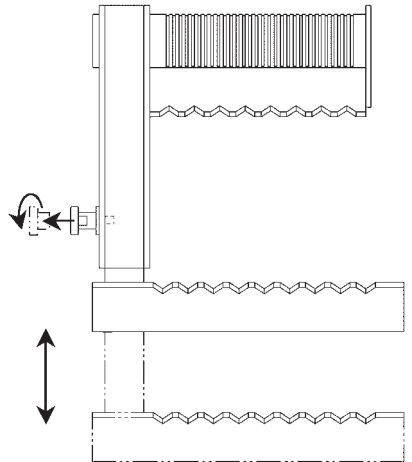
1. First remove and turn the detent pin approx. 180°. so that you can adjust the ram support. The upper and lower section of the LRS-C can now be pushed together or apart.



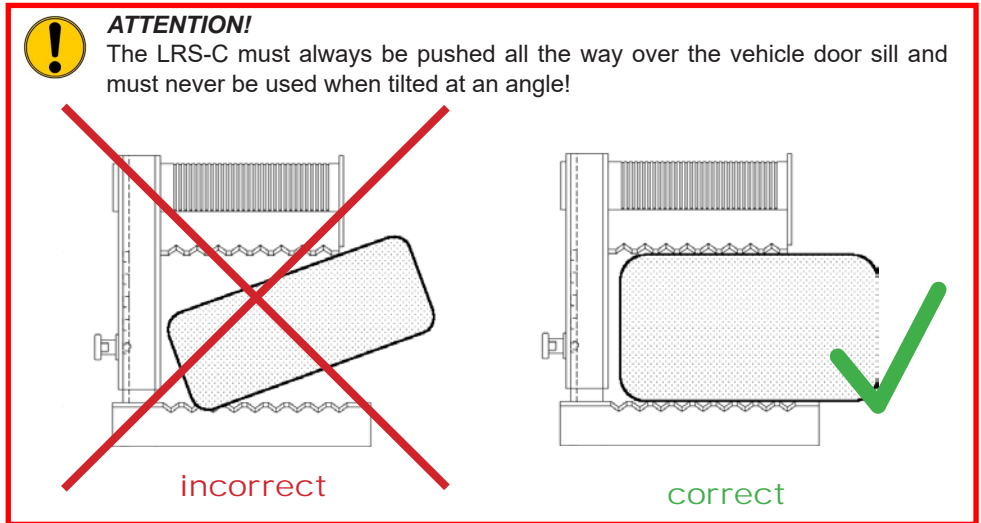
WARNING / CAUTION!

Secure the LRS-C to prevent the lower section from dropping down suddenly when the ram is unlocked. Danger of injury!

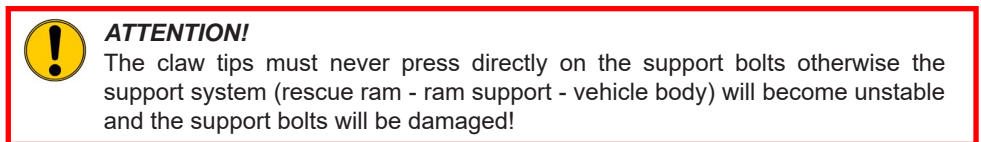
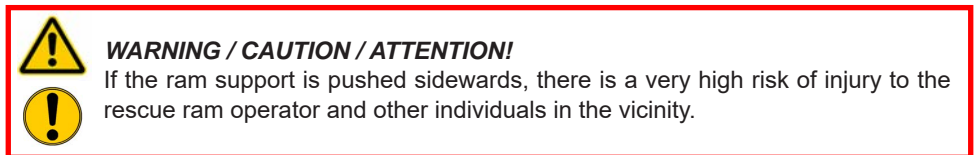
2. Now pull the ram support sections far enough apart that they can be easily pushed over the door sill.
3. Then push the lower section of the LRS-C upwards until it touches the underside of the door sill. The upper section of the LRS-C must always rest on top of the door sill.
4. Then turn the detent pin 180° in the opposite direction and slowly pull the lower section of the LRS-C downwards away from the door sill until the detent pin engages.



Using this method to adjust the ram support prevents the LRS-C from tilting and slipping. You can now place the rescue ram on the support surface (rescue ram).



You must ensure that the support surface is always located between two claws to prevent slipping. Try to position the rescue ram as centrally as possible above the lip on the door sill to prevent the LRS-C from being pushed sideways.



The foot claw must always rest fully on the support surface (rescue ram) to prevent the ram support from being pushed away in the axial direction of the detent pin. If there are any doubts regarding the stability of the vehicle body component on which the ram support is secured, additional support must be provided on the accident vehicle at this point. We always recommend providing additional support at the relevant point on the vehicle, especially if it was manufactured before 2003.

**WARNING / CAUTION / ATTENTION!**

The vehicle door sill should be supported as close as possible to the ram support, but it should not touch the support itself during operation.



The claw that extends together with the piston on the rescue ram must engage in the vehicle body component situated opposite. During the pushing operation, always make sure that the head claw on the rescue ram does not slide off the relevant component.

When you start forcing vehicle components apart using the rescue ram and LRS-C, the ram support initially catches or becomes stuck in the door sill.

During operation, the ram support must not slide to one side and the foot claw on the rescue ram must always be pushed completely and securely against the support surface.

**WARNING / CAUTION / ATTENTION!**

The angle between the vehicle door sill and the rescue ram should be at least 20°. If the angle is any smaller, there is a risk that the ram will push away the extended ram support instead of the relevant body component because the LRS-C cannot catch on the support surface due to the angle at which the forces are transmitted.



Never place the rescue ram at the same point on the opposite side during operation or removal! The clamp on the ram support could detach suddenly and present a significant injury hazard to all individuals in the vicinity.

5.2 Removal

In order to remove the ram support, you must first retract and remove the rescue ram after completing work.

Then you can remove the ram support. You may have to adjust the opening width of the LRS-C, depending on how deformed the vehicle body is. If the ram support does not detach itself, it is probably stuck due to the deformation of the body component but can usually be loosened by shaking or knocking.

**ATTENTION!**

Do not damage the ram support when attempting to remove it.

6. Maintenance and service

The ram support is subjected to high loads and must therefore undergo a visual inspection after each use and once a year.



ATTENTION!

Clean off any dirt before checking the device!



WARNING / CAUTION / ATTENTION!

To perform maintenance and repairs, personal protection equipment appropriate for the work is an absolute requirement.



Visual inspection:

- No obvious visible deformations present (smaller material protrusions or deformations in the area around the claw tips are acceptable)
- No cracks in material or weld seams
- No traces of abrasion or depressions deeper than 3mm on the support surface (rescue ram).
- No serious damage to the zinc surface protection (otherwise corrosion may develop at these points over time.)
- Detent pin does not become stuck and is not damaged
- Opening width is easy to adjust.
- The ram support must not show any signs of severe corrosion.



ATTENTION!

If the ram support does not meet all visual inspection criteria, stop using immediately!



CARE INFORMATION:

The exterior of the equipment is to be cleaned from time to time in order to protect it from external corrosion. Oil is to be applied to the metallic surfaces.

If you have any questions about maintaining or caring for the ram support, please contact your authorised LUKAS dealer or LUKAS customer service directly.
The address for the LUKAS Customer Service department is:

LUKAS Hydraulik GmbH

Weinstrasse 39, D-91058 Erlangen

Tel.: (+49) 09131 / 698 - 348

Fax.: (+49) 09131 / 698 - 353

7. Technical data

Because all values are subject to tolerances, there may be minor differences between the data for your device and the data in the following tables!

Device designation		LRS C
Item number		81-68-43 (841509190)
Dimensions (closed) L x W x H	[mm]	300 x 290 x 130
	[in.]	11.81 x 11.42 x 5.12
Min. opening width	[mm]	140
	[in.]	5.51
Max. opening width	[mm]	250
	[in.]	9.84
Nominal load	[kN]	135
	[lbf.]	30,351
Weight	[kg]	12.1
	[lbs.]	26.7



NOTE:

Should you require any more information, please contact LUKAS directly.

8. Notes



Please duly dispose of all packaging materials and removed items.

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