LYON

USER INSTRUCTIONS

Lyon Universal Stretcher Wheel

Code
LSWS

lyon.co.uk/user-instructions

For more detailed user information and to download a PDF copy of these instructions follow the link above or scan the QR code with your smart phone

Lyon Equipment Limited
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Tel: +44 (0) 15396 24040
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5055835613692

This information to be read and kept for the lifetime of the product in conjunction with the Lyon general user instructions and the stretcher user instructions.

All users must have appropriate training, knowledge and experience of casualty care, casualty handling and stretcher movement, or be working under the direct supervision of such a person.

Note: in these instructions the Lyon Universal Stretcher Wheel is referred to as 'the Wheel Unit'.

Working Load Limit (WLL)

136kg

The maximum load is dependent on several factors: total mass applied, centre of gravity of the total mass, number of persons directly involved with the stretcher movement, terrain, environmental conditions – list not exhaustive

Certification

The Wheel Unit is manufactured under a quality system which has been assessed and certified as meeting the requirements of ISO 9001

Nomenclature of parts

Wheel

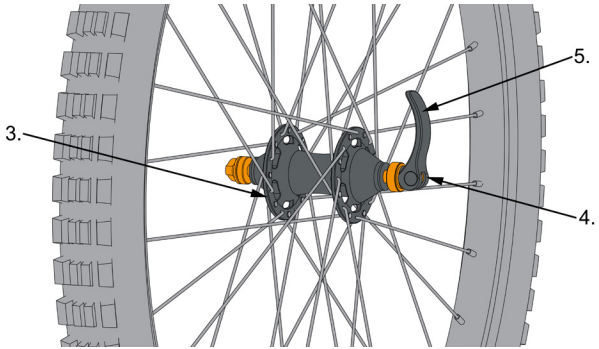
1. Tyre
2. Rim
3. Hub
4. Quick release skewer
5. Skewer Lever

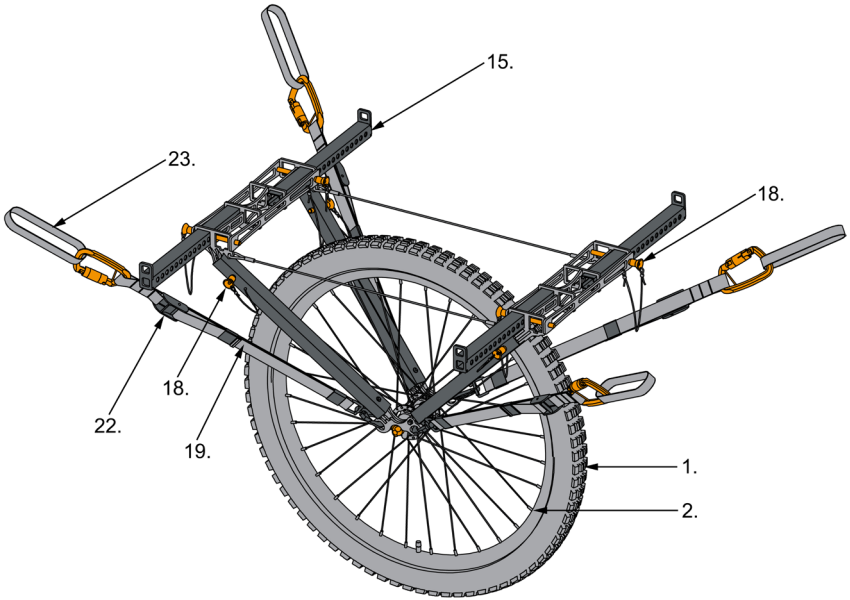
Frame

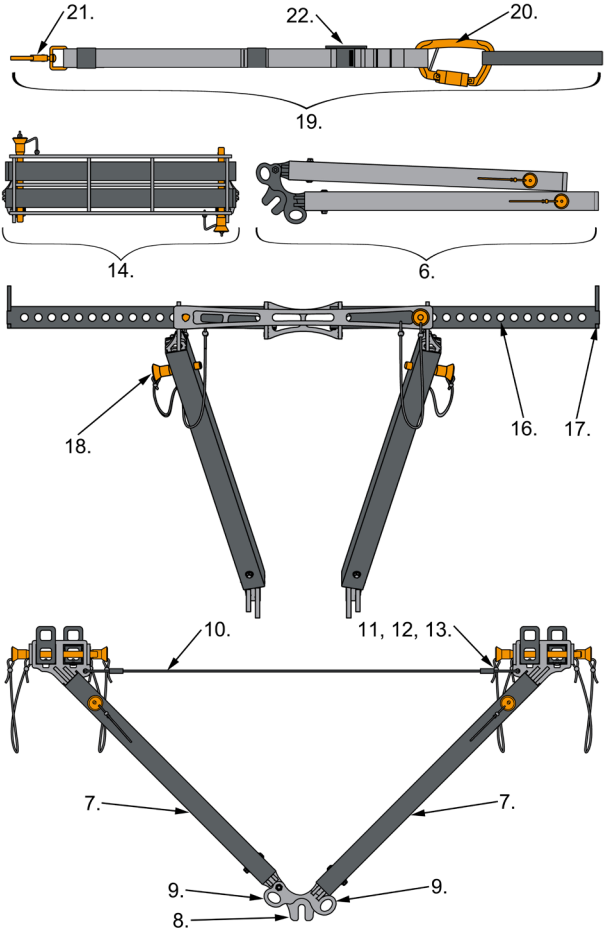
6. Forks assembly
7. Fork leg
8. Drop out
9. Strap clipping point
10. Restraining cable
11. Thimble
12. Ferrule
13. Maillon Rapide
14. Stretcher support assembly
15. Stretcher support arm
16. Stretcher support arm location holes
17. Stretcher support arm end plate
18. Retaining pin

Securing Straps

19. Strap assembly
20. Captive twist lock connector
21. Swivel connector
22. Cam buckle
23. Attachment sling







Limitations

The wheel unit has passed manufacturer's test requirements with a test mass equivalent to the maximum intended combined load (casualty + stretcher + medical equipment) of 136kg when attached to an appropriate stretcher frame.

When working with loads of over 100kg, take care not to exceed the load bearing capacity of other components in the system.

Movement of a loaded stretcher fitted with a wheel unit must not be attempted by a single person. It requires multiple persons to maintain stability and security. The exact number of personnel and their positions around the stretcher will depend on a number of factors including the terrain, environmental conditions, personnel skill and physical strength – list not exhaustive

Use

This Wheel Unit is for rescue and rescue training purposes only.

The Wheel Unit provides a means of supporting a portion of a loaded stretcher's weight during an evacuation within the guidance set out in these instructions and by trained and competent users.

The Wheel Unit must never be used to solely support a load. The stretcher must be tended and supported by sufficient personnel to prevent loss of control.

The Wheel Unit should not be seen as a means of increasing the speed of travel of the stretcher. An increase in speed can lead to a reduction or loss of control of the stretcher. Increases in speed can also reduce patient comfort and enhance patient movement within the transport package.

Never allow the wheel unit to interfere with the operation of any safety device or medical equipment attached to the casualty.

The Wheel Unit is designed to be used with the Lyon BELL Mk3 and TANGENT MR and Industrial stretchers (excluding bariatric models) and the Lyon MacInnes MK6 stretcher.

Other metal frame stretcher systems may be used with this Wheel Unit if compatible. Seek the stretcher manufacturer's advice.

All other uses of this product are forbidden without written approval from Lyon Equipment Ltd.

Planning a rescue

Taking into consideration the casualty's injuries, environmental hazards and the intended extraction route, assess whether this Wheel Unit is suitable for the application.

Before commencing the rescue, a plan must be in place as to how to deal with any emergencies which may arise during the rescue.

Check the tyre pressure before use.

Assembly of the Wheel Unit

Assuming the stretcher is already loaded with a casualty, assembly of the Wheel Unit may be done remotely to the stretcher and then the Wheel Unit moved into position below the suspended stretcher for final fitting and securing.

Remove all components of the Wheel Unit from their storage and transport positions.

Where the width of the stretcher at the points at which the stretcher support arms will sit is known, adjust the arms to the correct width and lock with the arm retaining pins.

Place the two stretcher support assemblies on the ground, with the stretcher support arm end plates pointing downwards and with the restraining cables tight and untwisted between each assembly.

Remove the stretcher support assembly retaining pins from each fork leg. Slide each fork leg onto the relevant lug on the stretcher support assembly and secure with a retaining pin. Ensure the forks are the correct orientation – tilted towards the centre of the wheel unit. The forks have a coloured indicator to assist with orientation.

Release the quick release skewer lever and place the wheel between the forks with the axle skewer entering the drop out on each fork.

Ensure the axle skewer is correctly positioned and then adjust and tighten the quick release skewer so the wheel is secure. Make sure the skewer lever is not in front of the securing strap clipping point on the drop out. Carefully spin the wheel to ensure correct alignment and no interference to the wheel rotation.

Lift the assembled Wheel Unit and rotate so the wheel and tyre are facing the ground.

Rest the wheel unit on the ground in a stable position.

Clip the four stretcher securing straps to the clipping points in the drop outs using the sewn-in swivel connectors.

Attaching the stretcher to the Wheel Unit

Where no dedicated attachment point is available on the stretcher frame, four attachment slings are provided. Slings may be pre-fitted to the stretcher before loading the casualty.

Never use the wheel unit with an alternative connection system. Use only the fixtures and fittings supplied.

The slings must be positioned on load bearing areas of the stretcher frame such that when the stretcher securing straps are attached, the Wheel Unit is secured sufficiently to prevent movement.

The slings are attached by a lark's foot knot.

Ensure that the frame section selected is sufficiently strong for the loads applied,

and has no sharp edges, projections, abrasive surfaces etc. that may compromise the function of the sling.

With the attachment points for the stretcher securing straps confirmed, the stretcher may be lifted sufficiently for the Wheel Unit to be positioned underneath the stretcher.

Position the Wheel Unit, ensuring that the load bearing stretcher skids will rest on the stretcher support arms, within the end plates.

Check the contact faces of both the underside of the stretcher and the stretcher support arms are clean and free of debris (mud, snow, ice etc.). Clean if necessary.

Carefully lower the stretcher until it contacts the wheel unit and then hold – do not place the weight of the stretcher on an unsecured wheel unit.

Attach the stretcher securing strap connectors to the selected attachment slings or attachment points. Tension the straps evenly until the wheel unit is secure. **Beware of working directly underneath the supported load.**

Tidy the spare strap webbing away using the elastic webbing keepers on each strap. Loose webbing may interfere with the operation of the Wheel Unit.

Lower the weight of the stretcher fully onto the Wheel Unit. Recheck the security of the straps and adjust if necessary. **Maintain support of the stretcher at all times; the Wheel Unit does not provide stability to the stretcher.**

During use, monitor the security and condition of the Wheel Unit. If there is any concern, stop and take remedial action, or discontinue use.

Disassembly of the Wheel Unit

Assuming the stretcher is already loaded with a casualty, lift the stretcher until the wheel is approx. 25mm above the ground.

Release the cam buckles on the securing straps sufficiently to allow the twist lock connectors on each securing strap to be opened and removed.

With the Wheel Unit supported, remove the four securing straps from the attachment slings or dedicated attachment points on the stretcher.

Withdraw the Wheel Unit from under the supported stretcher. The stretcher may now be lowered to the ground.

Remove the securing straps from the wheel unit. The unit is then dismantled by reversing the assembly procedure – **beware of trapping fingers when removing the forks from the stretcher support assembly.**

Training in the use of the Wheel Unit

It is essential that all potential users receive training in the use of this Wheel Unit.

If training with live casualties, ensure that the team supporting the stretcher

has sufficient trained personnel within it to prevent instability.

For additional copies of these user instructions for training purposes visit www.lyon.co.uk

Warning

IMPORTANT: Before using the wheel unit always check its condition; there must not be any signs of wear, corrosion, deformation or defects.

If you have any doubts, do not use the wheel unit.

When assembling and disassembling the wheel unit, take care to avoid entrapment.

Storage and transport

Store in a dry, ventilated area, away from direct sunlight and other heat sources and chemicals. Avoid storage areas where the product could be damaged by sharp edges etc. Ensure the Wheel Unit is completely dry before re-packing.

Transport the Wheel Unit components in the bag or other suitable container to prevent damage during transit.

All chemical products, corrosive materials and solvents should be regarded as harmful. If the Wheel Unit comes into contact with any chemicals, remove it from service and contact Lyon Equipment Ltd for guidance, with the precise details of the chemicals concerned.

Materials

The stretcher support assemblies, arms, drop outs and retaining pins are stainless steel

The forks, connectors and cam buckles are aluminium alloy, zinc alloy and carbon steel

The wheel is aluminium alloy and carbon steel

The tyre is synthetic rubber

The stretcher securing straps are polyester

Lifetime

The product 'lifetime' includes everything - from the period of storage to the period of use.

Metallic items – potentially infinite if stored correctly

Textile items (including tyre) - 10 years from date of manufacture *

This lifetime depends on the intensity, the frequency of use and the environment where the product is used.

1. In exceptional circumstances, wear or damage could occur on the first use, which reduces the lifetime of the product to that one single use.

2. Certain environmental elements will considerably accelerate wear: salt, sand, snow, ice, moisture, chemicals, etc. (List not exhaustive).

IF IN DOUBT DO NOT HESITATE TO SCRAP THE PRODUCT

Cleaning

Wash in clean water, not exceeding

30°C, with pure soap and rinse in clean cold water. Dry naturally away from any heat source.

If contaminated by biohazard, quarantine the Wheel Unit immediately.

All textile parts in contact with biohazard cannot be effectively cleaned and must be destroyed.

Markings

LYON	Manufacturer's logo
	Refer to user instructions
idN (Serial Number)	Individual serial number will be in a four digit format, 1234, referring to the number in the series.
LSWS	Product code
 mm-yyy	Month and date of manufacture. The first two digits give the month of manufacture, the last four give the year.

Inspection

Inspect before, during and after use. Lyon recommends this product undergoes an in-depth inspection every six months. Exposure to extremes of temperature, chemicals and sharp or abrasive surfaces will all have an adverse effect. Check for damage, wear, corrosion, correct operation and legibility of markings. Remove from service and destroy any product which fails inspection.

The Wheel Unit and all its components should be checked. Loosen all straps and move adjusters, connectors and buckles to allow all components to be fully inspected. Do not disassemble the securing straps.

The checks should be undertaken in good light.

Do not disassemble the Wheel Unit any further than described in these user instructions. Contact Lyon Equipment Ltd for service and spares.

If you are unsure or require training in the use or inspection of this product contact Lyon Equipment Ltd. Due to the nature of this product it is not possible to make it personal issue.

It is recommended that the wheel unit is marked with the date of the next or last thorough inspection. This should be achieved in a way suitable for the environment the product is to be used in and must not affect the performance of the product.

Metal items – Frame, forks, wheel inspection

Check the Wheel Unit's alignment is maintained. If significant misalignment is observed, then return to manufacturer.

Check the metal tubes, strengthening plates and brackets for any signs of wear, corrosion, cracking or deformity. Pay special attention to the forks: ensure that the open tube ends are not split, deformed or cracked.

Check all maillon rapides, screws, nuts and bolts for tightness, corrosion, cracking or deformity.

Check that the fork legs fit onto the lugs on the stretcher support assembly with no excessive force required.

Check the wheel is not buckled and that all spokes are in good condition and sufficiently tight. Check the wheel bearings are smooth and there is no play.

Carry out a function check of the wheel locking mechanism.

Check the tyre is correctly inflated and has sufficient tread. Check for cuts and damage to the tyre and valve that could cause loss of performance/deflation.

Metal items – Wire inspection

Check the wires and ferrules by visual inspection for any signs of corrosion, permanent deformation or other damage. There should be no broken strands or kinks in the wire. The ferrules should be tight with no movement of wire within the ferrule. The tail of wire exiting the ferrule should either be flush with the end of the ferrule or protrude no more than 2.0 mm. There should be no cracks in the ferrules. There should be no deformation in the eyelets or thimbles.

Metal items – locking pin inspection

Check that the release button moves freely and that the locking detent balls move in and out when the release button is operated.

Check that the locking pin is not bent or dented by installing the locking pin into a pin placement. It should move freely in and out of the placement whilst the release button is depressed.

Check the locking pin security in each pin placement by attempting to pull the locking pin out of the placement without depressing the release button. If removal is possible without depressing the release button, do not use and quarantine the locking pin and component immediately. Retire defective component(s).

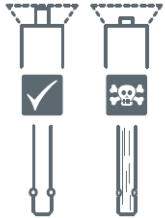


Figure shows left pin in good working condition. The right pin should be retired due to wear on the shaft and the detent pins not properly working.

Textile items – securing straps, attachment straps

Check the webbing visually and by passing the straps slowly through the hands e.g. to detect small cuts in the edges, abrasion or cuts across the face of the webbing, softening or hardening of fibres, ingress of contaminants, broken, cut and worn threads in the of chemical or UV damage.

*replacement securing straps, attachment slings and locking pins are available from Lyon Equipment Ltd

Lubrication

The wheel is supplied with pre-adjusted and pre-lubricated sealed wheel bearings. If dirt, dust or water enters the wheel bearings, the wheel should be serviced, and new lubricant applied. Unless competent to carry out such work it is advised that the work be carried out by a cycle repair centre.

Repairs

Repairs/replacement of the inner tube may be carried out by a competent person.

All other repairs to the wheel unit may only be carried out by Lyon Equipment Ltd.

Note to resellers

These instructions must be translated into the language of the country in which the item is to be used.

End of document.

Lyon Product Inspection Record							
Product code		Product description		Year of manufacture		Purchase date	
Length if applicable		Individual serial number		Date of first use		Certificate of conformity number	

Manufacturer	Address		Other relevant information
Lyon Equipment Ltd.	*Unit 3-7 Tebay Business Park* *Old Tebay* *Penrith* *CA10 3SS* *UK*	*Tel. +44 (0)15396 24040* *Fax. +44 (0)15396 26330* *info@lyon.co.uk* *lyon.co.uk*	

Record of inspection and repair

Date	Comments	Name and signature of competent inspector	Next due date

EN

All user instructions supplied with this product must be kept as part of the product inspection record

General user instructions

Lyon Equipment Limited
Units 3-7, Tebay Business Park,
Old Tebay,
Penrith,
Cumbria, United Kingdom,
CA10 3SS
Tel: +44 (0) 15396 24040
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lyon.co.uk/user-instructions

For more detailed user information and to download a PDF copy of these instructions and a Declaration of Conformity follow the link above or scan the QR code with your smart phone

Notified body controlling manufacture (where applicable)

Where items of Personal Protective Equipment require an EU type examination in accordance with Personal Protective Equipment (EU) Regulation 2016/425, the body controlling the manufacture is:
Notified body No. 0598
SGS Fimko Oy,
P.O. Box 30 (Särkiniementie 3),
00211 HELSINKI, Finland.

WARNING

Make sure that you have read and understood these instructions before using this equipment. These user instructions are to be read and kept along with any other user information provided.

Activities at height are hazardous and may lead to injury or death. It is the user's responsibility, at all times, to ensure that they understand the correct use of any equipment supplied by or through Lyon Equipment, use it only for the purposes for which it is designed, and practice proper safety procedures including having a rescue plan in case of emergency.

This product must not be used outside its limitations, or for any purpose other than those described in the user instructions. Misuses forbidden in these instructions are examples only; many other misuses may exist which could lead to injury or death.

Do not use combinations of items of equipment in which the safe function of any one item is affected or interferes with the safe function of another.

Please note, the information in these user instructions is not exhaustive, and is not a substitute for comprehensive instruction and training by a competent person.

Lyon Equipment is not responsible for any consequences, whether direct, indirect or accidental, resulting from the use of its products. If you are unsure about the correct use of this product, please contact us.

Who can use this equipment

This equipment should only be used by trained, competent and responsible persons, or the user should be under the direct supervision of a trained, competent and responsible person.

Activities at height should not be undertaken by persons affected by alcohol or drug dependence, diabetes, epilepsy, fits, blackouts, fear of heights, vertigo / dizziness / difficulty with balance, heart disease / chest pain, high or low blood pressure, impaired limb function, obesity, psychiatric illness, musculoskeletal issues, e.g. a bad back.

General instructions for use

Equipment must be checked before each use, to ensure it is serviceable and operates correctly. Checks should also be carried out during use. In addition, a thorough inspection by a competent inspector should be carried out in strict accordance with these user instructions, and a record kept of these inspections.

This product may be used with any compatible item of equipment, keeping in mind the limitations of each item in the safety chain. It should be noted that a full body harness is the only type of harness which may be used in a fall arrest system.

The anchor device or anchor point is of primary importance and should be unquestionably reliable. It should be strong enough to withstand the foreseeable maximum load that could be applied e.g. in the event of a fall.

When selecting an anchor, the anticipated directions of loading and potential loads should be taken into account.

Anchors should be selected and positioned to allow work to be carried out in such a way as to minimise the potential for a fall and potential fall distance, for example by keeping the anchor point / device above the user.

Anchors should not have sharp or rough edges which could damage equipment (use edge protection if necessary).

On each occasion of use, verify the free space required beneath the user in order to avoid an impact. Always try to place protection so that any fall will be stopped before the user hits the ground or any other obstruction. Remember to allow for rope stretch and slippage in the belay device or rope ascender / descender. In a fall arrest situation, the user must be protected from dynamic forces of greater than 6 kN in the event of a fall, e.g. by use of a fall arrest system incorporating an EN 355 energy absorber.

Maintaining your equipment

Wash in clean water not exceeding 30°C with pure soap and rinse in clean cold water. Do not use chemical products, solvents or detergents – these should be regarded as harmful.

Due to the difficulties in effectively disinfecting equipment, we recommend that any contaminated equipment should be withdrawn from use and disposed of in a suitable manner.

Equipment must be clean and dry before storing. Always allow to dry naturally, away from direct heat. Equipment should be stored in a cool, dry, well-ventilated area, away from excessive heat, high humidity, sharp edges, corrosives, sunlight or other sources of ultraviolet light (UV) and other possible causes of damage.

During transport, this product should be protected from abrasion, mechanical damage, chemical contamination, UV and heat.

Textiles

Always keep textile items at temperatures between -30°C and +50°C.

Metal items

Always keep metal items at temperatures between -20°C and +60°C.

No alterations, additions or repairs may be made to this product without the manufacturer's prior written consent; if done, the repair must be carried out by a competent person for repair authorised by Lyon Equipment to make the repair, and in accordance with specified procedures.

These instructions must be strictly adhered to.

Inspection

A thorough inspection should be carried out at least every 6 months by a competent inspector in accordance with these user instructions. A record of these checks should be kept with the product along with these user instructions. In addition, interim inspections should be carried out where products are used intensively, or in particularly harsh environments where damage is more likely to occur, or where legislation or the type of equipment make it necessary.

Pre-use and thorough inspections are essential because the user's level of protection depends on the continuing correct performance of this product.

PPE (Personal Protective Equipment) inspection training is available from Lyon Equipment.

Lifetime, and when to withdraw your equipment from use

Withdraw your equipment from use if any one of the following applies:

- It shows sign of wear and tear / damage that may affect performance
- Markings on the product are no longer legible
- You suspect it may have been exposed to chemical contamination or extreme temperatures
- It fails a periodic examination
- It has been used to arrest a fall or has been excessively loaded
- It is more than 10 years after the date of manufacture (textile items or items with textile components). Metal items have a potentially indefinite lifespan if stored correctly.
- If you have any reason to doubt that it is safe to use.

It is the responsibility of the competent inspector to decide whether the equipment should be put back into use, or permanently withdrawn from use. Equipment permanently withdrawn from use must be destroyed, and should be recycled where facilities exist.

Certain environmental elements will considerably accelerate wear: salt, sand, dust, snow, ice, moisture, chemicals, sunlight (UV radiation) – list not exhaustive.

Warning: the safe working life of this product may be as short as its first use in extreme circumstances.

If in doubt, do not hesitate to scrap this product.

Guarantee

In the event of any defect in materials or workmanship please return the product to the dealer, distributor or manufacturer within 3 years of purchase for inspection. We will replace or repair as required. This guarantee does not cover normal wear and tear or accidental damage.

Note to resellers

If the product is re-sold outside the UK and Eire, but within the EU, the reseller is responsible for providing instructions for use, maintenance, periodic examination and for repair in the language of the country in which the product is to be used.

If you require the Intrastat commodity code / customs tariff code or NATO stock number (where applicable) for this product, please contact us via lyon.co.uk

Inspection records

A record must be kept for each component, subsystem and system, including name and contact details of the manufacturer or supplier, product description, serial number, year of manufacture, date of purchase, date of first use, any other relevant information, and history of periodic examinations and repairs, the name and signature of the competent inspector and the next due date for inspection. An example of a suitable equipment record is shown on this user instruction and can also be downloaded at lyon.co.uk

Local jurisdiction may dictate that extra information be recorded in the inspection record – check your country's legal requirements. Some products may have features which need special monitoring during periodic inspections, e.g. wear indicators, in which case this information should also be recorded on the inspection record.

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Explanation of symbols

	**Refer to user instructions**
	**Permitted use**
	**Caution**
	**Danger of death**
	**Telephone number**
	**Anchor point**
	**Rope diameter**
	**Cable**
	**SWL** **(Safe Working Load)**

Lyon Product Inspection Record

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