



## USER INSTRUCTIONS

### PLUG HOLE

LPP0004 

### PLUG

LPP0021 

### PLUG SPANNER

LPP0056 

Lyon Equipment Limited  
Units 3-7, Tebay Business Park,  
Old Tebay,  
Penrith,  
Cumbria, United Kingdom,  
CA10 3SS

Tel: +44 (0) 15396 24040  
Email: [info@lyon.co.uk](mailto:info@lyon.co.uk)  
Web: [lyon.co.uk](http://lyon.co.uk)

© Lyon Equipment 2019

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.co.uk/user-instructions](http://lyon.co.uk/user-instructions)



*This information to be read and kept in conjunction with the Lyon General User Instructions supplied with this product.*

### Quality assurance

Quality management system assessed and certified as meeting the requirements of ISO 9001.

### Use

The PLUG HOLE is a rope guide designed for use in a work positioning system, to provide limited, localised abrasion protection for a rope which is rigged to pass through metal plate at 90° to the plate where it is not possible to achieve a free hang by other means. Ideally, the rope should be rigged to avoid all contact with obstacles. After use the PLUG HOLE may be removed and a PLUG (sold separately) used to fill the hole.

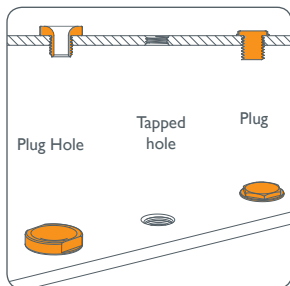
The PLUG HOLE is not an anchor device.

The PLUG HOLE is not intended to be used as a rope deviation, to change the direction of a rope.

The PLUG HOLE does not provide protection from hot surfaces.

The PLUG has been designed and manufactured to provide the smallest possible protrusion from the plate when installed. An assessment must be made by the installer before installation to confirm that the product and its intended location do not constitute an unacceptable trip hazard.

Before installation, permission must be given by the owner of the structure. Careful consideration must be given to the location and proximity of the holes



to prevent damage to the structure and/or the integrity of dividing barriers, as well as providing a straight hang for the rope with a minimum amount of deflection as it passes through the plate. PLUG HOLES should be spaced to reduce the risk of ropes becoming tangled during operations.

The PLUG HOLE may be used with rope conforming to EN 1891, of diameter 9 mm to 13.5 mm. It is not designed for use with wire cable. The PLUG HOLE is for a single rope only – do not use more than one rope through the PLUG HOLE at any one time.

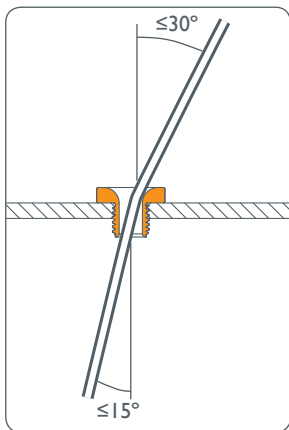
Maximum static load on a rope passing through the PLUG HOLE = 250 kg.

Maximum permitted angles of rope going into the PLUG HOLE is 30°.

Maximum permitted angles of rope exiting the bottom of the PLUG HOLE is 15°.

**NOTE THAT ANY MOVEMENT ON A LOADED ROPE, E.G. PRUSIKING, HAULING, AND WIND OSCILLATIONS WILL**

**CAUSE MOVEMENT OF THE LOADED ROPE. MOVEMENT OF THE ROPE THROUGH THE PLUG HOLE WILL CREATE FRICTION, WHICH MAY LEAD TO AN INCREASE IN TEMPERATURE OF THE PLUG HOLE; ENSURE THAT THE TEMPERATURE DOES NOT EXCEED 50°C, AS THIS MAY DAMAGE THE ROPE.**



Ensure the PLUG HOLE is secure and stable before using the rope below it.

During use it is essential to regularly check that the rope and PLUG HOLE are still correctly positioned.

The PLUG HOLE and PLUG may be used in plates up to 20 mm thick. When used in thinner plates, ensure there is adequate thread engagement to hold the PLUG HOLE and PLUG in place.

Ensure the plate has adequate thickness to provide secure fixing of the PLUG and to maintain any structural integrity required, e.g. offshore blast decks.

A flat surface free from undulation or other features is required. If necessary, the surface of the plate may require machining to provide correct seating.

Check the material of the plate for compatibility with the PLUG HOLE and PLUG.

### **Installation**

The PLUG HOLE and PLUG are designed to be fitted to a hole tapped to M24 x 3 (standard M24). The tapped hole must be at 90° to the surface, and any swarf and/or cutting fluids must be removed prior to fitting the PLUG HOLE and PLUG.

Screw the PLUG HOLE into the tapped hole with the markings uppermost, ensuring that it is not cross-threaded. Tighten firmly by hand only, ideally using the PLUG SPANNER (code LPP0056) – applying greater pressure may distort the PLUG HOLE or cause damage to the thread. The PLUG HOLE is correctly seated when the head of the PLUG HOLE is in contact with the plate around its circumference.

Monitor the PLUG HOLE during use to confirm its security. Re-tighten as necessary.

Once the work task is finished, the PLUG HOLE can be removed from the hole and the PLUG fitted.

Screw the PLUG into the plate by hand only, ideally using the PLUG SPANNER.

The PLUG is correctly seated when the underside of the head of the PLUG is in contact with the plate around its circumference.

The PLUG must be finally tightened to 4 Nm.

Inspect the installed PLUG to ensure it provides an adequate seal.

Where enhanced sealing or vibration resistance is required, a suitable washer may be necessary. Users should consult with the owner of the structure to determine what washer material is appropriate for the installation.

Consideration must be given to the security of the PLUG and changes to the trip risk if a washer is used.

The PLUG HOLE cannot protect against all forms of rope damage and may not be suitable in all circumstances. The user must verify the suitability of the PLUG HOLE for each application before use.

### Inspection

PLUG HOLES and PLUGS should be subject to:

- Pre use checks
- Thorough inspections
- Interim inspections (as appropriate)

Before each use, check the PLUG HOLE and PLUG for damage, especially wear grooves or burrs. Small burrs may be removed with emery cloth. Ensure that all rope contact surfaces are left smooth. Check the thread for any sign of damage. Wear on the thread may reduce the security of the PLUG HOLE or PLUG in the plate. The checks should be undertaken in good light. Any item

showing any defect should be withdrawn from service immediately.

### Lifetime

Infinite subject to inspection.

PLUGS may be re-used in new locations, subject to checks on condition and material compatibility.

If the PLUG HOLE comes into contact with any chemicals, remove it from service, and clean it to prevent contamination of other ropes.


### Materials

The standard product PLUG HOLE is stainless steel 316.

The standard product PLUG is sherardised EN16T low alloy, high tensile steel.

PLUG material may need to be changed depending on application. Contact us to discuss material options and volume requirements.

### Marking on PLUG HOLE

	Manufacturer's logo
	Refer to user instructions
4 Nm	Correct torque for installation
BATCH:XX	Batch number
LPP0004	Product code

*End of document*



# 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  
Email: [info@lyon.co.uk](mailto:info@lyon.co.uk)  
Web: [lyon.co.uk](http://lyon.co.uk)

© Lyon Equipment 2019

[lyon.co.uk/user-instructions](http://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](http://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](http://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.

This page deliberately left blank

## 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

Product code	Product description	Year of manufacture	Purchase date
Length if applicable	Individual serial number	Date of first use	Certificate of conformity number
Manufacturer <b>Lyon Equipment Ltd.</b>	Address <b>Unit 3-7 Tebov Business Park Old Tebov Penrith CA10 3SS UK</b>	<b>Tel. +44 (0)15396 24040 Fax. +44 (0)15396 26330 info@lyon.co.uk lyon.co.uk</b>	Other relevant information

#### Record of inspection and repair

Date	Comments	Name and signature of competent inspector	Next due date

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