



# **Jarag-5 Rigging System**

**JA241 - JA242**

## **USER MANUAL**

Version 1.1

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## Update record

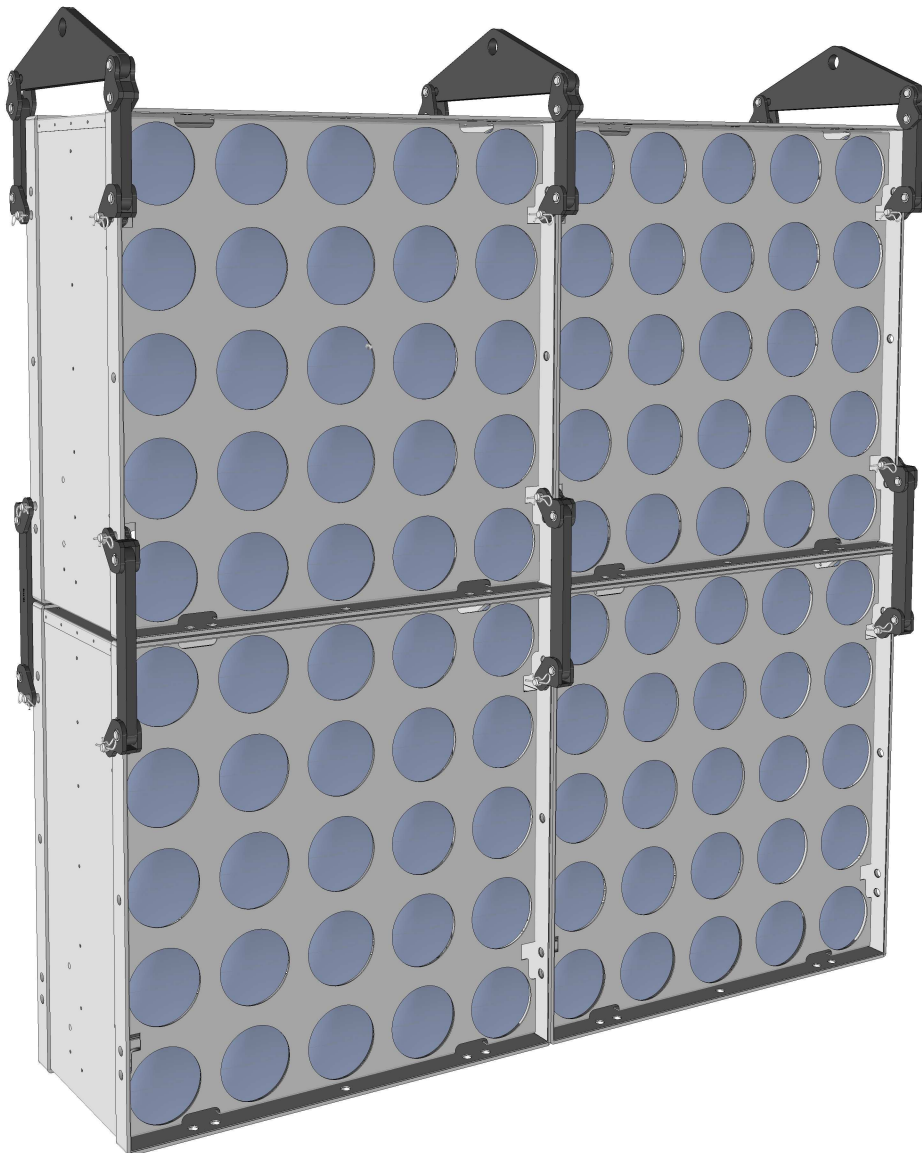
| <i>Version</i> | <i>Date</i> | <i>Initials</i> | <i>Description</i>             |
|----------------|-------------|-----------------|--------------------------------|
| 1.0            | 22/04/11    | fpl             | First issue                    |
| 1.1            | 26/09/11    | fpl             | Clarified some technical terms |

## 1) Introduction

Thank you for buying the Chromlech Jarag-5 rigging accessories (JA241 and JA242) for the Jarag-5 arrays (JA121 or JA221). This manual gives the information on using this rigging system.

The manual describes how to fit the Jarag-5 rigging accessories to Chromlech's Jarag-5 JA121 and JA221 arrays.

**⚠ NB: Please read this manual carefully before using the rigging accessories.**



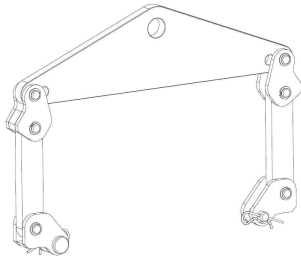
## 2) Safety rules / Precautions in use

- Chromlech's Jarag-5 should only be rigged by qualified riggers. Please contact a qualified rigger for safety information.
- Do not allow inexperienced persons to handle the Jarag-5 rigging system. The installation personnel must be trained in lifting techniques and must be fully familiar with this user manual. The installation personnel should wear statutory safety equipment while putting up and taking down the system.
- Do not allow anybody, whether stage hands, artistes or members of the public, to climb on the Jarag-5 rigging system.
- Chromlech's JARAG-5 rigging system complies with EC directives.
- Some countries require stricter safety factors. The user is responsible for ensuring that Chromlech systems can be installed in accordance with the standards of the country where they are used.
- Chromlech is not liable for rigging accessories that are not manufactured by Chromlech.
- Always inspect the parts of the Jarag-5 rigging system before fitting to check that they are not damaged or faulty. In particular, check the lifting points, the shafts with circlips and the locking pins. If there is any doubt that one of these parts may be damaged or faulty, **DO NOT USE THE PARTS CONCERNED**
- Read this manual carefully. Also be familiar with the manuals and safety procedures for auxiliary equipment that will be used with the Chromlech Jarag-5 rigging system.
- Ensure that the public and personnel are prevented from passing underneath the system while it is being rigged. The rigging area must be cordoned off and inaccessible to the public.
- Never leave the rigging unattended during installation.
- Do not place any object, even small or light, on the equipment during rigging. It may fall while the equipment is being suspended and cause personal injury.
- Safety cables must be fitted when the system has been suspended at the required height.
- The safety cables fittings depend on the local safety standards applicable in the country where the system is used.
- Ensure that the system is secured and unable to swivel round the lifting equipment.
- NEVER attach any equipment other than the Chromlech Jarag-5 JA121 and JA221 arrays to the Jarag-5 rigging system.
- The Jarag-5 rigging system must be checked regularly by qualified personnel.
- Take the same care when taking the system down as when installing it. Pack it away carefully after use.

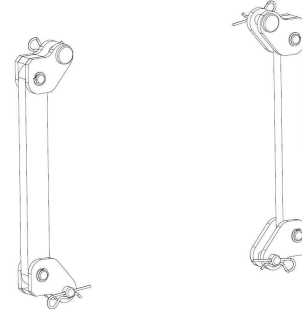
### 3) Glossary

The Jarag-5 rigging system has 2 distinct assemblies:

- The spreader bar kit (JA241)

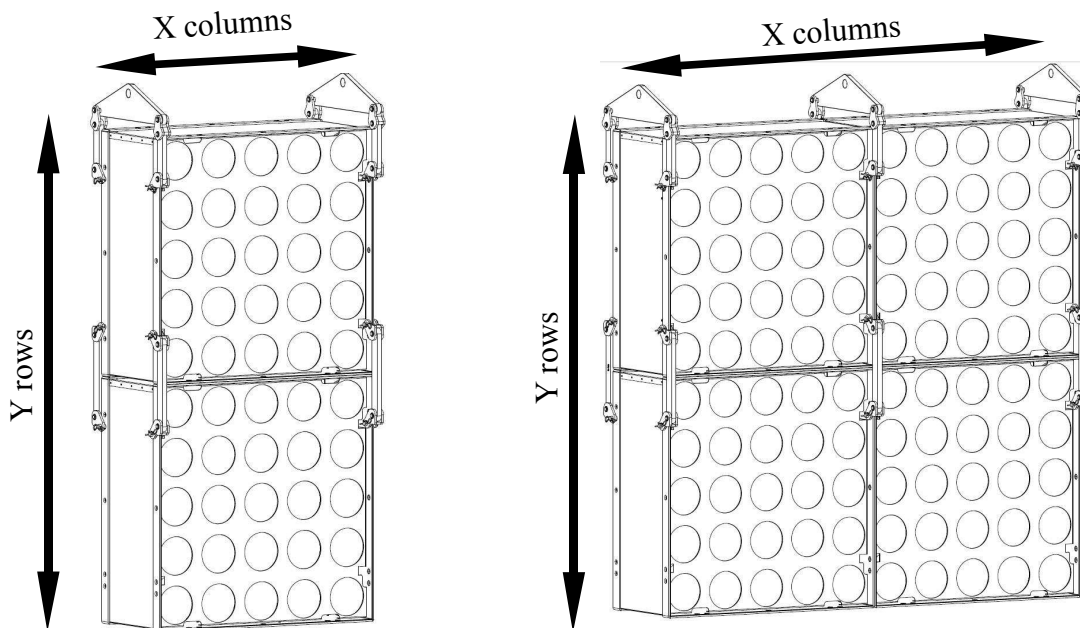


- The J-Coupler kit (JA242):  
(Each coupler kit has 2 J-Couplers)



- The Jarag-5 rigging system is used to stack and suspend Jarag-5 arrays. The number of Jarag units that can be stacked and suspended vertically is limited to 18 units, about 10m high.

### 4) Calculating the number of fittings required



Example 1: 2 JA241 spreader bar kits and 2 JA242 J-Coupler kits are required to lift 1 column of 2 Jarag-5s.

Example 2: 3 JA241 spreader bar kits and 3 JA242 J-Coupler kits are required to lift 2 columns of 2 Jarag-5s

Example 3: 5 JA241 spreader bar kits and 5 JA242 J-Coupler kits are required to lift 4 columns of 2 Jarag-5s.

To lift **X** columns of **Y** Jarag-5s, use

- **X+1** JA241 spreader bar kits
- **(X+1)\*(Y-1)** JA242 J-Coupler kits

## 5) Characteristics of the rigging accessories

### 1 – Characteristics of the JA241 spreader bar kit

The JA241 spreader bar kit comprises one spreader bar with J-Couplers and 2 locking pins + cotters.

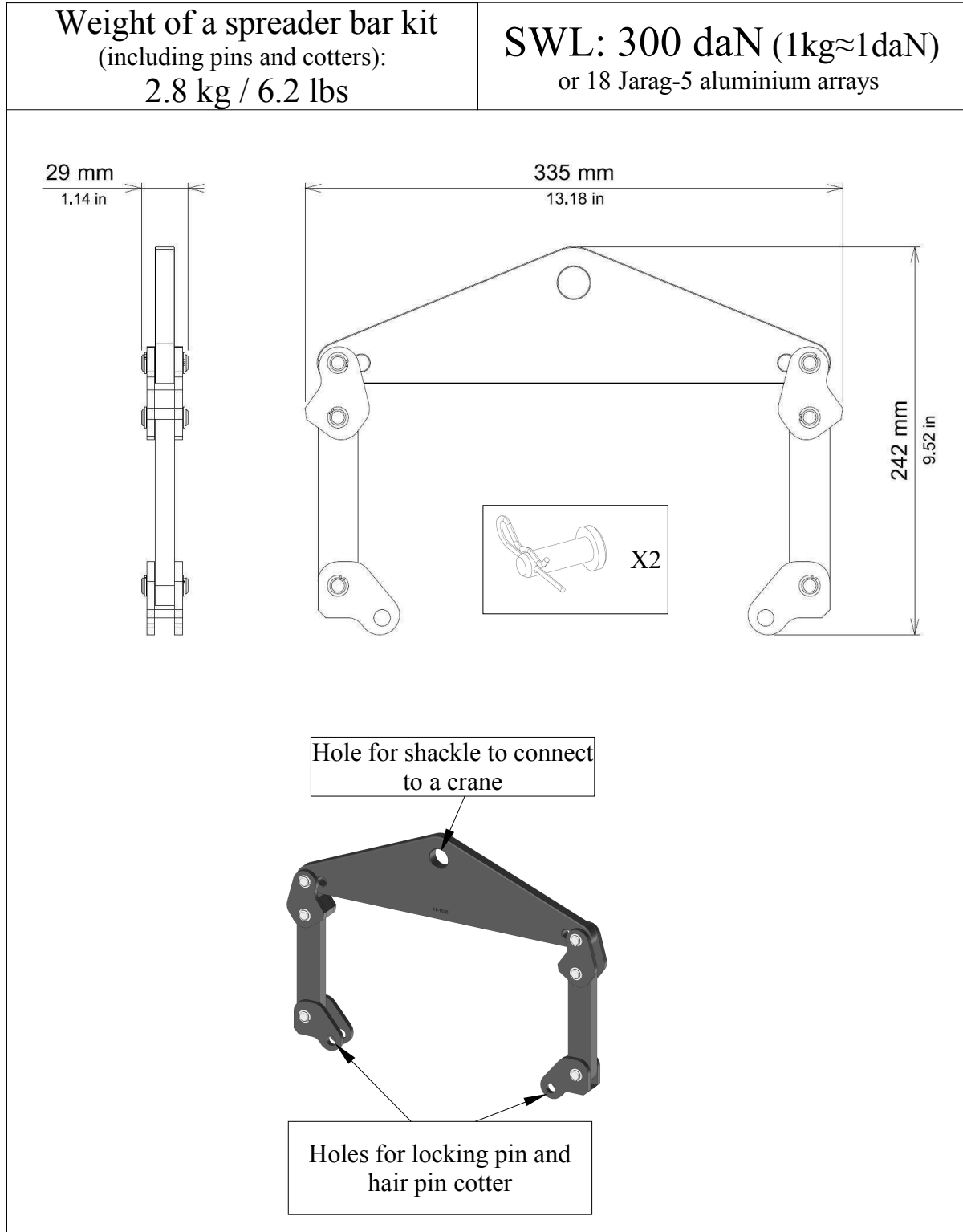


Figure 1: Characteristics of a JA241 spreader bar

**2 – Characteristics of a JA242 J-Coupler kit**

A JA242 J-Coupler kit comprises **two** J-Couplers and 4 locking pins + cotters.

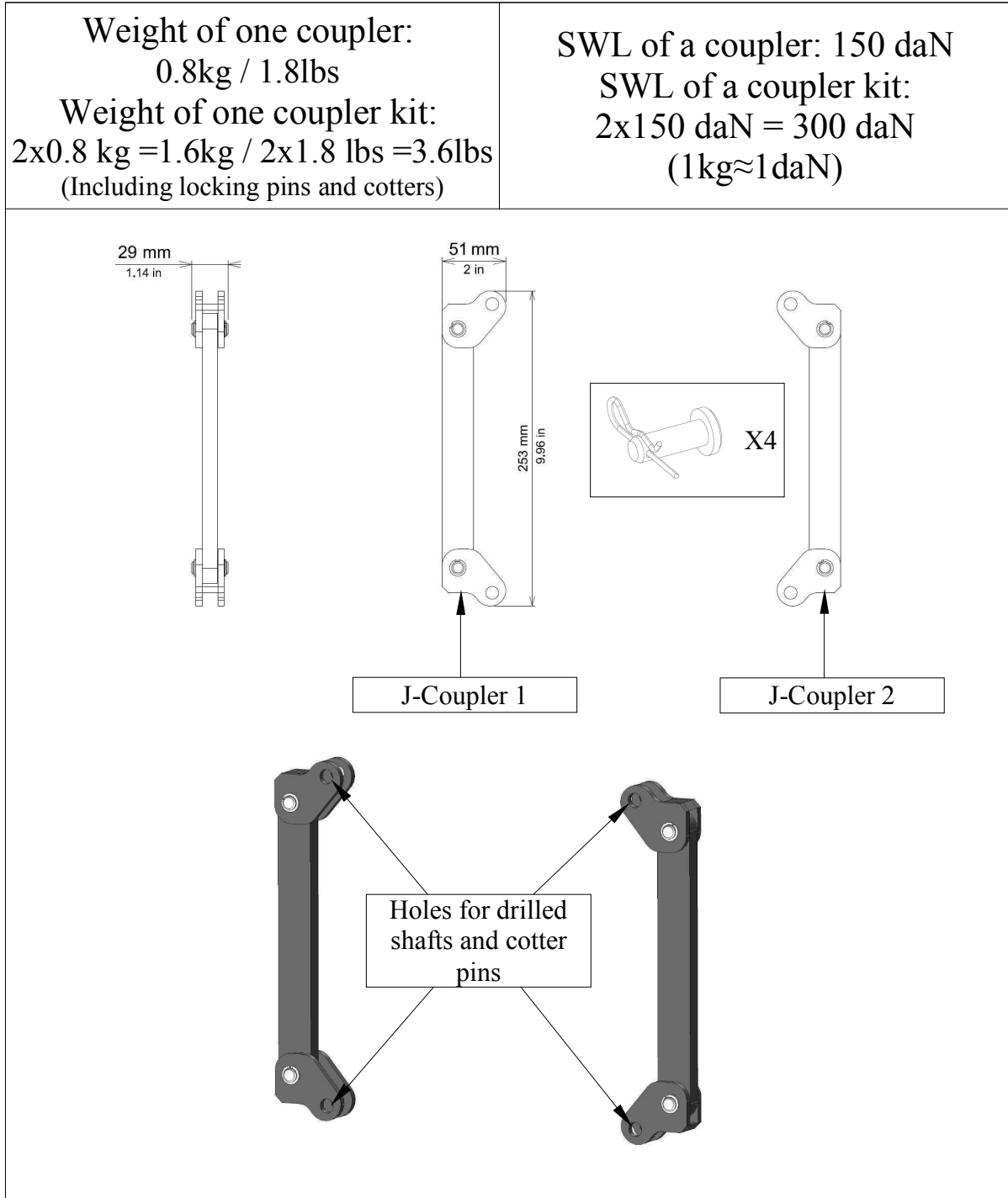


Figure 2: Characteristics of a JA242 J-Coupler kit

## 6) Fitting rigging accessories to a Jarag-5 array

### 1 – Mounting points on the Jarag-5 JA121 or JA221 array

When lifting one or more columns of Jarag-5 arrays, the lifting force for the mass of the assembly to be raised is transmitted through the casing of each array. It is, therefore, necessary to use the mounting holes provided on the arrays to distribute the forces through the strongest parts of each array.

**⚠ NB:** The JA241 spreader bar and JA242 J-Coupler assemblies **MUST ALWAYS** be used to rig the Chromlech Jarag-5 arrays (JA121 and JA221) as shown in figures 3 and 4.

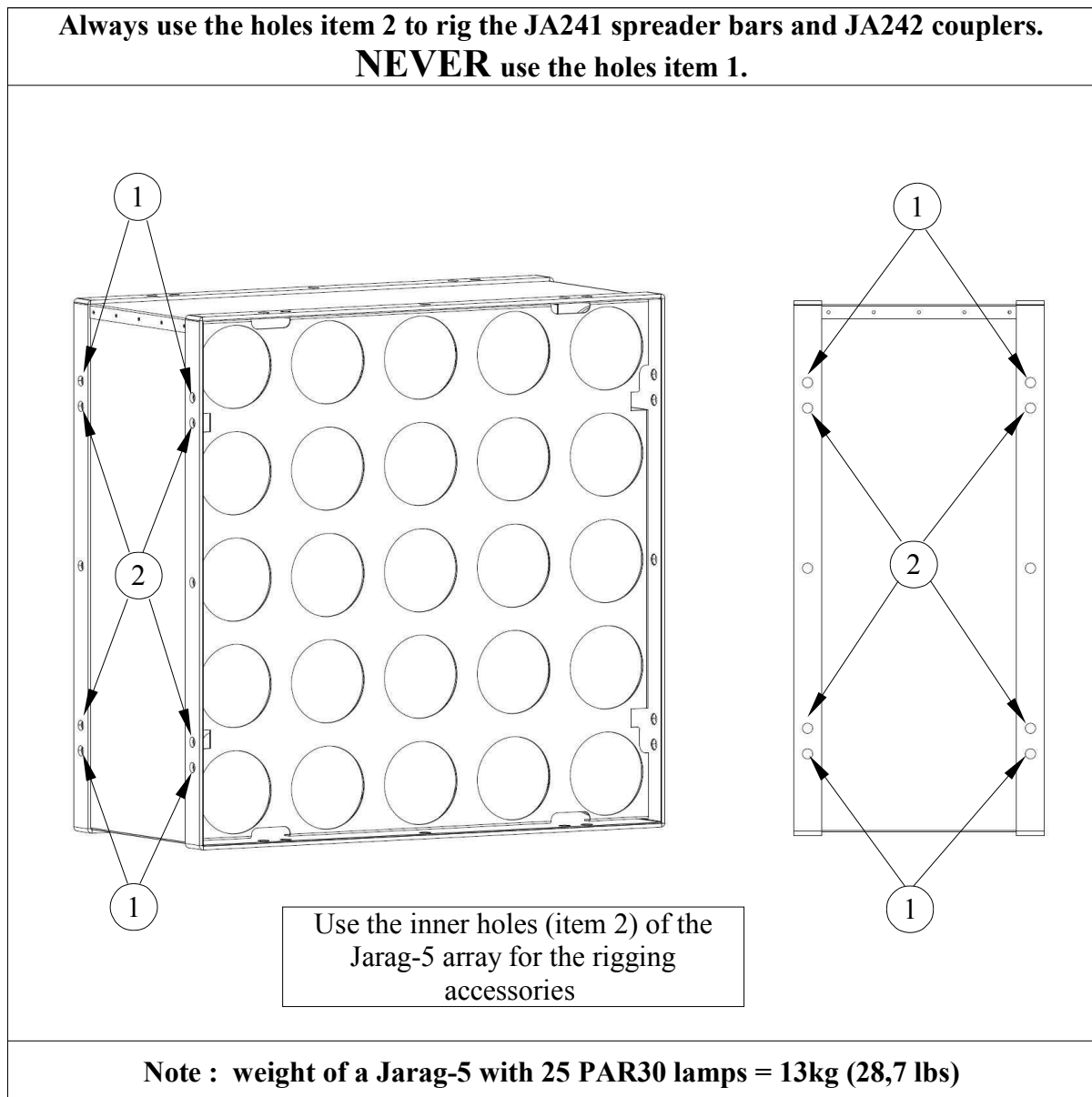


Figure 3: Mounting holes for the Jarag-5 array



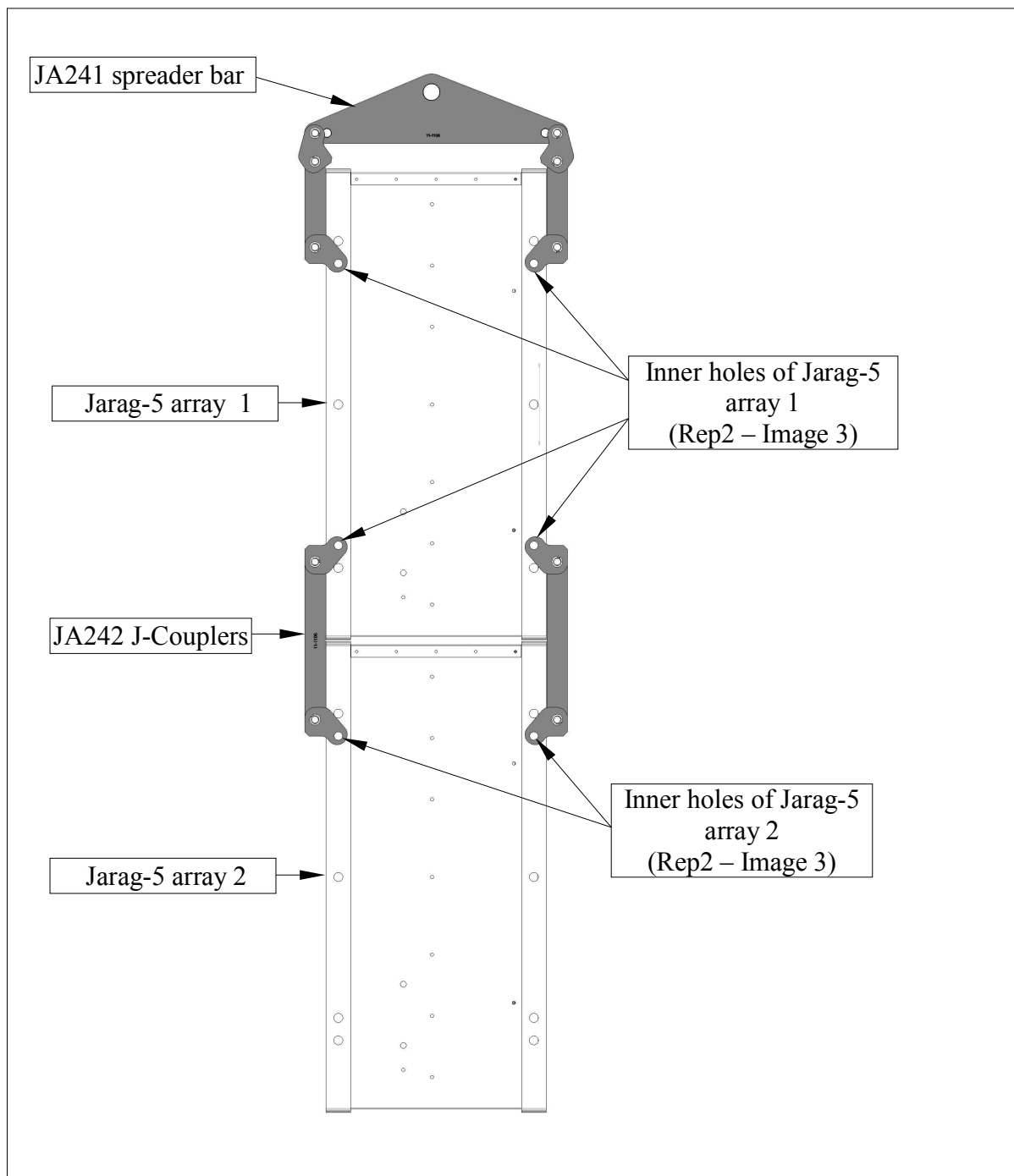


Figure 4: Fitting the JA241 spreader bar and JA242 J-Couplers

**⚠ NB: The SWL for a horizontal bar of Jarag-5s with Spreader Bar is 300 daN (maximum 18 Jarag-5s + 40 kg of cables) (1kg≈1daN)**

**⚠ NB: When calculating the load for a complete set of arrays, remember to include the weight of the DMX and supply cables and any other accessories (hooks, lifting rings, etc)**

## 2 – Configuring a JA241 spreader bar

JA 241 spreader bars are designed for use with both Jarag-5 JA121 and JA221 arrays. By default, the JA 241 spreader bars are set up for rigging Jarag-5 JA221 arrays. The JA 241 spreader bar must be reconfigured for use with a Jarag-5 JA121 array.

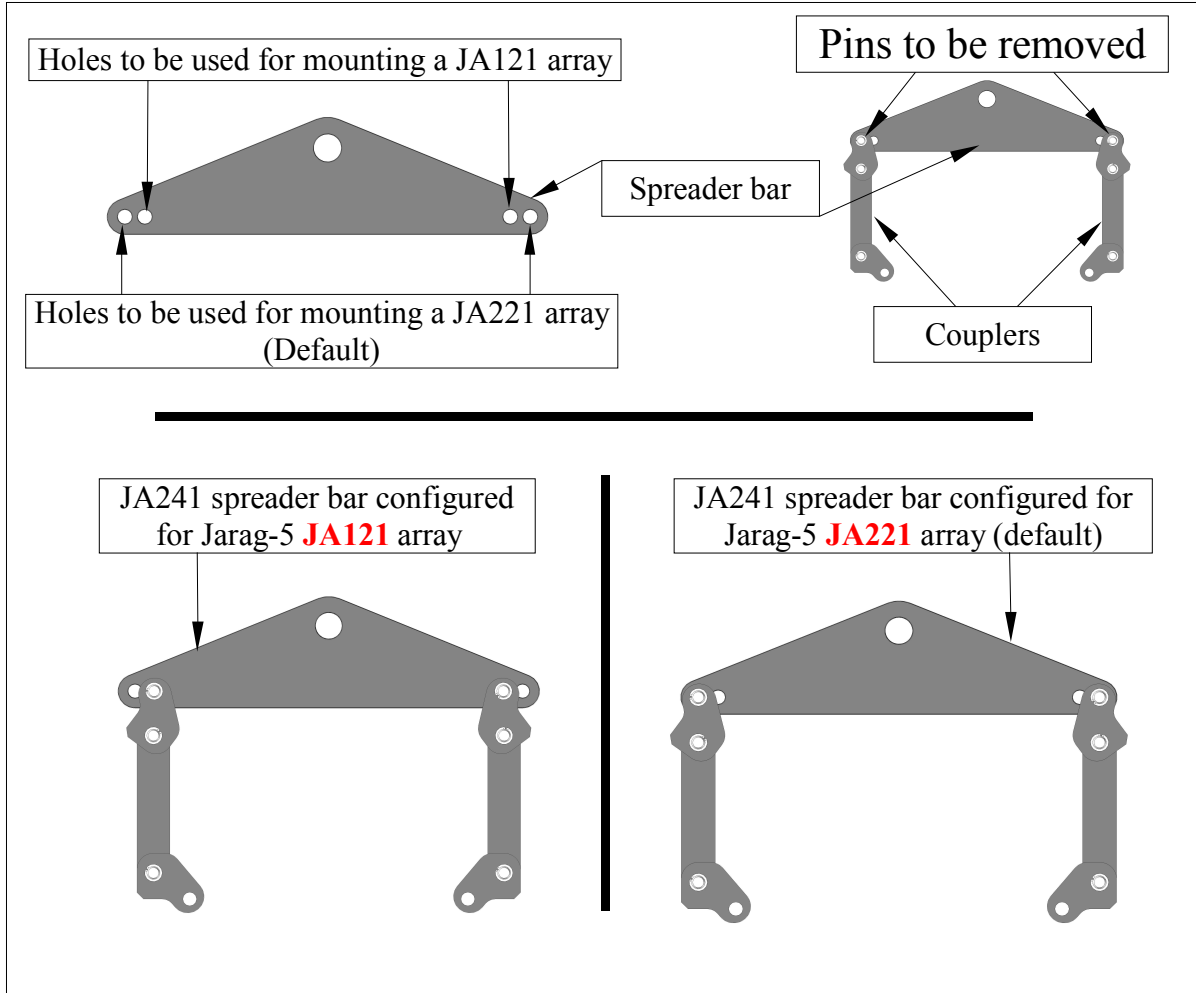


Figure 5: Configuring a JA241 spreader bar for rigging a Jarag-5 JA121 or JA221 array

**⚠ NB:** circlip pliers must be used to remove the JA241 spreader bar pins.

Figure 5 shows the pins to be removed. When they have been removed, there are the following parts:

- 1 Spreader bar
- 2 J-Couplers
- 2 Stainless steel pins

The 2 J-Couplers should be refitted in reverse order in the configuration required.

**⚠ NB:** After assembly, it is ESSENTIAL to check that the stainless steel pins and circlips are correctly fitted.

### 3 – Fitting a JA241 spreader bar kit to a Jarag-5 JA121 or JA221 array

The JA241 spreader bar kit is fitted by inserting the 2 locking pins and 2 hair pin cotters supplied with the kit (Figure 6).

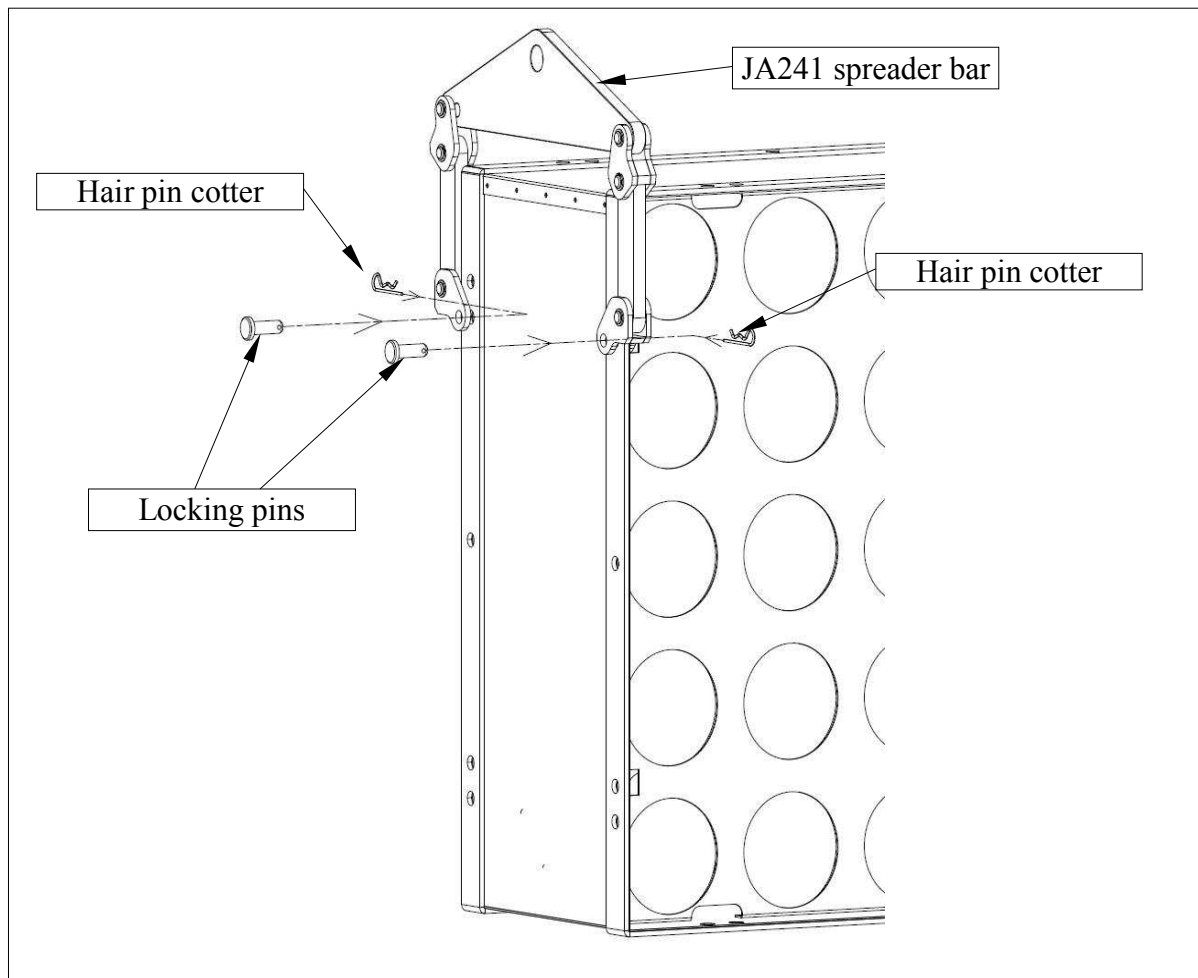


Figure 6: Fitting a JA241 spreader bar onto a Jarag-5 array

**⚠ NB:** Before using the Jarag-5 rigging system, check that all the locking pins are present and ensure that all these pins are secured by hair pin cotters.

**4 – Fitting a JA242 J-Coupler kit to a Jarag-5 JA121 or JA221 array**

The JA242 J-Coupler kit is fitted by inserting the 4 locking pins and 4 hair pin cotters supplied with the kit (see figure 7).

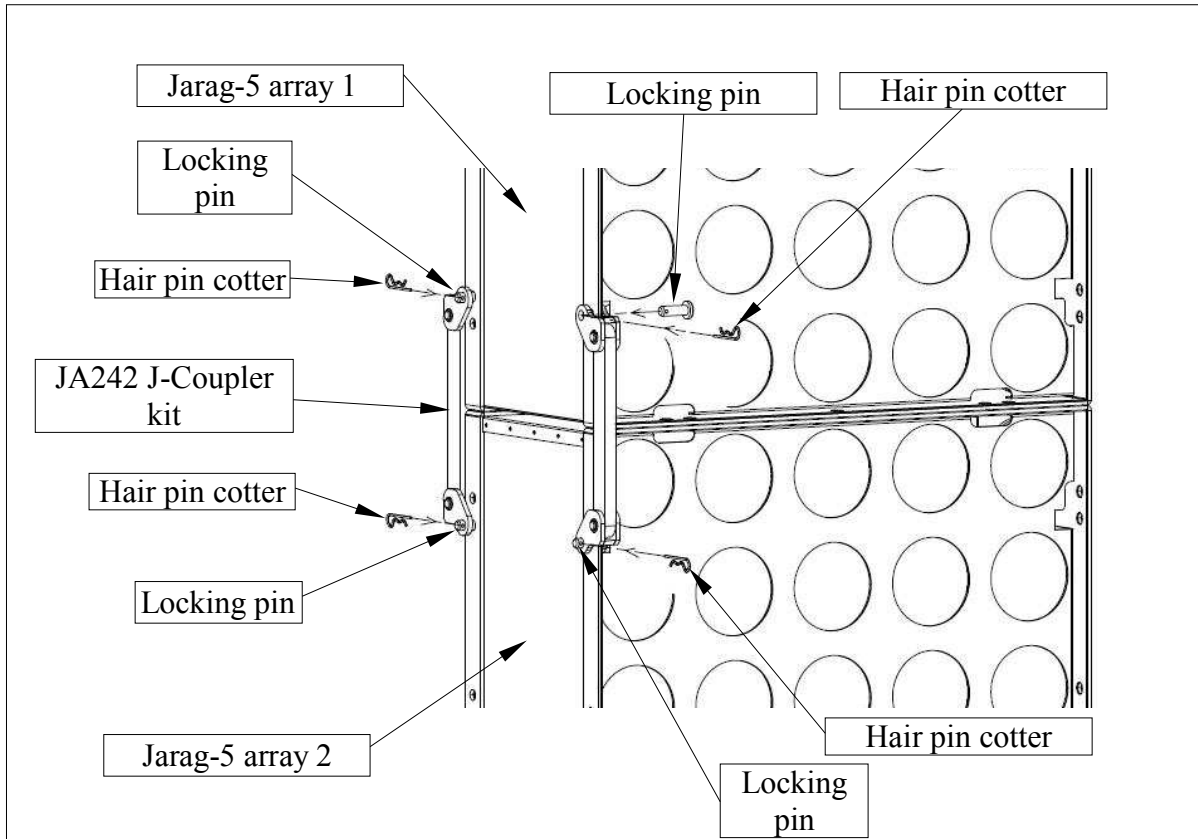


Figure 7: Fitting a JA242 J-Coupler kit to a Jarag-5 array

**⚠ NB:** Before using the Jarag-5 rigging system, check that all the locking pins are present and ensure that all these pins are secured by hair pin cotters.

### 7) Instructions for use

The Jarag-5 rigging system is designed to lift Chromleech Jarag-5 arrays. The arrays must be suspended vertically as shown in figure 8.

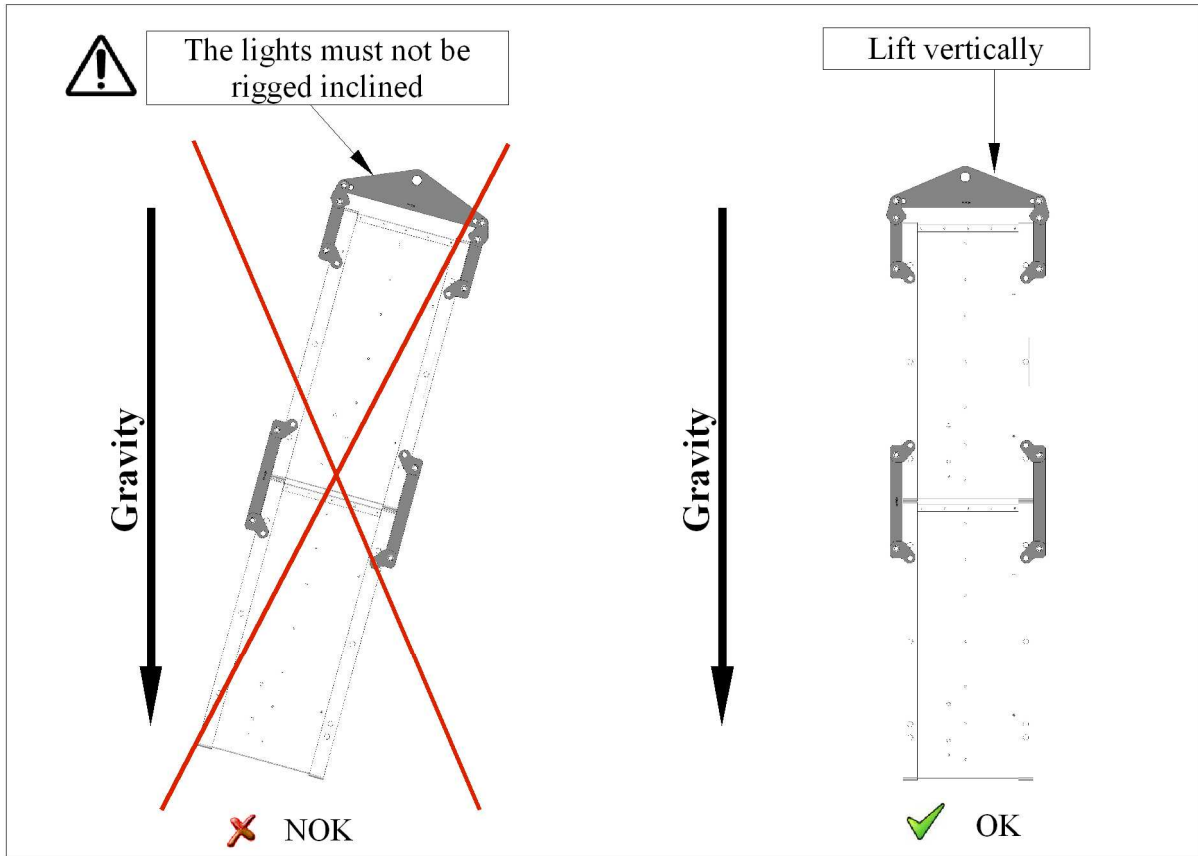


Figure 8: Inclination of Jarag-5 columns

There must always be a JA241 spreader bar between each column of arrays as shown in figure 9.

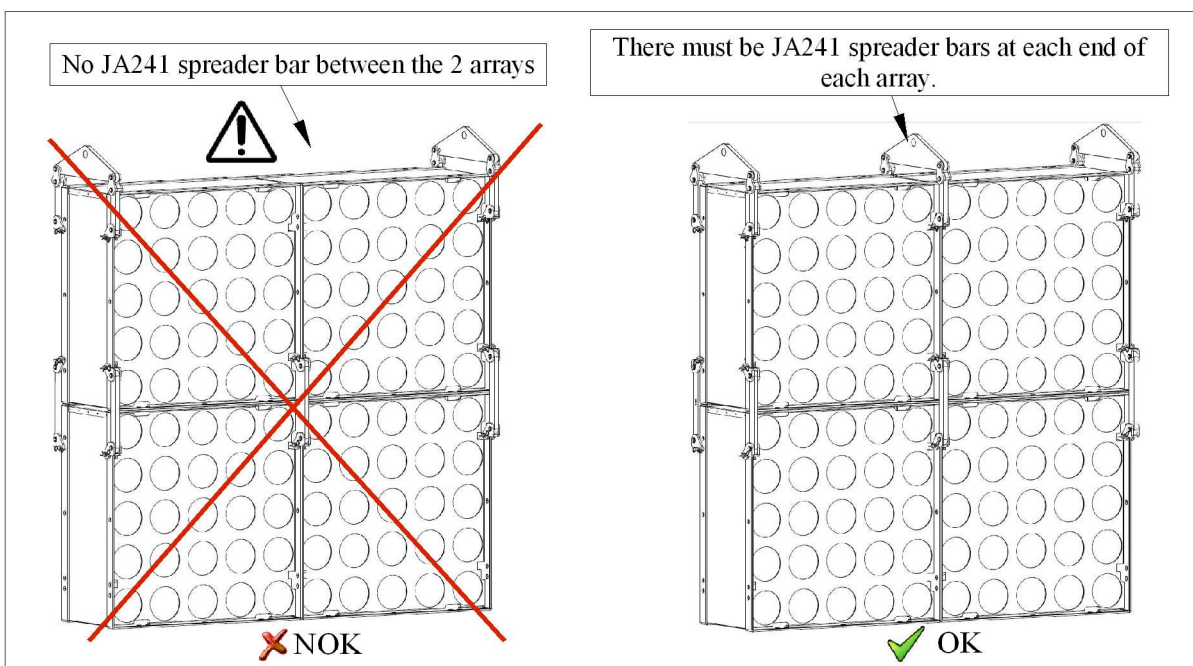


Figure 9: JA241 spreader bar positioning

The 2 J-Couplers in the JA242 J-Coupler kit must be used in pairs to spread the load on the arrays evenly.

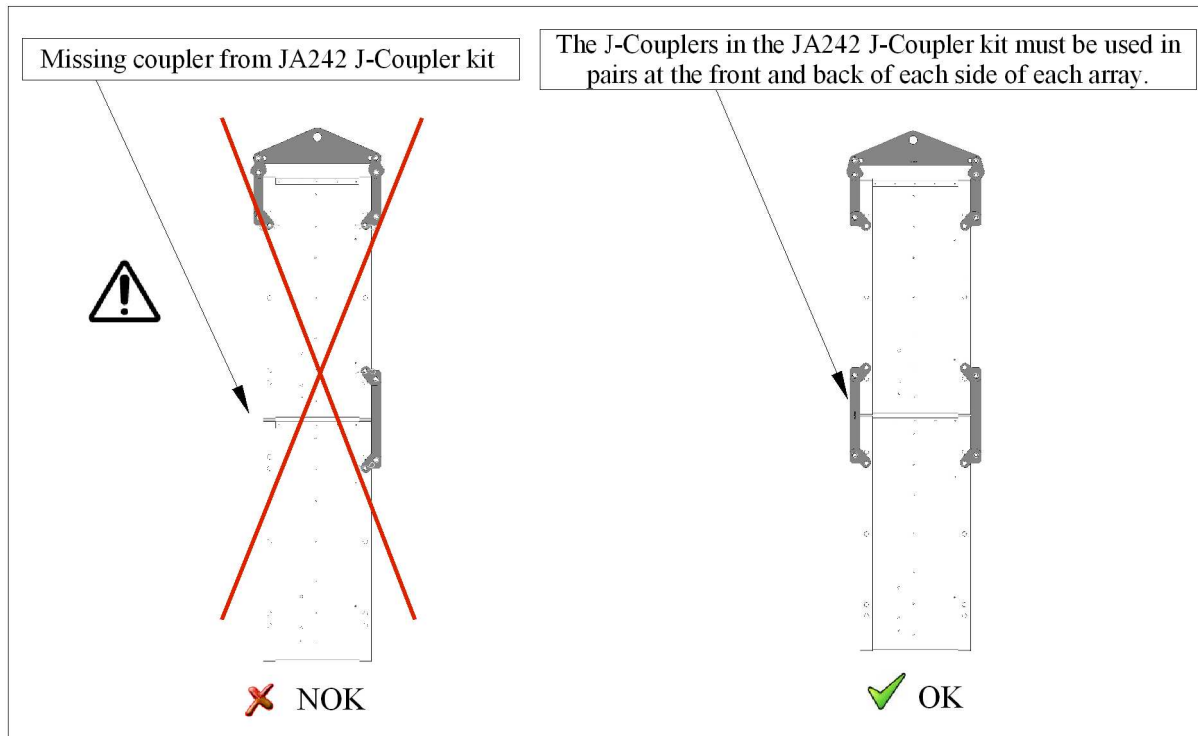


Figure 10: JA242 J-Coupler positioning

## 8) Conclusion

This Jarag-5 rigging accessories manual should provide step by step guidance on their installation. We hope that we have fully explained all the steps required for fitting the Jarag-5 rigging accessories.

However, using these accessories requires experience and further information may be required. If you have any questions, please contact our sales service.





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