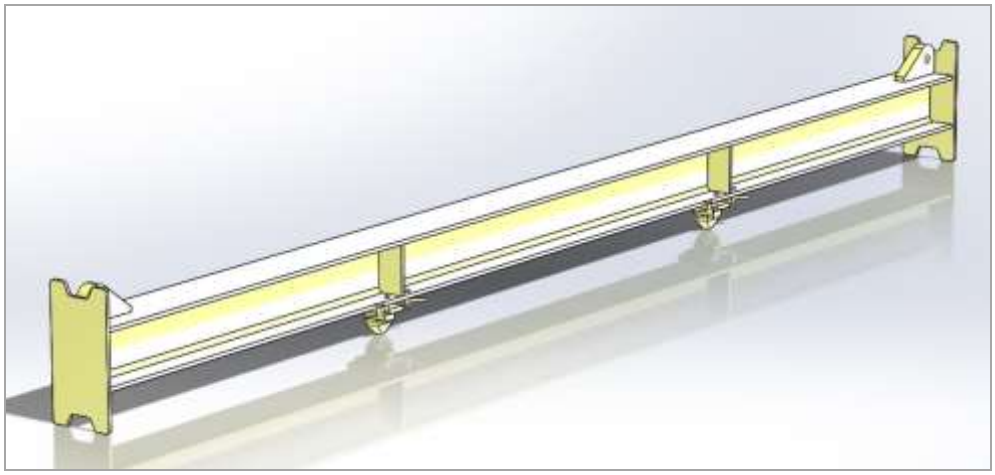
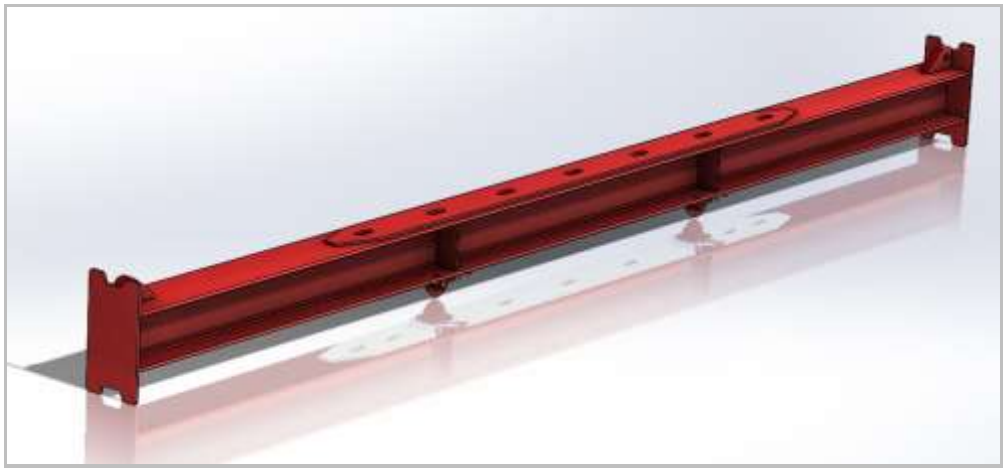
FLATRAIL FR1 (5.8)
FLATRAIL FR2 (7.2)





USER MANUAL

BESPOKE LOAD SOLUTIONS
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This document is issued in accordance with the requirements of Section 6 of Health & Safety at Work Act 1974, amended March 1988 & the Essential Health & Safety Requirements of the EC Machinery Directive 2006/42/EC.

It outlines the care & safe use of LIFTING BEAMS & SPREADERS and is based on Section 20 of the Lifting Equipements Engineers Association Code of Practise for Safe Use of Lifting Equipment. It should be read in conjunction with the requirements for general purpose slinging practice.

Legal obligations

WARRANTY

The equipment is guaranteed against any manufacturing defect for 2 years from the date of delivery.
It is reserved for exclusive handling use.
The guarantee covers labor and the replacement or repair of parts found to be defective after contradictory expertise, to the exclusion of all other damages.
The warranty does not apply to incidents that take their origin in the wear and tear of the equipment, an abnormal use, an even temporary overload, a lack of maintenance, modifications or transformations not approved by our technical service.
Warranty work can only be performed in our workshops, unless explicitly agreed.

Any warranty claim must be in writing and include the serial number of the equipment as well as the plates or markings of the damaged parts. The filing of a warranty claim does not entitle the Customer to proceed on its own initiative with the repair of the component (s) mentioned in the request.

CURRENT REGULATION

Flatrails FR1 and Flatrail FR2 are lifting devices.

Flat rail must be given a mandatory thorough examination at least every 12 months

Technical examination and controls : See maintenance Table.

Safety and usage instructions

OBJECT

Flatrail FR1 and Flatrail FR2 described in this manual have been specially designed for lifting flat racks.

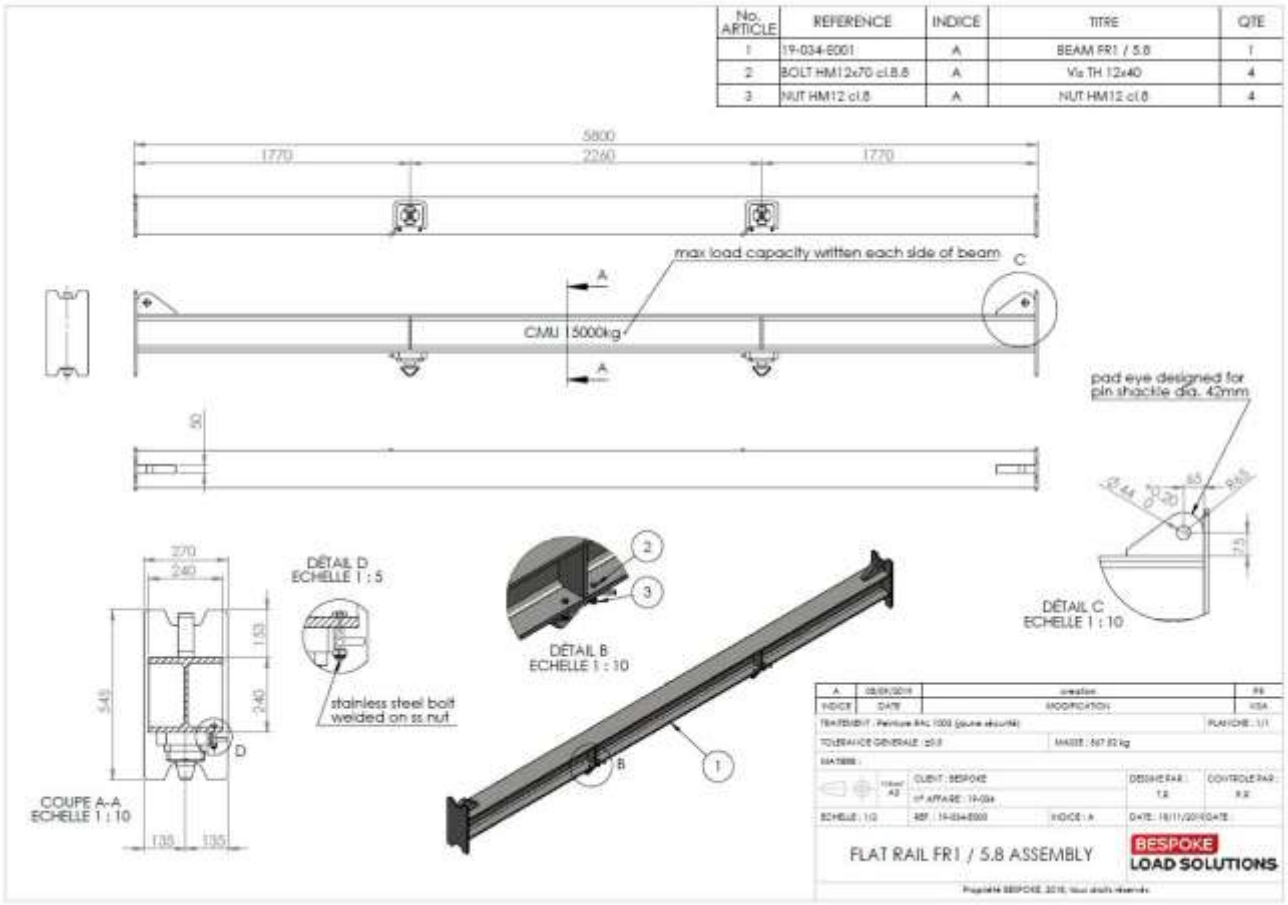
The recommendations below correspond to this use. Different use is not allowed.

FLATRAIL SPECIFICATION

The Flatrail lifting beam assembly has been designed in accordance with BS EN13155:2003+A2:2009 (cranes safety, non fixed Load Lifting Attachments) which assumes that the structural elements will not be subjects to more than 20.000 lifting cycles (for example four lifts per day for 14 years).

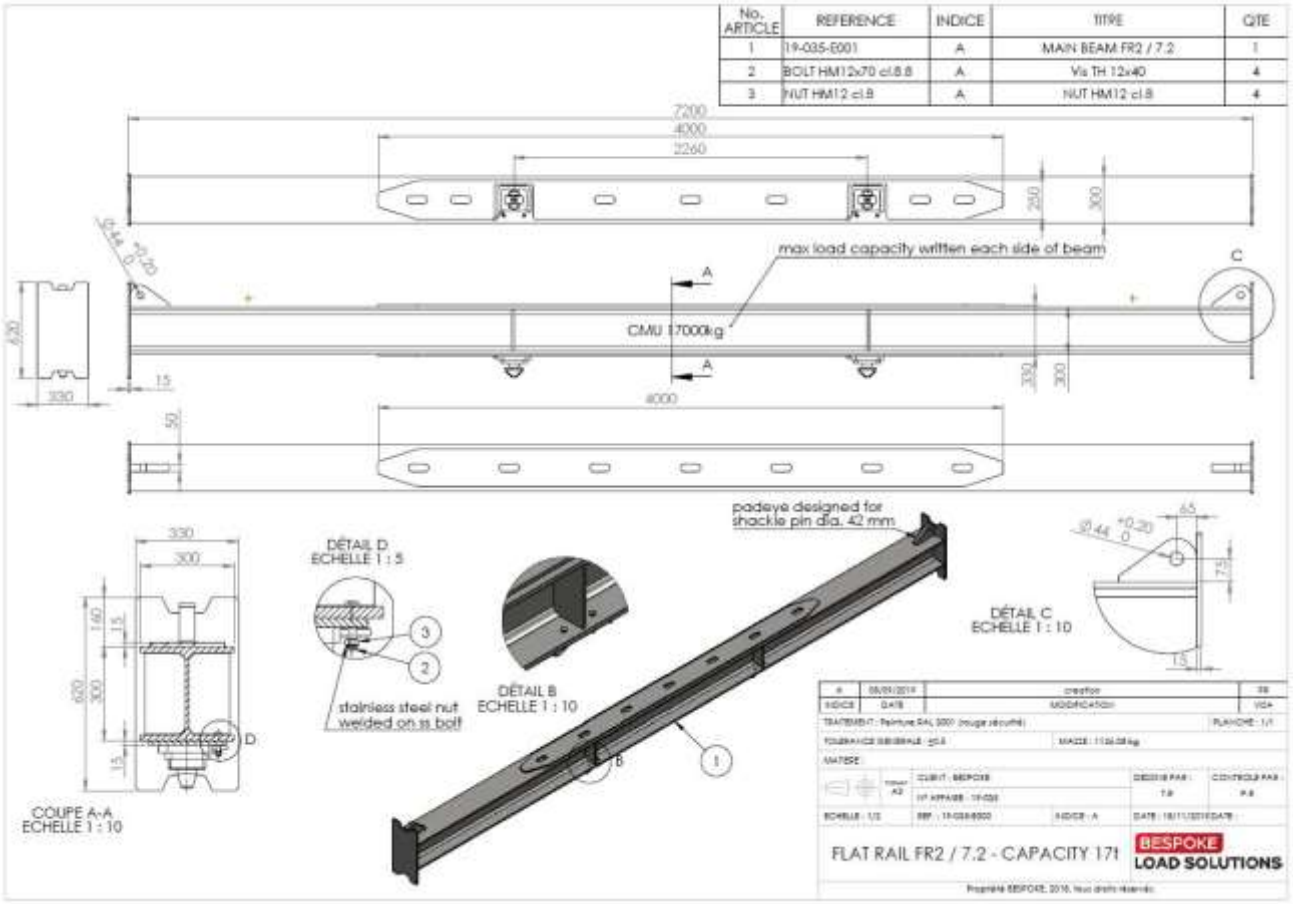
<u>FR1 – flatrail beams coloured yellow</u>

Lifting spread : 5700mm
Overall length : 5800mm
Width : 270mm
Height : 545mm
Own weight each : 580kg
SWL per beam : 15000kg
SWL per set : 30000kg
Maximum weight of cargo excluding flat rack : 21000kg



FR2 – flatrail beams coloured red

Lifting spread : 7100mm
Overall length : 7200mm
Width : 330mm
Height : 620mm
Own weight each : 1100kg
SWL per beam : 17000kg
SWL per set : 34000kg
Maximum weight of cargo excluding flat rack : 29000kg



SAFETY

ALWAYS :

- Store and handle correctly
- Refer to the safe use instructions for slings and attachments used with Flatrail
- Include the tare weight of the Flatrail lifting beams, flat rack, attachments and cargo when calculating the load imposed on the crane
- Ensure the load will remain stable when lifted. Cargoes must be positioned with their Centre of Gravity as close to the centre of the flat rack bed.
- Use tag line to control long loads
- Flatrail has been manufactured to be lifted with a corresponding sized container lifting spreader. When lifting a 40ft flat rack spreader must be used. The end lifting sling angle must not exceed 30 degrees to the vertical.
- Ensure that all four twist locks are in the locked position before lifting
- Check the twist lock handles are locked and secured in place before lifting
- Ensure personnel using and assembling the lifting equipment are adequately trained, competent and have a clear understanding of lifting principles.

Never :

- Use the Flatrail to handle loads other than those for which they are designed. Flatrail is designed to lift 40ft ISO flat racks or platforms only when fitted with ISO corner casting lifting points.
- Fit lifting equipment to a crane hook other than those for which they are designed
- Use damaged or distorted lifting equipment and attachments
- Unevenly load lifting beams
- Allow lifting beams to alter attitude during use
- Allow lifting beams or loads to foul the underside of the crane or any other obstruction in the area
- Exceed the marked SWL
- Shorten the drop slings to less than an effective working length; the sling angle to vertical should not exceed 30 degrees.
- Slings should never touch the cargo during the lift
- Slings should never go to a single hook
- Never use with a four legged sling
- Never engage locking arm without a lock bolt in position

Ensure the locking handle is secured **behind** the locking pin to prevent movement.
The pin needs to be lifted to allow passage of locking arm into fully engaged position.

PRE INSPECTION

Flat rail must be given a mandatory thorough examination at least every 12 months, this is a specific schedule approved for the low use, approximatively 4 to 6 lifts per year. This must be carried out by a competent person and recorded with the BLS management team.

Prior to use, Flatrail must have a pre-use inspection carried out by a responsible person, with appropriate training, knowledge and experience of lifting equipment use.
In the event of the following defects, advice should be sought from a competent person or the BLS management team.

The following points should be checked:

- Is the beam distorted, twisted, damaged or out of alignment?
- Are any parts suffering from corrosion?
- Are all loose parts in position or operational?
- Is there any evidence of cracking to welded seams of the pad eyes, end plates or twist lock assemblies?
- Are the pad eyes damaged, distorted or worn?
- Are there any other visible defects?
- Is the locking mechanism operational?

ASSEMBLY PROCEDURE

- Fold down and lock in position the end sections of the flat rack.
- Using a forklift truck or alternative lifting device, lift the flat rail centrally at the tip of the forks, with the twist locks in the unlocked position and with the twist lock operating lever pointing away from the forklift truck, approach the unladen rack.

- Having the locking arms facing towards the cargo ensures that locking arms are not disengaged accidently.

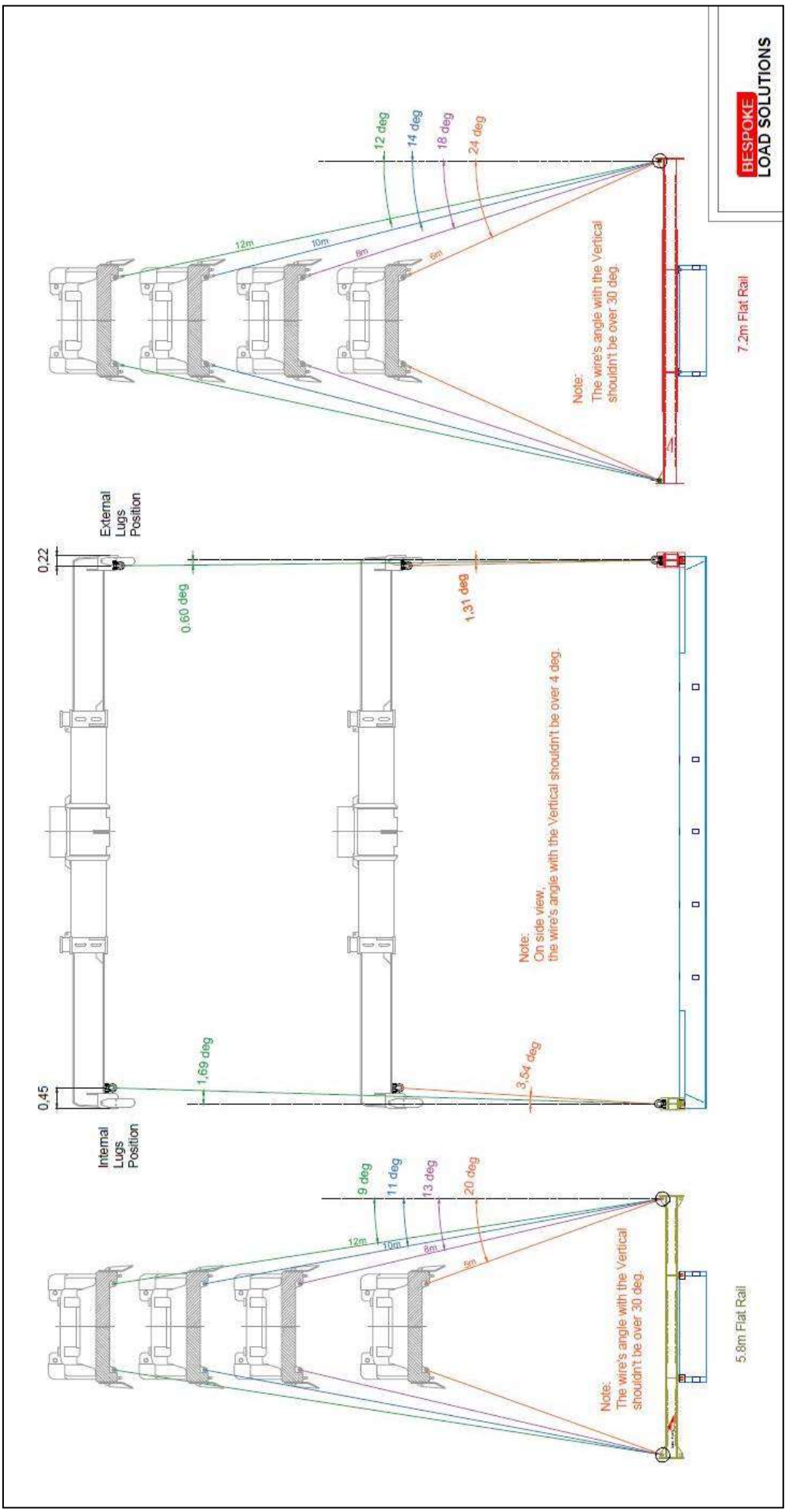
- Lower carefully the beams twist locks into corner castings ensuring beam sits centrally in casting aperture.

- Remove forklift

- Move locking handle into lock position, lift security bolt to allow handle to pass.

- Once cargo is loaded and secured, move lifting frame over cargo with appropriate length and type of lifting slings hanging freely below, (it is advised to have tag lines attached to lifting slings to avoid slings resting on or causing damage to cargo).

- Ensure that lifting frame is set at the corresponding length for the flat rack to be lifted. Slings must be within 4 degrees of vertical in the longitudinal plane, (accounting for shackles lugs on the inside of the container frame). The maximum angle should be no more than 30 degrees from the vertical in the transverse plane (see illustration bellow).


BESPOKE
LOAD SOLUTIONS
12 deg
14 deg
18 deg
24 deg
12m
10m
8m
6m
Note:
The wire's angle with the Vertical shouldn't be over 30 deg.
7.2m Flat Rail
External Lugs Position
0,22
0.60 deg
1,31 deg
Note:
On side view,
the wire's angle with the Vertical shouldn't be over 4 deg.
0,45
1,69 deg
3,54 deg
Internal Lugs Position
9 deg
11 deg
13 deg
20 deg
12m
10m
8m
5m
Note:
The wire's angle with the Vertical shouldn't be over 30 deg.
5.8m Flat Rail

- Join the lifting slings to the flat rail beam lifting lugs using a 17t bow shackle.

OPERATION

Loading :

- Initiate the lift, slings should not touch the cargo when taut
- Apply a load on the twist locks, visually check that each twist lock is locked, secured and has not shifted in the corner casting aperture.
- Assess the load for level and stability and complete lift in accordance with the lift plan and or crane procedures.
- DO not rush the lift proceed to stow position safely and under control.
- Site flat rack in correct stow position
- Release shackles from lifting lugs on beams (keep them away from hull using tag lines to avoid damage) and lift clear of cargo.
- If appropriate and able check lashing for security
- Check twist locks are engaged

Discharging :

- Assemble appropriate lifting equipment to container frame
- Move slings and shackles into a position over the cargo
- Tag lines should be used to hold slings and shackles away from the cargo
- Attach the lifting slings to the flat rail beams
- Check the twist locks have not been released on the flat rail
- Check that the twist locks have been released from the base of the flat rack
- Initiate the lift and check for level and stability
- Proceed to shore carefully and under control
- Lower onto ground
- Disconnect lifting slings
- Discharge cargo
- Release the flat rail beams and place on the ground
- Check for any signs of damage or corrosion

Maintenance

HEALTH AND SAFETY

Inhaling dust is dangerous for your health

Skin contact with oils or grease should be avoided. Work with gloves.

Oils and greases must be disposed of in accordance with regulatory requirements.

MAINTENANCE TABLE

Opération	***A***	***B***
Twist lock operation test: fully locked and unlocked position can be reached. Lever not damaged	**X**	**X**
Twist lock greasing	**X**	**X**
Wear and corrosion checking	**X**	**X**
Load test		**X**

Opération A → Check before use

Opération B → Check every year

The twist lock head should be checked for wear caused by dragging on the ground when not in use.

It is recommended that the Flat rail is stored with the twist locks facing down in a manner to prevent the twist locks from seizing during transit and storage.

Refer to individual maintenance requirements for associated loose gear (slings & shackles).

Technical inspection

Date	Description	Technician's name

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