SAFETY RAIL SYSTEM – S30

Suits both standard and bent track to a minimum radius of 2500mm

Certified to European Standard EN795:2012, Type D: Personal fall protection equipment – Anchor Devices.

A reliable anchor device is an essential component of any personal protection system.

This system provides a method of attachment for use in conjunction with personal protection equipment to protect against falls from a height, such as when working outside of conventional guardrails for cleaning and maintenance purposes. It shall not be used for lifting equipment or for any other purpose.

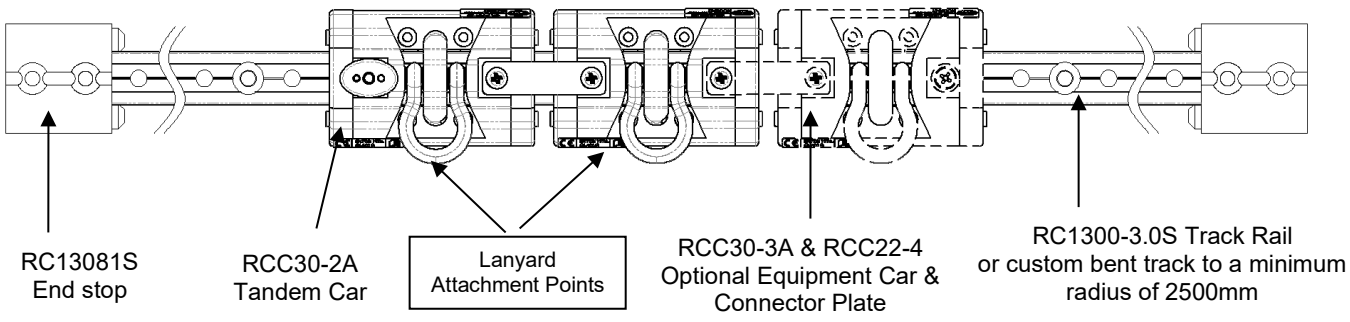
Important Advice

- The system is tested to the European standard EN795:2012 Type D, and is appropriate for single person use only. Testing for conformity to this standard is witnessed by a Recognised Organisation, member of the International Association of Classification Societies (IACS).
- This anchor device is designed for the attachment of components of a personal fall protection system (harnesses, lanyards, fall arresters and other devices) in accordance with EN363, Personal fall protection equipment – Personal fall protection systems.
- Each harness or device must be secured to a separate attachment point.
- If this anchor device is to be used as part of a fall arrest system, the user must be equipped with a means of limiting the maximum dynamic forces exerted on the user during the arrest of a fall to a maximum of 6KN.

System Description

The complete Safety Rail System consists of the following components:

- A continuous run of track made up of one or more track rails having plunger stop holes at 50mm centres and mounting holes at 100mm. For standard length track rails, as delivered from the manufacturer, the centre of the last mounting hole at each end of the track rail is located 48mm from the end. For track rails cut to length on site, the maximum allowable distance from the last mounting hole centre to the end of the track rail is 50mm.
- One tandem sliding car assembly consisting of two cars joined together with a connecting plate.
    - Each car has a single attachment point for personal protection equipment.
    - One of the cars has a spring-loaded plunger to allow the assembly to be fixed in position at any of the stop holes in the track rail. This plunger can be disengaged to allow the free movement of the car assembly along the rail.
- Two end stops installed at the extremities of the system.



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ISSUED 27/03/2024

Features

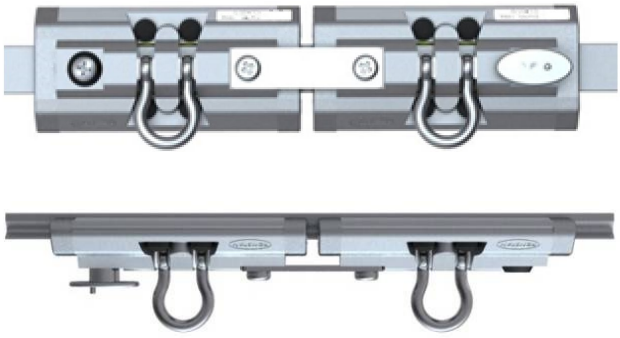
- Marine grade aluminium alloy cars, track rails and end stops, anodised for corrosion protection and long service life.
- Recirculating Torlon® ball bearings for free running, low friction performance and low maintenance. *(Torlon® is a registered trademark of Solvay Advanced Polymers).*
- Grade 316 forged stainless steel pivoting shackles for lanyard attachment.
- Rubber buffers for reduced vibration and to lift pivoting shackles away from car body for quick access.
- Spring-loaded stainless steel plunger for simple, positive re-positioning at stop locations. Can be locked in the disengaged position to allow free movement along the track rail. The elliptical knob is easy to grip and turn, and indicates clearly whether the plunger is engaged or not.

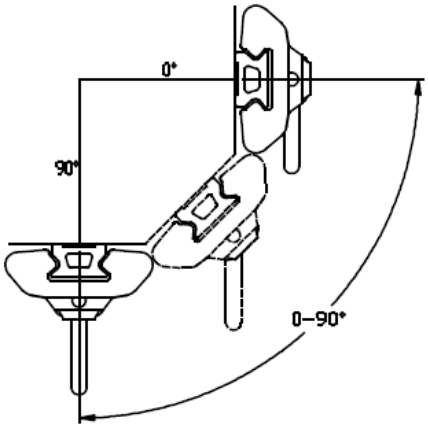
Plunger down, fixed in position

Plunger up, ready to move to new position

Plunger up and locked, car free to move along track rail

- The track rail can be mounted in either a vertical plane (0°), horizontal plane (90°) or at an incline between 0° and 90° as shown below.





Options

- Longer runs can be achieved by using more than one track rail and trimming to length as required, provided that the distance between mounting fasteners never exceeds 100mm.
  Note: When using standard length track rails as delivered from the manufacturer, the distance between fasteners across a track join will be 96mm.
- Custom track can be ordered bent to a radius of no less than 2500mm.
- The joining insert RC1301J is used to aid alignment when fitting multiple track rails.
- Additional sliding cars for supporting tools or equipment can be connected to the main tandem car RCC30-2A with the connector plate RCC22-4.
- Cover plate RC13081PS can be fitted to the end stop RC13081S with the screws provided to conceal the exposed end of the track.

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System Components

RCC30-2A

RC1301J

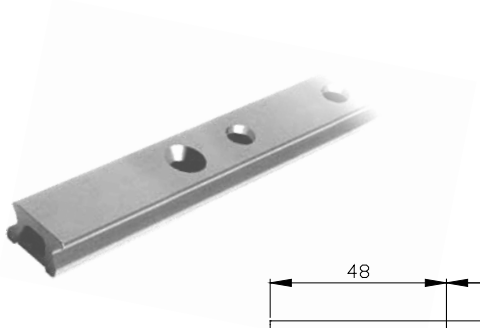
RCC30-1A

RCC22-4

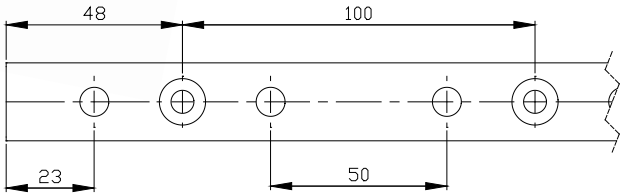
RC13081S

RC13081PS

RCC30-3A



RC1300-3.0S



Part No.	Description	Length		Width	
		mm	in	mm	in
RCC30-2A	Tandem Car, 2 Attachment Points, Plunger Stop	215	8 1/2	77	3
RCC30-1A	Single Car, 1 Attachment Point, Plunger Stop	104	4 1/8	77	3
RCC30-3A	Single, Car, 1 Attachment Point	104	4 1/8	77	3
RCC22-4	Connector Plate including Screws				
RC13081S	Track Rail End Stop	58	2 9/32	55	2 3/16
RC13081PS	End Stop Cover Plate including screws				
RC1301J	Track Rail Joiner				
RC1300-3.0S*	Track Rail, mounting holes at 100mm centres, plunger stop holes at 50mm centres**	2996**	118	30	1 3/16

** Custom track can be ordered bent to a radius of no less than 2500mm.*
*** Last mounting hole is centred 48mm from each end of the track; mounting holes across track join will be at 96mm centres.*

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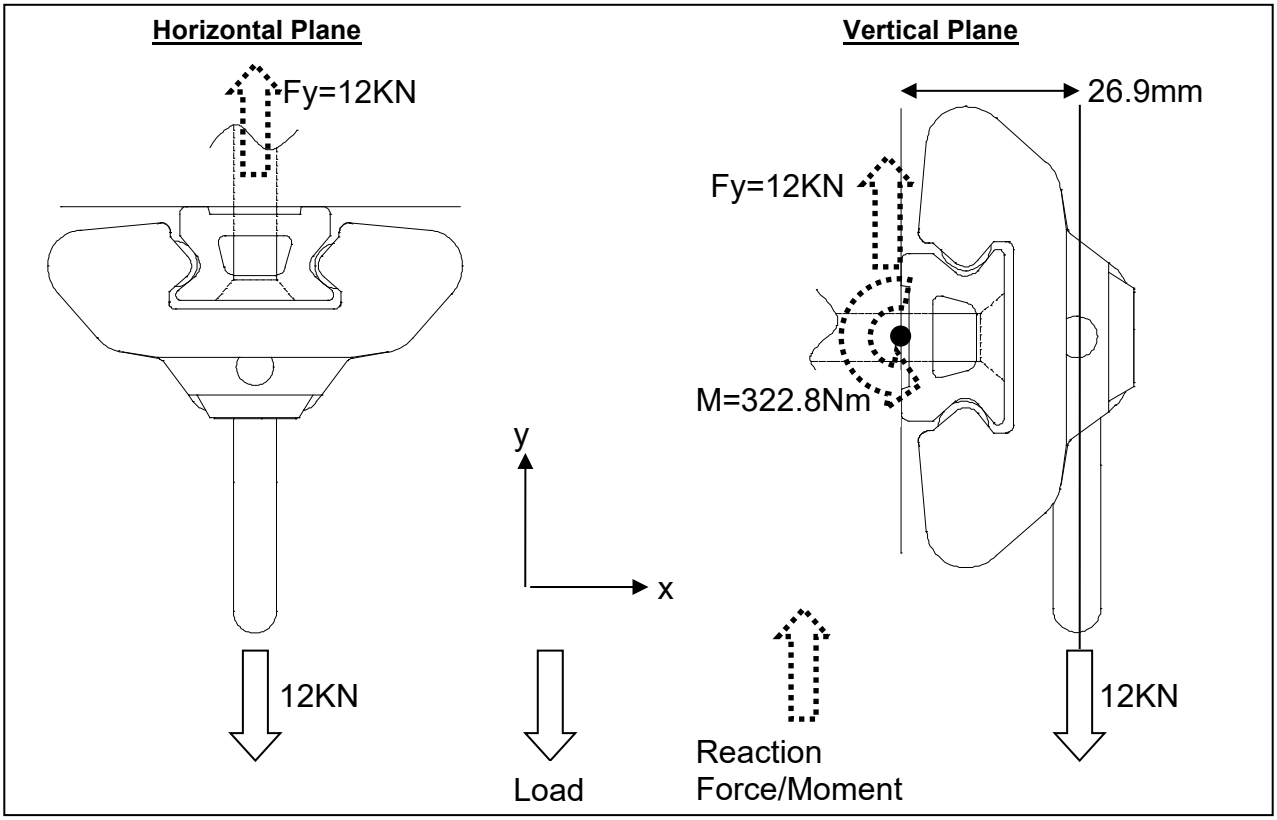
Installation

- The Anchor Device should only be installed by competent persons or competent organisations.
- The installation must be verified appropriately by calculation and post installation testing.
- Note must be taken of the maximum loads that could be exerted on the structure and fasteners by the anchor device as detailed below.
- It is recommended that the structure used to hold the fasteners is stiff enough to ensure there is no failure of either the fastener or structure at these maximum loads. Use of the equipment in certain jurisdictions, industries or applications may be subject to requirements for a physical test to be carried out on a prototype or mock-up of the actual installation to verify suitability of the structure.
- Consideration should also be given to the material used in the structure so that it does not cause corrosion in either the fastener or the structure. Isolation between the fastener and the structure may be required.
- The track rail is mounted using 8mm countersunk Grade 316 Stainless Steel fasteners at 100mm centres. Fasteners should have a minimum tensile strength of 700MPa to meet the load requirements detailed below. Use of M8 hexagon socket countersunk head, stainless steel A4-70 DIN7991 screws is recommended, installed at a torque setting of no more than 17.1Nm as per industry standards.
- Longer runs can be achieved by using more than one track rail and trimming to length as required, provided that the distance between mounting fasteners never exceeds 100mm.
  Note: When using standard length track rails as delivered from the manufacturer, the distance between fasteners across a track join will be 96mm.
- The System must be mounted such that the cars travel along the track rail in a horizontal plane (i.e. parallel to the water plane), within a tolerance of ±5°. The track rail can be mounted on either a vertical plane (0°), a horizontal plane (90°), or on an incline between 0° and 90° as shown in the diagram on page 2.
- End stops must be mounted using 8mm countersunk Grade 316 Stainless Steel fasteners.

- Maximum loads that could be transmitted in service from the anchor device to the structure are:



- The RCC30-2A tandem car is supplied with ball bearings already fitted, on a short loading track rail. To install the car, first remove the RC13081S end stop from the end of the installed track rail. Align the loading track rail with the installed track rail such that they are in contact with each other end-to-end, then slide the car onto the installed track rail and fit the end stop back in place.
  Note: DO NOT discard the loading track rail, which is required for retaining the ball bearings while installing or removing the car.
- If the sliding car cannot pass freely due to a discontinuity or obstruction, a second car must be available after the discontinuity. The user must always be attached to at least one car when using the anchor device.

- If the marking of the anchor device is not accessible after installation, additional marking near the anchor device is recommended.

Post-Installation Testing

Post-installation testing must be carried out in accordance with such standards or regulations that may apply to use of the equipment in a specific jurisdiction, industry or application. At a minimum, the following guidance must be observed:

- A post-installation test shall be carried out before first use of each Safety Rail System, with a load of 6kN attached to a single car for a minimum of 15 seconds, at each extremity of the System, and at a location near the midpoint or, where a System is made up of multiple track rails, near the midpoint of the system and at a minimum of one track rail join.
- Following the test, the system must be inspected following the Annual Inspection Procedure as detailed below.
- The results of the testing and inspection must be added to Appendix B, Equipment record, as well as signed by the Chief Installer as part of the Installation Declaration, Appendix A.

Installation Documentation

Labels are affixed to each car by the manufacturer which indicate.

- The standard (EN795:2012 Type D) to which the product conforms.
- The part number and date of manufacture, which must be referred to in all communication with the manufacturer or its authorised representatives.
- Indications that each car is for single person use only, and that users must read the information in this manual.

The installation documentation provides evidence that the installation has been carried out properly. Moreover, it is the essential basis for future examination of the anchor device, given that in many cases the fixing of the anchor device is not visible or accessible.

After installation, copies of the installation documentation should be handed over to the user. This documentation should be kept on site for the purpose of subsequent examinations of the anchor device.

Refer to **APPENDIX A** for the Installation Plan which must be completed by the installer.

Use of the System

- The system shall only be used by persons trained and competent in its safe use; each user must read and understand this user manual prior to first use of the system.
- If re-sold outside the original country of destination, it is essential for the safety of the user that the reseller provide all information relating to the installation, use, maintenance, periodic examinations and service of the system in the language of the country of destination.
- As with any workplace where hazards may be present, an appropriate rescue plan shall be in place for any emergencies that may arise during work involving the system.
- The system must be used only in conjunction with personal protective equipment approved to relevant standards.
- The user must NEVER rely on only one attachment point for personal protective equipment!
- The spring loaded plunger which locks the car in position along the track rail must ONLY be disengaged from the track rail while the user is changing position. Once the user is in position, the plunger MUST be re-engaged to hold the car in position and limit the user's movement along the track rail.

Periodic System Testing

Periodic system testing must be carried out in accordance with such standards or regulations that may apply to use of the equipment in a specific jurisdiction, industry or application. At a minimum, the following guidance must be observed:

- A periodic Safety Rail System test shall be carried out with a load of 6kN attached to a single car for a minimum of 15 seconds, at each extremity of the System, and at a location near the midpoint or, where a System is made up of multiple track rails, near the midpoint of the system and at a minimum of one track rail join.
- In the absence of other applicable regulations the Safety Rail System must be tested at intervals of not more than five years.
- Following testing, results must be added to the Equipment Record, Appendix B.
- Following testing, the Annual Inspection procedure must be followed as detailed below.

Inspection Procedures

Before each use

A visual inspection of the system must be carried out by the user before each use to verify the following conditions:

- The safety rail system is securely fixed to its mounting surface and both end stops are in place at the extremities.
- The sliding cars run smoothly and freely along the continuous run of track between the extremities of the system.
- The lanyard attachment points (pivoting shackles) are free to articulate. Any deformation in the shackle indicates a fall or overload; in this case the shackle must be replaced before using the anchor device.
- There are no signs of excessive wear, corrosion, deformation or breakage of parts.
- The plunger used to fix the car in position is operating correctly.
- All screws in the sliding car assembly are in place and secure.

Annual Inspection

It is recommended that the complete system be inspected annually by a competent person.

General inspection recommendations:

- The manufacturer should be contacted if the labels on any car are found to be missing or illegible.
- In case of any doubts about the condition of the system, or if any component is found to be damaged in any way, the parts must be immediately removed from service. The system must not be used until repairs are completed and approved in writing by a competent person.
- No changes or alterations may be made to the components of the system without the manufacturer's prior written consent. Any repair must be carried out according to the manufacturer's procedures.
- After any fall, the system must not be used until it has been inspected and a competent person has confirmed in writing that it is safe to do so.

In addition to verification of the conditions for use of the system noted above, the annual procedure will include inspection of each car according to the following method:

- To remove a car from the track rail, use the short loading track rail that was originally supplied with the car. (If no loading track is available, contact the manufacturer before proceeding).
- To remove the car, first remove the RC13081S end stop from the end of the installed track rail. Align the loading track rail with the installed track rail such that they are in contact with each other end-to-end, then slide the car onto the loading track rail.
- Once the car is transferred to the loading track rail, the recirculating ball bearings can be inspected from the underside of the car.
- A small screwdriver may be used to push the ball bearings along the race to verify that they are free to circulate. Check for any balls that appear worn or damaged.
- If all ball bearings are present, the balls can be pushed together to leave a space slightly less than one ball diameter. A larger space indicates that one or more balls is missing. Each individual car in the RCC30-2A tandem assembly (and the individual cars RCC30-1A and RCC30-3A) must contain a total of 46 balls.
- Any ball bearings that are missing, or that appear worn or cracked, must be replaced. Use only replacement ball bearings supplied by the manufacturer.
- The plunger assembly may be lubricated with a light grease. Lift the spring loaded plunger and apply grease to the exposed rod below the elliptical knob.

5-Yearly Inspection

Follow the instructions in the Annual Inspection Procedure to remove each car from the working track rail using the short loading tracks. Refer to Appendix D for procedural checklist and record sheet.

General inspection recommendations:

- The manufacturer should be contacted if the labels on any car are found to be missing or illegible.
- In case of any doubts about the condition of the system, or if any component is found to be damaged in any way, the parts must be immediately removed from service. The system must not be used until repairs are completed and approved in writing by a competent person.
- No changes or alterations may be made to the components of the system without the manufacturer's prior written consent. Any repair must be carried out according to the manufacturer's procedures.
- After any fall, the system must not be used until it has been inspected and a competent person has confirmed in writing that it is safe to do so.

Maintenance

- Regular rinsing of all components with fresh water is required to help to prevent the build up of salt and contaminants and ensure efficient operation of the system. A mild soapy solution may be used to remove accumulated contaminants, followed by thorough rinsing with fresh water.
- Spray lubricants should not be used on the rail and ball bearings as they can lead to accumulation of contaminants and dirt which will compromise the long term performance of the system.

Record Keeping

- It is recommended that the anchor device is marked with the date of the next or last inspection.
- It is recommended that a record be kept for each component of the system, with particular regard to installation, testing, inspection, maintenance and service interventions.
- Refer to APPENDIX B for the Equipment Record sheet that should be filled out for each component of the system by the competent person inspecting the safety rail system. This forms an inspection, testing, maintenance and repair history for each component of the system.
- If any component of the system is inspected or repaired by Ronstan authorised personnel, a Ronstan Record of Inspection and Revision sheet will be completed. This is to be kept by the user with the Equipment Record and form the Inspection and Maintenance History for the system.
- Refer to APPENDIX C for the Annual Inspection and Revision procedural checklist and record sheet.
- Refer to APPENDIX D for the 5-Yearly Inspection and Revision procedural checklist and record sheet.

Re-Seller Contact Details

If the system or any of its components have been supplied by a company or organisation other than the manufacturer, contact details of the supplier may be recorded in the space below:

APPENDIX A

SAFETY RAIL INSTALLATION PLAN

NOTE: THIS MUST BE HANDED OVER TO THE USER AFTER INSTALLATION, COPIES MUST BE DISPLAYED AT ALL ACCESS POINTS TO THE SAFETY RAIL SYSTEM.

BUILDING/VESSEL: NAME: DESCRIPTION:	ADDRESS:
CUSTOMER: NAME: ADDRESS:	CONTACT PERSON: CONTACT DETAILS:
INSTALLER: NAME: ADDRESS:	CHIEF INSTALLER: CONTACT DETAILS:
ANCHOR DEVICE: DESCRIPTION: Series 30 Safety Rail System MANUFACTURER: Ronstan Denmark ApS ADDRESS: Jægervænget 36 7100 Vejle, Denmark CONTACT DETAILS: Ph) +4576427777 office@ronstan.dk www.ronstan.com	NUMBER OF CARS USED: _____ LENGTH OF TRACK USED: _____m CAR PART NUMBER(S): CAR DATE(S) OF MANUFACTURE: *(this information can be found on the product labels)*

FIXING INFORMATION

FASTENER DESCRIPTION: _____

FASTENER STRENGTH: _____

FASTENER MANUFACTURER: _____

TORQUE USED TO INSTALL FASTENERS: _____

DESCRIPTION OF SUBSTRATE STRUCTURE THAT FASTENERS ARE FIXED TO:

_____

WERE NUTS & WASHERS USED? _____
IF NOT, HOW ARE THE FASTENERS FIXED TO THE SUBSTRATE?

_____

IS THE THREADED END OF THE FASTENER ABLE TO BE ACCESSED FOR INSPECTION AND MAINTENANCE?

_____

REMARKS:

Declaration:

As the Chief Installer, I declare that the Safety Rail System:

- was installed in accordance with the manufacturer's manual and installation instructions.
- was carried out according to this plan.
- was fixed to the specified structure and substrate in the method described.
- was fixed using the fasteners as specified.
- was commissioned in accordance with the manufacturer's information.
- was installed and commissioned in accordance with any additional relevant standards, for example:
    - *EN795:2012, Personal fall protection equipment - Anchor Devices*
    - *MGN578 - Use of equipment to undertake work over the side on yachts and other vessels.*
    - *Red Ensign Group Yacht Code, Common Annexes*
    - *Other:*_____.
- was supplied with photographic information/documentation, especially where fasteners and the underlying substrate are no longer visible after installation.
- was installed to meet the load requirements as detailed in the Manufacturer's installation instructions.
- installation was verified appropriately by calculation and testing.
- passed the Post-Installation Safety Rail System test as described in this manual, and in accordance with: _____.
  (indicate other relevant standard, or write "N/A").

Date:_____ **Signature:**_____

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APPENDIX B

EQUIPMENT RECORD		
Manufacturer: Ronstan Denmark ApS Jægervænget 36 7100 Vejle, Denmark	**Contact Details** +45 76 42 77 77 office@ronstan.dk www.ronstan.com	
Product: Series 30 Safety Rail System		
Part Number:		
Date of Manufacture:	**Date of Purchase:**	**Date of First Use:**
Other Relevant Information (eg: document number, details of supplier or installer):		

PERIODIC INSPECTION, TESTING, MAINTENANCE AND REPAIR HISTORY

Date	**Type of intervention** (periodic inspection, periodic testing, maintenance or repair)	**Details** (defects, repairs, equipment tested)	**Name/Signature of Competent Person**	**Date of next periodic inspection and/or test**
	Post Installation Test, prior to first use.			

APPENDIX C

Safety Rail Cars

Procedure for Annual Inspection and Revision

☐	Inspection of working track(s) and end stops to ensure all fastenings are secure and there are no signs of damage.
☐	Removal of car from track.
☐	Verification that car labels are intact and legible (contact manufacturer if in doubt).
☐	Visual inspection to identify any worn, deformed or damaged parts.
☐	Verification of plunger stop functionality.
☐	Disassembly of car including removal of ball bearings and pivoting shackle.
☐	Visual inspection of disassembled car for signs of corrosion, and inspection of shackle pin for wear.
☐	Fresh water cleaning and removal of any contaminants.
☐	Replacement of Torlon ball bearings if required.
☐	Replacement of rubber buffers if required.
☐	Lubrication of plunger stop.
☐	Replacement of any other worn or damaged components (note details below if applicable).
☐	Re-assembly of car on loading track.
☐	Installation of car on working track; verify again that end stops are properly secured.
☐	Recording of inspection and revision in the Equipment Record, appendix B in the User Manual.

Notes:

Part Number	Description	Quantity	Label Reference

Date: _____

Location: _____

Inspected by: _____

APPENDIX D

Safety Rail Cars

Procedure for Inspection and Revision at 5 Year Intervals

☐	Inspection of working track(s) and end stops to ensure all fastenings are secure and there are no signs of damage.
☐	Removal of car from track.
☐	Verification that car labels are intact and legible (contact manufacturer if in doubt).
☐	Visual inspection to identify any worn, deformed or damaged parts.
☐	Verification of plunger stop functionality.
☐	Lubrication of plunger assembly with a light grease.
☐	Disassembly of car including removal of ball bearings and pivoting shackle.
☐	Visual inspection of disassembled car for signs of corrosion, and inspection of shackle pin for wear.
☐	Fresh water cleaning and removal of any contaminants.
☐	Replacement of ball bearings if required.
☐	Replacement of rubber buffers if required.
☐	Replacement of any other worn or damaged components (note details below if applicable).
☐	Re-assembly of car on loading track.
☐	Installation of car on working track; verify again that end stops are properly secured.
☐	Recording of inspection and revision in the Equipment Record, Appendix B in the User Manual.

Notes:

Part Number	Description	Quantity	Label Reference

Date: _____

Location: _____

Inspected by: _____