



# user instruction manual



Always read and follow the warnings and instructions for use

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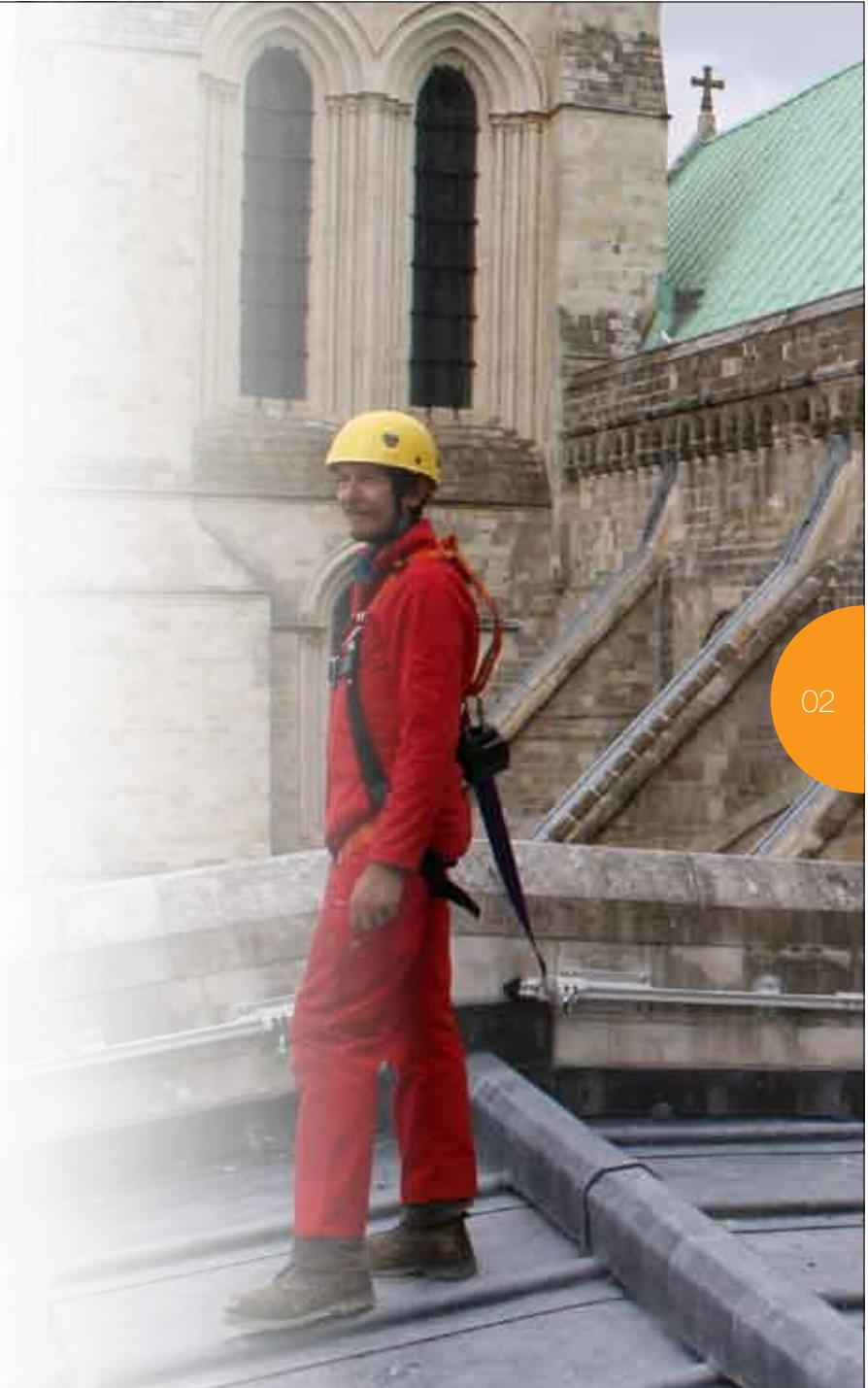
# UniRail® Safety System

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For more information about our range of equipment visit  
our website at [www.unilinesafety.com](http://www.unilinesafety.com)



# Section 1.0

## Foreword

Thank you for purchasing a UniRail® Safety System!

This product is designed to eliminate or substantially reduce the risk of a fall which would otherwise lead to injury or death to operatives working at height or where a fall would be hazardous to the user's health. Therefore, it is vital that it is installed, maintained and used correctly.

The UniRail product has been designed to work as part of a complete fall arrest system and provides a secure and practical anchorage for the attachment of multiple workers, subject to correct design and structural capability. The personal protective equipment selected for use with the product will form an essential part of the safe system of work for the user.

In the event of a fall, the UniRail product will act as an anchorage enabling the deceleration and arrest of personnel, most specifically whilst working at height. The energy dissipating mechanisms built in to the complete fall arrest system are designed to reduce the decelerating forces on the user's body to below the maximum as prescribed by law. Consideration should therefore be given to the user's age, condition and fitness and any physical disorders they may have.

On no account should pregnant women use a fall arrest system.

Installation of the UniRail product is only to be carried out by Approved Partner Installers or competent persons trained by the manufacturer or manufacturer's representative and must be in accordance with the manufacturer's technical instructions and all prevailing national standards.

All users of the system, as well as those who manage its use and maintenance, should be familiar with user checks, limitations, precautions, operations and general requirements of the system. Users should be competent personnel who have read and understood this manual and have been trained by an approved person. It is recommended that the system is not used by lone operatives for reasons of safety and that proper consideration is given to rescue procedures in the event of a fall or accident.

This manual must be provided in the language of the country in which the product is to be used.



03

# Section 2.0

## The UniRail System

### 2.1 The UniRail System

UniRail is a versatile safety product which offers both Fall Arrest and Work Restraint capabilities by using quality extruded aluminium rail section as an anchorage. In addition, UniRail is also extensively used as a primary anchor point for rope access work. When used with the approved attachment carriage, the product permits the user to navigate corners and contours and travel freely along the system without interruption. It is a true hands free system. When used in conjunction with associated PPE, such as a full body harness and safety lanyard, the system forms part of a complete fall arrest system for personnel required to work at height, close to an exposed edge or other fall hazard.

The UniRail System has been tested to and conforms with the requirements of BS EN795:1997 Class D Anchorage Devices and is able to span a maximum of 3m/9.84ft between structural fixing points. This measurement is subject to the application of use and the structures ability to resist fall arrest loads. The system should be designed accordingly by a competent and authorized person.

A range of structural end and intermediate anchors are available for use with the product and a list of all the common components are shown in section 10 of this manual. Concealed Fix and Side Fix Anchors are used. In a Concealed Fix System, the fixing to the structure is hidden from view, creating a more aesthetically appealing installation. In a Side Fix

System, the fixings are to the top and bottom of the anchor and are visible, which can make maintenance and inspection easier.

The system which should be designed to allow access to the required work area can be mounted on the floor, wall or above the user. The rail is anchored at either end and is joined together with rail joints. The intermediate brackets provide additional support at joints and can help to reduce the structural loads in the event of a fall. Rail corners allow the system to be more flexible and provide for continuous attachment. This increases the functionality of the product and ensures high levels of user safety.

### 2.2 Positioning of the UniRail System.

When positioning the UniRail System there are two styles of placement to consider.

#### WORK RESTRAINT (Fig 1)

A Restraint System is designed to prevent a user accessing risk areas (such as roof edges), thereby preventing a fall.



FIG 1

#### FALL ARREST (Fig 2)

A Fall Arrest System allows access to a fall hazard and is designed to safely arrest the operative in the event of a fall.



FIG 2

Whilst all systems must be designed for Fall Arrest in case of accidental misuse, it is recommended that systems should be designed for Work Restraint. This design enables a user to access their work area whilst being prevented from gaining access to a fall hazard. This design will reduce risk and mitigate against the consequences of a fall.

# Section 3.0

## Application of Use

The UniRail product is suited to protecting people from falling from a variety of structures and vehicle maintenance environments. UniRail's versatility and strength allows it to be used in the most demanding of environments. UniRail can be used in such applications as:

- External façade access
- Walk ways and gantries
- Overhead vehicle maintenance
- Suspended rope access
- Water treatment tanks
- Heritage buildings
- Wind turbines



### 3.1 Abseil and Suspended Access

UniRail is suitable for use as an anchor system for rope access abseil work tasks, whether it be a maintenance or inspection task. The user should connect to the rail via two attachment carriages as prescribed in rope access standards and guidance notes. One attachment carriage is for the abseil/descent rope and the other for the fall arrest/back up safety rope. The system must never be used without both carriages in place.

Only personnel trained in the skills of rope access should use the system. Failure to follow this advice could result in death or serious injury.



### 3.2 Roof Jockey System

UniRail can be used in conjunction with the Roof Jockey System (Fig 3) as advertised in some of our sales brochures. The system is supplied with separate instructions for use.

Please contact Uniline for further information and training.



FIG 3

# Section 3.0

## Application of Use

### 3.4 Combining UniRail with Rope and Rope Grabs

UniRail can be used in conjunction with a rope and rope grab (Fig 4) in order to provide access to workplaces that are a varying distance from the anchorage or where the anchorage is above the workers head. In overhead applications the rope and grabs should only be used where the system is directly above the user and at an angle of no more than 20° each side of the centre. This is to prevent dangerous swing fall hazards from occurring.

When using a rope and grab for work positioning or as a fall arrest device where a fall over an exposed edge is possible, it is imperative that only devices that have been tested for this scenario are used. Uniline's

own rope and rope grabs have been tested for this scenario and separate user instructions are available and should be read before use.

### 3.5 Combining UniRail with a Retractable Fall Arrest Device

In overhead applications the system can be used in conjunction with a retractable fall arrest device (Fig 5) or self retracting lanyard. This type of fall arrest device allows the worker to move freely and like a seatbelt moves in and out of its housing with the user. In the event of a fall it locks and arrests the user, limiting the force which is applied to them to less than the maximum prescribed by law. In particular the use of fall arrest blocks is limited to the specific models approved for use by Uniline Safety Systems Limited.



FIG 4



FIG 5

Devices should only be used where the system is directly above the user and at an angle of no more than 20° each side of the centre. This is to prevent dangerous swing fall hazards from occurring.

# Section 3.0

## Application of Use

### 3.7 Using UniRail for Performing a Rescue

As well as a fall arrest/work restraint system, UniRail can be used as an anchorage to facilitate a rescue. There is sufficient residual strength in the product following a fall to enable a rescuer to use the system as a rescue anchorage point. This can be achieved by either using a spare attachment carriage or by wrapping a sling around the main rail extrusion. As falls from height are unpredictable, the rail system should be checked to ensure it is safe to use for this purpose before proceeding with a rescue. Only trained personnel should attempt to carry out a rescue from height.

**In all the above cases users of the system should receive appropriate training from a competent person before using the UniRail System and any associated equipment.**



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# Section 4.0

## System Design, Installation and Fixings

### 4.1 System design

The system will be designed to suit your specific requirements and local site conditions. The Uniline Installer will have verified all the necessary parameters to ensure the safety of your product when it is in use. Uniline provide design information to support our Approved Installers in this task. The System should be positioned to allow the user safe access to all areas required. If possible the System should be 'Work Restraint' rather than 'Fall Arrest'. However the system must be designed to deal with a fall arrest scenario.

Positioning of the system is determined by some of the following factors:

- The requirement for access
- Availability of structural anchors
- Ground clearance
- Obstacles beneath the work area
- Number of users

In a work restraint system all anchors MUST be positioned at least 2m (656ft) from a fall hazard.

In typical fall arrest/work restraint installations the maximum permissible distance between intermediate supports is 3m (10ft). In abseil/rope access installations it is recommended that intermediate supports are installed approximately every 0.52m (1.71ft) to prevent deflection under static load and fastener fatigue.

If you have any doubts about the design and positioning of your system, please contact Uniline Safety Systems.

### 4.2 Installation

The UniRail System is a facility to enable safe working at heights. Lives are at risk if the System is not installed correctly. Uniline Approved Installers are highly trained in the design, installation, certification and maintenance of the UniRail System. Approved Installers are also certified by Uniline and records of trained personnel are kept by our company. Customers should not attempt to install a UniRail System on their own unless they have received training by a competent person and have access to all the tools and information required to successfully install and test the product.

Included in this manual is a checklist of the minimum amount of information that should be supplied by the Installer following the installation of your System.



FIG 7

FIG 9

FIG 8

FIG 10

08

**FIG 7** Rail End - to include end anchor, system stop, carriage stop and moulded end.

**FIG 8** Corner - to include intermediate brackets at each tangent point.

**FIG 9** Rail Joint - to include intermediate brackets max 200mm (7.8") each side.

**FIG 10** Rail - max distance between fixings to the structure - 3m (10ft).

# Section 4.0

## System Design, Installation and Fixings

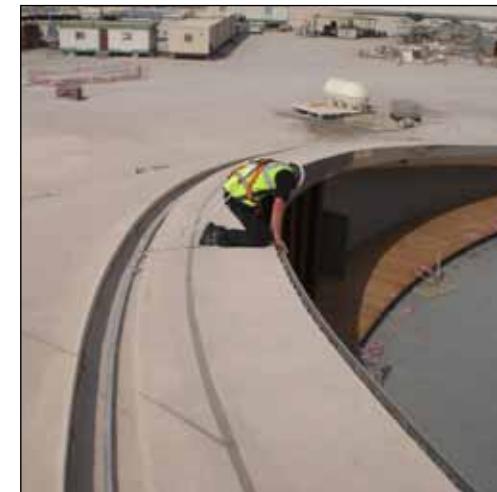
### 4.3 Fixings

It is imperative that the supporting structure and fixings used in the construction of the System are capable of withstanding at least twice the loads that will be generated in the event of a fall. A structural engineer should verify this is the case before a system is installed. If in doubt, please consult a structural engineer.

Furthermore fixings and the interface of components with the structure must be such that they do not permit dissimilar materials to come in to direct contact. Suitable isolation materials must be used. All fasteners must be correctly torqued in accordance with Uniline's technical instructions. Over tightening fasteners could cause catastrophic failure of the system.

### 4.4 Packaging

All equipment leaving Uniline Safety Systems is sufficiently packaged to prevent damage and/or deterioration during transportation. Any concerns or claims regarding the condition of the equipment should first be addressed to the installer. All parts of the packaging can be recycled.



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# Section 5.0

## Regulations & Quality

### 5.1 Regulations

The UniRail system conforms to national standards. It has been tested to perform primarily as fall arrest system. UniRail confirms to European Standard EN795 class D Anchor Devices; Australian standard AS/1891.2.2001 and is OSHA Compliant. It has also been tested to and meets the requirements of the standard EN50308 relating to Wind Turbines.

Each carriage has an ultimate strength of more than 15kN (3300lbs) and the entire system maintains a safety factor of at least two for multiple workers as part of a complete personal fall protection system. This ensures that the UniRail system also meets the requirements for anchor systems of the industrial rope access standard BS7985, ASTM E2505, Australian Rope Access Association Industry Code 2005 and helps operatives to comply with other aspects of these standards.

### 5.2 Quality

Uniline operates a quality system to ISO9001:2000 and offers full product traceability, with all components issued with a batch number. All Uniline products are tested in accordance with current regulations and verified by an authorised testing laboratory. All Uniline Installers are comprehensively trained, regularly audited and provide method statements and risk assessments. Testing is verified by European notified body Dekra Exam BBF (CE 0158) and the UniRail product is the subject of annual surveillance by the Notified Body.



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# Section 6.0

## Precautions, Requirements & Exclusions

The integrity of the UniRail System is only ensured if the user wears the recommended personal protective equipment (PPE). This should be certified and marked in accordance with the relevant national standard. Using the wrong PPE or lanyards of incorrect length can result in injury or death. Each system installed should be supplied with specifications of body harness, lanyards and shock absorbers or retractable fall arrest devices:

The following precautions, requirements and exclusions apply to the UniRail System:

- The system must be installed by an Approved Uniline Systems Integrator or Competent person trained by the manufacturer or manufacturer's representative.
- The UniRail system must be inspected at least once a year or after a fall (whichever is the shorter period) by an Approved Uniline Installer. A record should be kept of each inspection.
- Do not attempt to test systems with dynamic or static loads. Uniline Installers carry the appropriate test equipment for testing the system and fixings.
- The UniRail system must not be used as a lifting system other than as prescribed in this manual.
- Never exceed the recommended number of users on the system.
- Never attempt to repair, tamper with or change the UniRail System.
- Do not use the system if it appears to be damaged or appears to have parts missing.
- The equipment should not be used outside of its limitations, nor shall it be used for any other purpose than that intended.
- The carriage should never be used between the carriage stop and the system end cap.
- A maximum of two workers in one span may be attached to the UniRail System for fall arrest applications, unless otherwise specified by the systems integration specialist. This is because the loads transferred to the system are directly effected by the specified shock absorbing lanyard or self retractable fall arrest device. Only if this information is known can the number of users in any one span be increased. Even then, this must only be done in conjunction with known structural limitations.
- Each user should weigh no more than 136kg mass (300lbs) including clothing and equipment.
- Only one person is allowed to be attached to one carriage at any time.
- DO NOT use the attachment carriage if any of the wheels are missing or are not completely secured with the circlips supplied.
- Do not attempt to clean the system with aggressive cleaning chemicals and abrasive products.
- DO NOT use any external system in the event of an electrical storm.
- Only personnel trained to work at height and in the correct operation of the system should be permitted to use it.

# Section 7.0

## Using the System

### 7.1 Inspection and General Maintenance

The system has been designed to be used under a variety of conditions. It uses high-grade components that are corrosion resistant. However, the system's working life depends on factors such as correct care and maintenance and the environment in which the system is installed. Before each occasion of use an approved person should visually check the system to ensure that it looks fit for purpose.

The attachment carriage should run freely along the rail and structural brackets and joints should be firmly secured. If the rail is bent or deformed in a way which is uncharacteristic of the system you should not use it. Report the faults to the Approved Systems Integrator and schedule a maintenance visit.

DO NOT attempt to repair the system yourself, as this may invalidate performance warranties and put personnel in danger.

The UniRail System is virtually maintenance free dependent on environment. Occasionally the rail and components may need cleaning. This should be done with a soft brush, warm water and a mild detergent such as household washing-up liquid. Ensure the parts are thoroughly rinsed with plenty of clean water. Although highly resistant to chemicals and environmental conditions, take all precautions to avoid contaminating the system with acids, bitumen, cement, chloride, paint or aggressive cleaning fluids. Stainless steel parts are particularly susceptible to pitting corrosion from chlorine, so avoid installations

in this type of environment. If the system is likely to be contaminated, please contact your systems Integrator or Uniline Safety Systems for advice.

In installations which have the plunger end stop, this stop can be removed and can be refitted to allow the removal of the carriage for cleaning. To clean, immerse the carriage in a mix of hot water / mild detergent. The carriage can then be rinsed and dried using a clean non abrasive cloth. Solvents must not be used for cleaning. If the carriage shackle requires lubrication, apply a light water repellent lubricant sparingly; avoid contact with the carriage wheels, lanyard and harness.

### 7.2 Servicing

In accordance with manufacturers recommendations and current national standards a UniRail product that is in regular use should be inspected at least once a year by an authorized and competent person. In very high use applications or aggressive environments the servicing interval should be more frequent, as determined by the installer or Uniline Safety Systems Limited. As the UniRail system is unlike other horizontal rail systems and has many unique features, only Approved Uniline Installers who have been trained and certified should inspect Uniline products.

A maintenance checklist is provided to our Approved Installers to use during annual inspections and you can request a copy of this for your records.

If the system has sustained a fall arrest impact, has been damaged, or is defective in any way, it must be immediately categorised as unfit for use. The use of the system must be discontinued, and servicing should be arranged as soon as possible. All servicing requirements should be directed to Uniline Safety Systems or their authorised representatives.

### 7.3 Warranty

Uniline guarantees the UniRail Safety System ("the system") from its date of original purchase for 10 years. Subject to normal use and correct installation. The warranty is invalidated if the minimum service intervals, carried out by an Approved Systems Integrator are not maintained. This warranty does not include the products' appearance after a number of years. For more detail on the condition of the guarantee please see UniRail guarantee terms and conditions in our Technical Manual or contact your Approved Systems Integrator.

# Section 8.0

## Pre Use & In Use Checks

### 8.1 Harnesses and Lanyards

Examine harnesses, lanyards, self-retracting lifelines or controlled rate descent devices in accordance with their manufacturers instructions to ascertain if they are serviceable. If in doubt do not use them. If these items have been subjected to a fall they must be serviced or discarded. When not in use these articles need to be stored in a clean, cool, dry area, free from chemical fumes or corrosive elements. Direct sunlight, heat, steam, undue vibration and sharp implements must also be avoided. Preferably, fall arrest equipment like this should, when not required for use, be kept in dedicated cabinets which permit adequate ventilation.

### 8.2 The System

Carry out a visual inspection to check that the system components and rail have not been subjected to damage between periods of use. Check rail joints to ensure that all fixings are secure.

- Check for any obvious damage such as cracks, heavy indentations, deformation or severe corrosion. (Deformation and indentations may be evidence of a fall arrest – also an extended / operated shock absorber would confirm this).
- Check for chemical contamination (e.g. discolouration) and heat damage (e.g. weld splatters). Attention should be paid to joints.
- Ensure that the system stops are firmly in

place and that they prevent the carriage from coming off the rail unintentionally. Check that the moulded rail end covers are not missing or split.

- Check the security of the rail at regular intervals by giving it a sharp tug. Look for external damage to the supporting structure, e.g. cracks in masonry.
- It is important to remember that the user is not fully protected from a fall until the carriage is fully engaged onto the system and the end stop is refitted.
- Check for loose bolts.

In installations which have the tamper proof end stop or are of the closed loop type, the carriage remains mounted to the rail at all times. In installations which have the plunger end stop, this stop can be removed and can be refitted by a simple action, to allow the carriage to be engaged onto or disengaged from the system.

Accordingly the extremity of the rail should always be in a safe area, i.e. free from fall hazards. Where this is not the case, a secondary means of fall protection should be utilised before engaging the system. The same consideration needs to be given when disengaging the system.

With the carriage engaged the user is able to walk around the system without hindrance. The tension in the lanyard ensures that the carriage glides along the rail behind the user.

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# Section 8.0

## Pre Use & In Use Checks

### 8.3 The Rail Carriage

Check the carriage for obvious damage, such as cracks, heavy indentations or severe corrosion. Remove any dirt from the inside face and bearing wheels. Reject the carriage if it appears unserviceable.

Ensure that the attachment shackle is free to pivot, and that its securing pin is centrally locked on the inside face. Ensure that the four wheels are in place, undamaged, and are able to rotate. Check that each has its securing clip in place, and that the wheel axle is not loose. Ensure that the parking brake is unscrewed sufficiently to prevent a restriction on the rail.

If the shackle requires lubrication, apply a light water repellent lubricant sparingly; avoid contact with the carriage wheels, lanyard and harness. Do not use any type of lubricant on the carriage wheels.

If a fall has occurred on the carriage, the device should be removed from service until it has been inspected. The carriage can only be put back in to service after it has been approved in writing by an approved installer or Uniline Safety Systems Limited.

No more than one user should be attached to a system carriage at any one time.

### 8.4 The System Label

Prior to accessing the system the user should always inspect the system label and file in order to confirm:

- The correct user equipment is being used as specified.
- The maximum number of users and maximum permissible user weight as calculated is not exceeded.
- The system certification is valid. The system should be certified yearly. If this has not been done the user should not use the system.
- Check that the ground clearance is still the same as detailed on the system label and that there is no risk of collision in the event of a fall – including swing fall (pendulum fall) hazards.



### 8.5 General Points

Always wear a full body harness. The user should attach their fall arrest device to an appropriate fall arrest designated harness attachment point (mid-sternum or mid scapular) front or rear.

Always ensure that the carriage is securely attached to the rail and that the parking brake is off before proceeding. Get a second person to check the attachment. If an additional delta link is used make sure the nut is securely fastened.

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# Section 8.0

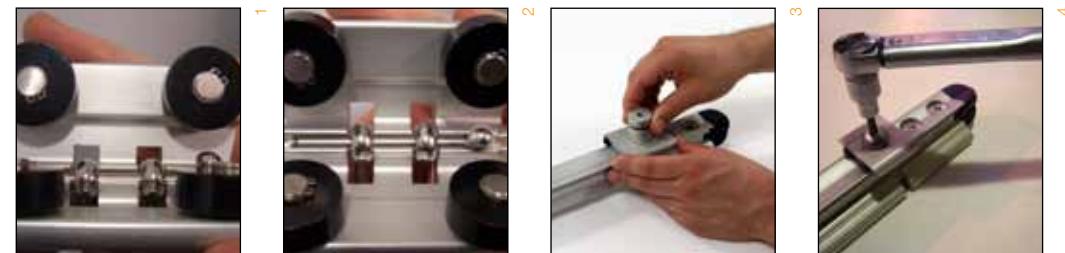
## Pre Use & In Use Checks

### 8.6 Accessing the system

Access to the System should be gained from a position of safety. If necessary the user should use other safety equipment, such as a twin-tailed lanyard or access platform, to facilitate safe access to the safety system.

If the system is installed above the user and a retractable fall arrest device is used, then a pull down cord attached to the end of the retractable device can be used. The cable or webbing that is stored inside the retractable fall arrest device should not be left extended from the unit when it is not in use. This can cause damage to the device. When returning the cable or webbing to the device it should be done slowly. The user must not 'let go' of the connector so that the device retracts too fast, as this may cause damage to the mechanism that arrests a fall. For further information on the use of retractable fall arrest devices, the user should refer to the manufacturers instruction booklet.

### Steps for accessing the system when the carriage has been removed



1 Inspect the rail carriage ensuring that the wheels are secure and the security clips are in place.

2 Ensure that the shackle pin is present and undamaged.

3 If the system is installed with a plunger stop, pull up the head of the stop and slide it from the end of the rail.

4 If the system is installed with a tamper proof stop remove it using an allen key. Turn to the left to loosen.



5 Slide the carriage on to rail ensuring the wheels are free to move.

6 Replace the plunger or tamper proof stop. Ensure that the tamper proof stop is secured with a torque setting of 15kN or that the pin on the plunger stop is engaged with the hole in the rail.

7 Attach your karabiner and lanyard to the rail carriage via the carriage shackle. Ensure the karabiner is locked and secure.

8 You are now safely attached to the UniRail system.

# Section 9.0

## Following Installation

### 9.1 Completed Installations

On completion of the installation, the installer should provide as a minimum:

- A certificate commissioning the system (See 9.2)
- A System Label (see 9.3)
- Detailed information on the system design, including loading, details of any fabrications used in the system design, maximum number of users permitted on the system, specific restrictions regarding user equipment and testing requirements
- A user instruction manual
- A serial number or reference number for the installation
- Details of the products guarantee and a registration card

### 9.2 Certificate

This should contain a minimum of:

- The location of the installation
- A unique identification number
- The number and length of systems
- The maximum number of users per system/span
- The installation date
- The date of the next necessary service
- The name and contact details of the installation company
- The name of the installation engineer and/or supervisor

A representative of the installation company should sign the certificate

### 9.3 System Label

The System Label should be located at the entrance point to the System. It should contain the following information:

- The maximum number of users permitted to use the system
- Restrictions about the use of the system
- Installation date and details of the installation company
- Next service date
- Serial number of the system
- The minimum ground clearance
- Contact details of the manufacturing company

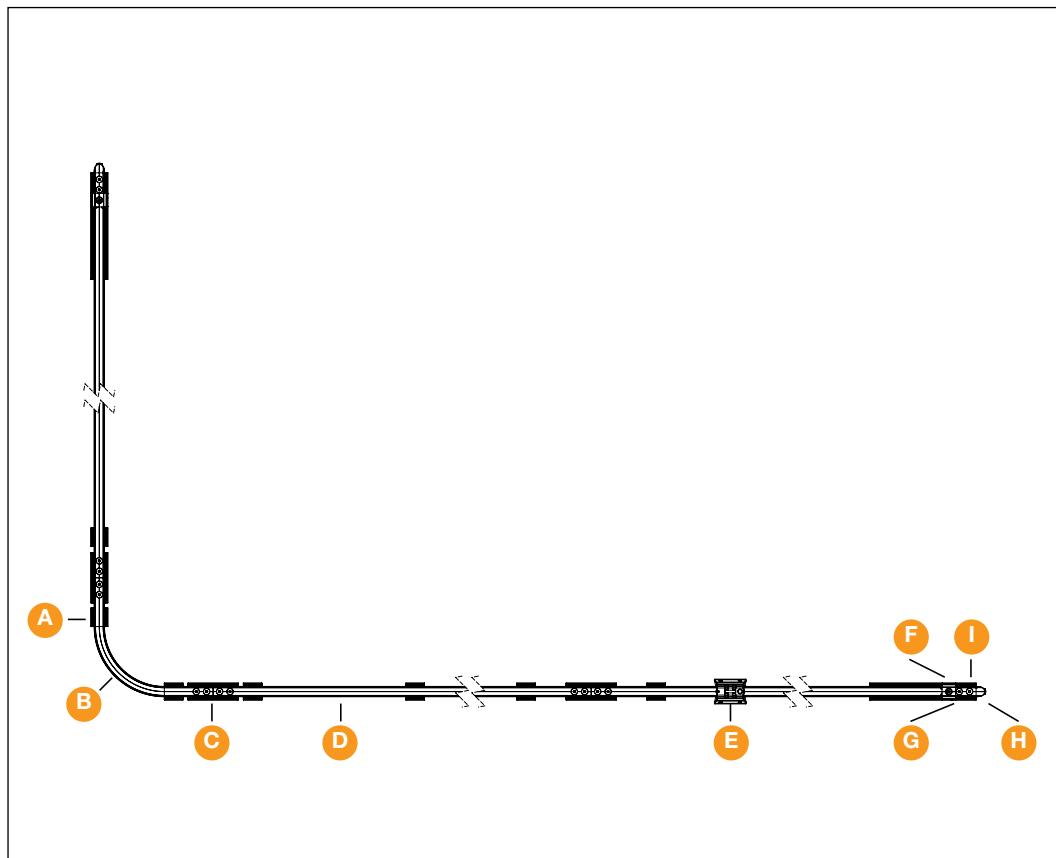
### 9.4 Training

The Uniline Approved Installer should provide the end user with training on how to use the System and user equipment. This may involve an additional cost.

The system should not be used by anyone that has not received instruction or who has not been trained to work safely at height.

# Section 10.0

## System Layout: Typical Concealed Fix System



A	UniRail C Fix Anchor TPD (7241010) UniRail C Fix Anchor (7241011)*
B	UniRail 90° (7241014) UniRail 90° External (7241015)* UniRail 90° Internal (7241016)* UniRail 45° Internal (7241017)* UniRail 45° External (7241018)* UniRail 45° (7241019)* UniRail Wall mount 90° Ext (7241003)*
C	UniRail C Fix Joint (7241005) UniRail S Fix Joint (7241004)*#
D	UniRail 3m (7241013)
E	UniRail Carriage (7241006)
F	UniRail C Fix End Anchor (7241008)
G	UniRail Tamper Proof Stop (7241000) UniRail Plunger Stop (7241002)*
H	UniRail Moulded Rail End (7241053)
I	UniRail System Stop (7241001)

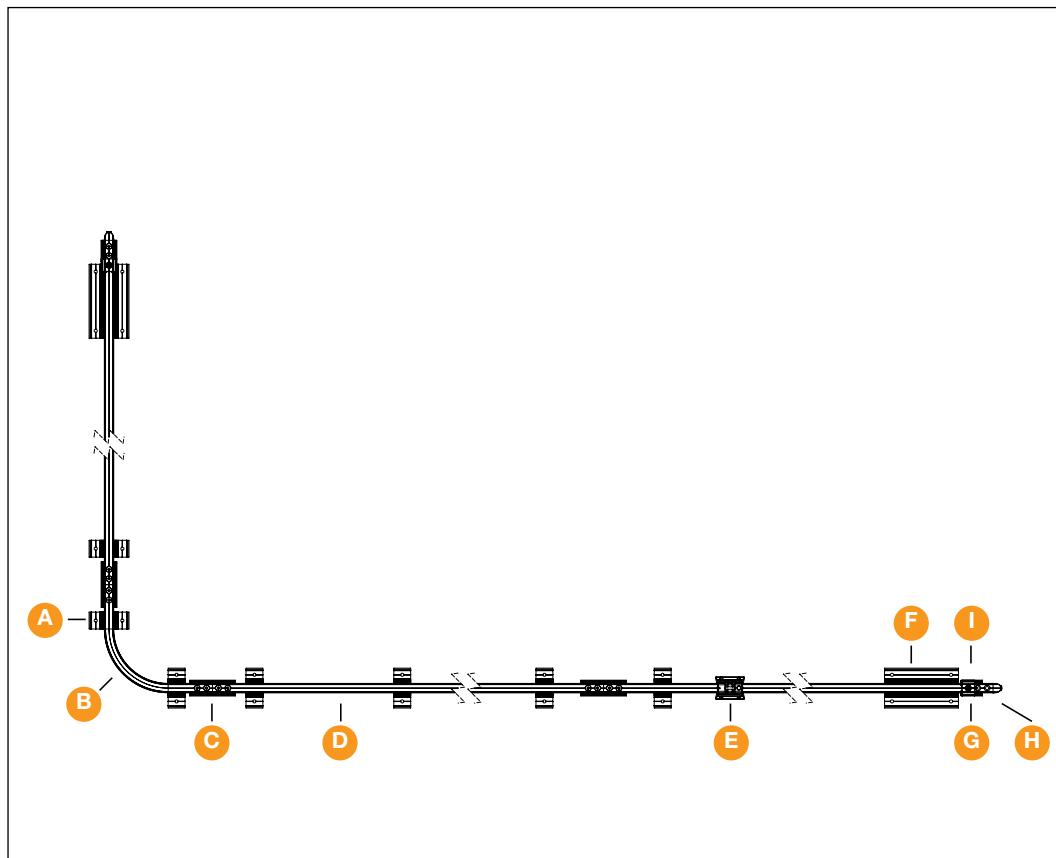
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\*This component is different from the one illustrated  
# One per system length. Specialist application.

Fasteners for fixing to the structure are not supplied.  
For more detailed component information refer to the individual datasheets.

# Section 10.0

## System Layout: Typical Side Fix System



A	UniRail S Fix Anchor (7241012)
B	UniRail 90° (7241014) UniRail 90° External (7241015)* UniRail 90° Internal (7241016)*
C	UniRail 45° Internal (7241017)* UniRail 45° External (7241018)* UniRail 45° (7241019)* UniRail Wall mount 90° Ext (7241003)*
D	UniRail C Fix Joint (7241005)
E	UniRail S Fix Joint (7241004)*#
F	UniRail 3m (7241013)
G	UniRail Carriage (7241006)
H	UniRail Tamper Proof Stop (7241000)
I	UniRail Plunger Stop (7241002)*
	UniRail Moulded Rail End (7241053)
	UniRail System Stop (7241001)

018

\*This component is different from the one illustrated

# One per system length. Specialist application.

Fasteners for fixing to the structure are not supplied.

For more detailed component information refer to the individual datasheets.

# Section 10.0

## System Components: Common Parts



**Moulded end** (Part code: 7241053) – protects personnel from injuring themselves against an exposed edge of end rail



**System stop** (Part code: 7241001) – prevents the rail from coming out of its end anchorage bracket in the event of a fall in the first or last span of the system



**Tamper-proof carriage stop** (Part code: 7241000) – prevents the carriage from coming off the end of the system



**Removable carriage stop** (Part code: 7241002) - prevents the carriage from coming off the end of the system but can be removed to allow the carriages to be taken off



**Rail joint** (Part code: 7241005) – joins the ends of two rails and maintains the integrity of the system for fall arrest situations



**Rail** (Part code: 7241013) – discrete profile just 32mm x 32mm (1 1/4" x 1 1/4"). Silver anodised as standard and can be powder coated on request.



**Corners**  
90° (Part code: 7241014),  
90° external (Part code: 7241015),  
90° internal (Part code: 7241016),  
45° (Part code: 7241019),  
45° external (Part code: 7241018),  
45° internal (Part code: 7241017)  
– 90 degree and 45 degree corners are available from stock and other bends and forms are easily accommodated down to a radius of 200mm (7.88").



**Attachment carriage** (Part code: 7241006) – enables the user to connect to the system and enjoy complete hands-free movement along the rail. It features a stainless steel parking lock for work positioning tasks and nylon coated aluminium wheels. A stainless steel shackle enables connection of a karabiner hook and pivots to enable best functionality at any angle of take off. Min strength 15kN (3300lbf).

# Section 10.0

## System Components

### Side Fix Parts



**End anchor** (Part code: 7241009)  
– secures the end of the rail to the structure and controls rail movement in the event of a fall.



**Intermediate anchor** (Part code: 7241012) – secures the rail to the structure at intervals to suit the work site and structure.

### Concealed Fix Parts



**End anchor** (Part code: 7241008)  
– secures the end of the rail to the structure and controls rail movement in the event of a fall.



**Intermediate anchor**  
(Part code: 7241011)  
(Part code: 7241010 Tapped version) – secures the rail to the structure at intervals to suit the work site and structure. (Tapped versions available.)

020

# Section 11.0

## Rescue & Emergency Procedures

### Rescue

When contemplating working at height, and in particular when considering the use of a fall arrest/work restraint system, it is extremely important that employers and employees consider any emergency or rescue procedures that may be required. It is strongly recommended that a written emergency and rescue plan is developed and those responsible are trained to affect a rescue.

The importance of having a rescue plan to deal with such emergencies cannot be overemphasized. Such a plan includes consideration of rescue equipment, personnel, and training as necessary.

It is not acceptable just to rely on the emergency services. Emergency procedures need to be considered for reasonably foreseeable circumstances. The measures need to be covered in the risk assessment and planned prior to the work activity being carried out.

A sensible strategy is to employ two workers for the task at height, so if one falls, the other can assist in the rescue, or can summon help. High visibility clothing, whistles, and personal alarms are all items worthy of consideration.

Uniline always recommend the fitment of an additional carriage to the rail for rescue purposes. In the event of an emergency, the carriage can be moved into a position above the fallen worker, and rescue equipment can be attached to facilitate the rescue process.

Please contact Uniline Safety for more details.



021

# Section 11.0

## Rescue & Emergency Procedures

### Emergency Procedures

If a fall does occur it is vitally important that a plan is in place to ensure the suspended person can be rescued safely in the shortest possible time and before the emergency service response. If employers cannot do this, then harness work is not the correct system of work.

Motionless head up suspension can lead to pre-syncope (light headedness; nausea; sensations of flushing; tingling or numbness of the arms or legs; anxiety; visual disturbance; or a feeling they are about to faint) in most normal subjects within 1 hour and in a fifth within 10 minutes.

- First responders to persons in harness suspension should be able to recognise the symptoms of pre-syncope (fainting).
- A casualty who is experiencing pre-syncope symptoms or who is unconscious whilst suspended in a harness should be rescued as soon as is safely possible.
- If the rescuer is unable to immediately release a conscious casualty from a suspended position, elevation of the legs by the casualty or rescuer where safely possible may prolong tolerance of suspension.
- Monitor the casualty's condition at all times, attempt to keep them talking.

- When rescued, the person should now be placed in the horizontal position and standard first aid guidance for the post recovery of a semi conscious or unconscious person in a horizontal position should be followed.
- The casualty, regardless of the time spent suspended should be taken to hospital for routine checks.

Once the casualty is rescued review the rescue plan and establish possible improvements.

Equipment should be serviced before it is put back into use if used in a rescue or evacuation scenario.

The above recommendation is based on the Health and Safety Executives 2009 report, Evidence-based review of the current guidance on first aid measures for suspension trauma. For more information please visit [www.hse.gov.uk](http://www.hse.gov.uk) and search for "suspension trauma".

022

Capital Safety Group, through our Uniline brand is the global market leader in the design and manufacture of engineered fall protection systems. Through a combination of expert knowledge and practical experience, we can help our customers reduce risk and increase safety when working at height.

Our comprehensive Uniline range of products offers fully compliant, practical solutions for structures of all types, in all industries. Our ethos of delivering quality, service, training and support for our customers has earned Uniline a deserved reputation for excellence around the world.

Operating through specialist safety companies globally, Uniline provides local support and installation services to meet the specific safety objectives of all our customers.

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If you need a safety solution for roof access during maintenance and inspection tasks, then look no further than Uniline's Roofing product range. Our products, including roof anchors, horizontal lifelines & horizontal rail systems offer comprehensive protection for workers on all types of roofs.

### **horizontal** **systems™**

The products in our Horizontal systems range are some of the best known brands in fall protection safety. The versatility of these products combined with Uniline's expertise in fall protection ensures we can solve even the most complex of height safety problems in industry, construction, façade access and for all manner of building maintenance and inspection tasks.

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The best vertical fall protection systems in the world won't let you down. The extensive development of this range of products for vertical structures including masts, towers, pylons, wind turbines, silos, bridges and chimney stacks ensures customers will enjoy the safest and most functional climbing experience possible.

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## Worldwide Locations

**UK**  
5a Merse Road  
North Moors Moat  
Redditch, Worcestershire  
B98 9HL  
UK  
t: +44 (0) 1527 548 000  
f: +44 (0) 1527 591 000

**EUROPE, MIDDLE EAST & AFRICA**  
Le Broc Center  
Z.I. 1re Avenue – BP15  
06511 Carros Le Broc Cedex  
**FRANCE**  
t: +33 (0)4 97 10 00 10  
f: +33 (0)4 93 08 79 70

**USA**  
3833 SALA Way  
Red Wing  
MN 55066  
**USA**  
freephone: 800 328 6146  
t: +1 (651) 388 8282  
f: +1 (651) 388 5065

**CANADA**  
260 Export Boulevard  
Mississauga  
Ontario L5S 1Y9  
**CANADA**  
freephone: 800 387 7484  
t: +1 (905) 795 9333  
f: 888 387 7484

**AUSTRALIA & NEW ZEALAND**  
95 Derby Street  
Silverwater  
NSW 2128  
**AUSTRALIA**  
freephone: 1800 245 002 (AUS)  
freephone: 0800 212 505 (NZ)  
t: +61 2 8753 7600  
f: +61 2 8753 7603

**ASIA**  
No 6 Tuas Avenue 18  
638892  
**SINGAPORE**  
t: +(65) 65587758  
f: +(65) 65587058



[www.capitalsafety.eu](http://www.capitalsafety.eu)  
[www.unilinesafety.com](http://www.unilinesafety.com)

