D Ring Loops

Unwin | User Manual

EN Instructions for fitting and use

Thank you for choosing

D Ring Loops from Unwin!

The following manual is an important part of the product, providing you with information on how to achieve maximum performance and safe operation. Keep the manual in a safe place so that you can refer to it when necessary.

If you have any questions about your equipment, please contact Unwin.

Once again, thank you for placing your confidence in our products!

Unwin

SAFE VEHICLE ADAPTATION

Safe vehicle adaptation solutions

For your safety Unwin products are designed and tested according to current directives and standards.

Safety information

4 Limitations of use
6 General guidance
8 Before installing and using the D Ring Loops

Fit and use

8 Fitting & using the D Ring Loops

After care

10 Equipment storage and maintenance
10 Warranty

"Declaration of conformity" at the end of the manual.

Safety information

Limitation of use

The development of Unwin wheelchair and occupant restraints is a continuous process. Applications are added on a regular basis. For more detail contact Unwin or look on the Unwin website.

The "D" Ring Loops are designed to fit between the wheelchair tie-down positions and the top end of the wheelchair tie-downs. They must be used as a pair.

They are used when the tie-down cannot be directly attached to the wheelchair. They should not be used with wheelchair weight greater than 100kg.

In addition to the details given in these instructions, users of Unwin wheelchair & occupant restraint kits must refer to the wheelchair manufacturer's 'Instructions for Use in Transport' for full details of tie-down attachment points on the wheelchair, plus any other specific instructions relating to use in transport.

Wheelchair users and their carers must make sure that their wheelchair is recommended for use in transport, including any 'add-on' components such as power tilt or recline options.

General guidance

- Wheelchair Accessories that have not been approved by the Wheelchair Manufacturer must be removed from the wheelchair and secured in the vehicle during transport to reduce the potential for injury. Refer to 'Instructions For Use in Transport' provided with the wheelchair or contact wheelchair manufacturer for further guidance.

- These wheelchair & occupant restraint kits comply with all applicable requirements of ISO 10542, including a 48km/h, 20g frontal impact test using a forward facing 85kg surrogate wheelchair and an ATD (test dummy) with a mass of 76.3kg. The test dummy was restrained by both a pelvic and upper-torso restraint. Use of a pelvic only belt may compromise the performance of the WTORS system and should be avoided.

- If the installation is to be used with an occupant head rest anchored to the vehicle, then a vehicle-anchored back rest must be provided to minimise rearward deflection of the wheelchair seatback, preventing neck injury.

- Regular inspection of all parts is recommended and the equipment should be used only if all components are in good condition.

- **Warning:** protect webbing from contacting sharp edges and corners. Replace equipment if the webbing does becomes cut, contaminated or frayed.

- Any restraints which have been subjected to a crash situation from which the vehicle must be towed should, in the interest of safety, be replaced.
- Do not attempt to modify the equipment. For further advice on the installation and use of this tie-down, please contact Unwin. Please read this manual fully before use.
- Avoid contact with corrosive liquids. Care should be taken to prevent contamination of the webbing with polishes, oils and chemicals.
- The restraint kit anchorages should be installed by an experienced technician/vehicle converter. Anchorages should not be installed into unsound materials such as corroded metal, wood, plastic and fibre glass panels, without additional and suitable reinforcement.
- The equipment has been tested in a configuration similar to that recommended by Unwin, and any deviation from the recommendations here is the responsibility of the installer/user. These instructions refer use with both Unwin rails and Solo anchors, however the equipment may be used with any Unwin proprietary rail product.

Before installing and using the D Ring Loops

- Ensure that the wheelchair is correctly maintained and that the settings of any adjustable parts are made according to 'Instructions for Use in Transport'.

- Whenever possible remove any items of luggage etc that may be attached to the wheelchair and secure or store separately during transport in order to reduce the potential for injury to other passengers travelling in the vehicle.

- Extra care must be exercised when using vehicle boarding aids such as passenger lifts or ramps during the loading process. Refer to 'Instructions For Use' for information on safe slopes.

- Position the wheelchair facing forward - centrally in the designated region of the vehicle. **Ensure the wheelchair brakes are applied.**

- To minimise the potential for head injuries in an impact, allow a clear space of at least 400 mm behind and 650 mm, (FCZ, front clear zone), in front of the head of the wheelchair user, (Fig A). The shoulder belt anchorage must be roof or side-wall anchored at a height level such that the belt webbing passes over the midpoint of the occupant shoulder and at a height that is at or just above the level of the occupants shoulders so as not to impose downward loads on the spine.

- A height provision (HHT) ranging from 1000mm to 1550mm should be made, depending on the size of the passenger. There should also be 200 mm of clear space either side of the wheelchair centre line. If these clear space dimensions cannot be provided then any should be adequately padded and comply with impact performance requirements of ECE Regulation 21 'FMVSS 201'. All vehicle padding should comply with the flammability requirements of ECE Regulation 118 'FMVSS 302'.

Note: seated head height (HHT) ranges from as low as 1000mm for a 6-year-old child to 1550mm for a tall adult.

- Wheelchair users, their carers and family are advised to check vehicle specifications to ensure that sufficient floor space is available to accommodate the wheelchair and tie-down system. These distances are based upon the desire to maintain clear zones for potential head excursions of occupants provided with both upper and lower torso restraints.

- Users of heavy powered wheelchairs are also advised to check vehicle carrying capacity. If in doubt consult the vehicle supplier for further details.

- Any airbag, as fitted to the vehicle, shall be used only as a supplementary occupant restraint if designed to be used in combination with the Solar Quattro and an appropriate occupant restraint.

- Installers of this tie-down should take note of any vehicle airbag position when planning the installation. Airbags can cause serious injury if a wheelchair-seated occupant is seated too close to an airbag position. If in doubt contact the vehicle manufacturer or your National Automotive Regulatory Body for advice.

Figure A

Fit and use

Fitting and using the D Ring Loops

Fitting D Ring Loops

1. Position the webbing of the "D" ring loop around the wheelchair attachment point, stick the webbing ends together using the Velcro, (Fig 1) and fit the Karabiner hooks onto the two "D" ring loops, (Fig 2).
2. Tension the restraint system as normal.
3. Repeat with the second D ring loop.

Removing D Ring Loops

Unfasten the restraint system and remove karabiner hook from the D Ring Loops.

Figure 1

Figure 2

After care

Equipment storage and maintenance

- Store the restraint safely off the floor to avoid damage and ensure that it cannot become a projectile in an accident. This can be achieved by using wall mounted storage bag such as SLR111.
- Regularly inspect the wheelchair and occupant restraint systems for damage, wear or malfunction. If any problems are identified replace it immediately.
- When not in use, keep loose occupant webbing ends connected to their corresponding buckle sleeves, etc, to prevent them from becoming tripping hazards and from flailing around when the vehicle is in motion.
- All webbing and components can be cleaned as necessary, but care should be taken to prevent contamination of the webbings with polishes, oils and chemicals, particularly battery acide.
- To clean the straps use warm soapy water and a clean soft cloth. Rinse with clear water and allow to air dry. To disinfect, use a mild spray disinfectant and do not use products containing bleach. **Important: when cleaning or disinfecting, do not immerse or flood buckles, karabiners or Solo fittings in the disinfectant or water.**
- If the vehicle is involved in an accident when any restraints are deployed, remove them from service and replace immediately. If in doubt please contact Unwin.

Warranty

Unwin products are extensively tested using Unwin anchorage systems, and our full warranty normally only applies to Unwin equipment when used with Unwin branded anchorages or as instructed. Unwin have also participated in test programs with other manufacturers anchorage products and will support warranty on the Unwin products when used in conjunction with such jointly tested systems. For further details on specific applications please contact the Sales Office. In other situations, using Unwin products, for which Unwin has not participated in a joint test program, a limited Unwin warranty will apply.

Declaration of conformity

Manufacturer /

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Declares that the products /

DR, DR120

Conforms to following directives standards and regulations /

214/2014/EU Paragraphs 2.3.1 and 2.3.2
ISO 10542:2012
RESNA WC-4 2012 Section 18
R.107.06
2007/46/EC

Unwin, Martock, 9 November 2017

Chris Hellier
MD

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Accredited by URS as testing laboratory in accordance with ISO/IEC 17025:2005
Quality system certified in accordance with ISO 9001:2008

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Worldwide Safe Mobility Solutions

Included in our corporate group are Autoadapt, BraunAbility, Bruno, Unwin and Foca-Braun.