



TITAN I

Tie-down System for Transportable Wheelchairs

Rated at 200kg

USER OPERATING INSTRUCTIONS



Read instructions fully before use.

It is recommended that training be given on the proper use of this product.

Retain this manual for future reference.

Additional copies are available upon request.

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UI1824C



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A. INTENDED USAGE

- 1. The TITAN 1 wheelchair tie-down is used for the securement of transportable wheelchairs used as a forward facing seat in a motor vehicle -as recommended by the wheelchair manufacturer. (See Unwin Guide for full Applications List).**
- 2. The Titan 1 is a six point tie-down system, therefore both front and rear webbing tie-downs must be used as instructed.**
- 3. In addition to the details given in these Instructions, users of the TITAN 1 tie-down system 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.**
- 4. 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.**
- 5. An additional occupant restraint system will be required when the wheelchair is occupied by a passenger whilst in transport. (See Unwin Instructions UI1360, for Double Inertia Split Reel DI/SR).**
- 6. Unwin products are tested using Unwin vehicle anchorages and full warranty applies to Unwin equipment fitted and used in accordance with Unwin instructions.**

B. WHEELCHAIR APPLICATIONS

1. The Titan 1 tie-down system has been tested and fulfils the requirements of ISO 10542 Part 2 and is suitable for use with transportable wheelchairs that are in compliance with ISO 7176 Part 19, up to a maximum mass of 200kg.
2. See Unwin Guide for a full list of applications
3. The development of Unwin wheelchair tie-downs is a continuous process. Applications are added on a regular basis. Contact Unwin Safety Systems or go to website for full updates.

C. CONDITIONS OF WARRANTY

1. Unwin products are tested using Unwin vehicle anchorages and full warranty applies to Unwin equipment fitted and used in accordance with Unwin Instructions for Use.
2. Unwin have also participated in test programs with various wheelchair manufacturers 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 Unwin Sales Office.
3. In other situations where Unwin has not participated in joint test programs, a limited Unwin warranty will apply.

D. WARNINGS

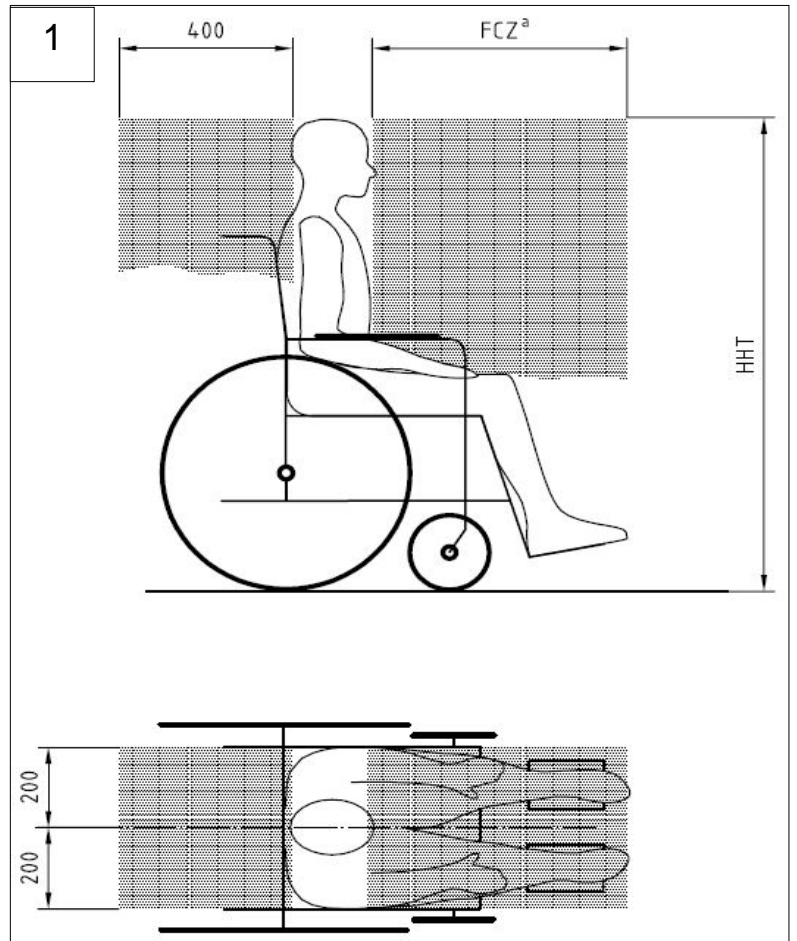
1. Wheelchair accessories that have not been approved by the wheelchair manufacturer must be removed from the wheelchair and secured in the vehicle during transport to reduce the potential for injury. Refer to the manufacturers 'Instructions For Use in Transport' provided with the wheelchair or contact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

Please read this manual before using the Titan 1 system.

2. Regular inspection of all parts is recommended and the equipment should be used only if all components are in good condition.
3. Replace equipment when the webbing becomes cut, contaminated or frayed.
4. Any restraints which have been subjected to a crash situation should, in the interest of safety, be replaced immediately.
5. Do not attempt to modify the equipment. If there is a problem please contact Unwin Safety Systems.
6. Avoid contact with corrosive liquids and keep the webbing away from sharp edges. Care should be taken to prevent contamination of the webbing with polishes, oils and chemicals.
7. If the proposed installation cannot be made to comply with the following requirements, please contact Unwin Safety Systems.

E. GENERAL TRANSPORT GUIDANCE

1. Ensure that the wheelchair is correctly maintained and that settings of any adjustable parts are made according to manufacturers 'Instruction for Use in Transport'.
2. Remove any items of luggage that may be attached to the wheelchair and secure or store separately during transport in order to reduce the potential for injury to others passengers travelling in the vehicle.
3. Extra care must be exercised when using vehicle boarding aids such as passenger lifts or ramps during the loading process. Refer to Wheelchair manufacturers Instructions for Use for information on safe slopes.
4. Position the wheelchair facing forward - centrally in the designated region of the vehicle. Ensure the wheelchair brakes are applied.
5. To minimise the potential for head injuries in an impact, allow a clear space of at least 400 mm behind and 650 mm in front of the head of the wheelchair user. The shoulder belt anchorage must be side-wall anchored at a height level with or above occupant shoulder level.
6. A height provision ranging from 1200mm 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. If these clear space dimensions cannot be provided then any structure protruding into this space should be adequately padded.
7. Postural support belts are not to be used as occupant restraints.
8. 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. Users of heavy powered wheelchairs are also advised to check vehicle carrying capacity. If in doubt consult vehicle supplier for further details.



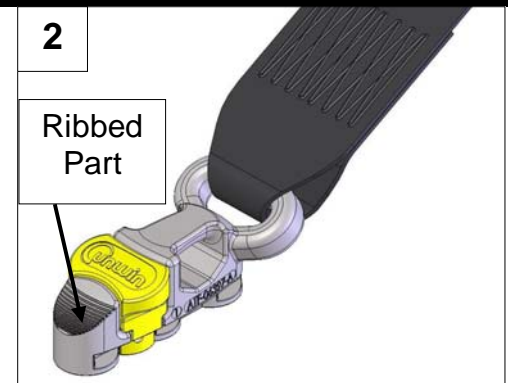
F. PARTS IDENTIFICATION

1. The TITAN I wheelchair tie-down kit comprises of three pairs of webbing straps, each fitted with a built-in over-centre buckle, karabiner end fitting for attachment to the wheelchair and a means to connect the webbing strap to the vehicle, either by rail track or Solo floor fittings.
2. Each pair of webbing straps have left and right facing karabiners. (See photo).
3. Any one pair of webbing straps may be used as front tie-downs.
4. Two pairs of webbing straps are to be used as rear tie-downs.



G. FITTING THE RESTRAINT

1. Attach a pair of tie-downs to the vehicle floor in front of the wheelchair using rail fittings. The yellow plungers must be facing the front of vehicle.
2. Press on the ribbed part of the ATF (Fig 2) and push firmly towards the wheelchair until the yellow clip drops and locks into the rail. Install the second clip. The position of this must be in line with the first.
IMPORTANT: Check the plungers are fully engaged on both sides.



3. Release the over-centre buckle and attach the karabiners to the front tie-down brackets fitted to the wheelchair, left and right, as shown in the wheelchair manufacturer's Instructions for Use (Fig 3).



4. Adjust the webbing length to achieve equal length with light tension in each front tie-down strap.

TIP: To achieve optimum tie-down angle, make the webbing length as short as possible.

5. Attach a first pair of tie-downs as close as possible to the rear of the wheelchair, with karabiners fitted onto securement points as shown in the wheelchair manufacturer's Instructions for Use.

If the wheelchair manufacturer's Instructions For Use in Transport indicate two pairs of tie-down attachment points then fit the karabiners to the lower points first. The yellow plungers must face the rear of the vehicle.

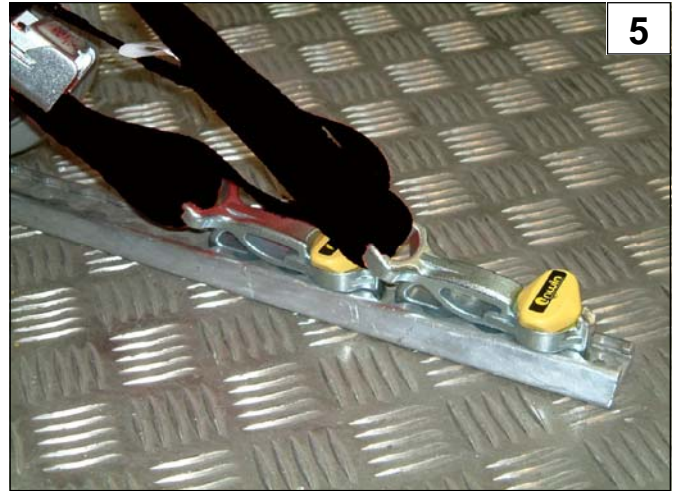
IMPORTANT: Do not over tension the tie-down straps. Apply sufficient tension to the webbing straps so that body of the over-centre buckle can be moved 10mm either side of it's natural line of attachment with moderate hand effort. (Fig 4).



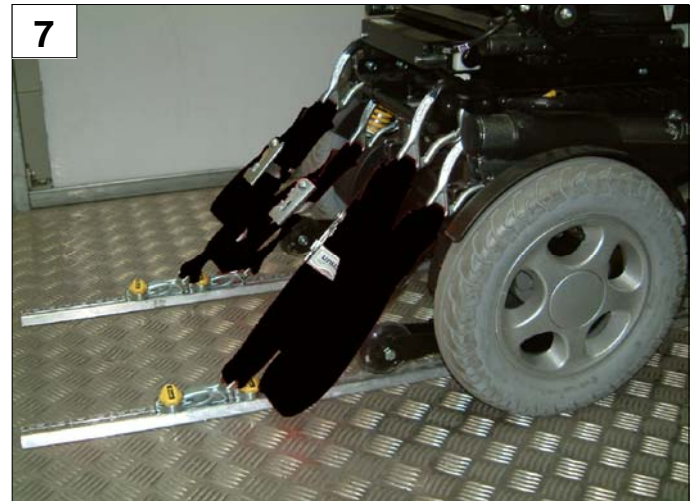
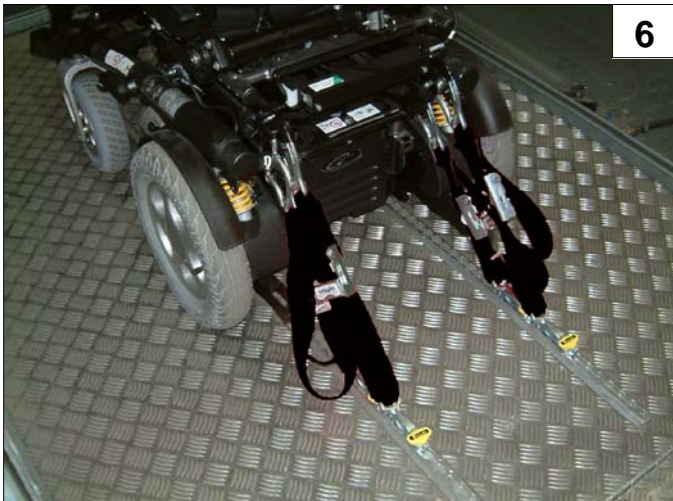
G. FITTING THE RESTRAINT

5. Attach a second pair of tie-downs to appropriate securement points on the wheelchair as indicated in manufacturer's Instructions For Use.

If track fittings are used then position as close as possible behind the 1st pair (Fig 5).

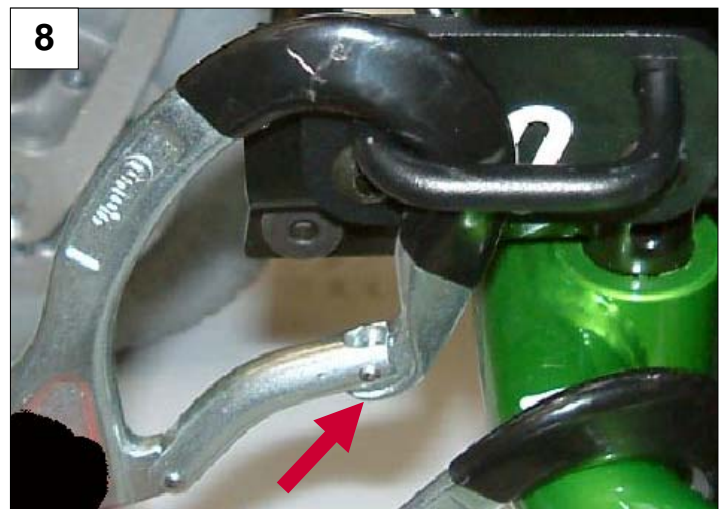


6. Tension the second pair of tie-downs in a similar manner. Check that similar tension exists in all four webbing straps, adjusting where necessary (Fig 6 & 7).



7. **IMPORTANT:** Ensure that all the karabiner gates are fully closed (Fig 8).

8. The occupant restraint should now be fitted. The passenger restraint double inertia should be positioned to allow correct routing of the webbing for the occupant.



H. REMOVING AND STORING

1. Keeping control, release the over-centre buckles on the rear straps, loosen the webbing and remove the karabiner from the wheelchair.
2. Close the over-centre buckle, lift the plunger on the restraint and remove the tie-downs from the floor anchorages.
3. Release the tension on the front straps, remove the strap from the wheelchair frame. Repeat on opposite front tie-down and remove from the anchorages.
4. Store the webbing straps safely off the floor to avoid damage and so that they can not become a projectile in an accident. This can be achieved by using wall mounted storage rails or a stowage box.

I. MAINTENANCE

1. Regularly inspect all 6 webbing straps system for damage, wear or malfunction. If any problems are identified replace it immediately.
2. To clean the webbing straps use warm soapy water and a clean soft cloth. Rinse with clear water, and allow to air dry. To disinfect the webbing straps use a mild spray disinfectant - do not use products containing bleach.
IMPORTANT: when cleaning or disinfecting do not immerse buckles or rail clips in disinfectant or water.
3. Care should be taken to prevent contamination of the webbing with polish, oils and chemicals.
4. **IMPORTANT: 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 Safety Systems.



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