

COMPACT MANUAL WHEELCHAIR TIE-DOWN



User Manual

Applicable to products:

T-ROBK, T-ROBT, T-ROBJ, T-SOBK, T-SOBT, T-SOBJ

UI12353

EN Instructions for fitting and use



Thank you for choosing

Compact Manual Wheelchair Tie-downs from BraunAbility

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 you can refer to it when necessary.

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

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



Safe vehicle adaptation solutions

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

Safety information

- 4 Limitation of use
- 6 General guidance
- 8 Before installing and using

Fit and use

- 10 Fit and use - front tie-down - Rail
- 12 Fit and use - rear tie-down - Rail
- 14 Fit and use - front tie-down - Solo
- 16 Fit and use - rear tie-down - Solo

After care

- 18 Equipment storage and maintenance
- 19 Warranty

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



Safety information

Limitation of use

The development of BraunAbility kits is a continuous process. Applications are added on a regular basis. For more details contact BraunAbility or look on the BraunAbility website.



These BraunAbility wheelchair tie-down kits are designed to secure a wheelchair when facing forward in a vehicle and must be used as instructed. The retractable tie-downs are designed to secure wheelchair weights up to 100kg. The use of an appropriate occupant restraint will be required for all.



In addition to the details given in these instructions, users of BraunAbility wheelchair tie-down 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 caregivers must make sure that their wheelchair is recommended for use in transport, including any 'add-on' components such as power tilt or recline options.



T-ROBK



T-ROBT



T-ROBJ



T-SOBK



T-SOBT



T-SOBJ

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 tie-downs comply with all applicable requirements of ISO 10542, including a 48km/h, 20g frontal impact test using a forward facing surrogate 85kg 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 wheelchair tie-down and occupant restraint system (WTORS) and should be avoided.
- If the installation is to be used with an occupant headrest 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 becomes cut, frayed, or contaminated with polishes, oils or chemicals, particularly battery acid.

- 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 wheelchair tie-down, please contact BraunAbility. 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 wheelchair tie-down 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 fibreglass panels, without additional and suitable reinforcement.
- The equipment has been tested in a configuration recommended by BraunAbility and any deviation from the recommendations here is the responsibility of the installer/user.



Before installing the wheelchair tie-down occupant restraints

- 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 traveling in the vehicle.
- Position the wheelchair facing forward - centrally in the designated region of the vehicle.
Ensure the wheelchair brakes are applied.
- To minimize the potential for head injuries in an impact, allow a clear space of at least 450mm (18in) behind and 650mm (26in), (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 (39in) to 1550mm (61in) should be made, depending on the size of the passenger. There should also be 200mm (8in) of clear space either side of the wheelchair center line. If these clear space dimensions cannot be provided then any structure protruding into this area 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 (39in) for a 6-year-old child to 1550mm (61in) for a tall adult.

- Wheelchair users, their caregivers 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 WTORS.
- 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.

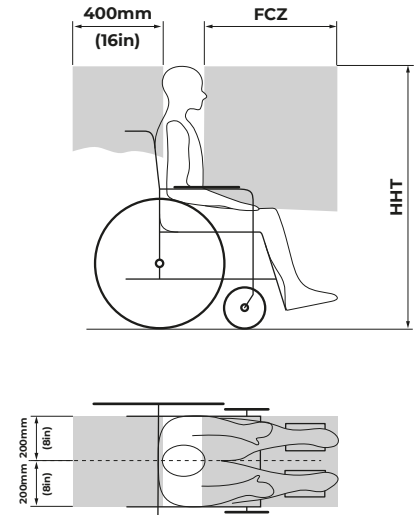


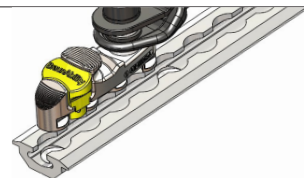
Figure A

Fit and use

Compact manual wheelchair tie-down

Rail floor - front

1. The rail will have been installed in the vehicle in accordance with our own and the vehicle converter's instruction. Position wheelchair within vehicle as required.
2. When using tie-down with J-hooks or karabiners, ensure that the karabiner / J-hook gates are facing outwards. If using tongue and buckle, the buckle may be positioned facing inboard or outboard.
3. Install the front tie-down ATF (aluminium track fitting) into the rail by aligning the ATF feet with the cut-out sections of the rail and locate into the rail, (Fig. 2).
4. Press down on the ribbed part of the ATF, (Fig. 2A) and push firmly towards the wheelchair until the yellow plunger drops and locks into the rail.
5. Install the second front tie-down ATF in the same way, ensuring that each fitting is opposite each other, if using rail lengths which have adjustability in ATF positioning. **IMPORTANT: Check the yellow clips are fully engaged on both sides.**
6. Remove the webbing from the Velcro patch and release the over-centre buckle by pressing the silver release button, (Fig. 1A).
7. Attach the karabiner, J-hook or tongue and buckle arrangements around the front wheelchair frame to create an angle of around 40 to 60° within the front view zone, (Fig. 3). (Some wheelchairs will indicate this tie-down position, Fig. 4).
8. Pull the webbing through the over-centre buckle until it is tight. With the free hand, begin to close the buckle. Once the webbing is retained, fully close the buckle using both hands. Re-secure the Velcro to prevent the loose end from becoming a trip hazard.



Removing the compact manual wheelchair tie-down

IMPORTANT: First remove the rear tie-downs.

1. Release the webbing tension in each front side by pressing the silver release on the over-centre buckles, (Fig. 1A) and detach the karabiner, J-hook or tongue and buckle arrangements from the front wheelchair frame.
2. Lift the yellow ATF plunger fully and slide back away from the wheelchair to align the ATF feet with the rail cut-outs. Lift away from the rail. Repeat operation on the other side and store safely.



Figure 1



Figure 4

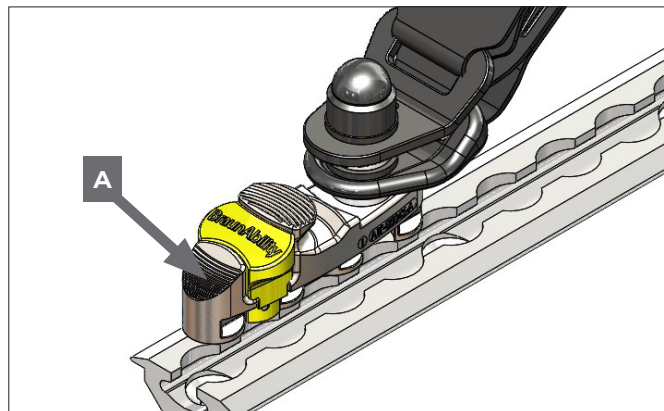


Figure 2

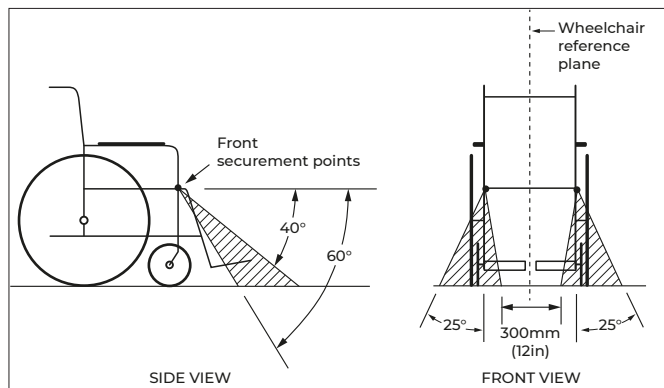


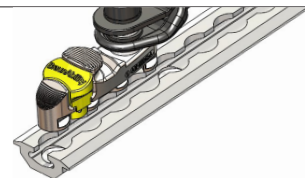
Figure 3

Fit and use

Compact manual wheelchair tie-down

Rail floor - rear

1. The rail will have been installed in the vehicle in accordance with our own and the vehicle converter's instruction. Position wheelchair within vehicle as required.
2. When using tie-down with J-hooks or karabiners, ensure that the karabiner / J-hook gates are facing outwards. If using tongue and buckle, the buckle may be positioned facing inboard or outboard.
3. Install the rear tie-down ATF (aluminium track fitting) into the rail by aligning the ATF feet with the cut-out sections of the rail and locate into the rail, (Fig. 2).
4. Press down on the ribbed part of the ATF, (Fig. 2A) and push firmly towards the wheelchair until the yellow plunger drops and locks into the rail.
5. Install the second rear tie-down ATF in the same way, ensuring that each fitting is opposite each other, if using rail lengths which have adjustability in ATF positioning. **IMPORTANT: Check the yellow clips are fully engaged on both sides.**
6. Remove the webbing from the Velcro patch and release the over-centre buckle by pressing the silver release button, (Fig. 1A).
7. Attach the karabiner, J-hook or tongue and buckle arrangements around the rear wheelchair frame to create an angle of around 30 to 45° within the rear view zone, (Fig. 5). (Some wheelchairs will indicate this tie-down position, Fig. 6).
8. Pull the webbing through the over-centre buckle until it is tight. With the free hand, begin to close the buckle. Once the webbing is retained, fully close the buckle using both hands. Re-secure the Velcro to prevent the loose end from becoming a trip hazard.
9. Similar tension should exist in all four tie-down webbings. Tension should be such that the over centre buckle can be turned 90° in either direction using moderate hand pressure. Adjust as necessary.
10. An occupant restraint should now be fitted.



Removing the compact manual wheelchair tie-down

IMPORTANT: First remove the occupant restraint, as instructed in the relevant manual.

1. Release the webbing tension in each rear side by pressing the silver release button on the over-centre buckles, (Fig. 1A) and detach the karabiner, J-hook or tongue and buckle arrangement from the wheelchair's frame.
2. Lift the yellow ATF plunger fully and slide back away from the wheelchair to align the ATF feet with the rail cut-outs. Lift away from the rail.
3. Now move to the front of the wheelchair and release the tie-downs as instructed on pages 10 and 11.



Figure 1

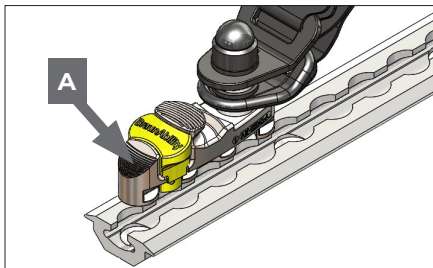
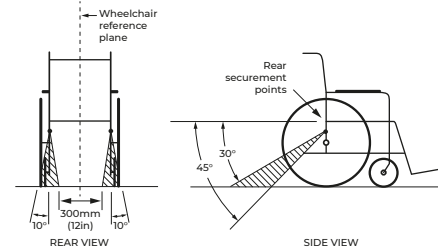


Figure 2



NOTE Note that angles indicated are obtained by projecting the angle of each tie-down strap onto a vertical plane parallel to the wheelchair reference plane (side view) or onto a vertical plane that is perpendicular to the wheelchair reference plane (rear view).

Figure 5

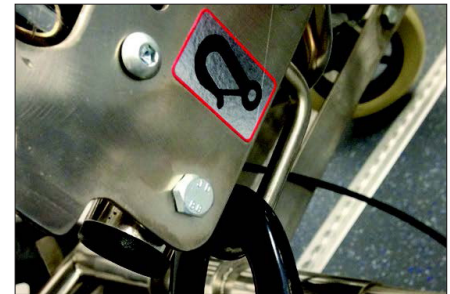


Figure 6

Fit and use

Compact manual wheelchair tie-down

Solo anchor - front

1. The Solo floor anchors will have been installed in the vehicle in accordance with our own and the vehicle converter's instruction. Position the wheelchair within the vehicle as required.
2. When using tie-down with J-hooks or karabiners, ensure that the karabiner / J-hook gates are facing outwards. If using tongue and buckle, the buckle may be positioned facing inboard or outboard.
3. Install each front retractor cleat onto a front Solo anchor (sprung or fixed) by aligning the open mouth of the cleat, (Fig. 9B), and the protrusion, (Fig. 9A), to the slot on the floor anchor. Slide the cleat fully home (allowing the keyway within the cleat to guide into its home position, Fig. 8A & B) and rotate the cleat through 90° to align the retractor with the wheelchair frame, (Fig. 8).
4. Remove the webbing from the Velcro patch and release the over-centre buckle by pressing the silver button, (Fig. 7A).
5. Attach the karabiner, J-hook or tongue and buckle arrangements around the front wheelchair frame to create an angle of around 40 to 60° within the front view zone, (Fig. 3). (Some wheelchairs will indicate this tie-down position, Fig. 4).
6. Pull the webbing through the over-centre buckle until it is tight. With the free hand, begin to close the buckle. Once the webbing is retained, fully close the buckle using both hands. Re-secure the Velcro to prevent the loose end from becoming a trip hazard.

Removing the compact manual wheelchair tie-down

IMPORTANT: First remove the rear tie-downs, as instructed on pages 16 and 17.

1. Release the webbing tension in each front side by pressing the silver release on the over-centre buckles and detach the karabiner, J-hook or tongue and buckle arrangements from the front wheelchair frame.
2. Remove each tie-down from the anchor by rotating the tie-down through 90°, (Fig. 8) so that the raised protrusion on the cleat is aligned with the indent on the floor anchors (Fig. 9). Slide off.
3. Pull the tie-down away from the floor anchor and store safely.





Figure 7

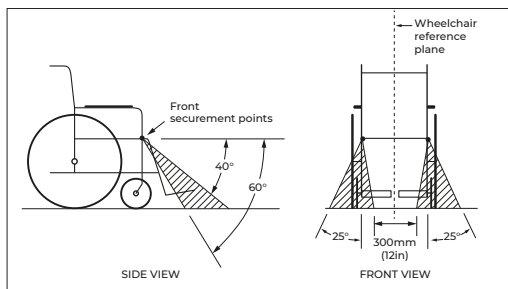


Figure 3



Figure 4

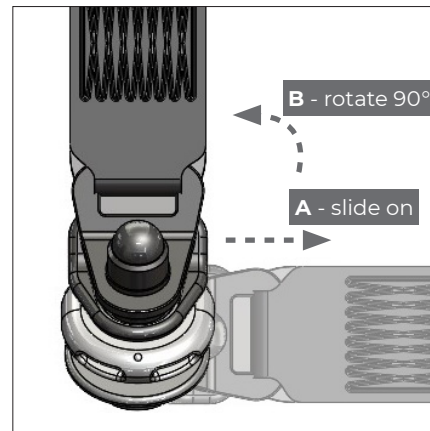


Figure 8

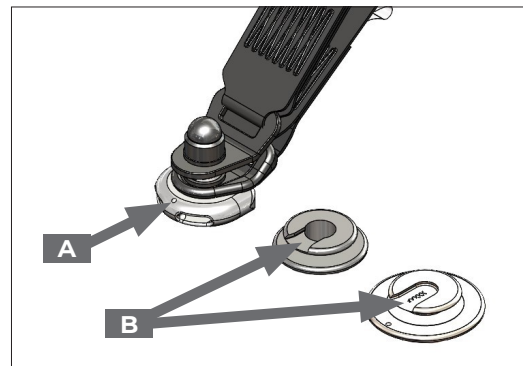


Figure 9

Fit and use

Compact manual wheelchair tie-down

Solo anchor - rear

1. Install the Quattro restraints onto the Solo anchors, in the same way as the fronts.
2. When using tie-down with J-hooks or karabiners, ensure that the karabiner / J-hook gates are facing outwards. If using tongue and buckle, the buckle may be positioned facing inboard or outboard.
3. Remove the webbing from the Velcro patch and release the over-centre buckle by pressing the silver button (Fig. 7A).
4. Attach the karabiner, J-hook or tongue and buckle arrangements around the rear wheelchair frame to create an angle of around 30 to 45° within the rear view zone, (Fig. 5). (Some wheelchairs will indicate this tie-down position, Fig. 6).
5. Pull the webbing through the over-centre buckle until it is tight. With the free hand, begin to close the buckle. Once the webbing is retained, fully close the buckle using both hands. Re-secure the Velcro to prevent the loose end from becoming a trip hazard.
6. Similar tension should exist in all four tie-down webbings. Tension should be such that the over centre buckle can be turned 90° in either direction using moderate hand pressure. Adjust as necessary.
7. An occupant restraint should now be fitted.

Removing the compact manual wheelchair tie-down

IMPORTANT: First remove the occupant restraint, as instructed in the relevant manual.

1. Release the webbing tension in each rear side by pressing the silver release button on the over-centre buckles and detach the karabiner, J-hook or tongue and buckle arrangement from the wheelchair's frame.
2. Remove each tie-down from the anchor by rotating the tie-down through 90°, (Fig. 8) so that the raised protrusion on the cleat is aligned with the indent on the floor anchors, (Fig. 9). Slide off.
3. Pull the tie-down away from the floor anchor and store safely.





Figure 7



Figure 6

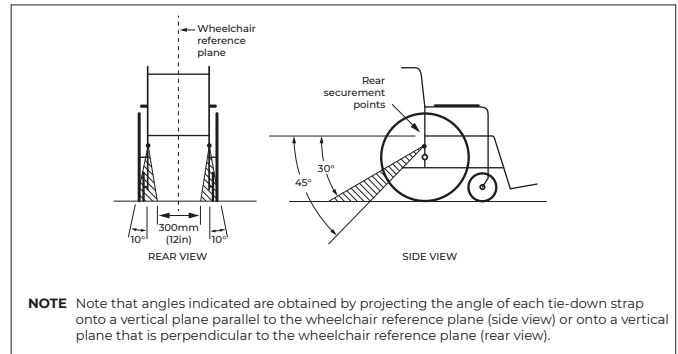


Figure 5

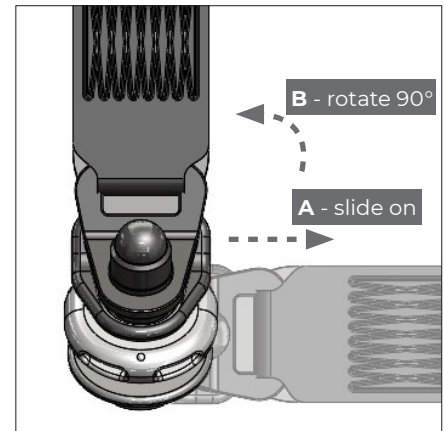


Figure 8

After care

Equipment storage and maintenance

- Store the restraint safely in supplied bag, off the floor, to avoid damage and ensure that it cannot become a projectile in an accident.
- Regularly inspect the wheelchair restraint systems for damage, wear or malfunction. If any problems are identified replace components immediately.
- When not in use, keep loose occupant webbing ends connected to their corresponding buckle sleeves, etc, to prevent them from becoming trip 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 acid.
- 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, karabiner fittings or floor anchors 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 BraunAbility.

Warranty

BraunAbility products are extensively tested using BraunAbility anchorage systems, and our full warranty normally only applies to BraunAbility equipment when used with BraunAbility branded anchorages or as instructed. BraunAbility have also participated in test programs with other manufacturers anchorage products and will support warranty on the BraunAbility 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 BraunAbility products, for which BraunAbility has not participated in a joint test program, a limited BraunAbility warranty will apply.





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

Illustrations, descriptions and specifications in the user manual are based on current product information. BraunAbility UK Ltd reserves the right to make alterations without previous notice.

© 2021 BraunAbility UK Ltd



Declaration of conformity

Manufacturer /

BraunAbility UK Ltd
Unwin House
The Horseshoe Coat Road
Martock, Somerset, TA12 6EY,
UK

Phone: +44 1935 827740
Email: info@braunability.eu
www.braunability.eu

Declares that the products /

T-ROBK, T-ROBJ, T-ROBT, T-SOBK,
T-SOBJ, T-SOBT

Conforms to following directives standards and regulations /

214/2013/ EU Paragraphs 2.3.1 and 2.3.2
ISO 10542:2012
RESNA WC-4 2012 Section 18
2001/85/EC
R.107.06
DIN 75078
2018-858-EU

BraunAbility, June 2021



BraunAbility UK Ltd
Unwin House
The Horseshoe, Coat Road
Martock, Somerset, TA12 6EY,
UK

Phone: +44 1935 827740
Email: info@braunability.eu
www.braunability.eu