

spex

Seat Base
Installation & User Manual

IMPORTANT CONSUMER INFORMATION NOTICE: This manual contains important instructions that must be passed on to the user of this product. Please do not remove this user manual before delivery to the end user.
SUPPLIER: This manual must be given to the user of this product.
USER/CAREGIVER: Before using this product, read entire manual and save for future reference. Transit Safety section **MUST** be read before used in a vehicle.
MD: This product is a Medical Device.

User Name:

Serial Number:

Contents:

| | |
|---|----|
| Introduction | 2 |
| Intended Use | 2 |
| Contraindications | 3 |
| Safety Instructions | 3 |
| Compatibility | 4 |
| Environment | 4 |
| Warnings | 4 |
| Re-issuing to Another User | 5 |
| Disposal & Recycling | 5 |
| Maintenance & Cleaning | 5 |
| Seat Base Contents | 6 |
| Installation Steps | 6 |
| Transit Safety – Assembly, Use, Maintenance & Limitations | 9 |
| Transit Safety – Correct Positioning of Belt Restraints | 10 |
| Warnings | 11 |
| Warranty | 14 |
| Technical Data | 15 |

Introduction

Spex Seating recommends that a clinician such as an Occupational or Physiotherapist that is skilled in wheelchair seating and positioning be consulted to determine if the Spex Seat Base is appropriate for the user.

Intended Use

Spex Seating is intended for users (disabled and/or discomforted) that require specific postural and positioning support to provide comfort for body function in a sitting posture on wheelchairs for daily activities and for transportation in vehicles. It is designed with ergonomic adjustments to provide improved personal body-posture conditions and/or to help prevent/reduce physical problems associated with sedentary work or activities.

Contraindications

1. Use of Spex Wheelchair seating products may affect the center of gravity causing the Wheelchair to tip, potentially causing injury. Always judge the need for anti-tippers or amputee axle adapter brackets to be added to the Wheelchair to increase stability.
2. Check regularly for skin redness and that pressure spots are not developing. If your skin develops redness, stop using the product and consult your doctor or therapist.

Safety Instructions

To avoid injury, read, understand and follow all instructions and warnings in this manual before installing and using the Spex Seat Base. There are hazards associated with the use of wheelchairs and adaptive equipment. If you misuse your wheelchair or your Seat Base you can be seriously injured. If your Seat Base ceases to function as intended, please consult your authorised Spex seating supplier immediately before continuing to use. Any serious incident that has occurred in relation to this product should be reported to Spex Ltd.

Maximum User Weight: 10-15" Seat Base: 90 kg (200 lb)

Maximum User Weight: 16-20" Seat Base: 180 kg (400 lb)

Disclaimer: Spex takes no responsibility as to the therapeutic effectiveness of our products. Our claims relate to the ability of the products to provide safe and reliable positioning and seating on the equipment onto which they are installed.

Compatibility

- Spex Seat Base has been designed to be compatible with most manual wheelchairs.
- The only power wheelchairs Spex Seat Base is suitable for are those which have seat rails
- If installing to a manual or power wheelchair it must have tubular seat rails
- Not suitable for wheelchairs that don't have tubular seat rails

Environment

Moisture: Keep your Seat Base dry at all times, as contact with water or excess moisture could cause corrosion, degradation to the functionality of your Seat Base, or potential failure. If your Seat Base becomes damp or wet, thoroughly wipe with a dry cloth as soon as possible. Do not use your Seat Base in a showering or pool facility.

Temperature: Your Seat Base may not function as intended when used at extreme temperatures. Keep the Seat Base away from sources of extreme heat or extreme cold to avoid burns from the metal components.

Dirt: Small particles such as dust, dirt and sand may restrict optimum functionality. Regularly check your Seat Base to ensure no build-up occurs around openings and moving parts.



WARNING

1. **It is the installer's responsibility to ensure all hardware is installed correctly and tightened before using the wheelchair.**
2. **Installation and adjustment of your Seat Base should be performed only by an authorized dealer or qualified therapist.**
3. **Never secure positioning belts or harnesses to the seat base.**
4. **Seat base must not be modified or changed as this voids warranty**
5. **Only use genuine Spex accessories, components and attachments to this seat base.**
6. **The wheelchair must be labelled as appropriate for use as a seat in a motor vehicle, dynamically tested to the performance requirements of ISO 7176-19 and installed, used and maintained according to the manufacturer's instructions.**
7. **Never lift the wheelchair by the Seat Base**
8. **Never use the seat base if any hardware is missing, malfunctioning, or broken. Seek qualified assistance with any repairs, replacements or adjustments.**
9. **Never perform exercise weight training that causes the user to exceed the weight capacity of the wheelchair.**
10. **A poorly fitting Seat Base can aggravate posture problems and the overall safety of the user.**
11. **Care must be taken when undertaking a user transfer from the seating system. The user may fall from the wheelchair or injure themselves when supports are removed.**
12. **Be aware of the pinch points. Ensure all body parts are kept clear during these movements and adjustments.**

Reissuing to another user

Once the user has finished using the Spex Seat Base, it must be refurbished if it is issued to another user. Below are the strict guidelines for refurbishing the Spex Seat Base. Spex takes no responsibility for contamination, cross infection, or damage.

| Part | Procedure |
|-------------------------|--|
| Safety check | All components to be checked for signs of stress or cracking. |
| Seat Base | Check for signs of stress or cracking. If any stress/cracks are found the Seat Base is to be condemned and must be disposed of. Clean the Seat Base with a mild detergent and quality disinfectant ensuring all areas are free from grime. |
| Hardware and Components | Ensure the mounts are in place and in safe working order. If any are missing, they must be ordered. Check for signs of stress or cracking. If any stress/cracks are found these parts must be condemned and replaced immediately. |

Disposal & Recycling

Your Spex Seating System is manufactured using a variety of materials, of which most can be recycled. Once it reaches the end of its life, if you are the legal owner, do not dispose of as ordinary household waste but take your Spex system to an approved recycling or collection point, to dispose of according to local laws and regulations.

Separate collection and recycling of the Spex System when disposing ensures protection of the environment and assists with natural resource conservation.

Maintenance & Cleaning

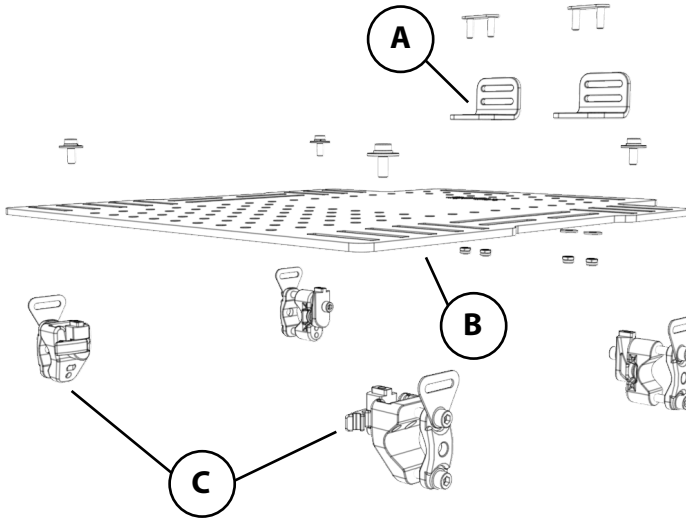
Check that the hardware is working correctly, if not you must replace immediately. Spex Seating recommends that all fasteners be checked for wear, such as loose bolts or broken components every 6 months. Loose fasteners should be retightened according to the installation instructions. Contact your authorized Spex Seating supplier immediately to replace any broken components. Do not continue to use the system after identifying loose or broken components. The expected lifetime of the Seat Base is 5 years.

Cleaning the Seat Base

Seat Base may be wiped clean with mild detergent and water. Dry thoroughly after wiping. If you have any additional questions regarding cleaning procedures, please contact your authorized Spex Seating dealer.

Seat Base Contents

Your Seat Base contains the following:



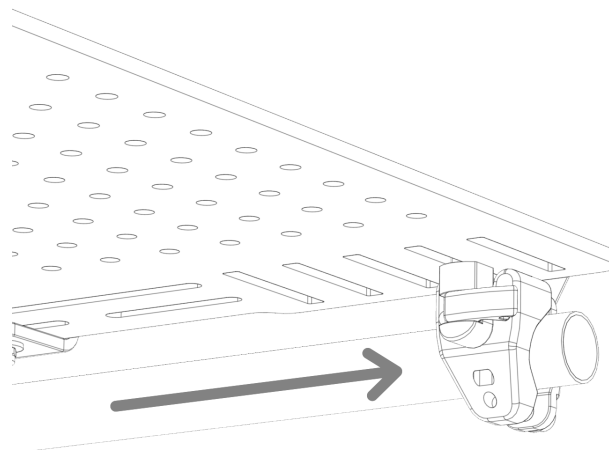
| | Description | Quantity |
|----------|-------------------|----------|
| A | Cushion Retainers | 2 |
| B | Seat Base | 1 |
| C | Hardware | 1 Set |

Installation Steps

1. Position the base, resting on the canes, and determine where the hardware is to be mounted, depending on the interacting hardware/ base and the following key points.

Note:

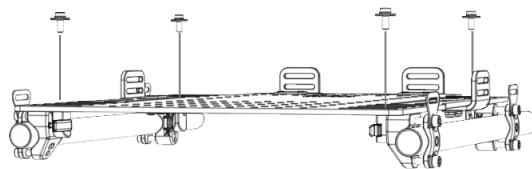
- The front catches should be mounted as far forward as possible
- It is recommended to mount the rear catches in the front of the three rear slot for ease of latching the base.
- For the quick release to function; the rear hardware must be mounted in line (the front mounts can be misaligned).
- The rear catches can be reversed and mounted to the front slots and the front catches can be positioned at the back. This will function in reverse and you may have to remove the back support before removing or mounting the base.
- The mounts and catches can also be rotated to fit much narrower mobility bases.



- 2.** Remove the base mounting screws and attach the four catches in the identified slots. Position them narrow and leave them loose enough to adjust the width.

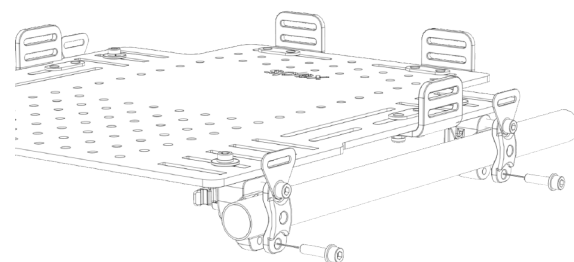
Note:

Ensure the hardware is situated in the correct orientation with the red lever pointing outwards (forward in a standard setup) and the rear mount opening pointing towards the front mounts.



- 3.** Remove the bottom screw on all four of the clamps and loosen the upper screw (enough that the clamp will fit over the canes).

- 4.** Position the base on the canes, slide the hardware out to the canes and rotate the outer clamp down around the cane.



- 5.** Once the base, catches and clamps/ mounts are in the correct positions; fasten the clamps firmly, applying the same torque to the upper lower screws with the outer clamp vertical.

Warning: Ensure that the clamps are firmly fastened as they can be subject to movement if not secured properly. This would create mount misalignment and it would be unsafe for use.

- 6.** Fasten the top base mounting screws firmly once positioned. (The screws are located underneath the base on fixed hardware).

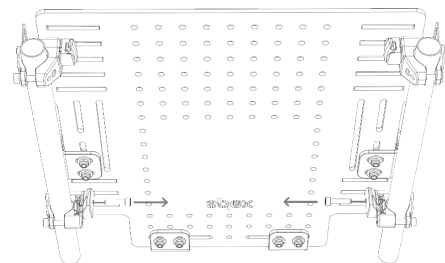


The following instructions only apply to Quick-Release hardware:

- 7.** Remove the two rear connector bolts.

Note:

These are for ease of setup and can also be re-assembled to restrict the base from being released.



- 8.** Before mounting cushions and accessories, check that the hardware functions correctly and that the base can be removed and mounted. For information on how to do this follow the instructions for use below.

Note:

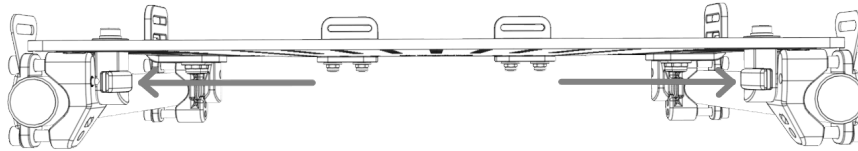
If the mechanisms are not releasing/ mounting smoothly, try the following steps:

- Check the mounts/ clamps are vertical
- Check base is positioned straight
- Check the rear mounts are in line
- Loosen the top base mounting fasteners (one at a time) with the catches engaged in the mounts and re-tighten to release tension and misalignment.

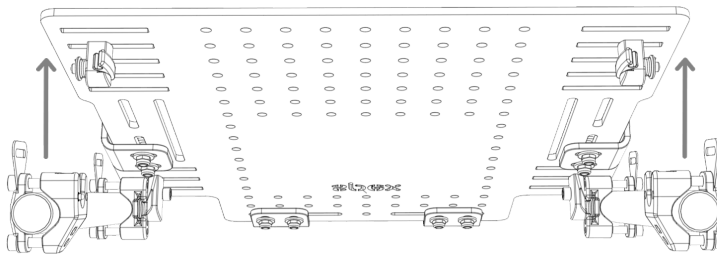
Instructions for Use

Removing the Base

1. Press the red levers engaging the plunger so they are held in the unlocked position.

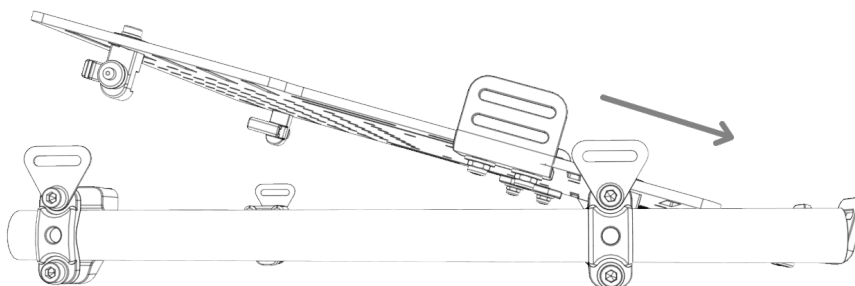


2. Lift the front of the base and remove.

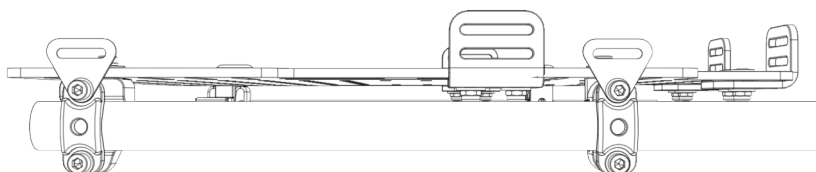


Mounting the Base

1. With the base centralised, rest the back corners of the base on the mounts.
2. Push the base back until both rear mounts are engaged (you may have to lower the angle closer to horizontal to engage).



3. Lower the front of the base until the mounts engage and the base is sitting flat.



4. Check that the base is locked by trying to lift the front of the base and that the levers have completely engaged.

Transit Safety

The Spex Seating System has been successfully crash tested and complies with RESNA WC-4:2012, Section 20 (WC20). The Spex Seating System meets the requirements of ISO 16840-4:2009 and is suitable for use as a motor vehicle seat when used with an appropriate wheelchair base. Please follow all installation, use and maintenance instructions within this manual as well as the following transit instructions. If feasible, the wheelchair user should transfer to the vehicle seat and use the vehicle-installed occupant restraint systems.

Spex Seating System has been designed to accommodate the proper use of vehicle-anchored belt restraints. Spex achieved a rating of Excellent (16 out of 16), for ease of properly positioning a belt restraint, and the degree to which proper belt restraint can be achieved, based on the methods of Annex D. The following items of the Spex Seating System have been tested and are suitable for use in a motor vehicle:

- Full Height Back Support Models
- Seat Base
- Cushion Models
- Arm and Thigh Supports
- Trunk Lateral Supports
- Head Supports

Note: Back supports that are lower than the user's shoulder height are not certified and not recommended for transport in a vehicle. Eg. Vigour Lo and Vigour Mid back supports.

Assembly, Use, Maintenance & Limitations

- Adjustments to the set-up of the wheelchair must only be carried out by a qualified therapist, professional, or seating technician. Custom contoured/bespoke systems may require a qualified professional to configure and install the seating system.
- After carrying out any adjustments ensure all bolts, screws and nuts are securely fastened again to ensure safety when travelling in a vehicle.
- Ensure the top and bottom mounts of the backrest and the front and rear mounts of the Seat Base are installed as far apart from each other as possible to give a stronger 4-point attachment to the wheelchair frame. Ensure the quick release latches are engaged.
- Do not use the Spex Seating System as a vehicle seat if seating components which have not been successfully crash tested are used anywhere on the seating system. Spex seating is designed and certified using only Spex components. Spex Seating is not liable in the event where other manufactured seating systems are used in conjunction with Spex seating.
- At regular intervals check that all the fastenings on the Spex Seating System have not become loose during day to day use and re-tighten if necessary.
- Ensure the swing-away laterals are in their locked position before using the seat as a vehicle seat in a motor vehicle.

Correct Positioning of Belt Restraints

When using the Spex Seating System as a vehicle seat, both a pelvic-belt restraint and shoulder-belt restraint must always be used. To correctly position the belt restraints on the wheelchair occupant, the following must be ensured:

- The pelvic-belt restraint should be worn low across the front of the pelvis near the junctions of the pelvis and thighs.
- The angle of the pelvic-belt restraint should be between 30° to 75° relative to the horizontal and, ideally, between 45° to 75° to the horizontal (as shown in Figure 2).
- The belt-restraint buckle of three-point belt restraints should be placed in contact with the occupant's body and away from wheelchair components.
- The junction of the shoulder-belt and pelvic-belt of three-point belt restraints should be located near the hip opposite the shoulder over which the diagonal belt crosses and not near the midline of the occupant.
- Belt restraints should not be routed outside of the wheelchair wheels or over the wheelchair armrests, and should not be held away from the body by wheelchair components or parts.
- Upper torso belt restraints should fit directly over, and in contact with, the middle of the shoulder.
- Belt restraints should be adjusted to fit as snugly as possible, consistent with user comfort.
- Belt restraints should not be worn twisted in a manner that reduces the area of contact of the belt webbing with the occupant.



Figure 1

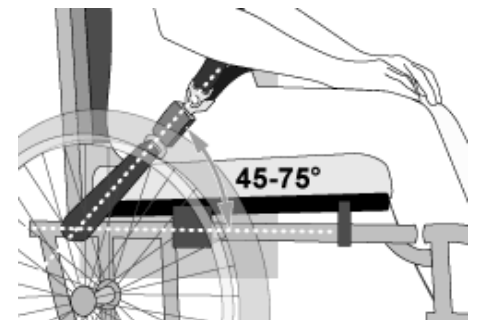


Figure 2



Figure 3a - Improper positioning of pelvic-belt restraints over wheelchair supports.

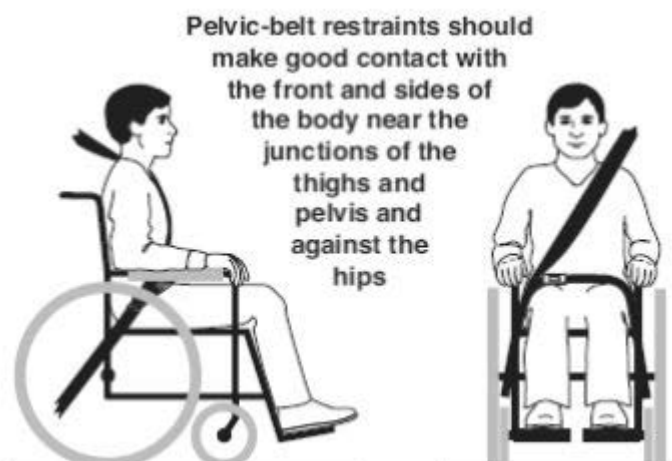


Figure 3b - Proper routing and positioning of belt restraints on the wheelchair occupant.

**WARNING**

- 1. The distance between the top of the user's shoulder and the top of the back should not exceed 6.5" (16.5 cm).**
- 2. The Spex Seating System must only be used with wheelchair bases that are tested as part of a wheelchair system that conforms to performance requirements of ISO 7176-19 and RESNA WC-4:2012, Section 19.**
- 3. The Spex Seating System should only be used on wheelchair frames that provide four securement points and pelvic-belt anchor points that conform to the requirements of RESNA WC-4: 2012, Section 19.**
- 4. The wheelchair must be labelled as appropriate for use as a seat in a motor vehicle, dynamically tested to the performance requirements of ISO 7176-19 and installed, used and maintained according to the manufacturer's instructions.**
- 5. The Spex Seating System must only be used as indicated in this user manual.**
- 6. Both pelvic and shoulder-belt restraints as a part of a complete Wheelchair Tie down and Occupant Restraint System (WTORS) which meets ISO 10542-1 shall be used to achieve effective occupant restraint and optimum protection in a vehicle impact; the belt restraints should be compatible with the specific wheelchair, and fitted to the user in accordance with WTORS manufacturer's instructions.**
- 7. Back supports with adjustable recline angles should not be tilted back more than 30° beyond the vertical during travel in vehicles unless necessary for the medical and postural needs of the occupant.**
- 8. If the back support must be adjusted to an angle that is greater than 30° beyond the vertical during travel, the upper shoulder-belt anchor point should be adjusted rearward to maintain belt**

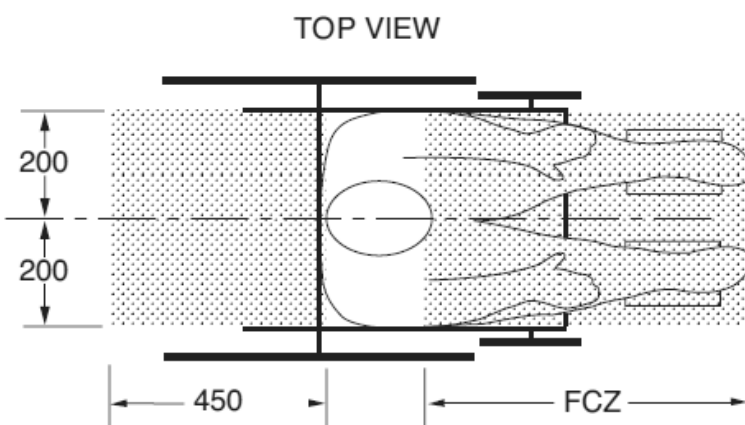
**WARNING**

8. cont... contact with the wheelchair occupant's shoulder and chest.
9. The Spex Seating System must only be used for forward-facing seating in motor vehicles.
10. In order to reduce the potential of injury to vehicle occupants, wheelchair-mounted rigid trays not specifically intended for use during travel in motor vehicles must be:
 - a. Removed and secured separately in the vehicle or
 - b. Secured to the wheelchair so they will not break free in a crash and
 - Be positioned with a gap of at least 3" (75 mm) between the back edge of the tray and the wheelchair occupant's abdomen and/or chest so as not to interfere with the proper belt-restraint use, and
 - Have energy absorbing padding placed between the back edge of the tray and the wheelchair occupant.
11. Alterations or substitutions must not be made to the seating system structure, parts or components, without first consulting Spex.
12. The use of a postural pelvic belt attached to the wheelchair base or seat frame is encouraged during travel, but these belts should be positioned so that they don't interfere with the proper positioning of crashworthy belt restraints, and they should not be relied on for occupant protection in crash situations unless the postural belt has been designed to comply with, and perform to the requirements of WC19.
13. Postural support devices that are not labelled as conforming to ISO 16840-4 may be used when in a vehicle, but should not be relied on for occupant restraint.

 **WARNING**

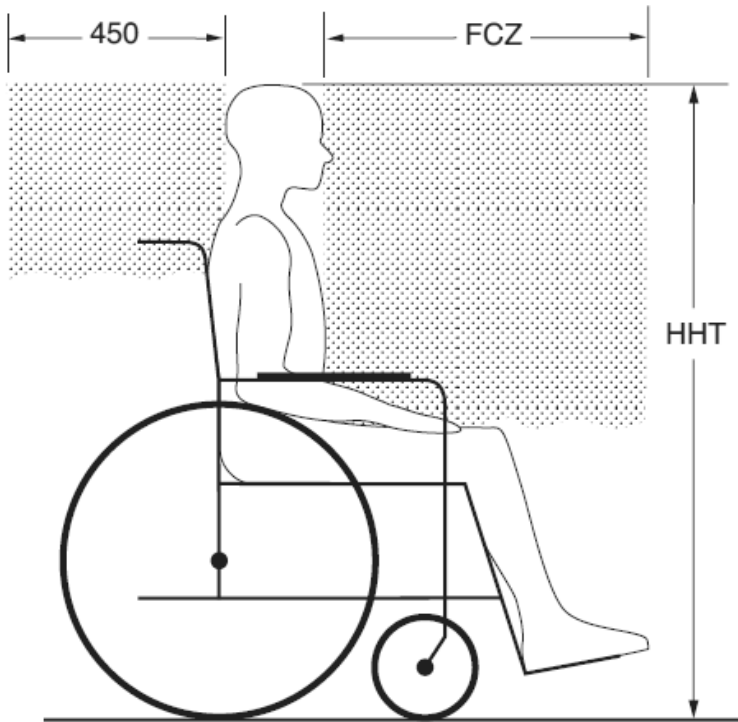
14. Both pelvic-belt and shoulder-belt restraints that comply with WC18 and/or WC19 should be used to limit occupant movement in a crash and reduce the likelihood of occupant ejection from the vehicle and/or injurious contact of the occupant with the vehicle interior.
15. Belt restraints should be positioned on the wheelchair occupant in accordance with WTORS manufacturer's instructions.
16. Backrest mounting hardware must be installed correctly. Refer to the appropriate section for correct backrest hardware mounting instructions.
17. If the wheelchair is being transported while occupied, the wheelchair must still be secured to the WTORS.
18. Children whose mass is less than 48.5 lbs. (22 kg) should be transferred from their seating system into appropriate child restraint systems intended for use in motor vehicles.
19. Sufficient forward and rearward clear space should be provided around the wheelchair occupant. Forward clear-space zone (FCZ) needs to be larger when a shoulder-belt restraint is not used.

FAILURE TO HEED THESE WARNINGS COULD CAUSE SEVERE INJURY TO THE WHEELCHAIR USER OR OTHERS.



NOTES: The rear clear zone is measured from the rearmost point on an occupant's head. The front clear zone is measured from the frontmost point on an occupant's head.

Seated head height (HHT) ranges from about 47" (1200 mm) for a small adult female to about 61" (1550 mm) for a tall adult male.



SIDE VIEW

FCZ = 25.5" (650 mm) with upper torso restraint
 = 37" (950 mm) with only pelvic restraint

NOTE: It is strongly recommended that both pelvic and upper torso belts be used.

Recommended forward and rearward clear zones for wheelchair seated occupants. (Note: the FCZ may not be achievable for wheelchair seated drivers).

Warranty

Each Spex Seat Base is carefully inspected to provide peak performance and is guaranteed to be free from defects in materials and workmanship for a period of 12 months from the date of purchase, provided normal use. Should a defect in materials or workmanship occur within 12 months from the original date of purchase, Spex Seating will, at its option, repair or replace it without charge. This warranty does not apply to general wear and use.

Claims and repairs should be processed through the nearest authorized Spex supplier. Except for express warranties made herein, all other warranties, including implied warranties of merchantability and warranties of fitness for a particular purpose are excluded. There are not warranties which extend beyond the description on the face hereof. Remedies for breach of express warranties herein are limited to repair or replacement of the goods. In no event shall damages for breach of any warranty include any consequential damages or exceed the cost of non-conforming goods sold.

The serial number of your Seat Base can be located under the base panel in the centre.

Technical Data

| | Wheelchair Compatibility | | Code | Seat Base Weight (16x18" / 40x45 cm) |
|----------------------|--------------------------|------------|---------------|---|
| | 10"-20" | 21"+ | | |
| Fixed Mount | -0" to +2" | +0" to +1" | 1008-WWLL-FXB | 2.3 kg (5.1 lb) |
| Quick-Release | -1" to +2" | -1" to +1" | 1008-WWLL-QRB | 2.4 kg (5.3 lb) |

| | 10"-15" | 16"-20" |
|------------------------|----------------|-----------------|
| Weight Capacity | 90 kg (200 lb) | 180 kg (400 lb) |

Hardware Material

Aluminium

Stainless Steel



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New Zealand



spex

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