

# spex

## Wheelchair Back Support *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 Back Support is used in a vehicle.

User Name / Nom de l'utilisateur:

Serial Number / Numéro de série

# Contents

Introduction	2
Weight Capacity	3
Compatibility	3
Safety Instructions	3
Back Support Contents	5
Installing Quad Mount Hardware	6
Installing Single/Dual Mount Hardware	8
Maintenance & Cleaning	10
Disposal & Recycling	11
Environment	11
Removing, reconnecting the Back Support	11
Re-issuing the Back Support to Another User	12
Contouring the Back Support Surface	13
Spex Risk Assessment	14
6 Month Checklist	15
Product Log Form	16
Transit Safety – Assembly, Use, Maintenance & Limitations	17
Transit Safety – Correct Positioning of Belt Restraints	18
Warranty	22

## Introduction

The Spex range of Back Supports are designed to accomplish comfort and function for the wheelchair user who requires specific Back Support. The intended user of the Back Support is a user with postural support requirements. The Back Support can be adjusted in many ways to meet positioning and postural needs including the unique contouring system that enables the surface of the Back Support to change to suit the anatomy of the user.

Medifab recommends that a clinician such as an Occupational or Physiotherapist who is skilled in wheelchair seating and positioning be consulted to determine if the Back Support is appropriate for the user.

All changes made to the Back Support should be noted in the Product Log Form on page 16 of this user manual. The 6 Month Checklist, found in this user manual (page 15), is required to be completed to ensure the backrest is maintained in a safe and functional condition.

## Weight Capacity

Back Support Size	10"-15" (25.4-38 cm)	16"-20" (41-51 cm)	21"+ (53 cm+)
Maximum Occupant Weight	<b>200 lbs. (90 kg)</b>	<b>300 lbs. (136 kg)</b>	Must use Heavy-Duty brackets <b>400 lbs. (180 kg)</b>
Maximum Occupant Weight with Heavy-Duty brackets	<b>300 lbs. (136 kg)</b>	<b>400 lbs. (180 kg)</b>	

## Compatibility

- The Spex Back Supports have been designed to be compatible with most manual and powered wheelchairs.
- Medifab recommends that the Spex Back Supports can be used with most wheelchairs that have vertical Back Support canes (handle bars) that have circular-shaped tubes between 0.75" (19 mm) and 1" (26 mm) in diameter.
- Wheelchairs that the Spex Back Supports can't be installed on include chairs that do not have Back Support canes, and some anti-shear/powered recline back designs.

## Safety Instructions

To avoid injury, read, understand and follow all instructions and warnings in this manual before installing and using the Spex Back Support. There are hazards associated with the use of wheelchairs and adaptive equipment. If you misuse your wheelchair or your Back Support you can be seriously injured. If your Back Support ceases to function as intended, please consult your authorized Spex Seating supplier immediately before continuing to use.

Spex Back Support meets the requirements of ISO 7176-16; wheelchairs - resistance to ignition of postural support devices. The cover and foam meet the flammability requirements of California Technical Bulletin 117. In rare cases the fabrics used in this product may cause a skin irritation for people with sensitive skin. If you experience any reddening or itching of the skin consult with your health care professional.

***Disclaimer: Medifab 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.***



## WARNING

### **RISK OF ACCIDENT, INJURY, PAIN OR DEATH IF WARNINGS ARE NOT HEEDED**

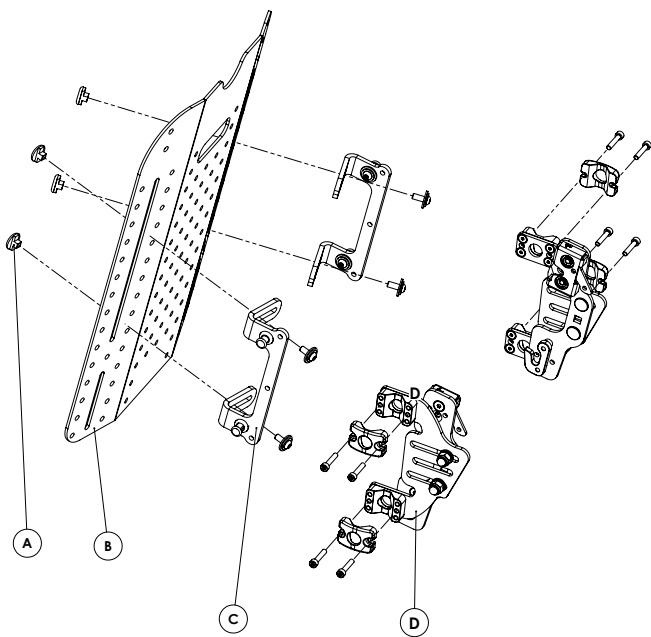
*Seek assistance if you are uncertain about any of the following points*

- 1. When installing a Back Support on to a wheelchair this may affect the centre of gravity and may cause the wheelchair to tip backwards potentially resulting in injury or death. Always assess for the potential need for anti-tippers to be added to the wheelchair to help increase stability.**
- 2. Installation and adjustment of your Spex Back Support should be performed only by an authorized dealer, qualified therapist or seating technician.**
- 3. Failure to use the appropriate equipment for restraint in a vehicle can result in serious injury or death.**
- 4. The Back Support is shipped out with the brackets attached loosely. It is the installer's responsibility to ensure all hardware is tightened and the Back Support is locked firmly in place and the quick release latches engaged correctly before the wheelchair is used.**
- 5. Always ensure that the quick release latches are engaged correctly at all times. If the quick release latches are not engaged, the Back Support may detach and cause injury.**
- 6. Only use genuine Spex installation mounting hardware (as supplied) when installing the Back Support to the wheelchair. If the wheelchair design is such that the Back Support attachment hardware cannot be fitted, phone your dealer for further installation options.**
- 7. Do not use the Back Support to push or lift the wheelchair. Improper use may cause the back to detach from the wheelchair resulting in damage.**
- 8. Only use genuine Spex accessories, components and attachments to this Back Support.**
- 9. Do not attach the Back Support to the wheelchair with the user still sitting in the wheelchair.**
- 10. Never use your Back Support if any hardware is missing, malfunctioning, or broken. Seek qualified assistance with any repairs, replacements or adjustments.**
- 11. The Spex Back Support range has been specifically designed as a rigid Back Support for users in mobility wheelchairs. Do not use the Back Support in any way not described and never modify the Back Support.**
- 12. Never use the Back Support without its cover. Care should be exercised near open flame or burning cigarettes. Using the Back Support without its cover increases the risk of flammability and skin damage.**
- 13. Never exceed the weight capacity of your Back Support or the wheelchair as specified by the wheelchair manufacturer.**
- 14. Never perform exercise weight training that causes the user to exceed the weight capacity of the wheelchair.**
- 15. 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.**
- 16. Be aware of the pinch points. Ensure all body parts are kept clear during these movements and adjustments.**

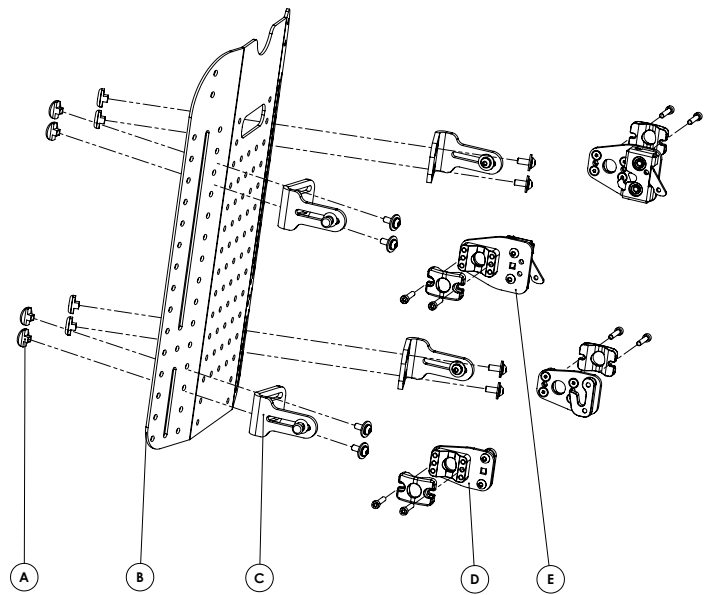
# Back Support Contents

Your Back Support contains the following, in addition to the Back Support foam, inner cover, outer cover and foam positioning kit.

## Single/Dual Mount Hardware



## Quad Mount Hardware



	Description	Quantity
A	Height Adjust Fastener Sets	4
B	Back Support Shell	1
C	2 pt Mounting Bracket	2
D	Dual Point Hardware	2

	Description	Quantity
A	Height Adjust Fastener Sets	4
B	Back Support Shell	1
C	4 pt Mounting Bracket	4
D	Quad Mount Lower	2
E	Quad Mount Upper	2

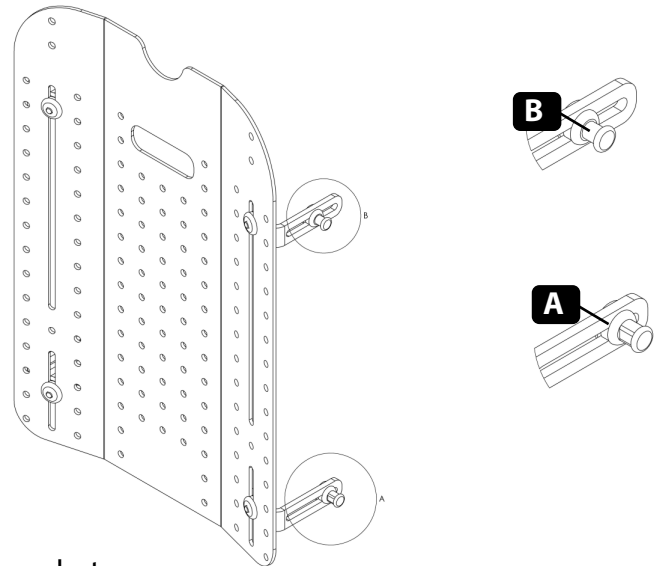
# Installing Quad Mount

Tools required: 4mm, 5mm Hex (Allen) Key

Note: The upper and lower pins that connect the Back Support to the wheelchair canes have distinct differences. These must always be set in the right method:

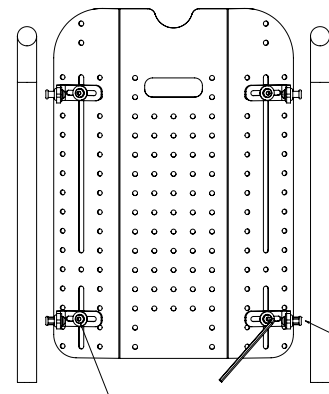
- A. Lower pin (with flat edges on shank)
- B. Upper pin (with round shank)

If a custom sized Back Support has been ordered, it may not have the slots present. If so, mount the hardware in the second row of holes from the outer edge.



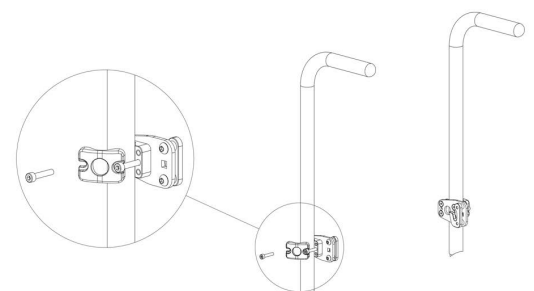
1. The Back Support shell should be able to freely move between the wheelchair canes, with approximately 0.5" (12mm) of clearance between the cane and pins on each side. The final adjustments should be made later during the set-up.

2. Apply enough tension to the fasteners to prevent the brackets from moving freely during the set-up, and use a coarse adjustment to achieve the intended desired height of the Back Support.



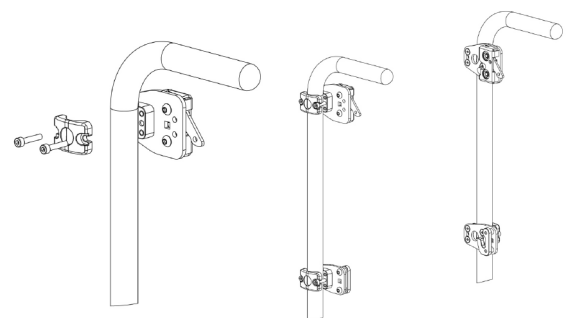
3. To mount the hardware, partially insert one fastener, slide the clamping plate under the fastener head, and then secure with the remaining fastener.

4. Tighten both fasteners until the hardware remains in place.



5. Level both left and right lower hook hardware components.

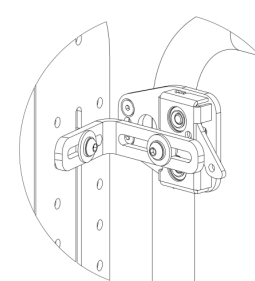
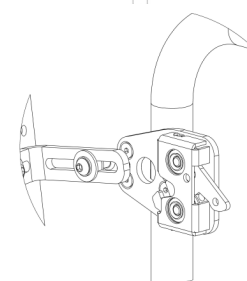
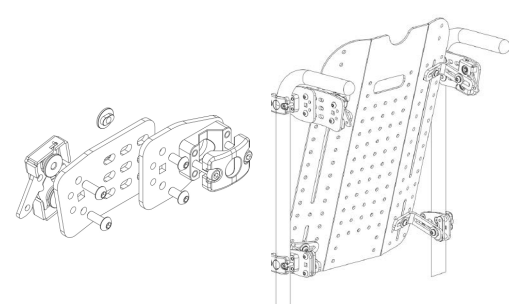
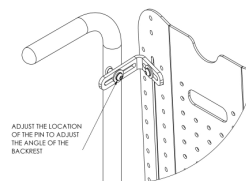
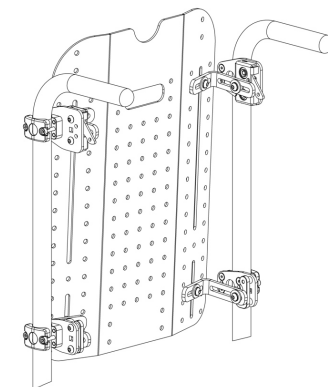
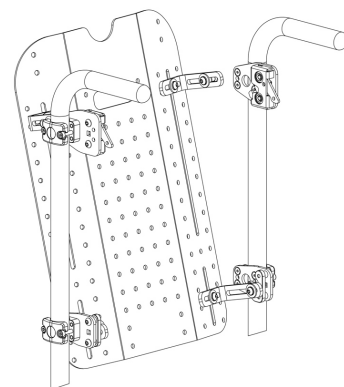
6. Lightly attach all clamps to the wheelchair frame so they can be raised or lowered but not so loosely they fall to the bottom of the wheelchair frame. Quick-release lever must be pointing downwards.



- 7.** Place the lower locating pins in the bottom hooks, and position the Back Support in the upright position.
- 8.** Loosen the upper Back Support bracket enough to be able to slide it up or down, to locate the locking pin inside the quick release catch.
- 9.** Ensure the catches have engaged on the top connection pins.
- 10.** Ensure the Back Support is aligned squarely, with even space either side of the Back Support and canes.
- 11.** Tighten the cane mount fasteners. Medifab recommends 5 Nm of torque.
- 12.** Adjust the location of the pins to adjust the angle and seat depth of the Back Support, and tighten once in correct position. Medifab recommends 5 Nm of torque.
- 13.** If further angle alignment is required, use the extension bracket #1259-2450-100.

The quick release mechanism should be removed from the clamping bracket, and reattached to the extension bracket. The bracket can then be reattached using the M6 x 12 fasteners and Slim T-Nuts included with the extension bracket.

- 14.** To release the Back Support, first hold the top of the Back Support, then lift the locking levers to disengage the latch mechanism. Lift the Back Support away from the wheelchair.



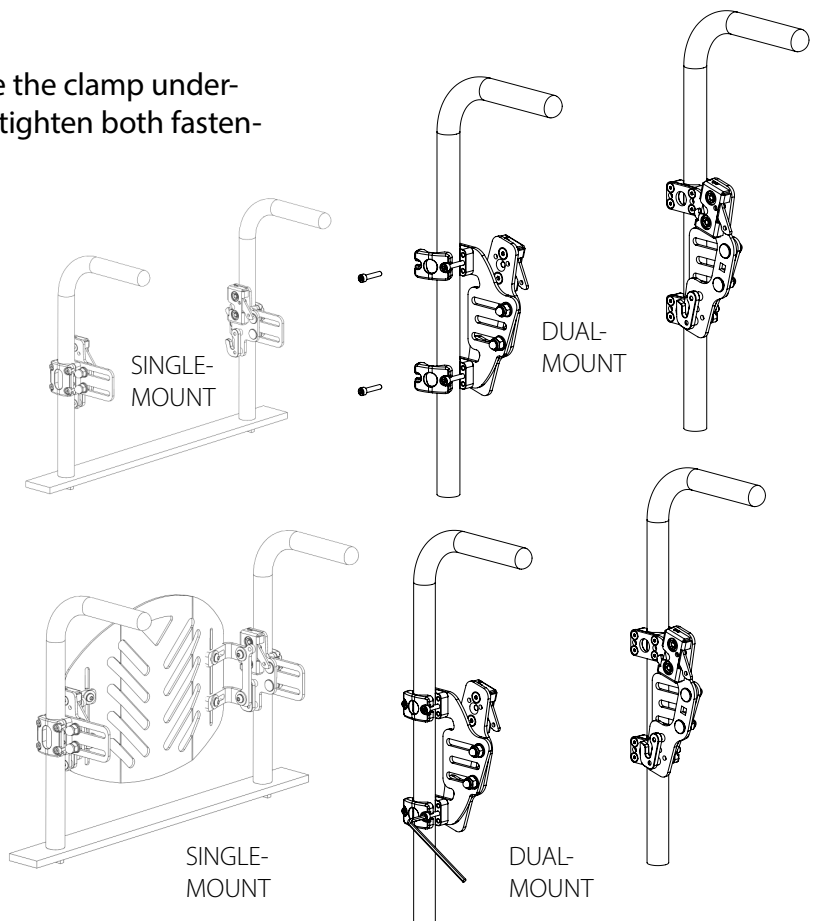
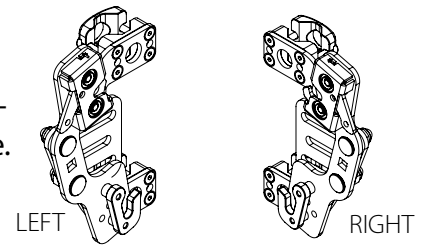
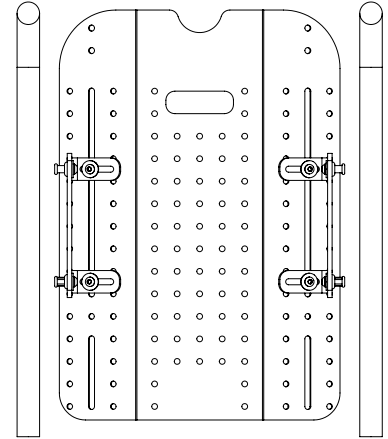
**⚠ WARNING**

**Before use, always check that the quick release latches are properly engaged.**

# Installing Single/Dual Mount

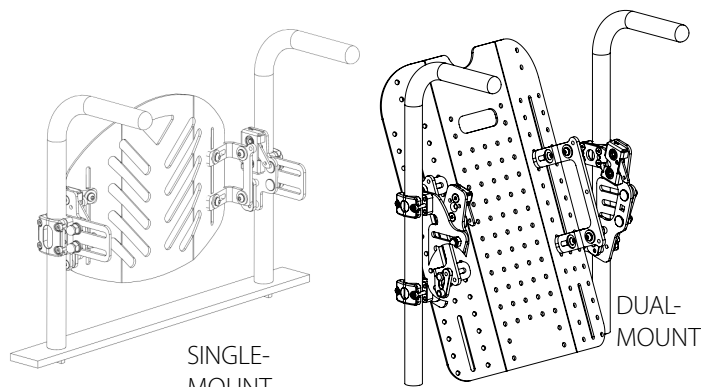
Tools required: 4mm, 5mm Hex (Allen) Key, 13mm spanner/wrench.

1. Adjust the Back Support mounting brackets to allow the Back Support to move freely between the wheelchair canes. Approximately 5/8" (**16mm**) of clearance between the cane and pin is required.
2. Apply enough tension to the fasteners to prevent the brackets from moving freely during the set-up.
3. Note the differences between the left and right hardware configurations. Ensure the hardware is installed to the correct side.
4. Attach the brackets to the canes, using the clamps and fasteners.
5. Partially insert the rear fastener, slide the clamp underneath fastener head, and insert and tighten both fasteners to secure the bracket in place.
6. Ensure that both the left and right hardware components are level.
7. Tighten both fasteners. Medifab recommends **5Nm (4 ft-lb)** of torque.

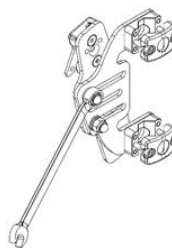




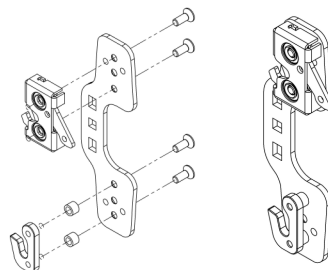
- 8.** Insert Back Support into the hooks. Level the clamps so the Back Support sits squarely between the canes.
- 9.** Backrest should clip in securely into both quick release catches.
- 10.** The angle of the Back Support can be adjusted by loosening the two Stainless M8 Dome Nuts on each mount.



- 11.** To adjust the angle, use a 13 mm wrench to loosen the M8 nuts enough until the bracket is free to move. Retighten once the Back Support is at the correct angle.

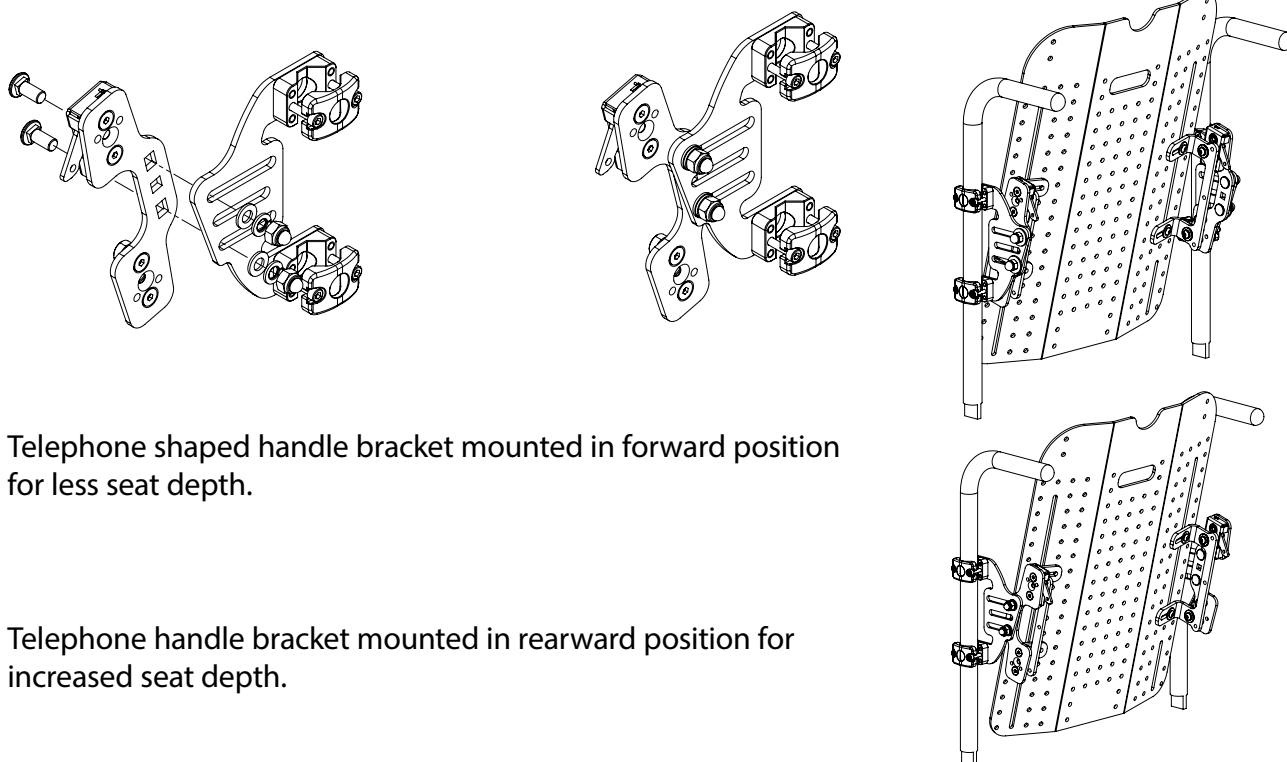


- 12.** To increase the seat depth of the seating system the telephone shaped bracket can be rotated about as shown.



- 13.** The quick release mechanism and hook will be required to swap positions on the bracket as shown.

RIGHT HAND ASSEMBLY SHOWN.



Telephone shaped handle bracket mounted in forward position for less seat depth.

Telephone handle bracket mounted in rearward position for increased seat depth.

# Maintenance & Cleaning

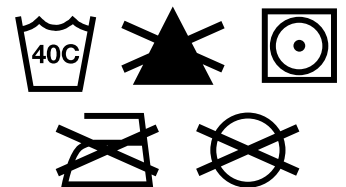
Medifab recommends that all fasteners be checked for wear, such as loose bolts or broken components every 6 months. Loose fasteners should be retightened according to the installation instructions. Contact your authorized Spex Seating supplier immediately to replace any broken components. Do not continue to use the system after identifying loose or broken components. For any questions regarding cleaning procedures, contact your authorized Spex Seating dealer. The expected lifetime of the Back Support is 5 years.

Medifab recommends using AHP (Accelerated Hydrogen Peroxide) disinfectant wipes. The disinfection product must be used as per the manufacturer instructions. Medifab takes no responsibility for the effectiveness of the disinfecting process.

## Cleaning the Spex/Vigour Backrest upholstery cover

Remove cover by carefully pulling from the Velcro on the back shell. Locate zipper on the cover and unzip. Remove the inner foam section and turn cover inside out. Zip cover closed to avoid snagging. Machine wash in warm water 40° C / 104° F. Drip or tumble dry on low heat. Do not iron, bleach or dry clean. If chemical cleaners are used, covers must be rinsed thoroughly with water to remove all chemical residue and left to dry completely before reuse.

Reinsert foam section into the cover. Please note, for the Spex Backrest, the contouring inner foam section has to go back in the correct way. Ensure the flat surface is facing towards the user, and the cube section is facing the shell. Once the foam is secured inside the cover, zip cover closed.



## Cleaning the rigid shell

Shell may be wiped clean with mild detergent and water. Rinse with clean water. Dry thoroughly after rinsing.

## Cleaning positioning components

Positioning components can be wiped clean with mild detergent and water. Medifab recommends using AHP (Accelerated Hydrogen Peroxide) disinfectant wipes. Wipe away any chemical residue with clean water and dry thoroughly after wiping.

Do not immerse positioning components in water.

## Inner foam

The Back Support inner foam is not designed to get wet in any way, as this will greatly reduce its life. If soiled, Medifab recommends replacing the inner foam. If foam accidentally becomes wet, dry thoroughly before replacing inside the cover.

Medifab recommends the purchase and use of an incontinence cover (which protects the inner foam and can be washed and sanitized).

## Disposal & Recycling

Your Spex Seating System is manufactured using a variety of materials, most of which 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.

## Environment

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

**Temperature:** Your Back Support may not function as intended when used at extreme temperatures. Keep the Back Support 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 Back Support to ensure no build-up occurs around openings and moving parts.

## Removing the Back Support

Following installation and adjustment, the back can be easily removed from the wheelchair when necessary. To remove, pull quick release latch upwards to unlock.

Once both latches are released, tilt forward and pull upwards.

## Reconnecting the Back Support

### Proper re-attachment after removal

To re-attach the Back Support to the hardware receivers, line up the lower pins into the hook mounts and push down into place. Once properly inserted, lock the pins into place.



### WARNING

**Ensure that the quick release latches are securely locked into position. To double-check, try the Back Support to ensure it is locked.**

# Re-issuing to another user

The Spex Back Support has been designed to accommodate postural asymmetries and adapt to different morphologies. Once the user has finished using the Spex Back Support, it must be refurbished and thoroughly cleaned if it is issued to another user. Below are the strict guidelines for refurbishing the Spex Back Support.

Medifab recommends using AHP (Accelerated Hydrogen Peroxide) disinfectant wipes. The disinfection product must be used as per the manufacturer instructions. Medifab takes no responsibility for the effectiveness of the disinfecting process.

Medifab takes no responsibility for contamination, cross infection, or damage.

Part	Procedure
<b>Safety check</b>	All components to be checked for signs of stress or cracking.
<b>Upholstery covers</b>	Upholstery outer covers must be replaced regardless of condition.
<b>Backrest shell</b>	Check for signs of stress or cracking. If any stress/cracks are found the Back Support is to be retired from use and must be disposed of. Clean the shell with a mild detergent and quality disinfectant such as the AHP (Accelerated Hydrogen Peroxide) disinfectant wipes, ensuring all areas are free from grime.
<b>Hardware and components</b>	Ensure the quick release latches and L-bracket 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 retired from use and replaced immediately.
<b>Inner contouring section</b>	Ensure each contouring pocket has the correct layers of foam pads.
<b>Foam section</b>	Foam may need replacing.

# Contouring the Back Support Surface (Spex and SuperShape Backs Only)

The Spex Back Support has been designed to accommodate postural asymmetries and adapt to different morphologies. This guide shows how the inner section of the Spex Back Support can be changed. Postural needs can change over time, that's why the Spex system can be changed on-the-spot. Once the user has finished using the Spex Back Support, it can be refurbished and issued to another user. See re-issuing to another User section in this user manual (page 12).

Each cube compartment contains 2 cubes. These may be removed or added to as required. Each compartment can have up to 5 layers of cubes. Keep any unused cubes as these can be used at a later date if the client's needs change or if the Back Support is re-issued for use with another client. The cubes must always face the rear of the Back Support. This allows for the full molding & pressure-relieving properties of the Back Support to be effective.

## Back/spinal protrusions

Undo the zipper on the Back Support to release the inner contouring inner section. Remove this from the cover. You can now remove layers of contouring cubes from where back protrusions need to recess into the Back Support. There is sufficient padding behind the user if all of the compartment's cubes are removed to accommodate a prominence.

## Back/spinal indentations

Undo the zipper on the Back Support to release the inner contouring inner section. Remove this from the cover. You can now add layers of contouring cubes where back indentations need more contouring support.

## How to make changes with the user sitting in the wheelchair

Two people are required for this adjustment. Before doing this adjustment, retrieve a soft head pillow or similar padded objects.



### WARNING

**Ensure the user has the hip belt fastened.**

Lean the user forward to remove the inner contouring section of the Back Support (the cover will remain secured to the Back Support shell) and replace with pillow.

Lean the user back.



### WARNING

**The second person must remain with the wheelchair user to support them and keep them safe from falling.**

Now the contouring section can be changed to suit the user's posture. Once finished, remove the pillow and re-insert the inner contouring section.



# Spex Risk Assessment

Medifab is the manufacturer of Spex wheelchair seating which installs to most wheelchair bases/chassis. Medifab is not responsible in any way or form for the choice of wheelchair base or chassis that is selected for the user and to which Spex Seating is installed.

Normal manufacturer's guidelines must be followed and adhered to. Failure to follow these measures can put the user or caregiver at risk of harm, injury or even death. Wheelchair users who may be unaware of their body position, unable to maintain a safe body position and/or who are non-verbal have the highest risk of injury and caregivers should be more cautious with these users. A second caregiver should be responsible to ensure the safety of these users.

Wheelchair users experience many situations that affect wheelchair stability, tipping and associated performance. Examples of such situations include ramps, slopes, steps, curbs, soft ground, accessories such as an oxygen cylinder, seating systems and wheelchair modifications. Such situations, coupled with user characteristics (body shape and size) and abilities can often lead to accidents and poor product performance. Medifab is not responsible for any operation of the wheelchair base/chassis whether through intended or inappropriate use and/or any injury or harm caused to the user by the wheelchair.

The improper use of the wheelchair chassis and Spex Seating can be dangerous to the user or caregiver through:

- Inappropriate operation of the wheelchair chassis and seating functions.
- Inappropriate movement of the wheelchair.
- Inappropriate use of the wheelchair by a patient who has not been assessed by a certified therapist/clinician responsible for their seating.
- Leaving the user unattended in the wheelchair near other potentially unsafe objects or in harm's way.
- Leaving a potentially agitated user in an unsupervised area.
- Leaving a patient in a wheelchair on a sloping surface.
- Leaving a wheelchair unattended on a sloping surface.
- Transferring a patient in or out of the wheelchair without setting wheel locks.
- Using non-Spex accessories on the Spex wheelchair seating.
- Using the Spex Seating at temperatures below 0° Celsius (32° Fahrenheit)

# 6 Month Checklist

The 6 month checklist is a compulsory check to ensure that your Back Support is maintained in a safe and functional condition. The examiner must check each item on the checklist and place the date and their initials in the appropriate column for that check. Failure to perform these checks may void warranty.



<b>Checklist</b>		<b>Date:</b> ✓ or ✗	<b>Date:</b> ✓ or ✗	<b>Date:</b> ✓ or ✗	<b>Date:</b> ✓ or ✗	<b>Date:</b> ✓ or ✗	<b>Date:</b> ✓ or ✗
<i>Health &amp; Safety</i>	No concerns with the overall safety of the user? If ✗, contact your therapist or Spex distributor immediately.						
	No accidents occurred or harm caused?						
	No abnormal stress caused to the seating?						
	User is wearing an appropriate lap belt and harness?						
	No bags or appendages present on the seating which may cause stability issues?						
	User is under the maximum weight capacity?						
<i>Hardware</i>	Are the mounting clamps secured properly to the wheelchair canes?						
	Are the quick release latches properly engaging?						
	Are the nuts on the L-brackets and pins secured?						
	Can the Back Support be removed & installed properly?						
<i>Hygiene</i>	Are all hardware and fasteners tight?						
	Are all components clean?						
	Are the covers clean and washed?						
<i>User Posture</i>	Is the cushion maintaining correct support and control for the user's pelvis?						
	Is the cushion adjusted correctly and not modified adversely?						
	Is the cushion installed the right way on the wheelchair?						
	Does the Back Support maintain correct support and control?						
	Is the Back Support adjusted correctly and not modified adversely?						
<i>Transit (if applicable)</i>	Are the laterals adjusted correctly?						
	Is the headrest adjusted correctly?						
	Is a certified Wheelchair Tie-down & Occupant Restraint System being correctly used?						
	Is set-up as per the Transit Safety section and Warnings in this user manual?						
	Is the primary caregiver knowledgeable about the above points?						





# 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
- Grid-Base Seat Pan
- 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 pan 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. Medifab 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.

# Transit Safety

## 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

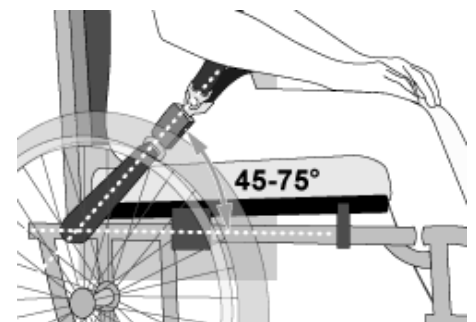


Figure 2



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

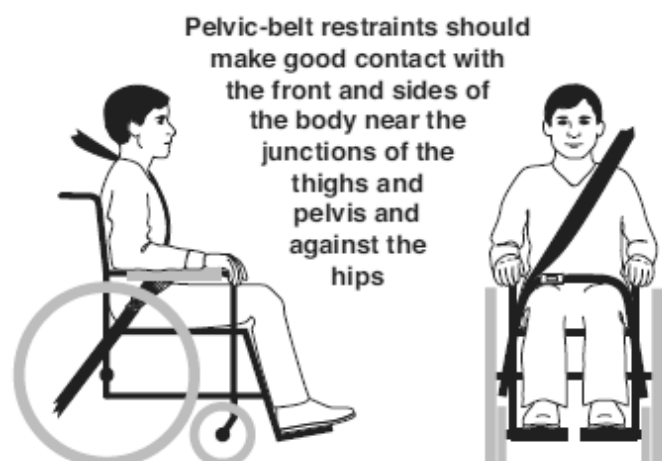


Figure 3b - Proper routing and positioning of belt restraints on the wheelchair occupant.

**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**

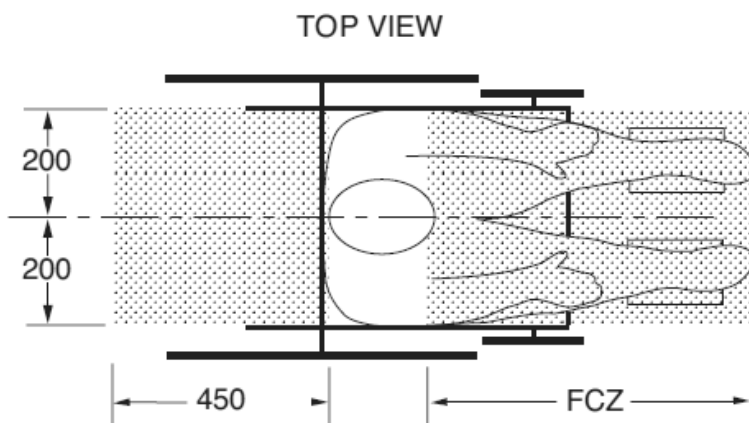
**WARNING**

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 Medifab.
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.

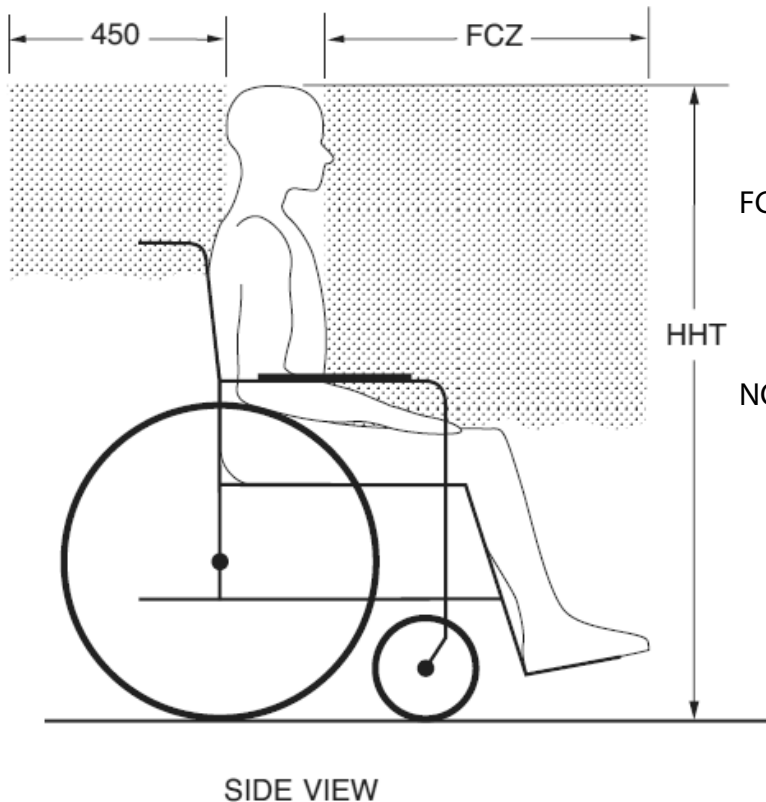
**FAILURE TO HEED THESE WARNINGS COULD CAUSE SEVERE INJURY TO THE WHEELCHAIR USER OR OTHERS.**



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.

 **WARNING**



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 Back Support is carefully inspected to provide peak performance and is guaranteed to be free from defects in materials and workmanship for a period of 24 months from the date of purchase, provided normal use. Should a defect in materials or workmanship occur within 24 months from the original date of purchase, Medifab will, at its option, repair or replace it without charge. This warranty applies to the Back Support components including the Back Support foam, inner cover, outer cover, foam positioning unit and hardware. This warranty does not apply to general wear and use, including punctures, tears or burns or customer abuse of any of the Back Support components.

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 no 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.

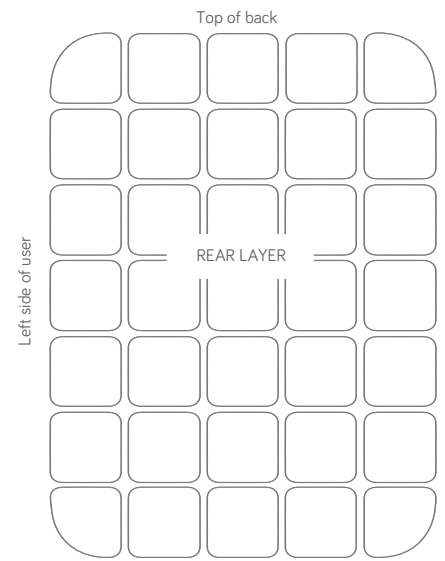
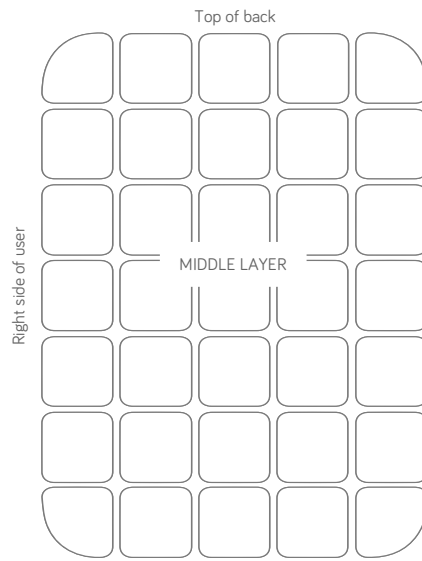
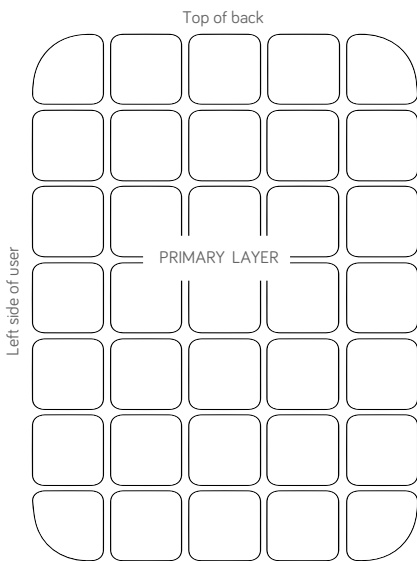
The serial number of your Back Support can be located at the base of the Back Support cover.

# Back Support Contouring Charts

Record the amount of contouring cubes used. Fill out this form and enter the number of cubes used in each pocket and save for future reference.

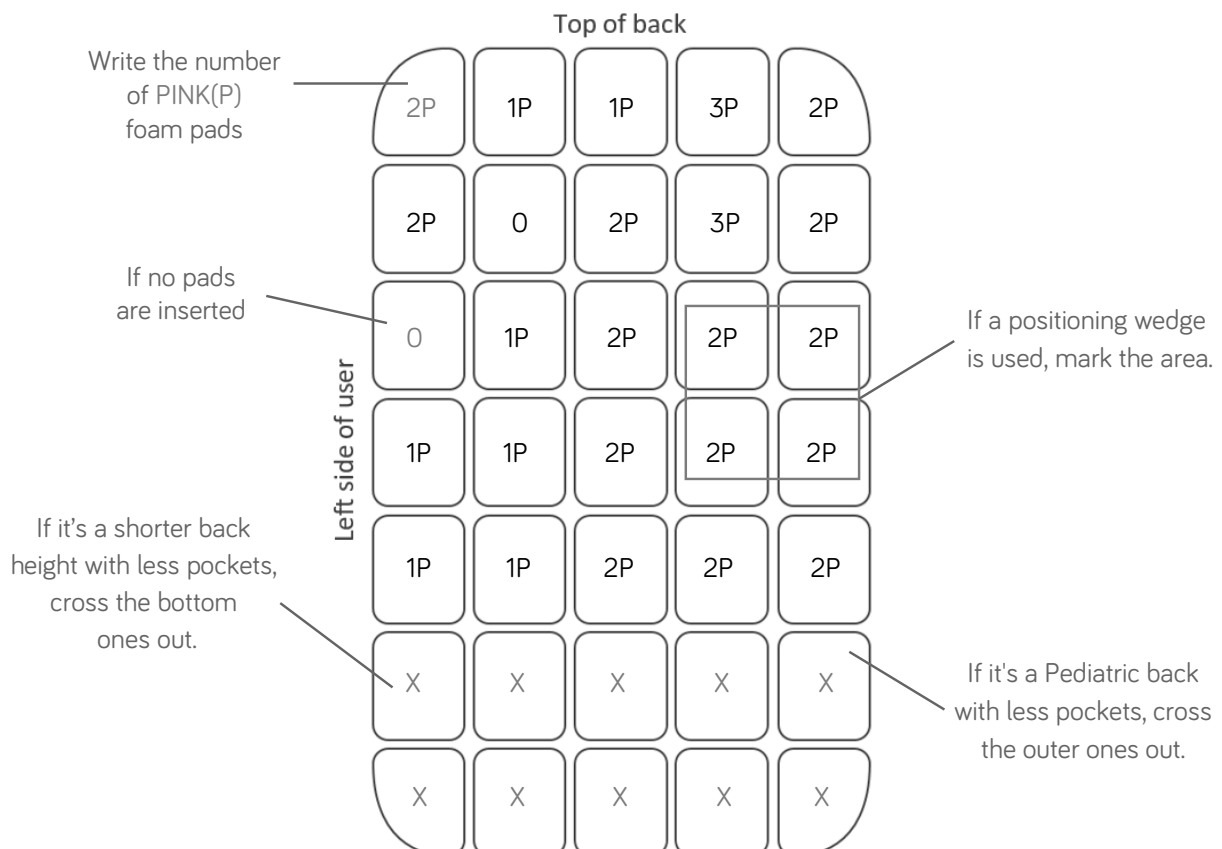
Use all charts below if recording contouring cubes used for the Spex SuperShape Back Support.

Use only the left hand chart if recording contouring cubes used for the Spex Back Support.



## EXAMPLE

Example of how to use the back support contouring positioning chart:





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