Stealth Products®

ADI

Backs & Support

Quick Release Mounting Hardware

User Manual and Maintenance Guide
ADI's Quick Release Mounting Hardware

ADI

Table of Contents

Customer Satisfaction i

General i

General Information ..... ii-iii

Warranty ii

Supplier Reference ii

Warning Labels iii

Limited Liability iii

Design and Function 1-5

Intended Use 1

Features 1

Mounting 1

Quick Release Hardware Package 2

Quick Release Replacement Parts 2

Angle Adjustment 3

Width Adjustment 3

Depth Adjustment 4

Cane Compatibility 5

Installation Instructions 6-18

Tools Required 6

Torque Specification 6

Installation Plan 6

Installation Overview 6

Quick Release Mounting Hardware Package 7

Installing Stud Plate and U-Block (BR5001 Package) 8

Fasten Quick Release Latch Assembly to U-Block 9

Clamp Assembly to Wheelchair Back Post 10-11

Height Adjustment AL/AFT Series 12

Width Adjustment 13-14

Angle Adjustment 15

Depth Adjustment 16

Back Installation Onto Clamps 17-18

WC20 Transit Information 19-24

WC20 Quick Release Hardware 19

General Guidelines 20

Before Transit 20

Belt Placement 21-22

Trays 23

User Safety 23-24

WC20 Installation 25-26

WC20 Hardware Installation 25

WC20 Label 25

Removing the WC20 Pin 26

First-Time Use 27

Dealer Assistance 27

User Testing 27

Conditions of Use 27

Cleaning and Maintenance 28

Cleaning 28

Maintenance 28

Notes 29-30

Stealth Products is committed to 100% customer satisfaction. Your complete satisfaction is important to us. Please contact us with feedback or suggestions to help us improve the quality and usability of our products.

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General

Read and understand all instructions prior to the use of the product. Failure to adhere to instructions and warnings in this document may result in property damage, injury, or death. Product misuse or failure to follow instructions will void the warranty.

Immediately discontinue use if any function is compromised, if parts are missing or loose, or if any component shows signs of excessive wear. Consult with your supplier for repair, adjustment, or replacement.

All persons responsible for fitting, adjustment, and daily use of the devices discussed in the these instructions must be familiar with and understand all safety aspects of the devices mentioned. In order for our products to be used successfully, you must read and understand all instructions and warnings, and maintain our products according to our instructions on care and maintenance.

The installation instructions will guide you through this product's options and possibilities.

Instructions are written with the expressed intent of use with standard configurations. They also contain important safety and maintenance information, as well as describe possible problems that can arise during use. For further assistance, or more advanced applications, please contact your supplier or **Stealth Products** at (512) 715-9995 or toll free at (800) 965-9229.

Always keep the operating instructions in a safe place so they may be referenced as necessary.

All information, pictures, illustrations, and specifications are based on the product information that was available at the time of printing. Pictures and illustrations shown in these instructions are representative examples and are not intended to be exact depictions of the various parts of the product.

⚠ CAUTION

These products are designed to be fitted, applied, and installed exclusively by a healthcare professional trained for these purposes. The fitting, application, and installation by a non-qualified individual could result in serious injury.

Warranty

Our products are designed, manufactured, and produced to the highest of standards. If any defect in material or workmanship is found, **Stealth Products** will repair or replace the product at our discretion. Any implied warranty, including the implied warranties of merchantability and fitness for a particular purpose, shall not extend beyond the duration of this warranty. **Stealth Products** does not warrant damage due to, but not limited to: misuse, abuse, or misapplication of product, and/or modification of product without written approval from **Stealth Products, LLC.** Any alteration or lack of serial number, where applicable, will automatically void all warranty.
Stealth Products, LLC Is liable for replacement parts only. **Stealth Products, LLC** is not liable for any incurred labor costs.
Stealth Products warrants against failure due to defective materials or workmanship:

Covers: 2 years
Hardware: 5 years
Electronics: 3 years

In the event of a product failure covered by our warranty, please follow the procedures outlined below:
Call **Stealth Products** at (512) 715-9995 or toll free at (800) 965-9229.
Request a Return Authorization (RA) form from the Returns Department and follow the documentation instructions.

You can download additional copies of this manual by accessing the Stealth website (*https://stlpro.site/stealth-docs*) and searching *"P116D435"* in the search bar at the top of the page.

Supplier Reference

Supplier:	
Telephone:	
Address:	
Purchase Date:	
Model:	

Warning Labels

Warnings are included for the safety of the user, client, operator, and property. Please read and understand what the signal words **DANGER**, **WARNING**, **CAUTION**, **NOTICE**, and **SAFETY** mean, and how they could affect the user, those around the user, and property.

DANGER	Identifies an **imminent** situation which, if not avoided, may result in **severe injury**, **death**, and **property damage**.
WARNING	Identifies a **potential** situation which, if not avoided, may result in **severe injury**, **death**, and **property damage**.
CAUTION	Identifies a **potential** situation which, if not avoided, may result in **minor to moderate injury** and **property damage**.
NOTICE	Identifies important information not related to injury, but possible **property damage**.
SAFETY	Indicates steps or instructions for safe practices, reminders of safe procedures, or important safety equipment that may be necessary.

Limited Liability

Stealth Products, LLC accepts no liability for personal injury or damage to property that may arise from the failure of the user or other persons to follow the recommendations, warnings, and instructions in this manual.
Stealth Products does not hold responsibility for final integration of final assembly of product to end user. **Stealth Products** is not liable for user death or injury.

Testing

Initial setup and driving should be done in an open area free of obstacles until the user is fully capable of driving safely.

Intended Use

ADI's Quick Release mounting hardware is designed to allow wheelchair users and assistants the ability to easily remove the back support with one hand. In addition, the Quick Release mounting hardware offers angle, depth, and width adjustability.

Features

The Quick Release Mounting Hardware features:

- Angle adjustment without the loss of seat depth.
- Depth and width adjustment.
- Compatibility with aluminum and carbon fiber backs
- Compatibility with all contours.

Mounting

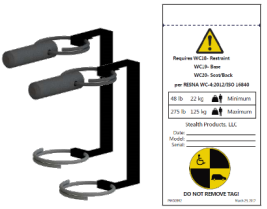
The Quick Release hardware is designed to be removable and has additional width, angle and depth adjustments, if required. This hardware has been WC20 tested and is approved to be used in transit ONLY if installed on a WC20 approved seat and WC19 approved chair frame.

Quick Release Hardware Package

The following hardware is included in a Quick Release package:

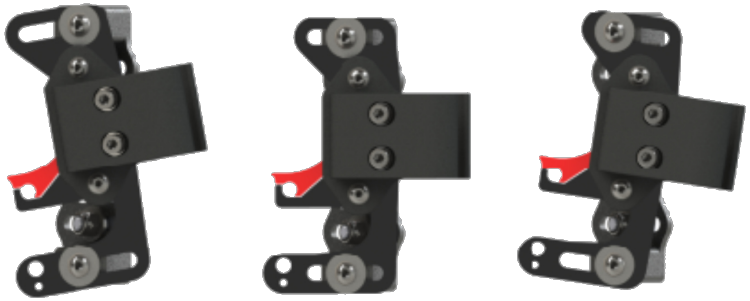
Part Number	Product Description	
BR1102	**Quick Release Complete Mounting Kit**	

Quick Release Replacement Parts

Part Number	Product Description	
BR1100	**Quick Release Back Support Clamp**	
BR1101	**Quick Release Latch Assembly**	
BR1102 with BR6005	**Quick Release Latch Assembly with Pin*** ***Hardware is WC20 compliant with Pin.**	
BR6005	**Pin Package**	

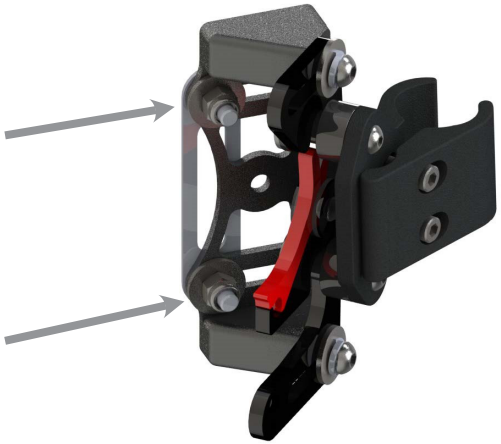
Angle Adjustment*

- Approximately twenty degrees (20°) of angle adjustment is available.
- Angle adjustment method does not cause loss of seat depth.



Width Adjustment*

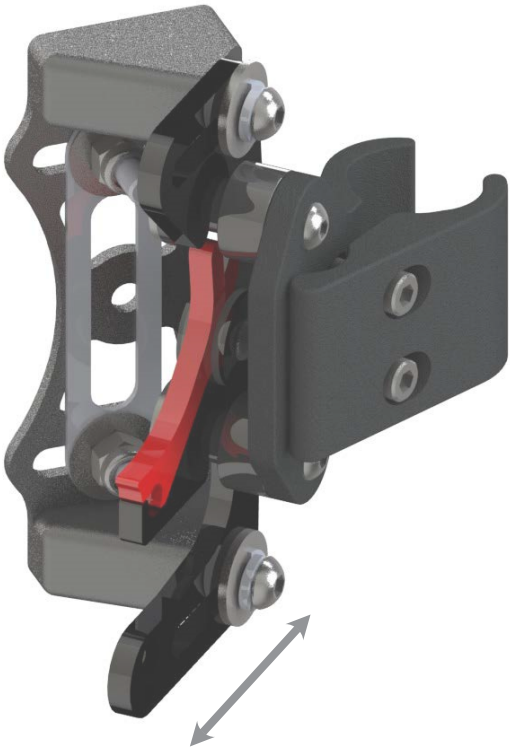
- Approximately 1 in. (2.54 cm) of width adjustment is available.
- By loosening the screw on the latch assembly, the hardware can be adjusted in an inward or outward direction from the chair.



* Quick Release hardware is shown here without WC20 Pin Package.

Depth Adjustment*

- Approximately 1 1/4" (3.18cm) of depth adjustment is available.
- Center mounting of hardware positions the back cushion valley to the rear of the back posts.
- Forward mounting of hardware positions the back cushion 5/8" forward.
- Rearward mounting of hardware positions the back cushion 5/8" rearward.

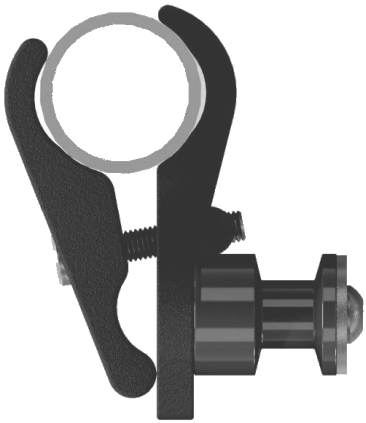


* Quick Release hardware is shown here without WC20 Pin Package.

Cane Compatibility

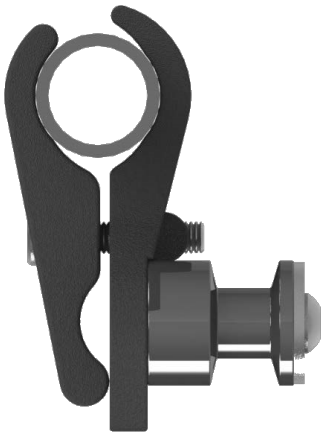
Quick Release hardware easily mounts to multiple diameter cane clamps without requiring the use of spacers:

- Hardware is compatible with 1", 3/4", and 7/8" cane diameters.



1" Clamp

7/8" Clamp*



3/4" Clamp*

*** NOTE:** For 3/4" and 7/8" cane installations, use the shorter 22mm screws in the cane clamps to avoid interference issues. The 25mm screws are intended ONLY for 1" cane installations.

Tools Required*

- 10mm Wrench
- 4mm Allen Wrench/T-Handle
- Torque Wrench - in/Lb

* Tools are not included in the Hardware Package

Torque Specification

- BR5001 (C2) - 117 in-lb./13.2 N·m
- BR1100 (A2) - 45.1 in-lb./5.1 N·m
- BR1101 (B3) - 77 in-lb./8.7 N·m

⚠ WARNING	Only a qualified service technician may install the Quick Release Hardware.

Installation Plan

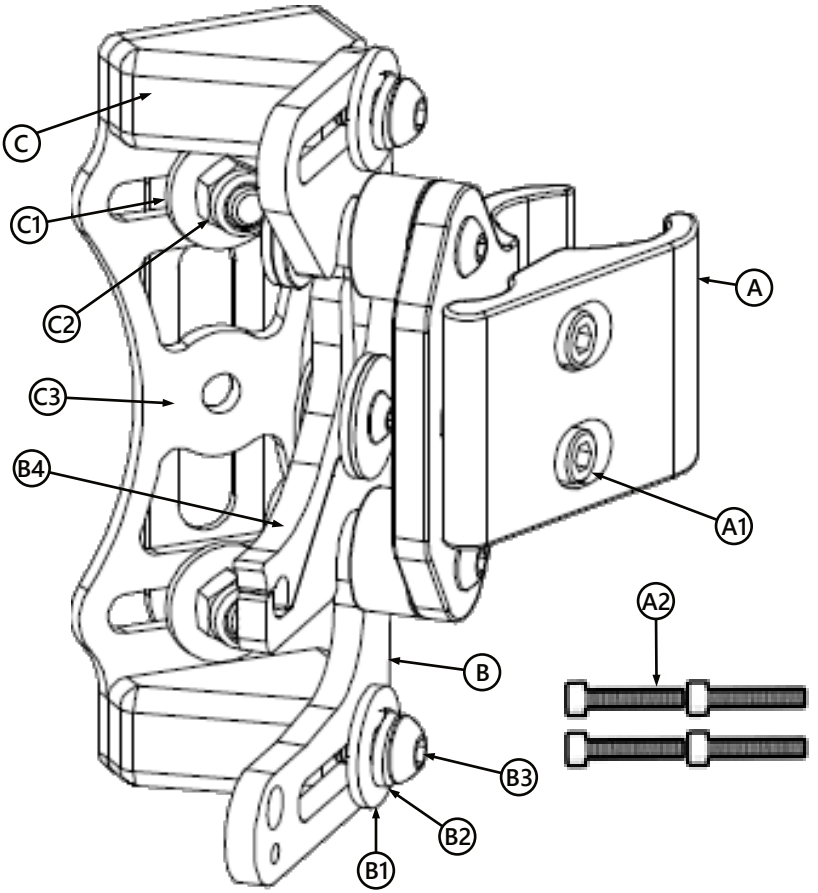
Set up an installation plan before installing the Quick Release hardware onto the back. Based on the user's needs, this plan should specify:

- Where the clamps should be located on the canes.
- The proper height of the hardware for the user.
- The correct angles and depths of the hardware.

Installation Overview

- Install the stud plate and u-block to the back shell along the pre-cut slots.
- Attach the quick release latch assembly to the u-block and secure the screws. Refer to the chart above for the correct torque values required for tightening the fasteners.
- Determine the position of the hardware on the wheelchair back posts. Attach and secure the cane clamp assembly at the desired height.
- Determine the desired width, angle, and depth for the hardware. Make the appropriate adjustments and secure the latch assemblies to the back.
- Attach the back to the canes by placing the top and bottom hooks of the latch assemblies onto the receiving posts of the cane clamps.
- When the hooks have fully engaged the receiving posts, press the latch levers down to lock the latch assemblies and cane clamps in place.
- If using the WC20 Quick Release hardware, insert the locking pin onto the latch assembly lock piece as the final step in installation.

Quick Release Mounting Hardware Package

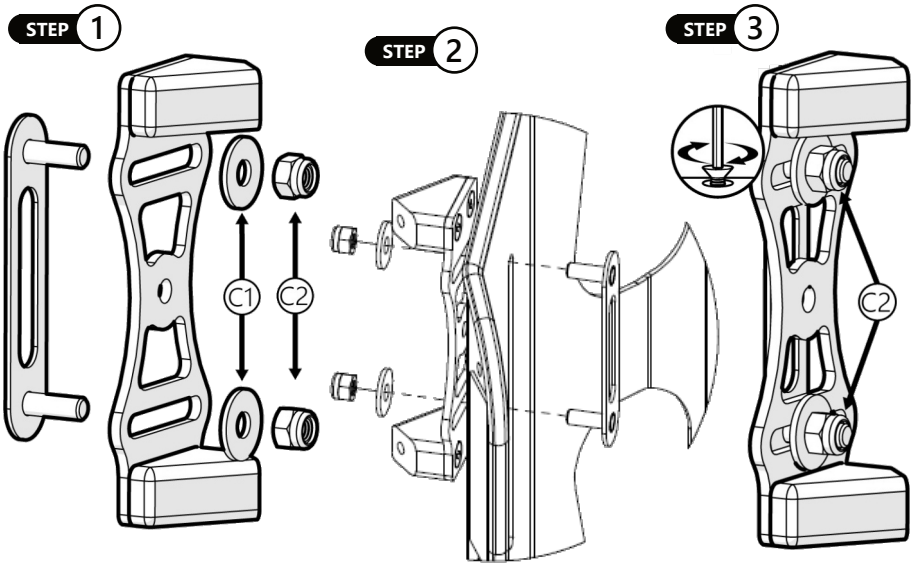


		Description
A	Quick Release Back Post Clamp (2)	**A1** M5 x 0.8 x 22mm SHS[1] (4) **A2** M5 x 0.8 x 25mm SHS[2] (4)
B	Quick Release Latch Assembly (2)	**B1** M6 x 18mm Fender Washer (4) **B2** M6 Split Washer (4) **B3** M6 x 1.0 x 20mm BHS (4) **B4** Locking Lever
C	Quick Release U-Block w/Stud Plate (2)	**C1** M6 x 18mm Fender Washer (2) **C2** M6 x 1.0 Nylon Lock Nut (2) **C3** Stud Plate (2)

[1] Used for 3/4" and 7/8" cane installations to avoid interference issues.
[2] Used for 1" cane installations.

Installing Stud Plate and U-Block (BR5001 Package)

1. Determine the desired location for the stud plate along the pre-cut slots in the back shell*.
2. Insert the stud plate onto the back. Line up the stud plate to the u-block.
3. Tighten the lock nuts with the torque wrench to firmly secure. See page 6 for the correct torque specifications for tightening the hardware.



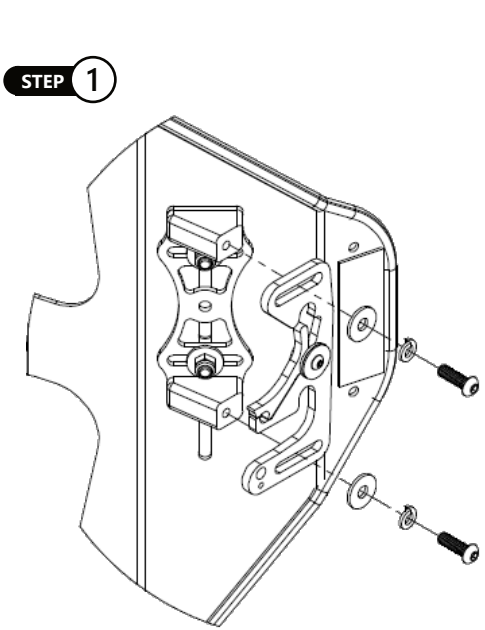
⚠ **CAUTION**	Install U-Block before placing the cover onto the back.
NOTICE	Installing the U-Block onto the back will be required if the hardware is purchased separately from the back. Stealth will install hardware if simultaneously ordered with the back.

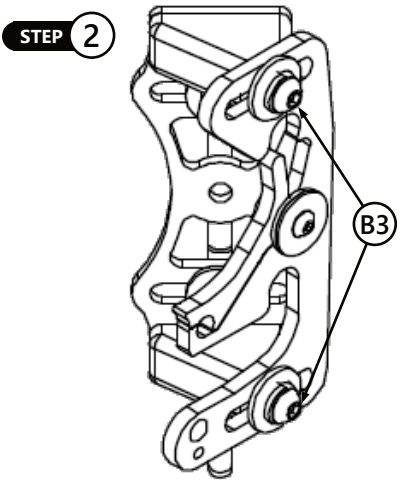
* A 16" AL series shell is shown throughout this manual as a reference. Measurements will vary based on shell type and size.

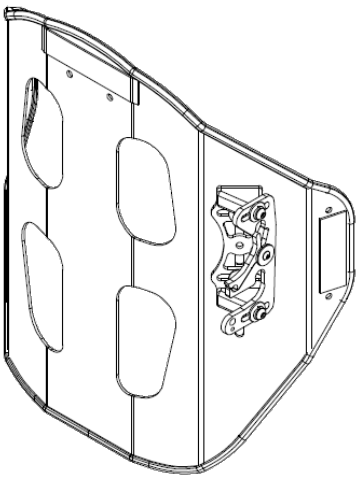
Fasten Quick Release Latch Assembly to U-Block

1. Insert M6 screw (B3) (x2) into washers (B1, B2) and attach latch assembly to left and right side U-block, using the 4mm Hex Key. Before tightening the M6 screw, slide the latch to the forward position and make any necessary adjustments.
2. With a torque wrench, tighten the M6 nuts (B3). See page 6 for the correct torque specifications for tightening the hardware.

NOTICE	It is essential that the included split lock washers be used at all four attachment points to maintain desired angle and depth adjustment of back.

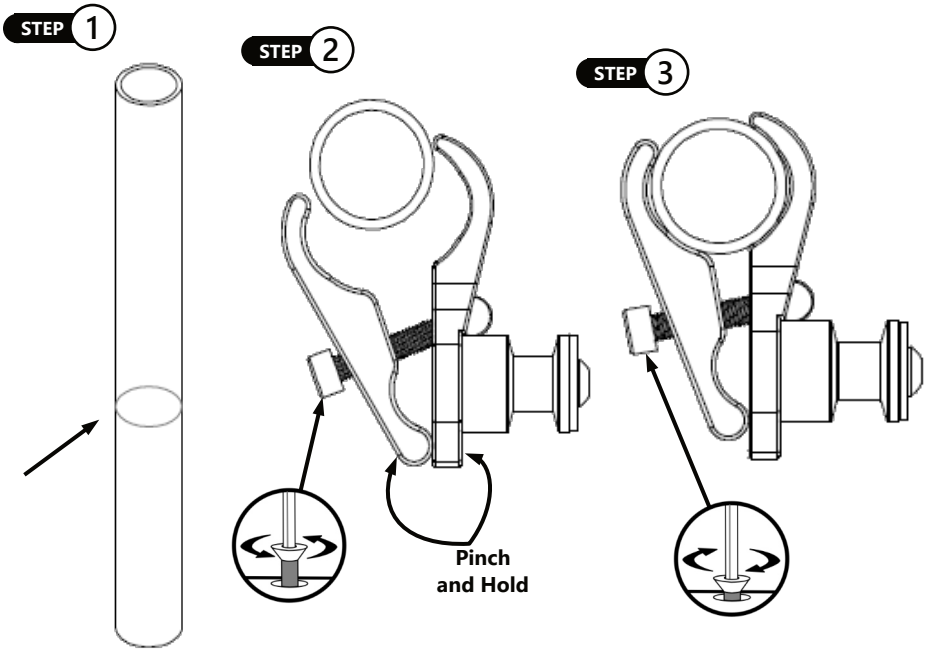






Clamp Assembly to Wheelchair Back Post

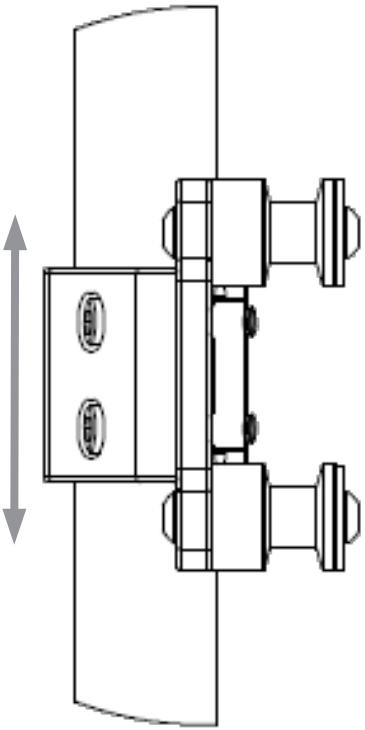
1. Visually determine the desired height of your new ADI back support. Mark on each back post the needed location to attach clamp assemblies.
2. Loosen the M5 screws (A2) and with two fingers, pinch and hold the back of the post clamp open in order to slide the clamp assembly over the top of the back post (receiving post facing inward). Screws do not have to be completely removed from the hardware in order to slide the clamp over the post.
3. Slightly tighten each M5 screw with a 4mm hex key. Align clamp assembly parallel to the wheelchair seat base.



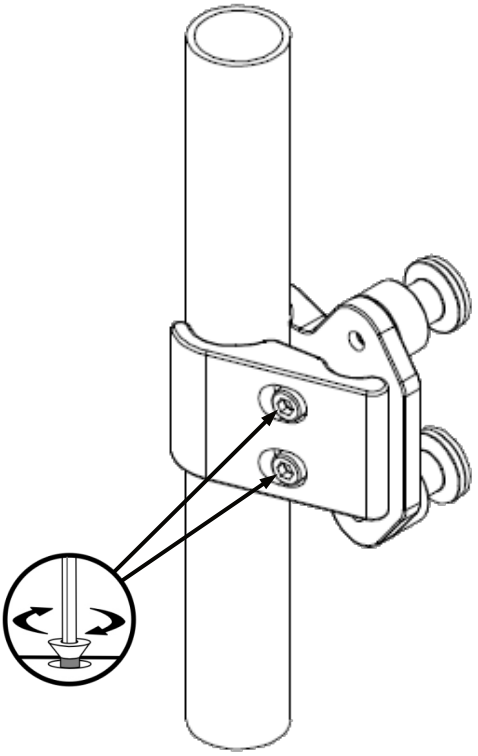
⚠ **CAUTION**	For 1" cane, use the provided 25mm socket head screws (A2).
NOTICE	The mounting hardware should be installed at equal heights on the left and right sides, and parallel to the seat frame.
NOTICE	Tighten clamp screws, but allow for movement so you can adjust the receiving posts.

4. To achieve proper alignment, slightly move the mounting hardware in or out and/or up or down. Make adjustments until the backrest smoothly attaches and detaches from the top and bottom receiving posts.
5. After final adjustment is complete, tighten all screws (A2) with torque wrench to the proper specifications. This will ensure secure placement and safe operation.

STEP 4



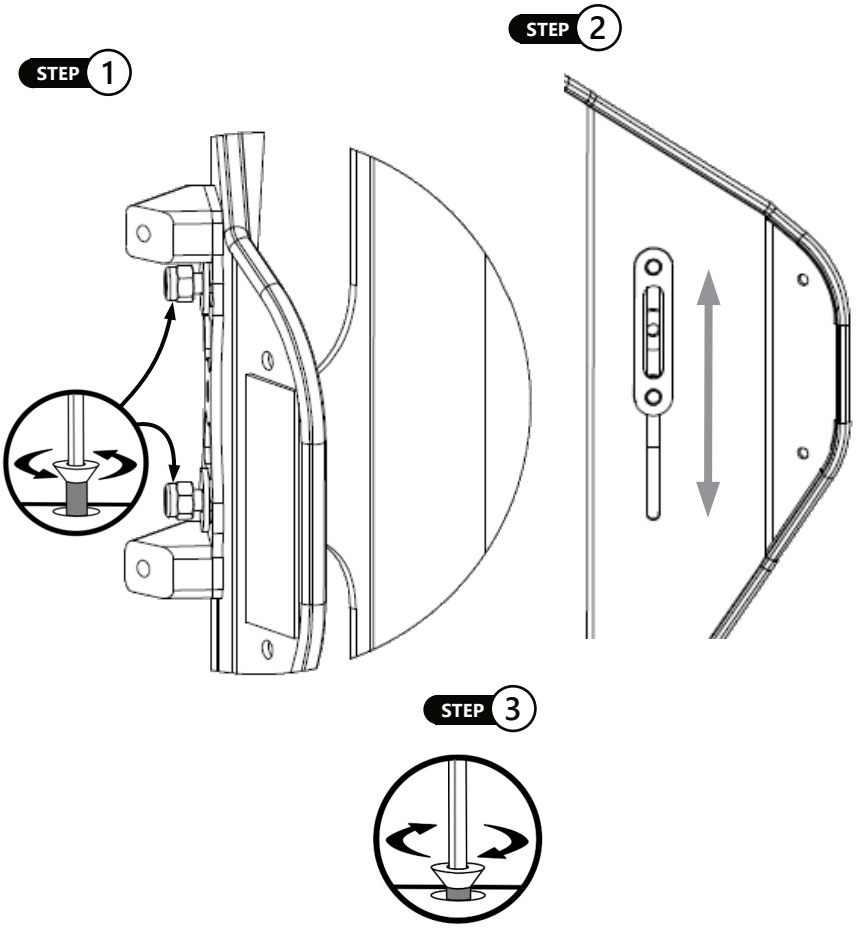
STEP 5



NOTICE	Latch centering may require width adjustment.
⚠ **CAUTION**	If the hardware sticks or is not smooth, you may need to realign the hardware receiving points on the posts.

Height Adjustment AL/AFT Series

1. With a 10mm wrench, loosen M6 nuts (C2) on the stud plate.
2. Slide stud plate up or down along the pre-cut slot in the shell in order to achieve desired height.
3. Tighten and secure M6 nuts with a torque wrench. See page 6 for proper torque specifications.

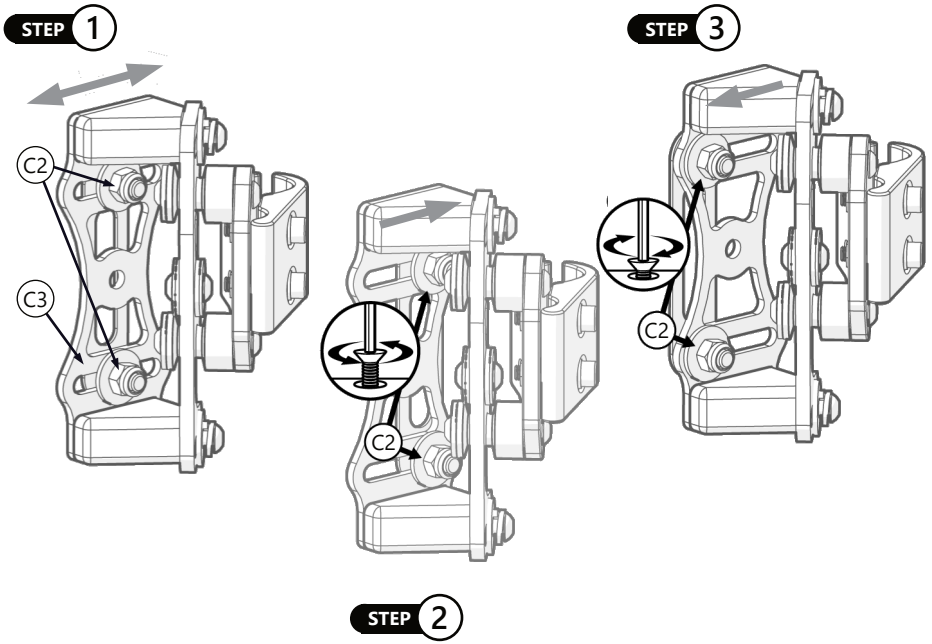


CAUTION

Stealth does not recommend drilling holes in carbon fiber (CF) backs to reposition the hardware to a different height.

Width Adjustment

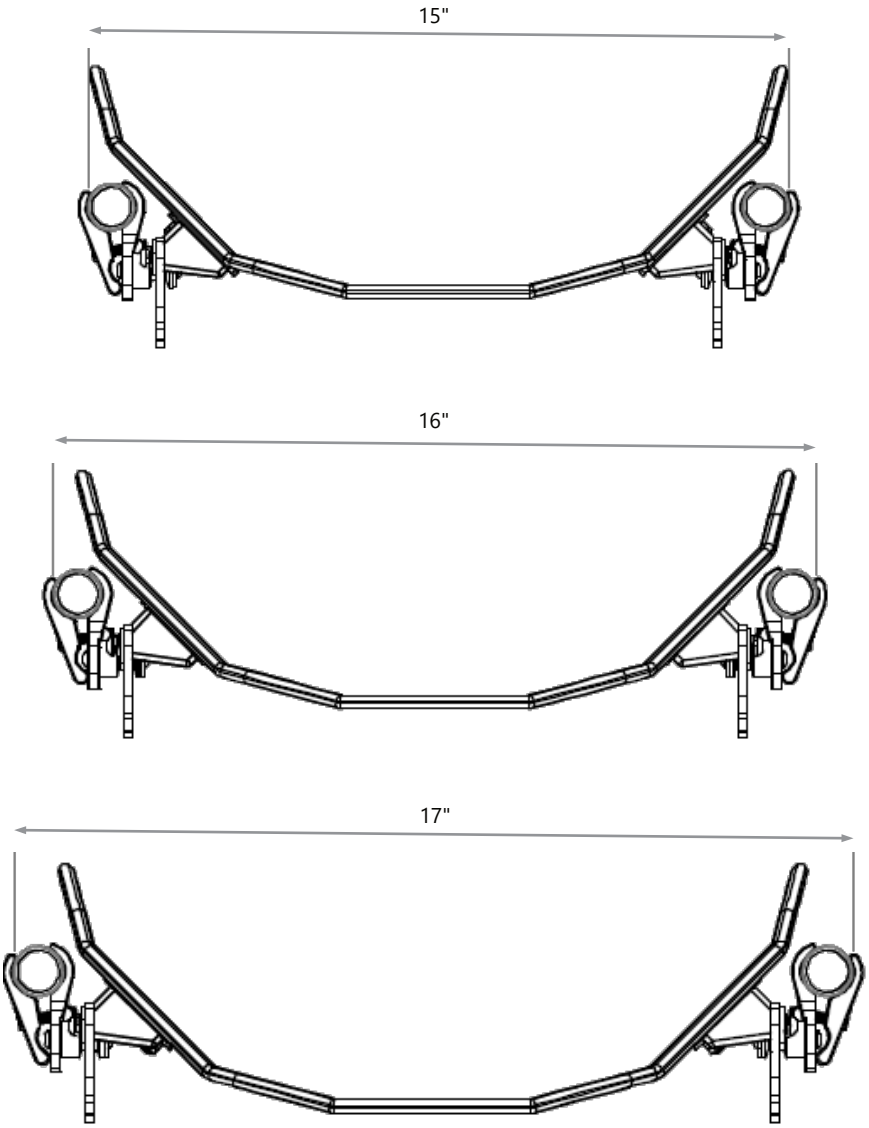
1. On each side of the hardware, loosen the top and bottom screws* (C2) on the stud plate, using a 10mm wrench.
2. Adjust the hardware inward or outward on the stud plate (C3) to achieve the required chair width.
3. After final adjustments are complete, tighten all M6 nuts with a torque wrench. See page 6 for torque specifications.



* On the CF Series, a 4mm Hex Key is used for the inside screws.

NOTICE	Minimum and maximum width adjustment of the hardware is 1".
NOTICE	AFT Series backs offer an extra inch of width adjustment (2 inches total) due to an extra slot pre-cut in the shell.

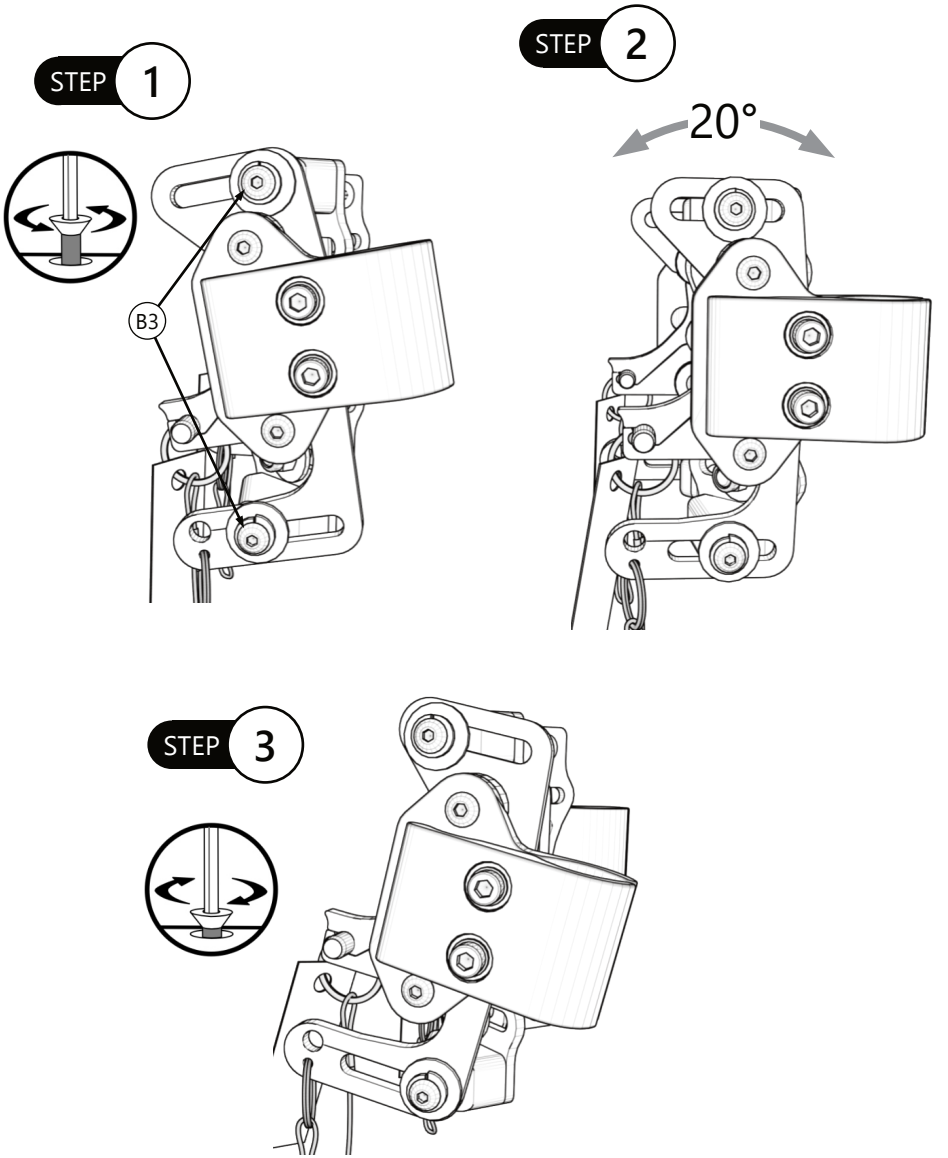
Minimum and maximum measurements* for width adjustment.



* Measurements shown are for a 16" AL Series back.

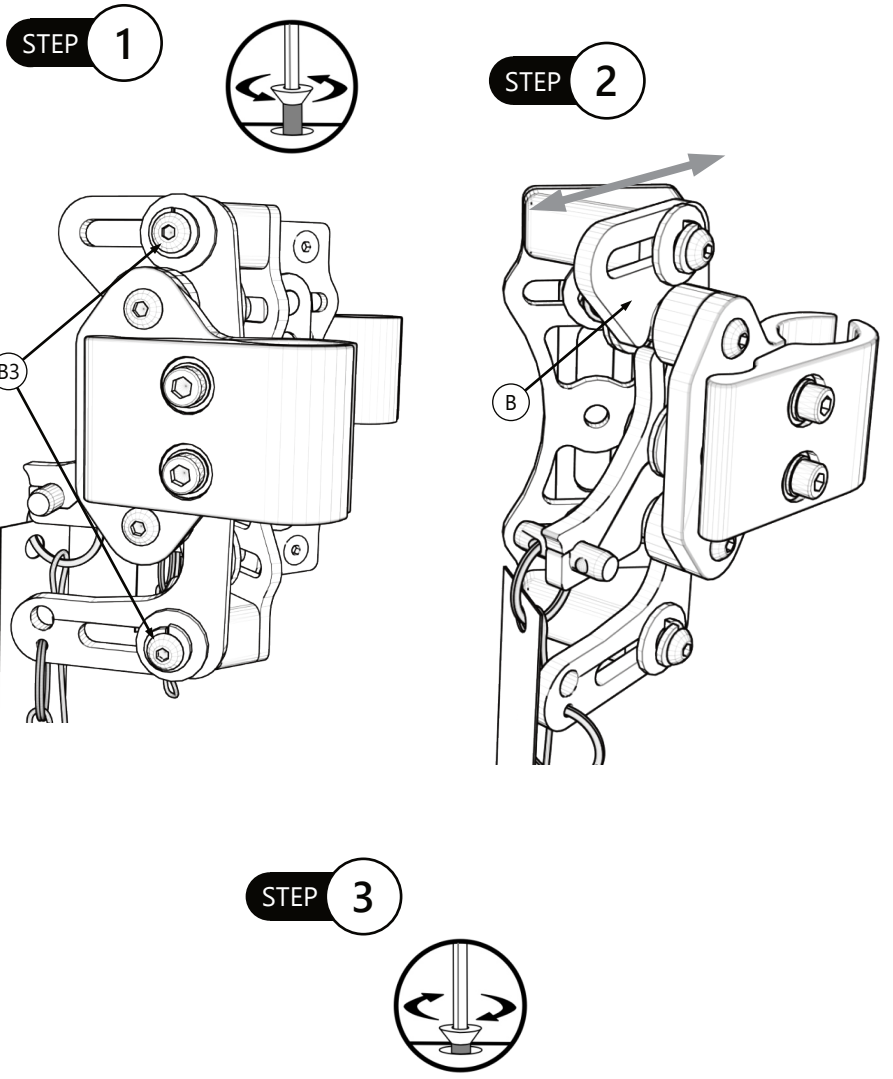
Angle Adjustment

1. On each side of the hardware, loosen the top and bottom M6 screws (B3) with a 4mm Hex Key.
2. Adjust the back support to achieve the desired user angle.
3. After final adjustments are complete, tighten all screws to the proper torque specification. See page 6 for torque specifications.



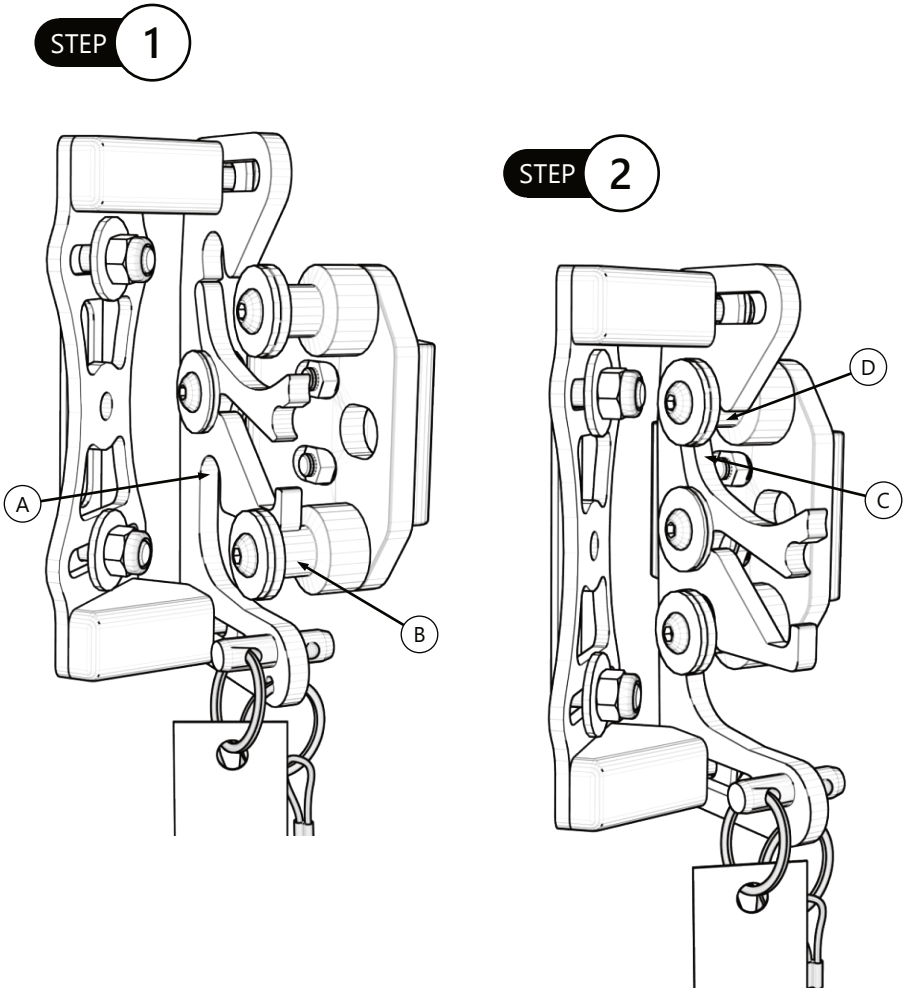
Depth Adjustment

1. On each side of the hardware, loosen top and bottom M6 screws with a 4mm Hex Key.
2. Slide back support forward or backward along the latch assembly (B) to achieve desired depth.
3. After final adjustments are complete, tighten all screws to the proper torque. See page 6 for torque specifications.

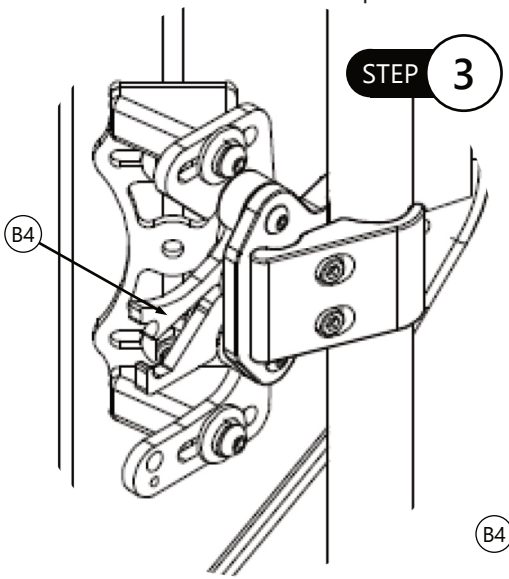


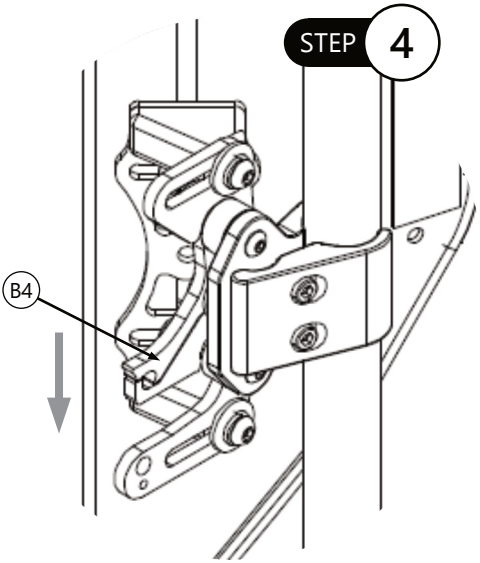
Back Installation onto Clamps

1. With the back tilted slightly forward, lower the left and right bottom hooks (A) onto the bottom receiving posts (B).
2. After bottom hooks are in position, tilt back support rearward until left and right top hooks (C) fully engage with top receiving posts (D).



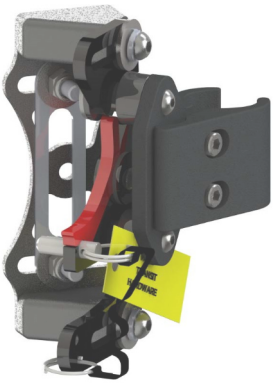
3. After each receiving post is fully seated in the top and bottom hooks, manually press left and right locking levers (B4) into the locked/down position.
4. Lower locking levers (B4) on latch assembly and ensure hardware is securely fastened to chair and back post.





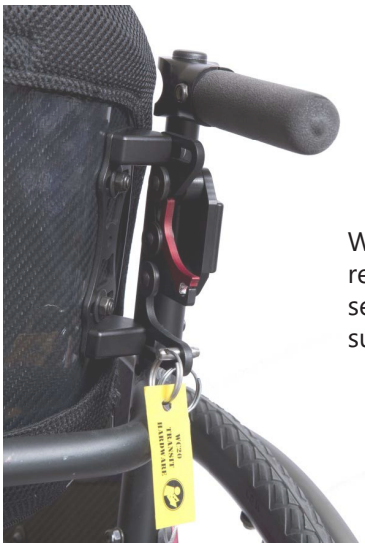
⚠ **CAUTION**	Before use, confirm latch levers are in the locked position.
⚠ **CAUTION**	Protect all backs from blunt forces that may cause damage and/or breakage.
⚠ **CAUTION**	If you are able to fold the back canes, the back should be in the folded position when transporting the wheelchair, especially before loading for air travel.

WC20 Quick Release Hardware



The Quick Release mounting hardware has met WC20 and ISO16840-4 requirements and provisions. The hardware can be ordered as a WC20 approved item with transit pins.
Transit pins were added to the hardware to ensure secured points in the event that the Quick Release hardware could possibly become loose during transit and detach from the ADI back.

NOTICE	Keep these pins attached to the chair at all times.



WC20 establishes design and performance requirements and test methods for complete seating systems that consist of a seat, back support, and attachment hardware.

⚠ **CAUTION**	The WC20 approved Quick Release Hardware and AL/AFT backs should only be used as described in the manufacturer's instructions.

⚠ **DANGER**	The WC20 approved Quick Release Hardware and AL/AFT backs are designed ONLY for use with wheelchair frames that have been successfully crash tested to the frontal-impact requirements of RESNA WC-4:2012, Section 19.

General Guidelines

- Attach the tie-down straps only to the designated labeled transit security points.
- Tighten the straps sufficiently to remove all slack. Never attach tie-downs to adjustable, moving, or removable parts of the wheelchair.
- Position the anchor points for the rear tie-down straps directly behind the rear securement points on the wheelchair.
- The front tie-down straps should anchor to floor points that are spaced wider than the wheelchair to provide increased lateral stability.

⚠ CAUTION

The WC20 approved Quick Release Hardware and AL/AFT backs should only be used as described in the manufacturer's instructions.

Before Transit

- Clients who use wheelchairs should transfer to the vehicle seat and use the vehicle-installed occupant restraint systems
- Prior to transporting, always double-check the tie-downs and hardware.
- On tie-downs and restraints, look for tears or worn webbing straps. Replace as necessary.
- Look for damaged hooks or loose tie-down hardware.
- On the seating system, check for loose screws attaching the hardware to the back. Check for loose screws attaching the hardware to the seat. These should be snug and not over-tightened.
- The Quick Release hardware should be securely attached to the back, and the transit pins should be properly inserted into the hardware.

NOTICE

If the BR6005 order is placed after a shell has been ordered, the corresponding label must be permanently affixed to the cover in order for the hardware to be WC20 compliant.

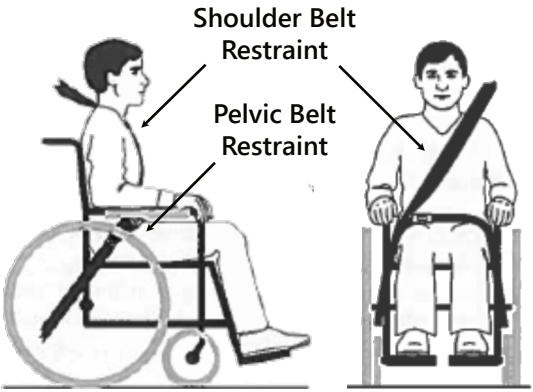
⚠ DANGER

The WC20 approved Quick Release hardware and the AL/AFT backs are designed specifically for occupancy when used on wheelchairs that are facing forward in motor vehicles.

Belt Placement

- The pelvic belt restraint should be worn low, across the front of the pelvis near the junctions of the pelvis and the thighs.
- The belt restraint buckle of three-point belt restraints should be placed in contact with the occupants 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.

Proper Positioning of Belts on Occupants



- Upper torso belt restraints should fit directly over, and in contact with, the middle of the shoulder.

⚠ **CAUTION**	Belt restraints should be adjusted to fit as snugly as possible, consistent with user comfort.

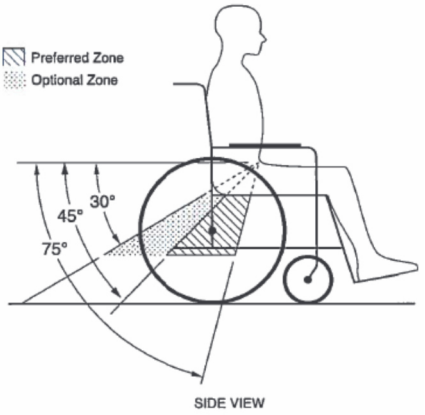
SAFETY	Belt restraints should be positioned on the wheelchair occupant in accordance with WTORS manufacturer instructions.

Belt restraints should not be routed outside of the wheelchair, over the wheelchair wheels, or over the wheelchair arm supports and should not be held away from the body by wheelchair components or parts.

SAFETY

Belt restraints should not be worn twisted or in a manner that reduces the area of contact of the belt webbing with the occupant.

Both pelvic belt and shoulder belt restraints that comply with RESNA WC-4:2012, Section 18 and/or 4.6, 5.2, 5.3 of RESNA WC-4:2012, Section 19 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.
The pelvic belt should be angled between 30° to 75° horizontally when viewed from the side, and ideally between 45° to 75° horizontally, as shown in the figure to the right.



⚠ WARNING

Back supports with adjustable recline angles should not be tilted back more than 30° to the vertical during travel in vehicles unless necessary for the medical and postural needs of the occupant.

⚠ WARNING

If the back support must be adjusted to an angle that is greater than 30° to the vertical during travel, the upper shoulder-belt anchor point should be adjusted rearward to maintain belt contact with the wheelchair occupant's shoulder and chest.

Trays

Wheelchair-mounted rigid trays that are not specifically designed for use during travel in motor vehicles should be:

- Removed and secured separately in the vehicle.
- Secured to the wheelchair so they will not break free in a crash.
- Positioned with a gap of at least 3 in. (7.6 cm) between the back edge of the tray and the wheelchair occupant's abdomen and/or chest so as not to interfere with proper belt-restraint use.
- Fitted with energy-absorbent padding between the back edge of the tray and the wheelchair occupant.

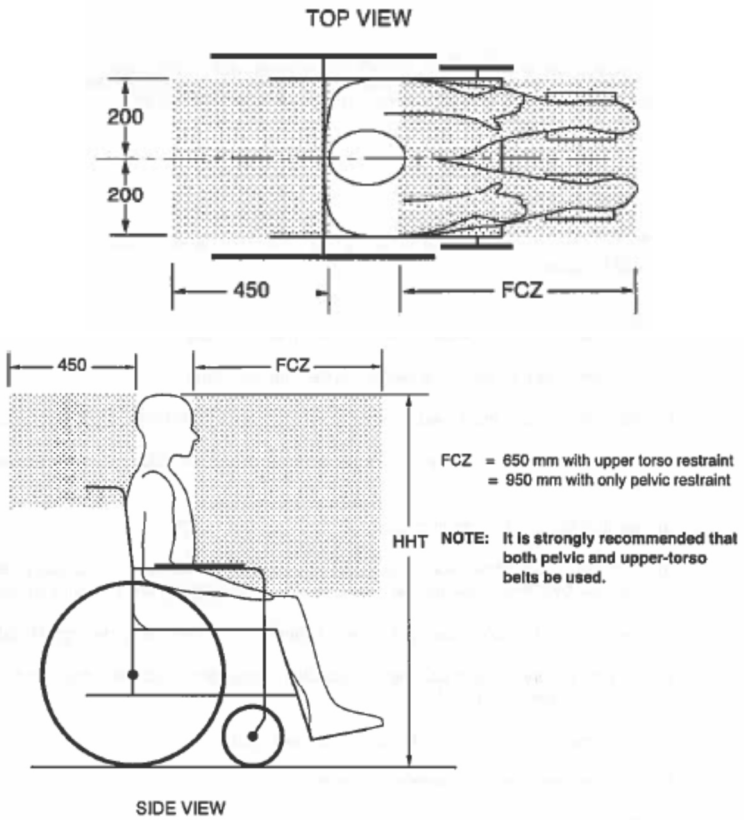
User Safety

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 do not interfere with the proper positioning of crash-worthy 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 4.6, 5.2, and 5.3 of RESNA WC-4:2012, Section 19.

DANGER	The WC20-approved Quick Release hardware and AL/AFT backs have been designed to accommodate the proper use of vehicle-anchored belt restraints and the ratings of the seating systems with regard to ease of properly positioning vehicle-anchored belt restraints on the wheelchair passenger, and the degree to which proper positioning of the belt restraints can be achieved.
DANGER	Alterations or substitutions should not be made to the seating system or its parts and components without consulting the manufacturer.
NOTICE	ADI's CF series backs are **NOT WC20** approved.

Sufficient forward and rearward clear space should be provided around the wheelchair occupant.

The forward clear-space (FCZ) needs to be larger when a shoulder-belt restraint is not used.



DANGER

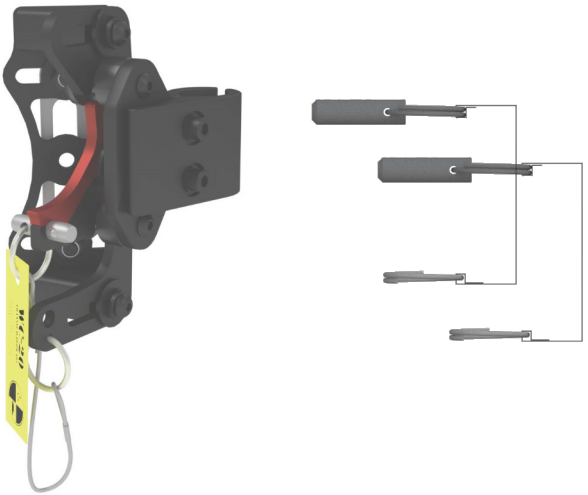
The WC20 approved Quick Release hardware and AL/AFT backs are designed ONLY for use with wheelchair frames that have been successfully crash tested to the frontal impact requirements of RESNA WC-4:2012, Section 19.

DANGER

The WC20 approved Quick Release hardware and AL/AFT backs MUST be used on a wheelchair frame that provides four securement points and pelvic-belt anchor points that conform to the requirements of RESNA WC-4:2012, Section 19.

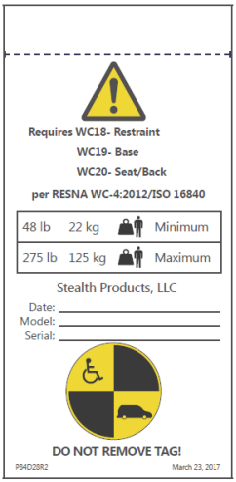
WC20 Hardware Installation

After the hardware has been installed, adjusted to the user's needs, and securely fastened, insert the transit pins into the locking levers.
The key ring, connected to the pin, will need to be attached to the hardware. A small, pre-drilled hole near the base of the hardware is designated for the key ring. When the key ring is installed, slide the pin through the latch assembly.
See pages 3 and 4 for hardware adjustment capabilities.



WC20 Label

The WC20 Label will need to be secured to the cover of the ADI back if the WC20 pins are ordered separately from the back and hardware. The label must be sewn to cover in order to be WC20 compliant.



Removing the WC20 Pin

When the chair is not in transit, the pins for the Quick Release Hardware can be removed and placed in a holding spot on the hardware.

Image shows BR1102 & BR6005 with pin installed in latch assembly, ready for transit

Image shows BR1102 & BR6005 with pin placed in pre-drilled hole, NOT transit ready.

SAFETY	Pin should always be placed in the designated pre-drilled hole near the base of the hardware. Letting the pin hang freely could cause damage to the chair or injury to the user.

Dealer Assistance

During first time use by the client, it is advised that the dealer or service technician assists and explains the set-up to the customer (the user and/or the attendant). If needed, the dealer may make final adjustments.

⚠ **CAUTION**	ADI Backs may not fit every chair. Please consult your clinician or supplier providing your equipment. Do not attach the back with the user in the chair.

User Testing

It is important that the customer is fully aware of the installation, how to use it, and what can be adjusted in order to gain as much mobility as possible. As a dealer, proceed as follows:

- Explain and show the customer how you have executed the installation, and explain the function of the hardware.
- If needed, adjust the hardware to the proper position.
- Explain to the customer possible problems and how to address them.

SAFETY	If using the non-WC20 approved hardware, do NOT attach the back with the user in the vehicle or use them during transportation. Use the WC20 approved hardware with pin ONLY for transportation.

Conditions of Use

The ADI hardware is intended for use as installed by the dealer, in accordance with the installation instructions in this manual.

- The foreseen conditions of use are communicated by the dealer or service technician to the user and/or attendant during the first time use.
- If the usage conditions change significantly, please contact your dealer or a qualified service technician to avoid excessive wear and tear or unintended damage.

Cleaning

- Use a soft cloth to clean the back shell.
- Ensure all cleaners are approved for finished steel, aluminum, plastic, and upholstered surfaces.

Maintenance

- Check and tighten all fasteners to the proper torque specifications on a regular basis. Proper torque specifications are located on page 6.
- Repair or replace parts as needed.

SAFETY	Always check all mounting hardware, making sure each fastener is properly tightened before using the back support.

⚠ WARNING	User weight limit 250 lb. (113.40 kg)

NOTICE	Altering an ADI back in any way and/or improper installation will void the warranty.

Notes

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Warranty Information

Home Page

Online User Manual

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