

FlipLock™

TFB

Simple Solutions FlipLock

The True Forming Back, or TFB, has been created to provide extreme comfort, unparalleled customization options and trouble-free adjustability. The hardware is durable, easily accessible, and is hidden with a hook-and-loop attached back cover for a clean, sleek look.

Item	ID	Part Number	Description	Qty.
A. Mount				
	A1	BKT03	103° Slotted Adjustable Bracket for T/F Mount	2
	A2	BKT13	45° Bracket for FlipLock Hardware	2
B. Pin Bracket Assy.				
	B1	PIN02	Latch Pin	2
	B2	5/32 x 3/4 DP	5/32" x 3/4" Dowel Pin	2
	B3	BKT01	Removable, Angle Adjustable, Seat Back Bracket	2
	B4	M5 x 0.8 x 16mm SHS	M5 x 0.8 x 16mm Socket Head Screw	4
	B5	M6 x 1 x 22mm BHS	M6 x 1 x 22mm Button Head Screw	4
	B6	M6 SSW	0.5in x .266in x .050in Black Oxide Washer	4
	B7	SPC01	1" Slot Point Spacer	2
	B8	M3 x .5 x 10mm SS	M3 x .5 x 10mm Socket Set Screw Cup Point	4
	B9	.187 x .75 DP	.187 x .75 Dowel Pin	2
	B10	NU20	Threaded Pointer Slot Nut	2
C. Latch Clamp Assy.				
	C1	M5 x 0.8 x 25mm SHS	M5 x 0.8 x 25mm Socket Head Cap Screw	4
	C2	M5 FW	M5 Flat Washer, A2 S/S, black oxide (5.3mm ID x 10mm)	4
	C3	BR5002	Quick Release Seatback - Outside Clamp	2
	C4	M6 x 1.0 x 16mm BHS	M6 x 1.0 x 16mm Button Head Screw	4
	C5	CLP01	Inside Clamp	2
	C6	BR5034	Backing Pin	2
	C7	RCV02*	Receiver	2

* Receiver is shown with cam pin, dowel pin, and other small parts installed.

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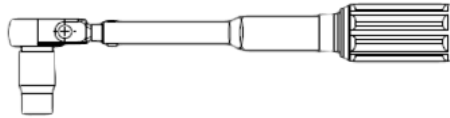
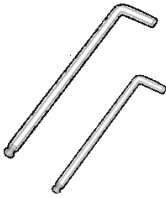
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Intended Use

FlipLock Hardware is intended for users of wheelchairs that fold for storage or transportation, or for any positioning contingency that would benefit from secure, reliable fitment of a back shell requiring periodic removal and replacement.

FlipLock Hardware securely attaches the back support to the wheelchair, allows for height, depth, and angle adjustment, and allows toolless removal and replacement. It retains the position and orientation of the back support throughout the removal and replacement process.

Tools Required



- 2 mm Hex Key
- 2.5mm Hex Key
- 4mm Hex Key
- Torque Wrench, with 4mm Hex Bit

Torque Specifications

Fastener	Specification
M3 x 0.5 x 10mm SS	Snug*
M5 x 0.8 x 5mm SS	
M5 x 0.8 x 16mm BHS	10.3 N·m (7.6 ft lb)
M5 x 0.8 x 22mm SHS	
M5 x 0.8 x 25mm SHS	
M6 x 1 x 16mm BHS	11 N·m (8.1 ft lb)
M6 x 1 x 22mm BHS	

* Torque not recommended for these fasteners. Tighten hand tight, and do not overtighten.

Preparations

Only a qualified service technician may install the **FlipLock Hardware** and any accessories.

Installation Plan

Set up an installation plan before beginning the installation. This plan should take into account:

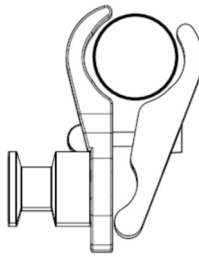
- Where the **FlipLock Hardware** will be placed.
- How the **FlipLock Hardware** will be operated.

Installation

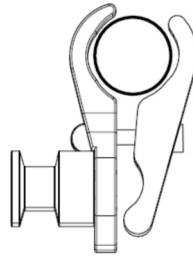
Cane Compatibility

- The FlipLock hardware mounts to multiple diameter cane clamps without the use of spacers.
- Hardware is compatible with 1 in., 7/8 in., and 3/4 in. cane diameters.

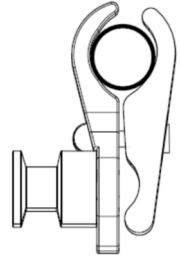
NOTE: The 25mm SHS is intended ONLY for 1" cane. Use the included 22mm SHS for 7/8" and 3/4" installations.



1" Clamp

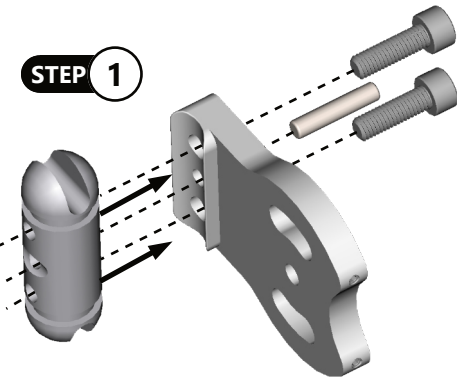


7/8" Clamp



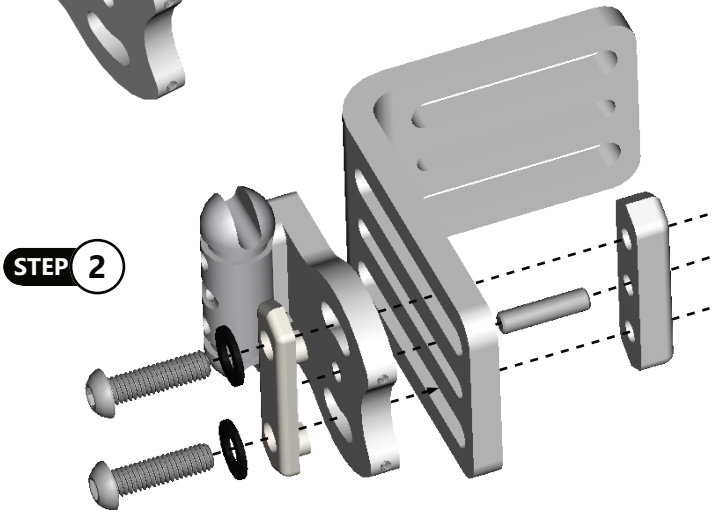
3/4" Clamp

Installing the Hardware, 2-point



STEP 1

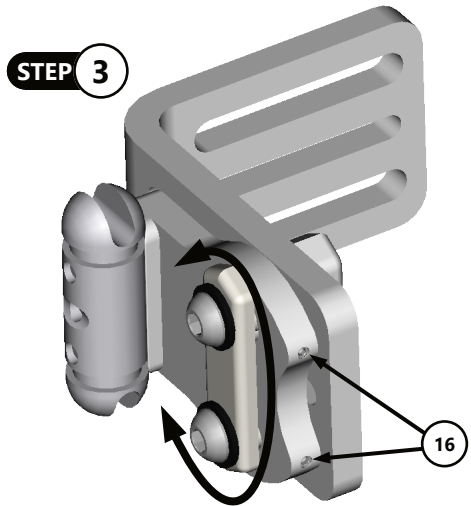
Step 1: Insert the Dowel Pin into the Latch Pin (B1) and insert the other end of the dowel into the Seat Back Bracket (B3). Use two (2) M5 x 0.8 x 16mm socket head screws to affix the Latch Pin to the Seat Back Bracket (B3).



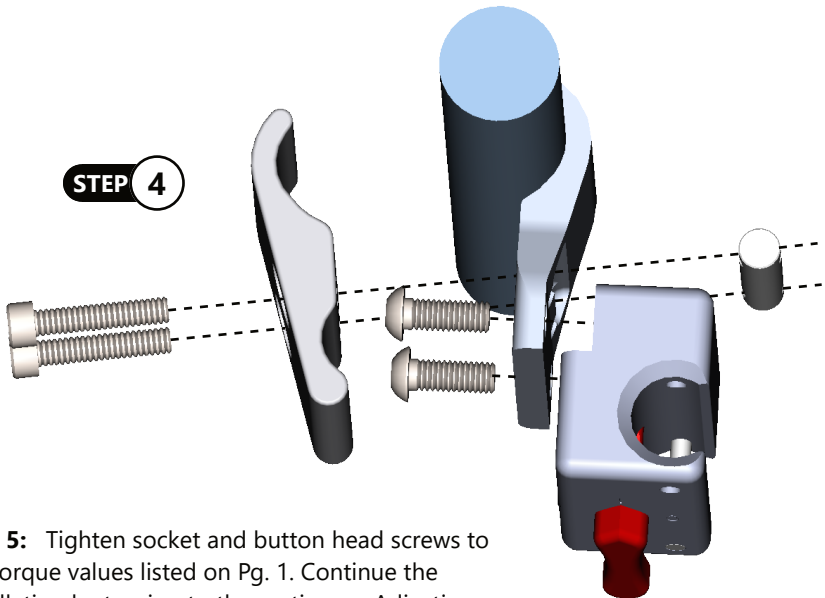
STEP 2

Step 2: Affix the Seat Back Bracket (B3) to the 103° Slotted Adjustable Bracket for T/F Mount (A1) using two (2) M6 x 1.0 x 22MM Button Head Screws (B5), two (2) M6 SS Washers (B6), and a 1" Slot Point Spacer (B7), through the bracket and into the Threaded Pointer Slot Nut w/Dowel Pin (B10). Do not fully tighten the screws at this time.

Step 3: Insert the two M3 x 0.5 x 10MM Set Screws (B8) into the holes on the angle-adjustable side of the Seat Back Bracket (B3). When the proper angle is reached, tighten these set screws to further secure the angle position of the back support hardware. Do not overtighten these fasteners.



Step 4: Attach the Inside Clamp (C5) to the Receiver (C7) with two M6 x 1.0 x 16MM Button Head Screws (C4). Place the cupped end of the Inside Clamp (C5) against the cane upon which you intend to install it. Attach the Outside Clamp (C3) to the cane, lined up with the Inside Clamp (C5) and thread the M5 x 0.8 x 25MM Socket Head Screws (C1) into the Backing Pin (C6).



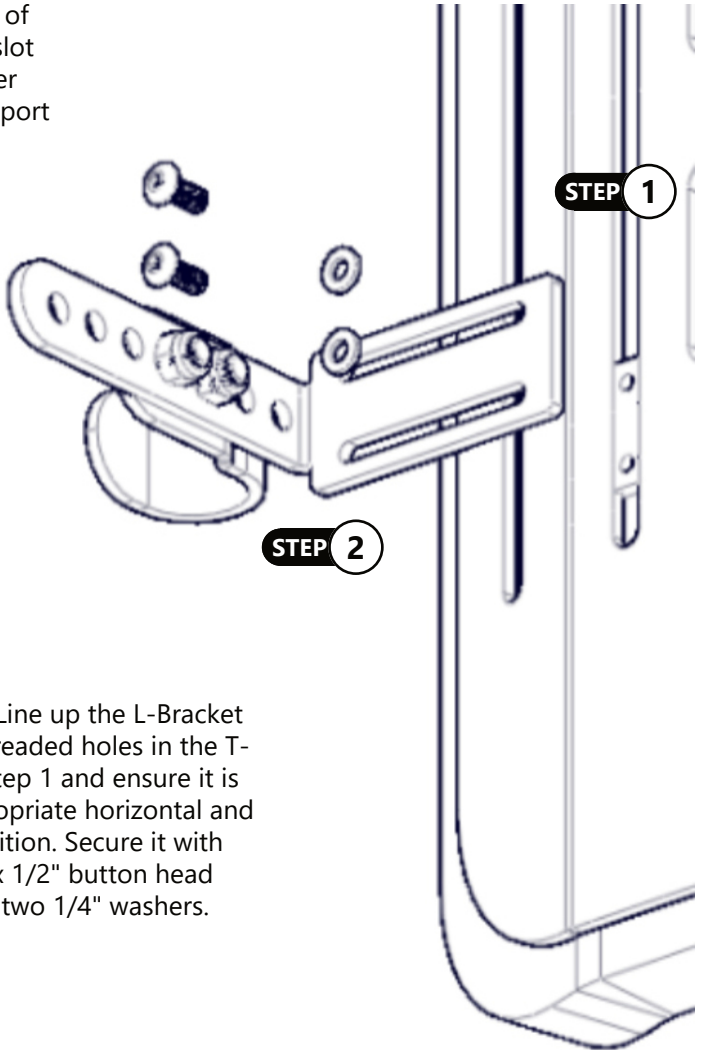
Step 5: Tighten socket and button head screws to the torque values listed on Pg. 1. Continue the installation by turning to the section on Adjusting the Hardware (Pg. 6), or, in the case of 4-pt. installation, continue with the next section.

Installation

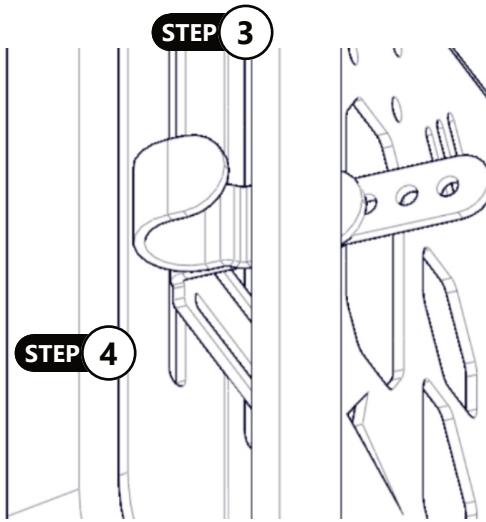
Installing the Hardware, 4 point

4-point Installation begins much the same as the 2-point Installation. The Fliplock hardware is mounted higher in relation to the cane and back support in the 4-point configuration. J-Hook hardware is utilized to provide a lower securement point for the back support. To achieve a 4-point Installation, follow the directions in the previous section for 2-pt. installation, and then follow these instructions to install the remaining hardware:

Step One: Align one of the T-Nuts with the slot on the front side (user side) of the back support shell.



Step Two: Line up the L-Bracket with the threaded holes in the T-Nut from Step 1 and ensure it is in the appropriate horizontal and vertical position. Secure it with two 10-32 x 1/2" button head screws and two 1/4" washers.

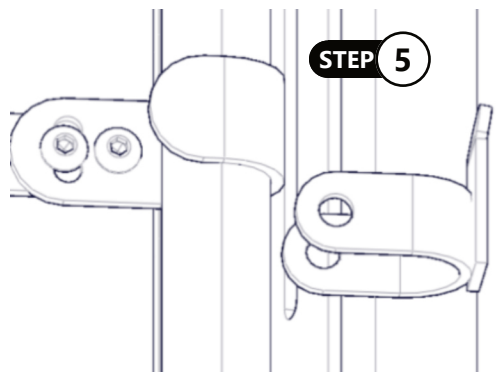


Step Three: Visually determine the desired height of the lower mounting hardware. Mark on each back post the needed location to attach the clamp assemblies.

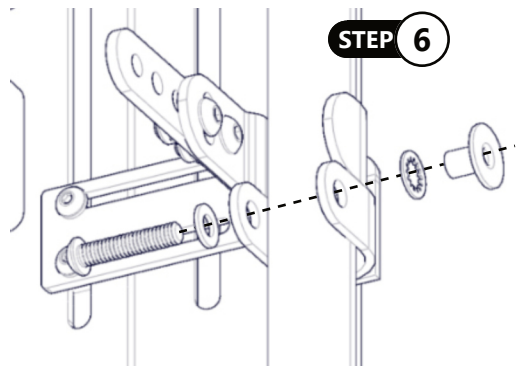
Step Four: Slide the back support cane into the correct vertical position with the J-Hook Latch Assembly.

Step Five: Slide the 1" Hold Down Drop Stop Weldment underneath the Latch Assembly.

Step Six: Slide the 1/4-20 x 1 1/4" Button Head Screw with a 1/4-20 Washer on one side of the Hold Down Drop Stop with the 5/16" Internal Tooth-Lock Washer and 1/4-20 x 7/16" Weldnut on the opposing side. Assemble the Drop Stop, but do not fully tighten yet.



Step Seven: Repeat Steps One through Six on the opposite side. To achieve proper alignment, slightly move the mounting hardware in all directions, and adjust until the backrest smoothly attaches and detaches from the Fliplock hardware and J-Hook hardware without binding or sticking. When final adjustments have been completed, tighten all screws to ensure secure placement and safe operation.

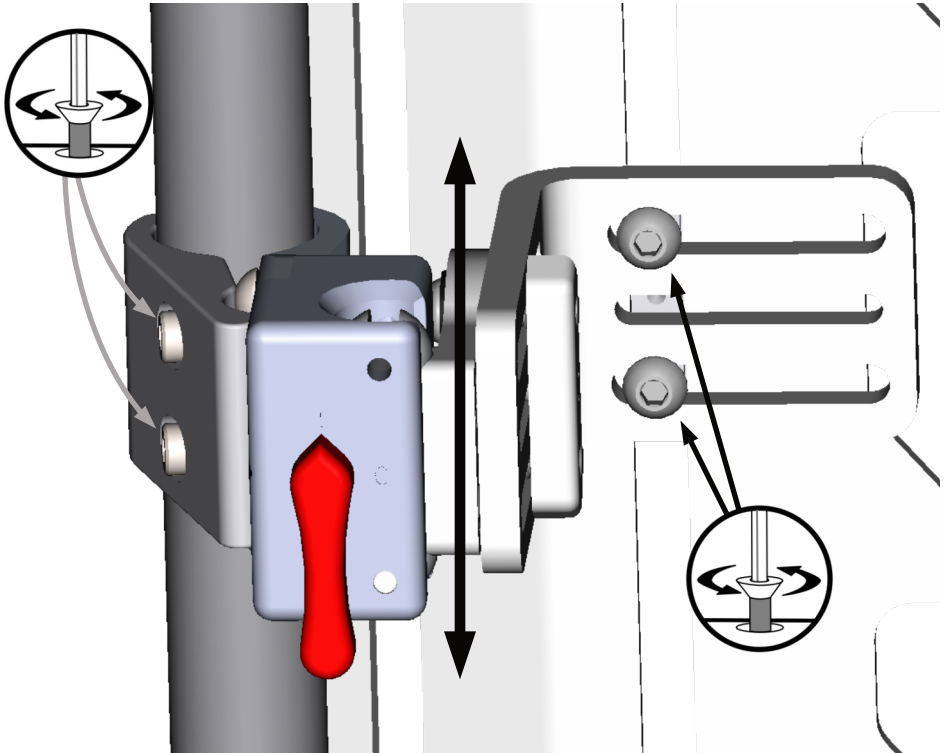


Adjustment

The FlipLock hardware includes features such as angle, width, and depth adjustments.

Height Adjustment

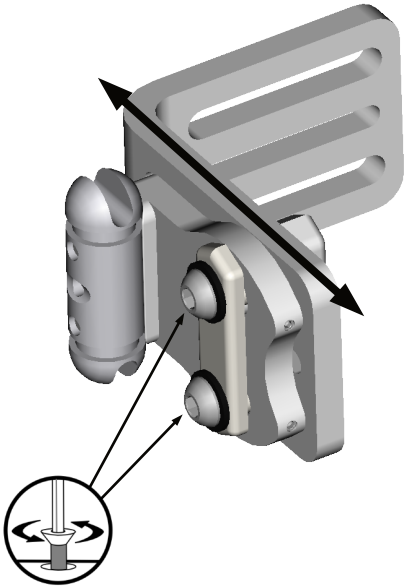
To adjust the height of the FlipLock hardware, loosen the screws attaching the hardware to back support, and the screws that tighten the clamp to the back cane. Raise or lower the hardware to the desired position and tighten the screws to secure the hardware to the cane and back support. Make the same adjustment to the hardware located on the opposite side of the back rest.



In 2-point installations, the hardware should be located just above center of the middle of the back support to reduce the amount of rotational torque applied to the brackets and hardware during normal use.

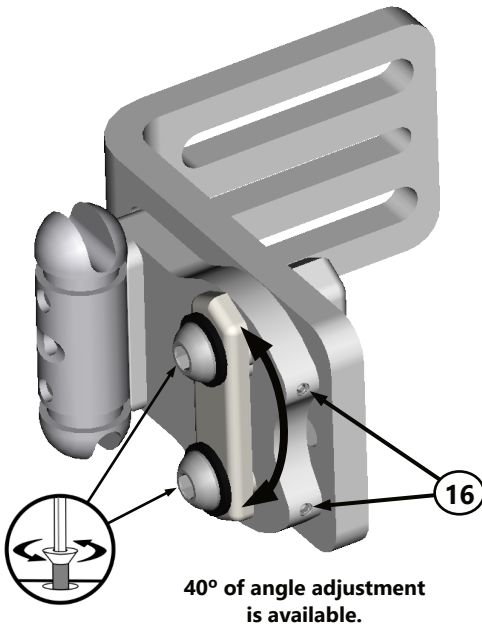
In 4-point installations, the Fliplock hardware should be located just above the center of the upper third of the back support, and the J-Hook hardware should be located just below the center of the lower third, to provide the most stability and support.

Depth Adjustment



1. Slightly loosen the two M6 x 1.0 x 22mm button head screws (B5) on both mounting adapters.
2. Slide the back support forward or backward into the desired position. Be mindful of the angle setting, as it is also free to change at this point.
3. When the desired position is reached, tighten the M6 x 1.0 x 22mm button head screws (B5) to the torque specification listed on Pg. 6.

Angle Adjustment

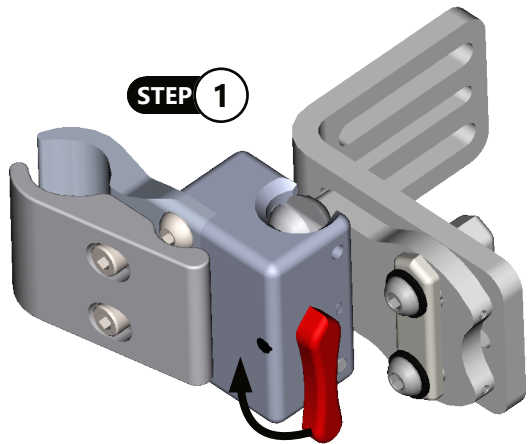


1. Loosen the M3 x 0.5 x 10mm Set Screws (B8) and the M6 x 1 x 22mm Button Head Screws (B5) on both FlipLock mounts.
2. Being careful to maintain the depth adjustment, rotate the back support to the desired angle.
3. Tighten the M6 x 1 x 22mm button head screws (B5) to set the angle adjustment.
4. Tighten the M3 x .5 x 10mm Set Screws (B8) to snug them against the bolts to further secure the angle setting.

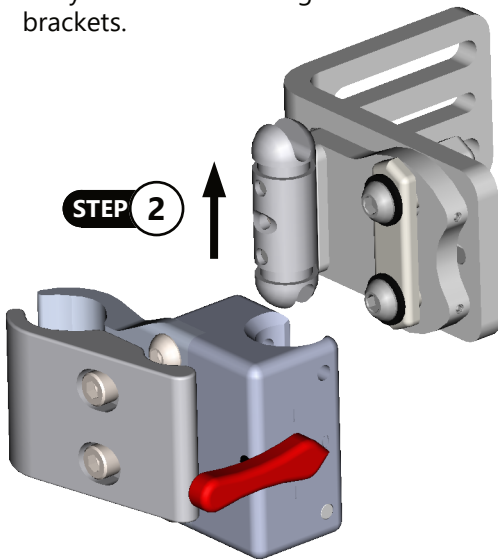
Operation

Removal and Replacement

1. To remove the back support, rotate the Cam Pins (on C7) 90° into the horizontal alignment.

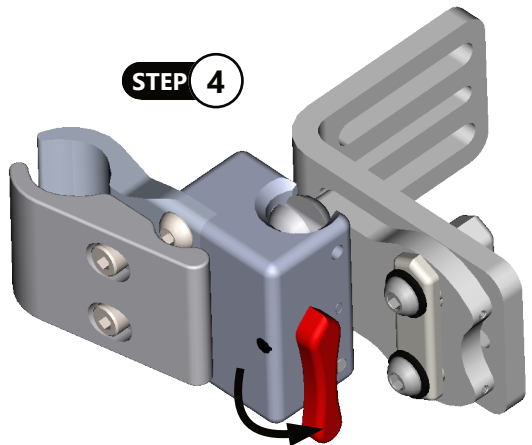


2. Lift the back support up and away from the mounting brackets.



3. To replace the back support, slide the Latch Pins (B1) back into the Receivers (C7).

4. To lock the back support in place, rotate the Cam Pins (on C7) 90° into the vertical alignment.



FlipLock Hardware has met WC20 and ISO16840-4 requirements and provisions.

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

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.

Before Transit

- Clients who use wheelchairs should transfer to the vehicle seat and use the vehicle-installed occupant restraint systems, if possible.
- 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 seat hardware to the back. Check for loose screws attaching the hardware to the seat. These should be snug and not over-tightened.
- The FlipLock hardware should be securely attached to the back.

Belt Placement

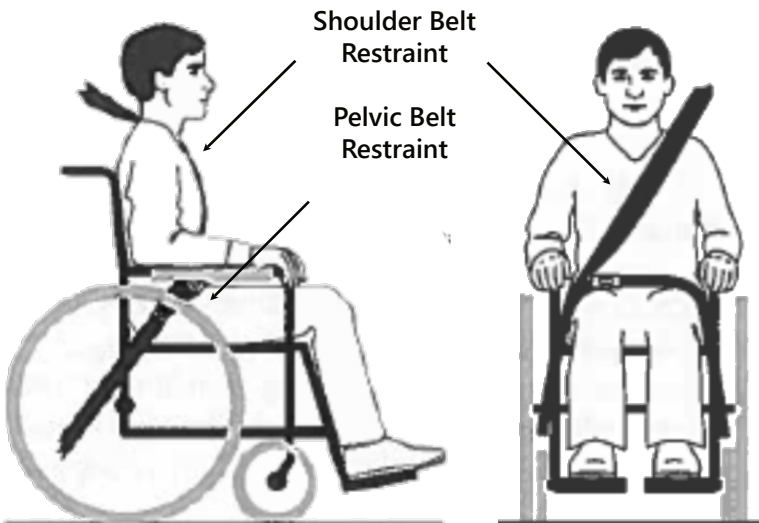
- The pelvic belt restraint should be worn low, across the front of the pelvis near the junction of the pelvis and thigh.
- The belt restraint buckle of three-point belt restraints should be placed in contact with the occupant's body and away from wheelchair components.
- The junction of the shoulder 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.

Proper Positioning of Belts on Occupants



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

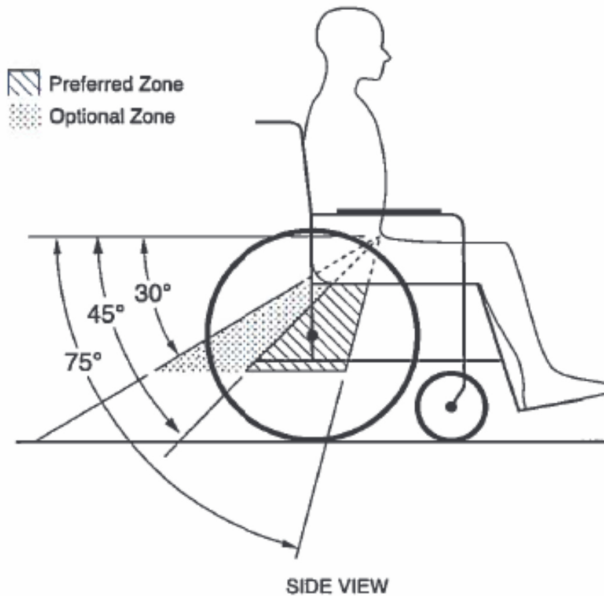
Belt restraints should not be routed outside of the wheelchair, over the wheelchair's wheels, or over the wheelchair arm supports and should not be held away from the body by wheelchair components and parts.



WC20 Transit Information

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° and 75° horizontally when viewed from the side, and ideally between 45° and 75° horizontally, as shown in the figure to the right.



DANGER

The WC20 approved FlipLock hardware and the TFB backs are designed specifically for occupancy when used on wheelchairs that are facing forward in motor vehicles.



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.



DANGER

The WC20 approved FlipLock Hardware and TFB 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.

Trays

Wheelchair-mounted rigid trays that are not specifically designed for use during travel in a motor vehicle 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.

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.



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.

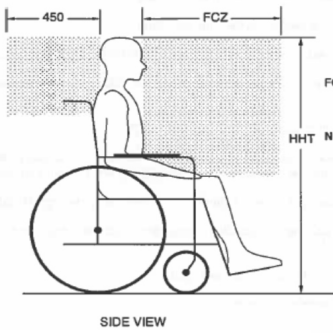


WARNING

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.

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 upon for occupant protection in crash situations unless the postural belt has been designed to comply with, and perform to, the requirements of 4.6, 5.2, and 5.3 of RESNA WC-4:2012, Section 19.

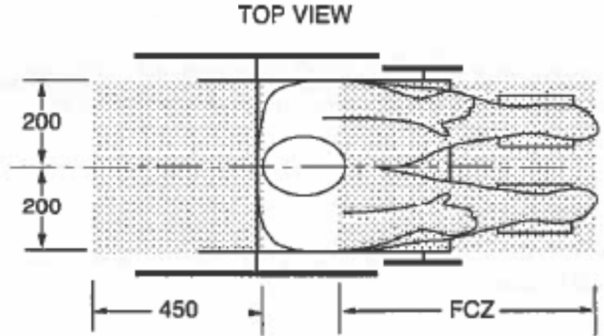


FCZ = 650 mm with upper torso restraint
 = 950 mm with only pelvic restraint

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

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 FlipLock hardware and TFB 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.

Cleaning and Maintenance

We recommend that all products be examined on a regular basis for wear and function. Check the stitching on the webbing for stress or damage. If loose, frayed or broken parts are discovered, discontinue use and contact your provider. Repairs should only be performed by a wheelchair service professional and with genuine Stealth Products parts, fasteners or items appropriate for the service required.

Surfaces may be cleaned with a damp cloth and a mild, non-abrasive cleaner. Ensure all cleaners are approved for finished steel, aluminum, plastic and upholstered surfaces. Vests and straps that are removable and DO NOT contain metal components may be machine washed warm (40°C), permanent press, gentle cycle.

DO NOT bleach. DO NOT tumble dry. Dry flat. DO NOT iron.

Important

These products are designed to be fitted, applied, and installed exclusively by a health care professional trained for these purposes. The fitting, application and installation by a non-qualified individual could result in serious injury. **Stealth Products, LLC** accepts no liability for personal injury or damage 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. Initial setup and driving should be done in an open area free of obstacles until the user is fully capable of driving safely.

Before you begin using this product, it is important that you read and understand the content of these installation and operating instructions. Product misuse due to failure to adhere to instructions and warnings in this document will void your warranty and may result in property damage, injury or death. Always keep the operating instructions in a safe place so they may be referenced as necessary. If this document contains information you do not understand or if there are concerns about safety or operation, contact your provider.

All information, pictures, illustrations and specifications are based on the product information available at the time of printing, and are representative examples. They are not intended to be exact descriptions of the various parts of the product. Instructions are written with the expressed intent of use with standard configurations. They also contain important safety and maintenance information. For assistance with advanced configurations or options, contact your provider or **Stealth Products** at (512) 715-9995 or toll free at (800) 965-9229.

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 provider for repair, adjustment or replacement. You can download additional copies of this manual by visiting <https://stlpro.site/stealth-docs/> and searching for "P136D577" in the document manager.

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, LLC** does not warrant damage due to, but not limited to, misuse, abuse, or misapplication of products and modification of product without written approval from **Stealth Products, LLC**. Any alteration or lack of serial number, where applicable, will automatically void this warranty. **Stealth Products, LLC** is liable for replacement parts only, and is not liable for any incurred labor costs. No person is authorized to alter, extend, or waive the warranties of **Stealth Products, LLC**.

Please visit <https://stlpro.site/returns-n-warranty> to learn more about our warranty and returns policy.

About Us

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

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