

**matrx**<sup>®</sup>  
SEATING SERIES



**matrx**<sup>®</sup>  
Mini  
**back**

**i IMPORTANT!** The installation instructions contained in this manual should only be carried out by a qualified technician.

INSTALLATION / USER MANUAL




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## **SAFETY SYMBOLS:**

Proper set-up and safe use of your Invacare Matrix Mini Back depends on your own good judgement and common sense, as well as that of your provider, caregiver and/or health professional. The following symbols are used throughout this manual to identify warnings, cautions and important notes. It is very important that you read and understand them completely.

-  **CAUTION!** Failure to heed the cautions in this manual may result in damage to your Matrix Seating product.
-  **WARNING!** Failure to heed the warnings in this manual may result in personal injury.
-  **IMPORTANT!** Important information to remember during installation and set-up of your Matrix Seating product.

 **IMPORTANT!** Please refer to the Wheelchair Owners/Operators Manual for additional safety information, warnings and cautions related to the operation of your wheelchair.

# 1.0 General Warnings

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## **⚠ WARNING!**

DO NOT USE THIS PRODUCT OR ANY AVAILABLE OPTIONAL EQUIPMENT WITHOUT FIRST COMPLETELY READING AND UNDERSTANDING THESE INSTRUCTIONS AND ANY ADDITIONAL INSTRUCTIONAL MATERIAL SUCH AS OWNER'S MANUALS, SERVICE MANUALS OR INSTRUCTION SHEETS SUPPLIED WITH THIS PRODUCT OR OPTIONAL EQUIPMENT. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS OR INSTRUCTIONS, CONTACT A HEALTHCARE PROFESSIONAL, DEALER OR TECHNICAL PERSONNEL BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE, INJURY OR DAMAGE MAY OCCUR.

## **⚠ ACCESSORIES WARNING**

Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.

## **⚠ INSTALLATION WARNING**

The procedures in this manual should be performed by a qualified technician. After any adjustments, repair or service and before use, make sure that all attaching component parts are secure.

DO NOT install the Invacare Matrx Mini assembly onto back canes with an outside diameter greater than 1-inch or less than 3/4-inch. Otherwise, injury or damage may occur.

The mounting position of the Invacare Matrx Mini is directly related to the chair's stability. When the Invacare Matrx Mini is added to a TILT and/or RECLINING chair, it may cause a decrease in the chair's stability. It may be necessary to reposition the FRONT CASTERS, REAR WHEELS, BACK ANGLE, TILT-IN-SPACE, RECLINE POSITION and/or SEAT DEPTH before use. Use extreme caution when using a new seating position.

When a Matrx Mini is added to a TILT and/or RECLINING chair, a RIGIDIZER BAR or CROSSBAR must be present to stabilize the back canes.

Ensure the Invacare Matrx Mini is properly secured to the wheelchair before using. Otherwise injury or damage may occur.

## **⚠ WARNING!**

Skin condition should be checked very frequently after the installation of any new seating system.

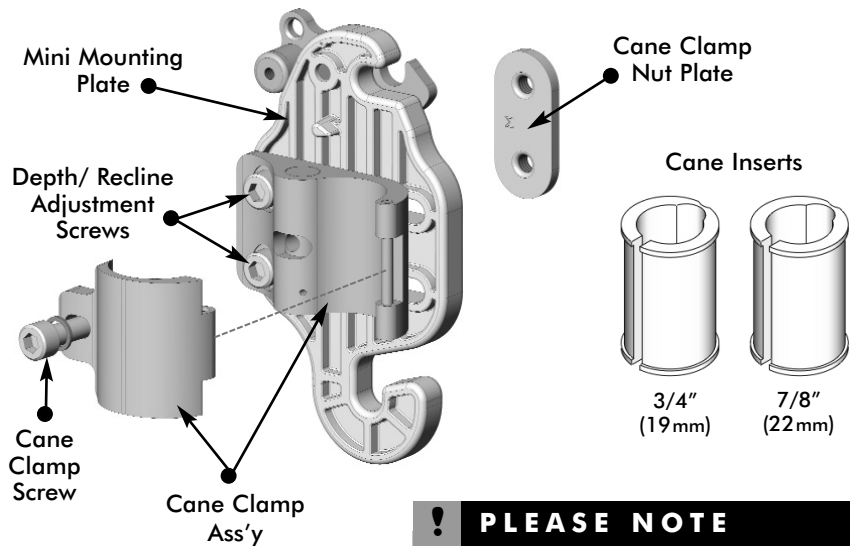
Your therapist and physician should be consulted if you have any questions regarding individual limitations and needs.

Working with your therapist, physician, and equipment supplier is the best way to assure that a seating choice matches your individual needs.

As the needs of the individual become more complex, the seating evaluation becomes more important.

## 2.0 Hardware Kit Contents

- 2 - Mini Mounting Plates
- 2 - Cane Clamp Ass'y
- 2 - Cane Inserts 7/8" (22mm)
- 2 - Cane Inserts 3/4" (19mm)
- 4 - Depth/Recline Adjustment Screws
- 2 - Cane Clamp Screws
- 2 - Cane Clamp Nut Plates
- 4 - Long Mounting Pins (optional)



(Right Assembly Shown)



### PLEASE NOTE

If any of the above hardware is missing or misplaced, please contact your local Invacare/Motion Concepts Representative to obtain the necessary replacements or you may contact our Customer Service Dept. directly for assistance.

**Canada:** 905-695-0134

**USA:** 716-447-005

## 3.0 Tools Required

Wrench (22mm) (provided)  
Hex Key Tool (4mm/5mm) (provided)

Utility Knife/Scissors  
Tape Measure/Ruler

# 4.0 Prior to Installation- Important!

## 4.1 Back Sizes/ Weight Capacity:

WIDTH	HEIGHT				WEIGHT CAPACITY
	7 in (18cm)	10 in (26cm)	12 in (30cm)	14 in (36cm)	
10 in (26cm)	MINI1007	MINI1010	MINI1012		150 lbs (68 kg)
11 in (28cm)	MINI1107	MINI1110	MINI1112		
12 in (31cm)	MINI1207	MINI1210	MINI1212	MINI1214	
13 in (33cm)	MINI1307	MINI1310	MINI1312	MINI1314	
14 in (36cm)	MINI1407	MINI1410	MINI1412	MINI1414	

## 4.2 Mounting Plate Configuration:

The Mounting Plates are pre-assembled on the Cane Clamps in the rear-most mounting configuration. This maximizes the seat depth of the wheelchair seat (up to a maximum 2" (51mm) rearward offset - see **Figure 1** below).

By changing the orientation of the Mounting Plates on the Cane Clamps, the assembly can be reconfigured\* to provide a more forward mounting position for the back if desired (up to a maximum 2" (51mm) forward offset - see **Figure 2**)

**Note:** Each mounting plate is also designed to provide 1.5" (38mm) of fore and aft adjustment relative to the cane clamp

**\*To reconfigure a mounting plate/cane clamp to the forwardmost orientation:**

- detach the Mounting Plate from the Cane Clamp (2 screws);
- Rotate the Cane Clamp 180° and re-fasten it to Mounting Plate;
- Install Cane Clamp as illustrated in **Figure 2**.

**⚠ WARNING!** When establishing the mounting position for the Invacare Matrix Mini back, ensure the stability of the wheelchair is not compromised. Adjusting the forward and aft position of the backrest will alter the user's center of gravity within the wheelchair. A recessed back position can significantly reduce the rearward stability of the wheelchair. Similarly, a more forward back position will reduce the wheelchair's forward stability.

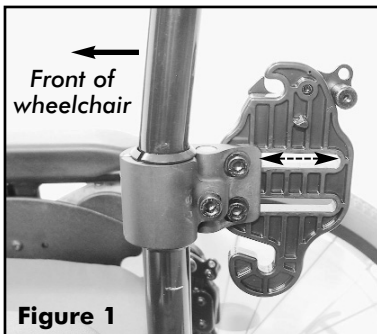


Figure 1  
Mini mounting plate in the rear-most back position (maximum seat depth)

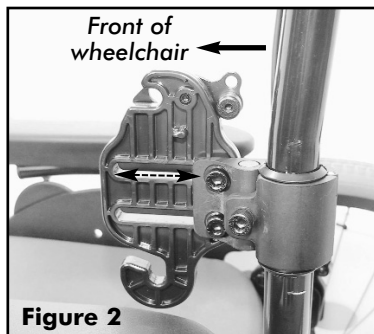


Figure 2  
Mini mounting plate in the forward-most back position. (minimum seat depth)

## 4.0 Prior to Installation - Important!

### 4.3 Accommodating Different Sized Back Canes:

- ◆ 1" (26mm) canes - Install cane clamp ass'y without plastic inserts.
- ◆ 7/8" (22mm) canes - Install 7/8" (22mm) plastic inserts (x2) (provided)
- ◆ 3/4" (19mm) canes - Install 3/4" (19mm) plastic inserts (x2) (provided)

#### ! PLEASE NOTE

If there is an uneven seam along the back canes where a smaller diameter tube is inserted into a larger diameter tube, the Mini Cane Clamps should be mounted above or below the seam (Do Not Overlap).

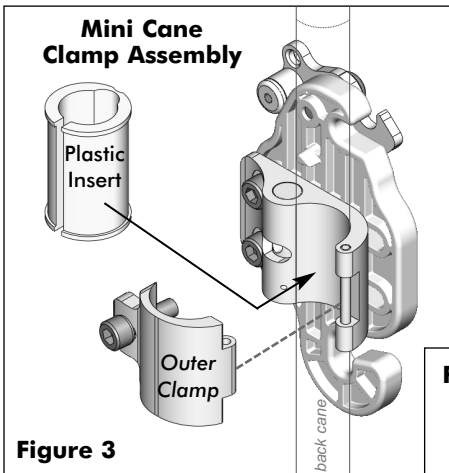


Figure 3

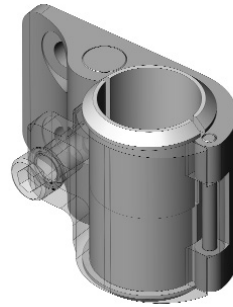
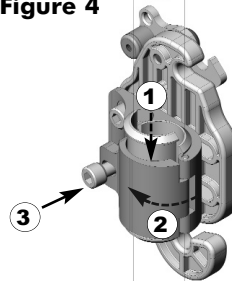
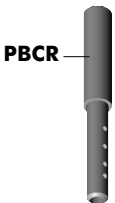


Figure 4



#### HELPFUL HINT

Spray a small amount of hairspray on the back canes and on the inside of the plastic inserts to create a secure 'no-slip' bond.



PBCR

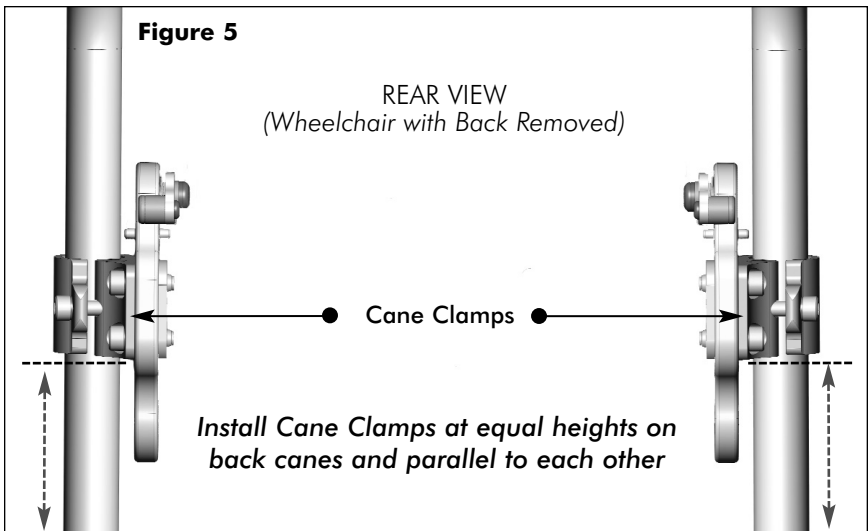
**NOTE:** For wheelchairs with short back canes, it may be necessary to install **Posture Back Cane Replacements** (PBCR's). The PBCR's are designed to replace existing push handles or cane extensions on standard 1" (26mm) back posts. The Cane Clamps can be mounted directly onto the replacement back cane if necessary. Cane Replacements are available from Motion Concepts (**part#-TRX2810**).

## 5.0 Matrx Mini Installation

**⚠ WARNING!** The installation hardware provided is high strength and tested for durability. **DO NOT** substitute hardware. Use only the hardware supplied.

- 1 Remove existing wheelchair back (if applicable).
- 2 Establish the desired Mounting Plate set-up/configuration for the user (per **Section 4.0**).
- 3 Loosen the Cane Clamp screw and loosely install the clamp (with mounting bracket) onto each back cane. (*Install plastic inserts if required*).
- 4 Starting on one side, position the Cane Clamp at the desired height on the back cane and tighten the clamp screw enough to hold it in place. (*The clamps can be fully tightened after the back is installed and all final adjustments have been made.*)
- 5 From a fixed point on the wheelchair (e.g. seat frame/rigidizer bar) measure the exact height of the *installed* Cane Clamp assembly, and install the second Cane Clamp at the same height on the opposite back cane - see **Figure 5** below.

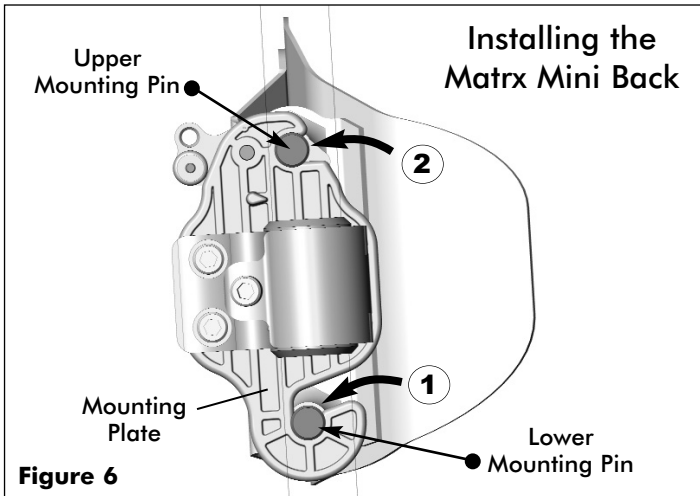
**NOTE:** Ensure the Cane Clamps/Mounting Plates are mounted parallel with each other.



## 5.0 MatrX Mini Installation

- 6 To install the MatrX Mini back onto the mounting plates (see **Figure 6**):
- Slide the lower mounting pins into the hooked slots at the bottom of each mounting plate (**1**).
  - With the lower pins in place, lock/snap the upper mounting pins into the latch mechanism at the top of the mounting plates (**2**).

**⚠ WARNING!** Always ensure both latch mechanisms are fully engaged around the upper mounting pins following installation.



- 7 Before proceeding with the final set-up, the mounting pins may require adjustment to ensure the backrest is properly fitted/secured to the wheelchair.

### ! PLEASE NOTE

Invacare MatrX Mini backs are available in **five widths**: 10" (26cm), 11" (28cm), 12" (31cm), 13" (33cm) and 14" (36cm). Due to variances that exist between different wheelchair manufacturers, the mounting pin depth may require adjustment to properly fit the MatrX Mini back onto the wheelchair back canes (see Step 8). Two sets of depth adjustable pins are supplied with every back: **Standard Pins** and **Long Pins**. (\*see note below re: **EMP Kits**) Standard pins come factory installed and are suitable for most typical wheelchair configurations. Long pins are designed to allow installation onto back canes that are up to 1" (25mm) wider than the nominal width of the backrest.

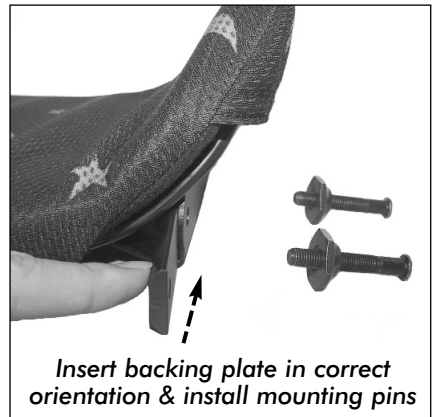
**Example: 12" (31cm) Invacare MatrX Mini Back fits:**

- 12" (31cm) seat frame/back cane width = **Standard Pins**
- 13" (33cm) seat frame/back cane width = **Long Pins**

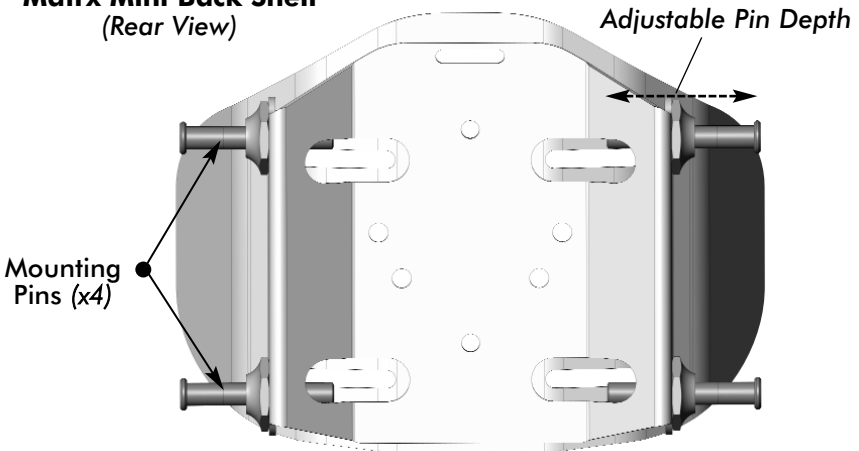


## 5.0 Matrix Mini Installation

**i NOTE:** When exchanging/installing the mounting pins, the threaded Backing Plate must be properly re-aligned with the mounting pins in order to complete the installation- see images below.



### Matrix Mini Back Shell (Rear View)



**\*Extended Mounting Pin (EMP) Kits:** Extended mounting pins allow a back to be installed on back canes up to 2" wider than the back width.

**⚠ WARNING!** EMP kits are designed only for use with Matrix Mini backs and standard sized Matrix Elite backs (up to max. 300lb (136kg) weight capacity).

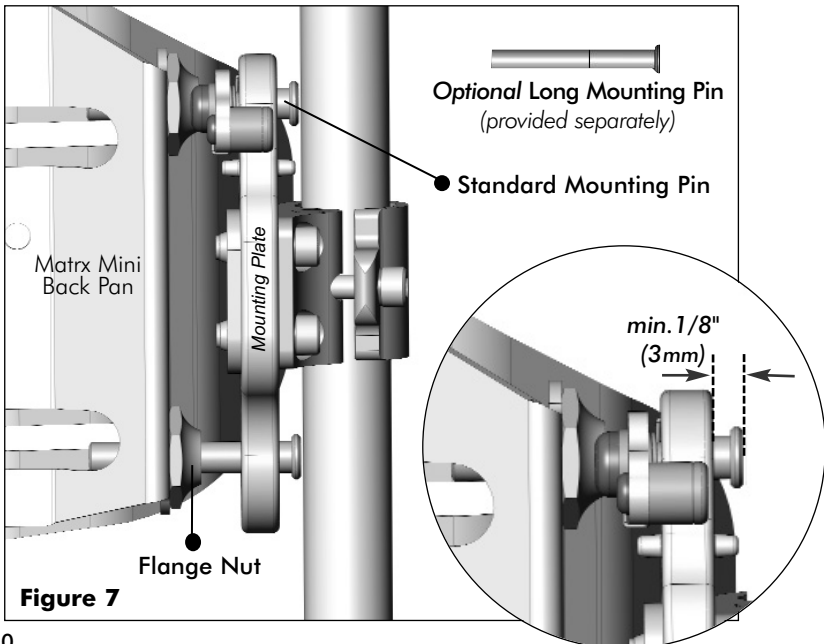
## 5.0 Matrx Mini Installation

- 8 To adjust the mounting pins:
- With the back secured in place on the wheelchair, determine the amount of adjustment required for each mounting pin (see **Figure 7**).
  - Remove the backrest from the wheelchair and use the wrench provided to loosen each flange nut. (If necessary, replace the standard mounting pins with long mounting pins).
  - Adjust the mounting pin depth (clockwise to shorten/counter-clockwise to lengthen) so that a minimum gap of 1/8" (3mm) exists between the top of the pin and the mounting plate. Re-tighten each flange nut to secure the pins in place. (ensure pins do not rotate when tightening the flange nuts)

**⚠ WARNING!** Ensure all flange nuts are **fully tightened**; Failure to do so may cause damage/cracking in the back pan

**⚠ WARNING!** NEVER use loctite on mounting hardware; Adjacent plastic components may degrade and become brittle (break) if contaminated.

**⚠ WARNING!** Improper pin set-up may cause damage to the back pan and/or the mounting plates. Ensure sufficient spacing is provided between the mounting plates and the mounting pins (**a minimum gap of 1/8" (3mm) is recommended**).



## 5.0 Matrix Mini Installation

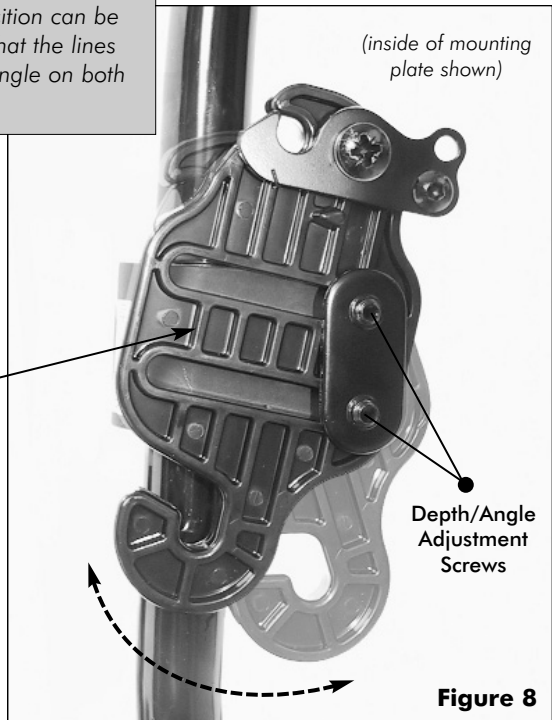
- 9 Verify that the overall fit and alignment of the back is correct (make further adjustments as needed).
- 10 Fully secure the Cane Clamp assembly onto both back posts, and ensure the mounting plates do not slip or rotate.
- 11 To best determine the optimal depth & angle settings for the back, the user should be seated in the wheelchair. While seated, loosen the depth/angle adjustment screws on the mounting plates and adjust the back to the desired depth and recline angle (see **Figure 8**). Re-tighten all screws to lock the back in position.

Ensure that the depth/angle adjustment for the back is made **symmetrically\*** on the left & right mounting plates.

### ! PLEASE NOTE

The vertical lines on the mounting plates are designed as a point of reference to assist with symmetrical mounting (see image below). The back position can be angle adjusted/rotated, so that the lines may be used to match the angle on both mounting plates.

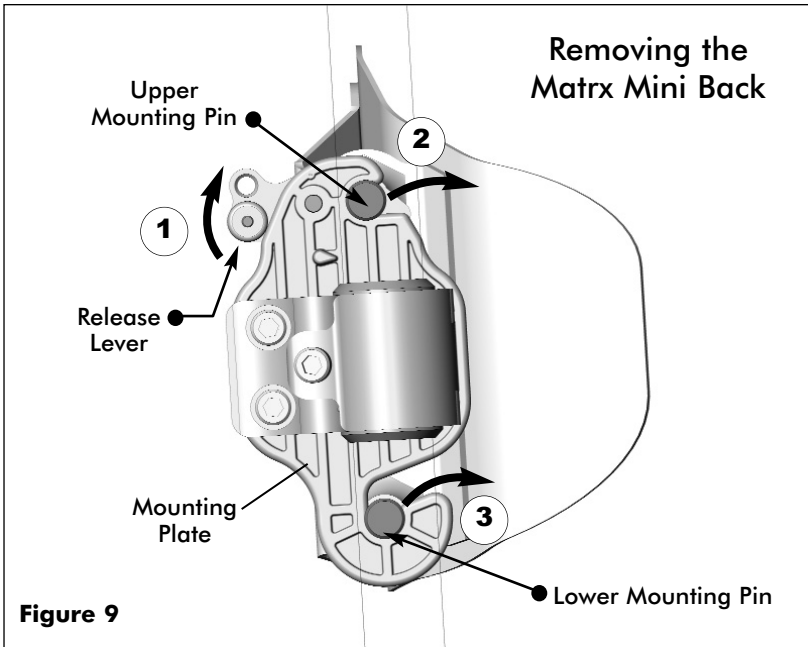
\*Use moulded lines to make symmetrical adjustments on the left and right mounting plates.



## 6.0 Disengaging the Matrix Mini

### 6.1 Disengaging the Back from the Wheelchair (see Figure 9) :

- 1 Simultaneously lift the release levers (left & right) to unlock the latch mechanism (1) and release the upper pins from the mounting plates (2).  
*Note: refer to [Section 8.0](#) for backs equipped with the one-hand cord release*
- 2 Lift the entire backrest up and forward to disengage the lower pins from the lower slots in the mounting plates (3).




# 7.0 Care and Maintenance Instructions

## 7.1 Care and Laundering:

Carefully remove the cover by releasing the velcro hook and loop fasteners along the top & bottom edge and inside of the back shell.


**General Care and Cleaning:** The cover may be easily wiped down with a damp cloth when necessary. Before laundering, the inner foam cushion must first be removed from the outer cover.

**Laundering Directions (Outer Cover):** Machine Wash in Warm Water on Delicate Cycle; Hang to Dry or Tumble Dry on Low; Do Not Bleach; Do Not Iron; Do Not Dry Clean

 **CAUTION!** *DO NOT use cleaning agents containing bleach, phenols or alcohols. Otherwise product damage may occur.*

## 7.2 Maintenance and Inspection:

**Monthly:** Perform a visual inspection of parts including hardware, brackets, upholstery materials, foams, and plastics for deformation, corrosion, breakage, wear or compression.

 **WARNING!** Check ALL fasteners weekly to ensure that mechanical connections and attaching hardware are tightened securely - otherwise injury or damage may occur.

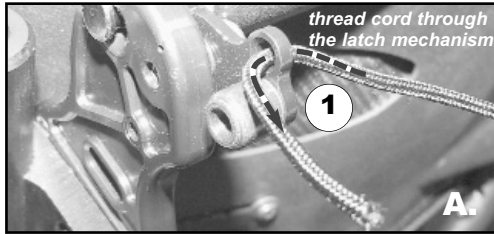
DO NOT continue to use this product if problems are discovered. Corrective measures can be performed at, or arranged through your equipment supplier.

# 8.0 One-Hand Cord Release (Optional)

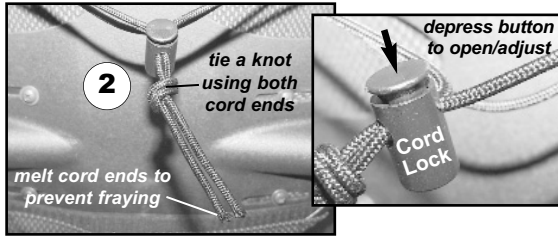
## 8.1 Installation Instructions:

**Note:** The cord release mechanism is illustrated using a Standard Elite Back

1. Thread the **Nylon Cord** through the holes in the latch mechanism at the top of the left and right mounting plates (1)

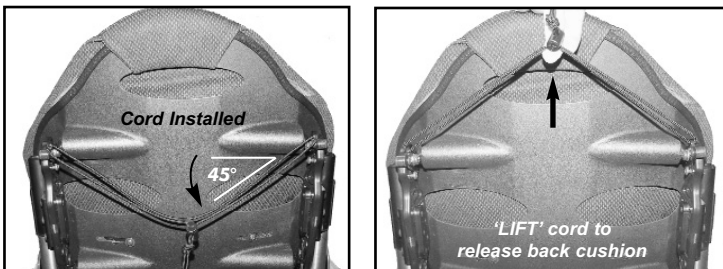


2. Install the spring loaded **Cord-Lock** mechanism onto the nylon cord (2). Press the button to open the lock mechanism and slide the two open ends of the cord through the opening.



3. With the back properly installed on the wheelchair, adjust the cord length so that it hangs at approximately a **45° angle** along the back pan (*this will allow the release mechanism to operate more effectively*). **Cut/remove excess cord** to eliminate any risk of entanglement. Once adjusted, combine the loose cord ends into a single knot to prevent the cord-lock from slipping.

**Note:** Carefully melt the ends of the cord to prevent fraying



**NOTE:** Cord is shown installed on a Standard Elite Back

# 9.0 Lumbar Support (Optional)

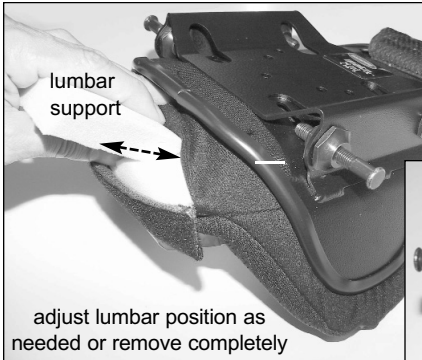
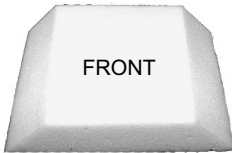
## ! PLEASE NOTE

The **Lumbar Support** is a pre-fabricated foam insert that provides lower back support for additional comfort. The position of the lumbar insert can be adjusted inside the Matrix Mini cover (see *instructions below*), or it may be removed if no lumbar support is desired.

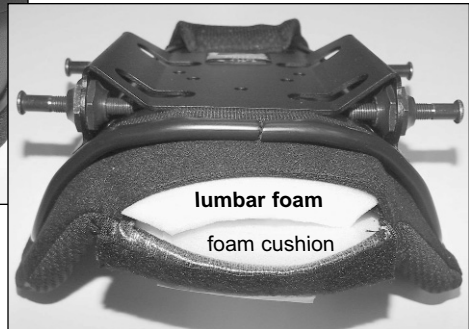
### 9.1 Lumbar Support Adjustment:

1. To install/adjust the Lumbar Support, open outer cover at the bottom rear of the back pan (via velcro strip).
2. If necessary, cut the lumbar foam to the appropriate size\* and insert the lumbar support inside the cover between the foam back cushion and the back pan (refer to images below)
3. The lumbar support can be adjusted manually to any desired height/position/orientation, or it can be removed completely if no lumbar support is required.
4. Refasten the cover (velcro strip) onto the back pan.

**Lumbar Support**



**\*NOTE:** The lumbar foam may be cut/modified as needed, to meet the needs of the end user.



## WARRANTY

Every Invacare Matrix® Mini back is carefully inspected and tested to provide optimum performance. Each back is guaranteed to be free from defects 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 of the original date of purchase, Motion Concepts will, at its option, repair or replace it free of charge. This warranty does not apply to punctures, tears or burns, nor to the removable cushion cover.

The original back must be returned to the dealer and will become the property of Motion Concepts as a condition of processing the warranty claim. All warranty claims must be made through the dealer where the cushion was purchased. Except for express warranties made herein, all other warranties of fitness or use for a particular purpose are excluded. There are no warranties that extend beyond the warranties provided above. Remedies for breach of this warranty are limited to repair or replacement of goods. In no event shall damages for breach of any warranty include any consequential damages or exceed the original cost of the back.



**Yes, you can.®**

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