



Matrx Back Interface

for the

QUANTUM TRU-BALANCE 3 SEATING SYSTEM

INSTALLATION INSTRUCTIONS



Important Symbols in this Manual

Setting up and operating your wheelchair safely depends on your own good judgement and common sense, as well as that of your provider, caregiver and/or health professional.

The safety symbols below are used throughout this manual to identify warnings, cautions and important notes. It is very important for you to read and understand them completely.

Safety Symbols:



WARNING!

This symbol warns you of danger!

- Always follow these instructions to avoid injury to the user or damage to the product!



IMPORTANT!

- Important information to remember when operating/installing your Motion Concepts product/device.



NOTE:

- This symbol identifies general information which is intended to simplify working with your product and/or which refers to special functions or important instructions.



Requirements:

- This symbol identifies a list of various tools, components and items which you will need in order to carry out certain work.



READ WELL BEFORE OPERATION!

- This symbol advises you to read information carefully.

Contact Information:

If you have any questions or require support concerning your Motion Concepts product/device, please contact your authorized Motion Concepts Dealer, who has the necessary training and equipment to meet your needs, or you may contact Motion Concepts directly for assistance. The more we are able to understand your needs, the better we will be able to meet them.

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1.0 SAFETY INFORMATION/WARNINGS



PLEASE READ ALL SAFETY INFORMATION THOROUGHLY BEFORE INSTALLATION!

1.1 General Safety Warnings

The contents of this manual are based on the expectation that a mobility device expert has fitted the Matrx Back Interface to the user and has assisted the prescribing healthcare professional in the instruction and safe use of this device



IMPORTANT! Motion Concepts disclaims all responsibility and liability for any personal injury or damage to property that occurs as a result of improper or unsafe use or installation of the Matrx Back interface assembly, and/or any unauthorized dealer or third party repairs or modifications made to the Matrx Back interface.



IMPORTANT! Please be certain read and follow the safety warnings included in your **Quantum Power Base Owners/Operators Manual** (*provided separately*)



DANGER! Risk of Death, Injury or Damage.

Improper use of this product may cause damage, serious injury or death

- *DO NOT ignore unanswered questions. If you are unable to understand the warnings, cautions or instructions provided, contact a health care professional or dealer before attempting to use this equipment*
- *DO NOT use this product or any available optional equipment without first completely reading and understanding the safety warnings and instructions included in this Instalaltion Manual, as well as any additional instructions and safety warnings/information provided (separately) with the **Quantum Power Base Owners/Operators Manual**.*

1.2 Stability Warnings

Only the dealer and the health care professional can ensure that the seating system meets your individual requirements. It is your dealer or healthcare professional's responsibility to ensure that the wheelchair is set up properly and safely for your specific needs.



WARNING! By changing your seating position (tilting/ reclining/ elevating), you are changing the stability characteristics of the wheelchair.

- *ALWAYS ensure that the Matrx Back is set up so that it is stable in all seating positions.*



WARNING! Risk of Serious Injury or Damage.

Seating accessories and personal gear could cause instability resulting in serious injury. The following factors should be considered when evaluating stability:

- *Consider all personal gear and accessories (backpacks, vent systems, extra batteries, etc..) that will be carried on the wheelchair. For example, a loaded backpack, attached to the back of the seating system, can significantly reduce the rearward stability of your wheelchair.*
- *Consider the backrest being used. A recessed back can shift your center of gravity backward and significantly reduce the rearward stability of the wheelchair. Conversely, a thick back cushion will shift you forward and reduce the wheelchair's forward stability.*
- *Consider the seat cushion being used. A thick seat cushion will raise your center of gravity and reduce the wheelchairs stability in all directions.*



WARNING! Risk of Serious Injury or Damage.

Mounting hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.

- *Following ANY adjustments, repair or service and before use, make sure that all mounting hardware is tightened securely.*



DANGER! Risk of Damage, Serious Injury or Death

Missing mounting hardware could cause instability resulting in damage, serious injury or death

- *Ensure all mounting hardware is present and tightened securely*

1.0 SAFETY INFORMATION/WARNINGS

1.2 Stability Warnings (...cont'd)



WARNING! Risk of Serious Injury or Damage.

Improper body positioning in the wheelchair could compromise wheelchair stability resulting in serious injury or damage.

Your wheelchair has been designed to remain upright & stable during normal daily activities. To maintain proper balance, ensure system stability and assure the safe operation of your wheelchair:

- *Determine and establish your personal safety limits by practicing bending, reaching and transferring activities in the presence of a qualified healthcare professional before attempting active use of the wheelchair.*
- *DO NOT lean forward out of the wheelchair any further than the length of the armrests.*
- *DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.*
- *NEVER extend your arms backward beyond the back when the seating system is in a tilted or reclined or elevated position. This could shift your center of gravity enough to cause the wheelchair to become unstable.*
- *ALWAYS wear your postural belt when you are occupying the wheelchair. Your postural belt helps reduce the possibility of a fall from the wheelchair.*
 - *When driving, ALWAYS shift your weight in the direction you are turning. Shifting your weight in the opposite direction of the turn may cause the inside drive wheel to lose traction, and may compromise the stability of the wheelchair.*
- *Ensure all medical conditions are considered when setting up your wheelchair. Involuntary muscle movement such as spasms may affect the stability of the wheelchair, especially when the seating system is in a tilted or reclined or elevated position.*



WARNING! Risk of Damage, Serious Injury or Death

The stability of the wheelchair is adversely affected by additional weight that shifts the center of gravity

- *Your wheelchair/seating system is designed to accommodate a single occupant. DO NOT operate with additional person(s) (including children or pets) seated in or on the wheelchair.*
- *DO NOT carry heavy objects on your lap while operating the wheelchair.*

1.3 Motor Vehicle Transportation Warnings!



IMPORTANT! Failure to comply with the transportation safety warnings provided below, may result in damage, serious injury, or death. Please be certain to read and understand all safety warnings PRIOR to transporting your wheelchair. If you have any questions or concerns regarding the safe transportation of your wheelchair in a motor vehicle, please contact your Dealer/Service Provider for assistance.



IMPORTANT! Please be certain to also read and understand the transportation safety warnings included in your **Power Wheelchair Base Owners Manual** (provided separately)



WARNING! The Matrx Back Interface in combination with the wheelchair base has NOT been crash tested and may NOT be used as a vehicle seat!

- *Your Matrx Back Interface (in combination with the OEM wheelchair power base) has not been tested to the requirements of ISO 7176-19:2001 or ANSI/RESNA WC-19 and may not under any circumstances be used as a vehicle seat or to transport the user in a vehicle.*
- *Using a wheelchair that does not fulfill these criteria as a vehicle seat can lead to the most severe injuries and even death in the event of a traffic accident.*



WARNING! When travelling in a motor vehicle you must be properly secured in a motor vehicle seat with safety belts securely fastened.

- *Although your chair may be equipped with a positioning belt, this belt is not designed to provide proper restraint during motor vehicle transport. **DO NOT** sit in your wheelchair while it is in a moving vehicle.*

1.0 SAFETY INFORMATION/WARNINGS

1.4 Weight Capacity

Several factors must be considered when determining the total user weight and the wheelchair weight capacity. To obtain the weight limitation data for the wheelchair base, refer to the **Quantum Power Base Owners/Operators Manual** (*provided separately*).

A variety of Matrix backs are available to interface onto the Quantum Tru-Balance 3 seating system, including Posture Backs (MPB), Elite Backs (PBE), Elite TR Backs (PBE-TR) and Elite Deep Backs (EDB). Back widths are limited to a range from 16"W (41cm) up to 20"W (51cm), with a **maximum weight capacity of 300lb. (136kg)** for each Matrix back model available.



IMPORTANT! If you have any concerns or questions regarding weight capacities, or if the total occupant weight is determined to be greater than the maximum permissible load, please contact our Technical Service Department for assistance.



WARNING! Risk of Damage, Serious Injury or Death

Exceeding the weight capacity of the wheelchair/seating system could cause instability resulting in damage, serious injury or death.

- *DO NOT exceed the maximum permissible weight capacity of the Matrix Back or the wheelchair base (whichever is less)*
- *DO NOT use the wheelchair to transport more than one person. The wheelchair is only designed for use by a single occupant whose maximum weight does not exceed the maximum permissible load of the device.*
- *DO NOT carry heavy objects on your lap while operating the wheelchair.*

1.5 Hardware and Accessories

Should you require any replacement hardware for your power positioning system, or for information on Motion Concepts accessories, please contact our Customer Service Dept. or your local Service Provider for assistance



WARNING! Risk of Serious Injury or Damage.

- *DO NOT substitute hardware. All hardware used by in the assembly and installation of our Matrix Back Interface is high strength. Use only the hardware supplied.*



WARNING! Risk of Serious Injury or Damage.

Use of non-approved Motion Concepts accessories may result in serious injury or damage.

- *Motion Concepts products are specifically designed and manufactured for use in conjunction with Motion Concepts accessories. Accessories designed by other manufacturers have not been tested, and are not recommended for use with Motion Concepts products.*

1.6 Flammability

The materials (foams and fabrics) utilized in our Motion Concepts Seating Products are tested to ensure compliance with applicable Medical Device Flammability Standards (*ANSI/RESNA and California Technical Bulletin (CA TB-117)*).



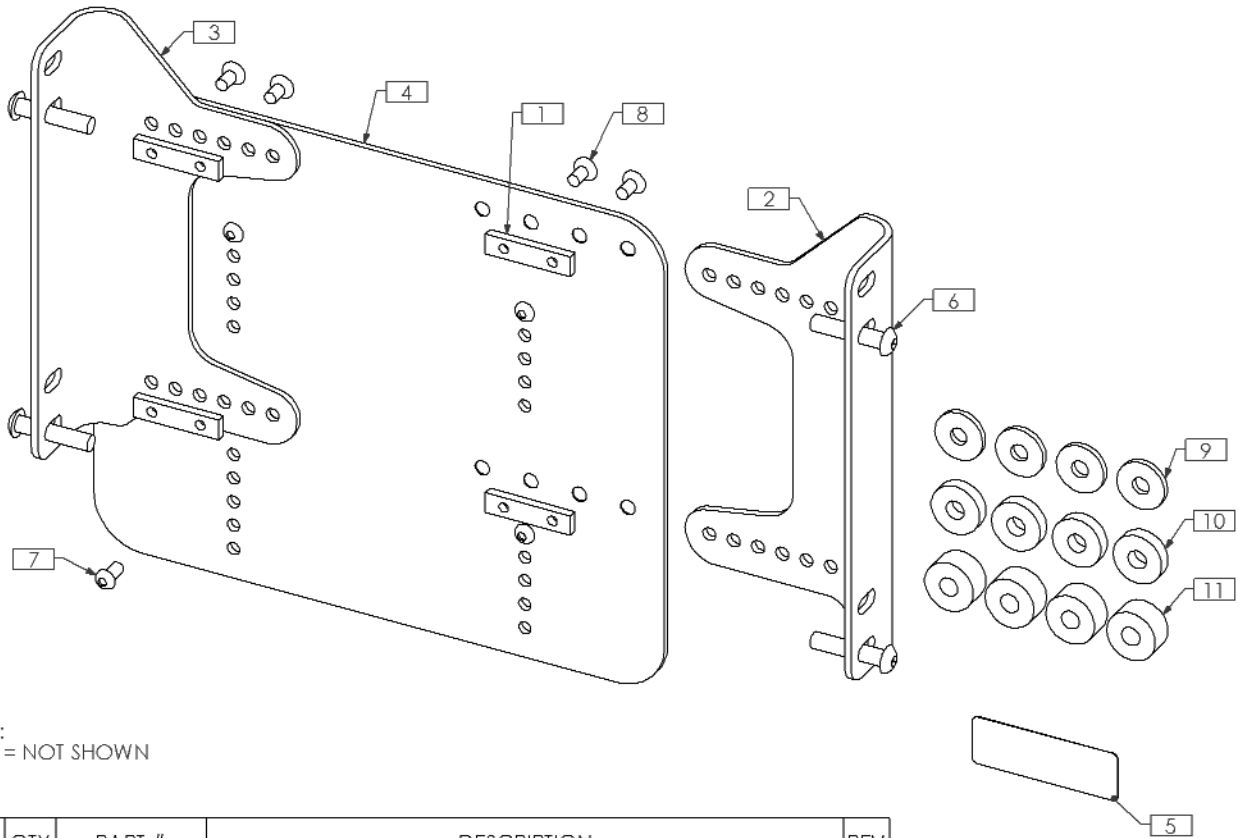
DANGER! Risk of Damage, Serious Injury, or Death

Lighted cigarettes dropped onto an upholstered seating system can cause a fire resulting in damage, serious injury, or death.

- *Wheelchair occupants are at particular risk of death or serious injury from these fires and resulting fumes because they may not have the ability to move away from the wheelchair.*
- *DO NOT smoke while using this wheelchair.*
- *Always exercise caution near open flames.*

2.0 MATRIX INTERFACE KIT

2.1 Matrix Interface Kit Contents (for Quantum Tru-Balance 3)



NOTES:
1. N/S = NOT SHOWN

ITEM	QTY	PART #	DESCRIPTION	REV
1	4	TRX7841	METRIC CLAMPING BAR	00
2	1	TRX8852	UNIVERSAL MOUNT, RIGHT	00
3	1	TRX8853	UNIVERSAL MOUNT, LEFT	00
4	1	TRZ0118	Q6 EDGE MOUNT	00
5	1	TRL0190	ITEM NO, SERIAL NO, QR CODE LABEL, MATRIX SEATING	00
6	4	TRH0391	5/16-24 x 1 1/2" BUTTON SOCKET CAP, ALLOY STEEL, BZ	-
7	4	TRH0700	M6-1.0 x 12mm BUTTON SOCKET CAP, ALLOY STEEL, BZ	-
8	8	TRH0719	M6-1.0 x 12mm FLAT SOCKET CAP, 10.9 ALLOY STEEL, BZ	-
9	4	TRM0176	P210 SPACER WASHER	-
10	4	TRM0648-250	SPACER, 3/8" ID X 1" OD X 1/4" THK	-
11	4	TRM0648-500	SPACER, 3/8" ID X 1" OD X 1/2" LONG	-
12 N/S	1	S-2013	ZIP-LOCK BAG, 12" X 15", 2 MIL	-
13 N/S	1	32-4R69H	ZIP-LOCK BAG, 6" X 9", 4 MIL	-

IMPORTANT! 3 different sizes (thicknesses) of spacers/washers are provided to address any dimensional variations b/w the universal mounting brackets and the back shell to which they are installed. Where necessary, install the most appropriate sized spacers/washers between the mounting brackets and the back shell to eliminate any gaps.

3.0 TOOLS REQUIRED FOR INSTALLATION



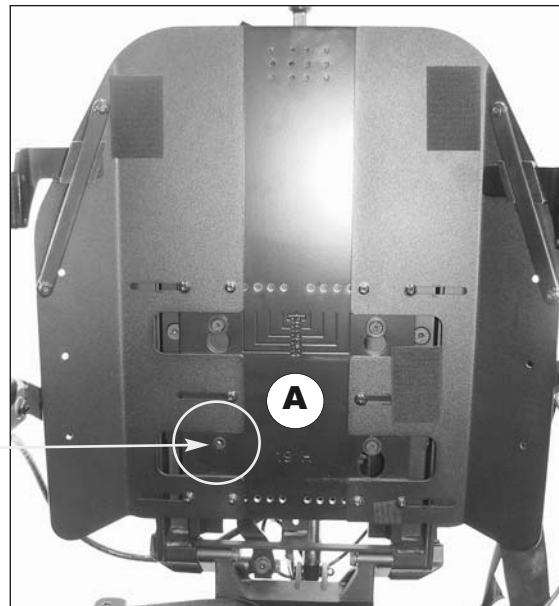
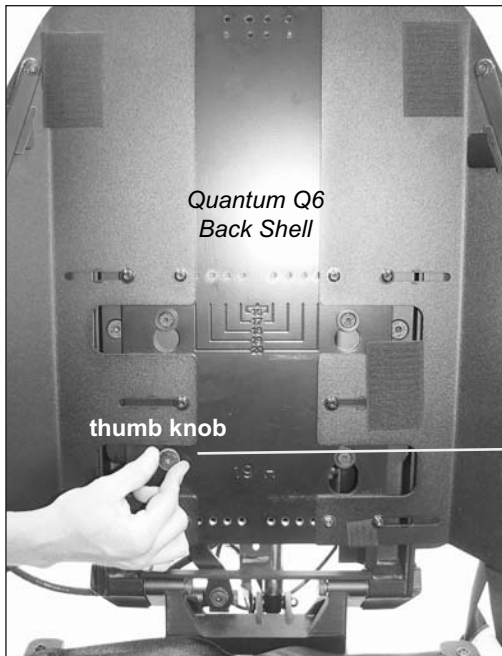
Wrenches: None
Allen Keys: 4 mm; 3/16"

4.0 INSTALLATION PROCEDURE

4.1 Removing the Quantum Back Shell

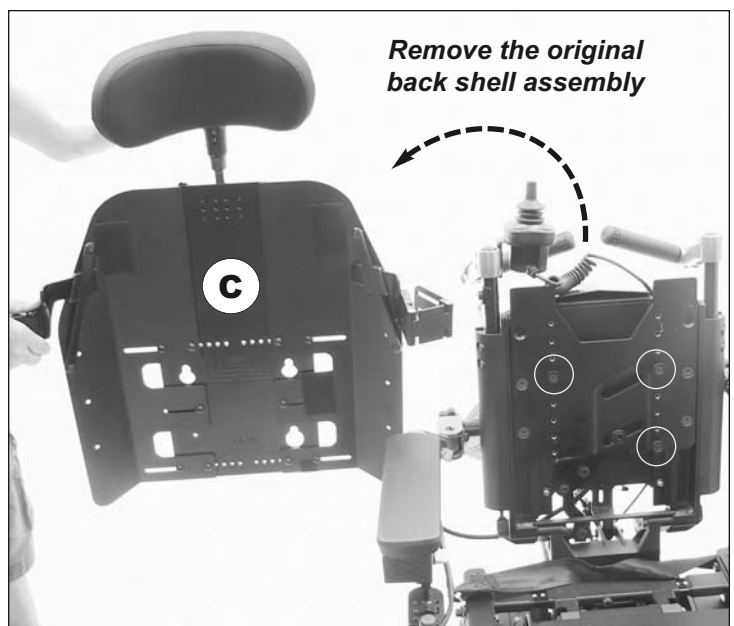
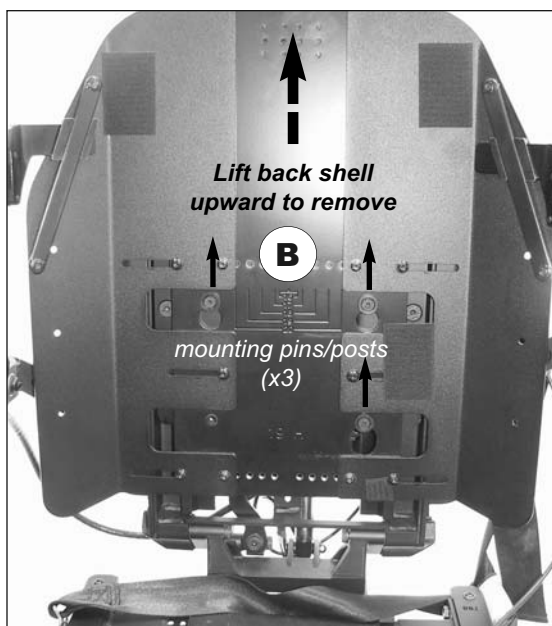
1. Remove the outer cushion/cover from the OEM (Quantum) back shell.
2. Remove and retain the thumb knob* from the Quantum back shell (refer to image **A** below). If necessary, refer to the Pride Mobility/Quantum Wheelchair Owners Manual (*provided separately*) for further instructions on removing the existing back shell.

i IMPORTANT! *The original thumb knob must be retained in order to complete the Matrix back installation.



Remove and retain original thumb knob

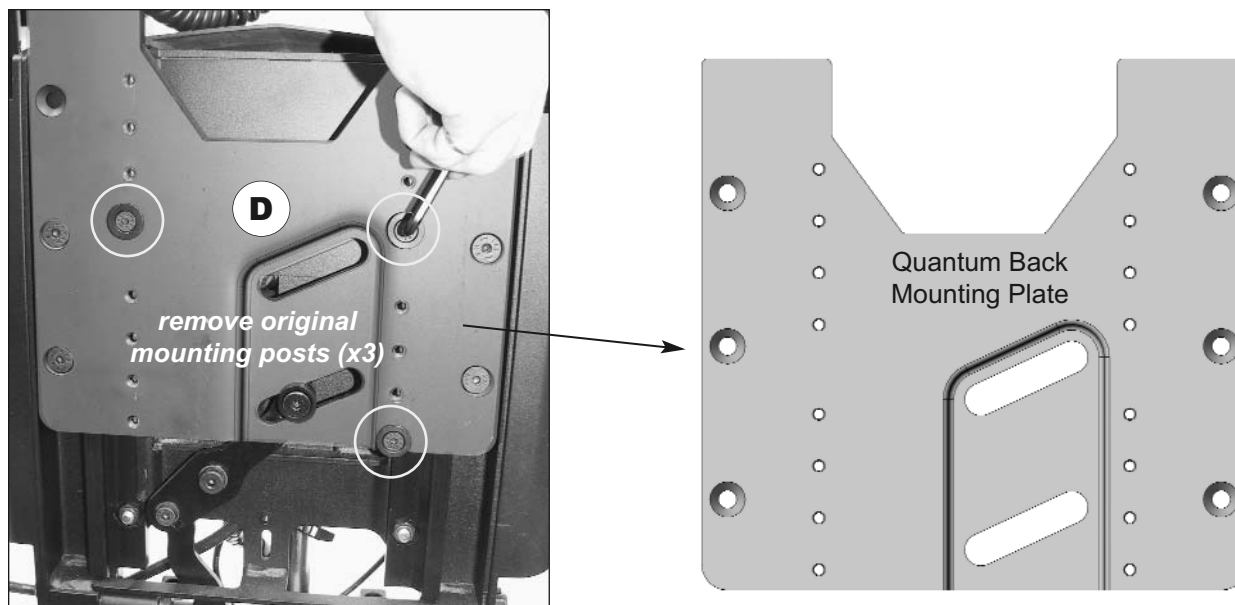
3. With the thumb knob removed, carefully lift the entire Quantum back shell assembly straight upward to disengage it from the three (3) remaining mounting pins/posts (see images **B** and **C** below).



4.0 INSTALLATION PROCEDURE

4.1 Preparing the Pride Mobility/Quantum Wheelchair Base (...cont'd)

4. Remove the three (3) mounting pins/posts from the Quantum recline plate, as indicated in image **D** below. The original mounting post hardware is no longer required.



4.2 Interface Plate Assembly (Adjusting to fit the Matrix Back)

NOTE: When ordered together, the interface plate may be pre-adjusted (at the factory) to fit the Matrix Back being installed. If your interface plate assembly is already adjusted, please proceed to **Section 4.3**.



Please read through **ALL** the remaining installation instructions prior to installing the Matrix Back.



IMPORTANT! For ease of installation, the mounting brackets should first be adjusted to the correct width in order to fit the Matrix Back being installed; Once the width adjustment is complete, the Interface Plate must be installed onto the Quantum wheelchair BEFORE the Matrix back is secured to the mounting brackets.

Mounting Bracket Installation:

BEFORE YOU BEGIN: The mounting brackets may be installed onto the interface plate in two different orientations. Please review the images below prior to installing the mounting brackets. For a typical installation, the standard mounting bracket configuration will be suitable (see **Fig. 1 (A)**). If the end user requires a very low back height, then the inverted bracket configuration may be required (see **Fig. 1 (B)**) .

1. Determine the appropriate mounting bracket configuration and adjust the brackets on the interface plate to match the width of the Matrix back being installed- see **Fig. 2**. (**Note:** a spacer kit is provided to compensate for any gap that may exist between the mounting bracket and the back shell following adjustment- refer to **Section 4.4-Matrix Back Installation**)

Note: The mounting brackets adjust to fit back widths ranging from 16W - 20W. For every 1" increase in back width, adjust each mounting bracket outward by 1/2". Install the mounting brackets onto the interface plate using the hardware (mounting screws and nut plates) provided- as illustrated in **Fig. 2** below.

4.0 INSTALLATION PROCEDURE

Fig. 1. MOUNTING BRACKET ORIENTATION (STANDARD VS INVERTED)

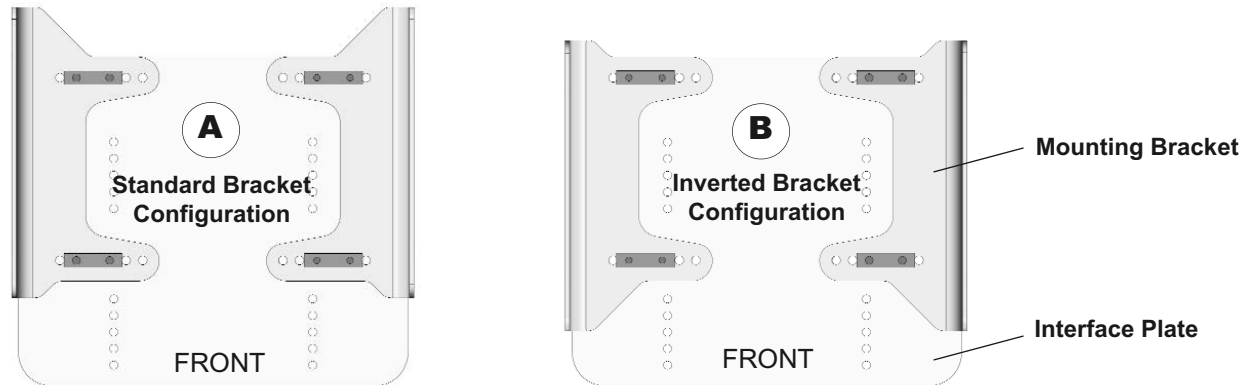
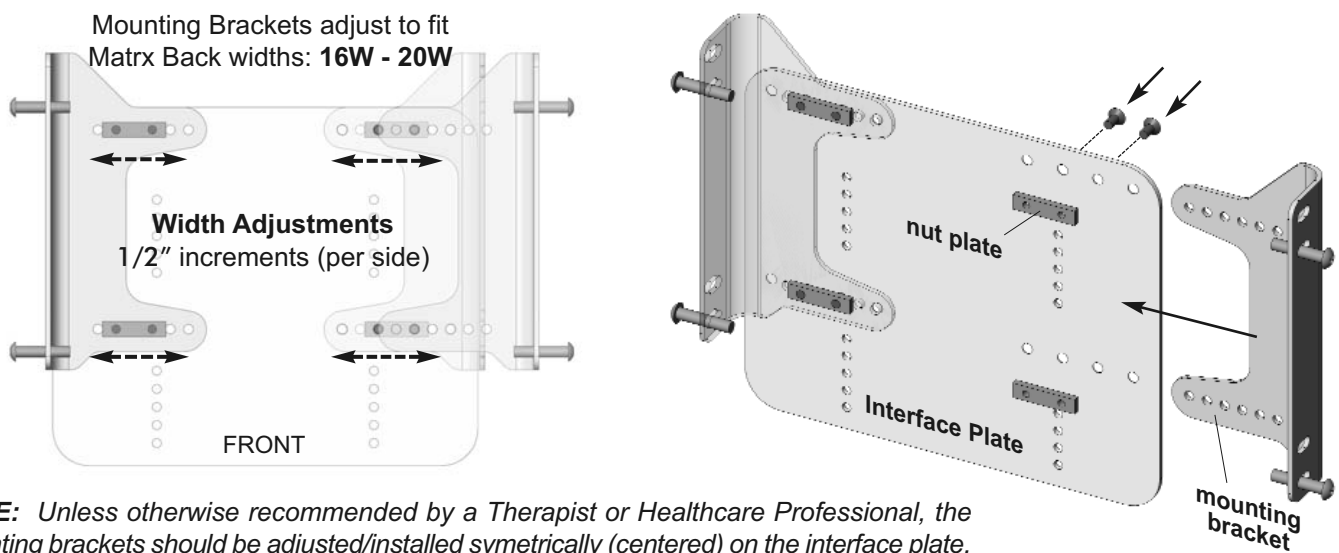
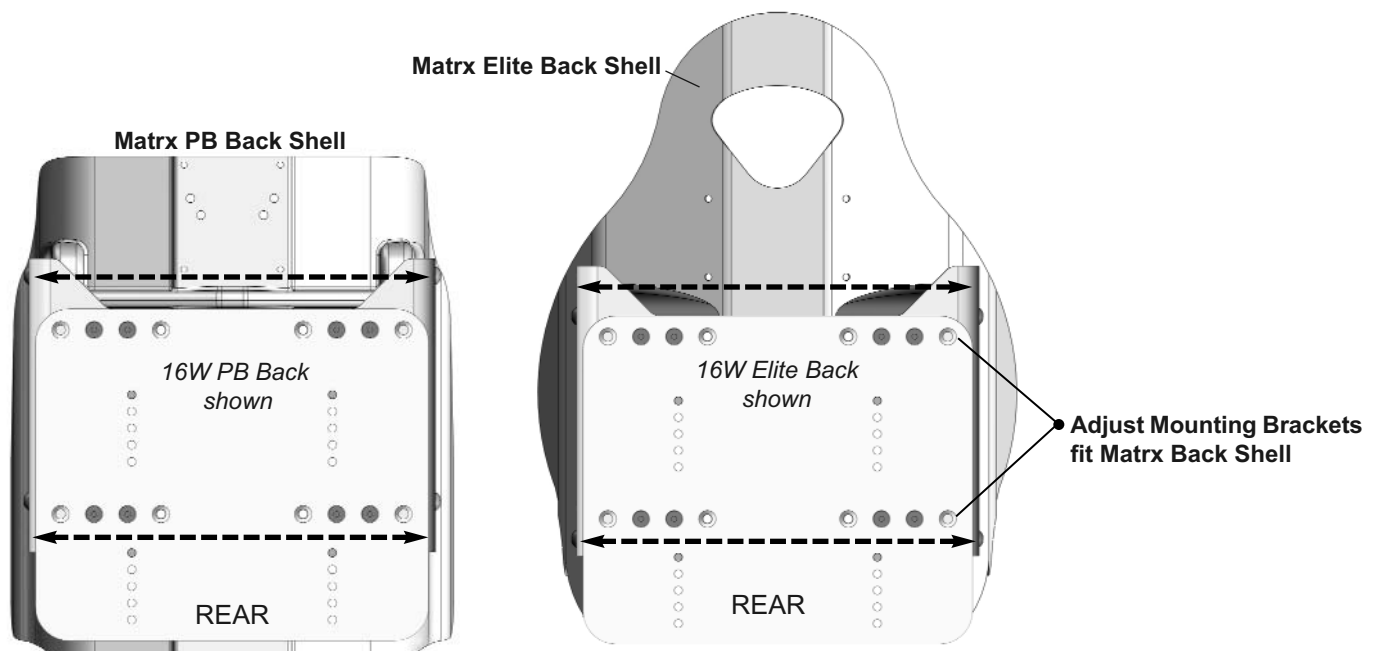


Fig. 2. INTERFACE PLATE ASSEMBLY/WIDTH ADJUSTMENT



NOTE: Unless otherwise recommended by a Therapist or Healthcare Professional, the mounting brackets should be adjusted/installed symmetrically (centered) on the interface plate.



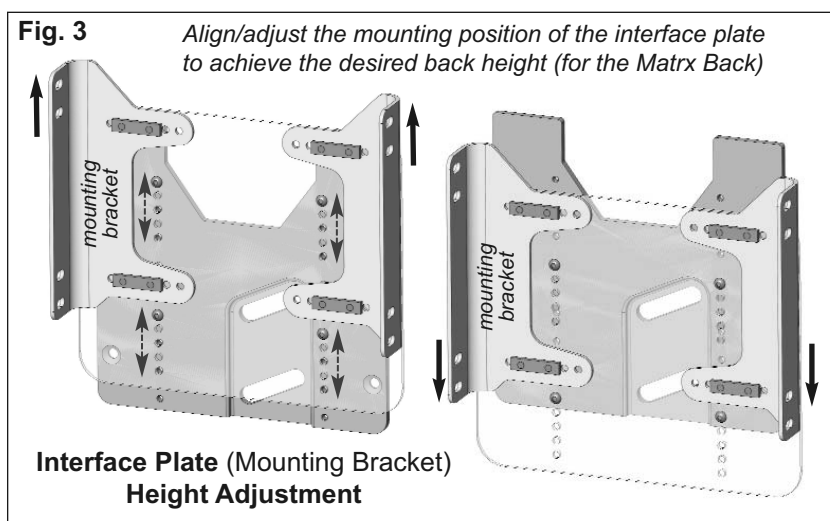
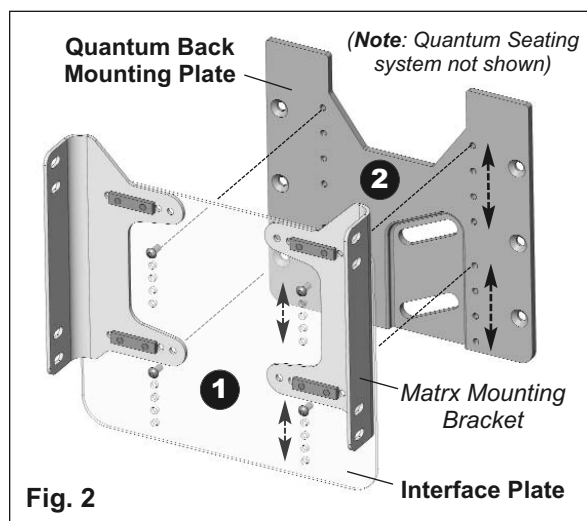
Adjust Mounting Bracket width as close as possible to Matrix Back width (**note:** spacers are provided if necessary to compensate for any gap/space between the mounting bracket and the back shell- refer to **Section 4.4 - Matrix Back Installation**)

4.0 INSTALLATION PROCEDURE

4.3 Installing the Interface Plate (onto the Quantum Wheelchair)

IMPORTANT! For ease of installation the **Matrix Back Interface plate** must be installed onto the **Quantum Power Base (Seating System)** **PRIOR** to installation of the **Matrix Back**.

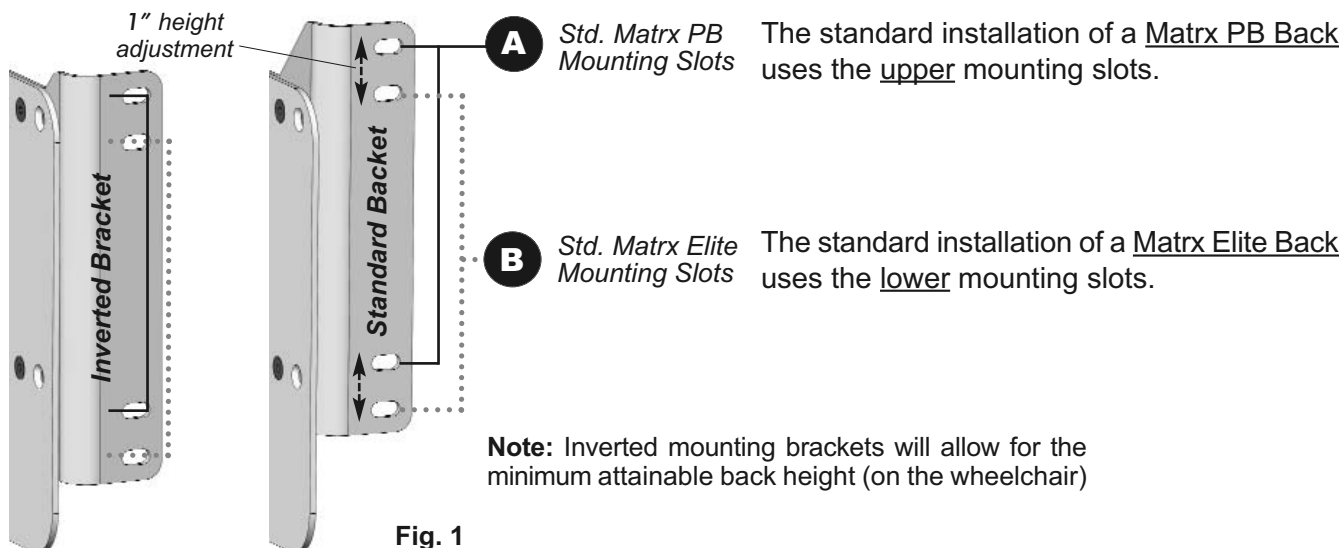
1. Using the mounting hardware (screws x4) provided, align the (vertical) mounting holes on the Interface Plate (1), with the corresponding vertical mounting holes on the Quantum Mounting Plate (2) - refer to **Fig. 2** below.
2. Adjust the mounting position (height) of the interface plate on the Quantum Mounting Plate (in 1/2" increments) until the desired back height is achieved- see **Fig. 3**. (**Reminder:** the final Matrix back height will also be determined by the optional slots on the mounting bracket and the orientation of the brackets- see also **Section 4.4**)



4.4 Installing the Matrix Back

NOTE: Each **mounting bracket** has 2 sets of mounting slots that may be used to align and install the Matrix Back. The mounting slots allow for 1" of optional back height adjustment (without the need to adjust the height of the interface plate- as per Section 4.3 above)

The Matrix PB and Matrix Elite Backs are uniquely designed with very different shapes and contours. When installing either Matrix Back, any set of mounting slots may be used in order to achieve the desired back height. However due to its design, a Matrix PB back will typically require a higher mounting position than an Elite back. (refer to **Fig.1** below for an example of the typical mounting configurations for the Matrix PB Back (**A**) and Matrix Elite Back (**B**)).

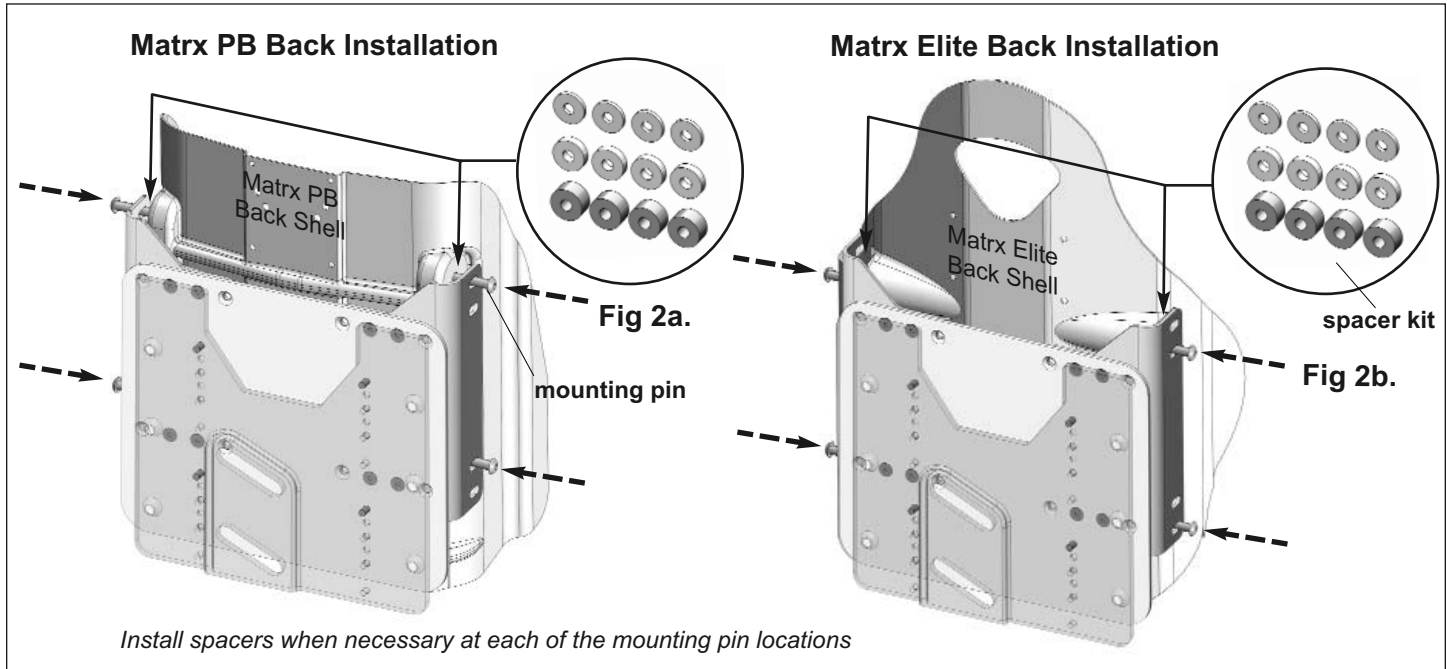


4.0 INSTALLATION PROCEDURE

Matrix Back Installation Instructions:

i IMPORTANT! 3 different sized spacers are provided (in a **Spacer Kit**) to address minor dimensional variations between the mounting brackets and the back shell onto which they are installed. When necessary, install the appropriate sized spacers between the mounting brackets and the back shell. (*Install spacers equally on both sides to keep the back shell centered between the mounting brackets*)

1. Align Matrix Back (mounting pin holes) with the chosen slot position on the mounting brackets. If there is a visible gap (1/8" or larger) between the mounting brackets and the pin locations on the back shell, an appropriate sized spacer must be installed at each of the pin locations to eliminate the gap- refer to **Fig. 2a/2b** below.
2. Loosely install the four (4) mounting pins (*along with any necessary spacers*) into the threaded mounting pin holes on the Matrix back shell.
3. Ensure the Matrix back is properly centered and at the proper height for the end user, then fully secure each mounting pin into place.
4. Verify that all installation hardware (including the interface plate assembly and Matrix back) is fully secured.



If you have any concerns or questions regarding the Matrix Back Interface Installation, please contact our Technical Service Department for assistance.

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