

Adjustable ASBA Seat

Adult Seats

Junior Seat

DEALER: Keep this manual. The procedures in this manual **MUST** be performed by a qualified technician.

For more information regarding
Invacare products, parts, and services,
please visit www.invacare.com



Yes, you can.

⚠ DANGER

Risk of Death, Serious Injury or Damage

Improper use of this product may cause injury or damage.

If you are unable to understand the warnings, cautions or instructions, 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 these instructions and any additional instructional material such as user manuals, service manuals or instruction sheets supplied with this product or optional equipment.

Continued use of the wheelchair with damaged parts could lead to the wheelchair malfunctioning causing injury to the user and/or caregiver.

- Check all wheelchair components and carton for damage and test components before use. In case of damage or if the wheelchair is not working properly, contact a qualified technician or Invacare for repair.

⚠ WARNING

Risk of Injury, Damage or Death

Improper setup, service, adjustment or programming may cause injury, damage or death.

- Qualified technician **MUST** setup, service and program the wheelchair.

- **DO NOT** allow non-qualified individuals to perform any work or adjustments on the wheelchair.

- **DO NOT** setup or service the wheelchair while occupied except for programming or unless otherwise noted.

- Turn off power **BEFORE** adjusting or servicing the wheelchair. Note that some safety features will be disabled.

- Ensure all hardware is securely tightened after setup, service or adjustments.

- **Warranty is void** if non-qualified individuals perform any work on this product.

USEFUL TERMS

The following acronyms are used throughout this manual:

ACRONYM	DEFINITION
ADJUSTABLE ASBA	Adjustable Width, Depth, Seat and Back Angle seat frame.

REFERENCE DOCUMENTS

Refer to the table below for part numbers of additional documents which are referenced in this manual.

PART NUMBER	DESCRIPTION
1143192	Adjustable ASBA, PTO and PTO Plus Owner's Manual

Other documents which may be referenced for more information are the wheelchair base owner's and service manuals or the seating system owner's and service manuals.

NOTE: Updated versions of these manuals, including this one, are available on www.invacare.com.

TABLE OF CONTENTS

USEFUL TERMS	2
REFERENCE DOCUMENTS	2
SPECIAL NOTES	6
LABEL LOCATIONS	7
All Wheelchairs.....	7
All Wheelchairs with TRRO.....	7
Wheelchairs without TRRO.....	7
SPECIFICATIONS	8
Adjustable ASBA Seat.....	8
SECTION 1—GENERAL GUIDELINES	9
Accessories	9
Repair or Service Information	10
Operation Information.....	11
Tire Pressure	14
Weight Capacity	14
SECTION 2—SAFETY AND HANDLING OF WHEELCHAIRS	15
Pinch Points.....	15
SECTION 3—ELECTROMAGNETIC COMPATIBILITY (EMC) INFORMATION	17
SECTION 4—SAFETY INSPECTION/TROUBLESHOOTING	19
Safety Inspection Checklist.....	19
Troubleshooting.....	19
SECTION 5—CENTER MOUNT FOOTRESTS	20
Removing/Installing the Manual Center Mount Footrest.....	21
Removing	21
Installing.....	21
Adjusting the Height of the Manual Center Mount Footrest.....	21
Adjusting the Angle of the Manual Center Mount Footrest	22
Adjusting the Footplate Angle	22
Adjusting the Tension of the Flip Up Footplate	23
SECTION 6—FRONT RIGGINGS	24
Installing/Removing Footrests.....	24

TABLE OF CONTENTS

70° and 70° Taper.....	24
Adjusting the Footrest Height.....	25
70° and 70° Taper.....	25
Replacing Heel Loops	26
Raising/Lowering Elevating Front Riggings.....	26
Adjusting/Replacing Telescoping Front Rigging Support	27
Installing Adjustable Angle Flip-up Footplate Hinge	28
Installing Adjustable Angle Flip-up Footplates.....	28
Adjusting Adjustable Angle Flip-Up Footplates	29
Depth Adjustment	29
Angle Adjustment	29
Perpendicular and/or Inversion/Eversion Adjustment.....	29
Replacing Composite/Articulating Footplate Heel Loop	30
Installing/Removing Elevating Legrests.....	31
Installing.....	31
Removing	31
Raising/Lowering Elevating Legrests and/or Adjusting Calfpads	32
Raising/Lowering Elevating Legrests	32
Adjusting Calfpads.....	32
Checking ASBA Seating System Mounting Position.....	32
Adjusting the Seating System Mounting Position	33
SECTION 7—ARMS	35
Installing/Removing Flip Back Armrests	35
Installing.....	35
Removing	35
Adjusting Flip Back Armrests.....	36
Positioning Flip Back Armrests for User Transfer	36
Positioning Flip Back Armrests for Use.....	36
Adjusting	36

TABLE OF CONTENTS

SECTION 8—ADULT BACKS	37
Removing/Installing the Contoura Back	37
Removing the Contoura Back.....	37
Installing the Contoura Back	37
Adjusting the Back Width.....	38
Adjusting the Back Angle	38
Adjusting the Back Height	39
Removing/Installing the Back Canes.....	39
Removing	40
Installing.....	40
Removing/Installing the Spreader Bar	41
Removing	41
Installing.....	41
Adjusting Spreader Bar Width	42
SECTION 9—ADULT SEATS	44
Removing/Installing the Seat Pan.....	44
Removing	44
Installing.....	44
Adjusting the Seat Width.....	45
Adjusting the Seat Depth.....	48
Removing/Installing Side Rails	49
Removing Side Rails.....	49
Installing Side Rails	50
LIMITED WARRANTY	52

SPECIAL NOTES

Signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. Refer to the table below for definitions of the signal words.

SIGNAL WORD	MEANING
DANGER	Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: As of January, 1 2017, Transport Ready Option (TRRO) has been discontinued on this product. Please contact your dealer or Invacare for legacy information or to answer questions regarding TRRO.

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation systems.

- TRBKTS includes four factory-installed wheelchair transport brackets. TRBKTS has not been crash-tested in accordance with WC 19. Use these transport brackets only to secure an unoccupied wheelchair during transport.
- TRRO includes four factory-installed transport brackets and a wheelchair anchored pelvic belt. TRRO has been crash-tested in accordance with ANSI/RESNA WC Vol 1 Section 19 Frontal Impact Test requirements for wheelchairs with a 168 lb crash dummy, which corresponds to a person with a weight of 114 to 209 lbs.

⚠ WARNING

Improper installation or service may result in injury, damage or death.

- Transport ready packages are not retrofittable to existing models and are not field serviceable.

- DO NOT over tighten hardware.

NOTE: Refer to the Transport Ready Package (TRRO) section of the wheelchair base owner's manual for more information about transporting the wheelchair.

LABEL LOCATIONS

⚠ DANGER

Risk of Injury, Damage or Death

Missing or damaged labels may contribute to injury damage or death.

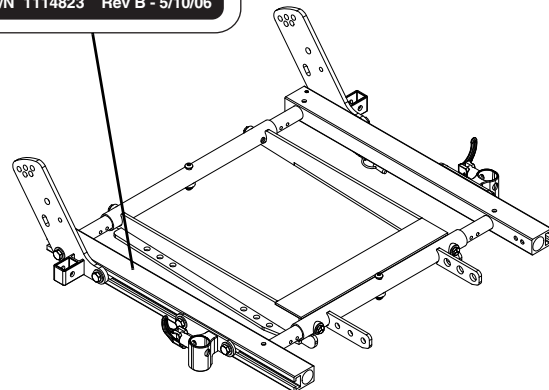
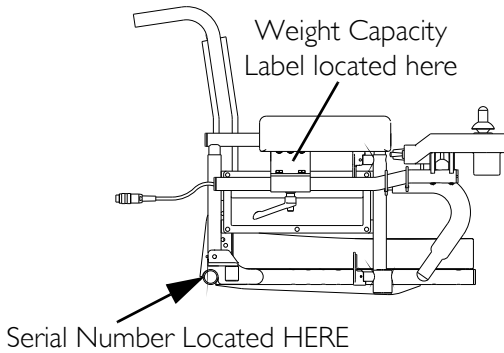
- Ensure labels are present and legible.

NOTE: Labels are subject to change without notice.

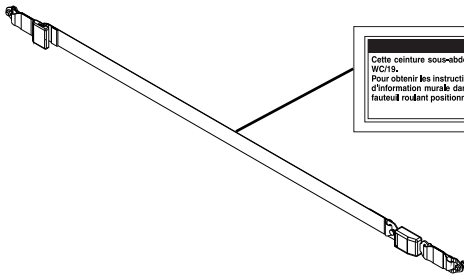
NOTE: Refer to Owner's Manual shipped with wheelchair base or seating system for additional labels located on wheelchair.

All Wheelchairs

⚠ WARNING Refer to Service Manual to reposition the seat - otherwise serious personal injury and damage will result. P/N 1114823 Rev B - 5/10/06



All Wheelchairs with TRRO

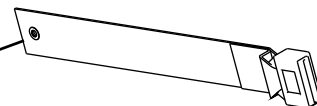


<p>⚠ MISE EN GARDE Cette ceinture sous-abdominale de retenue de l'occupant est conforme à la norme ANSI/RESNA WC19. Pour obtenir les instructions d'utilisation, consulter le guide d'utilisateur ou s'il y a lieu la plaquette d'information murale dans le véhicule. Cette ceinture sous-abdominale doit être utilisée avec un fauteuil roulant positionné vers l'AVANT seulement. P/N 1134840 REV B</p>	<p>⚠ WARNING This Occupant restraint/pelvic belt conforms with ANSI/RESNA WC19. For operating instructions, refer to owner's manual or if equipped, wall-mounted vehicle placard. This pelvic belt is for use with wheelchair in FORWARD facing direction only. P/N 1134840 REV B</p>	<p>SURE-LOK™ PELVIC BELT, TYPE 1 FE200974-105INV M000000 X000X CONFORMS TO APPLICABLE REQUIREMENTS OF SAE J2039, ADA FMVSS, BD 10542-1 AND CSA Z265.</p>
--	---	---

Wheelchairs without TRRO

NOTE: Auto style seat positioning strap shown. This label is also on the airline style seat positioning strap.

⚠ WARNING
 This seat/chest positioning strap is NOT intended for occupant restraint in a moving motor vehicle, and DOES NOT conform with ANSI/RESNA WC/19. If signs of wear appear, positioning strap MUST be replaced IMMEDIATELY.



SPECIFICATIONS

Adjustable ASBA Seat

	ADULT - ADJUSTABLE WIDTH
SEAT WIDTH RANGE:	16 - 24 inches
SEAT DEPTH RANGE (1-INCH INCREMENTS):	16 - 22 inches
BACK HEIGHT RANGE:	12 - 24 inches
BACK ANGLE RANGE:	85° to 105° in 5° increments
*SEAT WEIGHT:	43 lbs
ARMRESTS:	Flip Back, Fixed or Adjustable Height (Desk and Full Length)
WHEELCHAIR UPHOLSTERY OPTIONS:	Nylon
FRONT RIGGINGS:	Center Mount, Swingaway, Manually Elevating
FOOTRESTS:	Telescoping Front Rigging Supports, 2-inch and 4-inch long Pivot Slide Tube
SEAT TILT ANGLE ADJUSTMENT:	Adjustable (0° to 10°)
SEAT CUSHION:	Cushion (Optional)
OPERATING TEMPERATURE	122 F (50 C) Maximum to -13 F (-25 C) Minimum
STORAGE TEMPERATURE	149 F (65 C) Maximum to -58 F (-40 C) Minimum
**WEIGHT LIMITATION:	Up to 400 lbs
<i>NOTE: All dimensions are ± .50 inches unless otherwise indicated.</i>	
<i>*NOTE: Adult seat weight based on 18 X 18-inch seat frame.</i>	
<i>**NOTE: Refer to the wheelchair base or powered seating system owner's manual for the weight limitation of your wheelchair system.</i>	

SECTION I—GENERAL GUIDELINES

⚠ WARNING

SECTION I - GENERAL GUIDELINES contains important information for the safe operation and use of this product.

The information in this manual pertains to wheelchairs without powered seating systems only. Refer to the powered seating system service manual for specific information about servicing those systems.

⚠ DANGER

Risk of Death, Serious Injury or Damage

Improper use of this product may cause injury or damage.

If you are unable to understand the warnings, cautions or instructions, 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 these instructions and any additional instructional material such as user manuals, service manuals or instruction sheets supplied with this product or optional equipment.

Continued use of the wheelchair with damaged parts could lead to the wheelchair malfunctioning causing injury to the user and/or caregiver.

- Check all wheelchair components and carton for damage and test components before use. In case of damage or if the wheelchair is not working properly, contact a qualified technician or Invacare for repair.

Accessories

⚠ WARNING

Risk of Serious Injury or Damage

Use of non-Invacare accessories may result in serious injury or damage.

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.

DO NOT use non-Invacare accessories.

To obtain Invacare accessories, contact Invacare by phone or at www.invacare.com.

Repair or Service Information

⚠ DANGER

Risk of Death, Serious Injury or Damage

Use of incorrect or improper replacement (service) parts may cause death, serious injury, or damage.

Replacement parts **MUST** match original Invacare parts.

ALWAYS provide the wheelchair serial number to assist in ordering the correct replacement parts.

⚠ DANGER

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

Ensure all attaching hardware is present and tightened securely.

⚠ DANGER

Corroded electrical components due to water, liquid exposure, or incontinent users can result in death, serious injury, or damage.

Minimize exposure of electrical components to water and/or liquids. Electrical components damaged by corrosion **MUST** be replaced immediately.

Wheelchairs that are used by incontinent users and/or are frequently exposed to water/liquids may require replacement of electrical components more frequently.

⚠ DANGER

Risk of Death or Serious Injury

Electric shock can cause death or serious injury.

To avoid electric shock, inspect plug and cord for cuts and/or frayed wires. Replace cut cords or frayed wires immediately.

⚠ WARNING

Risk of Serious Injury or Damage

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

After **ANY** adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

⚠ WARNING

Risk of Death, Serious Injury, or Damage

Improperly connected joystick could cause loss of power resulting in death, serious injury, or damage.

Ensure the joystick is securely connected to controller.

⚠ WARNING

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

⚠ WARNING**Risk of Injury, Damage or Death**

Improper setup, service, adjustment or programming may cause injury, damage or death.

- Qualified technician **MUST** setup, service and program the wheelchair.
 - **DO NOT** allow non-qualified individuals to perform any work or adjustments on the wheelchair.
 - **DO NOT** setup or service the wheelchair while occupied except for programming or unless otherwise noted.
 - Turn off power **BEFORE** adjusting or servicing the wheelchair. Note that some safety features will be disabled.
 - Ensure all hardware is securely tightened after setup, service or adjustments.
 - **Warranty** is void if non-qualified individuals perform any work on this product.
-

⚠ WARNING

Improper installation or service may result in injury, damage or death.

- Transport ready packages are not retrofittable to existing models and are not field serviceable.
 - **DO NOT** over tighten hardware.
-

Operation Information

⚠ DANGER**Risk of Death, Serious Injury, or Damage**

Continued use of the wheelchair that is not set to the correct specifications may cause erratic behavior of the wheelchair resulting in death, serious injury, or damage.

Performance adjustments should only be made by professionals of the healthcare field or persons fully conversant with this process and the driver's capabilities.

After the wheelchair has been set up/adjusted, check to make sure that the wheelchair performs to the specifications entered during the set up procedure. If the wheelchair does not perform to specifications, turn the wheelchair **Off** immediately and reenter set up specifications. Contact Invacare, if wheelchair still does not perform to correct specifications.

⚠ WARNING

Risk of Serious Injury or Damage

Moving the seating system from the factory setting may reduce driver control, wheelchair stability, traction and increase caster wear resulting in serious injury or damage.

Move the seating system **ONLY** when necessary to fit the wheelchair to the user.

If the seating system must be moved, **ALWAYS** inspect the wheelchair to ensure the front rigging **DOES NOT** interfere with the front casters.

If the seating system must be moved, **ALWAYS** inspect to ensure the wheelchair **DOES NOT** easily tip forward or backward.

⚠ WARNING

Risk of Injury, Damage or Death

Storage or use near heat sources and combustible products may result in injury or damage.

DO NOT store or use wheelchair near open flames or other heat sources.

DO NOT store or use wheelchair near combustible products.

⚠ WARNING

Risk of Injury or Damage

To avoid injury or damage from moving parts:

ALWAYS keep hands and fingers clear of moving parts.

Closely supervise children, pets, or people with physical/mental disabilities.

⚠ DANGER

Risk of Death or Serious Injury

Not wearing your seat positioning strap could result in death or serious injury.

ALWAYS wear your seat positioning strap. Your seat positioning strap helps reduce the possibility of a fall from the wheelchair. The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, seat positioning strap **MUST** be replaced **IMMEDIATELY**.

⚠ WARNING**Risk of Injury, Damage or Death**

Loss of traction or stability on inclines/grades or ramps may cause injury, damage or death. Lighter weight users may be at an increased risk. Surfaces that may be wet, icy, oily, slippery, painted, treated wood, rotten wood, rusted metal or other similar surfaces or materials may also increase risk.

- **DO NOT** use on inclines or ramps where surface is uncertain or compromised.
- **DO NOT** use on inclines greater than nine (9) degrees.
- **DO NOT** operate the seating system while the wheelchair is moving. Stop before operating seating system.
- **DO NOT** operate the seating system while on an incline. Operation on an incline may result in increased instability.
- To determine and establish your particular safety limits, practice use of this product on various sloping surfaces in the presence of a qualified healthcare provider before attempting active use of this wheelchair.
- **DO NOT** use on inclines where line of sight is impaired.
- Travel at a reduced, constant speed and **DO NOT** make sudden stops or direction changes. Release the joystick and allow the wheelchair to come to a full stop before changing directions. Traveling at high speeds reduces traction and increases stopping distance.
- **DO NOT** drive in an elevated position while on an incline.
- **DO NOT** leave elevating legrests in the fully extended position when proceeding down inclines/grades.
- **DO NOT** leave an unoccupied wheelchair unattended on inclines or ramps.

⚠ WARNING**Risk of Injury or Damage**

Misuse of motor locks may result in injury or damage.

DO NOT engage or disengage the motor locks until the power is in the off position.

NOTE: DO NOT attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

Tire Pressure

DANGER

Risk of Injury, Damage or Death

Overinflation of tires may cause tires to explode.

—Inflate tire to the proper tire pressure (P.S.I./ kilopascals) listed on the side wall of the tire.

—Only use wheelchair with tires at proper tire pressure.

—The wheels and tires should be checked periodically for cracks and wear and should be replaced if necessary.

Weight Capacity

WARNING

Risk of Death or Serious Injury

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

- DO NOT exceed the weight capacity.

NOTE: If the seating system is mounted onto a power wheelchair that has a weight limitation greater than 275 lbs, the weight limitation of the power wheelchair is 275 lbs. Example: The power wheelchair has a 300 lb weight limitation, the seating system still has a weight limitation of 275 lbs, so the power wheelchair now has a 275 lb weight limitation.

NOTE: Refer to the specifications in this manual and the manual shipped with the wheelchair base to determine the weight capacity (total combined weight of user and any attachments) of your wheelchair model.

SECTION 2—SAFETY AND HANDLING OF WHEELCHAIRS

Pinch Points

⚠ WARNING

Risk of Minor to Serious Injury

Pinch points can cause minor to serious injury.

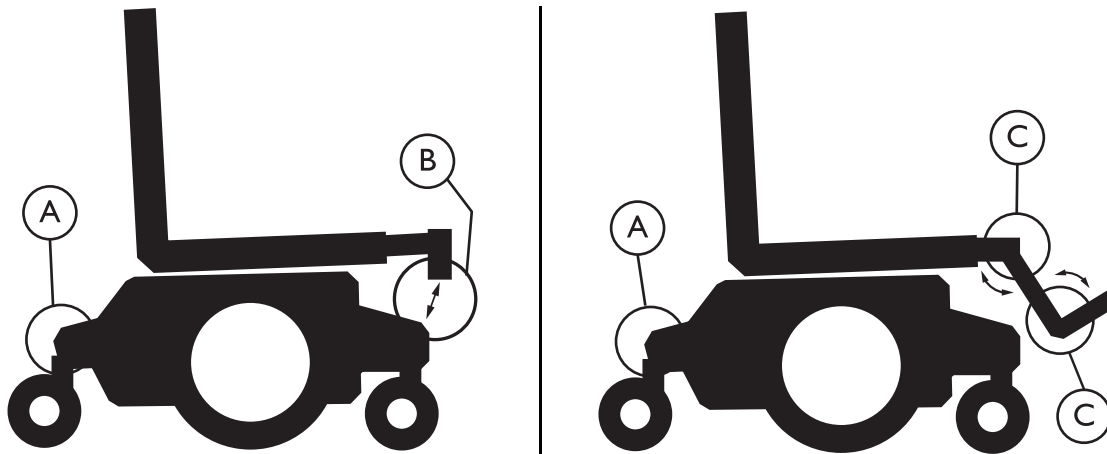
- **Be mindful of potential pinch points and use caution when using this product.**

⚠ WARNING

Risk of Injury

Pinch points can cause injury.

- **Be aware that a pinch point Ⓐ exists between the head tube cap and walking beam.**
- **Be aware that a pinch point Ⓑ exists between the walking beam/head tube cap and telescoping tube when the wheelchair is at the lowest seat to floor height.**
- **Be aware that a pinch point Ⓒ may occur when rotating the center mount front rigging assembly.**



⚠ WARNING

Risk of Injury

Pinch points can cause injury.

A pinch point ① exists between the center mount footrest and casters.

There is limited clearance between center mount footrest and casters.

- The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.



SECTION 3—ELECTROMAGNETIC COMPATIBILITY (EMC) INFORMATION

⚠ WARNING

CAUTION: IT IS VERY IMPORTANT THAT YOU READ THIS INFORMATION REGARDING THE POSSIBLE EFFECTS OF ELECTROMAGNETIC INTERFERENCE ON YOUR POWERED WHEELCHAIR.

Electromagnetic Interference (EMI) From Radio Wave Sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two way radios, and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per metre (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

- 1) **Hand-held Portable transceivers (transmitters-receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie", security, fire and police transceivers, cellular telephones, and other personal communication devices).**

NOTE: Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

- 2) **Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances and taxis. These usually have the antenna mounted on the outside of the vehicle; and**
- 3) **Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.**

NOTE: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered wheelchair.

⚠ WARNING**Powered Wheelchair Electromagnetic Interference (EMI)**

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered wheelchair.

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorized scooters. Also, the electronics used in our powered wheelchair can generate a low level of electromagnetic interference, which however will remain within the tolerances permitted by law.

FOLLOWING THE WARNINGS LISTED BELOW SHOULD REDUCE THE CHANCE OF UNINTENDED BRAKE RELEASE OR POWERED WHEELCHAIR MOVEMENT WHICH COULD RESULT IN SERIOUS INJURY.

- 1) Do not operate hand-held transceivers (transmitters receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered wheelchair is turned ON;
- 2) Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- 3) If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe;
- 4) Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (NOTE: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair); and
- 5) Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a source of EMI nearby.

Important Information

- 1) 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994) (the higher the level, the greater the protection);
- 2) This device has been tested to a radiated immunity level of 20 volts per meter.
- 3) The immunity level of the product is unknown.

Modification of any kind to the electronics of this wheelchair as manufactured by Invacare may adversely affect the EMI immunity levels.

⚠ CAUTION**Risk of Injury or Damage**

EMC interference affecting other products may result in injury or damage.

To avoid impacting the operation and function of other products:

- Products not specified by Invacare that may be used on or near the wheelchair may be impacted by emissions from this product if they have a sensitivity level that is lower than the recognized standard and provided by this wheelchair. Refer to the manufacturer specifications for any electronic device BEFORE use near this product to determine its level of immunity and potential risk.

SECTION 4—SAFETY INSPECTION/ TROUBLESHOOTING

Safety Inspection Checklist

NOTE: Initial adjustments should be made to suit the end user's personal body structure needs and preference. After initial setup, perform these procedures every time the wheelchair is serviced.

NOTE: Refer to the wheelchair base service manual for a complete safety inspection checklist for the base.

- Inspect all fasteners.
- Inspect TRRO/TRBKTS fasteners and hardware.
- Ensure clothing guards are secure.
- Arms are secure but easy to release and adjustment levers engage properly.
- Adjustable height arms operate and lock securely.
- Upholstery has no rips.
- Armrest pad sits flush against arm tube.
- Clean upholstery and armrests.
- Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- Inspect foam handgrips for damage. If damaged, have them replaced by a qualified technician.
- Check that all labels are present and legible. Replace if necessary.
- Inspect electrical components for signs of corrosion. Replace if corroded or damaged.

Troubleshooting

NOTE: Refer to the wheelchair base service manual and electronics manual for complete mechanical and electrical troubleshooting guides for the base and an explanation of error codes.

SECTION 5—CENTER MOUNT FOOTRESTS

WARNING

Risk of Serious Injury or Damage

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

After **ANY** adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

WARNING

Risk of Serious Injury or Damage

Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.

- **ALWAYS** maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and the ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

NOTE: If the wheelchair is not moving, the footrest must maintain a minimum of one inch ground clearance - otherwise personal injury and damage may result.

NOTE: For complete operating information on Invacare footrests, refer to the appropriate owner's manual listed in Reference Documents on page 2.

Removing/Installing the Manual Center Mount Footrest

NOTE: For this procedure, refer to FIGURE 5.1.

Removing

1. Remove the rigging pivot pin that secures the footrest to the mounting bracket of the seat frame.
2. Hold the footrest with one hand and engage the release lever with the other while simultaneously pulling the center mount footrest out of the mounting bracket of the seat frame.

Installing

1. Engage the release lever with one hand, hold the center mount footrest with the other, and insert the center mount footrest into the mounting bracket of the seat frame.
2. Reinstall the rigging pivot pin to secure the center mount footrest to the mounting bracket of the seat frame.

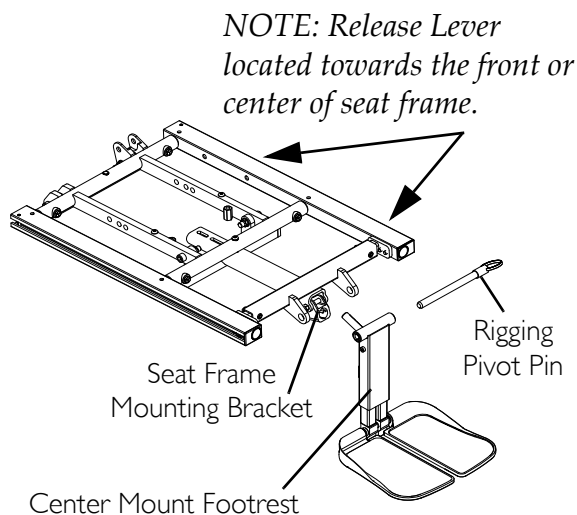


FIGURE 5.1 Removing/Installing the Manual Center Mount Footrest

Adjusting the Height of the Manual Center Mount Footrest

NOTE: For this procedure, refer to FIGURE 5.2.

1. Remove the two mounting screws that secure the button head cleat to the extension housing.
2. Adjust the footrest extension tube to the desired height.
3. Secure the extension tube to the desired height with the button head cleat and mounting screws. Securely tighten.
4. Repeat STEPS 1-3 for the other extension tube.

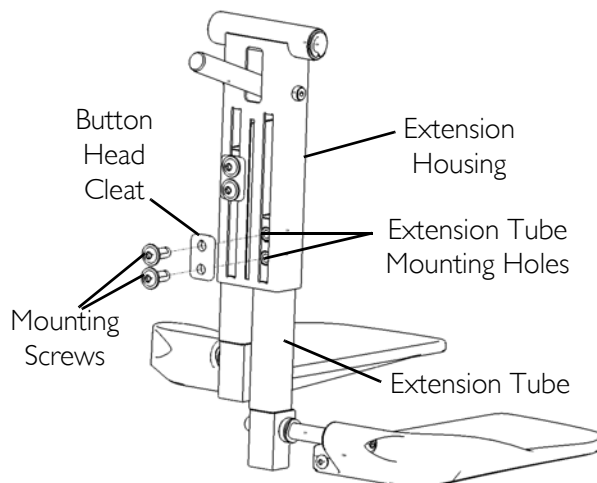


FIGURE 5.2 Adjusting the Height of the Manual Center Mount Footrest

Adjusting the Angle of the Manual Center Mount Footrest

NOTE: For this procedure, refer to FIGURE 5.1 and FIGURE 5.3.

1. Engage the release lever with one hand (not shown) and move the center mount footrest to the desired angle with the other hand.

NOTE: Refer to FIGURE 5.1 for the location of the release lever.

2. Disengage the release lever (not shown) to lock the center mount footrest in the new position.

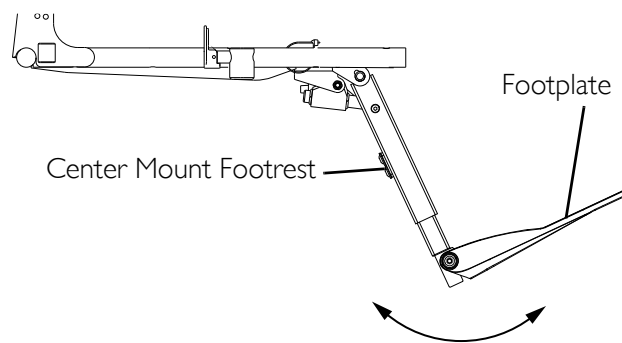


FIGURE 5.3 Adjusting the Angle of the Manual Center Mount Footrest

Adjusting the Footplate Angle

NOTE: For this procedure, refer to FIGURE 5.4.

1. Flip footplate up.
2. Screw the adjustment screw in or out until the desired angle is achieved.
3. Repeat STEPS 1 and 2 for the other footplate.

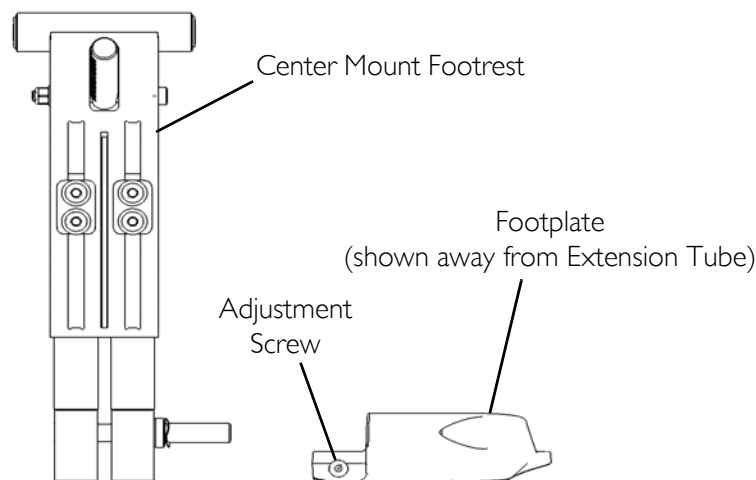


FIGURE 5.4 Adjusting the Footplate Angle

Adjusting the Tension of the Flip Up Footplate

NOTE: For this procedure, refer to FIGURE 5.5.

NOTE: The tension can be adjusted to increase or decrease the rotation effort of the flip up footplates.

1. Loosen the mounting screw on the front rigging angle hinge to decrease the rotation effort.

NOTE: DO NOT remove the footplate mounting screw.

2. Tighten the front rigging angle hinge mounting screw to increase the rotation effort.
3. Repeat STEPS 1 and 2 for the other footplate

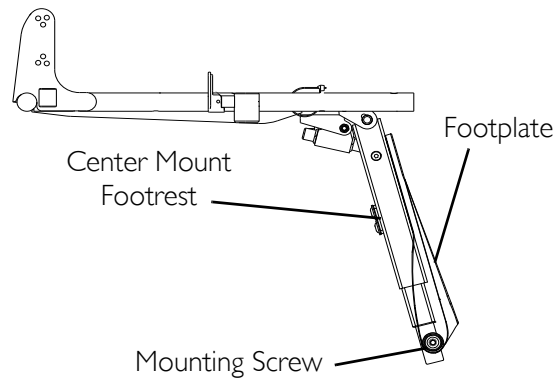


FIGURE 5.5 Adjusting the Tension of the Flip Up Footplate

SECTION 6—FRONT RIGGINGS

⚠ WARNING

Risk of Serious Injury or Damage

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

After **ANY** adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

⚠ WARNING

Risk of Serious Injury or Damage

Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.

- **ALWAYS** maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and the ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

Installing/Removing Footrests

70° and 70° Taper

NOTE: For this procedure, refer to FIGURE 6.1

1. Turn the footrest to the side (open footplate is perpendicular to wheelchair).
2. Insert footrest mounting pin into mounting tube.
3. Push the footrest towards the inside of the wheelchair until it locks into place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1- 3 for the other footrest assembly.
5. To remove the footrest, push the footrest release lever inward, rotate footrest outward.
6. Adjust footrest height if desired. Refer to [Adjusting the Footrest Height](#) on page 25.

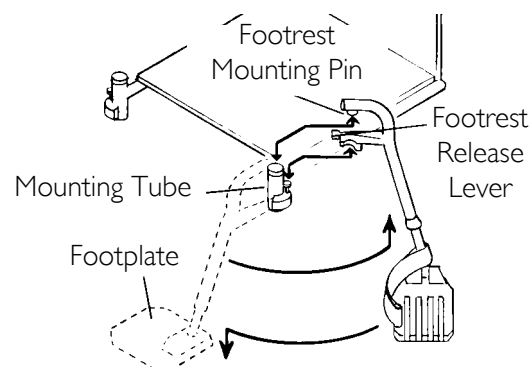


FIGURE 6.1 Installing/Removing Footrests - 70° and 70° Taper

Adjusting the Footrest Height

70° and 70° Taper

NOTE: For this procedure, refer to FIGURE 6.2.

1. Remove any accessory from the footrest(s).
2. Remove the footrest from the wheelchair. Refer to [Installing/Removing Footrests](#) on page 24.

NOTE: Lay the assembly on a flat surface to improve access to the hardware.

NOTE: Note the position of the covered spacers before disassembly.

3. Remove the mounting screw and covered spacer that secures the lower footrest assembly.
4. Position the footrest assembly to the desired height.
5. Secure lower footrest assembly with existing mounting screw and covered spacer. Securely tighten.

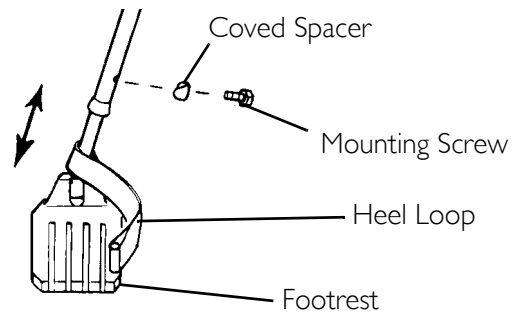


FIGURE 6.2 Adjusting the Footrest Height - 70° and 70° Taper

CAUTION

Make sure coved spacers are positioned properly when reassembling to prevent damage to the frame mounting tubes.

6. Reinstall the footrest(s) onto the wheelchair. Refer to [Installing/Removing Footrests](#) on page 24.
7. Reinstall any accessory onto the footrest(s).

Replacing Heel Loops

NOTE: For this procedure, refer to FIGURE 6.3.

1. Note the position of hex bolt, coved washers and locknut for reinstallation.
2. Remove the hex bolt, coved washers and locknut that secure the lower footrest to the footrest support.
3. Remove the lower footrest.
4. Remove the phillips bolt, spacer and locknut that secure the heel loop to the lower footrest.
5. Slide the heel loop off the lower footrest.
6. Replace heel loop.
7. Reverse STEPS 1-6 to reassemble.

NOTE: When securing heel loop to lower footrest, tighten the phillips bolt and locknut until the spacer is secure.

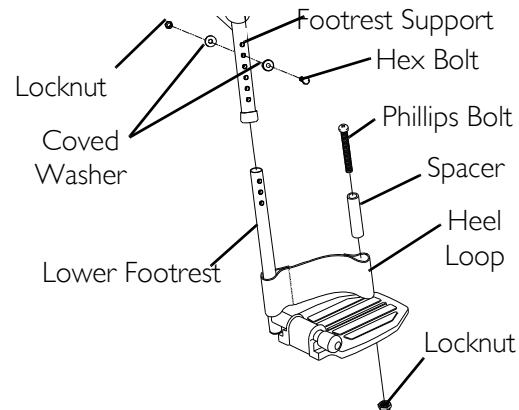


FIGURE 6.3 Replacing Heel Loops

Raising/Lowering Elevating Front Riggings

NOTE: For this procedure, refer to FIGURE 6.4.

NOTE: This procedure is for PHAL4A and PH904. PHAL4A is shown.

1. Perform one of the following:
 - Raising - Pull back on the release lever and raise front rigging to the desired height.
 - Lowering - Support front rigging with one hand away from the release lever. Push release lever downward with other hand.

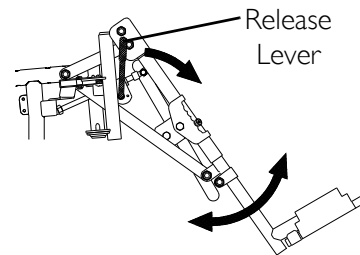


FIGURE 6.4 Raising/Lowering Elevating Front Riggings

Adjusting/Replacing Telescoping Front Rigging Support

⚠ WARNING

If the telescoping tubes need to be extended greater than two inches, then the seat **MUST** be repositioned rearward to ensure stability - otherwise personal injury and/or damage to the wheelchair and surrounding property may result.

NOTE: For this procedure, refer to FIGURE 6.5.

1. Remove the two cap screws, spacers and threaded blocks securing the telescoping front tube to the side rail.
2. Perform one of the following:
 - Slide existing telescoping front rigging support to one of six depth positions.
 - Remove existing telescoping front rigging.
3. Secure the telescoping front tube to the side rail at the desired depth with the existing two cap screws, spacers and threaded blocks.
4. Repeat STEPS 1 to 3 on the opposite side if desired.

NOTE: Sector style telescoping front tubes install the same way.

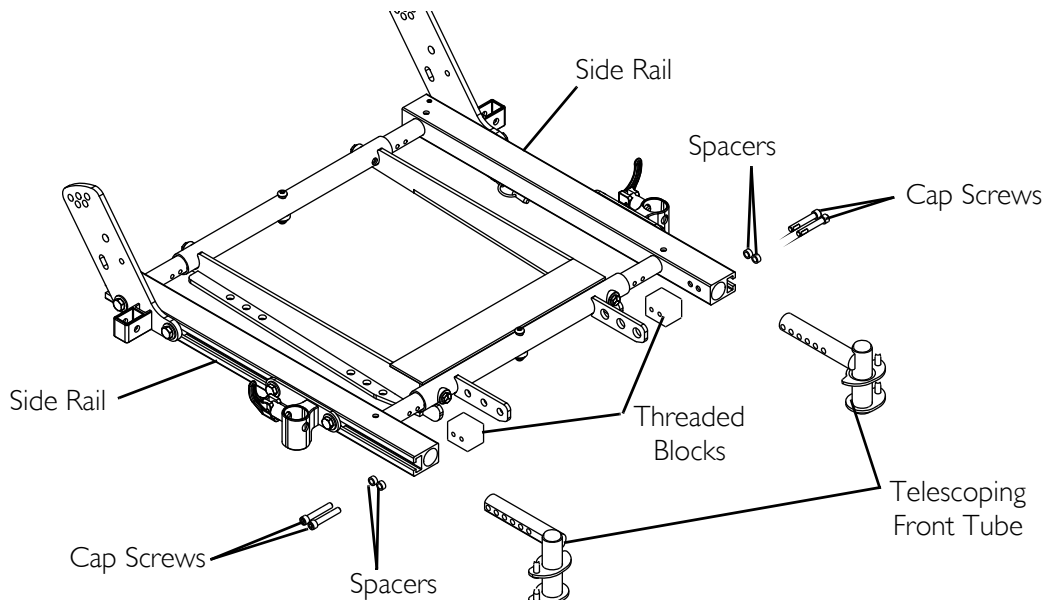


FIGURE 6.5 Adjusting/Replacing Telescoping Front Rigging Support

Installing Adjustable Angle Flip-up Footplate Hinge

NOTE: For this procedure, refer to FIGURE 6.6.

1. Position footplate hinge on the footrest support tube at the desired height.
2. Position mounting screw, washers, spacer, and locknut on the footrest support as shown.
3. Flip the footplate hinge to the up position.

NOTE: The footplate hinge will fall to the down position.

4. Tighten the mounting screw, washer, and locknut that secure the footplate hinge to the footrest support until the footplate hinge remains in the up position.
5. Check the up and down motion of the footplate hinge to make sure the user of the wheelchair can operate the footplates easily.

NOTE: If footplate's motion is too tight, loosen the mounting screw and locknut approximately ¼-turn counterclockwise.

NOTE: If the footplate's motion is too loose, tighten mounting screw and locknut approximately ¼-turn clockwise.

6. Adjust footplate. Refer to [Installing Adjustable Angle Flip-up Footplates](#) on page 28.

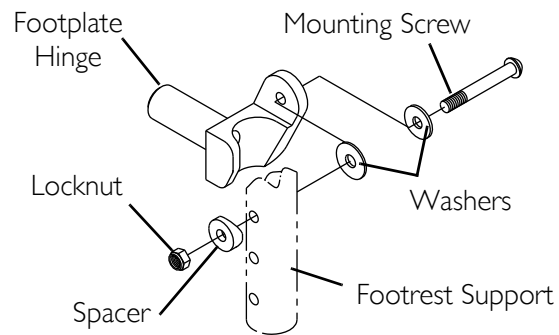


FIGURE 6.6 Installing Adjustable Angle Flip-up Footplate Hinge

Installing Adjustable Angle Flip-up Footplates

NOTE: For this procedure, refer to FIGURE 6.7.

1. Slide the half clamp over the footplate hinge.
2. Hand tighten the two flat screws that secure the footplate to the half clamp.
3. Adjust the footplates to the necessary angle and depth for the user. Refer to [Adjusting Adjustable Angle Flip-Up Footplates](#) on page 29.

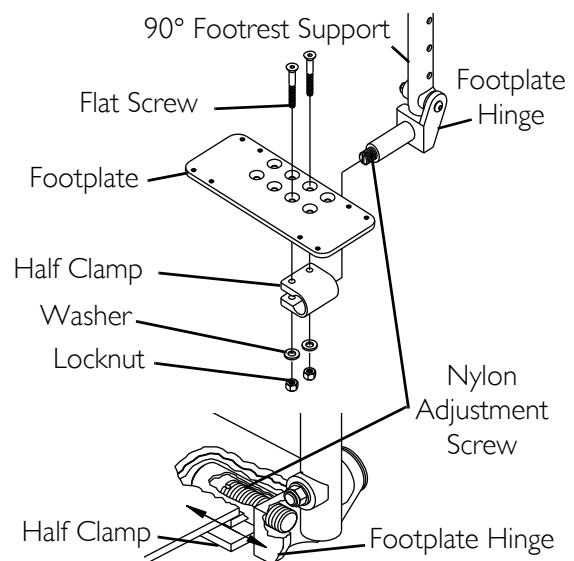


FIGURE 6.7 Installing Adjustable Angle Flip-up Footplates

Adjusting Adjustable Angle Flip-Up Footplates

Depth Adjustment

NOTE: For this procedure, refer to FIGURE 6.7 on page 28.

1. Remove the two flat screws, washers and locknuts that secure footplate to the half clamp.

NOTE: Observe the angle of the footplate for reinstallation.

2. Move footplate to one of four mounting positions.

NOTE: If desired depth is still not obtained, rotate the half clamp on the footplate hinge 180°.

3. Retighten the two flat screws, washers and locknuts.

NOTE: The settings for positioning the footplates on the half-clamps may vary for each footplate.

Angle Adjustment

NOTE: For this procedure, refer to FIGURE 6.7 on page 28 and FIGURE 6.8.

1. Loosen, but DO NOT remove, the two flat screws, washer and locknuts that secure the footplate to the footplate hinge (FIGURE 6.7).
2. Position the footplate to the necessary angle to accommodate the user (FIGURE 6.8).
3. Retighten the two flat screws, washers and locknuts.

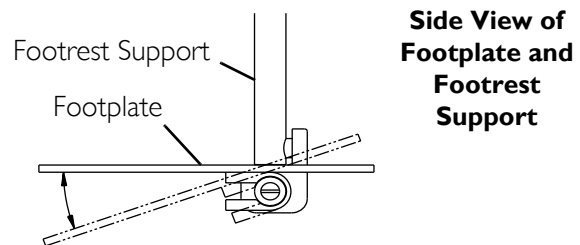


FIGURE 6.8 Angle Adjustment

Perpendicular and/or Inversion/Eversion Adjustment

NOTE: For this procedure, refer to FIGURE 6.7 on page 28 and FIGURE 6.9.

NOTE: It is not necessary to remove the footplate to perform this adjustment.

1. Insert a flathead screwdriver through the half clamp to the screw in the hinge pin.(FIGURE 6.7).
2. Slowly turn nylon adjustment screw in or out until footplate is perpendicular to the footrest assembly or the desired inversion or eversion is obtained (FIGURE 6.9).

Front View of Footplate and Footrest Support

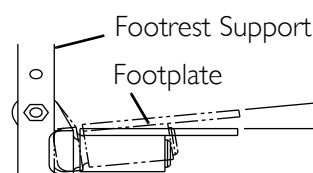


FIGURE 6.9 Perpendicular and/or Inversion/Eversion Adjustment

Replacing Composite/Articulating Footplate Heel Loop

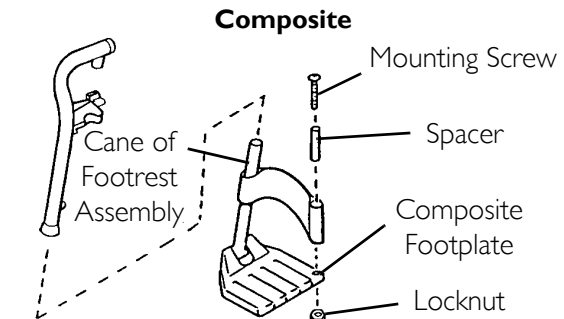
NOTE: For this procedure, refer to FIGURE 6.10.

NOTE: Reverse steps in this procedure to assemble.

NOTE: When securing heel loop to the footrest assembly, tighten mounting screw until the spacer is secure.

Composite

1. Remove the mounting screw and covered washer that secures the lower half of the footrest to the swingaway footrest assembly.
2. Remove the lower footrest assembly.
3. Remove the mounting screw, spacer and locknut that secure the heel loop to the footrest.
4. Slide heel strap over cane of footrest assembly.



Articulating

1. Remove the two mounting screws, washers and spacers that secure the heel loop to the articulating footplate.

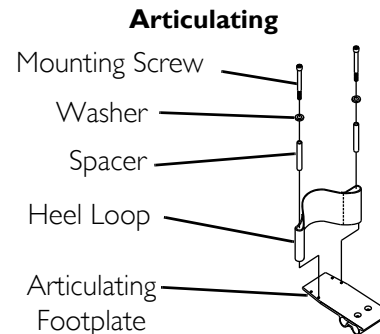


FIGURE 6.10 Replacing Composite/Articulating Footplate Heel Loop

Installing/Removing Elevating Legrests

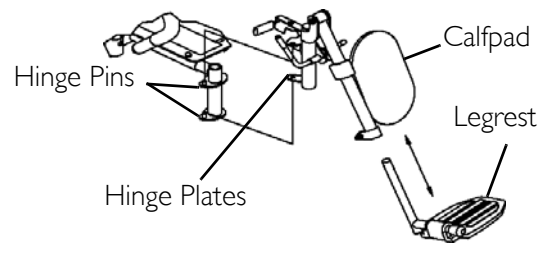
NOTE: For this procedure, refer to FIGURE 6.11.

Installing

1. Turn legrest to side (open footplate is perpendicular to wheelchair).
2. Install the legrest hinge plates onto the hinge pins on the wheelchair frame.
3. Rotate legrest toward the inside of the wheelchair until it locks in place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1-3 for the opposite legrest.
5. After the user is seated in wheelchair, adjust footplate to correct height by loosening nut and sliding the lower footrest assembly up or down until desired height is achieved.



Removing

1. Push the legrest release handle toward the inside of the wheelchair (facing the front of the wheelchair).
2. Swing the legrest to the outside of the wheelchair.
3. Lift up on the legrest and remove from the wheelchair.
4. Repeat STEPS 1-2 for opposite side of wheelchair.

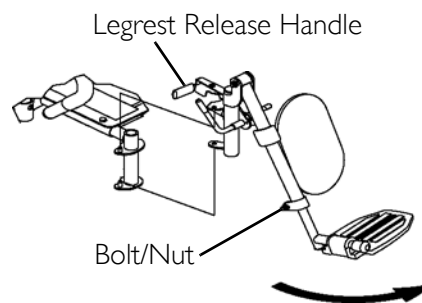


FIGURE 6.11 Installing/Removing Elevating Legrests

Raising/Lowering Elevating Legrests and/or Adjusting Calfpads

NOTE: For this procedure, refer to FIGURE 6.12.

Raising/Lowering Elevating Legrests

1. Perform one of the following:
 - Raising - Pull back on the release lever until the leg is at the desired height.
 - Lowering - Support leg with one hand and push release lever downward with other hand.

Adjusting Calfpads

1. Turn the calfpad towards the outside of the wheelchair.
2. Slide the calfpad up or down until the desired position is obtained.

NOTE: If one of the top two calfpad adjustment positions is being used, the legrest will need to be raised to avoid interference with the front stabilizers while going over obstacles or going up and down ramps. Refer to Raising/Lowering Elevating Legrests on page 32.

3. Turn the calfpad towards the inside of the wheelchair.

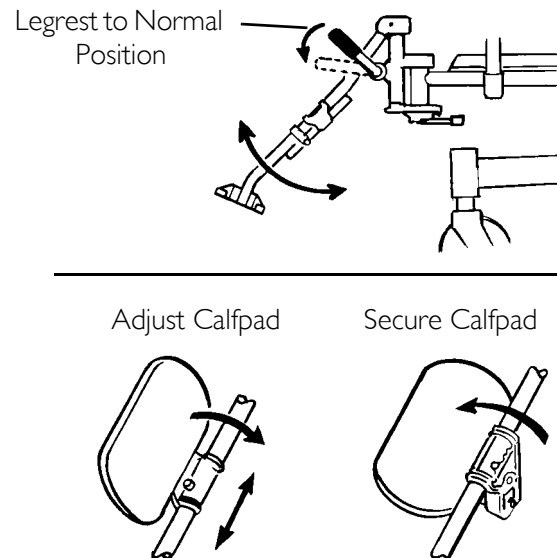


FIGURE 6.12 Raising/Lowering Elevating Legrests and/or Adjusting Calfpads

Checking ASBA Seating System Mounting Position

NOTE: For this procedure, refer to FIGURE 6.13.

NOTE: Applies to ASBA standard seat, power tilt only, and Formula PTO Plus.

1. Determine mounting position:
 - Wheelchairs with Swing Away Front Rigging (Detail "A") -
 - i. Rotate front casters forward as if the wheelchair were moving in reverse.

NOTE: If wheelchair is equipped with composite footrests, point the front casters toward the footplate.

 - ii. Measure the gap between the front caster and the footplate. Perform one of the following:
 - 1 to 1½ inch Gap - ASBA seating system is in the proper mounting position.
 - Gap is Greater than 1½ inches - ASBA seating system is not in the proper mounting position. Refer to Adjusting the Seating System Mounting Position on page 33.

- Wheelchair with Manual or Power Center Mount Front Rigging (Detail “B”) -
 - i. Position center mount front rigging to the lowest setting to position the footplate as close as possible to the front shroud.
 - ii. Measure the gap between the footplate and the front shroud.
 - iii. Perform one of the following:
 - 1 to 1½ inch Gap - ASBA seating system is in the proper mounting position.
 - Gap is Greater Than 1½ inches - ASBA seating system is not in the proper mounting position. Refer to Adjusting the Seating System Mounting Position on page 33.

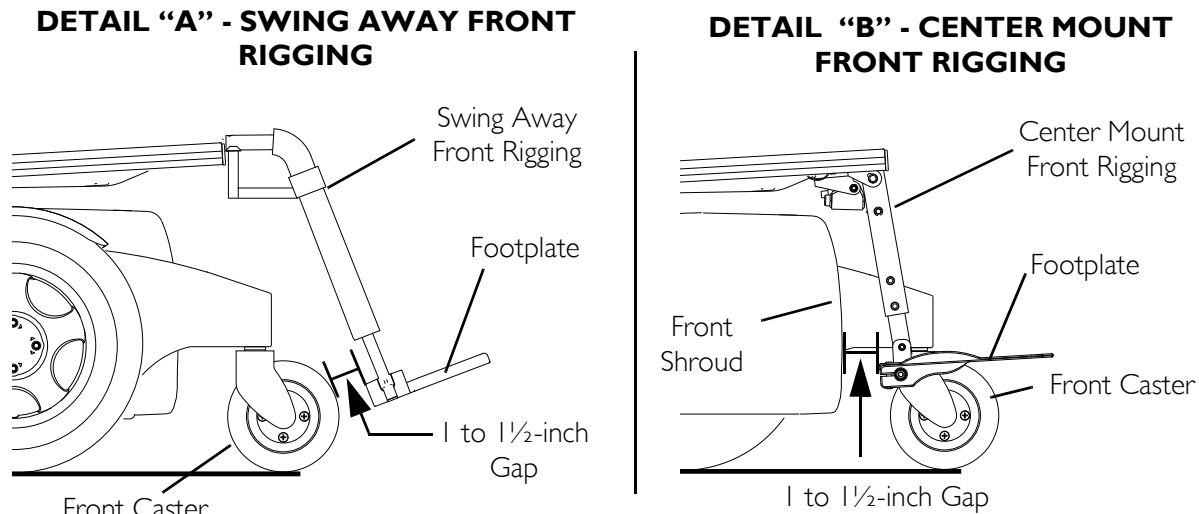


FIGURE 6.13 Checking ASBA Seating System Mounting Position

Adjusting the Seating System Mounting Position

NOTE: For this procedure, refer to FIGURE 6.14.

NOTE: Applies to ASBA standard seat, power tilt only, and Formula PTO Plus.

1. Loosen, but DO NOT remove, the four hex screws and locknuts securing the seat frame mounting bracket to the interface mounting bracket.
2. Perform one of the following to ensure the ASBA seating system is in the proper mounting position:

NOTE: Some front rigging and seat depth combinations may not allow for the 1-inch gap. In this situation, slide the seat frame mounting brackets as far back as possible.

- Wheelchairs with Swing Away Front Rigging - Slide the seat frame mounting brackets as far as possible towards the rear of the wheelchair. Leave 1 to 1½-inch of clearance between the front riggings and the front casters in all caster positions.

- Wheelchairs with Manual or Power Center Mount Front Rigging - Slide the seat frame mounting brackets as far as possible towards the rear of the wheelchair. Leave 1 to 1½-inch of clearance between the center mount front riggings and the front shroud.
3. Ensure the interface mounting brackets and the seat frame mounting brackets are flush and square.
 4. Secure the seat frame mounting brackets to the interface mounting plates. Torque the four hex bolts and locknuts to 13 ft-lbs \pm 20%.
 5. Cycle the tilt and/or recline functions to verify wiring harnesses DO NOT obstruct the path of the system. If they do, perform one of the following:
 - Wires were damaged during inspection - Replace damaged wires.
 - Wires were not damaged during inspection - Cut tie-wraps and relocate wires to a location where they will not become damaged.

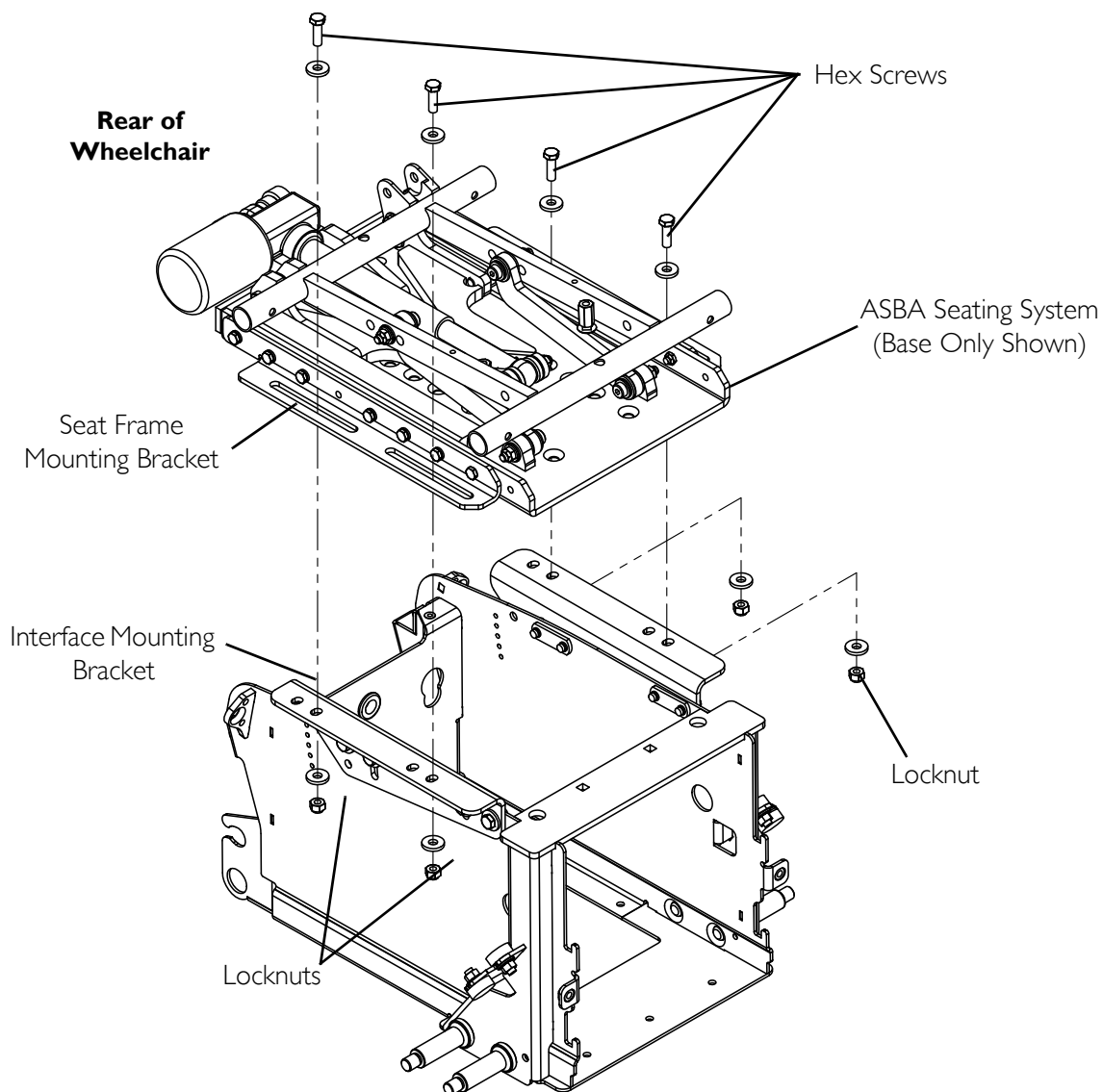


FIGURE 6.14 Adjusting the Seating System Mounting Position

SECTION 7—ARMS

⚠ WARNING

Risk of Serious Injury or Damage

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

After **ANY** adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

Installing/Removing Flip Back Armrests

⚠ WARNING

Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

NOTE: For this procedure, refer to FIGURE 7.1.

NOTE: Flip back armrest release lever must be in the unlocked (up-horizontal) position when placing the armrest into the arm sockets.

Installing

1. Visually inspect to ensure flip back armrest release lever is in the unlocked (up-horizontal) position.
2. Slide the flip back armrest into the arm sockets on the seat frame.
3. Install the quick-release pin through the rear arm socket and flip back armrest.
4. Lock the flip back armrest by pressing the flip back armrest release lever into the down (vertical) position.
5. Repeat STEPS 1-4 for the opposite flip back armrest.

Removing

1. Unlock the flip back armrest by positioning the flip back armrest release lever into the up (horizontal) position.
2. Remove the quick-release pin that secures the flip back armrest to the rear arm socket.
3. Pull UP on the flip back armrest and remove the armrest from the arm sockets.
4. Repeat STEPS 1-3 for the opposite flip back armrest, if necessary.

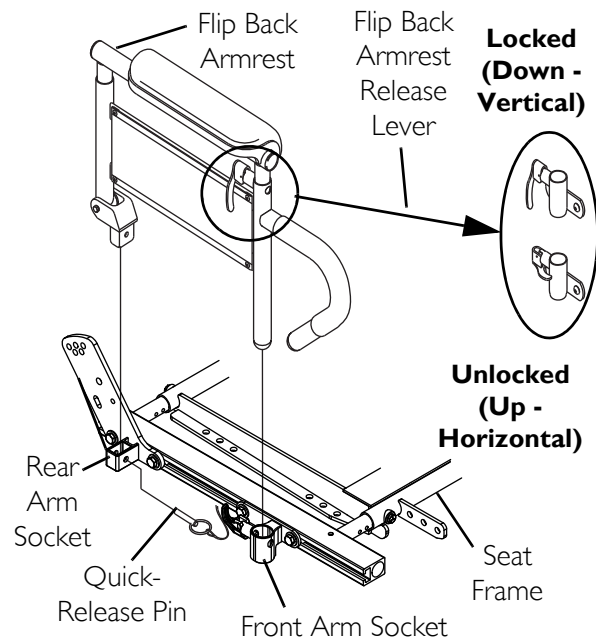


FIGURE 7.1 Installing/Removing Flip Back Armrests

Adjusting Flip Back Armrests

⚠ WARNING

Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

NOTE: For this procedure, refer to FIGURE 7.2.

Positioning Flip Back Armrests for User Transfer

1. Unlock the flip back armrest by pulling the armrest release lever into the up (horizontal) position.

⚠ WARNING

Armrest release lever **MUST** remain in the horizontal position during transfer, otherwise injury may result.

2. Pull up on the flip back armrest and remove the armrest from the front arm socket.
3. Continue to pull up on the flip back armrest until the armrest is out of the way.
4. Repeat STEPS 1-3 for opposite flip back armrest, if necessary

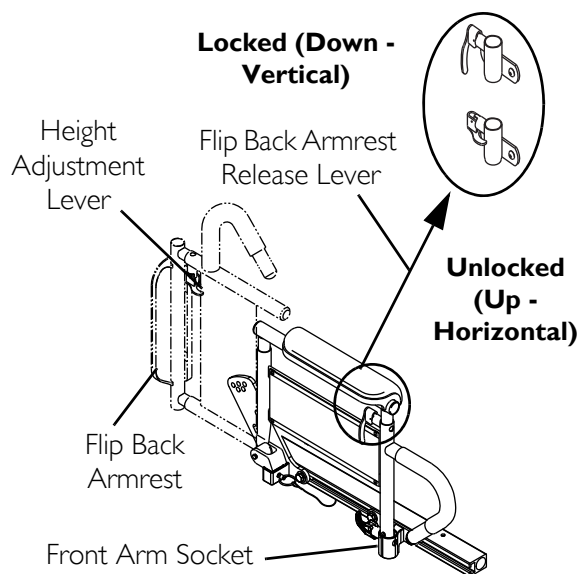


FIGURE 7.2 Adjusting Flip Back Armrests

Positioning Flip Back Armrests for Use

1. Make sure the flip back armrest release lever is in the up (horizontal) position.
2. Install the flip back armrest into the front arm socket.
3. Lock flip back armrest by pressing flip back armrest release lever into the down (vertical) position.
4. Lift up on flip back armrest to make sure the armrest is locked in place.
5. Repeat STEPS 1-4 for opposite flip back armrest, if necessary.

Adjusting

1. Unlock flip back armrest by pulling height adjustment lever into the up (horizontal) position.
2. Adjust the flip back armrest to the desired height.
3. Lock flip back armrest by pushing height adjustment lever into the down (vertical) position.

SECTION 8—ADULT BACKS

⚠ WARNING

Risk of Serious Injury or Damage

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

After ANY adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

Removing/Installing the Contoura Back

NOTE: For this procedure, refer to FIGURE 8.1 on page 38.

Removing the Contoura Back

1. Remove back cushion.
2. Remove the two mounting screws that secure the lower front mounting brackets to the back canes.
3. Remove the two upper screws that secure the upper front mounting brackets to the back canes.
4. Remove the four socket screws, washers and locknuts (not shown) that secure the four front and rear mounting brackets to the Contoura back.
5. Remove the Contoura back and hardware from the back canes.

Installing the Contoura Back

1. Position the front mounting brackets against the back canes.
2. Insert the tab of the rear mounting bracket into the slot in the front mounting bracket.
3. Secure the lower front mounting brackets to the back canes using the two mounting screws. Torque to 32 in-lbs \pm 20%.
4. Secure the upper front mounting brackets to the back canes using the two mounting screws. Torque to 32 in-lbs \pm 20%.
5. Secure the four rear mounting brackets to the four front mounting brackets using the four socket screws, washers and locknuts (not shown). Torque to 75 in-lbs \pm 20%.
6. If necessary, tighten the socket screws and locknuts securing the front mounting brackets to the slot in the Contoura back. Torque to 75 in-lbs \pm 20%.

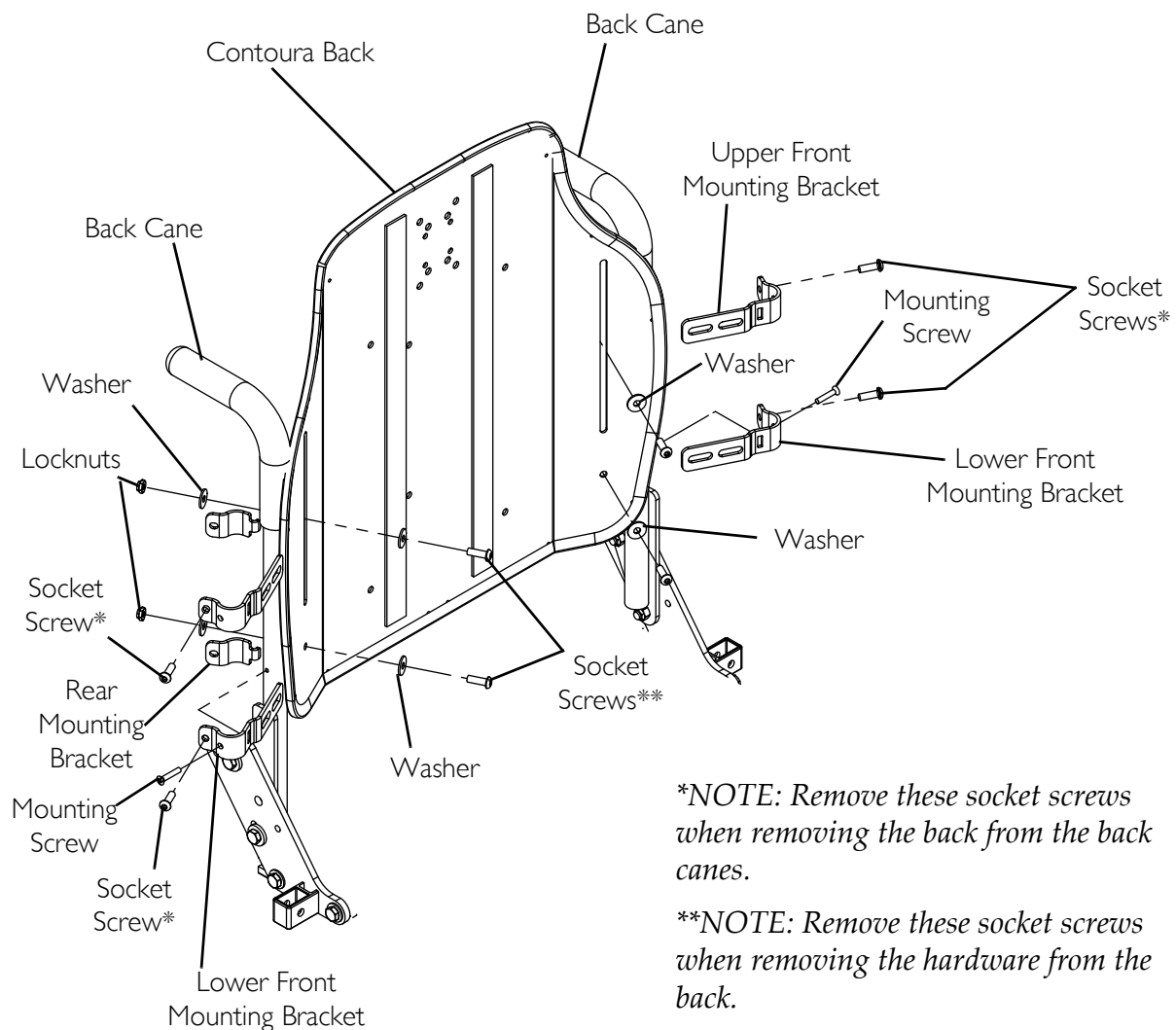


FIGURE 8.1 Removing/Installing the Contoura Back

Adjusting the Back Width

A new back pan is required when the back width is adjusted. Back width **MUST** be adjusted with seat width. Refer to [Adjusting the Seat Width](#) on page 45.

Contoura Backs Only - Seat and back widths are restricted to 16, 18, 20, 22 or 24 inches.

Adjusting the Back Angle

⚠ WARNING

Wheelchairs with TRRO Only - Adjusting the back angle from the factory setting will void TRRO compliance. After adjusting the back angle, DO NOT transport an occupied wheelchair in a motor vehicle of any kind. The wheelchair may only be transported in a motor vehicle while unoccupied, and will be considered TRBKTS.

NOTE: For this procedure, refer to FIGURE 8.2.

1. Loosen, but DO NOT remove, the two lower hex screws securing the cane brackets to the back canes.
2. Remove the two upper hex screws, washers and locknuts securing the cane brackets to the back canes.
3. Align the upper mounting holes in the back canes with the desired mounting holes in the cane brackets (Detail "A").
4. Install the two upper hex screws, washers and locknuts to secure the cane brackets to the back canes.
5. Torque the locknuts on upper and lower hex screws to 13 ft-lbs \pm 20%.

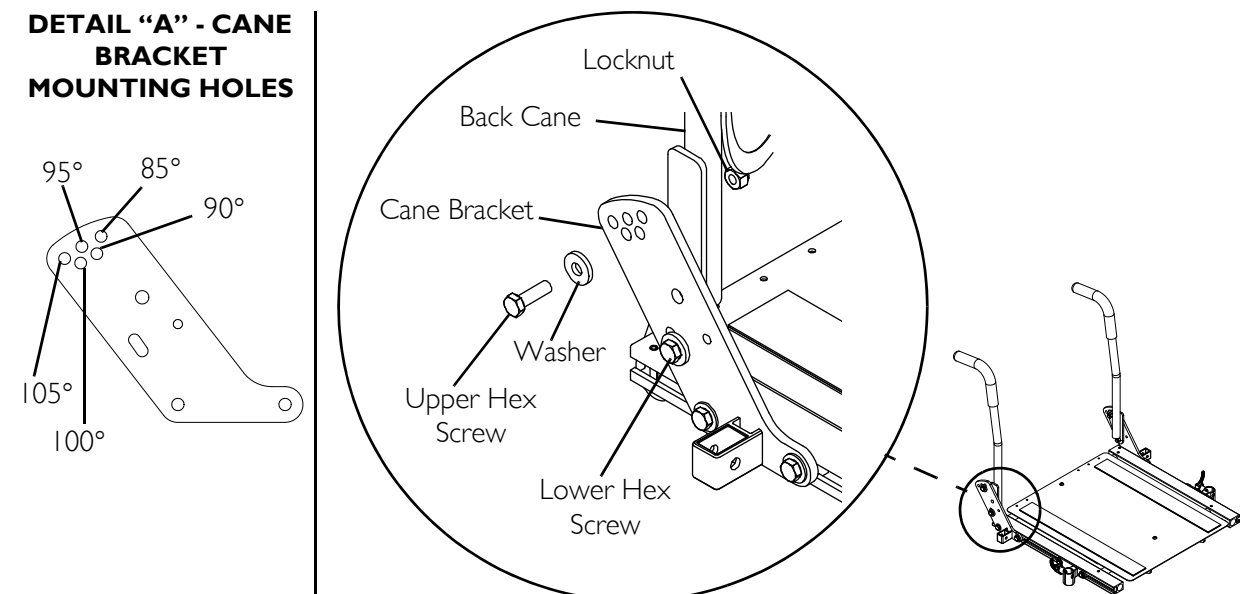


FIGURE 8.2 Adjusting the Back Angle

Adjusting the Back Height

Contoura Backs - There is no height adjustment available for wheelchairs with Contoura backs.

Upholstered Backs - The back canes **MUST** be replaced to adjust the back height for upholstered backs. Refer to [Removing/Installing the Back Canes](#) on page 39.

Removing/Installing the Back Canes

NOTE: For this procedure, refer to FIGURE 8.3 on page 41.

NOTE: Existing hardware will be reused.

NOTE: Take note of position and orientation of mounting hardware for reinstallation.

Removing

1. If applicable, remove the back pan. Refer to Removing the Contoura Back on page 37.
2. Remove armrest from the wheelchair. Refer to arms on page 35.

NOTE: Note the back angle before disassembly for proper reinstallation.

3. For proper installation, note the mounting position of the upper hex screw securing the cane bracket to the back cane.
4. Remove the upper hex screw, washer and locknut securing the cane bracket to the back cane.
5. Remove the lower hex screw, washer and locknut securing the cane bracket to the back cane.
6. Remove the back cane from the wheelchair.
7. Repeat STEPS 2 - 6 for the opposite back cane.

Installing

NOTE: If replacing back canes, discard existing back canes and perform this procedure using new back canes.

1. Install the lower hex screw, washer and locknut through the slot in the cane bracket to secure the cane bracket to the back cane.

NOTE: The cane bracket should be positioned as shown in FIGURE 8.3.

2. Install the upper hex screw, washer and locknut through one of the following:
 - Using the Same Back Angle - the mounting hole noted in STEP 3 of Removing on page 40.
 - Changing the Back Angle - the mounting hole determined in Adjusting the Back Angle on page 38.
3. Torque both locknuts to 13 ft-lbs.
4. Repeat STEPS 1 - 3 for the opposite back cane.
5. Reinstall the armrest onto the wheelchair. Refer to arms on page 35.
6. If applicable, install the back pan. Refer to Installing the Contoura Back on page 37.

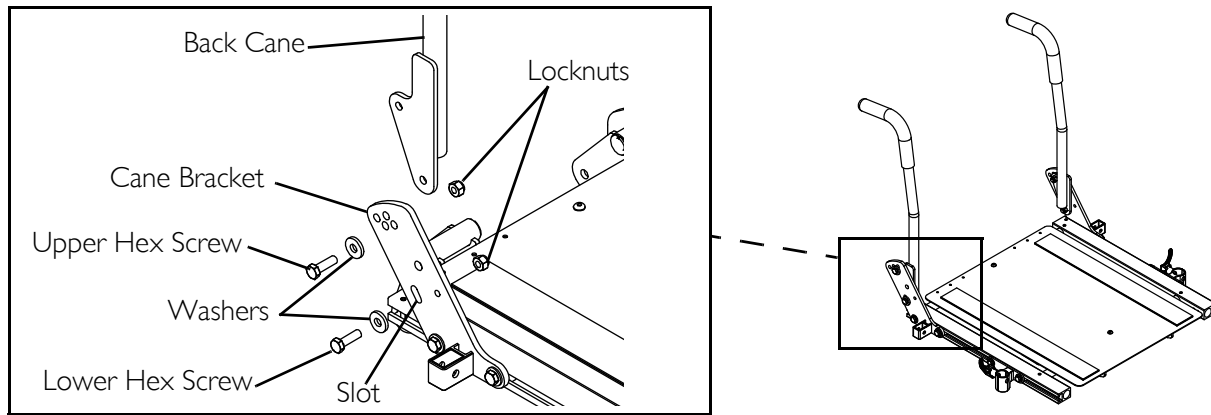


FIGURE 8.3 Removing/Installing the Back Canes

Removing/Installing the Spreader Bar

NOTE: For this procedure, refer to FIGURE 8.4 on page 42.

NOTE: This procedure only applies to systems without Contoura backs that omit upholstery.

Removing

1. Remove the two mounting screws and locknuts securing the spreader bar to the back canes.
2. Remove the spreader bar from the back canes.

Installing

NOTE: Before installing a new spreader bar, read adjusting spreader bar width. Refer to [Adjusting Spreader Bar Width](#) on page 42.

1. Position the spreader bar against the back canes.
2. Loosely install the two mounting screws and locknuts hold the spreader bar against the back canes.
3. Adjust the position of the spreader bar until it is parallel with the ground/floor.
4. Torque the mounting screws to 13 ft-lbs \pm 20%.

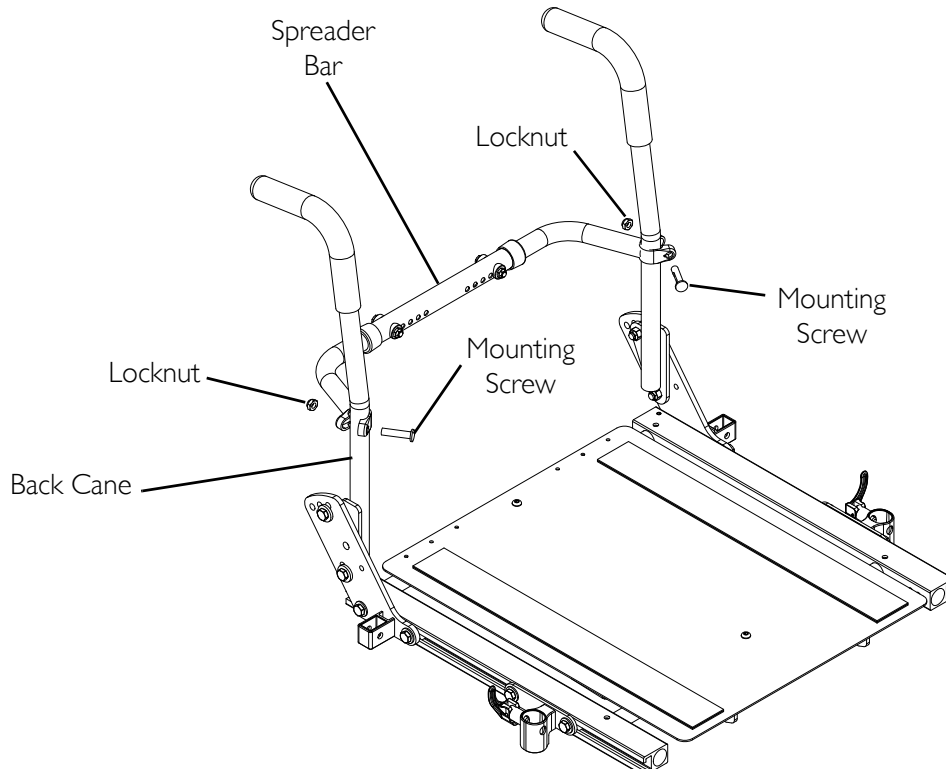


FIGURE 8.4 Removing/Installing the Spreader Bar

Adjusting Spreader Bar Width

NOTE: For this procedure, refer to FIGURE 8.5 on page 43.

NOTE: The spreader bar can be adjusted from 16 to 20 inches or from 20 to 24 inches.

NOTE: This procedure only applies to systems without Contoura backs that omit upholstery.

1. Remove spreader bar. Refer to [Removing/Installing the Spreader Bar](#) on page 41.
2. Remove the two screws, four coved spacers and two locknuts securing the two handles to the tube.
3. Align the handle mounting holes with the desired tube mounting holes.
4. Secure the two handles to the tube using the two screws, four coved spacers and two locknuts. Torque to 75 in-lbs \pm 20%.

SECTION 9—ADULT SEATS

WARNING

Risk of Serious Injury or Damage

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

After ANY adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

Removing/Installing the Seat Pan

NOTE: For this procedure, refer to FIGURE 9.1.

Removing

1. Remove the seat cushion.
2. Remove the two socket screws securing the seat pan to the seat frame.
3. Remove the seat pan from the seat frame.

Installing

1. Position the new seat pan onto the seat frame as shown.
2. Secure the new seat pan to the seat frame using the two socket screws.
3. Install the seat cushion.

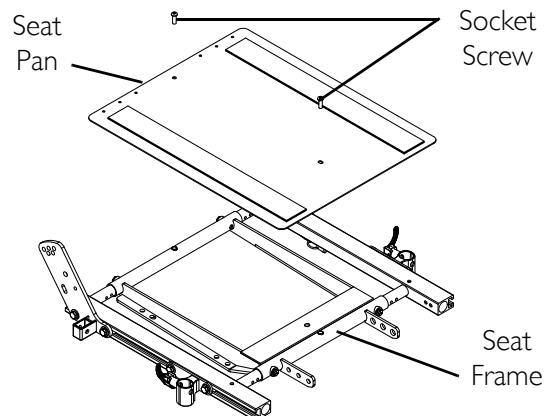


FIGURE 9.1 Removing/Installing the Seat Pan

Adjusting the Seat Width

NOTE: For this procedure, refer to FIGURE 9.2 on page 47.

Seat Width Adjustment Table

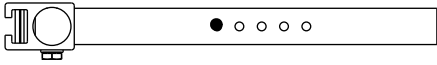
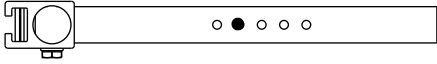
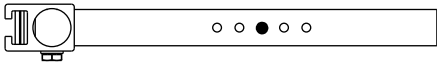
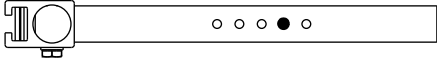
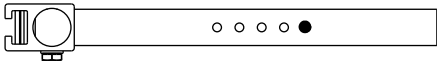
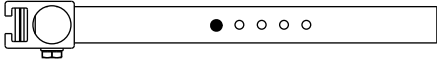
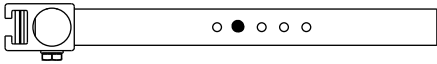
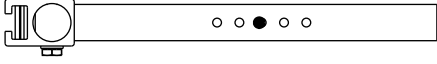
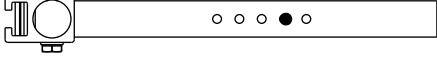
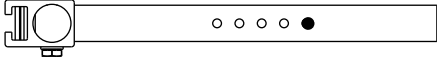
FRAME SIZE	SEAT WIDTH RANGE
SMALL	16 - 20 inches in 1-inch increments
LARGE	20 - 24 inches in 1-inch increments

NOTE: If adjusting the seat width beyond the range of the existing seat frame, the crossbars must be replaced.

NOTE: The spreader bar MUST be replaced for systems ordered omit upholstery option when changing between the small frame size and the large frame size.

1. If necessary, remove the spreader bar. Refer to Removing/Installing the Spreader Bar on page 41.
2. Remove the hex screw and coved washers securing each crossbar to the seat frame.
3. Examine the Seat Width Adjustment Table to determine if the seat width adjustment is within or beyond the range of the existing seat frame.
4. Perform one of the following:
 - Within the Range - Proceed to STEP 5.
 - Beyond the Range - Perform the following steps (Detail "A"):
 - i. Remove the two hex screws securing the crossbars to each side rail.
 - ii. Remove the crossbars from the side rails.
 - iii. Insert new crossbars into the side rails.
 - iv. Position the new crossbars so the mounting hole is facing down and aligned with the side rail mounting hole.
 - v. Secure the new crossbars to the side rails using the two hex screws. Torque the hex screws to 75 in-lbs \pm 20%.
5. Pull/push the side rails (Detail "B") to the desired width shown in the following table.

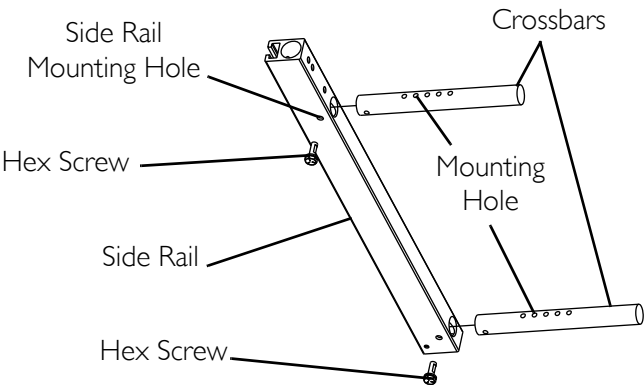
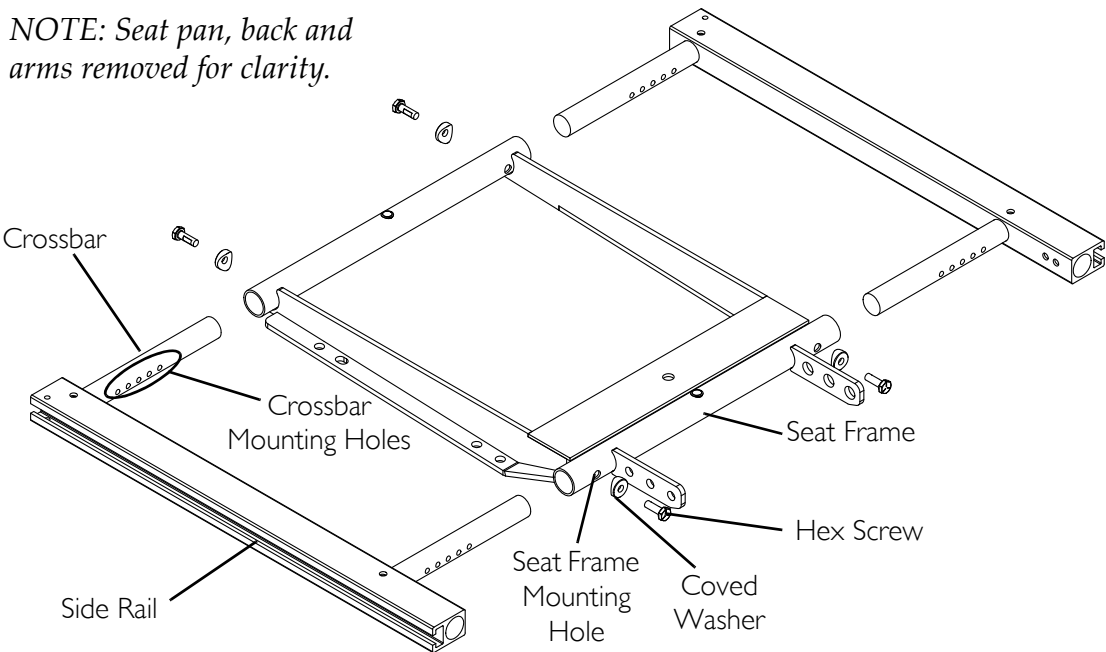
Seat Width Mounting Holes

FRAME SIZE	SEAT WIDTH	SIDE RAIL MOUNTING HOLES* (FRONT VIEW)
SMALL	16-INCH	
	17-INCH	
	18-INCH	
	19-INCH	
	20-INCH	
LARGE	20-INCH	
	21-INCH	
	22-INCH	
	23-INCH	
	24-INCH	

**NOTE: Only left side rail shown. Use the same mounting hole for opposite side rail.*

6. Align the crossbar mounting holes with the seat frame mounting holes.
7. Secure each crossbar to the seat frame with a hex screw and covered washer. Torque the hex screw to 75 in-lbs \pm 20%.
8. If necessary, install the new spreader bar. Refer to [Removing/Installing the Spreader Bar](#) on page 41.

NOTE: Seat pan, back and arms removed for clarity.



DETAIL "A" - REPLACING THE CROSSBARS

FIGURE 9.2 Adjusting the Seat Width

Adjusting the Seat Depth

NOTE: For this procedure, refer to FIGURE 9.3 on page 49.

1. Examine the following chart to determine if the desired seat depth adjustment is within or beyond the range of the existing seat frame.

FRAME SIZE	SEAT DEPTH RANGE
SMALL	16 - 19 inches in 1-inch increments
LARGE	19 - 22 inches in 1-inch increments

2. Perform one of the following:
 - Seat Depth Adjustment is Within the Range of Existing Seat Frame - Proceed to STEP 3.
 - Seat Depth Adjustment is Beyond the Range of Existing Seat Frame - Replace the side rails. Refer to [Removing/Installing Side Rails](#) on page 49.
3. Loosen, but DO NOT remove, the four hex screws and washers securing the bottom of the cane brackets to the side rails.
4. Loosen, but DO NOT remove, the four hex screws securing the front arm sockets to the side rails.
5. Use the following [Seat Depth Adjustment Table](#) to determine the distance required to obtain the desired seat depth.

Seat Depth Adjustment Table

SEAT DEPTH	DISTANCE* (IN INCHES)
16-INCH	5.50
17-INCH	4.50
18-INCH	3.50
19-INCH	2.50 (Small Frame) 5.50 (Large Frame)
20-INCH	4.50
21-INCH	3.50
22-INCH	2.50

*NOTE: Distance is between the rear of the rear arm socket and the rear of the side rail (Detail "A").

6. Measure the distance determined in STEP 5 from the end of the side rail.
7. Slide the cane brackets along the side rails to align the rear of the rear arm socket with the distance measured in STEP 6.
8. Secure the cane brackets to the side rails with the four hex screws and washers. Torque the hex screws to 13 ft-lbs.
9. Secure the front arm sockets to the side rails with the four hex screws. Torque the hex screws to 13 ft-lbs.

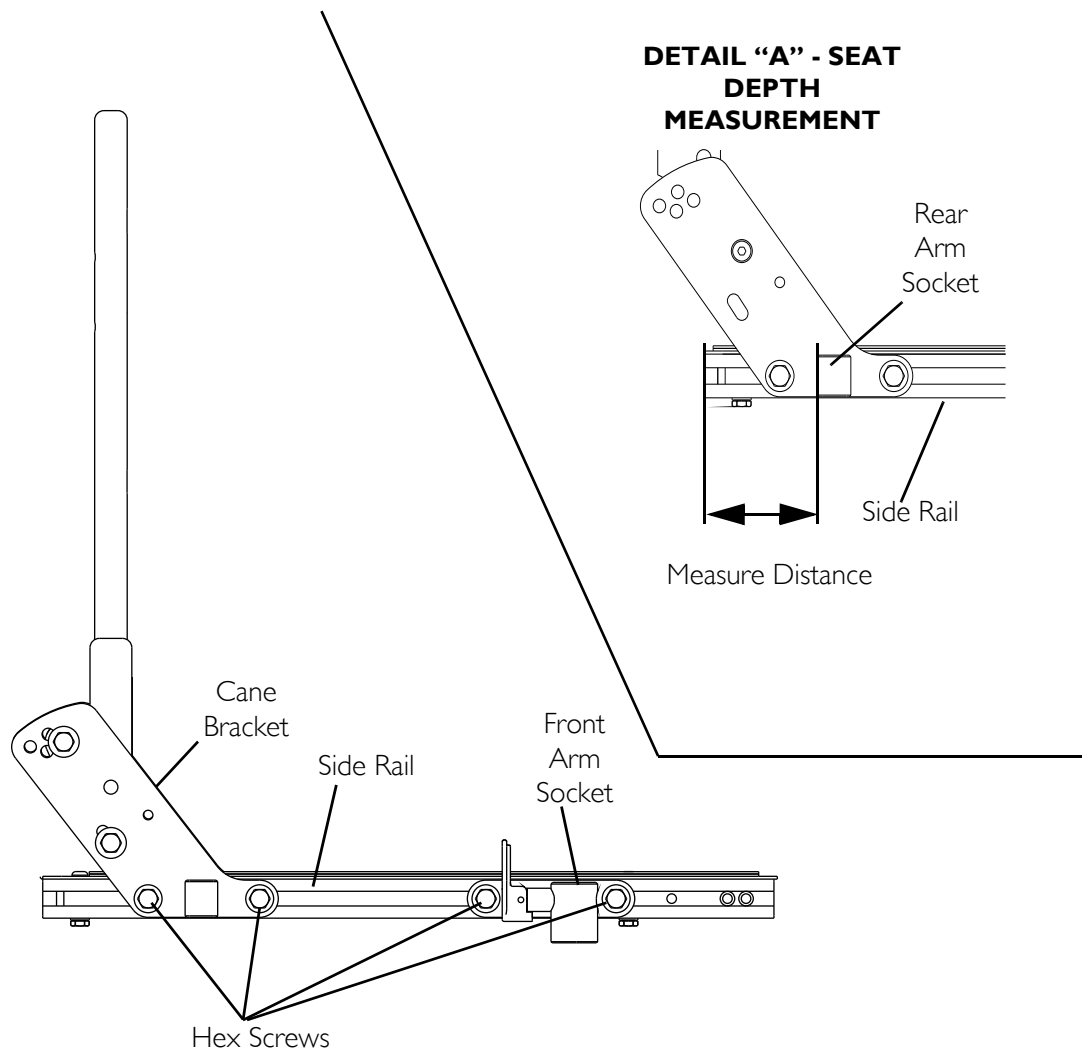


FIGURE 9.3 Adjusting the Seat Depth

Removing/Installing Side Rails

NOTE: For this procedure, refer to FIGURE 9.4 on page 50.

Removing Side Rails

1. Remove both armrests.
2. Remove the two hex screws, washer and lanyard securing the crossbars to the side rail.
3. Loosen, but DO NOT remove, the four hex screws securing the cane brackets to the side rails.
4. Loosen, but DO NOT remove, the four hex screws securing the front arm sockets to the side rails.
5. Use a punch to gently tap the two roll pins out of the side rails.
6. Slide both cane brackets (with T-nuts and back canes) out of the slots in the side rails.

7. Slide both front arm sockets (with T-nuts) out of the slots in the side rails.
8. Pull both side rails off the crossbars.

Installing Side Rails

1. Install new side rails onto crossbars.

NOTE: Ensure long end of side rail is towards the front of the wheelchair.

2. Secure the side rails to the crossbars with the hex screws, washer and lanyard. Torque to 75 in-lbs \pm 20%.
3. Slide cane brackets (with T-nuts and back assembly) into the slots in the side rails.
4. Slide front arm sockets (with T-nuts) into the slots in the side rails.
5. Use a plastic mallet to tap the two roll pins into the side rails.
6. Adjust the seat depth. Refer to [Adjusting the Seat Depth](#) on page 48.
7. Tighten the four hex screws to secure the cane brackets to the side rails. Torque to 13 ft-lbs \pm 20%.
8. Install the armrests.

NOTE: It may be necessary to slide the front arm sockets to the proper position to install the armrests.

9. Tighten the four hex screws to secure the front arm sockets to the side rails. Torque to 13 ft-lbs \pm 20%.

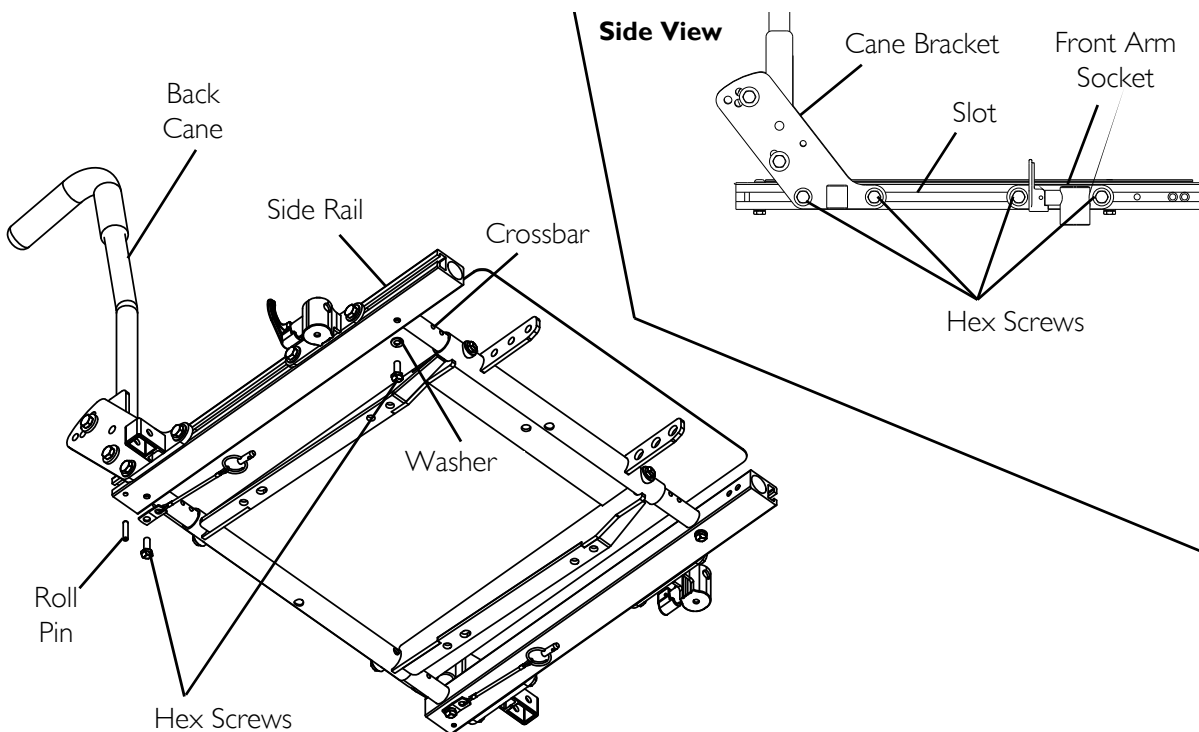


FIGURE 9.4 Removing/Installing Side Rails

NOTES

LIMITED WARRANTY

For warranty information, please refer to the original owner's manual which came with this product, or contact Invacare for more information.



Yes, you can.®

Invacare Corporation www.invacare.com

USA
One Invacare Way
Elyria, Ohio USA
44035
800-333-6900

Canada
570 Matheson Blvd E Unit 8
Mississauga Ontario
L4Z 4G4 Canada
800-668-5324

© 2016 Invacare Corporation. All rights reserved. Republication, duplication or modification in whole or in part is prohibited without prior written permission from Invacare. Trademarks are identified by the symbols ™ and ®. Making Life's Experiences Possible is a registered trademark in the U.S.A. All trademarks are owned by or licensed to Invacare Corporation or its subsidiaries unless otherwise noted.

Part No 1143238 Rev E-01 - 11/21/16

Making Life's Experiences Possible®

